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## WESTERN LAND SERVICES

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January 17, 2006

Utah Division of Oil, Gas & Mining  
Diana Whitney  
1594 W. N. Temple Suite 1210  
Salt Lake City, Utah 84114-5801

RE: Royalite Petroleum Corporation requests permission to drill the Royalite State #16-1

Diana:

Pursuant to Rule R649-3-~~1~~<sup>2</sup> of the State's Oil & Gas Conservation regulations, Royalite Petroleum Corporation "Royalite" hereby makes application for approval to drill an oil well situated in Township 28 South – Range 3 West; Section 16: SE/SW on lands administered by the State of Utah – School and Institutional Trust Lands Administration (SITLA). Both the surface and minerals are held by SITLA. SITLA has leased the minerals out to Royalite under lease number #ML – 50475.

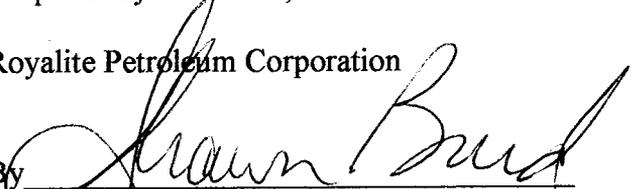
Royalite proposes to drill the Royalite State #16-1 well to a total depth of 8,000 feet and is an exception to Rule R649-3-3. The nearest leasehold is held by the Department of the Interior – Bureau of Land Management, which falls within 460 feet of the proposed bore hole, and is managed by Royalite Petroleum under lease number UTU-84844. All other surrounding federal leaseholds are held by Royalite.

Royalite proposes to use a vertical drilling program for the Royalite State #16-1 well. This well is situated outside of the legal drilling window to avoid large drainage gullies, minimize surface disturbance and operational costs allowing Royalite to explore into the target bottom-hole location. Other alternatives were identified but the proposed access route and well location provides the most environmentally sensitive options. Attached hereto is a plat as required by the Commissions rules and regulations.

If no objections are filed, the applicant requests that this application be approved. If objections are filed, applicant requests the matter be set for hearing and that it be advised of the hearing date.

Respectfully submitted,

Royalite Petroleum Corporation

By 

Shawn Burd

Authorized Agent for Royalite Petroleum Corporation

WESTERN LAND SERVICES - UTAH

1144 North Centennial Park Drive • Richfield, UT 84701 • Phone: (435) 896-5501 • Fax: (435) 896-5515

Web: [www.westernls.com](http://www.westernls.com)

# Royalite Petroleum Corporation

## DRILLING PROGNOSIS

Royalite State #16-1  
SE SW SEC 16-T28S-R03W  
Piute Co., Utah

### BRIEF DRILLING PLAN

Drill an exploratory well to test the Jurassic Navajo, Kayenta and Moenkopi formations to a total depth of 8,000' TVD. Due to topography the proposed well will be drilled from an excepted location. Directional drilling techniques will be employed strictly to control well bore deviation due to steeply dipping formations if such should occur. No abnormal pressure or hydrogen sulfide gas is anticipated. The projected surface and bottom hole locations are as follows:

Surface Location: 351' fsl & 1355' fwl of Sec 16 T28S - R03W  
BHL @ total depth (8000' TVD) 351' fsl & 1355' fwl of Sec 16 T28S - R03W

20" conductor casing will be cemented to surface at approximately 120 ft BGL. A 12-1/4" hole will be drilled vertically (with directional control) to 2000' MD. 9-5/8" surface csg will be set at TD & cemented to surface. An 8-3/4" hole section will then be drilled below 9-5/8" csg to 8000' MD. The well will be logged and if warranted 5-1/2" production casing will be set and cemented a minimum of 500' above any potentially productive interval. A Navajo, Kayenta and/or Moenkopi completion attempt will then likely be made.

### EMERGENCY NUMBERS – dial 911 or

Sevier Valley Medical Center	(435)-896-8271
Medical Helicopter	(800)-453-0120
Sheriff Department	(435)-896-2600
Fire Department-Richfield, UT	(435)-896-5479
Utah Division of Oil, Gas and Mining (Salt Lake City):	(801)-538-5340

### Utah Division of Oil, Gas and Mining

Contact Carol Daniels (801) 538-5284, 24 hrs prior to spudding

## GENERAL INFORMATION

**OBJECTIVE:** Navajo @ 4455' TVD

**ELEVATION:** 6070' GR

**PROJECTED TOTAL DEPTH:**

8000' TVD; 8000' MD

**SURFACE LOCATION:**

351' fsl & 1355' fwl of Sec 16-T28S-R03W

**COUNTY:** Piute

**STATE:** Utah

**DIRECTIONS TO LOCATION:** Near Marysville, begin on old Hwy 89, proceed south to approximately 300 feet from the south line of the SE/4 of section 17 T28S R03W. Proceed east on existing road approximately ¾ mile to location.

### PROPOSED CASING PROGRAM:

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Measured Depth
30"	20"	78# .375w	GrB/X42	PE welded	146' (120' BGL)
12-1/4"	9-5/8"	36.0#	J-55	STC	0' – 2,000'
8-3/4"	5-1/2"	17.0#	N-80	LTC	0' – 8000'

Hole Size	Casing Size	Drift ID, in.	OD of Couplings	Annular Volume in OH, cf/ft	Annular Volume in Csg, cf/ft	Capacity of casing, cf/ft
30"	20"	19.20	Welded	2.73	NA	2.19
12-1/4"	9-5/8"	8.765	10.625	.3132	1.50	.4340
8-3/4"	5-1/2"	4.767	6.050	.2526	.2691	.1305

### GEOLOGIC FORMATIONS:

Formation	Interval (TVD)	Interval (MD)	Lithology	Prod	Abnormal or H2S
Tertiary/Volcanics	0-4365'				
Carmel	4365-4455		Sand, Shale		
Navajo	4455-6030		Sand	Oil/wtr	
Kayenta	6030-6520		Sand, Shale, Lime	Oil/wtr	
Chinle	6520-6930		Shale		
Shinarump	6930-7380		Sand		
Moenkopi	7380-7780		Shale	Oil/wtr	
Sinbad	7780-9180	TD ~8000'	Lime		
Kaibab	9180		Lime	Oil/wtr	

### CONSTRUCTION OF SURFACE LOCATION

400' x 350' total pad area including pit area  
 200' x 100' x 12' Reserve Pit with a 12 mil synthetic liner  
 72" diameter tin horn cellar, 10' deep.  
 Flare pit a minimum of 100' from wellhead.

## SECTION 1 - SURFACE HOLE: 0' to 2000'

Drill a 12-1/4" hole (directional control for straight hole drilling) with a tricone bit, mud motor, MWD & BHA equipment to approximately 2000' beginning by circulating the reserve pit containing freshwater. Mud up to TD and run casing (make hole to fit 9-5/8" casing). Loss circulation could be a problem in this interval and, if such occurs, begin pumping LCM pills and if necessary mix into the entire system as needed. Maintain hole angle less than 6 degrees and dogleg severity less than 3 degrees per 100 ft.

### PRESSURE CONTROL & SAFETY EQUIPMENT FOR SURFACE HOLE

#### Bottom to Top

20" drilling nipple with fillup line and 10-3/4" flow line w/ flowline valve

### MUD PROGRAM FOR SURFACE HOLE

<u>DEPTH</u>	<u>MUD WEIGHT</u>	<u>TYPE</u>	<u>VISC</u>	<u>FLUID LOSS</u>
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0 -2000'	8.4 – 9.2	Fresh water mud	26-50	N/C
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Note: Sweep hole every 100 – 200 feet or as needed for hole cleaning. Maintain maximum flowrates for hole cleaning. Use freshwater gel, caustic and soda ash to maintain properties.

### CASING PROGRAM FOR SURFACE HOLE

<u>DEPTH</u>	<u>SIZE</u>	<u>LENGTH</u>	<u>WT</u>	<u>GRADE</u>	<u>THREAD</u>	<u>REMARKS</u>
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0 - 2000'	9-5/8"	2000'	36#	J-55	ST&C	
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#### Casing Running Sequence:

guide shoe, 1 jt of 9-5/8" 36# J55 ST&C, float collar, remainder of 9-5/8" 36# J55 ST&C csg to surface. Use centralizers every joint on btm 3 jts then inside conductor csg at 120' with cement basket(s). RU cement co., hold safety meeting, test lines, cement 9-5/8" casing using the cementing guide below. Displace with fresh water or mud.

## CEMENTING PROGRAM FOR SURFACE CASING

**Lead:** 250 sx CBM lite

Mixed at: 10.5 ppg  
Yield: 4.12 ft<sup>3</sup>/sx

**Tail:** 275 sx Premium Plus

Mixed at: 15.6 ppg  
Yield: 1.19 ft<sup>3</sup>/sx

**MUST CIRCULATE CEMENT TO SURFACE** If the cement does **not** circulate to surface be prepared to top out with premium cement.

### **WOC A TOTAL OF 24 HOURS:**

Wait 4 hours with the hydrostatic pressure of the displacement fluid in place, then cut off conductor and weld on an 11" 3M x 9-5/8" SOW casing head. NU an 11" 3M double ram BOP w/ 3M annular and 3M choke manifold rigged to mud/gas separator, mud tanks and flare pit.

## **SECTION 2 - INTERMEDIATE CASING HOLE:**

**There will not be an intermediate hole section unless severe loss circulation or other hole conditions warrant. If such is encountered, 7" 23ppf casing may be utilized for intermediate casing.**

## **SECTION 3 - PRODUCTION CASING HOLE: 2000' to 8000'**

Drill an 8-3/4" hole with a tricone bit, mud motor, MWD & BHA equipment to 8000' beginning by circulating the reserve pit containing freshwater converting to a salt saturated mud system to minimize salt erosion depending upon hole conditions. Mud up as dictated for hole cleaning. Loss circulation could be a problem in this interval and, if such occurs, begin pumping LCM pills and if necessary mix into the entire system as needed. Maintain hole angle less than 6 degrees and dogleg severity less than 3 degrees per 100 ft.

### **PRESSURE CONTROL & SAFETY EQUIPMENT FOR PRODUCTION CASING HOLE**

#### **Bottom to Top (see attached 3M BOP diagram)**

- 11" 3M x 9-5/8" SOW casing head w/ (2) 2" LPO
- 11" 3M x 11" 5M DSA if required (depending upon rig stack)
- 11" 3M x 11" 3M mud cross with (2) side outlets:
  - one outlet 2" kill line
  - one outlet 3" choke line
- 11" 3M double ram BOP w/ pipe rams top & CSO rams btm
- 11" 3M Annular Preventer
- 11" 3M rotating head

Connect BOP to 3M choke manifold with pressure gauge  
Upper kelly cock valves with handles available  
Safety valves and subs to fit all drill string connections in use  
Inside BOP or float sub available

#### **Testing Procedure:**

##### **Annular Preventer**

The annular preventer will be pressure tested to 1500 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 1) When the annular is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week.

### Blowout Preventer

The BOP, choke manifold and related equipment will be pressure tested to 3000 psi. Pressure will be maintained for a period of at least ten minutes or until the requirements of the test are met, whichever is longer. At a minimum the pressure test will be performed:

- 1) When the BOP is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills will be recorded in the IADC driller's log.

### Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have two (2) independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

The accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six months thereafter.

### Choke Manifold Equipment, Valves and Remote Controls

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration

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 will be maintained in the open position and will be closed only when the power source for the accumulator is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls will be capable of both opening and closing all preventers. Master controls will be at the accumulator and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub structure. The hydraulic BOP closing unit will be located at least twenty-five feet from the well head but readily accessible to the driller.

A flare line will be installed after the choke manifold, extending 100 feet from the center of the drill hole to a separate flare pit.

## MUD PROGRAM FOR PRODUCTION CASING HOLE

<u>DEPTH</u>	<u>MUD WEIGHT</u>	<u>TYPE</u>	<u>VISC</u>	<u>FLUID LOSS</u>
2000' – 8000'	9.2 – 10.6	Salt Mud	36 - 50	N/C to 12cc

Convert to a salt gel & sea mud system as salt and gypsum sections are drilled. If loss circulation becomes a problem use LCM sweeps to control seepage & clean hole. As potential pay zones are encountered lower filtrate to 10-12 cc range. Incorporate use of Flowzan polymer for properties as required.

## EVALUATION PROGRAM FOR PRODUCTION CASING HOLE

Mudlogger: From below conductor casing to TD.

At TD, circulate and condition hole clean for logs. Short trip and monitor well closely. TOH for logs. Run Induction tool as run #1 to determine hole conditions for logging. Adjust tool configurations depending on hole condition.

Electric Logs:

<u>Tool</u>	<u>Surf to TD</u>
SDL/DSN/GR	Yes
DLL/MSFL/SP/GR for brine mud system	Yes
EMI or dip	Yes

## CASING PROGRAM FOR PRODUCTION CASING HOLE

<u>DEPTH</u>	<u>SIZE</u>	<u>LENGTH</u>	<u>WT</u>	<u>GRADE</u>	<u>THREAD</u>	<u>REMARKS</u>
0' – 8000'	5-1/2"	8000'	17.0#	N-80	LT&C	

Rig up casing tools and run 5-1/2" production casing as follows:

Float shoe, 1 joint of 5-1/2" 17# N-80 LT&C casing, float collar then run balance of casing to surface using bow centralizers across pay intervals.

## CEMENT PROGRAM FOR PRODUCTION CASING

**Lead:** 550 sx 50:50 POZ

Mixed at: 14.350 ppg

Yield: 1.21 ft<sup>3</sup>/sx

Cement calculated for 2000 ft of fillup @ 1.25 fill up factor. Final calculation to be log caliper plus 25% excess. Displace cement w/ fresh water. Hang casing in slips. Note: Depending upon final cement column height required to cover potential pay intervals, consider 2-stage primary cement job.

## SCHEDULE

Location preparation is presently scheduled to begin on or about February 1, 2007

Drilling operations are anticipated to begin on or about March 1, 2007



**State of Utah**

**Department of  
Natural Resources**

MICHAEL R. STYLER  
*Executive Director*

**Division of  
Oil, Gas & Mining**

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

January 18, 2007

K. Ian Matheson  
Royalite Petroleum Inc.  
2215 Lucerne Circle  
Henderson, NV 89014

RE: Cash Blanket Bond for Royalite Petroleum Inc.

Dear Mr. Matheson,

I appreciate being able to discuss bonding with you today. I am returning your Form 4B and certified check for \$120,000 so Royalite can purchase a CD for individual bonding or some other form of bonding.

I have also enclosed information showing the Division of Oil, Gas and Mining's bond requirements and forms.

If either you or the bonding company have any questions, please feel free to contact me at (801) 538-5336 Monday through Thursday.

Sincerely,

Earlene Russell

Engineering Technician - Bonding

Enclosures (2)

cc: Harold Black  
Diana Mason  
Michael Cass, Royalite Petroleum  
Steve Hash, Exact Engineering, Inc  
Shawn Burd, Western Land Service



**WESTERN LAND SERVICES**

January 17, 2007

Utah Division of Oil, Gas & Mining  
Diana Whitney  
1594 West North Temple, Suite 1210  
Salt Lake City, Utah 84114-5801

Dear Diana:

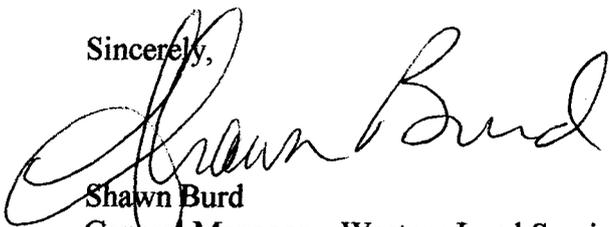
Royalite Petroleum Corporation "Royalite" proposes to drill the Royalite State #16-1 well situated in T28S – R3W; Section 16: SE/SW where the State of Utah – School and Institutional Trust Lands Administration is the surface and mineral owner.

Enclosed you will find the APD/MSUP, completed Collateral Bond document and payment along with other documents necessary for the approval of this exploratory well.

Royalite will be using municipal water from the town of Marysvale for drilling purposes. Therefore no evidence of approval from the State of Utah – Division of Water Rights has been submitted.

Royalite wishes to hold this information as "Confidential" or under a "Tight Hole" status. If you have any questions regarding the Royalite State #16-1 submittal, please contact me at (435) 896-5501 or on my mobile (435) 979-4689.

Sincerely,



Shawn Burd  
General Manager – Western Land Services  
Authorized Agent for Royalite Petroleum Corporation.

**RECEIVED**

**JAN 18 2007**

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

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

FORM 3

AMENDED REPORT   
(highlight changes)

<b>APPLICATION FOR PERMIT TO DRILL</b>			5. MINERAL LEASE NO: ML-50475	6. SURFACE: State
1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>			7. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A	
B. TYPE OF WELL: OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> OTHER _____ SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>			8. UNIT or CA AGREEMENT NAME: N/A	
2. NAME OF OPERATOR: Royalite Petroleum Corporation			9. WELL NAME and NUMBER: Royalite State #16-1	
3. ADDRESS OF OPERATOR: 3001 Riviera Road CITY Austin STATE TX ZIP 78733		PHONE NUMBER: (512) 402-0910	10. FIELD AND POOL, OR WILDCAT: Wildcat	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 351' FSL & 1,355' FW L AT PROPOSED PRODUCING ZONE: SAME			11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 16 28S 03W	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: Approximately 5.5 miles southeast of Marysville, Utah			12. COUNTY: Piute	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 1.374	16. NUMBER OF ACRES IN LEASE: 560	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40		
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) n/a (0.42 of a mile to nearest water well)	19. PROPOSED DEPTH: 8,000	20. BOND DESCRIPTION: Collateral Bond		
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 6070 GR	22. APPROXIMATE DATE WORK WILL START: 3/1/2007	23. ESTIMATED DURATION: 45 Days		

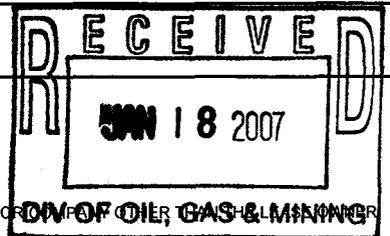
24. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT			
30"	20"	X42	78	120	redi Mix	10 cu yd		
12-1/4"	9-5/8"	J55	36	2,000	lead CBM lite	250sx	4.12	10.5
					tail Premium	275sx	1.19	15.6
8-3/4"	5-1/2"	N80	17	8,000	50:50 POZ	550sx	1.21	14.35

25. **ATTACHMENTS**

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

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER	<input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR FIRM OF OTHER STATE OR COUNTRY



NAME (PLEASE PRINT) Shawn Burd TITLE Authorized Agent For Royalite Petroleum Corporation

SIGNATURE *Shawn Burd* DATE January 17, 2007

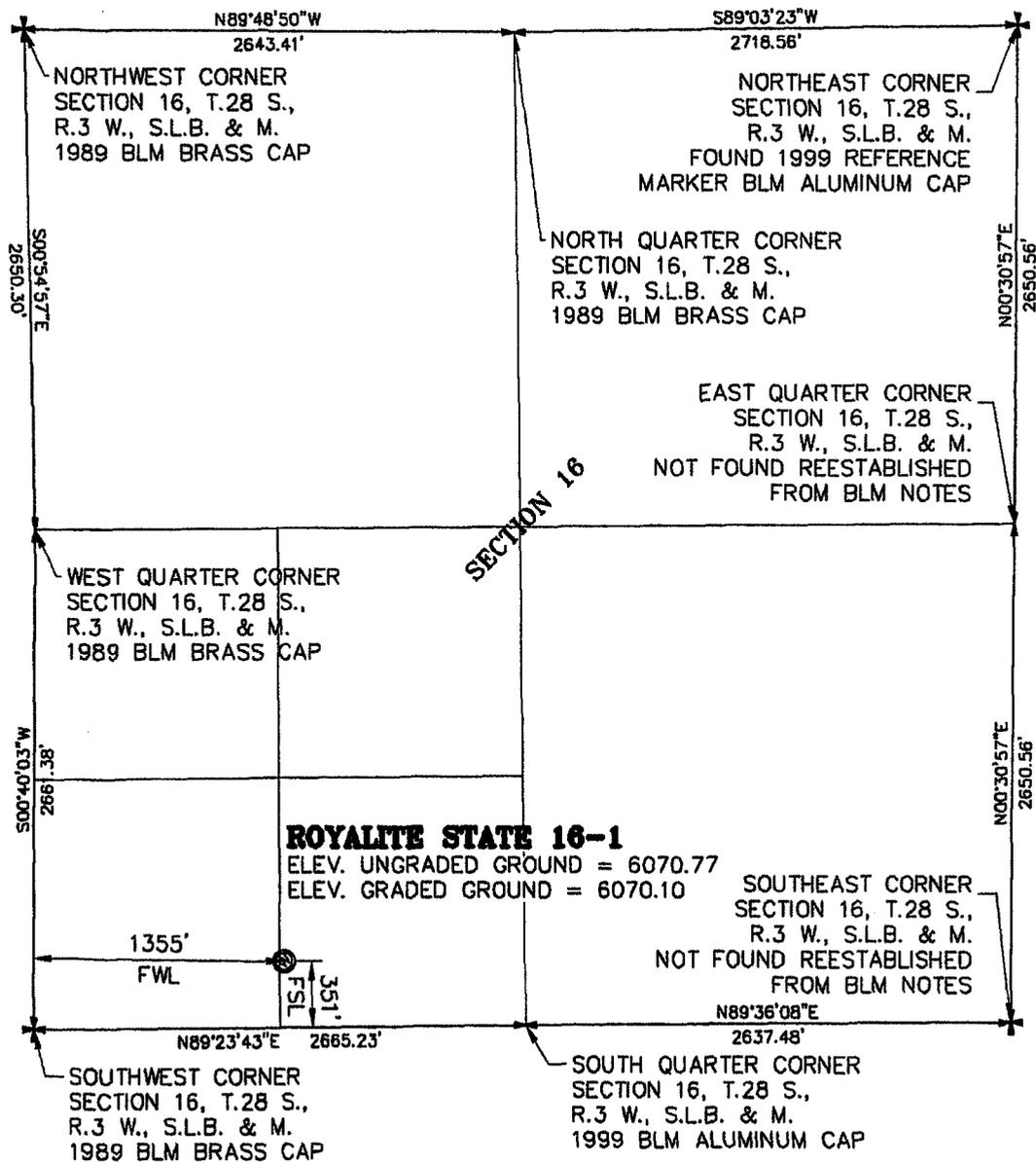
(This space for State use only)

**Approved by the Utah Division of Oil, Gas and Mining**

API NUMBER ASSIGNED: 43-031-3003 APPROVAL: \_\_\_\_\_

Date: 02-21-07  
By: *[Signature]*

# SECTION 16, T.28 S., R.3 W., S.L.B. & M.



PROJECT  
**ROYALITE PETROLEUM CORPORATION**  
 WELL LOCATION, LOCATED AS SHOWN  
 IN THE SE 1/4 OF THE SW 1/4 OF  
 SECTION 16, T.28 S., R.3 W., S.L.B. & M.,  
 PIUTE COUNTY, UTAH

## LEGEND

- SECTION CORNER AS NOTED
- QUARTER CORNER AS NOTED
- PROPOSED WELL LOCATION

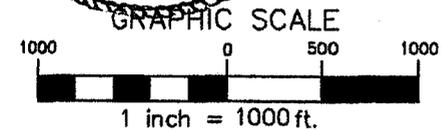
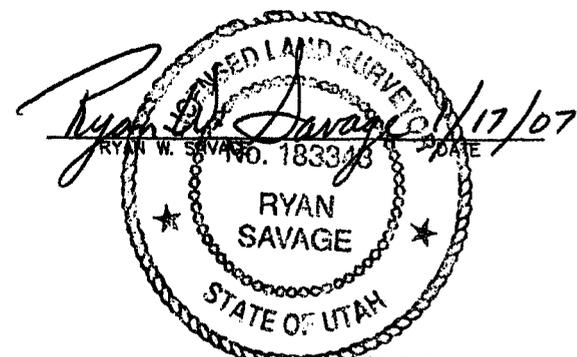
NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT THE ROYALITE STATE 16-1 WELL LOCATED IN THE SE 1/4 OF THE SW 1/4 OF SECTION 16, T.28 S., R.3 W., S.L.B. & M., PIUTE COUNTY, UTAH.

## BASIS OF ELEVATION

ELEVATION BASED ON TRIANGULATION STATION "LAKE" LOCATED IN THE SOUTHWEST 1/4 OF SECTION 28, T.28 S., R.3 W., S.L.B. & M. ELEVATION USED 6251.69.

## CERTIFICATE

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



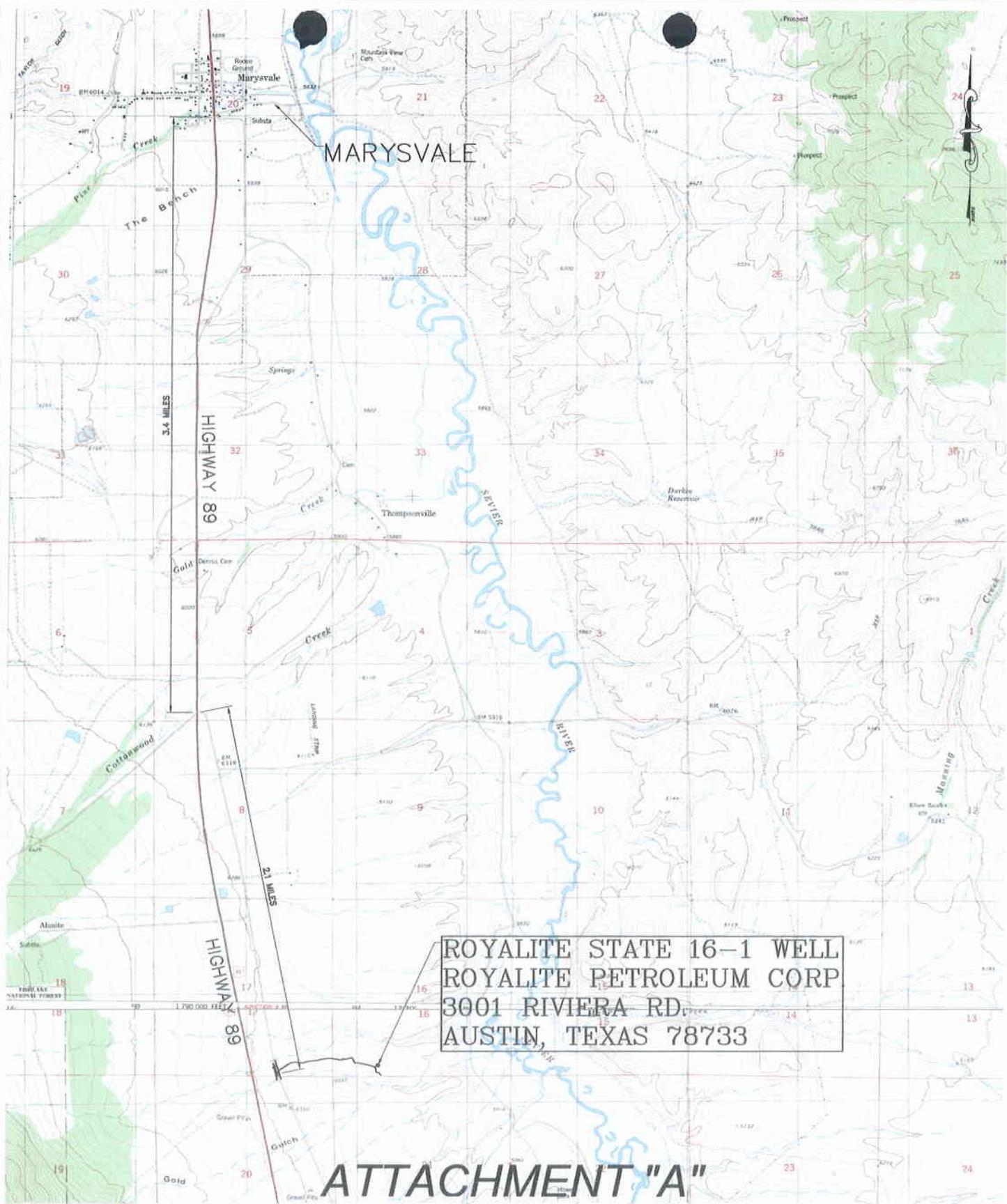
## BASIS OF BEARING

BASIS OF BEARING USED WAS N89°23'43"E BETWEEN THE SOUTHWEST CORNER AND THE SOUTH 1/4 CORNERS OF SECTION 16, T.28 S., R3 W., S.L.B. & M.

WELL LATITUDE: 38°22'11.5338"N OR 38.3698705  
 WELL LONGITUDE: 112°12'42.9646"W OR -112.2119346

**Savage Surveying, Inc.**  
 Ryan W. Savage, PLS  
 PO Box 802  
 275 S 800 W  
 Richfield, UT 84701  
 Home: 435-895-8635  
 Fax: 435-898-8635  
 Cell: 435-201-1345

WELL LOCATION PLAT FOR				
ROYALITE PETROLEUM CORPORATION				
DESIGNED BY:	SURVEYED BY:	CHECKED BY:	DATE	SHEET NUMBER
T.M.	T.K.S.	R.W.S.	12/8/08	1
			PROJECT NUMBER	
			0610-003S	



ROYALITE STATE 16-1 WELL  
 ROYALITE PETROLEUM CORP  
 3001 RIVIERA RD.  
 AUSTIN, TEXAS 78733

# ATTACHMENT "A"

ROYALITE STATE 16-1 WELL  
 SECTION 16 T.28 S., R.3 W., S.L.B. & M.

**Savage Surveying, Inc.**  
 Ryan W. Savage, PLS  
 PO Box 892  
 275 S 600 W  
 Richfield, UT 84701  
 Home: 435-896-8635  
 Fax: 435-896-8635  
 Cell: 435-201-1345

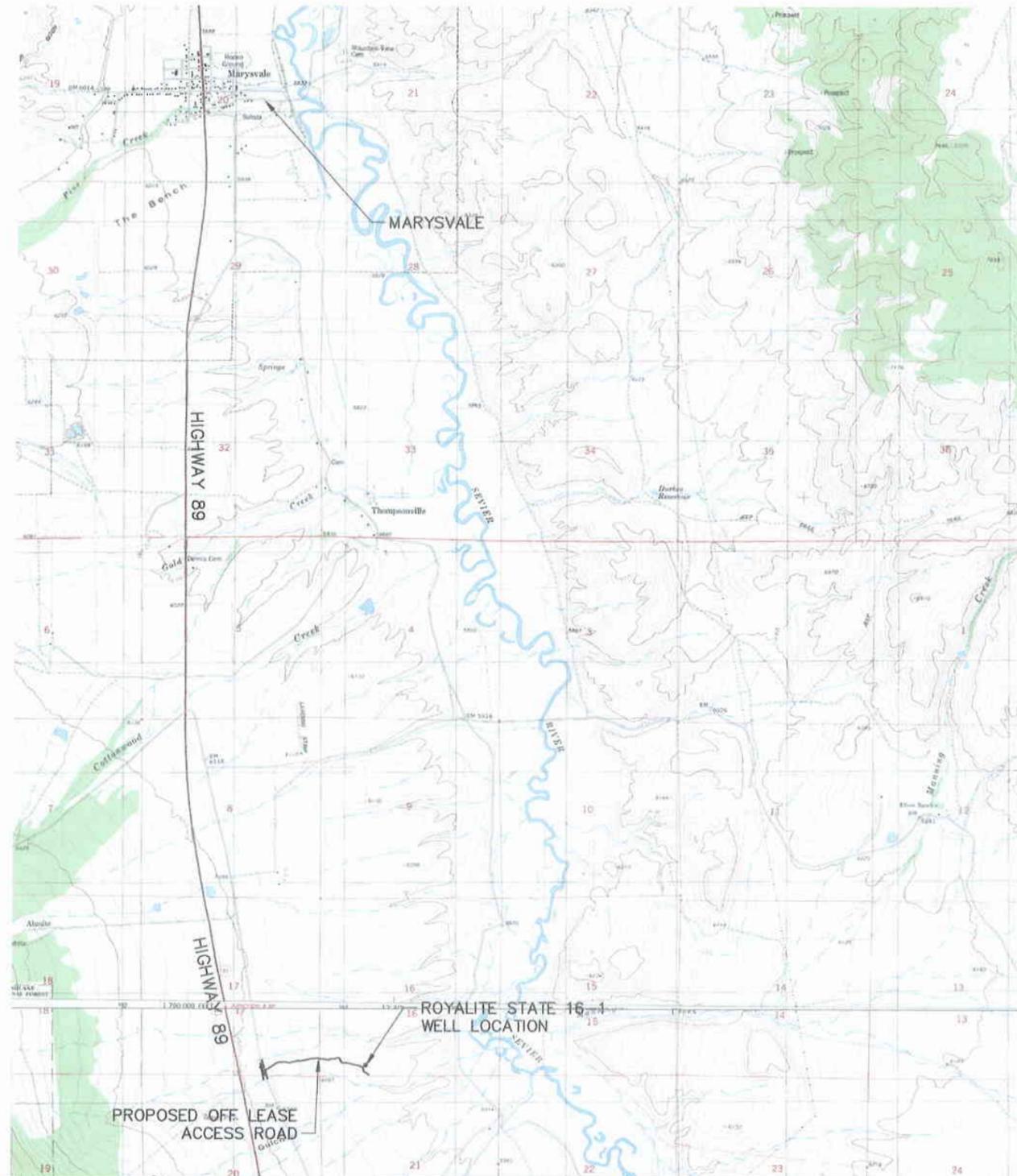


VICINITY MAP FOR ROYALITE STATE 16-1 WELL

ROYALITE PETROLEUM CORP.

DRAWING NAME	SCALE	DATE	PROJECT NUMBER	SHEET NUMBER
0610-003S	1" = 4000'	12/8/06	0610-003S	1
DESIGNED BY: T.M.	SURVEYED BY: T.K.S.	CHECKED BY: R.W.S.	DRAWN BY: R.W.S.	

# ROYALITE PETROLEUM CORP. ROYALITE STATE 16-1 WELL PAD



### APPROVAL

RECOMMENDED FOR APPROVAL:	
ENGINEER _____	DATE _____
APPROVED:	
_____	DATE _____

Savage Surveying, LLC  
 Ryan W. Savage, PLS  
 PO Box 892  
 275 S 800 W  
 Richfield, UT 84701  
 Home: 435-896-8635  
 Fax: 435-896-8635  
 Cell: 435-201-1345



**VICINITY MAP FOR ROYALITE STATE 16-1  
ROYALITE PETROLEUM CORP.**

ENGINEER T.M.	SCALE NONE	SHEET NO.  <b>1</b>
CHECKED R.W.S.	PROJ# 0610-003S DWG.NM:PLAN COVER	
DRAWN D.G.	DATE 01-16-07	

# ***PROJECT PLAN OF DEVELOPMENT AND MASTER SURFACE USE PLAN***

## **Royalite State #16-1**

NAME OF APPLICANT: Royalite Petroleum Corporation  
3001 Riviera Road  
Austin, TX 78733

PROJECT NAME: “Royalite State #16-1”  
SE/SW of Section 16  
Township 28 South – Range 3 West

ATTACHMENTS: A.) Location & Well Plat  
B.) Rig Layout Design Map  
C.) Typical Cross Sections (Cut and Fill)  
D.) Wildlife & Vegetative Species of  
Concern Summary  
E.) Cultural Resource Survey Report  
F.) Drilling Prognosis  
G.) Certifications & Bond Statement  
H.) Exception Location Letter

### **I. DESCRIPTION OF PROJECT:**

Royalite Petroleum Corporation (Royalite) proposes to drill and explore for hydrocarbons from the Jurassic Navajo, Kayenta and Moenkopi formations at depths of approximately 4,455’ – 6,030’ and approximately 7,380’ – 8,000’ within Piute County, Utah:

#### **TOWNSHIP 28 SOUTH, RANGE 3 WEST**

Southeast Quarter of Southwest Quarter (SE/SW) of Section 16

**Well Name & No.                      Target                      Elev.                      Location                      TD                      Footages**

LEASE # ML-50475					
Royalite State #16-1	Jurassic Navajo, Kayenta & Moenkopi	6,070' - GR	SE/SW Sec 16, T28S-R3W	8,000'	351' FSL - 1,355' FWL

The attached Project Map (Attachment A) shows the proposed well site and its location within Piute County, Utah. Additionally, the proposed haul and access route is identified within Attachment A. The Royalite State #16-1 well is being drilled upon State owned surface administered by the School and Institutional Trust Lands Administration (SITLA).

Mineral rights situated at the target bottom-hole location for this proposed well are State owned by SITLA. The proposed surface plan will be reviewed and inspected by the appropriate regulatory agencies, state and federal, to ensure proper utilization of the surface reflecting an effort by Royalite to minimize surface disturbance and waste. Appropriate methods from the State of Utah - Division of Oil, Gas and Mining will be followed in the constructing, drilling, completion, operation, plugging and surface reclamation of this well.

The proposed project is situated on a flat plateau area between gentle, rolling hills with small to moderately large gullies leading to the Sevier River. The potential vegetation in this area is "black sagebrush, Indian ricegrass and other perennial grasses, forbs and shrubs" (USDA Technical Classification Index: [http://www2.ftw.nrcs.usda.gov/osd/dat/H/HIKO\\_PEAK.html](http://www2.ftw.nrcs.usda.gov/osd/dat/H/HIKO_PEAK.html)).

