

May 10, 2007

Mrs. Diana Mason
State of Utah
Division of Oil Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: Application for Permit to Drill - Lonewolf Exploration & Production Company
State #36-14- 2,086' FNL & 527' FEL, SE/4 NE/4,
Section 36, T22S, R15E, SLB&M, Emery County, Utah

Dear Mrs. Mason:

On behalf of Lonewolf Exploration & Production Company (Lonewolf), Buys & Associates, Inc. respectfully submits the enclosed original and one copy of the Application for Permit to Drill (APD) for the above referenced SITLA surface and SITLA mineral vertical well. Included with the APD is the following supplemental information:

Exhibit "A" - Survey plats, layouts and photos of the proposed well site;

Exhibit "B" - Proposed location maps with access corridor;

Exhibit "C" - Drilling Plan;

Exhibit "D" - Surface Use Plan;

Exhibit "E" - Typical BOP and Choke Manifold diagram.

Please accept this letter as Lonewolf's written request for confidential treatment of all information contained in and pertaining to this application.

Thank you very much for your timely consideration of this application. Please feel free to contact myself or Trent Sizemore of Lonewolf at 406-255-0637 if you have any questions or need additional information.

Sincerely,

Don Hamilton

Don Hamilton
Agent for Lonewolf

cc: Trent Sizemore, Lonewolf Exploration & Production Company
Bart Kettle, Division of Oil, Gas and Mining

RECEIVED

MAY 11 2007

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

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

FORM 3

AMENDED REPORT
(highlight changes)

APPLICATION FOR PERMIT TO DRILL		5. MINERAL LEASE NO: ML-50652	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 type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER _____ SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		8. UNIT or CA AGREEMENT NAME: N/A	
2. NAME OF OPERATOR: Lonewolf Exploration & Production Company		9. WELL NAME and NUMBER: State 36-14	
3. ADDRESS OF OPERATOR: 6543 Elysian Road CITY Billings STATE MT ZIP 59101		PHONE NUMBER: (406) 255-0637	10. FIELD AND POOL, OR WILDCAT: Wildcat
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 2,086' FNL & 527' FEL, AT PROPOSED PRODUCING ZONE: _____		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENE 36 22S 15E S	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 10 miles south of Green River, Utah		12. COUNTY: Emery	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 527'	16. NUMBER OF ACRES IN LEASE: 640	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) None	19. PROPOSED DEPTH: 8,448	20. BOND DESCRIPTION: Fidelity Bond # 4127699	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 4,219' GR	22. APPROXIMATE DATE WORK WILL START: 6/15/2007	23. ESTIMATED DURATION: 30 days drilling, 40 days comp.	

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT
12-1/4"	9-5/8" N-80 LT 43.5#	1,200	see Drilling Plan
8-1/2"	5-1/2" P-110 LT 20#	8,448	see Drilling Plan

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 COMPANY OTHER THAN THE LEASE OWNER |

NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Lonewolf E & P Company
SIGNATURE Don Hamilton DATE 5/10/2007

(This space for State use only)