The Sevier River is the main source of surface water situated approximately one (1) mile east of the proposed well pad. The Sevier River runs north through farmlands located near the proposed Royalite State #16-1 well and also east of Marysvale.

**Geology and Soil Types**

The soil type classified at the Royalite State #16-1 wellsite is the "Hiko Peak which is associated with cobbly loam texture displaying semidesert stony loam rangeland characteristics. The soils associated with the Hiko Peak series consist of very deep, well drained soils that formed in alluvium and colluvium areas from basic igneous rocks, limestone, and quartzite. Hiko Peak soils are on alluvial fans, fan remnants, and hills. Slopes range from 2 to 5 percent. The soils are well drained with medium surface runoff and moderate permeability. The Hiko Peak soils are used primarily for rangeland and wildlife habitat. It features a light brownish gray, moderately alkaline, cobbly loam surface soil that is approximately eight (8) inches thick. The subsoils consist of a pale

brown to gray, very cobbly loam profile and is approximately eight (8) to 27 inches thick. The substrate material is gray, very gravelly sandy loam, very gravelly loam and gravelly sandy loam and is approximately 27 to 60 inches thick” (USDA Technical Classification Index: [http://www2.ftw.nrcs.usda.gov/osd/dat/H/HIKO\\_PEAK.html](http://www2.ftw.nrcs.usda.gov/osd/dat/H/HIKO_PEAK.html)).

## **II. SOIL EROSION CONTROL MEASURES:**

The well pad will be sloped at about 1%, in the direction of the site’s drainage so as to provide for a well-drained work area during drilling operations. Appropriate collection and infiltration basins will be constructed in the sloped area of the drill pad.

Appropriate drill site drainage and sedimentation control measures were incorporated into the operational plan. These measures included utilization of earthen dikes along the fill portion of the drilling pad perimeter, stabilization of slopes as needed, location of the reserve pits in the cut portion of the drilling pad and the pad constructed so as to slope toward a collection/infiltration basin and or a drainage area.

## **III. EXISTING ACCESS ROADS AND ROAD IMPROVEMENTS**

The existing access roads are identified and labeled on the project map (Attachment A). Royalite’s proposed “Royalite State #16-1” project area is most easily accessible from Marysvale, Utah. Leaving Marysvale, one would drive down Highway 89 heading south. At mile marker 175 + 0.5, turn left onto County Road #3.4 – “Old 89” heading south and parallel to Highway 89. Continue driving for approximately 2.1 miles and turn left onto the asserted RS-2477 County Road #89-204 heading east. Drive approximately 0.75 of a mile before reaching the proposed well pad location.

Minimal construction, if any, is proposed for this small segment of access road from County Road #3.4 “Old 89” to the proposed well pad location. One (1) staging area and three (3) “intervisible turnouts” have been designed to allow for a line-of-sight visual on other vehicles using this off-lease resource road.

Upon entering the asserted RS-2477 County Road #89-204, Royalite proposes to upgrade this small segment into an accessible resource road containing a travel distance of approximately 0.75 of a mile across 0-3 % gradient with a 14 foot travelway width. Royalite proposes to install an 18 inch by 30 Lineal Feet (LF), Corrugated Metal Pipe (CMP) culvert in a low lying drainage area situated next to the old Highway 89.

Steep, rough topography is not identified as a problem along the proposed access route. However, another access was identified but was situated across large gullies separating the flat plateaus. A very extensive engineering plan would need to accompany this application for the alternative route to the State of Utah – Division of Water Rights, Division of Oil, Gas & Mining, Utah State Engineer’s Office and also the U.S. Army

Corps of Engineers. This route was not selected as there would have been several concerns regarding aesthetics, gradient, cut/fill portions, drainage and also costs associated with this choice.

#### **IV. LOCATION OF EXISTING WELLS**

Delta Petroleum Corporation has the "Joseph Federal #1" well situated approximately 16 miles northeast of this proposed well site location and is situated in the Southwest Quarter of the Southeast Quarter (SW/SE) of Section 24, Township 25 South, Range 4 West, Sevier County, Utah.

#### **V. DRILLING METHOD**

Delta proposes to use a vertical drilling program for the Royalite State #16-1 well. This well is situated outside of the legal drilling window to avoid the large gullies, minimize surface disturbance and operational costs allowing Royalite to explore into the target bottom-hole location.

#### **VI. LOCATION AND TYPE OF WATER SUPPLY**

Water for drilling the Royalite State #16-1 will be purchased from a municipal water source in Marysvale, Utah. Wastewater will not be discharged on the surface at this site and the drilling of the well will not require a wastewater management plan.

#### **VII. CONSTRUCTION MATERIALS**

In most circumstances, natural earth materials would be used for the construction of roads and fill areas. These earthen materials would be taken from locations essentially contiguous to or nearby the locations to be improved.

#### **VIII. METHODS FOR HANDLING WASTE**

The Reserve Pit will be constructed on the well pad per the attached Rig Layout Design (Attachment B) and it will be used for the disposal of waste mud and drill cuttings. The pit dimensions are 210 feet X 140 feet and will be 12 feet deep. The pit will be lined with a synthetic liner having a minimum thickness of 12 mills and if the reserve pit is built in rock, geotextile or some other material approved by the Division of Oil, Gas and Mining shall be utilized. The Division of Oil, Gas and Mining shall be notified prior to lining the reserve pit in order to allow for Division inspection. Rules pursuant to R649-3-16 will be followed regarding the reserve pit.

Upon evaporation of fluids, pit closure occurs with the back fill of soil and its compaction to prevent settling. The usage of the pit is further described in the section IX under pit closure.

All garbage will be taken off site and disposed of properly. Pursuant to R649-3-14, all rubbish and debris shall be kept in containers on the well site, and will be hauled to an approved disposal site upon completion of drilling and completion operations and as needed during such operations. There will be no chemical disposal of any type. Sewage is handled through the renting of portable toilets. These are serviced by the rental company and removed from site when no longer required.

## **IX. PLANS FOR RECLAMATION OF THE SURFACE**

Pit closure: The pits will be fenced on three sides during all drilling operations and then the fourth side will be immediately fenced when the rig is moved off location. After evaporation of fluids, back-fill of sub-soil and compaction to prevent settling will occur within 90 days of the drilling and completing of the well. If necessary after 90 days, the fluids will be sucked out of the pit and transported off site.

The topsoil will be stripped off and stock piled in an area not to be disturbed. The topsoil will be placed back on the pit after back filling and then prepped for re-seeding.

The approximate Pit size is indicated on the Rig Layout Design attached hereto (Attachment B).

Revegetation Methods: Disturbed areas will be disked, seeded and “dragged”, as needed; seeding with a mixture approved by the local USDA Natural Resource Conservation Service or the Bureau of Land Management.

Royalite suggests that autumn seeding practices be used due to the terrain in this project area. Fall seeding will allow any moisture, whether rain or snow, to assist the seed into the ground.

Timetable: Reclamation of the surface will commence as soon thereafter construction, drilling and well completion are concluded, as is practicable, depending on weather. In the event of a dry hole, the drill site and roadways will be restored to their original condition as nearly as practicable within 180 days after plugging date of the well.

## **X. SURFACE OWNERSHIP**

The surface of the proposed well site is state owned and is administered by SITLA.

## **XI. WELLSITE LAYOUT**

Please see the attached "Rig Layout Design" (Attachment B) for the well configuration.

## **XII. PIPELINES**

**PIPELINES:** In the event of hydrocarbon production requiring transmission by pipeline, the proposed pipeline(s) will be designed, constructed, tested, operated and maintained in accordance with standard safety practices and by a combination of construction techniques intended to minimize to the greatest extent practical the impacts upon natural resources.

Pipelines will typically be installed by trenching. In these trenched areas, the contractor shall strip and stockpile topsoil to be replaced over the backfill portion upon completion of construction operations.

The proposed pipelines will be constructed with a combination of methods intended to minimize impacts to private, state and federally owned property, county roads and natural resources. The pipeline will be constructed by a combination of conventional construction techniques and special measures designed to minimize impacts to natural resources. Pipelines will be adequately compacted before the topsoil is replaced for re-seeding.

In general and where required, soil erosion control measures will consist of appropriate BMPs (Best Management Practices) to reduce the potential for erosion. The BMPs that will be utilized in upland areas include use of construction barriers where appropriate, land clearing, spoil piles, staging and scheduling, seeding and mulching. Note that spoil piles will not typically be seeded since exposure of the spoil piles should be minimal in time. All other proper BMP measures will be implemented to reduce the potential for erosion. Seeding of all raw soils after burial of pipe will be performed. However, mulching will be performed only within state or county road right-of-ways.

### **XIII. GENERAL**

**TIMELINE:** The following is a general order of construction and sequence of earth change by which our operations will proceed:

- 1.) Access Road and Well Pad Construction
- 2.) Drilling and Well Completion Operations
- 3.) Initial Well Pad Restoration
- 4.) Clearing of Pipeline Rights-of-way (if needed)
- 5.) Delivery and Layout of Pipe
- 6.) Pipe Welding and Inspection
- 7.) Trenching of Pipe
- 8.) Placement and Burying of Pipe
- 9.) Final Restoration of Site/Access/Pipeline Route
- 10.) Re-Seeding

All hillsides and other places where the contractor has moved earthen materials to facilitate operations shall be restored to as near original condition as practical. Replaced material and/or backfill will be protected from erosion to the satisfaction of Royalite, SITLA and the State of Utah - Division of Oil, Gas and Mining without undue delay.

Upon completion of any backfill, contractor shall clear pipeline rights-of-way and access routes of large rocks, stumps and other debris; fill holes, ruts and depressions, and shall keep the access road in a neat and acceptable condition. All clean-up shall be maintained by the contractor until final acceptance by Royalite and the enforcing agency.

### **XIV. ENVIRONMENTAL IMPACT ASSESSMENT:**

It is anticipated that the drilling and operations planned, provided the success of this well, will not have any adverse affects to any wildlife or aquatic life in the area. There will be only a minor effect on the surface cover. Drilling and production operations should have minimal effect on the population patterns, land use, public utilities or public services in the near future for this rural area.

Noise levels during drilling and completion operations may be continuous but not unusually high. If production is achieved, noise levels should be minimal during the operation and maintenance of the well. Necessary soil erosion and sedimentation safeguards will be built into the well pad, access and future proposed pipeline routes to protect any nearby lowlands, where appropriate. Particular care will be exercised in order that all drain ditches be maintained and kept unobstructed to prevent water backup against spoil banks or backfill, causing erosion. The cumulative long-term effect on the immediate environment should be minimal.

If the well is productive, the effect on the air quality in the area is expected to be practically non-existent. Human activity in this area is somewhat limited, due to the nature of the location. Ranching operations and any activities in the area should not be adversely affected.

The site will then be contoured as closely as practical to its natural state, fine graded and stabilized. The well site and access route will be restored as soon as practical. If the well is productive, existing dikes will be maintained and erosion control procedures, as specified by the State of Utah – Division of Oil, Gas & Mining will be followed to insure protection of the local ecosystem.

Assuming that the drilling and completion of this well results in its ability to commercially produce hydrocarbons, appropriate market connections will be made upon proper permitting of such activities by all agencies having jurisdiction over said activities.

## **Cultural**

A Class III cultural resource evaluation has been conducted for Royalite on the SITLA and BLM administered lands. These reports are confidential and have been submitted to each respective agency Archaeologist. Electronic messages from these agency representatives will confirm that a cultural survey has been conducted and approved for this proposed action. This supplement information shall be considered (Attachment E).

## **Wildlife**

Please see (Attachment D), a Special Status Plant and Animal Species Survey Clearance as acquired by Cirrus Ecological Solution.

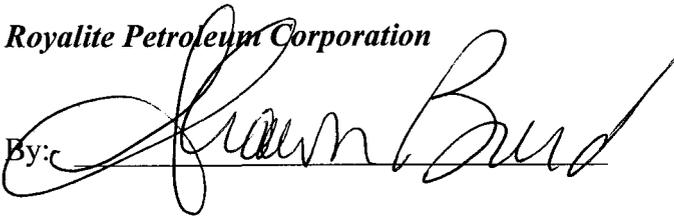
**XV. SUMMARY:**

In conclusion, the environmental impact of this project is considered to be minimal and every effort will be made to ensure the protection and preservation of the environment, as well as the standard of living for those affected by its operation.

This proposed project is aimed at increasing the hydrocarbon reserves and it is very important for Royalite to cross BLM lands accessing the proposed Royalite State #16-1 well situated within the State of Utah. In addition, in the event that production can be established in this project, it will be of financial benefit to the private holders of oil and gas rights including SITLA in fulfillment of its stewardship responsibilities over State owned oil and gas assets. We consider the environmental impact of this project to be slight and we will make every effort to be conscientious operators and to insure protection and preservation of the environment during the course of our drilling and producing operations.

Sincerely,

*Royalite Petroleum Corporation*

By: 

Authorized Permitting Agent:

Western Land Services – Western Division  
1144 North Centennial Park Drive  
Richfield, Utah 84701  
Shawn Burd - General Manager  
Phone: 435-896-5501

# Special Status Plant and Animal Species Survey Clearance

## Report Date: November 13, 2006

Project: Royalite State 16-1 Well and Access Road

Survey Date: October 24, 2006

Prepared by: John Stewart, Cirrus Ecological Solutions, Logan, Utah

### **INTRODUCTION/METHODOLOGY**

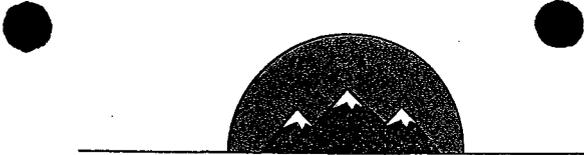
Cirrus Ecological Solutions, LC, of Logan, Utah, was retained by Western Land Services to complete special status species assessment/surveys of the proposed State 16-1 well site and access road. The well is located in Piute County, Utah, in T28S R3W in the SE1/4 SW1/4 of Section 16 on SITLA administered lands. The habitat is an open sagebrush community with little understory on a gradually sloping plain above the Sevier River corridor. Access to the site would be via an exiting two-track road across BLM land, which would be extended on State land to the well site.

Sage-grouse were identified as a potential issue for this site. However, no sage-grouse sign was found on the well site or along the access road. Generally the sagebrush is too tall to be a potential sage-grouse lek habitat. Lower sagebrush does occur to the east of the site, but with no indication of use by sage-grouse. Consultation with Larry Greenwood, BLM biologist, indicated that sage-grouse are not known from this area.

The sagebrush habitat was also assessed for pygmy rabbit. No pygmy rabbits or pygmy rabbit sign was observed during the survey of the well site and access road. Although the site is sagebrush dominated, it is generally not as dense as in pygmy rabbit habitat and the drainage south of the site is rocky. Consultation with Larry Greenwood, BLM biologist, also indicated that pygmy rabbits are not known from this area.

Trees or habitat features that might be used by raptors as a nesting site were not present near the well site or along the access road.

The BLM sensitive plant list was reviewed for species that might occur on the well site or along the access road. Although the survey was not conducted during the growing season when plants could be identified, sensitive plant species listed for Piute County are unlikely to be present in the sagebrush-sparse understory habitat that characterizes the site.



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# WESTERN LAND SERVICES

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November 10, 2006

Ms. Kristine Curry, Archaeologist  
Utah School and Institutional Trust Lands Administration  
675 East 500 South Suite 500  
Salt Lake City, Utah 84102

RE: Royalite Petroleum Corporation State 16-1 Well Project  
U-06-LW-1573b,s  
Report Submittal

Dear Ms. Curry:

Please find enclosed for your review and approval a bound copy of the cultural resource inventory report, site forms, and USHPO Cover Page for the subject project in Piute County. The project consists of an access road and well pad located between the towns of Marysvale and Junction. This project is both on Bureau of Land Management, Richfield Field Office and your agency's land. The package for the State Historic Preservation Officer will be submitted by the BLM.

As stated in the enclosed, the inventory only found an abandoned segment of historic US-89 and two historic artifact isolates. The alignment of old US-89 is recorded as 42PI639 and is on BLM lands within our current area of potential effects. It is now a gravel county road where the western end of the current project access road originates. Utah Department of Transportation records show the gravel road has been in place at least since 1910, it received its US-89 designation in 1927, and was replaced by the current US-89 in 1960. The recorded segment does not retain any significant structures and has been modified out of period through continual maintenance. It is recommended not eligible for the National Register of Historic Places. A courtesy copy of the report and site form are being provided to UDOT. Provided the project is implemented as proposed, there should be no impacts to cultural resources.

Thank you for your efforts. Should you require additional information or assistance, please contact me at (435) 896-5501 or [susan.miller@westernls.com](mailto:susan.miller@westernls.com).

Respectfully,



Susan G. Miller, Senior Archeologist  
Western Land Services – Utah

Sgm/enclosures

cc: (w/out enclosures)  
Shawn Burd, WLS

WESTERN LAND SERVICES - UTAH

1144 North Centennial Park Drive • Richfield, UT 84701 • Phone: (435) 896-5501 • Fax: (435) 896-5515

Web: [www.westernls.com](http://www.westernls.com)

**susan miller**

---

**From:** Kristine Curry [kristinecurry@utah.gov]  
**Sent:** Wednesday, January 10, 2007 8:48 AM  
**To:** susan.miller@westernls.com  
**Subject:** Re: U-06-LW-1573 Report

Hi Susan,

Yes, we received the report and it all looked really good.

Do you need me to let you know when we receive your reports? I can do that if you need me to do so. I'd just need to write myself a note to remind me to do that since we normally only contact the consultant if we have questions or problems with the report (kind of the "no news is good news" philosophy). But, it would be easy enough to send you a quick e-mail message letting you know we've gotten the report and approved it.

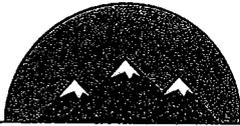
Just let me know if you want me to start doing that.

Kristine

>>> "susan miller" <susan.miller@westernls.com> 1/10/2007 7:54 am >>>

Hi Kristine! Happy new year to you. My boss wanted me to check with you to ensure you received and approved the submission of the report for the Royalite Petroleum State 16-1 Well project near Marysvale, done under the subject proj. #.

Thanks!



WESTERN LAND SERVICES

November 10, 2006

Ms. Chris Horting-Jones, Archaeologist  
Bureau of Land Management – Richfield Field Office  
150 East 900 North  
Richfield, Utah 84102

RE: Royalite Petroleum Corporation State 16-1 Well Project  
U-06-LW-1573b,s; BLM 06UT82461  
Report Submittal

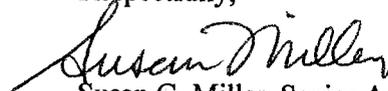
Dear Ms. Jones:

Please find enclosed for your review and approval a bound copy of the cultural resource inventory report, site forms, and the required cover pages for the subject project in Piute County. The project consists of an access road and well pad located between the towns of Marysville and Junction. This project is both on Bureau of Land Management, Richfield Field Office and and Utah School and Institutional Trust Lands Administration jurisdiction. Also enclosed is the unbound set of documents for submission to the State Historic Preservation Officer along with their cover page. A copy of the report and site form have been submitted directly to SITLA.

As stated in the enclosed, the inventory only found an abandoned segment of historic US-89 and two historic artifact isolates. The alignment of old US-89 is recorded as 42PI639 and is on BLM lands within our current area of potential effects. It is now a gravel county road where the western end of the current project access road originates. Utah Department of Transportation records show the gravel road has been in place at least since 1910, it received its US-89 designation in 1927, and was replaced by the current US-89 in 1960. The recorded segment does not retain any significant structures and has been modified out of period through continual maintenance. It is recommended as being not eligible for the National Register of Historic Places. A courtesy copy of the report and site form are being provided to UDOT. If the project is implemented as proposed, there should be no impacts to cultural resources.

Thank you for your efforts. Should you require additional information or assistance, please contact me at (435) 896-5501 or [susan.miller@westernls.com](mailto:susan.miller@westernls.com).

Respectfully,



Susan G. Miller, Senior Archeologist  
Western Land Services – Utah

Sgm/enclosures

cc: (w/out enclosures) Shawn Burd, WLS

WESTERN LAND SERVICES - UTAH

1144 North Centennial Park Drive • Richfield, UT 84701 • Phone: (435) 896-5501 • Fax: (435) 896-5515

Web: [www.westernls.com](http://www.westernls.com)

susan miller

---

**From:** Christine\_Horting-Jones@blm.gov  
**Sent:** Monday, November 27, 2006 8:39 AM  
**To:** susan.miller@westernls.com  
**Subject:** Royalite survey report

Susan:

I've reviewed the 2006 Royalite State 16-1 Well Project CR Survey report, (U06LW1573bs), and it meets the requirements for cultural resource inventories conducted on BLM-administered lands. As such, it was forwarded to SHPO under the BLM/USHPO Protocol Agreement on Nov. 22, 2006.

Let me know if you need anything else. Appreciate your professionalism!

~~~~~  
Chris Horting Jones, fuels archaeologist BLM/Richfield Field Office 150 E. 900 N.  
Richfield, UT 84701  
435-896-1531  
~~~~~

# ROYALITE PETROLEUM CORP.

3001 Riviera Road.  
Austin , Texas 78733  
USA

Phone (512) 402-0910  
Fax (512) 494-4634  
RoyalitePetro@aol.com

January 16, 2007

United States Department of the Interior  
Bureau of Land Management  
State of Utah – Division of Oil, Gas & Mining

Re: Designated Agent

To Whom It May Concern:

By this letter, Michael L. Cass hereby authorized Western Land Services, Inc. to act as Agent on behalf of Royalite Petroleum Corporation within the State of Utah. Western Land Services, Inc. and its employees are authorized to enter into agreements on behalf of Royalite Petroleum Corporation with Federal, State and Local agencies and they shall have the ability to deliver and receive proprietary information for Royalite Petroleum Corporation.

If you have any questions or concerns, please feel free to contact me, Michael L. Cass, at (512)402-0910, or via e-mail at [RoyalitePetro@aol.com](mailto:RoyalitePetro@aol.com). I thank you in advance for your cooperation.

Sincerely,



Michael L. Cass  
President, Royalite Petroleum Corporation

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

FORM 4B

Bond No. \_\_\_\_\_

**COLLATERAL BOND**

**KNOW ALL MEN BY THESE PRESENTS:**

That we (operator name) ROYALITE PETROLEUM CORP. as Principal, which is duly authorized and qualified to do business in the State of Utah, are held and firmly bound unto the State of Utah in the sum of:

ONE HUNDRED TWENTY THOUSAND & 00/100 dollars (\$ \$120,000.00) lawful money of the United States by virtue of the following financial instruments (cash account, negotiable bonds of the United States, a state or municipality, or negotiable certificate of deposit – see Rule R649-3-1):

**CASH ACCOUNT**

payable to the Director of the Division of Oil, Gas and Mining, as agent of the State of Utah, for the use and benefit of the State of Utah for the faithful payment of which we bind ourselves, our heirs, executors, administrators and successors, jointly and severally by these presents.

**THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS** the Principal is or will be engaged in the drilling, re-drilling, deepening, repairing, operating, and plugging and abandonment of a well or wells and restoring the well site or sites in the State of Utah for the purposes of oil or gas production and/or the injection and disposal of fluids in connection therewith for the following described land or well:

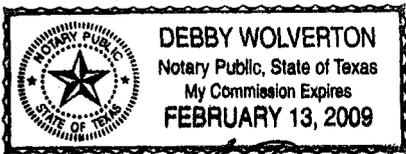
- Blanket Bond: To cover all wells drilled in the State of Utah
- Individual Bond: Well No: \_\_\_\_\_  
Section: \_\_\_\_\_ Township: \_\_\_\_\_ Range: \_\_\_\_\_  
County: \_\_\_\_\_, Utah

**NOW, THEREFORE**, if the above bounden Principal shall comply with all the provisions of the laws of the State of Utah and the rules, orders and requirements of the Board of Oil, Gas and Mining of the State of Utah, including, but not limited to the proper plugging and abandonment of wells and well site restoration, then this obligation is void; otherwise, the same shall be and remain in full force and effect.

**IN TESTIMONY WHEREOF**, said Principal has hereunto subscribed its name and has caused this instrument to be signed by its duly authorized officers and its corporate or notary seal to be affixed this

12 day of JANUARY, 20 07

(Corporate or Notary Seal here)

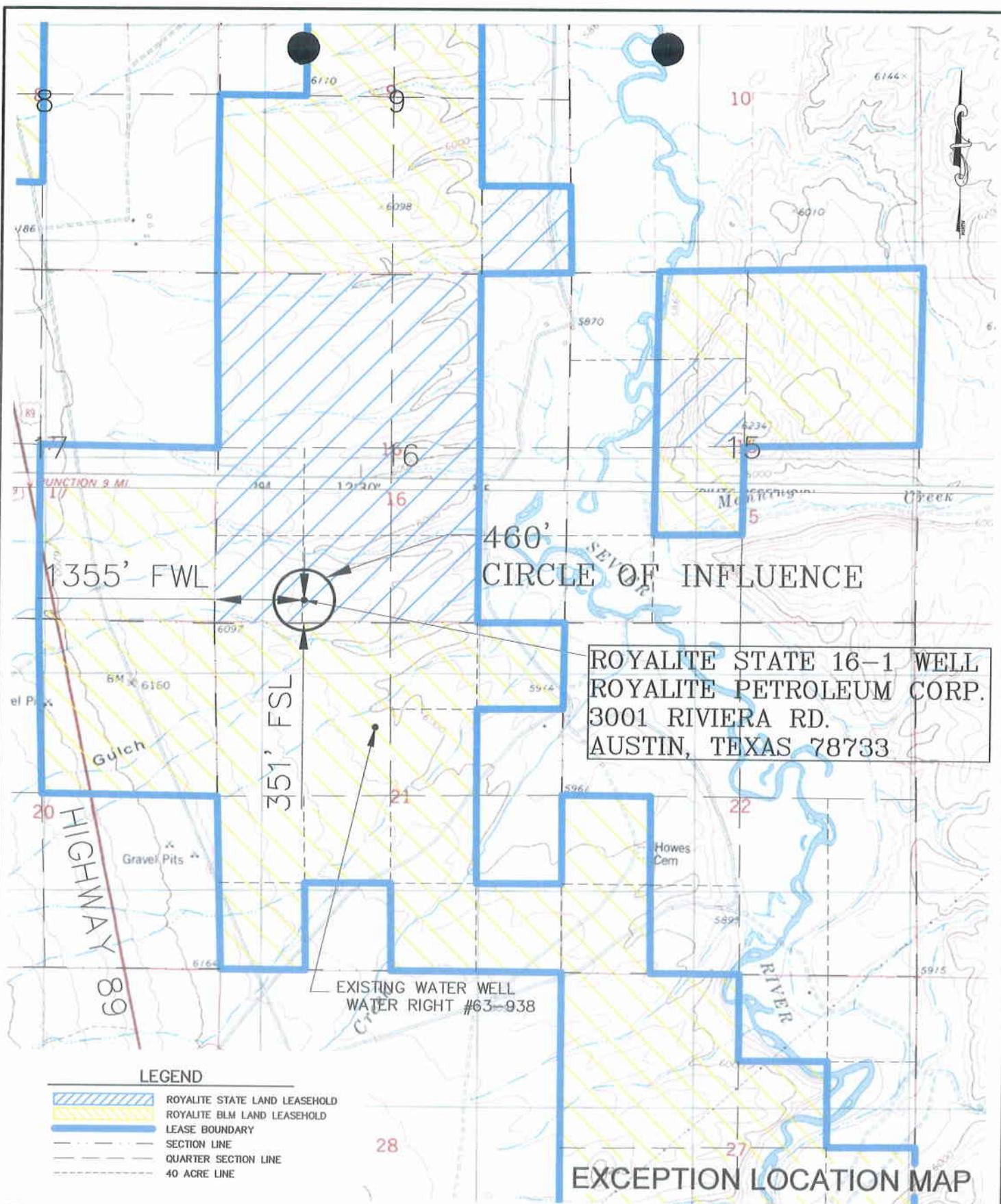


Attestee: Debby Wolverton Date: 1-12-07

ROYALITE PETROLEUM CORP.  
Principal (company name)

By MICHAEL CASS PRESIDENT  
Name (print) Title

Michael Cass  
Signature



ROYALITE STATE 16-1 WELL  
 ROYALITE PETROLEUM CORP.  
 3001 RIVIERA RD.  
 AUSTIN, TEXAS 78733

EXISTING WATER WELL  
 WATER RIGHT #63-938

**LEGEND**

- ROYALITE STATE LAND LEASEHOLD
- ROYALITE BLM LAND LEASEHOLD
- LEASE BOUNDARY
- SECTION LINE
- QUARTER SECTION LINE
- 40 ACRE LINE

**EXCEPTION LOCATION MAP**

ROYALITE STATE 16-1 WELL  
 SECTION 16 T.28 S., R.3 W., S.L.B. & M.

1. DISTANCE TO EXISTING WATER WELL; 0.418 MILES.  
 WATER RIGHT #63-938.
2. DISTANCE TO DELTA JOSEPH FEDERAL-1 WELL;  
 16.35 MILES.

**Savage Surveying, Inc.**  
 Ryan W. Savage, PLS  
 PO Box 892  
 275 S 600 W  
 Richfield, UT 84701  
 Home: 435-896-8635  
 Fax: 435-896-8635  
 Cell: 435-201-1345



ROYALITE STATE 16-1 WELL					
ROYALITE PETROLEUM CORP.					
DRAWING NAME 0610-003S	SCALE 1" = 2000'	DATE 01-17-07	PROJECT NUMBER 0610-003S	SHEET NUMBER 1	
DESIGNED BY: T.M.	SURVEYED BY: T.K.S.	CHECKED BY: R.W.S.	DRAWN BY: D.G.		

# PRESSURE CONTROL SYSTEM SCHEMATIC

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

Operator:

Royalite Petroleum Corporation

Well name and number

Royalite State #16-1

**3M BOP Stack** --- to be installed on to 9-5/8" surface casing

Max. anticipated surface pressure 3000 psi

Annular B.O.P. 11" - 3M WP

B.O.P. pipe Rams 11" - 3M W.P.  
(Pipe/Blind)

B.O.P.  
 Manual  
 Hydraulic  
 Sour Trim

Check Valve 2" 3M WP

Valve 2" 3M WP

Valve 2" 3M WP

B.O.P. blind Rams 11 - 3M W.P.  
(Pipe/Blind)

Valve 3" 3M WP

Valve 3" 3M WP

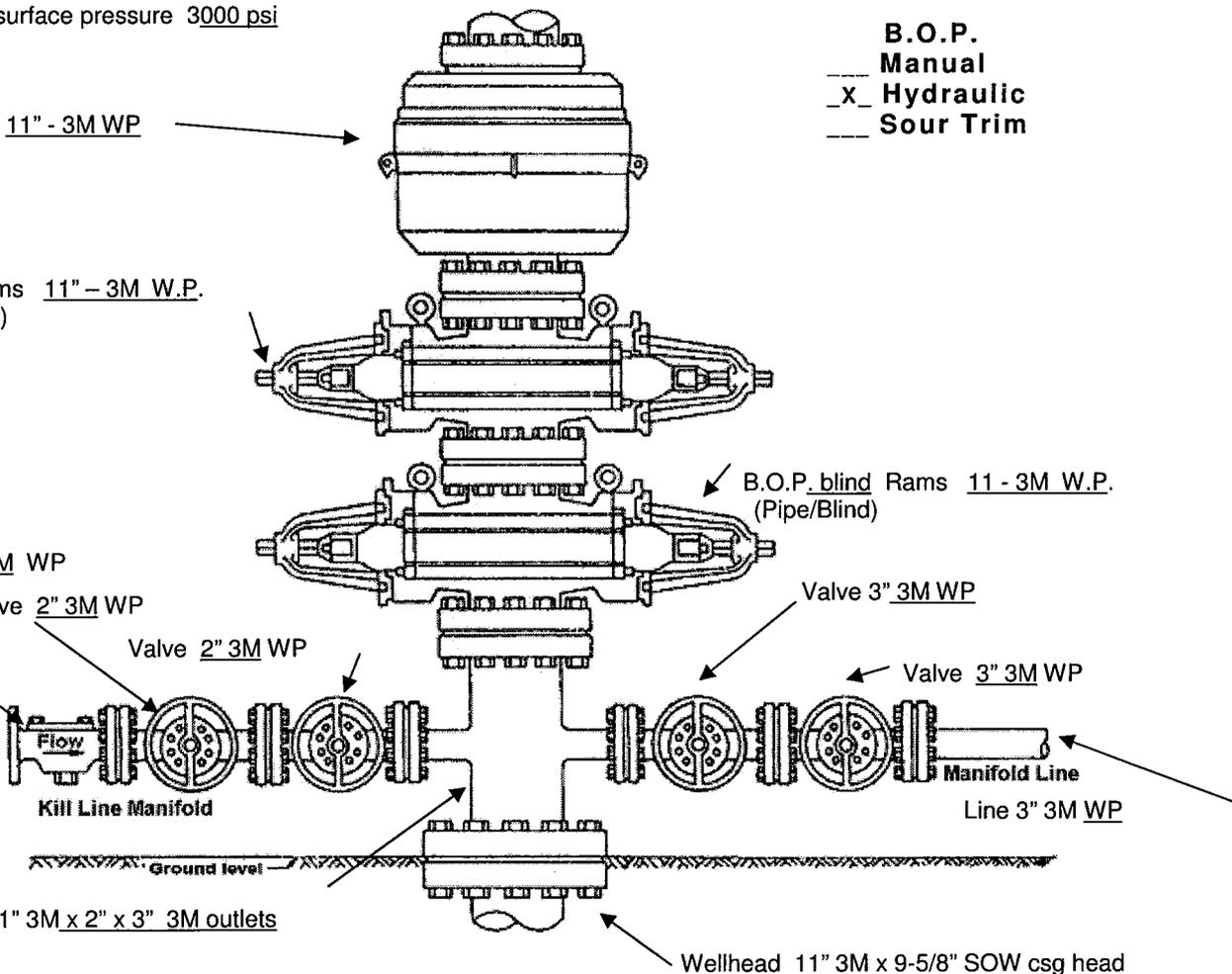
Flow  
Kill Line Manifold

Manifold Line  
Line 3" 3M WP

Ground level

Spool 11" 3M x 11" 3M x 2" x 3" 3M outlets

Wellhead 11" 3M x 9-5/8" SOW csg head



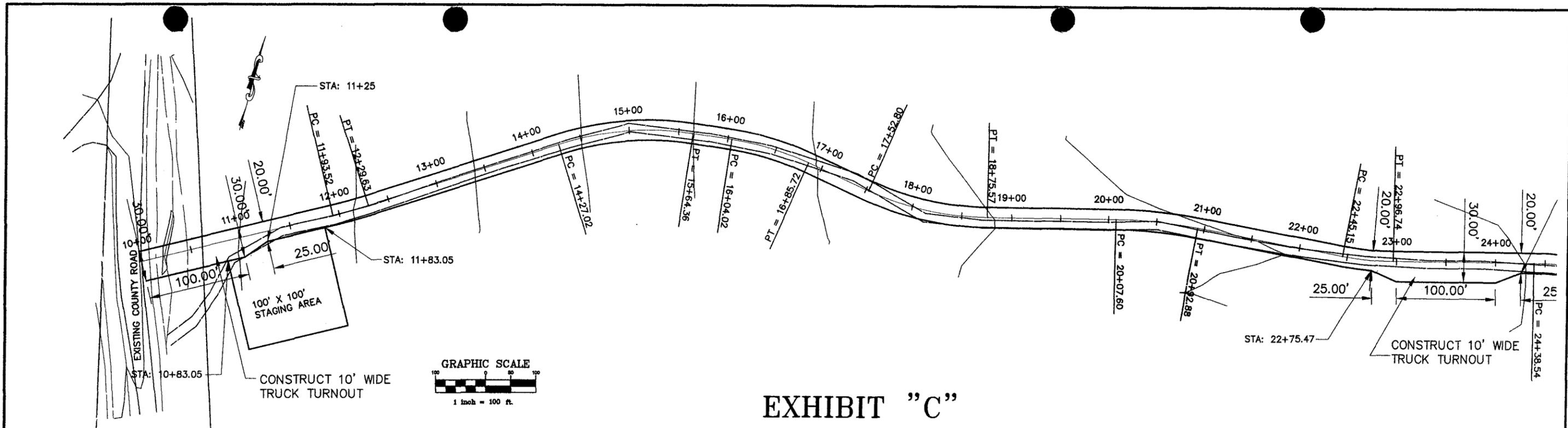
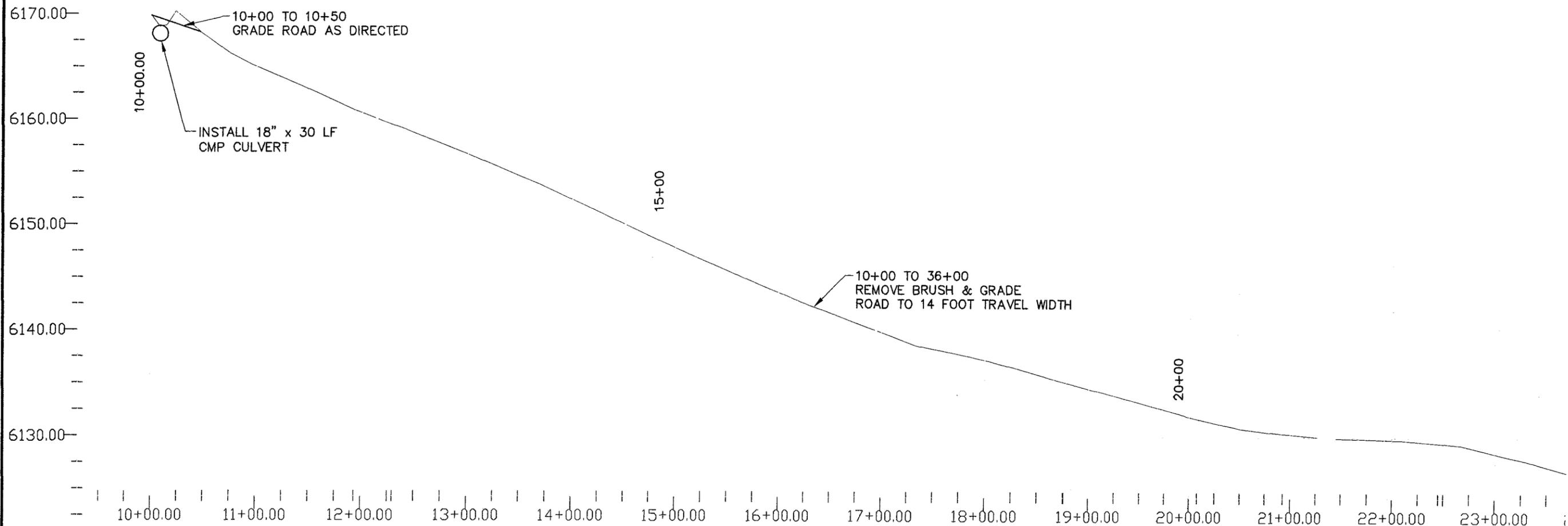


EXHIBIT "C"



Savage Surveying, Inc.

Ryan W. Savage, PLS  
 PO Box 892  
 275 S. 800 W.  
 Riverton, UT 84701  
 Home: 335-896-8635  
 Fax: 435-896-8635  
 Cell: 435-266-1345



ACCESS ROAD PLAN & PROFILE FOR  
 ROYALITE STATE 16-1 WELL

ENGINEER T.M.	SCALE 1" = 100'
CHECKED R.W.S.	PROJ.#: 0610-003S DWG.NM: 0610-003S
DRAWN R.W.S.	DATE 11/20/06

SHEET NO.  
**PP 1**

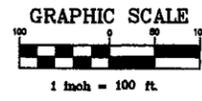
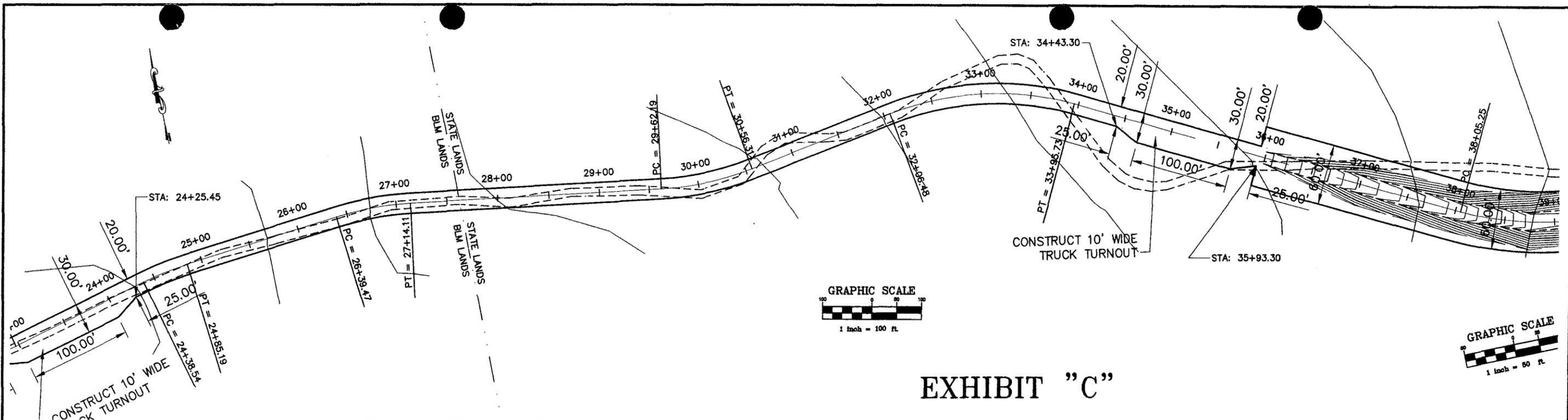
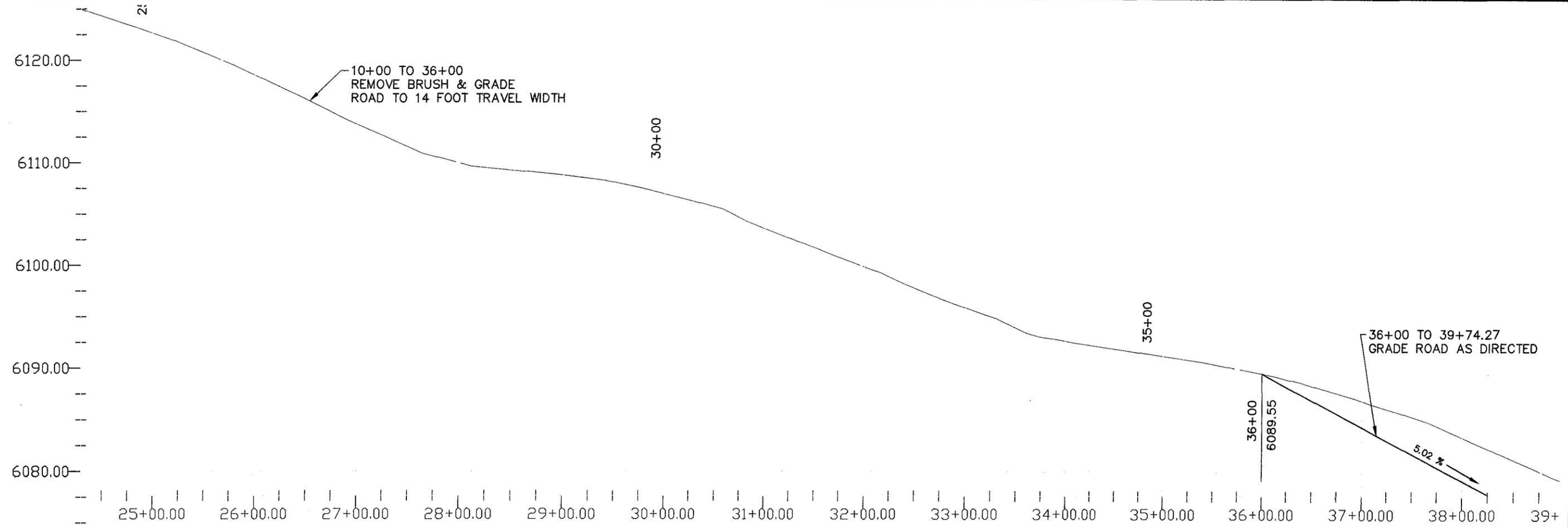


EXHIBIT "C"



Savage Surveying, Inc.  
 Ryan W. Savage, PLS  
 PO Box 892  
 275 S. 100 W  
 Richfield, UT 84701  
 Home: 435-896-8635  
 Fax: 435-896-8635  
 Cell: 435-263-1345



ACCESS ROAD PLAN & PROFILE FOR  
 ROYALITE STATE 16-1 WELL

ENGINEER T.M.	SCALE 1" = 100'	SHEET NO.  <b>PP 2</b>
CHECKED R.W.S.	PROJ.#: 0610-003S DWG.NM: 0610-003S	
DRAWN R.W.S.	DATE 11/20/06	

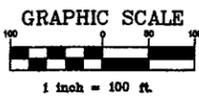
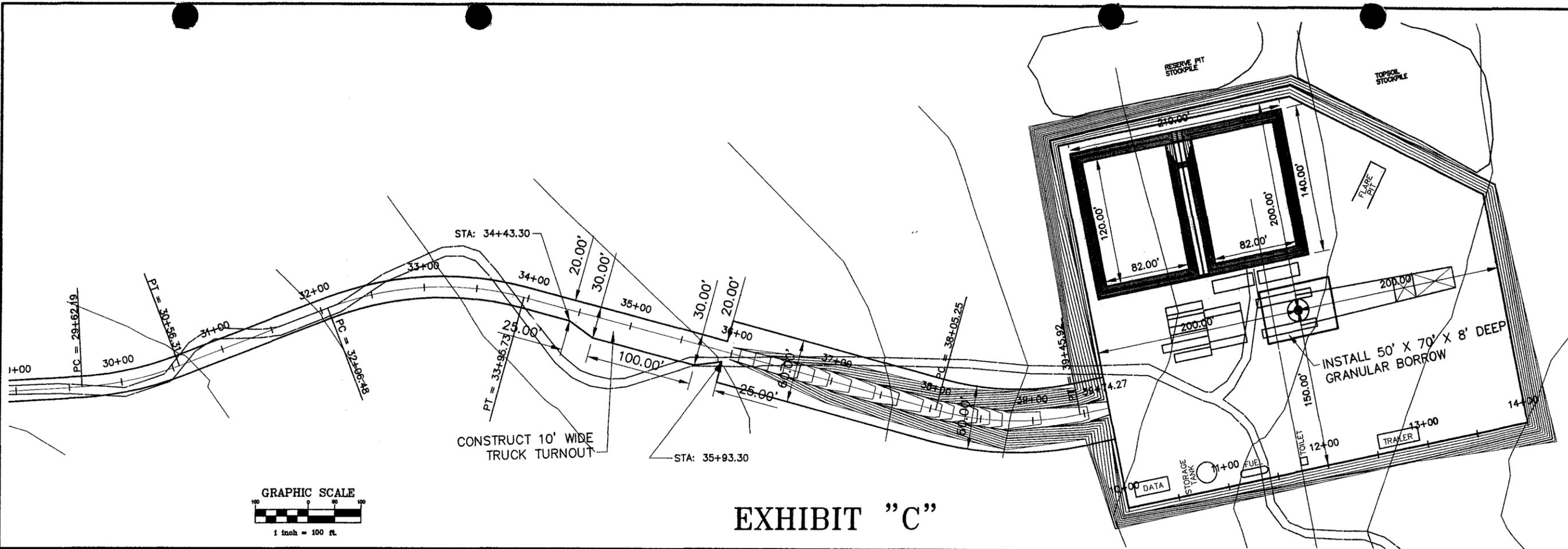
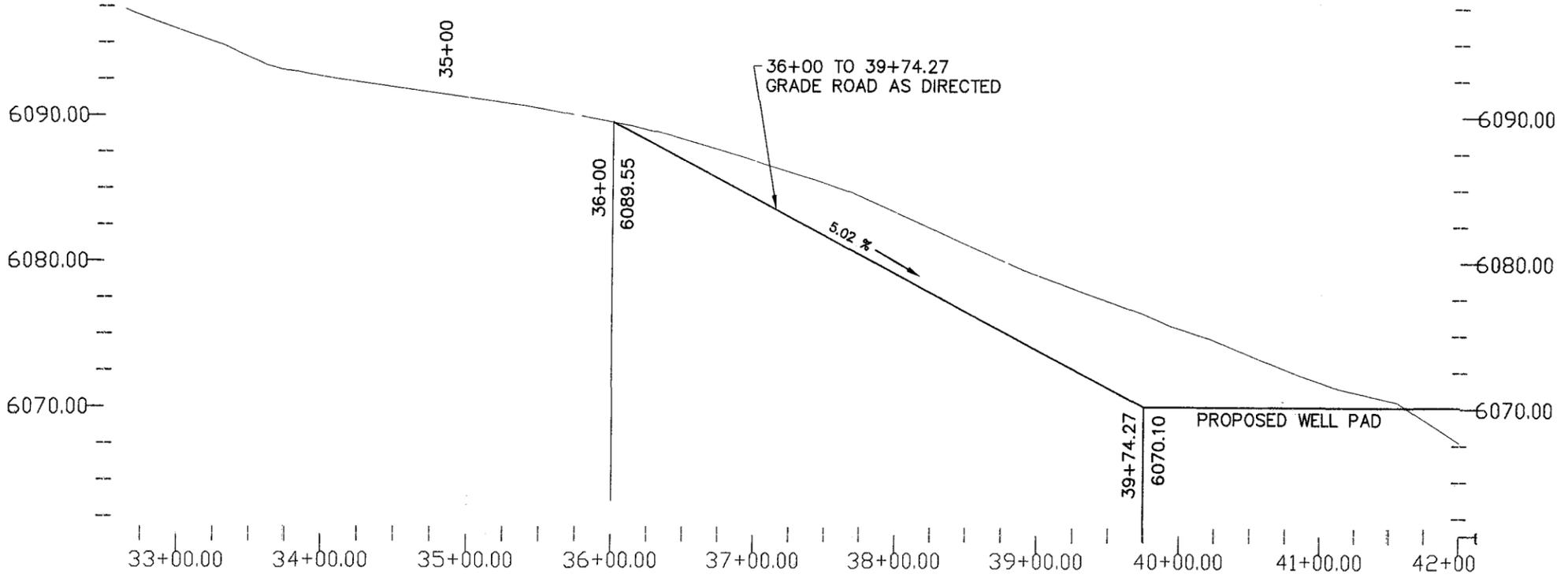


EXHIBIT "C"



Savage Surveying, Inc.  
 Ryan W. Savage, PLS  
 PO Box 892  
 275 S 800 W  
 Richfield, UT 84701  
 Home: 435-896-8635  
 Fax: 435-896-8635  
 Cell: 435-283-1345



ACCESS ROAD PLAN & PROFILE FOR  
 ROYALITE STATE 16-1 WELL

ENGINEER T.M.	SCALE 1" = 100'	SHEET NO.  <b>PP-3</b>
CHECKED R.W.S.	PROJ.#: 0610-003S DWG.NM: 0610-003S	
DRAWN R.W.S.	DATE 11/20/06	

**ROYALITE PETROLEUM CORPORATION**

ROYALITE STATE 16-1  
SECTION 16, T.28 S., R.3 W., S.L.B. & M.

ELEV. UNGRADED GROUND AT WELL = 6070.77  
ELEV. GRADED GROUND AT WELL = 6070.10

APPROXIMATE YARDAGE

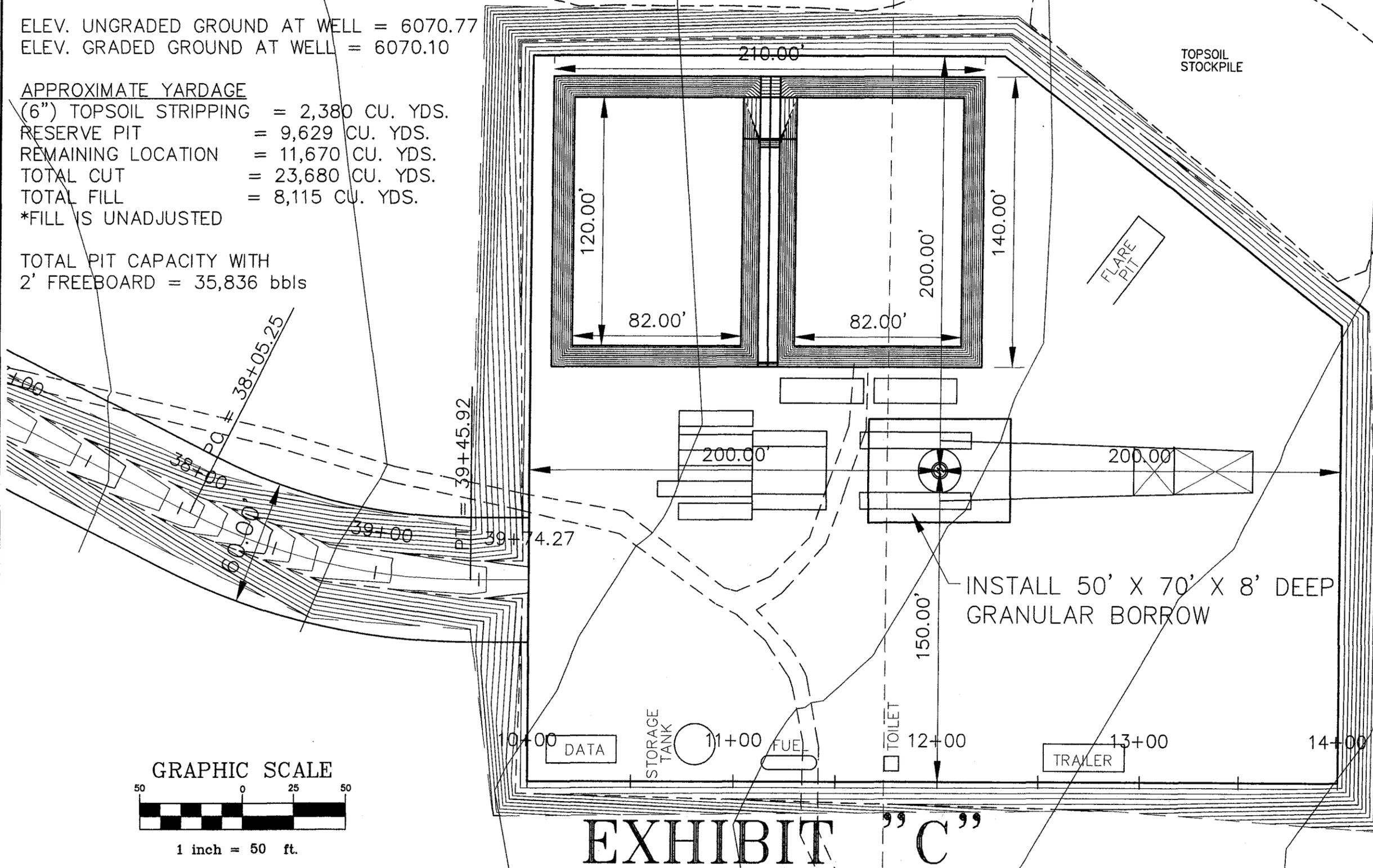
(6") TOPSOIL STRIPPING = 2,380 CU. YDS.  
RESERVE PIT = 9,629 CU. YDS.  
REMAINING LOCATION = 11,670 CU. YDS.  
TOTAL CUT = 23,680 CU. YDS.  
TOTAL FILL = 8,115 CU. YDS.  
\*FILL IS UNADJUSTED

TOTAL PIT CAPACITY WITH  
2' FREEBOARD = 35,836 bbls

RESERVE PIT STOCKPILE

TOPSOIL STOCKPILE

FLARE PIT



**EXHIBIT "C"**

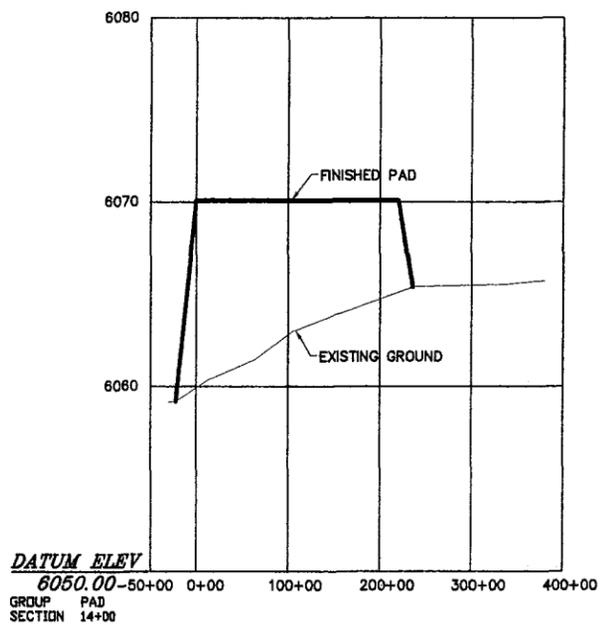
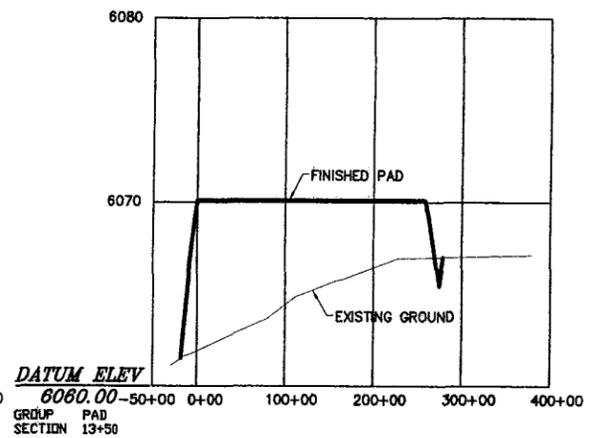
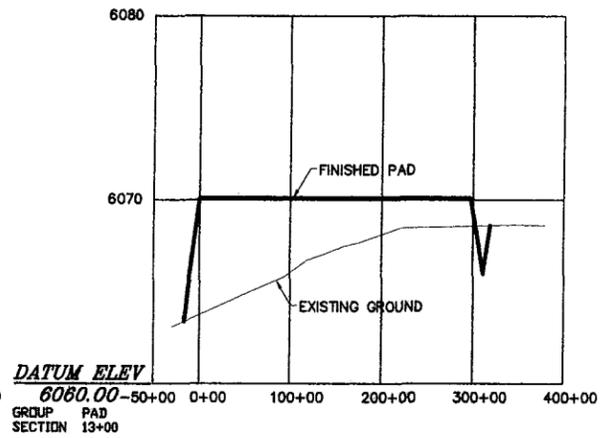
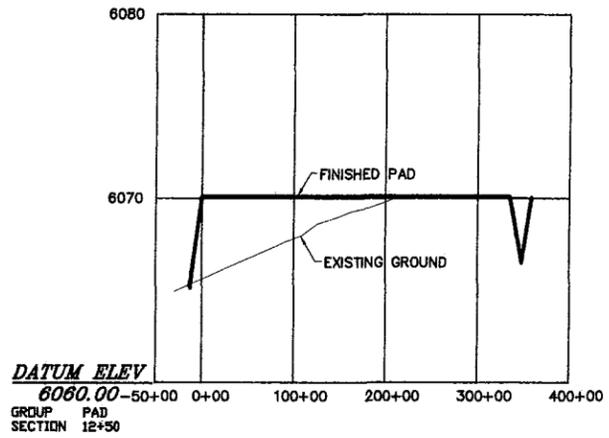
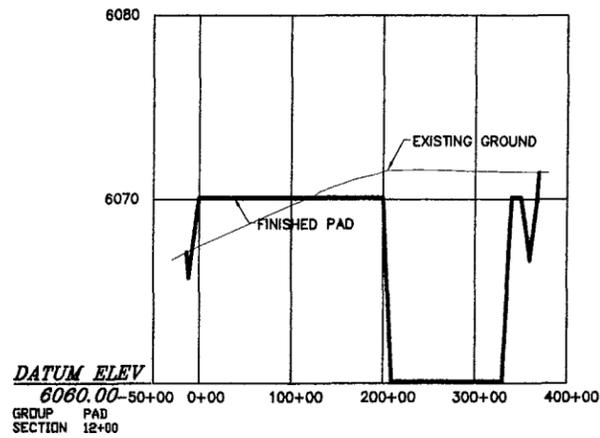
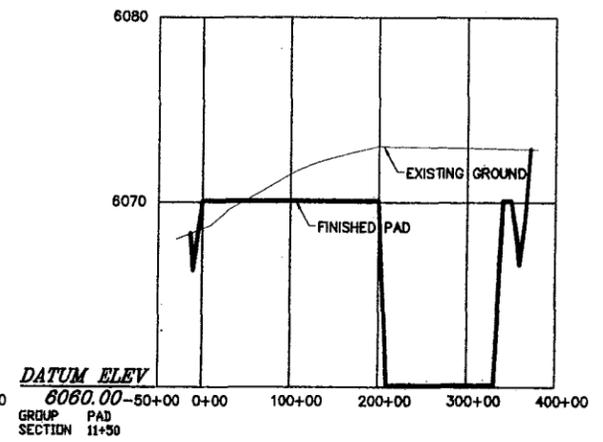
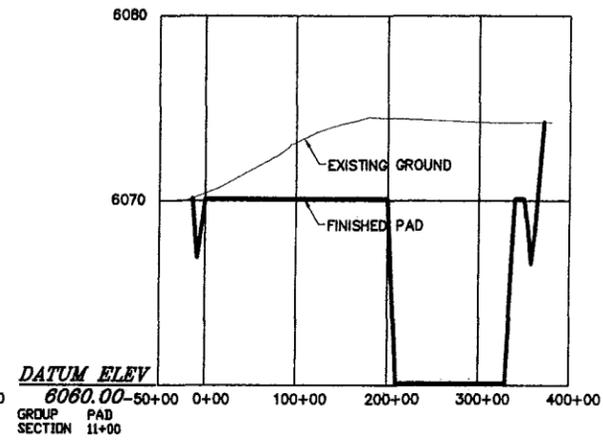
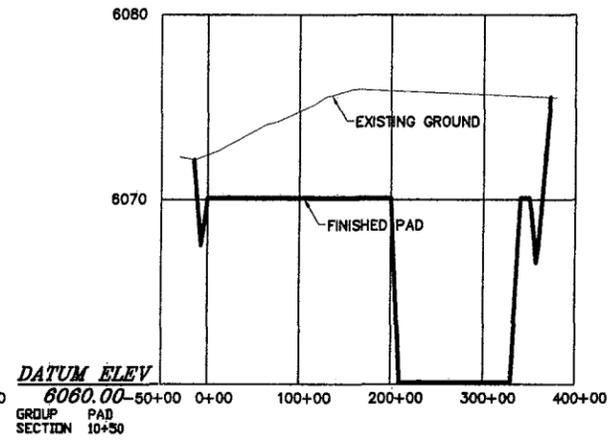
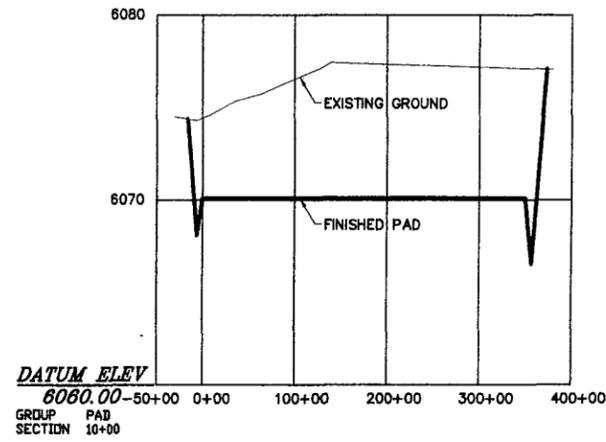
**PAD LAYOUT FOR  
ROYALITE STATE 16-1 WELL LOCATION**

Savage Surveying, Inc.

Ryan W. Savage, PLS  
PO Box 892  
275 S. 100 W  
Richton, UT 84701  
Phone: 435-896-8835  
Fax: 435-896-8835  
Cell: 435-284-1345



ENGINEER T.M.	SCALE 1" = 50'	SHEET NO.  <b>PAD</b>
CHECKED R.W.S.	PROJ.#: 0610-003S DWG.NM: 0610-003S	
DRAWN R.W.S.	DATE 12/11/06	



# EXHIBIT "C"

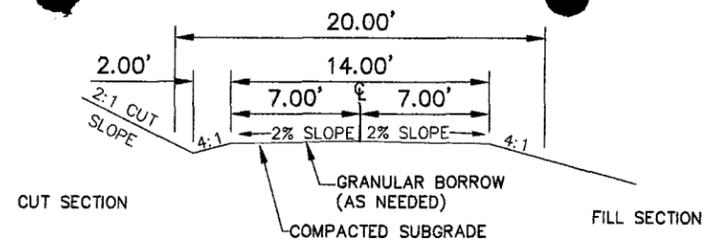
## PAD CROSS SECTIONS FOR ROYALITE STATE 16-1 WELL LOCATION

Savage Surveying, Inc.

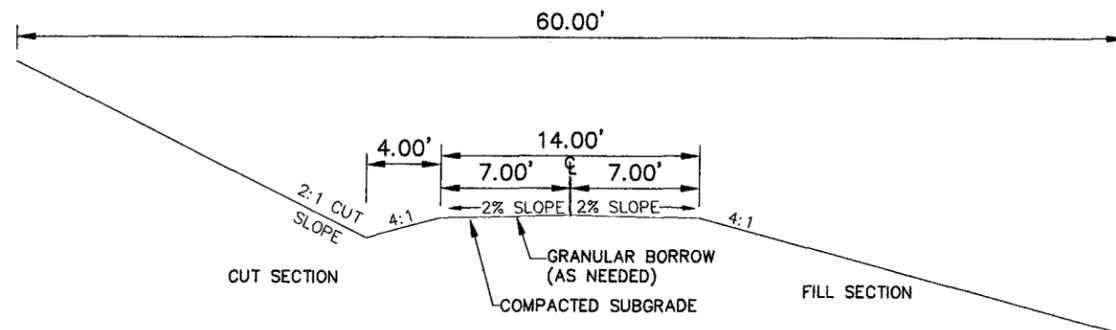
Ryan W. Savage, PLS  
PO Box 892  
275 S. 10th W  
Ridgely, LA 70471  
Home: 337-896-8635  
Fax: 337-896-8635  
Cell: 435-267-1345



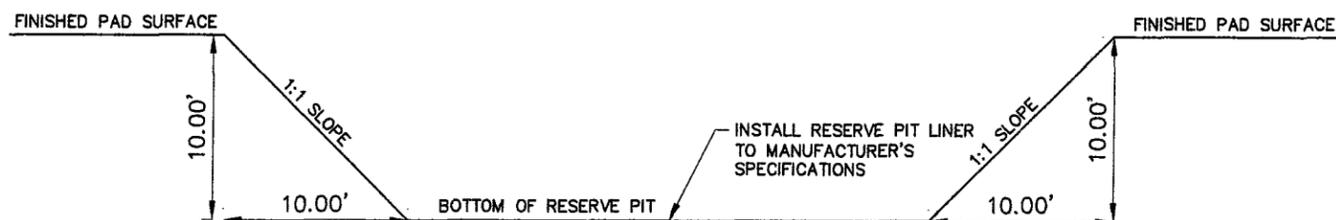
ENGINEER T.M.	SCALE 200H/20V	SHEET NO.  CS-1
CHECKED R.W.S.	PROJ.#: 0610-003S DWG.NM: 0610-003S	
DRAWN R.W.S.	DATE 1/17/07	



ACCESS ROAD TYPICAL CROSS SECTION  
STATION 10+00 TO 35+93.30



ACCESS ROAD CROSS SECTION  
STATION 35+93.30 TO 39+74.27



TYPICAL RESERVE PIT

### GENERAL NOTES

ALL MATERIALS FOR CONSTRUCTION OF THE COMPLETE PROJECT INCLUDING BUT NOT LIMITED TO WATER FOR DUST CONTROL AND COMPACTION, CULVERTS, BEDDING MATERIALS FOR CULVERTS, GRANULAR BORROW, UNTREATED BASE COURSE, ECT. ARE TO BE PROVIDED BY THE CONTRACTOR AT HIS BID PRICE UNLESS OTHER ARRANGEMENTS ARE MADE.

SAVAGE SURVEYING, INC. ASSUMES NO LIABILITY WRITTEN OR IMPLIED AS TO THE LOCATION OF PIPELINES OR CABLE LINES IN THE VICINITY OF THIS ROAD AND PAD DESIGN. BLUE STAKES (PUBLIC LINES) AND OR THE OWNER OF THE TRANSPORTATION LINE (PRIVATE/CORPORATE LINES) MUST BE CONTACTED FOR IDENTIFICATION AND LOCATION BEFORE CONSTRUCTION BEGINS. TRANSPORTATION LINES THAT MAY BE IDENTIFIED ON THESE PLANS MAY NOT BE THE ONLY TRANSPORTATION LINES. EXTREME CAUTION SHALL BE USED WHEN CONSTRUCTING THE ROAD AND PAD NEAR OR OVER TRANSPORTATION LINES.

### EXPLANATIONS:

PLAN & PROFILE SHEETS  
PLAN & PROFILE SHEETS SHOW THE HORIZONTAL ALIGNMENT OF THE ROAD, SIGN PLACEMENT IF ANY, TURNOUT PLACEMENT IF ANY, ESTIMATED CULVERT PLACEMENTS AND SIZES, ESTIMATED WING DITCHES, HORIZONTAL AND VERTICAL CURVE DATA, AND THE PERCENT OF SUPER FOR CONSTRUCTION OF HORIZONTAL CURVES.

### SCOPE OF WORK:

SHAPING THE ROADWAY  
THE ROADWAY IS TO BE SHAPED TO THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTION INCLUDED IN THIS DOCUMENT. CARE SHALL BE GIVEN TO INSURE THAT THE TRAVELWAY WIDTH IS NOT LESS OR SIGNIFICANTLY MORE THAN THE DIMENSIONS GIVEN ON THE TYPICAL CROSS SECTION. WHERE TURNOUTS ARE INDICATED, THE TYPICAL SECTION WIDTHS SHOWN ON THE TYPICAL CROSS SECTION WILL NEED TO BE MODIFIED BY THE AMOUNTS SHOWN ON THE TYPICAL TURN-OUT DETAIL. WHERE THERE ARE HORIZONTAL CURVES, SUPER-ELEVATIONS WILL BE CONSTRUCTED TO THE PERCENTAGES SHOWN ON THE PLAN AND PROFILE SHEETS. ONE-THIRD OF THE SUPER TRANSITION OCCURS ON THE CURVE AND TWO-THIRDS ON THE TANGENT.

TOPSOIL WILL BE HANDLED IN THE MANNER AGREED UPON AND STATED WITHIN THE APD AND THE CONDITIONS OF APPROVAL. IF TOPSOIL IS TO BE MOVED.

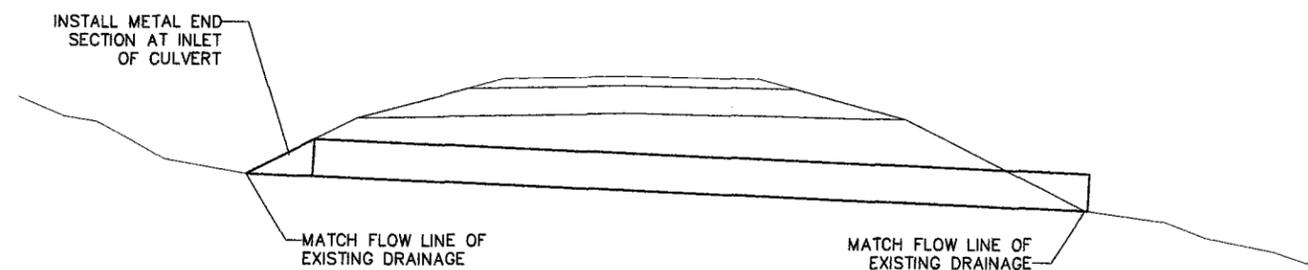
THE ROAD SHALL HAVE A CROWN AS SHOWN ON THE TYPICAL CROSS SECTION TO INSURE THAT THE WATER WILL DRAIN OFF OF THE TRAVEL SURFACE.

### CULVERT CONSTRUCTION DETAILS

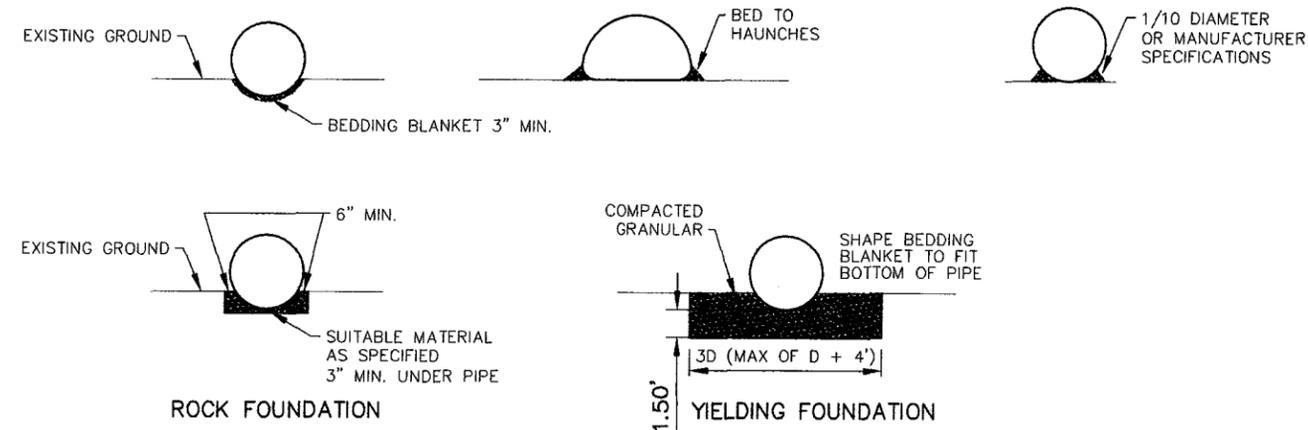
THE PLANS SHOW AN ESTIMATE OF THE NUMBER AND THE SIZE OF THE CULVERTS TO BE PLACED ON THE ROAD. THERE MAY NEED TO BE SOME FIELD ADJUSTMENTS MADE BY THE CONTRACTOR, BLM, AND/OR INSPECTOR/ENGINEER TO THE PLACEMENT AND LENGTH OF THE CULVERTS AND WING DITCHES.

CULVERT INGRESS AND EGRESS DITCH LENGTHS ARE TO BE DETERMINED DURING CONSTRUCTION. ALL DITCHES ARE TO BE CONSTRUCTED WITH SUFFICIENT SLOPE SO THAT WATER WILL EXIT THE DOWNSTREAM SIDE AND NOT POND IN THE DITCH.

ALL CULVERTS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT AN HS-20 LOADING OR HEAVIER. CHECK WITH MANUFACTURER FOR INFORMATION ABOUT MINIMUM COVER AND LOAD RATINGS. IN NO CASE SHALL COVER OVER CULVERTS BE LESS THAN 1'. CULVERT LENGTHS ARE ESTIMATED ON THE PLANS BUT THERE MAY NEED TO BE SOME ADJUSTMENTS MADE TO THE LENGTH OF THE CULVERTS DURING CONSTRUCTION.



TYPICAL CULVERT CROSS SECTION



### Savage Surveying, LLC

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PO Box 892  
279 S 100 W  
Richfield, UT 84701  
Home: 435-896-8635  
Fax: 435-896-8635  
Cell: 435-204-1345



## TYPICAL SECTIONS FOR ROYALITE PETROLEUM CORP.

ENGINEER T.M.	SCALE 1" = 10'	SHEET NO.  T-1
CHECKED R.W.S.	PRO.#: 0610-003S DWG.NM: TYPICAL	
DRAWN D.G.	DATE 01-17-07	

**ROYALITE PETROLEUM CORPORATION**

ROYALITE STATE 16-1

SECTION 16, T.28 S., R.3 W., S.L.B. & M.

ELEV. UNGRADED GROUND AT WELL = 6070.77

ELEV. GRADED GROUND AT WELL = 6070.10

APPROXIMATE YARDAGE

(6") TOPSOIL STRIPPING = 2,380 CU. YDS.

RESERVE PIT = 9,629 CU. YDS.

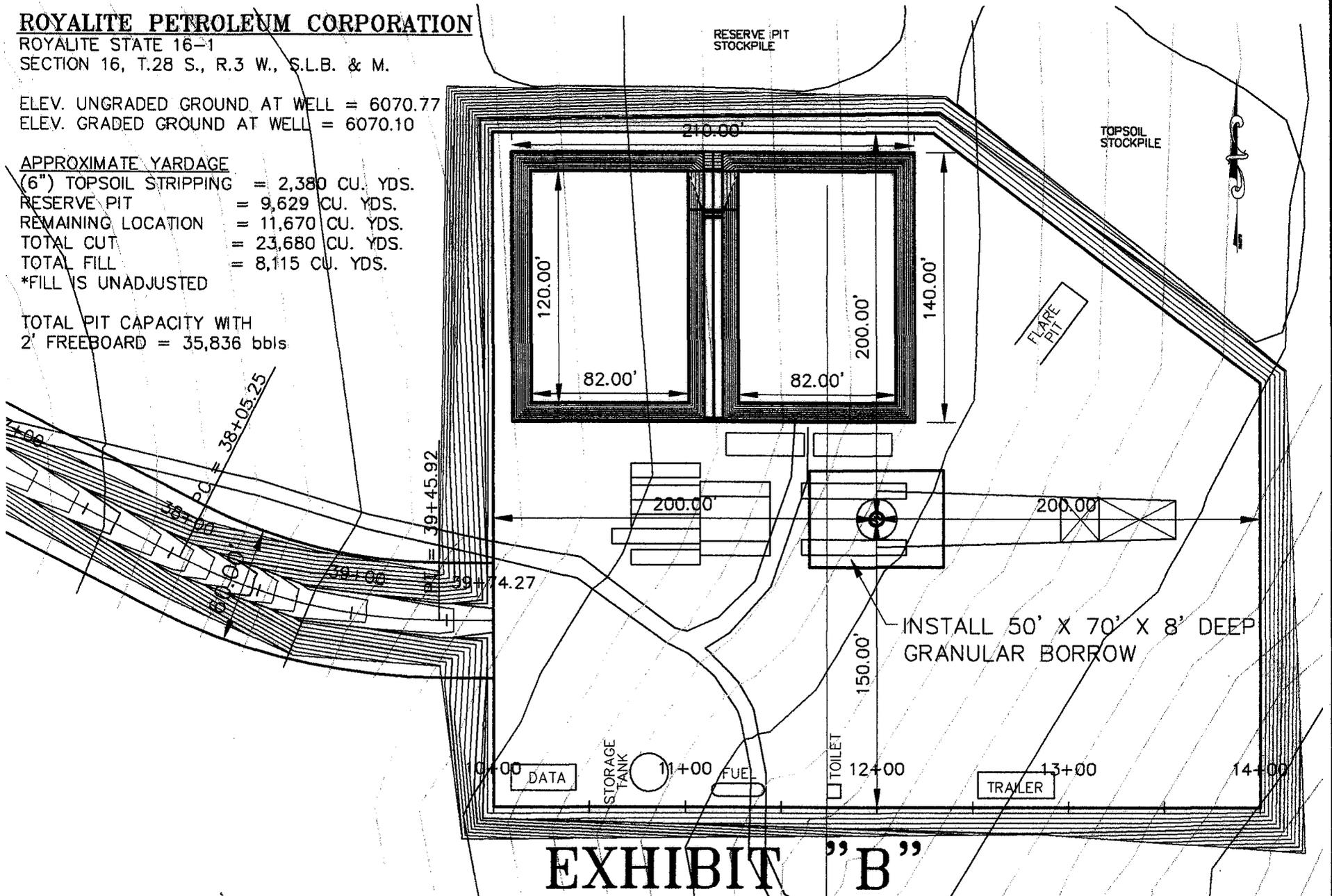
REMAINING LOCATION = 11,670 CU. YDS.

TOTAL CUT = 23,680 CU. YDS.

TOTAL FILL = 8,115 CU. YDS.

\*FILL IS UNADJUSTED

TOTAL PIT CAPACITY WITH  
2' FREEBOARD = 35,836 bbls



**EXHIBIT "B"**

**Savage Surveying, LLC**

Ryan V. Savage, PLS

PO Box 202  
27355 S.W.  
Rural Rd # 84701  
Helm, WY 83635  
Fax: 435-888-8635  
Cell: 435-208-1345



**PAD LAYOUT FOR ROYALITE STATE 16-1**

**ROYALITE PETROLEUM CORPORATION**

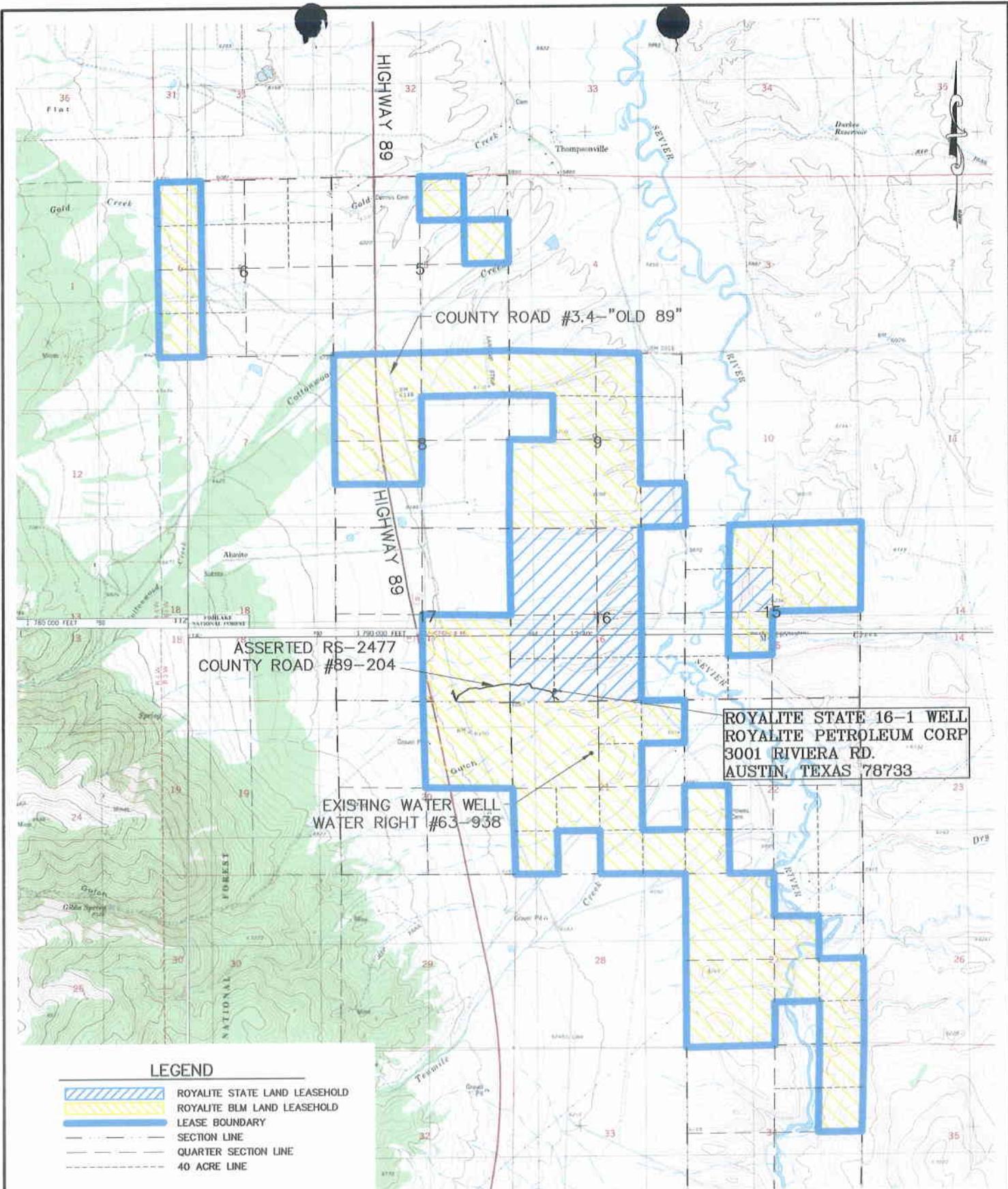
DESIGNED BY:	SURVEYED BY:	CHECKED BY:	DRAWN BY:	PROJECT NUMBER	SHEET NUMBER
TM	TKS	RWS	RWS	0610-003S	1

DRAWING NAME SCALE  
PAD LAYOUT 1" = 70'

DATE  
1/17/07

PROJECT NUMBER  
0610-003S

SHEET NUMBER  
1



ASSERTED RS-2477  
COUNTY ROAD #89-204

EXISTING WATER WELL  
WATER RIGHT #63-938

ROYALITE STATE 16-1 WELL  
ROYALITE PETROLEUM CORP  
3001 RIVIERA RD.  
AUSTIN, TEXAS 78733

**LEGEND**

-  ROYALITE STATE LAND LEASEHOLD
-  ROYALITE BLM LAND LEASEHOLD
-  LEASE BOUNDARY
-  SECTION LINE
-  QUARTER SECTION LINE
-  40 ACRE LINE

ROYALITE STATE 16-1 WELL  
SECTION 16 T.28 S., R.3 W., S.L.B. & M.

1. DISTANCE TO EXISTING WATER WELL; 0.418 MILES.  
WATER RIGHT #63-938.
2. DISTANCE TO DELTA JOSEPH FEDERAL-1 WELL;  
16.35 MILES.

**Savage Surveying, Inc.**  
Ryan W. Savage, PLS  
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275 S 600 W  
Richfield, UT 84701  
Home: 435-896-8635  
Fax: 435-896-9635  
Cell: 435-201-1345



LEASE MAP FOR ROYALITE STATE 16-1 WELL

ROYALITE PETROLEUM CORP.

DESIGNED BY	SURVEYED BY	CHECKED BY	DATE	PROJECT NUMBER	SHEET NUMBER
T.M.	T.K.S.	R.W.S.	12/8/06	0610-003S	1

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 01/18/2007

API NO. ASSIGNED: 43-031-30013

WELL NAME: ROYALITE ST 16-1  
 OPERATOR: ROYALITE PETROLEUM ( N3150 )  
 CONTACT: SHAWN BURD

PHONE NUMBER: 512-402-0910

PROPOSED LOCATION:

SESW 16 280S 030W  
 SURFACE: 0351 FSL 1355 FWL  
 BOTTOM: 0351 FSL 1355 FWL  
 COUNTY: PIUTE  
 LATITUDE: 38.36989 LONGITUDE: -112.2112  
 UTM SURF EASTINGS: 394191 NORTHINGS: 4247344  
 FIELD NAME: WILDCAT ( 1 )

INSPECT LOCATN BY: / /		
<b>Tech Review</b>	<b>Initials</b>	<b>Date</b>
Engineering	2/13/07	DKD
Geology		
Surface		

LEASE TYPE: 3 - State  
 LEASE NUMBER: ML-50475  
 SURFACE OWNER: 3 - State

PROPOSED FORMATION: KBAB  
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]  
(No. 002384578 )
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit  
(No. MUNICIPAL )
- RDCC Review (Y/N)  
(Date: 02/06/2007 )
- 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:

Needs Pres-l (02-01-07)

STIPULATIONS:

- 1- Spacing Strip
- 2- STATEMENT OF BASIS
- 3- Cement step # 3 (5 1/2" production, ± 3900' MD (500' above Navajo))

8

9

10

17

16

15

ROYALITE ST 16-1



20

21

22

OPERATOR: ROYALITE PETRO CORP (N3150)

SEC: 16 T.28S R. 3W

FIELD: WILDCAT (001)

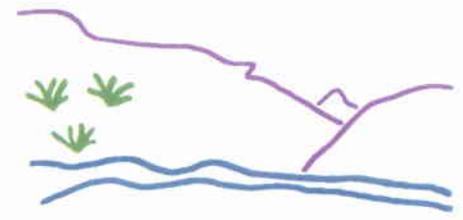
COUNTY: PIUTE

SPACING: R649-3-3 / EXCEPTION LOCATION

- 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: 22-JANUARY-2007

**STATE ACTIONS**  
**Resource Development Coordinating Committee**  
**Public Lands Policy Coordination Office**  
**5110 State Office Building**  
**SLC, UT 84114**  
**Phone No. 537-9230**

<b>1. State Agency</b> Oil, Gas and Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801	<b>2. Approximate date project will start:</b>  Upon Approval or February 1, 2007
<b>3. Title of proposed action:</b> Application for Permit to Drill	
<b>4. Description of Project:</b>  Royalite Petroleum Corporation proposes to drill the Royalite State 16-1 well (wildcat) on a State lease ML-50475, Piute County, Utah. This action is being presented to the RDCC for consideration of resource issues affecting state interests. The Division of Oil, Gas and Mining is the primary administrative agency in this action and must issue approval before operations commence.	
<b>5. Location and detailed map of land affected (site location map required, electronic GIS map preferred)</b> (include UTM coordinates where possible) (indicate county) 351' FSL 1355' FWL, SE/4 SW/4, Section 16, Township 28 South, Range 3 West, Piute County, Utah	
<b>6. Possible significant impacts likely to occur:</b> Surface impacts include up to five acres of surface disturbance during the drilling and completion phase (estimated for five weeks duration). If oil and gas in commercial quantities is discovered, the location will be reclaimed back to a net disturbance of between one and two acres -- not including road, pipeline, or utility infrastructure. If no oil or gas is discovered, the location will be completely reclaimed.	
<b>7. Identify local government affected</b> a. Has the government been contacted? No. b. When? c. What was the response? d. If no response, how is the local government(s) likely to be impacted?	
<b>8. For acquisitions of land or interests in land by DWR or State Parks please identify state representative and state senator for the project area. Name and phone number of state representative, state senator near project site, if applicable:</b> a. Has the representative and senator been contacted? N/A	
<b>9. Areawide clearinghouse(s) receiving state action:</b> (to be sent out by agency in block 1) Six County Association of Governments	
<b>10. For further information, contact:</b>   <b>Diana Mason</b> <b>Phone:</b> (801) 538-5312	<b>11. Signature and title of authorized officer</b>   Gil Hunt, Associate Director <b>Date:</b> January 19, 2007

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

FORM 3

AMENDED REPORT   
(highlight changes)

**APPLICATION FOR PERMIT TO DRILL**

1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>		5. MINERAL LEASE NO: ML-50475	6. SURFACE: State
B. TYPE OF WELL: OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> OTHER _____ SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		7. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A	
2. NAME OF OPERATOR: Royalite Petroleum Corporation		8. UNIT or CA AGREEMENT NAME: N/A	
3. ADDRESS OF OPERATOR: 3001 Riviera Road CITY Austin STATE TX ZIP 78733		PHONE NUMBER: (512) 402-0910	9. WELL NAME and NUMBER: Royalite State #16-1
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 351' FSL & 1,355' FWL 394191X 38-369892 AT PROPOSED PRODUCING ZONE: SAME 4247344Y -112.211204		10. FIELD AND POOL, OR WILDCAT: Wildcat	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: Approximately 5.5 miles southeast of Marysville, Utah		12. COUNTY: Piute	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 1.374	16. NUMBER OF ACRES IN LEASE: 560	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) n/a (0.42 of a mile to nearest water well)	19. PROPOSED DEPTH: 8,000	20. BOND DESCRIPTION: Collateral Bond	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 6070 GR	22. APPROXIMATE DATE WORK WILL START: 3/1/2007	23. ESTIMATED DURATION: 45 Days	

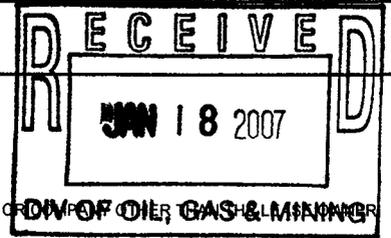
**PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT			
30"	20"	X42	78	120	redi Mix	10 cu yd		
12-1/4"	9-5/8"	J55	36	2,000	lead CBM lite	250sx	4.12	10.5
					tail Premium	275sx	1.19	15.6
8-3/4"	5-1/2"	N80	17	8,000	50:50 POZ	550sx	1.21	14.35

25. **ATTACHMENTS**

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

- |                                                                                                |                                                                 |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER | <input checked="" type="checkbox"/> COMPLETE DRILLING PLAN      |
| <input type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER        | <input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OF COLOR |



NAME (PLEASE PRINT) Shawn Burd TITLE Authorized Agent For Royalite Petroleum Corporation

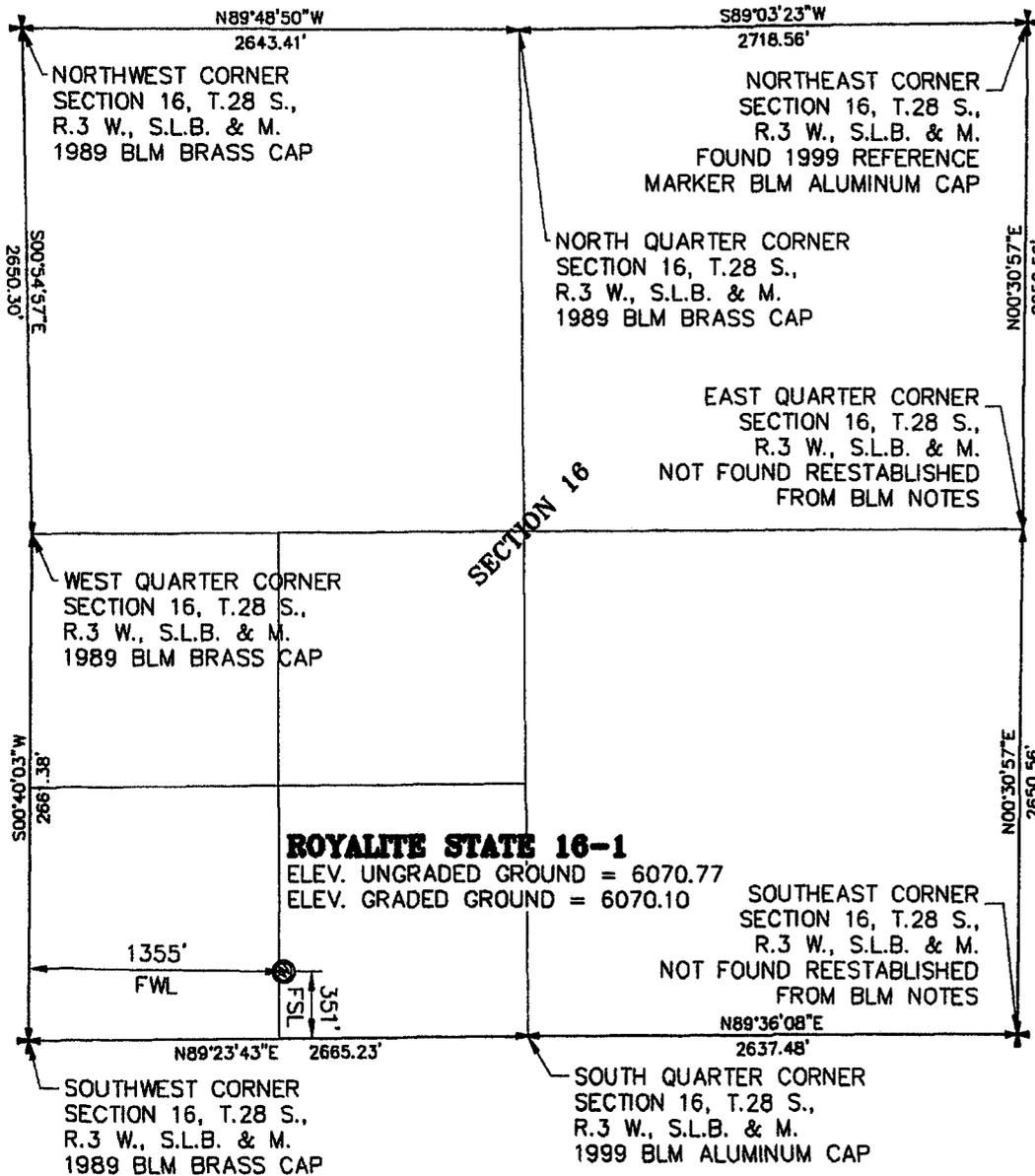
SIGNATURE [Signature] DATE January 17, 2007

(This space for State use only)

API NUMBER ASSIGNED: 43-031-30013

APPROVAL:

# SECTION 16, T.28 S., R.3 W., S.L.B. & M.



PROJECT  
**ROYALITE PETROLEUM CORPORATION**  
 WELL LOCATION, LOCATED AS SHOWN  
 IN THE SE 1/4 OF THE SW 1/4 OF  
 SECTION 16, T.28 S., R.3 W., S.L.B. & M.,  
 PIUTE COUNTY, UTAH

### LEGEND

- SECTION CORNER AS NOTED
- QUARTER CORNER AS NOTED
- PROPOSED WELL LOCATION

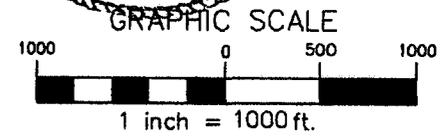
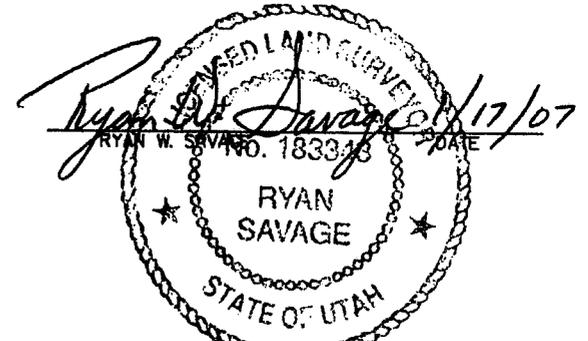
NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT  
 THE ROYALITE STATE 16-1 WELL  
 LOCATED IN THE SE 1/4 OF THE SW 1/4 OF  
 SECTION 16, T.28 S., R.3 W., S.L.B. & M.,  
 PIUTE COUNTY, UTAH.

### BASIS OF ELEVATION

ELEVATION BASED ON TRIANGULATION STATION "LAKE"  
 LOCATED IN THE SOUTHWEST 1/4 OF SECTION 28, T.28 S.,  
 R.3 W., S.L.B. & M.  
 ELEVATION USED 6251.69.

### CERTIFICATE

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



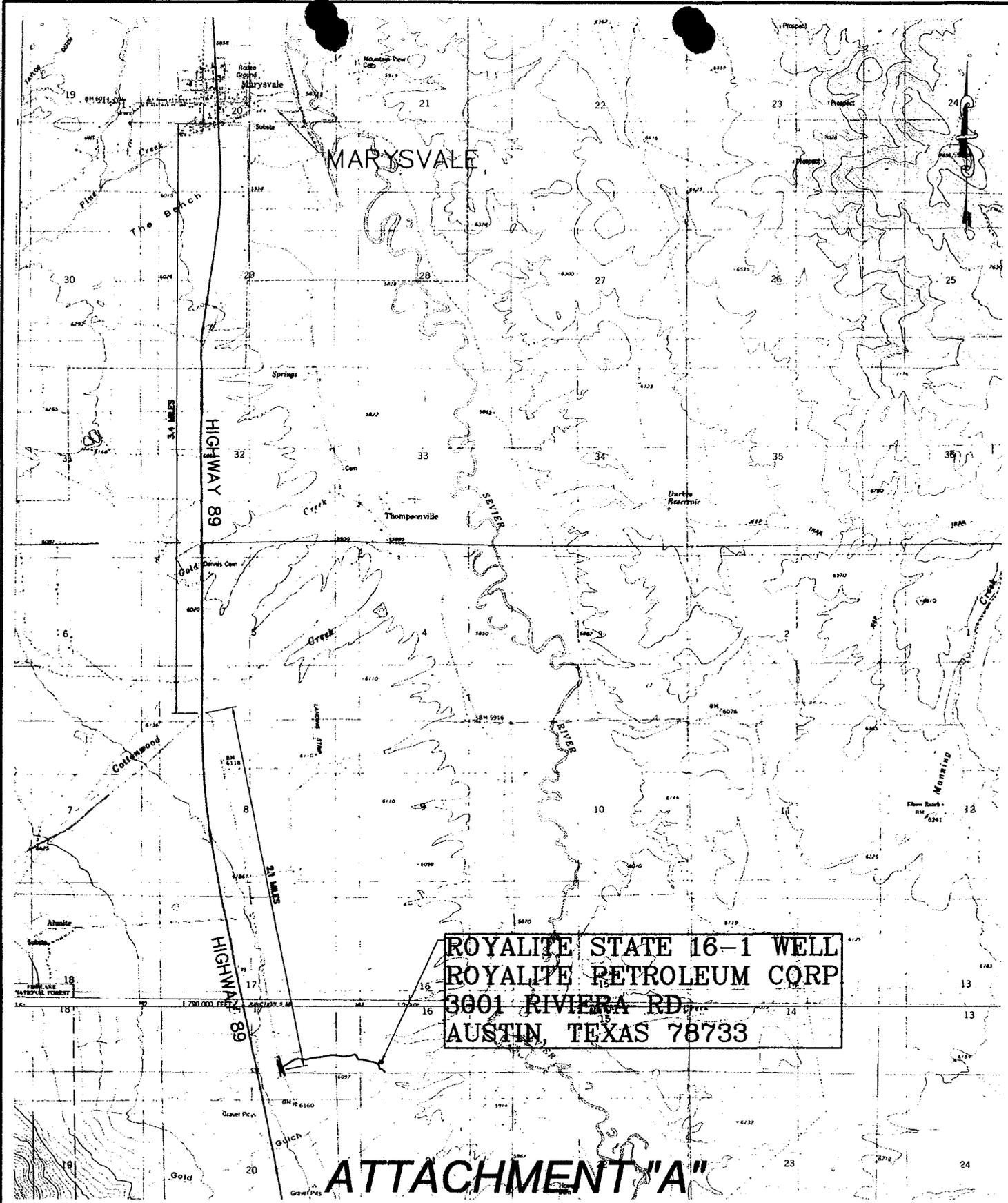
### BASIS OF BEARING

BASIS OF BEARING USED WAS N89°23'43"E BETWEEN THE SOUTHWEST CORNER  
 AND THE SOUTH 1/4 CORNERS OF SECTION 16, T.28 S., R3 W., S.L.B. & M.

WELL LATITUDE: 38°22'11.5338"N OR 38.3698705  
 WELL LONGITUDE: 112°12'42.9646"W OR -112.2119346

**Savage Surveying, Inc.**  
 Ryan W. Savage, PLS  
 PO Box 892  
 275 S 800 W  
 Richfield, UT 84701  
 Home: 435-896-8635  
 Fax: 435-896-8635  
 Cell: 435-201-1345

WELL LOCATION PLAT FOR					
ROYALITE PETROLEUM CORPORATION					
DESIGNED BY:	SURVEYED BY:	CHECKED BY:	DATE	PROJECT NUMBER	SHEET NUMBER
T.M.	T.K.S.	R.W.S.	12/8/06	0610-003S	1



ROYALITE STATE 16-1 WELL  
 ROYALITE PETROLEUM CORP  
 3001 RIVIERA RD.  
 AUSTIN, TEXAS 78733

# ATTACHMENT "A"

ROYALITE STATE 16-1 WELL  
 SECTION 16 T.28 S., R.3 W., S.L.B. & M.

**Savage Surveying, Inc.**  
 Ryan W. Savage, PLS  
 PO Box 892  
 275 S. 300 W  
 Richfield, UT 84701  
 Phone: 313-896-8635  
 Fax: 435-636-8635  
 Cell: 435-207-1345



VICINITY MAP FOR ROYALITE STATE 16-1 WELL

ROYALITE PETROLEUM CORP.

DRAWING NAME	SCALE	DATE	PROJECT NUMBER	SHEET NUMBER
0610-003S	1" = 4000'	12/8/06	0610-003S	1
DESIGNED BY: T.M.	SURVEYED BY: T.K.S.	CHECKED BY: R.W.S.	DRAWN BY: R.W.S.	

**From:** Ed Bonner  
**To:** Mason, Diana  
**Date:** 1/23/2007 11:11 AM  
**Subject:** Well Clearance

**CC:** Davis, Jim; Garrison, LaVonne; Hill, Brad; Hunt, Gil  
The following wells have been given cultural resource clearance by the Trust Lands Cultural Resources Group:

Enduring Resources, LLC  
Long Draw 12-24-13-36 (API 43 047 38290)  
Bonanza 9-24-14-16 (API 43 047 38658)

Royale Energy, Inc  
Moon Canyon #3 (API 43 019 31471)

Royalite Petroleum Corporation  
Royalite State 16-1 (API 43 031 30013)

If you have any questions regarding this matter please give me a call.

N3150  
Assigned 1/18/07  
ER  
I'm working on  
the bond. ER

**From:** Robert Clark  
**To:** Mason, Diana  
**Date:** 1/29/2007 12:20 PM  
**Subject:** RDCC short turn-around responses

**CC:** Anderson, Tad; Heying, Cheryl; Mcneill, Dave  
The following comments are in response to RDCC short turn around items **RDCC #7511 through 7517 and RDCC #7527 through 7534.**

FYI: All comments are similar with the exception of the requesting entity, the well designation, and the county.

**RDCC #7511, Comments begin:** The Berry Petroleum Company proposal to drill the LC Tribal 2-11D-56 wildcat well, in Duchesne County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

The proposed project is also subject to Utah Air Quality Rule R307-205-5, Fugitive Dust, due to the fugitive dust that is generated during the excavating phases of the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Executive Secretary of the Air Quality Board, but steps need to be taken to minimize fugitive dust, such as watering and/or chemical stabilization, providing vegetative or synthetic cover or windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) . **Comments end.**

**RDCC #7512, comments begin:** The Berry Petroleum Company proposal to drill the LC Tribal 2-11D-56 wildcat well, in Duchesne County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7513, comments begin:** The Royalite Petroleum Corporation proposal to drill the Royalite State 16-1 wildcat well, in Piute County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7514, comments begin:** The Delta Petroleum Corporation proposal to drill the Salt Valley State 23-43 wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

The proposed project is also subject to Utah Air Quality Rule R307-205-5, Fugitive Dust, due to the fugitive dust that is generated during the excavating phases of the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Executive Secretary of the Air Quality Board, but steps need to be taken to minimize fugitive dust, such as watering and/or chemical stabilization, providing vegetative or synthetic cover or windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) . **Comments end.**

**RDCC #7515, comments begin:** The Delta Petroleum Corporation proposal to drill the Salt Valley State 24-14 wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

The proposed project is also subject to Utah Air Quality Rule R307-205-5, Fugitive Dust, due to the fugitive dust that is generated during the excavating phases of the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Executive Secretary of the Air Quality Board, but steps need to be taken to minimize fugitive dust, such as watering and/or chemical stabilization, providing vegetative or synthetic cover or windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) . **Comments end.**

**RDCC #7516, comments begin:** The EOG Resources, Inc. proposal to drill the Big Wash 61-16-GR wildcat well, in Duchesne County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

The proposed project is also subject to Utah Air Quality Rule R307-205-5, Fugitive Dust, due to the fugitive dust that is generated during the excavating phases of the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Executive Secretary of the Air Quality Board, but steps need to be taken to minimize fugitive dust, such as watering and/or chemical stabilization, providing vegetative or synthetic cover or windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) . **Comments end.**

**RDCC #7517, comments begin:** The EOG Resources, Inc. proposal to drill the Big Wash 30-02-GR wildcat well, in Duchesne County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

The proposed project is also subject to Utah Air Quality Rule R307-205-5, Fugitive Dust, due to the fugitive dust that is generated during the excavating phases of the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Executive Secretary of the Air Quality Board, but steps need to be taken to minimize fugitive dust, such as watering and/or chemical stabilization, providing vegetative or synthetic cover or windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) . **Comments end.**

**RDCC #7527, comments begin:** The Questar Exploration & Production Company proposal to drill the SCS 5C-32-14-19 wildcat well, in Uintah County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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vegetative or synthetic cover or windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) . **Comments end.**

**RDCC #7528, comments begin:** The Delta Petroleum Corporation proposal to drill the Greentown State 36-33S wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7529, comments begin:** The Delta Petroleum Corporation proposal to drill the Greentown State 36-24S wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7530, comments begin:** The Delta Petroleum Corporation proposal to drill the Greentown State 36-31S wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7531, comments begin:** The Delta Petroleum Corporation proposal to drill the Greentown State 36-42S wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7532, comments begin:** The Delta Petroleum Corporation proposal to drill the Greentown State 36-22S wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any

compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7533, comments begin:** The Delta Petroleum Corporation proposal to drill the Greentown State 36-44S wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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**RDCC #7534, comments begin:** The Delta Petroleum Corporation proposal to drill the Greentown State 36-13S wildcat well, in Grand County, may require a permit, known as an Approval Order, from the Executive Secretary of the Air Quality Board. If any compressor or pump stations are constructed at the site, a permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. A copy of the rules is found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm) .

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Robert Clark  
Division of Air Quality  
801-536-4435

2007-02 Royalite ST

Casing Schematic

Surface

BHP  $0.052(8000)10.6 = 4410 \text{ psi}$   
anticipate?

Gas  
 $.12(8000) = 960$   
 $4410 - 960 = 3450 \text{ psi, MASP}$

Partial  
 $(0.22)(8000) = 1760$   
BOPE 3M  
 $\text{MASP} = 2650 \text{ psi; MW 9.2 Frac 19.3}$

Burst 3520  
 $70\% = 2464$

Max P @ Surf shoe  
 $.22(6000) = 1320$   
 $4410 - 1320 = 3090 \text{ psi}$

test to 2464 ✓

strip ⇒   
✓ ⇒ prod. ent (500' above Navajo)

✓ Adequate DKO 2/13/07

5-1/2"  
MW 10.6

12%  
18%

TOC @ 0.

Surface  
2000. MD

min. TOC  
3900'

- 4365' Carmel / Base Volcanics  
- 4455' Navajo

- 5365' TOC w/0% w/o  
Propose TOC to 500' above  
Productive Interval (Navajo) - Cal. port 258  
\* Strip to ± 3900' (500' above Navajo)

- 6030' Kayenta  
TOC @ 6145.  
6520' Chinle

- 6930' Shinarump

- 7380' Moenkopi

- 7780' Sinbad

Production  
8000. MD

- 9180' Kaibab

Well name:

**2007-02 Royalite ST 16-1**

Operator: **EOG Resources Inc.**

String type: **Surface**

Project ID:  
43-047-30013

Location: **Piute County**

**Design parameters:**

**Collapse**

Mud weight: 9.200 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 103 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 290 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 1,760 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,000 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on buoyed weight.  
Neutral point: 1,728 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 8,000 ft  
Next mud weight: 10.600 ppg  
Next setting BHP: 4,405 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,000 ft  
Injection pressure: 2,000 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	2000	9.625	36.00	J-55	ST&C	2000	2000	8.796	868.1
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	956	2020	2.113	2000	3520	1.76	62	394	6.33 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Minerals

Phone: 801-538-5357  
FAX: 801-359-3940

Date: February 8, 2007  
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2000 ft, a mud weight of 9.2 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>2007-02 Royalite ST 16-1</b>	
Operator:	<b>EOG Resources Inc.</b>	Project ID:
String type:	Production	43-047-30013
Location:	Piute County	

<b>Design parameters:</b>	<b>Minimum design factors:</b>	<b>Environment:</b>
<u><b>Collapse</b></u>	<u><b>Collapse:</b></u>	H2S considered? No
Mud weight: 10.600 ppg	Design factor 1.125	Surface temperature: 75 °F
Design is based on evacuated pipe.		Bottom hole temperature: 187 °F
		Temperature gradient: 1.40 °F/100ft
		Minimum section length: 1,500 ft
	<u><b>Burst:</b></u>	Cement top: 6,145 ft
	Design factor 1.00	
<u><b>Burst</b></u>		
Max anticipated surface pressure: 2,645 psi	<u><b>Tension:</b></u>	<b>Non-directional string.</b>
Internal gradient: 0.220 psi/ft	8 Round STC: 1.80 (J)	
Calculated BHP 4,405 psi	8 Round LTC: 1.80 (J)	
No backup mud specified.	Buttress: 1.60 (J)	
	Premium: 1.50 (J)	
	Body yield: 1.50 (B)	
	Tension is based on buoyed weight.	
	Neutral point: 6,714 ft	

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	8000	5.5	17.00	N-80	LT&C	8000	8000	4.767	1044.2

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	4405	6290	1.428	4405	7740	1.76	114	348	3.05 J

Prepared by: Helen Sadik-Macdonald Div of Oil, Gas & Minerals	Phone: 801-538-5357 FAX: 801-359-3940	Date: February 8, 2007 Salt Lake City, Utah
------------------------------------------------------------------	------------------------------------------	------------------------------------------------

Remarks:  
Collapse is based on a vertical depth of 8000 ft, a mud weight of 10.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

# Application for Permit to Drill

## Statement of Basis

Utah Division of Oil, Gas and Mining

2/7/2007

Page 1

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM
207	43-031-30013-00-00		OW	S	No
<b>Operator</b>	ROYALITE PETROLEUM CORPORATION		<b>Surface Owner-APD</b>		
<b>Well Name</b>	ROYALITE ST 16-1		<b>Unit</b>		
<b>Field</b>	UNDESIGNATED		<b>Type of Work</b>		
<b>Location</b>	SESW 16 28S 3W S 0 FL 0 FL GPS Coord (UTM) 394191E 4247344N				

### Geologic Statement of Basis

According to agency geologic mapping of the area and information gleaned from the Operator's permit submission, a well drilled at this location will likely spud into a moderately permeable cobbly loam soil developed on Quaternary Tertiary basin-fill sedimentary rocks sourced primarily from local volcanic rocks. Below these, nearby exposed sedimentary rocks that may be encountered include the Sevier River Formation and the Miocene age Joe Lott Member of the Mount Belknap Volcanics. In addition, it is likely that various, primarily Miocene age lava flows may be encountered during drilling. The nearest past drilling in the area of this well location (4303130012) is nearly 14 miles south, more or less in the same general valley system, and went to 9350' TD. The DOGM database indicates that there are only two other old wells in all of Piute County. A volcano that is dated at about 5 MA lies about 7 miles south of the location. The Sevier River lies about 1/2 mile to the east and Piute Reservoir is about 3 miles downstream to the south. This well is described as a Navajo Sandstone, Kayenta Formation and Moenkopi Formation test. If the geologic prognosis is reasonably accurate then the proposed casing, cementing and drilling fluid programs should serve to afford reasonable protection to any quality water resources encountered during drilling, providing the cement is run to the surface for both the surface and production casing strings and that they do not initiate the saturated salt mud system mud up until they are actually truly in the Jurassic (Arapien Formation) evaporite section. Under the prognosticated geologic circumstances numerous zones of high quality water resources are likely to be encountered in the volcanics. Two underground water rights have been filed to the east southeast and southeast of the proposed location with the deepest well documented drilled to 110'.

Chris Kierst  
APD Evaluator

2/7/2007  
Date / Time

### Surface Statement of Basis

The pre-site inspection was performed on 2/1/2007 with SITLA and Royalite both being represented. SITLA discussed preferred road construction methods and final seeding mixtures. They were also interested in produced water disposal, if any. A R.O.W. across BLM will be needed to access this location and is currently being sought by Royalite. Based on pit ranking criteria the pit shall be lined with a 12 mil. synthetic liner. Drainages should be diverted around and away from the pad and road.

Mark Jones  
Onsite Evaluator

2/1/2007  
Date / Time

### Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 12 mils shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** ROYALITE PETROLEUM CORPORATION  
**Well Name** ROYALITE ST 16-1  
**API Number** 43-031-30013-0      **APD No** 207      **Field/Unit** UNDESIGNATED  
**Location:** 1/4,1/4 SESW      **Sec** 16      **Tw** 28S      **Rng** 3W      0 FL 0 FL  
**GPS Coord (UTM)**      **Surface Owner**

### Participants

M. Jones (DOGM), Scott Chamberlain (SITLA), Shawn Burd and Gordon Bell (Western Land Services) representing Royalite, and Ryan Savage (Savage Surveying).

### Regional/Local Setting & Topography

Location staked ~5.5 miles south of Marysville, Utah. East of US 89. Gentle rolling hills of the mountain valley floor. Small to moderately large gullies running in west to easterly direction leading to the Sevier River ~1 mile further east.

### Surface Use Plan

#### **Current Surface Use**

Grazing  
Wildlife Habitat

#### **New Road**

Miles	Well Pad	Length	Src Const Material	Surface Formation
0	Width 350	400	Onsite	

#### **Ancillary Facilities**

None planned at this time.

### Waste Management Plan Adequate?

### Environmental Parameters

**Affected Floodplains and/or Wetland** N

#### **Flora / Fauna**

black sagebrush, indian ricegrass, other perinial grasses, forbs, and shrubs.

#### **Soil Type and Characteristics**

gravely loam

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diverson Required** Y

SITLA requested turnouts along the roadway as often as possible.

**Berm Required?** N

Erosion Sedimentation Control Required? N

Paleo Survey Run? Y    Paleo Potential Observed? N    Cultural Survey Run? Y    Cultural Resources? N

**Reserve Pit**

<b>Site-Specific Factors</b>		<b>Site Ranking</b>
<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	1320 to 5280	5
<b>Distance to Other Wells (feet)</b>	>1320	0
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	TDS>5000 and <10000	10
<b>Drill Cuttings</b>	Salt or Detrimental	10
<b>Annual Precipitation (inches)</b>	10 to 20	5
<b>Affected Populations</b>	<10	0
<b>Presence Nearby Utility Conduits</b>	Not Present	0
<b>Final Score</b>		<b>45    1    Sensitivity Level</b>

**Characteristics / Requirements**

Dugout Earthen (140' x 210' x 12').

**Closed Loop Mud Required? N    Liner Required? Y    Liner Thickness 12    Pit Underlayment Required? N**

**Other Observations / Comments**

SITLA requested as much drainage diversion along the roadway as possible. Strongly suggested a crowned roadway out of natural material now. ~1700' of upgraded two-track road (RS-2477) will cross BLM. This will require a BLM ROW, which Royalite is presently persuing. The remaining portion of this two-track road that will be upgraded is on SITLA surface. A staging area has also been staked, on SITLA surface, near the wellpad, which SITLA is ok with. This area will be reclaimed and reseeded once the well has been drilled and the rig moved off. Seed mixture preference was also discussed by SITLA, they will not be required to seed any state surface with the BLM mixture. Potential produced water handling was discussed, as well as lining of the reserve pit.

Mark Jones  
**Evaluator**

2/1/2007  
**Date / Time**

[utah.gov](#) [Online Services](#) [Agency List](#) [Business](#)

Google

Search Utah.gov **GO**

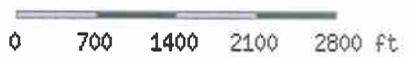
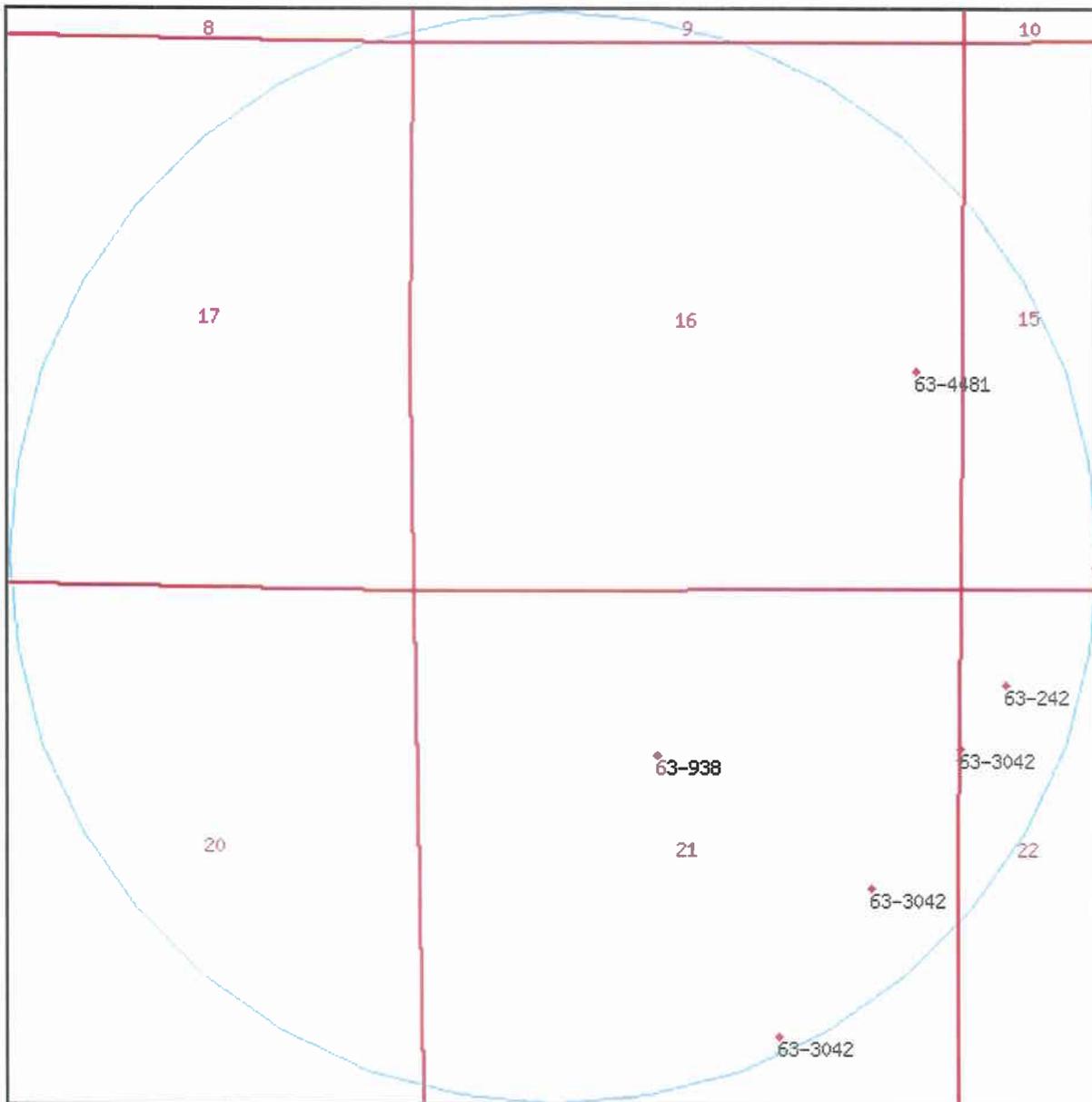


# Utah Division of Water Rights

## WRPLAT Program Output Listing

Version: 2006.11.17.00      Rundate: 02/07/2007 02:55 PM

Radius search of 5280 feet from a point N351 E1355 from the SW corner, section 16, Township 28S, Range 3W, SL b&m Criteria:wrtypes=W,C,E  
podtypes=S,U,D,Sp,P status=U,A,P usetypes=all



**Water Rights**

WR Number	Diversion Type/Location	Well Log	Status	Priority	Uses	CFS	ACFT	Owner Name
63-242	Underground	well info	P	19520430	OS	0.015	0.000	STORM RIDGE SOUTH L.L.C. C/O DARREN SWALBERG
63-2501	Surface		P	19600121	I	0.250	0.000	LEON D. SMITH P.O. BOX 1582
63-3042	Surface		P	18810000	I	4.000	0.000	PHILLIP W. ESPLIN DBA X. V. RANCH
63-3042	Surface		P	18810000	I	4.000	0.000	PHILLIP W. ESPLIN DBA X. V. RANCH
63-3042	Surface		P	18810000	I	4.000	0.000	PHILLIP W. ESPLIN DBA X. V. RANCH
63-3042	Surface		P	18810000	I	4.000	0.000	PHILLIP W. ESPLIN DBA X. V. RANCH
63-3142	Surface		P	18790000	I	0.000	59.550	PAUL R. AND SUE ANN SWALBERG P.O. BOX 35
63-3963	Surface		P	18950000	I	0.833	124.800	PAUL R. AND SUE ANN SWALBERG P.O. BOX 35
63-4481	Surface		P	1879	I	0.000	0.450	PAUL R. AND SUE ANN SWALBERG P.O. BOX 35
63-938	Underground		P	19340820	DS	0.011	0.000	LEGRANDE & MARIE L. HINTZE MARYSVALE UT 84750
a24827	Surface		A	20050124	I	0.941	95.100	LEON D. SMITH

N210 E1317 SW 15 28S  
3W SL

PO BOX 897

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**State of Utah**

**Department of  
Natural Resources**

MICHAEL R. STYLER  
*Executive Director*

**Division of  
Oil, Gas & Mining**

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

February 21, 2007

Royalite Petroleum Corporation  
3001 Riviera Rd  
Austin, TX 78733

Re: Royalite State 16-1 Well, 351' FSL, 1355' FWL, SE SW, Sec. 16, T. 28 South,  
R. 3 West, Piute 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.

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby 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 43-031-30013.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Piute County Assessor  
SITLA



4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
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.
7. Operator shall comply with applicable recommendations resulting from Resource Development Coordinating Committee review. Statements attached.
8. Cement volume for the 5 1/2" production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to  $\pm 3900'$  MD (500' above Navajo) as indicated in the submitted drilling plan.

CONFIDENTIAL

**DIVISION OF OIL, GAS AND MINING**

**SPUDDING INFORMATION**

Name of Company: ROYALITE PETROLEUM CORP

Well Name: ROYALITE ST 16-16-8-16

Api No: 43-031-30013 Lease Type: STATE

Section 16 Township 28S Range 03W County PIUTE

Drilling Contractor DHS RIG # 11

**SPUDDED:**

Date 03/08/07

Time 8:00 AM

How DRY

**Drilling will Commence:** \_\_\_\_\_

Reported by STEVE HASH

Telephone # (918) 599-9801

Date 03/08/07 Signed CHD

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

FORM 6

**ENTITY ACTION FORM**

Operator: Royalite Petroleum Corporation Operator Account Number: N 3150  
 Address: 3001 Riviera Road  
city Austin  
state TX zip 78733 Phone Number: (512) 402-0910

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4303130013	Royalite State 16-1		SESW	16	28S	3W	Piute
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	15980	3/8/2007			3/12/07	
Comments: <u>KBAR</u>							<b>CONFIDENTIAL</b>

**Well 2**

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

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
Comments: 							<b>RECEIVED MAR 12 2007</b>

DIV. OF OIL, GAS & MINING

**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 - EXACT Engineering Inc

Name (Please Print)

Steven R. Hash

Signature

Engineering Consultant

3/9/2007

Title

Date

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

**CONFIDENTIAL**

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 50475
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Wildcat</u>		7. UNIT or CA AGREEMENT NAME: N/A
2. NAME OF OPERATOR: Royalite Petroleum Corp		8. WELL NAME and NUMBER: Royalite State 16-1
3. ADDRESS OF OPERATOR: 3001 Riviera Road <u>Austin</u> TX 78733		9. API NUMBER: 4303130013
4. LOCATION OF WELL FOOTAGES AT SURFACE: 351' FSL & 1355' FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 16 28S 3W		10. FIELD AND POOL, OR WILDCAT: Wildcat COUNTY: Piute STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>4/13/2007</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: <u>drill deeper</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

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

PLEASE MAINTAIN THE ENCLOSED INFORMATION AS CONFIDENTIAL - THANK YOU

The present permitted total depth for this well is 8000' under APD granted Feb 21, 2007. The well began drilling on March 17, 2007 and on April 12, 2007 the drilling depth is 7850' with a mud weight of 8.7ppg. Anticipated geologic formation tops have been encountered deeper than expected. It is possible that the Arapien section is being drilled at this time. For these reasons an increase in permitted depth to 9900' was requested and granted verbally by Dustin Doucet of the DOGM on April 12, 2007. If production casing is warranted, 5-1/2" 17ppf N80 LTC will be run to total depth of 9900'. Assuming a 10.2 ppg mud weight at TD, the revised casing design safety factors are as follows assuming complete voidage of the casing interior: SF burst = 1.47; SF collapse = 1.2; ST tension = 2.07. Cement will be circulated back to the base of the Arapien or equivalent.

COPY SENT TO OPERATOR  
Date: 4-17-07  
Initials: RM

NAME (PLEASE PRINT) <u>Steven R Hash, P.E. - EXACT Engineering Inc</u>	TITLE <u>Engineering Consultant (918) 599-9400</u>
SIGNATURE <u>Steven R. Hash 4/13/07</u>	DATE <u>4/13/2007</u>

(This space for State use only)

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 4/17/07  
BY: [Signature]

(See Instructions on Reverse Side)

**RECEIVED**  
**APR 16 2007**

DIV. OF OIL, GAS & MINING

(5/2000)

2007-02 Royalite ST 16-1rev.

Casing Schematic

Surface

Calc. BHDP = 5451 psi;  
Gas/mud Grad. (0.22)(9900) = 2178 psi;  
Mud Sp = 3273 psi;  
Max Frac press. @ Surf. Shoe = 2000 psi;  
Max allowed

9-5/8"  
MW 9.2  
Frac 19.3

3 M BOP/E proposed ✓

o.k.

DVED  
4/17/07

TOC @  
0.

Surface  
2000. MD

7850' - Apr 12<sup>th</sup> - still Arapion  
cement should be brought  
M. of 400' into Arapion

w/128

o.k.

5-1/2"  
MW 10.6

TOC @  
8045.

Production  
9900. MD

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

CONFIDENTIAL FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER: **ML 50475**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: **N/A**

7. UNIT or CA AGREEMENT NAME: **N/A**

8. WELL NAME and NUMBER: **Royalite State 16-1**

9. API NUMBER: **4303130013**

10. FIELD AND POOL, OR WILDCAT: **Wildcat**

1. TYPE OF WELL:  OIL WELL  GAS WELL  OTHER **Wildcat**

2. NAME OF OPERATOR: **Royalite Petroleum Corp**

3. ADDRESS OF OPERATOR: **3001 Riviera Road** CITY **Austin** STATE **TX** ZIP **78733** PHONE NUMBER: **(512) 402-0910**

4. LOCATION OF WELL: FOOTAGES AT SURFACE: **351' FSL & 1355' FWL** COUNTY: **Piute**  
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SESW 16 28S 3W** STATE: **UTAH**

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>5/3/2007</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input checked="" type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input checked="" type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>well cap for suspended ops</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

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

PLEASE MAINTAIN THE ENCLOSED INFORMATION AS CONFIDENTIAL - THANK YOU

The subject well has been drilled to a total depth of 9830' with 9-5/8" surface casing set at 1505' which is cemented to ground level. The well has been logged and there are no apparent hydrocarbon productive zones thusfar in this well. The drilling rig depth capacity has been reached and permission is requested to set all required cement plugs to properly abandon with the exception of the top plug from 100' to GL. It is proposed to leave the wellhead in place and install a cap flange in order that the well can be re-entered and deepened at a future time. Lost circulation occurred at 5604 while drilling but was remedied within 5 days with full returns presently. Present mud weight is 8.7ppg. The proposed plugging procedure is as follows:

Leave drilling mud in hole between all plugs. Tag all plugs with 20,000# drill pipe weight

plug #1 - 9350' to 9150'; 200 ft with 60 sx Cl G w/ 35% SSA-1 & 0.3% HR12; mix at 15.6ppg, 1.56 cfps and 6.51 gwps

plug #2 - 6550' to 6350'; 200 ft with 62 sx (same as above)

plug #3 - 5700' to 5500'; 200 ft with 84 sx Cl G neat; mix at 15.8ppg, 1.15cfps and 5.0 gwps

plug #4 - 1550' to 1450'; 200 ft with 38 sx Cl G neat (same as above); Across surface casing shoe at 1505'.

11" 3m well head cap flange; clean location, fence reserve pit, suspend ops until capable drilling rig secured for deepening.

NAME (PLEASE PRINT) Steven R Hash, P.E. - EXACT Engineering Inc TITLE Engineering Consultant (918) 599-9400

SIGNATURE *Steven R Hash* DATE 5/3/2007

(This space for State use only)

**APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING**

DATE: 5/14/07

BY: *D. K. [Signature]* (See Instructions on Reverse Side)

COPY SENT TO OPERATOR Date: 5/16/07 Initials: [Signature]

**RECEIVED**

**MAY 04 2007**

DIV. OF OIL, GAS & MINING

\* A sundry notice ~~with~~ must be submitted prior to setting surface plug for final abandonment

\*\* An APD will be required for reentering and Deepening.

(5/2000)

# Wellbore Diagram

API Well No: 43-031-30013-00-00 Permit No: Well Name/No: ROYALITE ST 16-1

Company Name: ROYALITE PETROLEUM CORPORATION

Location: Sec: 16 T: 28S R: 3W Spot: SESW

Coordinates: X: 394191 Y: 4247344

Field Name: WILDCAT

County Name: PIUTE

### String Information

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)	Capacity
HOL1	1505	12.25			
SURF	1505	9.625	36	1505	2.304
HOL2	9830	8.75	08		2395
			108		1.9792

Plug 5 (not requested at this time)  
 $100' / (1.15)(2.304) = 38.5x$



Cement from 1505 ft. to surface

Hole: 12.25 in. @ 1505 ft.

Surface: 9.625 in. @ 1505 ft.

Plug 4

below size  $45' / (1.15)(1.9792) = 20.5x$

Above  $(18.5x)(1.15)(2.304) = 48'$

O.K. ✓

may need more depending on actual hole size

### Cement Information

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
SURF	1505	0		

Plug 3

$5598' - (84.5x)(1.15)(1.9792) = 191'$

O.K. ✓

may need more depending on actual hole size

### Perforation Information

Plug 2

$6460' - (62.5x)(1.15)(1.9792) = 191'$

O.K. ✓

may need more depending on actual hole size

### Formation Information

Formation	Depth
ENRD	5598
ARAS	6460
NAVA	9256

$(60.5x)(1.15)(1.9792) = 185'$

O.K. ✓

may need more depending on actual hole size



Hole: 8.75 in. @ 9830 ft.

TD: TVD: PBD:

Utah DOGM

>>> "Steve Hash" <[SteveHash@exactengineering.com](mailto:SteveHash@exactengineering.com)> 5/2/2007 2:47 PM >>>  
Thanks dustin

Steve  
Steven R. Hash, P.E.  
415 S. Boston, Suite 734  
Tulsa, OK 74103  
office (918) 599-9400 office fax (918) 599-9401  
direct (918) 599-9801 cell (918) 629-9801  
mobile fax (801) 640-7470  
[stevehash@exactengineering.com](mailto:stevehash@exactengineering.com)  
[www.exactengineering.com](http://www.exactengineering.com)

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

From: Dustin Doucet [<mailto:DUSTINDOUCET@utah.gov>]  
Sent: Wednesday, May 02, 2007 11:21 AM  
To: Steve Hash  
Cc: Darren Naylor; Mark Jones  
Subject: Re: Royalite State 16-1; Piute County

Steve,

Based on this info I would say we would need plugs in the following spots:

1. 200' plug minimum at the top of the Navajo from 9350' to 9150'
2. 200' plug at the top of the Arapien from 6550' to 6350' - also isolates LC zone
3. 200' plug at the top of the Entrada from 5700' to 5500' - also isolates LC zone
4. 100' plug minimum at the surface shoe from 1550' to 1450'
5. 100' plug at surface.

If you do decide to proceed with P&A please submit a sundry notice of intent with proposed procedure, quantities etc. Let me know if you have questions. Thanks.

Dustin

Dustin K. Doucet  
Petroleum Engineer  
Utah Division of Oil, Gas and Mining  
Oil and Gas Program  
1594 West North Temple, Suite 1210  
Salt Lake City, UT 84116

Phone: (801) 538-5281  
fax: (801) 359-3940  
email: [dustindoucet@utah.gov](mailto:dustindoucet@utah.gov)

>>> "Steve Hash" <[SteveHash@exactengineering.com](mailto:SteveHash@exactengineering.com)> 5/2/2007 10:53 AM >>>  
Dustin, we have TD'd the subject well at 9830 today and plan to log tonight. We will most likely P&A. 9-5/8" surf csg @ 1505'. Mud logger tops are Ryalite 300' to 5598'; Entrada 5598 to 6460; Arapien 6460 to 9256; Navajo 9256 to 9830' TD. We lost circ in top of Arapien @ 5604', healed it in 2-3 days and no losses since. Lower hole is hard tight

sand drilled with diamond impreg bit and motor (ie 1-2 fph). We will need to order cement likely tonight if possible. Any comments. Im on SST #68 now for Wolverine (rig ph 435-427-4207) near Fairview...Darren is on DHS #11 for Royalite (rig ph 435-326-4207). Thanks. You should have daily reports in earlier email this am.

Steve

Steven R. Hash, P.E.

415 S. Boston, Suite 734

Tulsa, OK 74103

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

direct (918) 599-9801 cell (918) 629-9801

mobile fax (801) 640-7470

[stevehash@exactengineering.com](mailto:stevehash@exactengineering.com)

[www.exactengineering.com](http://www.exactengineering.com)

**From:** Dustin Doucet  
**To:** Hash, Steve; Jones, Mark; Naylor, Darren  
**Date:** 5/3/2007 3:23 PM  
**Subject:** RE: Royalite State 16-1; Piute County

Steve,

Procedure looks good for hole with approximately 8% washout. Depending on actual hole size, more may need to be pumped. As Mark has stated, all plugs will need to be tagged to verify they are at the depths proposed in the plan. Send in the signed copy and I will process but you can proceed with this procedure and conditions. Thanks.

Dustin

Dustin K. Doucet  
Petroleum Engineer  
Utah Division of Oil, Gas and Mining  
Oil and Gas Program  
1594 West North Temple, Suite 1210  
Salt Lake City, UT 84116

Phone: (801) 538-5281  
fax: (801) 359-3940  
email: dustindoucet@utah.gov

>>> "Steve Hash" <[SteveHash@exactengineering.com](mailto:SteveHash@exactengineering.com)> 5/3/2007 3:08 PM >>>  
Gentlemen,  
Attached please find our DRAFT sundry notice of intent to plug the subject well. Once approved I'll send a signed version, thanks

Steve  
Steven R. Hash, P.E.  
415 S. Boston, Suite 734  
Tulsa, OK 74103  
office (918) 599-9400 office fax (918) 599-9401  
direct (918) 599-9801 cell (918) 629-9801  
mobile fax (801) 640-7470  
[stevehash@exactengineering.com](mailto:stevehash@exactengineering.com)  
[www.exactengineering.com](http://www.exactengineering.com)

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

From: Mark Jones [<mailto:MARKJONES@utah.gov>]  
Sent: Thursday, May 03, 2007 2:43 PM  
To: Darren Naylor; Steve Hash; Dustin Doucet  
Subject: RE: Royalite State 16-1; Piute County

Darren,

I just talked to the state engineer, all of these plugs will need to be tagged, excluding the top plug which you didn't think you will be setting @ this time anyway. Your welcome to call Dustin and talk to him about tagging, but this is my orders at this point.

Also, speaking about top plugs, have the top plugs been set in any of the previous wells that you have plugged yet? I have never received a heads-up to witness anything along these lines.

Mark L. Jones

## NOTICE

Utah Oil and Gas Conservation General Rule R649-3-21 states that,

- A well is considered completed when the well has been adequately worked to be capable of producing oil or gas or when well testing as required by the division is concluded.
- Within 30 days after the completion or plugging of a well, the following shall be filed:
  - Form 8, Well Completion or Recompletion Report and Log
  - A copy of electric and radioactivity logs, if run
  - A copy of drillstem test reports,
  - A copy of formation water analyses, porosity, permeability or fluid saturation determinations
  - A copy of core analyses, and lithologic logs or sample descriptions if compiled
  - A copy of directional, deviation, and/or measurement-while-drilling survey for each horizontal well

Failure to submit reports in a timely manner will 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.

---

As of the mailing of this notice, the division has not received the required reports for

Operator: Royalite Petroleum Corporation Today's Date: 09/18/2007

Well:	API Number:	Drilling Commenced:
Royalite ST 16-1 drlg/wcr	4303130013	03/08/2007

To avoid compliance action, required reports should be mailed within 7 business days to:

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

If you have questions or concerns regarding this matter, please call (801) 538-5284.

cc: Well File  
Compliance File

CONFIDENTIAL

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

AMENDED REPORT [ ] FORM 8
(highlight changes)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [x] OTHER [ ]
b. TYPE OF WORK: NEW WELL [x] HORIZ. LATS. [ ] DEEP-EN [ ] RE-ENTRY [ ] DIFF. RESVR. [ ] OTHER [ ]
2. NAME OF OPERATOR: Royalite Petroleum Corp
3. ADDRESS OF OPERATOR: 3001 Riviera Road CITY Austin STATE TX ZIP 78733 PHONE NUMBER: (512) 402-0910
4. LOCATION OF WELL (FOOTAGES): AT SURFACE: 351' FSL & 1355' FWL Sec 16 T28S R03W AT TOP PRODUCING INTERVAL REPORTED BELOW: NA AT TOTAL DEPTH: 202' FSL & 1404' FWL of Sec 16 T28S R03W
5. LEASE DESIGNATION AND SERIAL NUMBER: ML 50475
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA
7. UNIT or CA AGREEMENT NAME: NA
8. WELL NAME and NUMBER: Royalite State 16-1
9. API NUMBER: 4303130013
10. FIELD AND POOL, OR WILDCAT: Wildcat
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 16 28S 03W
12. COUNTY: Piute 13. STATE: UTAH

14. DATE SPURRED: 3/17/2007 15. DATE T.D. REACHED: 5/2/2007 16. DATE COMPLETED: 5/5/2007 ABANDONED [x] READY TO PRODUCE [ ]
17. ELEVATIONS (DF, RKB, RT, GL): GL 6070; KB 6092
18. TOTAL DEPTH: MD 9,830 TVD 9,823 19. PLUG BACK T.D.: MD 1479 TVD 1479 20. IF MULTIPLE COMPLETIONS, HOW MANY? \* 21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each): HRI, SDDSN, BTV; mudlog BVP
23. WAS WELL CORED? NO [x] YES [ ] (Submit analysis) WAS DST RUN? NO [x] YES [ ] (Submit report) DIRECTIONAL SURVEY? NO [ ] YES [x] (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)
Table with columns: HOLE SIZE, SIZE/GRADE, WEIGHT (#/ft.), TOP (MD), BOTTOM (MD), STAGE CEMENTER DEPTH, CEMENT TYPE & NO. OF SACKS, SLURRY VOLUME (BBL), CEMENT TOP \*\*, AMOUNT PULLED.
Rows: 12-1/4" (9.625 J55, 36.0, 22, 1,505, Lite 220, 169, surface-cir, 0); 8-3/4" (none, none, none, none, none, V 275, 59, 1000-calc, 0)

25. TUBING RECORD
Table with columns: SIZE, DEPTH SET (MD), PACKER SET (MD).
Row: none

26. PRODUCING INTERVALS
Table with columns: FORMATION NAME, TOP (MD), BOTTOM (MD), TOP (TVD), BOTTOM (TVD).
Row: (A) none
27. PERFORATION RECORD
Table with columns: INTERVAL (Top/Bot - MD), SIZE, NO. HOLES, PERFORATION STATUS.
Rows: (A) none, (B), (C), (D)

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.
Table with columns: DEPTH INTERVAL, AMOUNT AND TYPE OF MATERIAL.
Row: none

29. ENCLOSED ATTACHMENTS: [x] ELECTRICAL/MECHANICAL LOGS [x] GEOLOGIC REPORT [ ] DST REPORT [x] DIRECTIONAL SURVEY [x] SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION [ ] CORE ANALYSIS [ ] OTHER: mud log
30. WELL STATUS: Plugged-TA

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

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

INTERVAL B (As shown in item #26)

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

INTERVAL C (As shown in item #26)

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

INTERVAL D (As shown in item #26)

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

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

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
none					

35. ADDITIONAL REMARKS (include plugging procedure)

60sx 9350-9150;62sx 6550-6350;84sx 5700-5500;38sx 1550-1450 (shoe 1505); plugged and TA pending deepening attempt.

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

NAME (PLEASE PRINT) Steven R Hash - EXACT Engineering Inc TITLE Consulting Petroleum Engineer (918) 599-9400  
 SIGNATURE *Steven R. Hash* DATE 10/26/2007

This report must be submitted within 30 days of

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

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

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

Send to: Utah Division of Oil, Gas and Mining Phone: 801-538-5340  
 1594 West North Temple, Suite 1210  
 Box 145801 Salt Lake City, Utah 84114-5801 Fax: 801-359-3940

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

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>ML 50475</b>
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: <b>N/A</b>
		7. UNIT or CA AGREEMENT NAME: <b>N/A</b>
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Wildcat</u>	8. WELL NAME and NUMBER: <b>Royalite State 16-1</b>	
2. NAME OF OPERATOR: <b>Royalite Petroleum Corp</b>	9. API NUMBER: <b>4303130013</b>	
3. ADDRESS OF OPERATOR: 3001 Riviera Road CITY <u>Austin</u> STATE <u>TX</u> ZIP <u>78733</u>	PHONE NUMBER: <b>(512) 402-0910</b>	10. FIELD AND POOL, OR WILDCAT: <b>Wildcat</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>351' FSL &amp; 1355' FWL</b>		COUNTY: <b>Piute</b>
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SESW 16 28S 3W</b>		STATE: <b>UTAH</b>

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will start:  	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of work completion: <u>5/5/2007</u>	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input checked="" type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>well cap for</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<u>suspended ops</u>

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

**PLEASE MAINTAIN THE ENCLOSED INFORMATION AS CONFIDENTIAL - THANK YOU**

The subject well was plugged on May 5, 2007 per Sundry Notice of Intent dated May 3, 2007 and per verbal orders from Dustin Doucet, State Petroleum Engineer, SLC office and in accordance with UDOGM regulations as follows:  
 8.7ppg mud left in hole between all plugs, TD 9830'  
 Plug #1 - 9350 - 9150'; 200' w 60sx CI G w/ 35% SSA-1 mixed at 15.6ppg, 1.56cfps; WOC, tagged at 9161' w 20,000#  
 Plug #2 - 6550' to 6350'; 200' w 62 sx (same as above), WOC, tagged at 6374' w 20,000#  
 plug #3 - 5700' to 5500'; 200' w 84 sx CI G neat; mixed at 15.8ppg, 1.15cfps; WOC, tagged at 5570' w 20,000#  
 plug #4 - 1550' to 1450'; 100' w 38 sx CI G neat (same as above) across csg shoe at 1505'; WOC, tagged at 1479' w 20,000#  
 Filled hole, installed hole cover, cleaned location, fenced reserve pit, suspend ops until drilling rig secured for deepening.

NAME (PLEASE PRINT) <u>Steven R Hash, P.E. - EXACT Engineering Inc</u>	TITLE <u>Engineering Consultant (918) 599-9400</u>
SIGNATURE <u><i>Steven R. Hash</i></u>	DATE <u>10/26/2007</u>

(This space for State use only)

**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

RECEIVED

OCT 31 2007

DIV. OF OIL, GAS & MINING

October 26, 2007

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

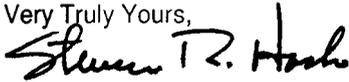
Re: Completion Report (form 8) – Royalite Petroleum Corp  
**Royalite State 16-1**  
Sec 16 T28S – R03W  
Piute County, UT

Gentlemen,

On behalf of Royalite Petroleum Corp., 3001 Riviera Road, Austin, TX 78733 (512) 402-0910, please find enclosed the original and one copy of our Well Completion Report and Log (form 8) for the subject well accompanied by Sundry Report of Plugging (form 9). Additionally, copies of electric logs, mudlog, geologic report and directional surveys are included. The operator intends to re-enter and deepen this well at a later date, at which time proper authority will be applied for before proceeding.

Please accept this letter as Royalite's written request for confidential treatment of all information contained herein and pertaining to this report. Please contact the undersigned if you have questions or need additional information.

Very Truly Yours,



Steven R. Hash, P.E.  
Consulting Engineer

copy to: Michael Cass, Royalite Petroleum Corp  
file

 ORIGINAL

CONFIDENTIAL

Petroleum Engineering Consulting, Personnel & Jobsite Supervision  
complete well design, construction & management, drilling, completion, production, pipelines, appraisals,  
due diligence, acquisitions, procedures, temporary personnel and field supervision



**Job Number:** CA-07058  
**Company:** Royallite Petroleum Corp.  
**Lease/Well:** Royallite 1-16  
**Location:** Marysvale  
**Rig Name:** DHS #11  
**RKB:** 5688  
**G.L. or M.S.L.:**

**State/Country:** Utah  
**Declination:** 12.41  
**Grid:**  
**File name:** F:\RL116.SVY  
**Date/Time:** 27-Oct-07 / 11:42  
**Curve Name:** Directional Control

**Scientific Drilling**

**WINSERVE PROPOSAL REPORT**  
*Minimum Curvature Method*  
*Vertical Section Plane .00*  
*Vertical Section Referenced to Wellhead*  
*Rectangular Coordinates Referenced to Wellhead*

<i>Measured Depth</i> FT	<i>Incl Angle</i> Deg	<i>Drift Direction</i> Deg	<i>True Vertical Depth</i>	<i>N-S</i> FT	<i>E-W</i> FT	<i>Vertical Section</i> FT	<i>CLOSURE</i> Distance FT    Direction Deg		<i>Dogleg Severity</i> Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1541.00	1.40	124.00	1540.85	-10.53	15.61	-10.53	18.83	124.00	.09
1637.00	1.80	126.40	1636.81	-12.08	17.79	-12.08	21.51	124.17	.42
1733.00	2.30	141.20	1732.75	-14.47	20.21	-14.47	24.86	125.60	.75
1829.00	.40	124.50	1828.72	-16.17	21.70	-16.17	27.06	126.69	2.00
1923.00	.40	146.80	1922.71	-16.63	22.15	-16.63	27.69	126.89	.16
2018.00	.50	206.20	2017.71	-17.27	22.15	-17.27	28.09	127.96	.48
2114.00	1.70	241.20	2113.69	-18.34	20.71	-18.34	27.66	131.52	1.38
2209.00	1.80	243.00	2208.65	-19.69	18.15	-19.69	26.78	137.34	.12
2304.00	2.30	254.20	2303.59	-20.89	14.99	-20.89	25.71	144.35	.67
2400.00	.60	268.60	2399.55	-21.43	12.63	-21.43	24.87	149.48	1.80
2495.00	1.10	235.20	2494.54	-21.96	11.38	-21.96	24.73	152.60	.72
2591.00	1.10	202.40	2590.53	-23.34	10.27	-23.34	25.50	156.24	.65
2685.00	2.50	195.50	2684.48	-26.15	9.38	-26.15	27.78	160.26	1.50
2780.00	1.40	185.00	2779.42	-29.30	8.73	-29.30	30.57	163.41	1.21
2874.00	2.40	178.10	2873.37	-32.41	8.69	-32.41	33.56	164.98	1.09
2969.00	2.00	187.10	2968.30	-36.04	8.55	-36.04	37.04	166.65	.56
3064.00	2.90	176.50	3063.21	-40.09	8.50	-40.09	40.98	168.03	1.06
3158.00	.50	335.60	3157.18	-42.09	8.47	-42.09	42.93	168.62	3.59
3254.00	.50	160.50	3253.18	-42.10	8.44	-42.10	42.94	168.67	1.04
3350.00	.60	153.00	3349.17	-42.94	8.81	-42.94	43.84	168.41	.13
3445.00	.80	151.60	3444.17	-43.97	9.35	-43.97	44.95	168.00	.21
3540.00	1.40	167.70	3539.15	-45.69	9.91	-45.69	46.75	167.76	.70
3635.00	.90	195.00	3634.13	-47.54	9.96	-47.54	48.58	168.16	.77
3730.00	1.80	176.00	3729.10	-49.75	9.88	-49.75	50.72	168.77	1.05

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3825.00	3.00	191.50	3824.02	-53.68	9.48	-53.68	54.51	169.98	1.42
3920.00	2.10	196.00	3918.92	-57.79	8.51	-57.79	58.41	171.62	.97
4016.00	.80	214.70	4014.89	-60.03	7.64	-60.03	60.51	172.74	1.42
4143.00	1.10	4.10	4141.88	-59.54	7.23	-59.54	59.98	173.08	1.44
4239.00	.70	325.20	4237.87	-58.14	6.96	-58.14	58.55	173.18	.74
4333.00	1.80	248.60	4331.85	-58.21	5.25	-58.21	58.44	174.84	1.89
4429.00	1.40	152.30	4427.83	-59.80	4.40	-59.80	59.96	175.80	2.50
4525.00	5.80	230.30	4523.65	-63.94	1.21	-63.94	63.95	178.92	5.91
4620.00	4.50	227.50	4618.26	-69.52	-5.24	-69.52	69.72	184.31	1.39
4715.00	2.10	236.60	4713.10	-73.00	-9.44	-73.00	73.60	187.37	2.58
4780.00	1.90	339.50	4778.07	-72.64	-10.81	-72.64	73.44	188.46	4.82
4843.00	3.10	6.20	4841.02	-69.97	-10.99	-69.97	70.83	188.93	2.61
4906.00	3.30	6.70	4903.92	-66.48	-10.60	-66.48	67.32	189.06	.32
4970.00	3.70	359.90	4967.80	-62.58	-10.38	-62.58	63.44	189.42	.90
5065.00	1.10	86.90	5062.72	-59.47	-9.48	-59.47	60.22	189.06	4.00
5161.00	1.00	66.70	5158.71	-59.08	-7.79	-59.08	59.60	187.51	.40
5256.00	1.60	148.90	5253.69	-59.89	-6.34	-59.89	60.23	186.04	1.86
5352.00	3.30	170.20	5349.60	-63.76	-5.18	-63.76	63.97	184.64	1.98
5446.00	2.80	145.90	5443.47	-68.33	-3.43	-68.33	68.42	182.88	1.46
<b>Resurvey Conventional Hole</b>									
5540.00	2.70	140.70	5537.36	-71.95	-.74	-71.95	71.95	180.59	.29
5668.00	4.00	119.20	5665.15	-76.46	5.06	-76.46	76.62	176.21	1.40
5794.00	3.80	108.50	5790.86	-79.93	12.86	-79.93	80.95	170.86	.60
5920.00	4.20	102.00	5916.55	-82.21	21.33	-82.21	84.93	165.45	.48
6016.00	3.80	91.10	6012.32	-83.00	27.95	-83.00	87.58	161.39	.89
<b>Tie In</b>									
6054.00	3.80	87.10	6050.23	-82.96	30.47	-82.96	88.38	159.83	.70
6142.00	3.00	73.30	6138.08	-82.15	35.59	-82.15	89.53	156.58	1.29
6238.00	1.60	36.90	6234.00	-80.36	38.80	-80.36	89.23	154.23	2.04
6333.00	1.70	13.00	6328.97	-77.93	39.91	-77.93	87.55	152.88	.73
6428.00	1.60	41.90	6423.93	-75.56	41.11	-75.56	86.03	151.45	.87
6523.00	4.00	116.10	6518.83	-76.04	44.98	-76.04	88.34	149.39	4.09
6587.00	4.50	120.80	6582.66	-78.30	49.14	-78.30	92.44	147.89	.95
6619.00	4.70	125.40	6614.55	-79.71	51.29	-79.71	94.78	147.24	1.31
6683.00	2.30	151.70	6678.43	-82.36	54.03	-82.36	98.50	146.73	4.42
6747.00	1.30	118.70	6742.40	-83.84	55.28	-83.84	100.42	146.60	2.19
6811.00	2.30	99.00	6806.37	-84.38	57.18	-84.38	101.93	145.88	1.82
6874.00	2.30	112.20	6869.32	-85.06	59.60	-85.06	103.86	144.98	.84
6938.00	2.10	127.50	6933.27	-86.26	61.72	-86.26	106.07	144.41	.97
7002.00	2.60	133.10	6997.22	-87.96	63.71	-87.96	108.61	144.08	.86
7065.00	2.70	151.70	7060.15	-90.25	65.46	-90.25	111.49	144.05	1.37
7129.00	3.70	168.10	7124.05	-93.60	66.60	-93.60	114.87	144.57	2.10
7192.00	3.00	161.40	7186.94	-97.15	67.54	-97.15	118.32	145.19	1.27
7255.00	2.80	161.90	7249.86	-100.17	68.55	-100.17	121.38	145.62	.32
7319.00	1.70	172.70	7313.81	-102.60	69.15	-102.60	123.73	146.02	1.83
7382.00	1.60	185.80	7376.79	-104.40	69.18	-104.40	125.24	146.47	.62
7446.00	1.00	191.60	7440.77	-105.84	68.98	-105.84	126.33	146.91	.96

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7507.00	.90	209.70	7501.76	-106.78	68.64	-106.78	126.93	147.27	.52
7571.00	1.10	182.80	7565.75	-107.83	68.36	-107.83	127.67	147.63	.79
7634.00	.80	229.10	7628.75	-108.72	68.00	-108.72	128.23	147.98	1.26
7698.00	1.00	338.40	7692.74	-108.49	67.45	-108.49	127.75	148.13	2.30
7761.00	.80	300.80	7755.73	-107.75	66.87	-107.75	126.82	148.18	.97
7825.00	1.40	287.60	7819.72	-107.29	65.74	-107.29	125.83	148.50	1.01
7888.00	1.50	236.50	7882.70	-107.51	64.32	-107.51	125.28	149.11	1.99
7919.00	2.10	215.50	7913.69	-108.20	63.65	-108.20	125.53	149.53	2.85
7983.00	1.70	189.70	7977.66	-110.09	62.81	-110.09	126.75	150.29	1.46
8047.00	.80	228.00	8041.64	-111.32	62.32	-111.32	127.58	150.76	1.85
8111.00	3.50	188.30	8105.59	-113.56	61.71	-113.56	129.24	151.48	4.58
8174.00	4.90	186.90	8168.42	-118.13	61.11	-118.13	133.00	152.65	2.23
8237.00	4.00	183.40	8231.23	-122.99	60.65	-122.99	137.14	153.75	1.49
8301.00	3.90	199.50	8295.08	-127.27	59.79	-127.27	140.62	154.84	1.73
8364.00	3.50	194.40	8357.95	-131.16	58.60	-131.16	143.65	155.93	.82
8427.00	2.70	182.80	8420.86	-134.50	58.05	-134.50	146.49	156.66	1.61
8490.00	3.70	212.20	8483.76	-137.70	56.89	-137.70	148.99	157.55	3.00
8553.00	4.00	194.30	8546.62	-141.55	55.27	-141.55	151.96	158.67	1.96
8617.00	1.80	190.80	8610.54	-144.70	54.53	-144.70	154.64	159.35	3.45
8681.00	.40	53.10	8674.53	-145.56	54.52	-145.56	155.43	159.47	3.30
8745.00	.60	96.70	8738.52	-145.46	55.03	-145.46	155.52	159.28	.65
8808.00	.40	221.50	8801.52	-145.67	55.21	-145.67	155.78	159.24	1.41
8871.00	.70	248.80	8864.52	-145.97	54.71	-145.97	155.88	159.45	.62
8931.00	.40	244.40	8924.52	-146.19	54.18	-146.19	155.91	159.67	.50
9780.00	.40	244.40	9773.50	-148.75	48.83	-148.75	156.56	161.83	.00
<b>--Projection to Bit--</b>									
9830.00	.40	244.40	9823.50	-148.90	48.52	-148.90	156.61	161.95	.00

Royalite Petroleum  
Royalite Petroleum 16-1  
SE/SW Sec 16, T28S, R3W  
Piute County, UT

**Bit Record**  
**Royalite Petroleum 16-1**  
**SE/SW Sec 16, T28S, R3W**  
**Piute County, UT**

Well Name: Royalite Petroleum 16-1  
 Location: SE/SW Sec 16, T28S, R3W  
 Surface Casing: 1503' of 9 5/8''  
 Spud Date: 3-17-07  
 TD Date: 5-2-07

BIT	1	2	3	4	5	6
SIZE	12 ¼	8 ¾	8 ¾	8 ¾	8 ¾	8 ¾
MAKE	HTC	STC	REED	STC	STC	STC
TYPE	HP43A	FH16B	HP51HDG	FHODVPS	FH28VPS	FH45ODPS
SERIAL#	B73500	PE2667	KW8101	PF9034	PO5593	PO9559
JETS	OPEN	3X13	3X18	3X18	3X18	3X16
OUT @	1505	5604	5104	7179	8029	8973
FT	1359	4097	500	1075	950	944
HRS	69	158	74	74 ½	52	69
ACC HRS	69	158	74	45	52	69
WOB	25	40	40	38	35	40
RPM	60	45	60	45	35	35
PP	750	1650	700	1200	1500	1800
MUD WT	8.6	8.7	8.7	8.8	8.4	8.5
VIS	90	42	53	55	47	50
DEV	1.25	2.8	4.0	3.3	2.1	.5

**Bit Record**  
**Royalite Petroleum 16-1**  
**SE/SW Sec 16, T28S, R3W**  
**Piute County, UT**

Well Name: Royalite Petroleum 16-1  
 Location: SE/SW Sec 16, T28S, R3W  
 Surface Casing: 1503' of 9 5/8"  
 Spud Date: 3-17-07  
 TD Date: 5-2-07

	7	8	9	10	11	12	13	RR13
BIT SIZE	8 3/4	8 3/4	8 1/2	8 1/2	8 1/2	7 7/8	7 7/8	7 7/8
MAKE	STC	STC	STC	RTC	STC	STC	STC	STC
TYPE	FH123	FH40	F37YODR	TD74PDA	F474Y	diamond imprey	K705	K705
SERIAL#	PE7952	PF4359	MY6358	DH1627	PF5770	ER20872	5X1643	5X1643
JETS	3X18	3X18	3X16	3X16	3X14	8X12	8X12	8X12
OUT @	9253	9339	9446	9534	9550	9565	9791	9830
FT	280	85	107	88	16	15	226	265
HRS	32 1/2	13	20	18	11	15 1/2	102 1/2	
ACC HRS	32 1/2	13	20	18	11	15 1/2		102 1/2
WOB	35	32	35	35	35	30	30	30
RPM	38	30	30	30	30	30	35	35
PP	1950	1380	1140	1550	1550	1850	1950	1950
MUD WT	8.5	8.6+	8.6	8.6+	8.6+	8.6+	8.6+	8.6+
VIS	47	49	49	51	50	50	48	48
DEV								

**Daily Drilling Summary  
Royalite Petroleum 16-1**

<u>DATE</u>	<u>DEPTH</u>	<u>PROG</u>	<u>HRS</u>	<u>MUD</u>	<u>VIS</u>	<u>WL</u>	<u>PH</u>	<u>ACTIVITY</u>
3/17/07	146		19	8.4+	95			Spud
3/18/07	414	400	20 ½	8.4+	85	18.0	10.8	Drill, Trip, PU BHA
3/19/07	814		22 ½	8.6	95			Drill, Survey
3/20/07	1386		5 ½	8.6	100			Drill, Trip, Try to run casing
3/21/07	1505	0	0					Trip, Cond hole, Attempt to run casing
3/22/07	1505	0	0					Trip, Ream
3/23/07	1505	0	0					Ream, Trip, Run casing, Cement
3/24/07	1505	0	0					W/O cement, Nipple up, test Bops, Trip
3/25/07	1505	498	14					Trip, Drill
3/26/07	2023	807	23	8.8	56	8.	8.8	Drill, Short Trip
3/27/07	2830	760	23 ½	8.6	50	8.0	10	Drill
3/28/07	3590	545	19 ½	8.8	45	10.6	11	Drill, Repair rig, Short trip
3/29/07	4135	542	23 ½	8.7+	40	10.4	10.5	Drill
3/30/07	4677	494	23 ½	8.8	42	8	10.4	Drill
3/31/07	5161	415	23 ½	8.8	40	6.5	9.8	Drill
4/1/07	5576	43	3	8.8+	39	10	10.2	Drill, Lost Cirr, Mix LCM, Trip
4/2/07	5619	92	23 ½	8.5+	65	8.4	19.4	Drill
4/3/07	5711	189	22 ½	8.4	40	9.6	10.4	Drill, Survey
4/4/07	5900	180	22 ½	8.4	40	9.6	10.4	Drill, Survey
4/5/07	6080	95	8	8.7+	48	8.8	10.8	Drill, Trip for directional tools
4/6/07	6175	375	23 ½	8.7+	49	10	10.6	Drill
4/7/07	6550	165	12 ½	8.8	54	10.4	10.8	Drill, Trip
4/8/07	6715	325	23 ½	8.9	56	8.4	11	Drill
4/9/07	7040	139	10 ½	8.8+	55	8.8	10.7	Drill, Trip
4/10/07	7179	317	16 ½	8.7	50	8.0	10.5	Trip, Drill
4/11/07	7490	365	23	8.8+	55	8.8	10.7	Drill
4/12/07	7861	168	11 ½	8.7	50	8.0	10.5	Drill, Trip
4/13/07	8029	363	21 ½	8.6	45	9.6	10.5	Trip, Drill
4/14/07	8392	371	23 ½	8.6	48	7.8	9.5	Drill
4/15/07	8763	205	23 ½	8.6+	53	8.0	10.5	Drill
4/16/07	8968	76	7 ½	8.6+	47	8.0	10.8	Drill, Trip, Drill
4/17/07	9044	191	23	8.6+	47	10.8	9.7	Drill, MWD failure
4/18/07	9235	18	2 ½	8.6+	47	10.8	9.7	Drill, Trip

**Daily Drilling Summary Continued  
Royalite Petroleum 16-1**

<u>DATE</u>	<u>DEPTH</u>	<u>PROG</u>	<u>HRS</u>	<u>MUD</u>	<u>VIS</u>	<u>WL</u>	<u>PH</u>	<u>ACTIVITY</u>
4/19/07	9253	87	12 ½	8.7	49	8.8	10.7	Drill, Trip
4/20/07	9340	106	20	8.6+	55	9	10	Drill, Trip
4/21/07	9446	75	14 ½	8.6	49	10.4	10.7	Drill, Trip
4/22/07	9521	13	3 ½	8.6+	51	8.8	10.2	Drill, Trip
4/23/07	9534	20	6	8.6+	50	10.2	9.6	Drill, Trip
4/24/07	9554	11	11 ½	8.6+	50	10.2	9.6	Drill, Trip
4/25/07	9565	0	0	8.7+	58	8	10.3	Trip, Wait on mud motor
4/26/07	9565	38	15	8.8	48	8	9.7	Trip, Drill
4/27/07	9603	21	23 ½	8.7	46	12	10.7	Drill
4/28/07	9624	50	24	8.7	46	12	10.7	Drill
4/29/07	9674	79	23 ½	8.6+	50	9	10.4	Drill
4/30/07	9753	48	16 ½	8.6+	48	12	10.2	Drill, Work Stuck pipe, Trip
5/1/07	9791	28	14	8.6+	48	12	10	Trip, Drill
5/2/07	9819	11	4	8.7+	56	11	9.7	Drill, Trip
5/3/07	9830							Log

**Deviation Surveys  
Royalite Petroleum 16-1**

<b>DEPTH</b>	<b>INCLINATION</b>	<b>DIRECTION</b>
.00	.00	.00
1541.00	1.40	124.00
1637.00	1.80	126.40
1733.00	2.30	141.20
1829.00	.40	124.50
1923.00	.40	146.80
2018.00	.50	206.20
2114.00	1.70	241.20
2209.00	1.80	243.00
2304.00	2.30	254.20
2400.00	.60	268.60
2495.00	1.10	235.20
2591.00	1.10	202.40
2685.00	2.50	195.50
2780.00	1.40	185.00
2874.00	2.40	178.10
2969.00	2.00	187.10
3064.00	2.90	176.50
3158.00	.50	335.60
3254.00	.50	160.50
3350.00	.60	153.00
3445.00	.80	151.60
3540.00	1.40	167.70
3635.00	.90	195.00
3730.00	1.80	176.00
3825.00	3.00	191.50
3920.00	2.10	196.00
4016.00	.80	214.70
4143.00	1.10	4.10
4239.00	.70	325.20
4333.00	1.80	248.60
4429.00	1.40	152.30
4525.00	5.80	230.30
4620.00	4.50	227.50
4715.00	2.10	236.60
4780.00	1.90	339.50
4843.00	3.10	6.20
4906.00	3.30	6.70
4970.00	3.70	359.90
5065.00	1.10	86.90

DEPTH	INCLINATION	DIRECTION
5161.00	1.00	66.70
5256.00	1.60	148.90
5352.00	3.30	170.20
5446.00	2.80	145.90
5540.00	2.70	140.70
5668.00	4.00	119.20
5794.00	3.80	108.50
5920.00	4.20	102.00
6016.00	3.80	91.10
6054.00	3.80	87.10
6142.00	3.00	73.30
6238.00	1.60	36.90
6333.00	1.70	13.00
6428.00	1.60	41.90
6523.00	4.00	116.10
6587.00	4.50	120.80
6619.00	4.70	125.40
6683.00	2.30	151.70
6747.00	1.30	118.70
6811.00	1.30	99.00
6874.00	2.30	112.20
6938.00	2.10	127.50
7002.00	2.60	133.10
7065.00	2.70	151.70
7129.00	3.70	168.10
7192.00	3.00	161.40
7255.00	2.80	161.90
7319.00	1.70	172.70
7382.00	1.60	185.80
7446.00	1.00	191.60
7507.00	.90	209.70
7571.00	1.10	182.80
7634.00	.80	229.10
7698.00	1.00	338.40
7761.00	.80	300.80
7825.00	1.40	287.60
7888.00	1.50	236.50
7919.00	2.10	215.50
7983.00	1.70	189.70
8047.00	.80	228.00
8111.00	3.50	188.30
8174.00	4.90	186.90
8237.00	4.00	183.40

<b>DEPTH</b>	<b>INCLINATION</b>	<b>DIRECTION</b>
8301.00	3.90	199.50
8364.00	3.50	194.40
8427.00	2.70	182.80
8490.00	3.70	212.20
8553.00	4.00	194.30
8617.00	1.80	190.80
8681.00	.40	53.10
8745.00	.60	96.70
8808.00	.4	221.50
8871.00	.70	248.80
8931.00	.40	244.40
8981.00	.15	240.73

**SAMPLE DESCRIPTIONS**  
**Royalite Petroleum 16-1**  
**SE/SW Sec 16, T28S, R3W**  
**Piute County, UT**

250-80	RHYOLITE 100% Orange, yellow, pink, medium grained quartz crystals, firm.
280-310	TUFT 100% Light grey, blocky, firm.
310-40	TUFT 100% Volcanic ash, white, light grey, blocky, occasional quartz grains, firm.
340-70	TUFT 100% Volcanic ash, white, light grey, blocky, occasional quartz grains, firm.
370-400	TUFT 100% Volcanic ash, white, light grey, blocky, occasional quartz grains, firm.
400-30	RHYOLITE 100% Orange, pink, brown, occasional very coarse grained quartz, firm.
430-60	RHYOLITE 100% Orange, pink, brown, occasional very coarse grained quartz, firm.
460-90	RHYOLITE 80% Light brown, orange, pink. TUFT 20% Light grey, firm.
490-520	TUFT 100% Volcanic ash, light grey, firm.
520-50	TUFT 100% Light grey, tan, firm.
580-610	TUFT 100% Light grey, tan, firm.
610-40	TUFT 100% Light yellow, white, bentonitic, soft.
640-70	TUFT 100% Light yellow, soft.
670-700	RHYOLITE 100% Red brown, brown, occasional quartz, firm.
700-30	RHYOLITE 100% Red brown, brown.
730-60	RHYOLITE 100% Red brown, brown, grey, occasional quartz, firm.
760-90	RHYOLITE 100% Red brown, brown, grey, occasional quartz, firm.
790-820	RHYOLITE 100% Red brown, brown, grey, occasional quartz, firm.
820-50	RHYOLITE 100% Red brown, brown, grey, purple, occasional quartz, firm.
850-80	RHYOLITE 100% Light to medium grey, tan, red brown, brown, occasional quartz, firm.

880-910 RHYOLITE 100% Light to medium grey, tan, red brown, brown, occasional quartz, firm.

910-40 RHYOLITE 100% Dark grey, dark brown, red brown.

940-70 RHYOLITE 100% Purple, red brown, dark grey, tan, increased quartz, firm.

970-1000 RHYOLITE 100% Light grey, tan, brown, light to medium grey, occasional quartz, firm.

1000-30 RHYOLITE 100% Light grey white, biotite, rare quartz, firm.

1030-60 RHYOLITE 100% Red brown, brown, biotite, firm.

1060-90 RHYOLITE 100% Red brown, brown, white, light grey, biotite, occasional quartz, firm.

1090-1120 RHYOLITE 30% Red brown, brown, white, light grey, biotite, occasional quartz, firm.  
TUFT 70% Volcanic ash, light brown, tan, bentonitic, soft.

1120-50 RHYOLITE 40% Red brown, brown, white, light grey, biotite, occasional quartz, firm.  
TUFT 60% Light brown, tan, bentonitic, soft.

1150-80 RHYOLITE 40% Red brown, brown, white, light grey, biotite, occasional quartz, firm.  
TUFT 60% Light brown, tan, green, bentonitic, soft to gummy.

1180-1210 TUFT 100% White, light grey, light green, bentonitic, soft to gummy.

1210-40 TUFT 100% White, light grey, light green, bentonitic, soft to gummy.

1240-70 RHYOLITE 100% Red brown, purple, green, occasional quartz crystals, pyrite, chlorite, biotite, firm.

1270-1300 RHYOLITE 100% Red brown, purple, green, quartz crystals, pyrite, chlorite, firm.

1300-30 RHYOLITE 100% Red brown, purple, green, quartz crystals, pyrite, chlorite, firm.

1330-60 RHYOLITE 100% Red brown, purple, green, quartz crystals, pyrite, chlorite, firm.

1360-90 RHYOLITE 100% Red brown, purple, grey, green, crystalline quartz crystals, pyrite, chlorite, firm.

1390-1420 RHYOLITE 100% Red brown, purple, grey, green, crystalline quartz crystals, pyrite, chlorite, firm.

1420-50 RHYOLITE 100% Red brown, orange, green, grey, crystalline quartz crystals, biotite, pyrite, chlorite, firm.

1450-80 RHYOLITE 100% Red brown, orange, green, grey, crystalline quartz crystals, biotite, pyrite, chlorite, firm.

1480-1510 RHYOLITE 100% Brown, red brown, crystalline, biotite, firm.

1510-40 RHYOLITE 100% Brown, red brown, crystalline, occasional quartz crystal, biotite, firm.

1540-70 RHYOLITE 100% Brown, red brown, crystalline, occasional quartz crystal, biotite, firm.

1570-1600 RHYOLITE 100% Brown, red brown, crystalline, occasional quartz crystal, biotite, firm.

1600-30 RHYOLITE 100% Brown, red brown, crystalline, occasional quartz crystal.

1630-60 RHYOLITE 100% Brown, red brown, crystalline, occasional quartz crystal.

1660-90 RHYOLITE 100% Brown, red brown, crystalline, occasional quartz crystal.

1690-1720 RHYOLITE 100% Red brown, brown, crystalline, occasional quartz crystals, biotite, firm.

1720-50 RHYOLITE 100% Red brown, brown, crystalline quartz crystals, biotite, firm.

1750-80 RHYOLITE 100% Red brown, brown, crystalline quartz crystals, biotite, firm.

1780-1810 RHYOLITE 100% Red brown, grey, crystalline, increased quartz crystals, biotite, occasional chlorite, firm.

1810-40 RHYOLITE 100% Red brown, grey, crystalline, quartz crystals, biotite, occasional chlorite, firm.

1840-70 RHYOLITE 100% Red brown, brown, quartz crystals, biotite, firm.

1870-1900 RHYOLITE 100% Red brown, brown, quartz crystals, biotite, firm.

1900-30 RHYOLITE 100% Red brown, brown, quartz crystals, biotite, firm.

1930-60 RHYOLITE 100% Red brown, brown, quartz crystals, biotite, firm.

1960-90 RHYOLITE 100% Red brown, brown, quartz crystals, biotite, firm.

1990-2020 RHYOLITE 100% Red brown, brown, quartz crystals, biotite, firm.

2020-50 RHYOLITE 100% Red brown, brown, quartz crystals, biotite, firm.

- 2500-30      INGNEOUS 100% Lavender, white, green, mottled, 40% white quartz and feldspar, soft clay in part.
- 2530-60      INGNEOUS 100% Red brown, white, green, mottled, arkosic, 70% quartz and feldspar, 15% green chlorite.
- 2560-90      INGNEOUS 100% White, green, red, mottled, arkosic, 50% quartz and feldspar, 10% green chlorite, 40% red, lavender.
- 2590-2620    INGNEOUS 100% Lavender, light red, white, 30% quartz and feldspar, 70% mottled, arkosic.
- 2620-50      INGNEOUS 100% Lavender, white, green, 30% quartz, 70% mottled, arkosic.
- 2650-80      INGNEOUS 100% White, lavender, green, 70% quartz, 20% mottled, arkosic, 10% green chlorite.
- 2680-2710    INGNEOUS 100% Lavender, white, green, 70% mottled, arkosic, 30% quartz, traces of green chlorite.
- 2710-40      INGNEOUS 100% Red to brown, lavender, white, green, 60% mottled, arkosic, 30% white, quartz and feldspar, 10% green chlorite.
- 2740-70      INGNEOUS 100% White, lavender to red brown, 50% mottled, arkosic, 50% white, quartz and feldspar, with abundant metallic veining.
- 2770-2800    INGNEOUS 100% Light green, white, 70% mottled, arkosic with metallic veining, 30% white, quartz and feldspar.
- 2800-30      INGNEOUS 100% Light green, white, lavender, 70% mottled, arkosic, 20% white, quartz and feldspar, 10% mottled red brown.
- 2830-60      INGNEOUS 100% Lavender, white, green, red brown, 80% mottled, arkosic, 10% white, quartz and feldspar, 10% green and red.
- 2860-90      INGNEOUS 100% Light green, lavender, white, 70% mottled, arkosic, 10% white, quartz and feldspar, 20% red brown, lavender, metallic veins.
- 2890-2920    INGNEOUS 100% Light green, mottled with white quartz and feldspar, arkosic, abundant metallic veining.
- 2920-50      INGNEOUS 100% Light green, white, 90% mottled, arkosic, 10% free white quartz and feldspar.
- 2950-80      INGNEOUS 100% Light green, white, mottled, traces of red brown, 95% arkosic, 5% free quartz, metallic veining.

- 2980-3010 INGNEOUS 100% Light green, light grey, white, red brown, 95% arkosic, mottled, 5% free quartz, biotite flecks, metallic veining.
- 3010-40 INGNEOUS 100% Light green, light grey, 95% mottled, arkosic, 5% free white to clear quartz, metallic veining.
- 3040-70 INGNEOUS 100% Light to dark green, light grey, 95% mottled, arkosic, 5% free quartz, mica, metallic veining.
- 3070-3100 INGNEOUS 100% Light red brown, light grey, light green, 80% mottled, arkosic, 20% free quartz and feldspar, mica.
- 3100-30 INGNEOUS 100% Light green, light grey, soft clay in parts, 90% mottled, arkosic, (fine crystalline texture) 5% free quartz and feldspar.
- 3130-60 INGNEOUS 100% Light grey, light green, soft clay in part, arkosic, mottled.
- 3160-90 INGNEOUS 100% Light grey green, mottled, arkosic, metallic noduals.
- 3190-3220 INGNEOUS 100% Light green, light grey green, arkosic, mottled, red brown, mottled.
- 3220-50 INGNEOUS 100% Light green, light grey green, red brown, mottled, arkosic.
- 3250-80 INGNEOUS 100% Light grey, light green, mottled with red brown, arkosic, 5% free quartz and feldspar.
- 3280-3310 INGNEOUS 100% Light green, light red brown, light grey, mottled, arkosic, abundant soft clay, metallic nodules.
- 3310-40 INGNEOUS 100% Light red brown, light green, mottled, arkosic, 10% free quartz and feldspar.
- 3340-70 INGNEOUS 100% Light red brown, lavender, mottled with green, mottled, arkosic, soft clay in part.
- 3370-3400 INGNEOUS 100% Light red brown, mottled with fine grained quartz and feldspar, arkosic.
- 3400-30 INGNEOUS 100% Light red brown, red brown, mottled with white quartz and grey green arkosic.
- 3430-60 INGNEOUS 100% Light red brown, lavender, mottled with quartz, arkosic.
- 3460-90 INGNEOUS 100% Red brown, lavender, light green, mottled, arkosic, soft clay in part.
- 3490-3520 INGNEOUS 100% Light grey green, mottled with red brown, arkosic, metallic inclusions.

- 3520-50      INGNEOUS 100% Light red brown, lavender, mottled with green, arkosic, trace free quartz.
- 3550-80      INGNEOUS 100% Light red brown, mottled with quartz, light green, mottled with red brown, arkosic.
- 3580-3610    INGNEOUS 100% Light grey green, mottled with red brown, arkosic, (fine to medium grained).
- 3610-40      INGNEOUS 100% Light green, red brown, arkosic, poor sorted, (fine to coarse grained).
- 3640-70      INGNEOUS 100% Light grey green, mottled, arkosic, fine to medium grained pyroclastic.
- 3670-3700    INGNEOUS 100% Light red brown, light green, fine to coarse grained, pyroclastic, metallic inclusions.
- 3700-30      INGNEOUS 100% Light red brown, lavender, fine to medium grained, arkosic, mottled with green and red brown, 20% free quartz and feldspar.
- 3730-60      INGNEOUS 100% Light grey, white, red brown, fine to coarse grained, arkosic, mottled with black hematite, salt & pepper, 5% free quartz, abundant red brown and light grey.
- 3760-90      INGNEOUS 100% Light grey, salt & pepper, red brown, fine to coarse grained, speckled with black hematite and biotite.
- 3790-3820    INGNEOUS 100% Light grey, grey to green, red brown, mottled, arkosic, fine to coarse grained, 10% free quartz and feldspar.
- 3820-50      INGNEOUS 100% Light grey green, red brown, mottled, arkosic, fine to coarse grained, abundant feldspar.
- 3850-80      INGNEOUS 100% Red brown, mottled with white quartz and feldspar, traces mica, 10% free quartz and feldspar, fine to coarse grained, arkosic.
- 3880-3910    INGNEOUS 100% Light red brown, mottled with green and white minerals, fine to coarse grained, arkosic.
- 3910-40      INGNEOUS 100% Light red brown, mottled with grey and white, fine to coarse grained, arkosic.
- 3940-70      INGNEOUS 100% Light brown, light green, mottled with quartz and feldspar, fine to coarse grained, arkosic.
- 3970-4000    INGNEOUS 100% Light brown, mottled with green and red, fine to coarse grained, arkosic.

- 4000-30      INGNEOUS 100% Light grey brown, mottled with green and red, fine to coarse grained, arkosic.
- 4030-60      INGNEOUS 100% Grey brown, mottled with green and red, fine to coarse grained, arkosic.
- 4060-90      INGNEOUS 100% Grey brown, mottled with green and red brown, fine to coarse grained, arkosic.
- 4090-4120    INGNEOUS 100% Grey brown, mottled with green and red brown, fine to coarse grained, arkosic.
- 4120-50      INGNEOUS 100% Grey to brown, light green, mottled with green and red brown, fine to medium grained, arkosic.
- 4150-80      INGNEOUS 100% Grey brown, light green, mottled with green and red brown, fine to coarse grained, arkosic.
- 4180-4210    INGNEOUS 100% Grey green, red brown, mottled with red brown and grey, fine to coarse grained, arkosic.
- 4210-40      INGNEOUS 100% Light green, mottled red brown, red brown, mottled green, white to grey, fine to coarse grained, arkosic.
- 4240-70      INGNEOUS 100% Red brown, green, mottled, fine to coarse grained, arkosic.
- 4270-4300    INGNEOUS 100% Red brown, green, mottled, fine to coarse grained, arkosic, trace white, crystalline, chalky, calcite.
- 4300-30      INGNEOUS 100% Red brown, green, mottled, fine to coarse grained, arkosic
- 4330-60      INGNEOUS 100% Red brown, light green, mottled, fine to coarse grained, arkosic.
- 4360-90      INGNEOUS 100% Light green, grey to green, mottled, abundant red brown, fine to coarse grained, arkosic, abundant white, chalky, crystalline, calcite.
- 4390-4420    INGNEOUS 100% Light green, grey to green, mottled, 10% white, chalky, crystalline, calcite, arkosic, fine to coarse grained.
- 4420-50      INGNEOUS 100% Light grey, green, mottled, 15% calcite (fracture in fill).
- 4450-80      INGNEOUS 100% Red brown, light green, calcite and feldspar (20%), mottled, arkosic.
- 4480-4510    INGNEOUS 100% Light red brown, light green, mottled, fine to coarse grained, arkosic, 5% free quartz.

- 4510-40      INGNEOUS 100% Light red brown, light grey green, mottled, fine to coarse grained, arkosic.
- 4540-70      INGNEOUS 100% Light red brown, mottled, fine to coarse grained, white to light grey welded quartz grains in red brown matrix.
- 4570-4600    INGNEOUS 100% Light red brown, mottled with light green, light grey to white quartz, fine to coarse grained, arkosic.
- 4600-30      INGNEOUS 100% Light red brown, mottled with grey and green, fine to coarse grained, arkosic.
- 4630-60      INGNEOUS 80% Light red brown, mottled with grey and green, fine to coarse grained, arkosic, becoming dark red brown, fine grained, mottled.  
SHALE 20% Dark red, firm to hard, blocky, dense, slightly calcareous.
- 4660-90      INGNEOUS 90% Dark red brown, red brown and green, mottled, fine to coarse grained, arkosic.  
SHALE 10% Dark red, firm to hard, blocky, dense, slightly calcareous.
- 4690-4720    INGNEOUS 100% Light green, red brown, mottled, abundant metallic inclusions, very fine to medium grained, abundant unconsolidated quartz grains.
- 4720-50      INGNEOUS 100% Light green, light grey green, mottled, arkosic, abundant unconsolidated quartz grains, fine to medium grained, abundant metallic minerals, limy.
- 4750-80      INGNEOUS 100% Light grey, mottled with green, arkosic, abundant metallic inclusions, limy.
- 4780-4810    INGNEOUS 100% Light grey, mottled with green and white, arkosic, scattered metallic nodules, limy.
- 4810-40      INGNEOUS 100% Light grey, light grey green, mottled with dark green and white, arkosic, fine to coarse grained, abundant metallic inclusions, limy.
- 4840-70      INGNEOUS 100% Light grey, light grey green, mottled with dark green and white, arkosic, fine to coarse grained, abundant metallic inclusions, limy.
- 4870-4900    INGNEOUS 100% Light grey, light grey green, mottled with dark green and white, fine to coarse grained, arkosic, abundant metallic inclusions, limy.
- 4900-30      INGNEOUS 100% Light grey, light grey green, light red brown in part, fine to coarse grained, arkosic, scattered metallic inclusions, trace free quartz and feldspar, limy.

- 4930-60      INGNEOUS 100% Light grey, light grey green, light red brown in parts, fine to coarse grained, arkosic, scattered metallic inclusions, trace free quartz and feldspar, limy.
- 4960-90      INGNEOUS 100% Light grey, light grey green, light red brown in parts, fine to coarse grained, arkosic, scattered metallic inclusions, trace free quartz and feldspar, limy.
- 4990-5020    INGNEOUS 100% Light grey, light grey green, light red brown in part, fine to coarse grained, arkosic, scattered metallic inclusions, trace free quartz and feldspar, limy.
- 5020-50      INGNEOUS 100% Light grey, light grey green, light red brown in part, fine to coarse grained, arkosic, scattered metallic inclusions, trace free quartz and feldspar, limy.
- 5050-80      INGNEOUS 100% Light grey, light grey green, light red brown in parts, fine to coarse grained, arkosic, scattered metallic inclusions, trace free quartz and feldspar, limy.
- 5080-5110    INGNEOUS 100% Light green, grey green, light red brown in part, 10% free quartz and feldspar, metallic inclusions, fine to coarse grained, arkosic.
- 5110-40      INGNEOUS 100% Green, light green, light grey (50%) red brown, mottled, (50%) fine to coarse grained, arkosic, 10% white, light grey, quartz.
- 5140-70      SHALE 80% Red brown (80%), green (20%), blocky, firm to hard, limy, mottled.  
INGNEOUS 20% Green, light green, light grey (50%) red brown, mottled, (50%) fine to coarse grained, arkosic, 10% white, light grey, quartz.
- 5170-5200    SHALE 100% Red brown, mottled with white chalky calcite, firm, blocky.
- 5200-30      SHALE 70% Red brown (70%), light grey green (30%), limy, blocky, firm to hard.  
INGNEOUS 30% Light grey green, mottled, arkosic, firm to hard.
- 5230-60      INGNEOUS 90% Light grey green, mottled, arkosic, firm to hard.  
SHALE 10% Red brown (70%), light grey green (30%), limy, blocky, firm to hard.
- 5260-90      INGNEOUS 100% Light green, light grey green, abundant white, chalky calcite, abundant quartz with metallic inclusions, firm to hard, mottled.
- 5290-5320    SHALE 10% Red brown, firm to hard, slightly calcareous, abundant white, chalky and crystalline calcite.  
INGNEOUS 90% Light green, light grey green, abundant white, chalky, calcite, abundant quartz with metallic inclusions, firm to hard, mottled.
- 5320-50      SHALE 70% Red brown, firm to hard, slightly calcareous, abundant calcite fracture in fill.  
SANDSTONE 20% White, clear, pink, fine to coarse grained, unconsolidated loose grains.  
INGNEOUS 10% Grey green, mottled, firm to hard, metallic inclusions.
- 5350-80      SHALE 100% Red brown, bark red, firm to hard, calcareous, speckled with calcite.

- 5380-5410 SHALE 100% Red brown, 90% calcareous, firm to hard, grey green, 10% with metallic inclusions, firm non calcareous.
- 5410-40 SHALE 50% Red brown, mottled, speckled with calcite flecks, firm.  
INGNEOUS 50% Grey green, mottled, non calcareous, firm to hard, welded grains.
- 5440-70 INGNEOUS 70% Grey green, mottled, non calcareous, firm to hard, welded grains, metallic inclusions.  
SHALE 30% Red brown, lavender, calcareous, mottled, firm, blocky.
- 5470-5500 INGNEOUS 70% Grey green, light grey green, welded grains, abundant free quartz.  
SHALE 30% Red brown, blocky, firm to hard.
- 5500-30 INGNEOUS 90% Grey green, light grey green, welded grains, abundant free quartz.  
SHALE 10% Red brown, blocky, firm to hard.
- 5530-60 INGNEOUS 90% Grey green, light grey green, welded grains, abundant free quartz.  
SHALE 10% Red brown, blocky, firm to hard.
- 5560-90 INGNEOUS 90% Grey green, light grey green, welded grains, abundant free quartz.  
SHALE 10% Red brown, blocky, firm to hard.
- 5604 SANDSTONE 100% White, light grey, fine to medium grained, sub angular to sub rounded, fair to poor sorted, clay matrix, calcareous cement, clay filled, tight, no show  
70% unconsolidated, friable.
- 5590-5620 INGNEOUS 100% Red brown, mottled with quartz and feldspar (50%), light grey green, mottled with white quartz and feldspar, scattered metallic inclusions, trace of sandstone, welded grains, abundant free quartz.
- 5620-5650 INGNEOUS 30% Light grey green, abundant feldspar and quartz, metallic inclusions.  
SANDSTONE 70% White, clear, quartzose, very fine (upper) to fine (upper) grained, sub angular to sub rounded, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show.
- 5650-80 INGNEOUS 20% Light grey green, abundant feldspar and quartz, metallic inclusions.  
SANDSTONE 80% White, clear, quartzose, very fine (upper) to fine (lower) grained, abundant pyrite inclusions, sub angular to sub rounded, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show.
- 5680-5710 INGNEOUS 10% Light grey green, abundant feldspar and quartz, metallic inclusions.  
SANDSTONE 90% White, clear, quartzose, fine to coarse grained in part, abundant pyrite inclusions, sub angular to sub rounded, poor sorted, conglomeric in part, clay matrix, siliceous cement, hard, tight, no show.

- 5710-20 INGNEOUS 5% Light grey green, abundant feldspar and quartz, metallic inclusions. SANDSTONE 95% White, clear, quartzose, fine to coarse grained in parts, abundant pyrite inclusions, sub angular to sub rounded, poor sorted, conglomeric in part, clay matrix, siliceous cement, hard, tight, no show.
- 5720-30 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show.
- 5730-40 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, 10% unconsolidated, pyrite inclusions, abundant volcanic cavings 5%.
- 5740-50 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, 10% unconsolidated, pyrite inclusions, abundant volcanic cavings 5%.
- 5750-60 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered pyrite inclusions.
- 5760-70 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered pyrite inclusions.
- 5770-80 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered pyrite inclusions.
- 5780-90 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered pyrite inclusions.
- 5790-5800 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered pyrite inclusions.
- 5800-10 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (upper) grained, scattered medium grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show.
- 5810-20 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite inclusions, 10-20% light grey green volcanic cavings.

- 5820-30 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite inclines, 10-15% light grey green volcanic cavings.
- 5830-40 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite inclusions, 10-15% light grey green volcanic cavings.
- 5840-50 SANDSTONE 100% White, very fine (upper) to medium (upper) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite inclusions, 10-15% light grey green volcanic cavings.
- 5850-60 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, 50% light grey green volcanic cave.
- 5860-70 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered welded grains, pyrite inclusions, 5% light grey green volcanic cave.
- 5870-80 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered welded grains, pyrite inclusions, 5% light grey green volcanic cave.
- 5880-90 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered welded grains, pyrite inclusions, 10% light grey green volcanic cave.
- 5890-5900 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered welded grains, pyrite inclusions, 10% light grey green volcanic cave.
- 5900-10 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered welded grains, pyrite inclusions, 10% light grey green volcanic cave.
- 5910-20 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered welded grains, pyrite inclusions, 10% light grey green volcanic cave.
- 5920-30 SANDSTONE 100% White, clear, quartzose, very fine (upper) to medium (lower) grained, sub angular to sub rounded, fair to poor sorted, clay matrix, siliceous cement, hard, tight, no show, scattered welded grains, pyrite inclusions, traces of metallic inclusions, 10% light gray green volcanic cave.

- 5930-40 SANDSTONE 100% White, clear, quartzose, very fine (upper( to fine (lower) grained, fair to well sorted, sub angular, clay matrix, siliceous cement, hard, tight, no show, abundant volcanic cave.
- 5940-50 SANDSTONE 100% White, clear, quartzose, very fine (upper( to fine (lower) grained, fair to well sorted, sub angular, clay matrix, siliceous cement, hard, tight, no show, pyrite inclusions, 5% abundant volcanic cave.
- 5950-60 SANDSTONE 100% White, clear, quartzose, very fine (upper( to fine (lower) grained, fair to well sorted, sub angular, clay matrix, siliceous cement, hard, tight, no show, pyrite inclusions, 5% abundant volcanic cave.
- 5960-70 SANDSTONE 100% White, clear, quartzose, very fine (upper( to fine (lower) grained, fair to well sorted, sub angular, clay matrix, siliceous cement, hard, tight, no show, pyrite inclusions, 5% abundant volcanic cave.
- 5970-80 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show, grained pyrite, 5% volcanic cave.
- 5980-5990 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show, grained pyrite, 5% volcanic cave.
- 5990-6000 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite, 10% volcanic cave, poor sample, abundant LCM, 50% unconsolidated quartz grains.
- 6000-10 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, fair to well sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite nodules, 10% volcanic cave, poor sample, abundant LCM, 70% unconsolidated quartz grains.
- 6010-20 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show.
- 6020-30 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, 10% grey green, volcanics.
- 6030-40 SANDSTONE 100% White, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, 10% grey green, volcanics.

- 6040-50 SANDSTONE 100% White, light grey, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, traces pyrite, 5-10% volcanic cave.
- 6050-60 SANDSTONE 100% White, light grey, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, traces pyrite, 5-10% volcanic cave, abundant bit flour.
- 6060-70 SANDSTONE 100% White, light grey, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, traces pyrite, 5-10% volcanic cave, abundant bit flour, scattered floating rounded medium grained quartz.
- 6070-80 SANDSTONE 100% White, light grey, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite, 30% grey green volcanic cave, abundant bit flour, scattered floating rounded medium grained quartz.
- 6080-90 SANDSTONE 100% White, light grey, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite, 10% grey green volcanic cave, abundant bit flour, scattered floating rounded medium grained quartz.
- 6090-6100 SANDSTONE 100% White, light grey, clear, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, hard, tight, no show, abundant pyrite, 30% grey green volcanic cave, abundant bit flour, scattered floating rounded medium grained quartz.
- 6110-10 SANDSTONE 100% White, clear, light grey, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, hard, tight, no show.
- 6110-20 SANDSTONE 100% White, clear, light grey, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, hard, tight, no show.
- 6120-30 SANDSTONE 100% White, clear, light grey, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, hard, tight, no show.
- 6130-40 SANDSTONE 100% White, clear, light grey, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, hard, tight, no show.

- 6140-50 SANDSTONE 100% White, clear, light grey, quartzose, very fine (upper) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, hard, tight, no show.
- 6150-60 SANDSTONE 100% White, clear, light grey, quartzose, very fine (lower) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, tight, hard, no show.
- 6160-70 SANDSTONE 100% White, clear, light grey, quartzose, very fine (lower) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, tight, hard, no show.
- 6170-80 SANDSTONE 100% White, clear, light grey, quartzose, very fine (lower) to fine (lower) grained, sub angular, well sorted, clay matrix, siliceous cement, traces pyrite, tight, hard, no show, occasional medium grained, round quartzose.
- 6180-90 SANDSTONE 100% White, clear, quartzose, very fine (lower) to fine (upper) grained, occasional medium grained, sub angular to sub rounded, well sorted, clay matrix, siliceous cement, traces pyrite, tight hard, no show.
- 6190-6200 SANDSTONE 100% White, clear, quartzose, very fine (lower) to fine (upper) grained, occasional medium grained, sub angular to sub rounded, well sorted, clay matrix, siliceous cement, traces pyrite, tight hard, no show.
- 6200-10 SANDSTONE 100% White, clear, quartzose, very fine (lower) to fine (upper) grained, occasional medium grained, sub angular to sub rounded, well sorted, clay matrix, siliceous cement, traces pyrite, tight hard, no show.
- 6210-40 SANDSTONE 100% White, clear, light grey, quartz, very fine (lower) to fine (upper) grained, sub angular, well sorted, clay matrix, slightly calcareous cement, tight, hard, no show.
- 6240-70 SANDSTONE 100% White, clear, quartz, very fine (upper) to fine (upper) grained, sub angular, well sorted, clay matrix, slightly calcareous cement, tight, firm, no show.
- 6270-6300 SANDSTONE 100% White, clear, quartz, very fine (upper) to fine (upper) grained, sub angular, well sorted, clay matrix, slightly calcareous cement, tight, firm, no show.
- 6300-30 SANDSTONE 100% White, clear, quartz, coarse fine (lower) to fine (upper) grained, sub angular, well sorted, clay matrix, slightly calcareous cement, tight, firm, no show.
- 6330-60 SANDSTONE 100% White, clear, quartz, coarse fine (lower) to fine (upper) grained, sub angular, well sorted, clay matrix, slightly calcareous cement, tight, firm, no show.

- 6360-90 SANDSTONE 100% White, clear, light orange, tan, very fine (lower) to fine (upper) grained, sub angular to sub rounded, well sorted, clay matrix, siliceous cement, traces pyrite, tight, firm, no show.
- 6390-6420 SANDSTONE 100% Tan, light orange, white, very fine (lower) to fine (lower) grained, sub angular to sub rounded, well sorted, well cement, clay matrix, siliceous cement, traces pyrite, tight, firm, no show.
- 6420-50 SANDSTONE 100% Tan, light orange, white, very fine (lower) to fine (lower) grained, sub angular to sub rounded, well sorted, well cement, clay matrix, siliceous cement, traces pyrite, tight, firm, no show.
- 6450-80 SANDSTONE 90% Tan, light orange, white, very fine (lower) to fine (lower) grained, sub angular to sub rounded, well sorted, well cement, clay matrix, siliceous cement, traces pyrite, tight, firm, no show.  
SHALE 10% Brick red purple, blocky, earthy, firm, slightly calcareous.
- 6480-6510 SHALE 80% Brick red, green purple, blocky, earthy, silty, firm, slightly calcareous.  
SANDSTONE 20% Tan, light orange, white, very fine (lower) to fine (lower) grained, sub angular to sub rounded, well sorted, well cement, clay matrix, siliceous cement, traces pyrite, tight, firm, no show.
- 6510-40 SHALE 10% Brick red, green, purple, blocky, earthy, silty, firm, slightly calcareous.  
SANDSTONE 90% Green, conglomeratic, very fine (upper) to coarse (upper) grained, sub angular, poor sorted, well cement, slightly calcareous cement, glauconite, tight, hard, no show (40%) white, tan, very fine (upper) to fine (upper) grained, sub angular, well sorted, well cement, siliceous cement, tight, firm, no show.
- 6540-70 SHALE 100% Brick red, orange, red brown, blocky, earthy, silty, soft, firm, slightly calcareous to dolomitic.
- 6570-6600 SHALE 70% Brick red, orange, red brown, blocky, earthy, silty, soft, firm, slightly calcareous to dolomitic.  
SILTSTONE 30% Red brown, brown, arenaceous, argillaceous, firm, calcareous.
- 6600-6630 SHALE 60% Red brown, orange, purple, blocky, earthy, silty, soft to firm, calcareous.  
SILTSTONE 20% Red brown, brown, arenaceous, argillaceous, firm, calcareous.  
LIMESTONE 10% Light grey, tan, purple, cryptocrystalline, firm to hard.  
SANDSTONE 10% White, light grey, probable cavings.
- 6630-60 SHALE 80% Red brown, orange, purple, blocky, earthy, silty, soft to firm, calcareous.  
SANDSTONE 20% White, light grey, probable cavings.
- 6660-90 SHALE 70% Red brown, orange, purple, blocky, earthy, silty, soft to firm, calcareous.  
SANDSTONE 30% Probable cavings after trip.

- 6690-6720 SHALE 90% Red brown, orange, purple, blocky, earthy, silty, soft to firm, calcareous.  
SANDSTONE 10% Probable cavings.
- 6720-50 SHALE 100% Red brown, orange, purple, blocky, earthy, silty, soft to firm, calcareous.
- 6750-80 SHALE 100% Orange, red brown, purple, blocky, earthy, silty, soft to firm, calcareous.
- 6780-6810 SHALE 30% Light to medium grey, orange, red brown, blocky, earthy, silty, soft to firm, grey, non calcareous.  
SILTSTONE 20% Light to medium grey, argillaceous, arenaceous, pyrite, soft to firm, non calcareous.  
SANDSTONE 50% Grey white, salt and pepper, very fine (upper) to medium (lower) grained, sub angular to sub rounded, medium sorted, well cemented, siliceous, tight, pyrite, mica, firm, no show.
- 6810-40 SHALE 20% Light to medium grey, orange, red brown, blocky, earthy, silty, soft to firm, grey, non calcareous.  
SANDSTONE 80% White, clear frosted, fine (lower) to medium (upper) grained, sub angular to sub rounded, medium sorted, well cement, clay matrix, siliceous, tight, firm, pyrite, mica, no show.
- 6840-70 SHALE 10% Light to medium grey, orange, red brown, blocky, earthy, silty, soft to firm, grey, non calcareous.  
SANDSTONE 90% White, clear, frosted, fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, well cement, clay matrix, siliceous, tight, firm, mic, pyrite, no show.
- 6870-6900 SHALE 90% Orange, red brown, grey, white, purple, blocky, earthy, silty, soft to firm, calcareous.  
SANDSTONE 10% White, clear, frosted, fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, well cement, clay matrix, siliceous, tight, firm, micropyrritic, no show.
- 6900-30 SHALE 60% Orange, red brown, grey, white, purple, blocky, earthy, silty, soft to firm, calcareous.  
LIMESTONE 10% Tan, brown, crypto to microcrystalline, tight, firm, no show.  
SANDSTONE 30% White, clear, frosted, fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, well cemented, clay matrix, siliceous, tight, firm, micropyrritic, no show.
- 6930-60 SHALE 50% Orange, brown, purple, blocky, earthy, silty, soft to firm, calcareous.  
SILTSTONE 40% Brown, grey, arenaceous, firm, non calcareous.  
SANDSTONE 10% White, clear, frosted, fine (lower) to medium (upper) grained, sub rounded to sub angular, medium sorted, well cement, clay matrix, siliceous, tight, firm, micropyrritic, no show.

- 6960-90 SHALE 50% Orange, brown, purple, blocky, earthy, silty, soft to firm, calcareous.  
SILTSTONE 20% Brown, grey, arenaceous, firm, non calcareous, with abundant pyrite.  
SANDSTONE 30% Grey white, fine (lower) to medium (upper) grained, sub angular, medium sorted, well cement, siliceous, clay matrix, tight, firm, abundant pyrite, no show.
- 6990-7020 SHALE 10% Orange, brown, purple, blocky, earthy, silty, soft to firm, calcareous.  
SANDSTONE 90% White, clear frost, fine (lower) to coarse (lower) grained, sub rounded to sub angular, poor sorted, well cement, clay matrix, siliceous, tight, firm, pyrite, no show.
- 7020-50 SHALE 10% Orange, brown, purple, blocky, earthy, silty, soft to firm, calcareous.  
SANDSTONE 90% Tan, light brown, very fine (lower) to fine (lower) grained, sub rounded to sub angular, well sorted, well cement, clay matrix, calcareous cement, tight, firm, no show.
- 7050-80 SHALE 50% Red brown, brown, orange, blocky, earthy, silty, firm, slightly calcareous.  
SILTSTONE 40% Brown, red brown, tan, argillaceous, arenaceous, firm, calcareous.  
SANDSTONE 10% Tan, light brown, very fine (lower) to fine (lower) grained, sub rounded to sub angular, well sorted, well cement, clay matrix, calcareous cement, tight, firm, no show.
- 7080-7110 SHALE 40% Red brown, brown, orange, blocky, earthy, silty, firm, slightly calcareous.  
SANDSTONE 60% White, clear frost, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, well cement, siliceous, tight, firm, no show.
- 7110-40 SHALE 90% Red brown, brown orange, blocky, earthy, silty, soft to firm, non to slightly calcareous.  
SANDSTONE 10% White, clear, frosted, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, well cement, siliceous, tight, firm, no show.
- 7140-70 SHALE 70% Red brown, brown, orange, blocky, earthy, silty, soft to firm, non to slightly calcareous.  
SILTSTONE 20% Red brown, brown, argillaceous, firm, non to slightly calcareous, with pyrite.  
SANDSTONE 10% White, clear frost, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, well cemented, siliceous, tight, firm, no show.
- 7170-7200 SHALE 100% Brown, red brown, purple, blocky, silty, soft to firm, non to slightly calcareous.
- 7200-30 SHALE 100% Brown, red brown, purple, blocky, silty, soft to firm, non to slightly calcareous, with traces anhydrite, white, chalky, soft.

- 7230-60 SHALE 100% Brown, red brown, purple, blocky, silty, soft to firm, non to slightly calcareous, with traces anhydrite, white chalky, soft.
- 7260-90 SHALE 100% Red brown, brown, orange, blocky, earthy, very soft to firm, non calcareous, with traces of anhydrite.
- 7290-7320 SHALE 100% Red brown, brown, orange, blocky, earthy, very soft to firm, non calcareous, with traces of anhydrite.
- 7320-50 SHALE 100% Red brown, orange, brown, blocky, earthy, very soft, slightly calcareous.
- 7350-80 SHALE 100% Red brown, orange, brown, blocky, earthy, very soft, slightly calcareous, with interbedded anhydrite, white, chalky, soft.
- 7380-7410 SHALE 100% Red brown, orange, brown, blocky, earthy, very soft, slightly calcareous, with interbedded anhydrite, white, chalky, soft.
- 7410-40 SHALE 100% Red brown, brown, orange, blocky to platy, earthy, silty, soft, slightly calcareous with traces of interbedded anhydrite.
- 7440-70 SHALE 80% Red brown, brown, orange, blocky to platy, earthy, silty, soft, slightly calcareous with traces of interbedded anhydrite.  
SILTSTONE 20% Red brown, brown, argillaceous, firm, slightly calcareous.
- 7470-7500 SHALE 80% Brown, red brown, orange, blocky to platy, earthy, silty, soft to firm, slightly calcareous with traces of interbedded anhydrite.  
SILTSTONE 20% Red brown, brown, argillaceous, firm, slightly calcareous.
- 7500-30 SHALE 100% Brown, red brown, orange, blocky to platy, earthy, silty, soft to firm, slightly calcareous with traces of interbedded anhydrite.
- 7530-60 SHALE 100% Red brown, brown, with traces of green, blocky to platy, earthy, silty, soft to firm, slightly calcareous with traces of interbedded anhydrite.
- 7560-90 SHALE 100% Red brown, brown, with traces of green, blocky to platy, earthy, silty, soft to firm, slightly calcareous with traces of interbedded anhydrite white, crystalline to chalky, soft.
- 7590-7620 SHALE 100% Red brown, brown, with traces of green, blocky to platy, earthy, silty, soft to firm, slightly calcareous with traces of interbedded anhydrite white, crystalline to chalky, soft.
- 7620-50 SHALE 70% Red brown, brown with traces of green, blocky to platy, earthy, silty, soft to firm, slightly calcareous with traces of interbedded anhydrite.  
SILTSTONE 30% Light grey, argillaceous, arenaceous, firm, calcareous.

- 7650-80 SHALE 100% Red brown, brown, with traces of green, blocky to platy, earthy, silty, soft to firm, slightly calcareous with traces of interbedded anhydrite.
- 7680-7710 SHALE 40% Light to medium grey, red brown, blocky, earthy, silty, soft to firm, slightly calcareous.  
SILTSTONE 60% Light to medium grey, argillaceous, arenaceous, firm, pyritic, calcareous.
- 7710-40 SHALE 80% Red brown, brown, grey, blocky to platy, earthy, silty, soft to firm, slightly calcareous.  
SILTSTONE 20% Red brown, light grey, arenaceous, argillaceous, pyrite, firm, slightly calcareous.
- 7740-70 SHALE 80% Red brown, brown, grey, blocky to platy, earthy, silty, soft to firm, slightly calcareous.  
SILTSTONE 20% Red brown, light grey, arenaceous, argillaceous, pyrite, firm, slightly calcareous.
- 7770-7800 SHALE 70% Grey, red brown, green, orange, blocky to platy, earthy, silty, grey, limy in part, red brown, slightly calcareous with interbedded anhydrite.  
SILTSTONE 30% Grey, red brown, arenaceous, argillaceous, pyrite, firm, calcareous to limy.
- 7800-30 SHALE 50% Grey, red brown, green, orange, blocky to platy, earthy, silty, grey, limy in part, red brown, slightly calcareous with interbedded anhydrite.  
SILTSTONE 50% Light to medium grey green, red brown, argillaceous, arenaceous, pyritic, firm, calcareous to limy.
- 7830-60 SHALE 80% Red brown, brown, grey, blocky to platy, earthy, silty, firm, slightly calcareous with traces interbedded anhydrite, white, chalky to crystalline, soft.  
SILTSTONE 20% Light to medium grey, green, red brown, argillaceous, arenaceous, pyritic, firm, calcareous to limy.
- 7860-90 SHALE 30% Red brown, brown, grey, blocky to platy, earthy, silty, firm, slightly calcareous with traces interbedded anhydrite, white, chalky to crystalline, soft.  
SILTSTONE 70% Light grey, arenaceous, argillaceous, clay matrix, firm, calcareous.
- 7890-7920 SHALE 30% Red brown, brown, grey, blocky to platy, earthy, silty, firm, slightly calcareous with traces interbedded anhydrite, white, chalky to crystalline, soft.  
SILTSTONE 70% Tan, light grey, arenaceous, argillaceous, clay matrix, firm, calcareous.
- 7920-50 SHALE 30% Light green, grey, red brown, blocky to platy, earthy to waxy, silty in part, soft to firm, calcareous.  
SILTSTONE 70% Tan, light grey, red brown, arenaceous, argillaceous, clay matrix, friable to firm, calcareous.

- 7950-80 SHALE 40% Light grey, light green, blocky to platy, earthy to waxy, silty in parts, soft to firm, calcareous.  
SILTSTONE 40% Tan, light grey, red brown, arenaceous, argillaceous, clay matrix, friable to firm, calcareous.  
SANDSTONE 20% Tan, white, very fine (lower) to very fine (upper) grained, sub angular, well sorted, clay matrix, friable, calcareous, tight, no show grades to arenaceous siltstone.
- 7890-8010 SHALE 30% Light grey, light green, blocky to platy, earthy to waxy, silty in parts, soft to firm, calcareous.  
SILTSTONE 50% Tan, white, light grey, arenaceous, argillaceous, pyrite, clay matrix, friable to firm, calcareous.  
SANDSTONE 20% Tan, white, very fine (lower) to very fine (upper) grained, sub angular, well sorted, clay matrix, friable, calcareous, tight, no show grades to arenaceous siltstone.
- 8010-29 SHALE 60% Red brown, green, orange, grey, blocky to platy, earthy, silty, soft to firm, slightly calcareous.  
SILTSTONE 30% Tan, white, light grey, arenaceous, argillaceous, pyrite, clay matrix, friable to firm, calcareous.  
SANDSTONE 10% White, clear, very fine grained with some very coarse quartz crystals.
- 8029-40 SHALE 10% Red brown, green, orange, grey, blocky to platy, earthy, silty, soft to firm, slightly calcareous.  
SILTSTONE 10% Tan, white, light grey, arenaceous, argillaceous, pyrite, clay matrix, friable to firm, calcareous.  
SANDSTONE 80% White, clear, very fine (lower) to fine (lower) grained, sub angular, well sorted, medium cement, clay matrix, pyritic, tight, firm, calcareous, no show.
- 8040-70 SHALE 20% Red brown, green, orange, grey, blocky to platy, earthy, silty, soft to firm, slightly calcareous.  
SANDSTONE 80% White, clear, very fine (lower) to fine (lower) grained, sub angular, well sorted, medium cement, clay matrix, pyrite inclusions, tight, firm, calcareous, no show.
- 8070-8100 SHALE 20% Red brown, green, orange, grey, blocky to platy, earthy, silty, soft to firm, slightly calcareous.  
SANDSTONE 80% White, clear, very fine (lower) to fine (lower) grained, sub angular, well sorted, medium cement, clay matrix, pyrite nodules, tight, firm, calcareous, no show.
- 8100-30 SHALE 50% Red brown, brown, green, purple, blocky to platy, earthy to waxy, silty in parts, soft to firm, slightly calcareous.  
SILTSTONE 30% Red brown, tan, green, arenaceous, argillaceous, firm, slightly calcareous.  
SANDSTONE 20% White, clear, very fine (lower) to very fine (upper) grained, sub angular, well sorted, medium cement, clay matrix, calcareous cement, tight, firm, no show.

- 8130-60 SHALE 80% Light to medium grey green, red brown, orange, blocky to platy, earthy, silty, soft to firm, limy.  
SILTSTONE 10% Red brown, tan, green, arenaceous, argillaceous, firm, slightly calcareous.  
SANDSTONE 10% White, clear, very fine (lower) to very fine (upper) grained, sub angular, well sorted, medium cement, clay matrix, calcareous cement, tight, firm, no show.
- 8160-90 SHALE 70% Light to medium grey green, red brown, orange, blocky to platy, earthy, silty, soft to firm, limy.  
LIMESTONE 30% Light grey, white, chalky, argillaceous, mudstone, soft.
- 8190-8220 SHALE 80% Light to dark grey green, blocky, earthy, silty, soft to firm, limy.  
LIMESTONE 20% Light grey, chalky, argillaceous, lithographic, mudstone, soft.
- 8220-50 SHALE 80% Light to dark grey green, blocky, earthy, silty, soft to firm, limy.  
LIMESTONE 20% Light grey, white, chalky, argillaceous, lithographic, mudstone, soft.
- 8250-80 SHALE 80% Light to dark grey green, blocky, earthy, silty, soft to firm, limy.  
LIMESTONE 20% Light grey, white, argillaceous, sandy, mudstone, soft.
- 8280-8310 SHALE 70% Light to dark grey, blocky, earthy, silty, firm, limy.  
LIMESTONE 30% Light to medium grey, chalky, argillaceous, lithographic, mudstone, soft to firm.
- 8310-40 SHALE 70% Light to dark grey, blocky, earthy, silty, firm, limy.  
LIMESTONE 30% Light to medium grey, chalky, lithographic, mudstone, soft (60%) grey brown, microcrystalline, anhydritic, firm (40%) no show.
- 8340-70 SHALE 30% Medium to dark grey, blocky, earthy, silty, firm, limy.  
LIMESTONE 70% Light to medium grey, grey brown, microcrystalline, argillaceous, sandy, anhydritic, tight, soft to firm, no show.
- 8370-8400 SHALE 50% Medium to dark grey, blocky, earthy, silty, firm, limy.  
LIMESTONE 50% Light to medium grey, grey brown, microcrystalline, argillaceous, sandy, anhydritic, tight, soft to firm, no show.
- 8400-30 SHALE 80% Green, red brown, grey, platy to blocky, waxy to earthy, silty, soft to firm, non calcareous.  
DOLOMITE 20% Tan, light grey, crypto to microcrystalline, fossils, anhydritic, firm to hard, tight, no show.
- 8430-60 SHALE 70% Red brown, orange, green, blocky, earthy, silty, firm, non to slightly calcareous.  
SILTSTONE 30% Red brown, brown, argillaceous, arenaceous, firm, slightly calcareous.

- 8460-90 SHALE 80% Red brown, orange, green, blocky, earthy, silty, firm, non to slightly calcareous.  
SILTSTONE 20% Red brown, brown, argillaceous, arenaceous, firm, slightly calcareous.
- 8490-8520 SHALE 80% Red brown, brown, orange, grey, blocky, earthy, silty, firm, slightly calcareous.  
SILTSTONE 20% Red brown, brown, argillaceous, arenaceous, firm, slightly calcareous.
- 8520-50 SHALE 60% Red brown, brown, orange, grey, blocky, earthy, silty, firm, slightly calcareous.  
SILTSTONE 40% Red brown, brown, grey, argillaceous, arenaceous, firm, calcareous.
- 8550-80 SHALE 20% Red brown, orange, blocky, earthy, silty, firm, slightly calcareous.  
SILTSTONE 50% Red brown, tan, brown, argillaceous, sandy, pyrite, firm, calcareous.  
LIMESTONE 20% Medium to dark grey, argillaceous, sandy, anhydritic, firm, no show.  
SANDSTONE 10% Tan, white, brown, very fine (lower) to very fine (upper) grained, sub angular, well sorted, medium cement, pyrite inclusions, clay matrix, calcareous, no show.
- 8580-8610 SILTSTONE 10% Red brown, tan, brown, argillaceous, sandy, pyrite inclusions, firm, calcareous.  
DOLOMITE 30% Tan, white, light grey, cryptocrystalline, anhydritic, tight, firm to hard, no show.  
SANDSTONE 60% Light to dark grey, white, very fine (lower) to fine (upper) grained, sub rounded to sub angular, well sorted, medium cement, clay matrix, anhydritic, limy, no show.
- 8610-40 DOLOMITE 80% Tan, white, translucent, cryptocrystalline, dense, sandy in parts, tight, limy, hard with chert, translucent, hard, no show.  
SANDSTONE 20% Light to dark grey, white, very fine (lower) to fine (upper) grained, sub rounded to sub angular, well sorted, medium cement, clay matrix, anhydritic, limy, no show.
- 8640-70 DOLOMITE 90% Tan, white, translucent, cryptocrystalline, dense, sandy in parts, tight, limy, hard with chert, translucent, hard, no show, with abundant chert, translucent, smoky, tan, light grey.  
SILTSTONE 10% Grey white, argillaceous.
- 8670-8700 DOLOMITE 100% Tan, light grey, white, cryptocrystalline, anhydritic, dense, tight, limy, hard, no show, with chert, translucent, light grey, smokey.
- 8700-30 DOLOMITE 100% Light grey, tan, white, cryptocrystalline, anhydritic, dense, tight, limy, hard.
- 8730-60 DOLOMITE 100% White, light grey, tan, cryptocrystalline, sandy in parts, anhydritic, dense, tight, hard, no show with abundant chert, translucent, white, tan, hard.

- 8760-90 DOLOMITE 20% White, light grey, tan, cryptocrystalline, sandy in parts, anhydritic, dense, tight, hard, no show, with abundant chert, translucent, white, tan, hard.  
SILTSTONE 10% Grey white, argillaceous.  
SANDSTONE 70% White, clear, light grey, very fine (lower) to fine (upper) grained, sub angular, well sorted, well cement, clay matrix in parts, siliceous to slightly calcareous, firm to hard, tight, no show, with occasional very coarse grains, angular, quartzose.
- 8790-8820 SANDSTONE 100% White, clear, light grey, very fine (upper) to fine (upper) grained, sub angular, well sorted, well cemented, clay matrix, pyrite inclusions, siliceous, firm to hard, tight, no show, occasional coarse grains, angular quartzose.
- 8850-80 SANDSTONE 100% White, clear, light grey, very fine (upper) to fine (upper) grained, sub angular, well sorted, well cemented, clay matrix, pyrite inclusions, siliceous, firm to hard, tight, with rock flour, no show, occasional coarse grains, angular quartz.
- 8880-8910 ANHYDRITE 10% White, chalky, soft.  
SANDSTONE 90% White, clear, light grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium to well sorted, well cemented, clay matrix, siliceous to slightly calcareous cement, tight, firm to hard, no show.
- 8910-40 ANHYDRITE 50% White, chalky, soft.  
SANDSTONE 50% White, clear, light grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium to well sorted, well cement, clay matrix, siliceous to slightly calcareous cement, tight, firm to hard, no show.
- 8940-70 ANHYDRITE 50% White, chalky, soft.  
LIMESTONE 20% Dark grey, microcrystalline, argillaceous, arenaceous, anhydritic, firm, tight, no show.  
SANDSTONE 30% White, clear, light grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium to well sorted, well cement, clay matrix, siliceous to slightly calcareous cement, tight, firm to hard, no show.
- 8970-9000 SHALE 20% Red brown, probable cavings following trip.  
SANDSTONE 20% White, clear, light grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium to well sorted, well cement, clay matrix, siliceous to slightly calcareous cement, tight, firm to hard, no show.  
DOLOMITE 30% Medium to dark grey, microcrystalline, anhydritic, firm, tight, no show.  
ANHYDRITE 30% White, chalky, soft.
- 9000-30 ANHYDRITE 30% White, chalky, soft.  
SANDSTONE 20% White, clear, very fine (upper) to coarse (upper) grained, sub rounded to sub angular, poor sorted, poor cement, dolomite cement, anhydrite fill, tight, friable, no show.  
DOLOMITE 60% Medium to dark grey, crypto to microcrystalline, argillaceous, sandy, anhydritic, firm to hard, tight no show with occasional chert, tan, light grey.

- 9030-60 ANHYDRITE 10% White, chalky, soft.  
 SANDSTONE 20% White, clear, very fine (upper) to coarse (upper) grained, sub rounded to sub angular, poor sorted, poor cement, dolomite cement, anhydrite fill, tight, friable, no show.  
 DOLOMITE 70% Light to dark grey, crypto to microcrystalline, argillaceous, sandy, anhydrite fill, firm to hard, tight, no show with occasional chert, tan, light grey, translucent.
- 9060-90 ANHYDRITE 10% White, chalky, soft.  
 SANDSTONE 20% White, clear, very fine (upper) to coarse (upper) grained, sub rounded to sub angular, poor sorted, poor cement, dolomite cement, anhydrite fill, tight, friable, no show.  
 DOLOMITE 30% Light to dark grey, crypto to microcrystalline, argillaceous, sandy, anhydrite fill, firm to hard, tight, no show with occasional chert, tan, light grey, translucent.  
 LIMESTONE 40% Medium to dark grey, microcrystalline, argillaceous, sandy, anhydrite fill, firm to hard, tight, no show.
- 9090-9120 SANDSTONE 30% Clear, white, very fine (upper) to coarse (lower) grained, sub rounded to sub angular, medium sorted, medium cement, anhydrite fill, dolomite cement, tight, friable to firm, no show.  
 DOLOMITE 30% Grey brown, cryptocrystalline, anhydritic, traces of pyrite, dense, tight, firm to hard, with inter bedded chert, translucent, tan.  
 LIMESTONE 40% Medium to dark grey, microcrystalline, argillaceous, sandy, anhydritic fill, firm to hard, tight, no show.
- 9120-50 SANDSTONE 30% Clear, white, very fine (upper) to coarse (lower) grained, sub rounded to sub angular, medium sorted, medium cement, anhydrite fill, dolomite cement, tight, friable to firm, no show.  
 LIMESTONE 70% Light grey, chalky, sandy, mudstone, soft (70%) medium to dark grey, microcrystalline, anhydrite fill, tight, firm, no show (30%).
- 9150-80 SANDSTONE 60% White, clear, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, medium cement, siliceous cement, tight, firm, no show.  
 LIMESTONE 30% Light grey, chalky, sandy, mudstone, soft (70%) medium to dark grey, microcrystalline, anhydrite fill, tight, firm, no show (30%).  
 RHYOLITE 10% Red brown, green, crystalline, pyrite crystals, hard.
- 9180-9210 SANDSTONE 20% White, clear, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, medium cement, siliceous cement, tight, firm, no show.  
 LIMESTONE 80% Light grey, white, chalky, argillaceous, mudstone, very soft (70%) light to medium grey, crypto to microcrystalline, argillaceous, sandy, firm (30%) no show.

- 9210-40 SANDSTONE 20% White, clear, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, medium cement, siliceous cement, tight, firm, no show.  
LIMESTONE 80% Light grey, white, chalky (70%) light to medium grey, micro crystalline (30%).
- 9240-53 SANDSTONE 50% Clear, white, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, siliceous cement, clay matrix, friable to firm, tight, no show.  
LIMESTONE 50% Light grey, white, chalky (30%) medium grey, crypto to micro crystalline, dolomic (70%).
- 9253-70 SANDSTONE 40% Clear, white, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium sorted, siliceous cement, clay matrix, friable to firm, tight, no show.  
LIMESTONE 60% Light grey, white, chalky (30%) medium grey, crypto to micro crystalline, dolomic (70%).
- 9270-9300 SANDSTONE 60% White, clear, very fine (upper) to coarse (lower) grained, sub rounded to sub angular, medium to poor sorted, medium cement, siliceous, clay matrix, tight, firm, no show.  
LIMESTONE 40% Light to dark grey, microcrystalline, occasional chalky, soft, argillaceous, sandy, firm, tight, no show.
- 9300-30 SANDSTONE 100% Clear, white, coarse, fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, clay matrix, siliceous to slightly calcareous cement, tight, firm to hard, no show.
- 9330-60 SANDSTONE 100% Clear white, very fine (upper) to medium (upper) grained, sub rounded to sub angular, medium to poor sorted, well cement, siliceous to slightly calcareous cement, pyrite inclusions, predominately clean, occasional clay matrix, tight, hard, no show.
- 9360-70 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cement, siliceous cement, predominately clean, occasional clay matrix, tight, hard, no show.
- 9370-80 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cement, siliceous cement, predominately clean, occasional clay matrix, tight, hard, no show.
- 9380-90 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cement, siliceous cement, predominately clean, occasional clay matrix, tight, hard, no show.

- 9390-9400 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cement, siliceous cement, predominately clean, occasional clay matrix, tight, hard, no show.
- 9400-10 SANDSTONE 100% White, clear, very fine (upper) to fine (lower) grained, sub angular to sub rounded, well sorted, well cemented, predominately clean, occasional clay matrix, kaolin, siliceous cement, tight, firm, no show.
- 9410-20 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, occasional clay matrix, kaolin, tight, firm, siliceous cement, no show.
- 9420-30 SANDSTONE 100% Clear white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, occasional clay matrix, kaolin, tight, firm, siliceous cement, no show.
- 9430-40 SANDSTONE 100% Clear white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, occasional clay matrix, kaolin, tight, firm, siliceous cement, no show.
- 9440-50 SANDSTONE 100% Clear, white, very fine (upper) to fine (lower) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, kaolin, tight, siliceous cement, no show.
- 9450-60 SANDSTONE 100% Clear, white, very fine (upper) to fine (lower) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, kaolin, tight, siliceous cement, no show.
- 9460-70 SANDSTONE 100% Clear, white, very fine (upper) to fine (lower) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, kaolin, tight, siliceous cement, no show.
- 9470-80 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, kaolin, siliceous cement, firm to hard, no show.
- 9480-90 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, kaolin, siliceous cement, firm to hard, no show.
- 9490-9500 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, kaolin, siliceous cement, firm to hard, no show.

- 9500-10 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, occasional kaolin, tight, siliceous cement, firm to hard, no show.
- 9510-20 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, occasional kaolin, tight, siliceous cement, firm to hard, no show.
- 9520-30 SANDSTONE 100% Clear, white, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, occasional kaolin, tight, siliceous cement, firm to hard, no show.
- 9530-40 SANDSTONE 100% White, clear, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, occasional kaolin, siliceous cement, tight, firm to hard, no show.
- 9540-50 SANDSTONE 100% White, clear, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, occasional kaolin, siliceous cement, tight, firm to hard, no show.
- 9550-60 SANDSTONE 80% White, clear, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cement, predominately clean, occasional kaolin, siliceous cement, tight, firm to hard, no show.  
SHALE 20% Cavings from working pipe.
- 9560-70 SANDSTONE 70% White, clear, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cement, predominately clean, occasional kaolin, siliceous cement, tight, firm to hard, no show.  
SHALE 30% Cavings from trip.
- 9570-80 SANDSTONE 70% White, clear, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, predominately clean, occasional kaolin, siliceous cement, tight, firm to hard, no show.  
SHALE 30% Cavings.
- 9580-90 SANDSTONE 80% Clear white, very fine (upper) to medium (lower) grained, sub rounded to sub angular, medium to well sorted, well cemented, predominately clean, kaolin, siliceous cement, tight, firm to hard, no show.  
SHALE & DOLOMITE 20% Cavings.
- 9590-9600 SANDSTONE 80% Clear white, very fine (upper) to medium (lower) grained, sub rounded to sub angular, medium to well sorted, well cemented, predominately clean, kaolin, silica cement, tight, firm to hard, no show.  
SHALE & DOLOMITE 20% Caving.

- 9600-10 SANDSTONE 90% White, clear, very fine (upper) to fine (upper) grained, sub rounded to sub angular, well sorted, well cemented, siliceous, kaolin, tight, firm to hard, no show.  
SHALE 10% Cavings.
- 9610-20 SHALE 10% Dark grey, red brown, blocky, earthy, silty, soft, calcareous.  
SANDSTONE 70% White, clear, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium soft, well cemented, silic cement, predominately clean, occasional kaolin, firm, no show.  
LIMESTONE 20% Dark to medium grey, crypto to microcrystalline, argillaceous, silty, sandy, dolomitic, firm, with occasional chet, tan, translucent, smokey, no show.
- 9620-30 SHALE 20% Dark grey, red brown, blocky, earthy, silty, soft, calcareous.  
SANDSTONE 60% White, clear, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium soft, well cemented, silica cement, predominately clean, occasional kaolin, firm, no show.  
LIMESTONE 20% Dark to medium grey, crypto to microcrystalline, argillaceous, silty, sandy, dolomitic, firm, with occasional chet, ta,n translucent, smokey, no show.
- 9630-40 SHALE 20% Dark grey, red brown, blocky, earthy, silty, soft, calcareous.  
SANDSTONE 60% Clear, white, grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium soft, well cemented, silica cement, predominately clean, occasional kaolin, firm, no show.  
LIMESTONE 20% Light to dark grey, tan, crypto to microcrystalline, argillaceous, silty, dolomitic, traces of calcite fracture fill, firm to hard, no show.
- 9640-50 SHALE 10% Probable cavings.  
SANDSTONE 70% Clear, white, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, well cemented, predominately clean, occasional kaolin, siliceous, tight, firm to hard, no show.  
LIMESTONE 10% Light to dark grey, tan, crypto to microcrystalline, argillaceous, silty, dolomitic, traces of calcite fracture fill, firm to hard, no show.  
DOLOMITE 10% A/A
- 9650-60 SHALE 10% Probable cavings.  
SANDSTONE 60% Clear, white, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, well cemented, predominately clean, occasional kaolin, siliceous, tight, firm to hard, no show.  
LIMESTONE 10% Light to dark grey, tan, crypto to microcrystalline, argillaceous, silty, dolomitic, traces of calcite fracture fill, firm to hard, no show.  
DOLOMITE 20% Light to medium grey, tan, crypto to microcrystalline, argillaceous, silty, firm, no show.

- 9660-70 SHALE 10% Probable cavings.  
 SANDSTONE 70% White, clear, very fine (upper) to medium (lower) grained, sub angular, to sub rounded, medium to well sorted, well cemented, predominately clean, occasional kaolin, siliceous, tight, firm to hard, no show.  
 DOLOMITE 20% Light to medium grey, tan, crypto to microcrystalline, argillaceous, silty, firm, no show, with chert, tan smokey.
- 9670-80 SANDSTONE 80% White, clear, very fine (upper) to medium (lower) grained, sub angular, to sub rounded, medium to well sorted, well cemented, predominately clean, occasional kaolin, siliceous, tight, firm to hard, no show.  
 DOLOMITE 20% Medium to dark grey, microcrystalline, argillaceous, silty, sandy, firm to hard with traces of chert, smokey, tan, no show.
- 9680-90 SANDSTONE 80% White, clear, very fine (upper) to medium (lower) grained, sub angular to sub rounded, medium to well sorted, well cemented, predominately clean, occasional kaolin, siliceous, tight, firm to hard, no show.  
 DOLOMITE 20% Light to dark grey, crypto to microcrystalline, argillaceous, silty, sandy, firm to hard with traces of chert.
- 9690-9700 SANDSTONE 70% White, clear, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, well cemented, tight, predominately clean, occasional kaolin, siliceous, no show.  
 LIMESTONE 20% Light to dark grey, crypto to microcrystalline, argillaceous, silty, occasional sandy, traces of calcite filled fractures, firm to hard.  
 DOLOMITE 10% Light to dark grey, crypto to microcrystalline, argillaceous, silty, sandy, firm to hard, with traces of chert.
- 9700-10 SANDSTONE 60% White, clear, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, well cement, tight, predominately clean, occasional kaolin, siliceous, no show.  
 LIMESTONE 30% Light to dark grey, crypto to microcrystalline, argillaceous, silty, occasional sandy, traces of calcareous filled fractures, firm to hard.  
 DOLOMITE 10% Light to dark grey, crypto to microcrystalline, argillaceous, silty, sandy, firm to hard, with traces of chert.
- 9710-20 SANDSTONE 80% White, clear, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, well cemented, tight, predominately clean, occasional kaolin, siliceous, no show.  
 LIMESTONE 10% Light to dark grey, crypto to microcrystalline, argillaceous, silty, occasional sandy, traces of calcite filled fractures, firm to hard.  
 DOLOMITE 10% Light to dark grey, crypto to microcrystalline, argillaceous, silty, sandy, firm to hard, with traces of chert.
- 9720-30 SANDSTONE 90% Clear white, very fine (upper) to fine (upper) grained, sub angular to sub rounded, well sorted, well cemented, silica cement, clean, tight, hard, no show.  
 DOLOMITE 10% Probable cavings.

- 9730-40 SANDSTONE 90% Clear white, very fine (upper) to fine (upper) grained, sub angular to sub rounded, well sorted, well cemented, silica cement, clean, tight, hard, no show.  
DOLOMITE 10% Probable cavings.
- 9740-50 SANDSTONE 90% Clear, white, very fine (upper) to medium (lower) grained, sub angular to sub rounded, medium to well sorted, traces of coarse grains, angular quartz, well cemented, silica cement, clean, tight, hard, no show.  
DOLOMITE 10% Probable cavings.
- 9750-60 SANDSTONE 90% Clear, white, very fine (upper) to medium (lower) grained, sub angular to sub rounded, medium to well sorted, traces of coarse grains, angular quartz, well cemented, silica cement, clean, tight, hard, no show.  
DOLOMITE 10% Probable cavings.
- 9760-70 SANDSTONE 90% Clear white, light grey, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, traces of coarse grains, angular quartz, well cemented, silica cement, clean, tight, hard no show.  
DOLOMITE 10% Cavings.
- 9770-80 SHALE 10% Dark grey, red brown, blocky, earthy, silty, firm, non calcareous.  
SANDSTONE 80% Clear, white, light grey, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, traces of coarse grains, angular quartz, well cemented, silica cement, clean, tight, hard no show.  
DOLOMITE 10% Cavings.
- 9780-90 SHALE 20% Dark grey, red brown, purple, blocky earthy, silty, firm, non calcareous.  
SANDSTONE 70% White, clear, light grey, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, traces of coarse grains, angular quartz, well cemented, silica cement, clean, tight, hard no show.  
DOLOMITE 10% Cavings.
- 9790-9800 SHALE 20% Probable cavings after trip.  
SANDSTONE 60% White, clear, light grey, very fine (upper) to medium (lower) grained, sub angular to sub rounded, well sorted, traces of coarse grains, angular quartz, well cemented, silica cement, clean, tight, hard no show.  
DOLOMITE 10% Caving.  
RHYOLITE 10% Caving.
- 9800-10 SHALE 10% Red brown, purple, grey, probable cavings.  
SANDSTONE 80% White, clear, light grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium to well sorted, well cemented, predominately clean, occasional kaolin, tight, hard, silica cement, no show.  
DOLOMITE 10% Light to dark grey, crypto to microcrystalline, probable cavings.

- 9810-20 SHALE 10% Probable cavings.  
SANDSTONE 80% White, clear, light grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium to well sorted, well cement, predominately clean, occasional kaolin, tight, hard, silica cement, no show.  
DOLOMITE 10% Probable cavings.
- 9820-30 SANDSTONE 90% White, clear, light grey, very fine (upper) to medium (upper) grained, sub angular to sub rounded, medium to well sorted, well cemented, predominately clean, occasional kaolin, silica cement, tight, hard, no show.



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

March 4, 2009

CERTIFIED MAIL NO.: 7004 1160 0003 0190 2594

Mr. Foster Hagan  
Royalite Petroleum Corporation  
1200 Nueces St  
Austin, TX 78701

Subject: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases  
Royalite ST 16-1 API #43-031-30013

28 S 3W 16

Dear Mr. Hagan:

As of January 2009, Royalite Petroleum Corp has one (1) State Lease Well (see attachment A) that is currently in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status.

Wells SI/TA beyond twelve (12) consecutive months requires filing a Sundry Notice (R649-3-36-1). Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Utah Division of Oil, Gas & Mining (Division) grants approval for extended shut-in time upon a showing of good cause by the operator (649-3-36-1.3.3). For extended SI/TA consideration the operator shall provide the Division with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).
2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and
3. An explanation and supporting data if necessary, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Please note that the Divisions preferred method for showing well integrity is by MIT.



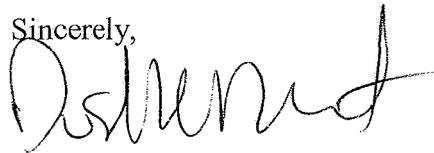
Page 2  
Royalite Petroleum Corporation  
March 4, 2009

Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. **Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 may be subject to full cost bonding (R649-3-1-4.2, 4.3).**

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
4. Fluid level in the wellbore, and
5. An explanation of how the submitted information proves integrity.

If the required information is not received within 30 days of the date of this notice, further actions may be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,



Dustin K. Doucet  
Petroleum Engineer

DKD/JP/js  
Enclosure  
cc: Jim Davis, SITLA  
Compliance File  
Well File

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# ATTACHMENT A

	<b>Well Name</b>	<b>API</b>	<b>LEASE</b>	<b>Years Inactive</b>
1	ROYALITE ST 16-1	43-031-30013	ML-50475	1 Year 8 Months



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 6, 2009

CERTIFIED MAIL NO.: 7004 1160 0003 0190 3133

Mr. Foster Hagan  
Royalite Petroleum Corporation  
1200 Nueces St  
Austin, TX 78701

Subject: SECOND NOTICE: Extended Shut-in and Temporarily Abandoned Requirements for Wells on Fee or State Leases  
ROYALITE ST 16-1 (API: 43-031-30013)

28S 3W 16

Dear Mr. Hagan:

As of January 2009, Royalite Petroleum Corporation ("Royalite") has one (1) State Mineral Lease Well (see attachment A) that is in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status.

This is the second notice of non-compliance that Royalite has received for the above listed well. On March 4, 2009 via certified mail the first notice was sent requesting required information to bring this well into compliance. To date the Utah Division of Oil, Gas & Mining (Division) has not received any correspondence from Royalite addressing the wells SI/TA non-compliance issues.

Wells SI/TA beyond twelve (12) consecutive months requires filing a Sundry Notice (R649-3-36-1). Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (649-3-36-1.3.3). For extended SI/TA consideration the operator shall provide the Division with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).
2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and



July 6, 2009

3. An explanation and supporting data if necessary, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Please note that the Divisions preferred method for showing well integrity is by MIT.

Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. **Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 may be subject to full cost bonding (R649-3-1-4.2, 4.3).**

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (**Surface Casing Pressure, Production Casing Pressure** and Tubing Pressure) showing wellbore has integrity, and
4. **Fluid level** in the wellbore, and
5. **An explanation of how the submitted information proves integrity.**

If the required information is not received within 30 days of the date of this notice, a Notice of Violation will be issued. If you have any questions concerning this matter, please contact Joshua Payne at (801) 538-5314 or me at (801) 538-5281.

Sincerely,



Dustin K. Doucet  
Petroleum Engineer

DKD/JP/js

Enclosure

cc: Jim Davis, SITLA  
Compliance File  
Well File

N:\O&G Reviewed Docs\ChronFile\PetroleumEngineer\SITLA

# ATTACHMENT A

	<b>Well Name</b>	<b>API</b>	<b>Lease Type</b>	<b>Years Inactive</b>
1	ROYALITE ST 16-1	43-031-30013	ML-50475	2 Years 2 Months

UTAH DEPARTMENT OF NATURAL RESOURCES

Division of Oil, Gas & Mining

Oil and Gas Program

1594 West North Temple, Suite 1210, Box 145801

Salt Lake City, Utah 84114-5801

(801) 538-5340 Phone

(801) 359-3940 Fax

NOTICE OF VIOLATION
STATE OF UTAH
OIL AND GAS CONSERVATION ACT

\*\*\*\*\*

To the following operator:

Name: ROYALITE PETROLEUM CORPORATION

Well(s) or Site(s): 1.) ROYALITE ST 16-1 API #: 43-031-30013

Handwritten: 28S 3W 16

Date and Time of Inspection/Violation: August 6, 2009

Mailing Addresses: Attn: Foster Hagan, Attn: Logan Anderson, Attn: Michael L. Cass
1200 Nueces Street, 810 Peace Portal Dr. Ste. 201, 3001 Rivera Rd
Austin, TX 78701, Blaine, WA 98230-4042, Austin, TX 78733

Under the authority of the Utah Oil and Gas Conservation Act, Section 40-6 et. Seq., Utah Code Annotated, 1953, as amended, the undersigned authorized representative of the Division of Oil, Gas and Mining (Division) has conducted an inspection of the above described site and/or records on the above date and has found alleged violation(s) of the act, rules or permit conditions as described below.

Description of Violation(s):

Rule R649-3-36, Shut-in and Temporarily Abandoned Wells -According to Rule R649-3-36, the operator is required to supply the Division with reasons for extended SI/TA, the length of time for extended SI/TA and proof of well bore integrity for every well SI/TA over 12 consecutive months. After 5 years of continued SI/TA, the wells are to be plugged unless good cause is supplied to the Division for extended SI/TA in addition to the required information just mentioned.

The Division has initiated several contacts with Royalite Petroleum Corporation (Royalite) requesting required documents and action per R649-3-36. The Division notified Royalite with a first notice by certified mail on March 4, 2009, about this well's non-compliance issues. Royalite had 30 days to respond, in which they did not. The above listed well then had a second notice sent out via certified mail on July 6, 2009 to Royalite. In that notice it was made clear that if this issue was not addressed within 30 days of receipt of the letter, a Notice of Violation would be issued for the well. To date the Division has not seen any such correspondence on the matter. Our records show nothing has been done to date to move this well out of violation status.

Action: For the well subject to this notice, Royalite shall either submit the information required by R649-3-36, plug and abandon or place the well on production.

Royalite Petroleum Corporation

September 28, 2009

Notice of Violation

This notice shall remain in effect until it is modified, terminated, or vacated by a written notice of an authorized representative of the director of the Division of Oil, Gas and Mining. Failure to comply with this notice will result in the Division pursuing further actions against said operator. Further actions may include initiation of agency actions to order full cost bonding and plugging and abandonment of wells and requests for bond forfeiture and civil penalties.

Compliance Deadline: November 1, 2009

Date of Service Mailing: September 28, 2009

CERTIFIED MAIL NO's: 7004 1160 0003 0190 3430 – Foster Hagan

7004 1160 0003 0190 3447 – Logan Anderson

7004 1160 0003 0190 3454 – Michael L. Cass



\_\_\_\_\_  
Division's Representative

\_\_\_\_\_  
Operator or Representative

(If presented in person)

cc: Jim Davis, SITLA  
Well File  
Operator Compliance File

N:\O&G Reviewed Docs\ChronFile\PetroleumEngineer\NOV's



GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

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

IN THE MATTER OF ROYALITE  
PETROLEUM CORPORATION  
OPERATIONS AT THE ROYALITE  
STATE 16-1 WELL IN SECTION 16,  
TOWNSHIP 28 SOUTH, RANGE 3  
WEST, PIUTE COUNTY, UTAH.

43 031 300 13

**DEFAULT ORDER**

Case No. SI/TA-100

## NOTICE

On January 22, 2013, the Utah Division of Oil, Gas and Mining (“Division” or “DOGM”) issued a Notice of Agency Action (“NOAA”) to Royalite Petroleum Corporation (“Respondent”), commencing an administrative adjudicative proceeding to consider appropriate action to be taken pursuant to Utah Admin. Code R649-3-36 for failure to comply with a Notice of Violation (“NOV”) for the Royalite State 16-1 well in Section 16, Township 28 South, Range 3 West, Piute County, Utah. Pursuant to Utah Admin. Code R649-10-3, the Division designated Kassidy Wallin as the Presiding Officer in this matter.

## STATEMENT OF GROUNDS FOR DEFAULT

After the Division sent proper notice, Respondent failed to respond within the time period allowed under Utah Admin. Code R649-10-3.2.1.6 and R649-10-4.1.2. Respondent therefore failed to participate in the informal adjudicative proceeding. See Utah Admin. Code R649-10-5.

As a result, the Presiding Officer enters following Findings of Fact, Sources of Legal Authority, and Order:



## **FINDINGS OF FACT**

1. On May 5, 2007, Respondent drilled the subject well. Since completion, the well has not produced oil or gas. Respondent has not shown that the well is capable of production in paying quantities. The subject well is not presently being operated.
2. Respondent did not file a Sundry Notice providing the information required under Utah Admin. Code R649-3-36.
3. On September 28, 2009, the Division issued a Notice of Violation (“NOV”). The NOV requested that Respondent submit information required under R649-3-36, plug and abandon the well, or place the well on production by November 1, 2009.
4. Respondent did not comply with the NOV.
5. The subject well has been inactive and nonproductive for over five (5) years.

## **SOURCES OF LEGAL AUTHORITY**

1. “Wells may be initially shut-in or temporarily abandoned for a period of twelve (12) consecutive months. If a well is to be shut-in or temporarily abandoned for a period exceeding twelve (12) consecutive months, the operator shall file a Sundry Notice providing the following information: 1.1. Reasons for shut-in or temporarily abandonment of the well, 1.2. The length of time the well is expected to be shut-in or temporarily abandoned, and 1.3. An explanation and supporting data, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment.” Utah Admin. Code R649-3-36(1).

2. “After review the Division will either approve the continued shut-in or temporarily abandoned status or require remedial action to be taken to establish and maintain the well’s integrity.” Utah Admin. Code R649-3-26(2).

3. “After five (5) years of nonactivity or nonproductivity, the well shall be plugged in accordance with R649-3-24, unless approval for extended shut-in time is given by the Division upon a showing of good cause by the operator.” Utah Admin. Code R649-3-36(3).

4. “‘Shut-in Well’ means a well that is completed, is shown to be capable of production in paying quantities, and is not presently being operated.” Utah Admin. Code R649-1-1.

5. “‘Temporarily Abandoned Well’ means a well that is completed, is shown not capable of production in paying quantities, and is not presently being operated.” Utah Admin. Code R649-1-1.

### **ORDER**

Based on the foregoing findings of fact and sources of legal authority, and pursuant to Utah Admin. Code R649-3-36 and R649-10-5, Respondent is hereby ordered to:

1. Plug the Royalite State 16-1 well in Section 16, Township 28 South, Range 3 West, Piute County, Utah in accordance with Utah Admin. Code R649-3-24 by **March 31, 2013**.

2. Failure to comply with the Order by the stated deadline may result in the Division taking further administrative action in accordance with Utah Admin. Code R649-3-1 through -36.

### **NOTICE OF RIGHT TO APPEAL**

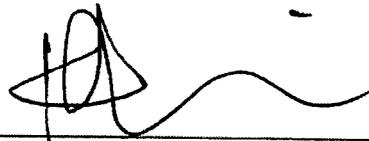
1. Under Utah Admin. Code R649-10-5.3.1 “a default party may seek to have the agency asset aside the default order, and any order in the adjudicative proceeding issues subsequent to

the default order, by following the procedures outlined in the Utah Rules of Civil Procedure [Rule 60(b)] and Utah Admin. Code R649-10-5.3.2.

2. Under Utah Admin. Code R649-10-5.3.3 “a defaulted party may seek board review under R649-10-6 only on the decision of presiding officer on the motion to set aside the default.”

3. A written motion showing cause to set aside an Order of Default, and any subsequent order, shall be made to the Presiding Officer at 1594 West North Temple, Suite #300, Salt Lake City, Utah 84116.

DATED this 14 day of February, 2013.



---

Kassidy J. Wallin  
Assistant Attorney General  
Presiding Officer

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on this 14<sup>th</sup> day of February 2013, a true and correct copy of the foregoing **DEFAULT ORDER** was served via certified mail on the following person(s):

Foster Hagen  
1212 Guadalupe St  
Apt #606  
Austin, Texas 78701-1804

**Certified Mail 7010 1670 0001 4810 3843**

Logan Anderson  
801 Peace Portal Dr, Suite 201  
Blaine, Washington 98230-4042

**Certified Mail 7010 1670 0001 4810 3850**

Michael Cass  
3001 Rivera Rd  
Austin, Texas 78733

**Certified Mail 7010 1670 0001 4810 3867**

William Tao  
3135 Villa Marbella Circle  
Reno, Nevada 89509

**Certified Mail 7010 1670 0001 4810 3874**

School and Institutional Trust Lands  
Attn: LaVonne Garrison  
675 East 500 South, Suite 500  
Salt Lake City, Utah 84102  
**Via E-mail**

  
\_\_\_\_\_  
Jean Sweet  
Division of Oil, Gas & Mining



GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

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

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IN THE MATTER OF ROYALITE  
PETROLEUM CORPORATION  
OPERATIONS AT THE ROYALITE  
STATE 16-1 WELL IN SECTION 16,  
TOWNSHIP 28 SOUTH, RANGE 3  
WEST, PIUTE COUNTY, UTAH.

43 031 30013

**NOTICE OF AGENCY ACTION**

Case No. SI/TA-100

---

1. This Notice of Agency Action is filed by the Utah Division of Oil, Gas & Mining ("Division") to commence an administrative adjudicative proceeding to consider appropriate action to be taken against Royalite Petroleum Corporation ("Royalite") pursuant to Utah Admin. Code R649-3-36 for failure to comply with a Notice of Violation ("NOV") for the Royalite State 16-1 well in Section 16, Township 28 South, Range 3 West, Piute County, Utah.
2. This Division action is an informal adjudicative proceeding and shall be conducted according to the provisions of Utah Code Ann. §§ 40-6-10, 63G-4-202, and 63G-4-203; and Utah Admin. Code R649-10 *et seq.*
3. The purpose of this informal adjudication is to determine what actions are required in order to comply with Utah Admin. Code R649-3-36, the Oil and Gas Conservation Act, and other applicable regulations. Pursuant to Utah Admin. Code R649-3-1 through -36, the Presiding Officer in this matter may require additional amounts



of bonding, *see* Utah Admin. Code R649-3-1.4.3 to -1.4.4, order immediate plugging of the well, *see* Utah Admin. Code R649-3-36, or demand any other action as deemed appropriate under the regulations.

4. To preserve the Division's ability to effectively manage the State's oil and gas resources, the Division recommends that Royalite plug the Royalite State 16-1 well in Section 16, Township 28 South, Range 3 West, Piute County, Utah in accordance with Utah Admin. Code R649-3-24 by **March 31, 2013**. *See* Utah Admin. Code R649-3-36.3.

5. Royalite is entitled to request a hearing to present evidence and testimony concerning its noncompliance with the NOV, and to review the claims and recommendations in this Notice of Agency Action. The request for hearing **must be made in writing and mailed to the Division no later than 10 calendar days from the date of the mailing of this Notice**. *See* Utah Admin. Code R649-10-3.2.1.6 and R649-10-4.1.2. Failure to respond within 10 calendar days may result in a Default Order being entered against Royalite granting the relief recommended by the Division. *See* Utah Admin. Code R649-10-5. Upon receiving a hearing request, the Division will schedule a date and time for the hearing.

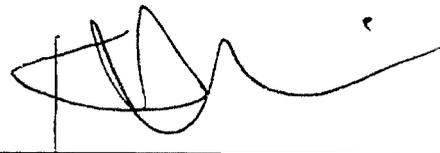
6. Pursuant to Utah Admin. Code R649-10-2.9, the Director has designated Kassidy Wallin, Assistant Attorney General, as the Presiding Officer in this matter. Clinton Dworshak will represent the Division. Attendance at the hearing is required either in person, over the phone, or via written testimony. Failure to attend and participate in a scheduled hearing may result in a Default Order being entered against Royalite granting the relief recommended by the Division. *See* Utah Admin. Code R649-10-5.

7. If there is any information, evidence, or statements that should be reviewed prior to the hearing, Royalite should submit that information to the Division at the address noted below so that it may be considered and made a part of the record. Upon request and to the extent permitted by law, the Division will provide Royalite with any information or documents in its files relevant to this proceeding.

8. Following the hearing, and after considering all the evidence presented, the Presiding Officer will issue a written Decision and Order detailing the legal and factual rationale for the decision. The final Decision and Order may be appealed to the Board of Oil, Gas & Mining in accordance with the provisions of Utah Admin. Code R649-10-6.

9. All communication concerning this Notice of Agency Action shall be directed to Jean Sweet, Division of Oil, Gas & Mining, P.O. Box 145801, Salt Lake City, Utah 84114-5801, phone: 801-538-5329, jsweet@utah.gov. Please reference the case name and number set forth in the caption at the top of this Notice when contacting the Division.

DATED this 22nd day of January, 2013.



---

Kassidy Wallin  
Assistant Attorney General  
1594 West North Temple #300  
Salt Lake City, Utah 84116  
801.538.7227  
kassidy.wallin@utah.gov

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on this 22nd day of **January, 2013**, a true and correct copy of the foregoing **NOTICE OF AGENCY ACTION** was served via certified mail on the following person(s):

Foster Hagen  
1212 Guadalupe St Apt #606  
Austin, Texas 78701-1804

Certified Mail 7010 1670 0001 4810 3744

Logan Anderson  
801 Peace Portal Dr Suite 201  
Blaine, Washington 98230-4042

Certified Mail 7010 1670 0001 4810 3751

Michael Cass  
3001 Rivera Rd  
Austin, Texas 78733

Certified Mail 7010 1670 0001 4810 3768

William Tao  
3135 Villa Marbella Circle  
Reno, Nevada 89509

Certified Mail 7010 1670 0001 4810 3775

  
\_\_\_\_\_  
Earlene Russell, Administrative Assistant  
For Jean Sweet, Executive Secretary

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

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>ML 50475</b>
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: <b>N/A</b>
		7. UNIT or CA AGREEMENT NAME: <b>N/A</b>
1. TYPE OF WELL <b>OIL WELL</b> <input type="checkbox"/> <b>GAS WELL</b> <input type="checkbox"/> <b>OTHER</b> <u>Wildcat</u>		8. WELL NAME and NUMBER: <b>Royalite State 16-1</b>
2. NAME OF OPERATOR: <b>Royalite Petroleum Corporation</b>		9. API NUMBER: <b>4303130013</b>
3. ADDRESS OF OPERATOR: <b>1212 Guadalupe St. #606</b> CITY <b>Austin</b> STATE <b>TX</b> ZIP <b>78701</b>		10. FIELD AND POOL, OR WILDCAT: <b>Wildcat</b>
PHONE NUMBER: <b>(512) 431-9017</b>		
4. LOCATION OF WELL		
FOOTAGES AT SURFACE: <b>351' FSL &amp; 1355' FWL</b>		COUNTY: <b>Piute</b>
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SESW 16 28S 03W</b>		STATE: <b>UTAH</b>

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> (Submit in Duplicate) Approximate date work will start: <u>03-25-2013</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input checked="" type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

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

This well was plugged on May 5, 2007 per (Subsequent Report) Sundry Notice. The Surface plug was not set and operations were suspended. Plans to deepen the well were cancelled. This Notice of Intent is to set the surface plug as follows:

Plug #5 (Surface Plug) - 100'- 4' w/40 sx cement.  
Cut 9 5/8" surface casing @ 4' - weld steel plate on top w/marker. Backfill reserve pits.

**COPY SENT TO OPERATOR**  
Date: 3-20-2013  
Initials: KS

**RECEIVED**  
**MAR 14 2013**  
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) <u>Foster Hagen</u>	TITLE <u>Agent</u>
SIGNATURE <u>[Signature]</u>	DATE <u>3/7/2013</u>

(This space for State use only)

**APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING**

DATE: 3/14/2013

BY: [Signature] (See Instructions on Reverse Side)

\* Contact Division 24 hrs. prior to commencing work

(5/2000)

DAN TRAVIS 801.538.5338  
TED SMITH 801.538.5303

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

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**ML 50475**

**SUNDRY NOTICES AND REPORTS ON WELLS**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:  
**N/A**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:  
**N/A**

1. TYPE OF WELL      OIL WELL       GAS WELL       OTHER Wildcat

8. WELL NAME and NUMBER:  
**Royalite State 16-1**

2. NAME OF OPERATOR:  
**Royalite Petroleum Corporation**

9. API NUMBER:  
**4303130013**

3. ADDRESS OF OPERATOR:  
**1212 Guadalupe St. #606**      CITY Austin      STATE TX      ZIP 78701

PHONE NUMBER:  
**(512) 431-9017**

4. LOCATION OF WELL  
FOOTAGES AT SURFACE: **351' FSL & 1355' FWL**      COUNTY: **Piute**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SESW 16 28S 03W**      STATE: **UTAH**

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: <b>5/12/2013</b>	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input checked="" type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

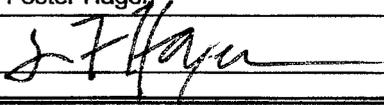
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

This well was plugged on May 5, 2007 per (Subsequent Report) Sundry Notice. The surface plug was not set and operations were suspended. Plans to deepen the well were cancelled. This Subsequent Report is to document the placing of the surface plug as follows:

Plug #5 (Surface Plug) - set retainer @100' set plug from 100' - 4' w/75 sx cement.  
Cut 9 5/8" surface casing @ 4' - weld steel plate on top with API marker.  
Backfilled pits and restored location per Utah State Trust Lands. Per Ed Bonner operator will broadcast grass seed mixture on location when instructed by state.

NAME (PLEASE PRINT) Foster Hagen

TITLE Agent

SIGNATURE 

DATE 5/16/2013

(This space for State use only)

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
For Record Only

(See Instructions on Reverse Side)

**RECEIVED**

**MAY 17 2013**

DIV. OF OIL, GAS & MINING