API NUMBER ASSIGNED: 43-015-30715

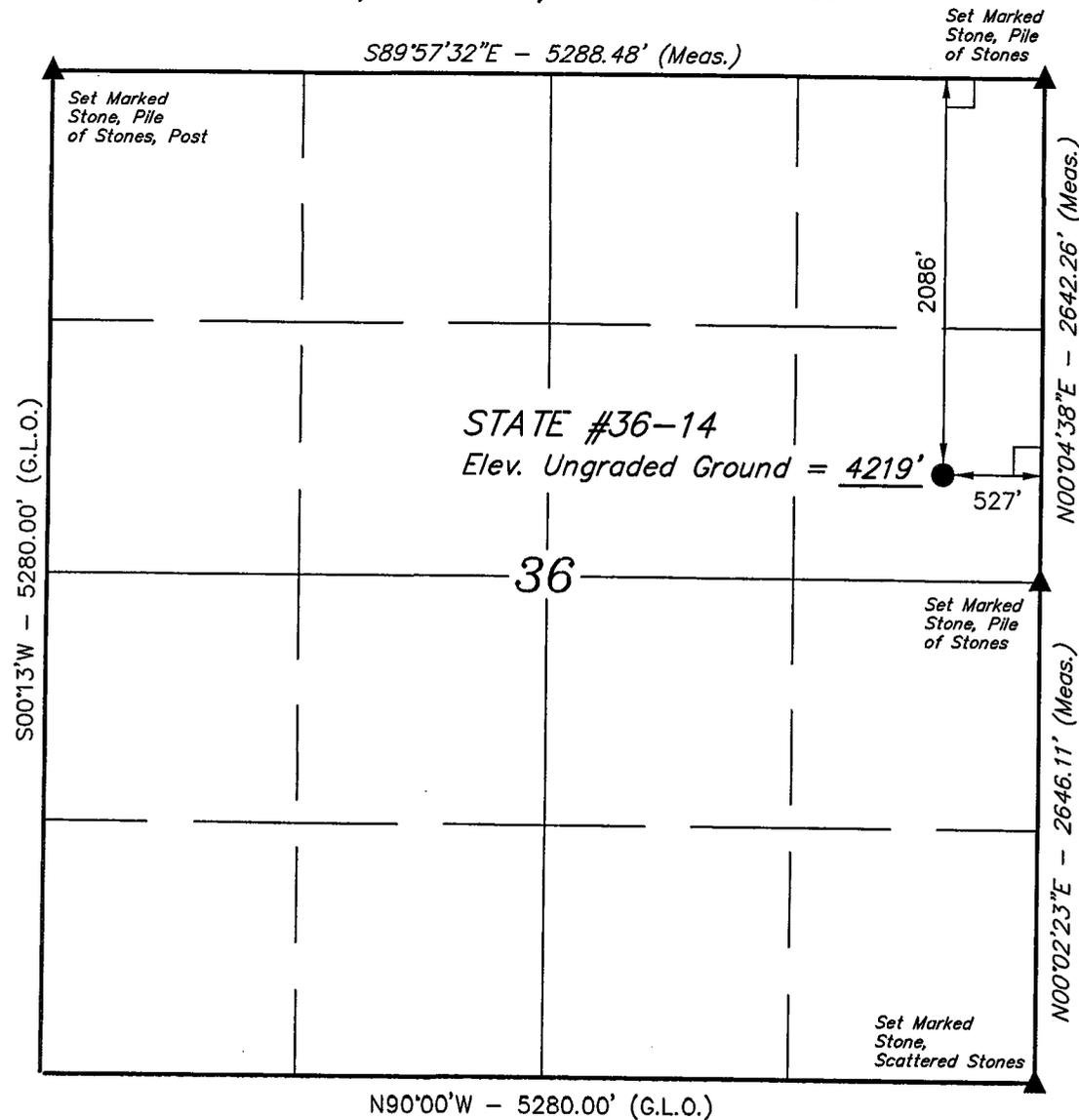
APPROVAL:

RECEIVED
MAY 11 2007
DIV. OF OIL, GAS & MINING

T22S, R15E, S.L.B.&M.

Lonewolf Exploration & Production Company

Well location, STATE #36-14, located as shown in the SE 1/4 NE 1/4 of Section 36, T22S, R15E, S.L.B.&M., Emery County, Utah.

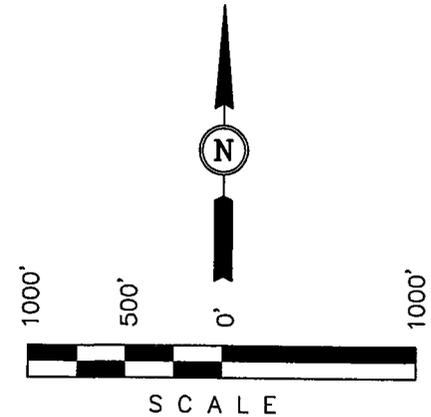


BASIS OF ELEVATION

SPOT ELEVATION AT INTERSECTING ROADS, LOCATED IN THE NW1/4 NE 1/4 OF SECTION 1, T23S, R15E, S.L.B.&M. TAKEN FROM THE HORSE BENCH EAST, EMERY COUNTY, QUADRANGLE, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 4244 FEET.

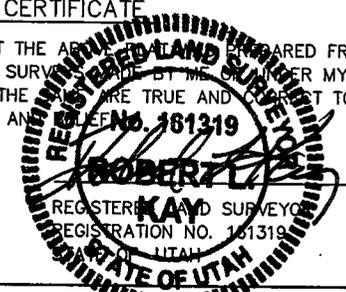
BASIS OF BEARINGS

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



CERTIFICATE

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



REVISED: 05-08-07

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

LEGEND:

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

(AUTONOMOUS NAD 83)
 LATITUDE = 38°51'21.76" (38.856044)
 LONGITUDE = 110°12'41.81" (110.211614)
 (AUTONOMOUS NAD 27)
 LATITUDE = 38°51'21.85" (38.856069)
 LONGITUDE = 110°12'39.32" (110.210922)

SCALE 1" = 1000'	DATE SURVEYED: 04-19-07	DATE DRAWN: 04-28-07
PARTY L.K. T.A. L.K.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE Lonewolf Exploration & Production Company	

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NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Lonewolf E & P Company
SIGNATURE Don Hamilton DATE 5/10/2007

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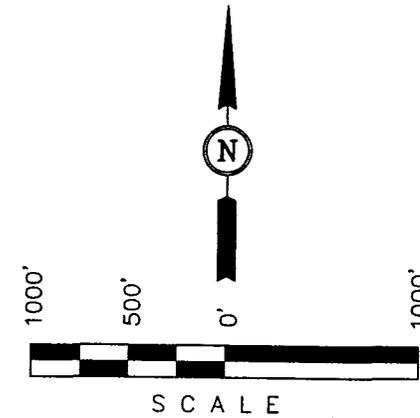
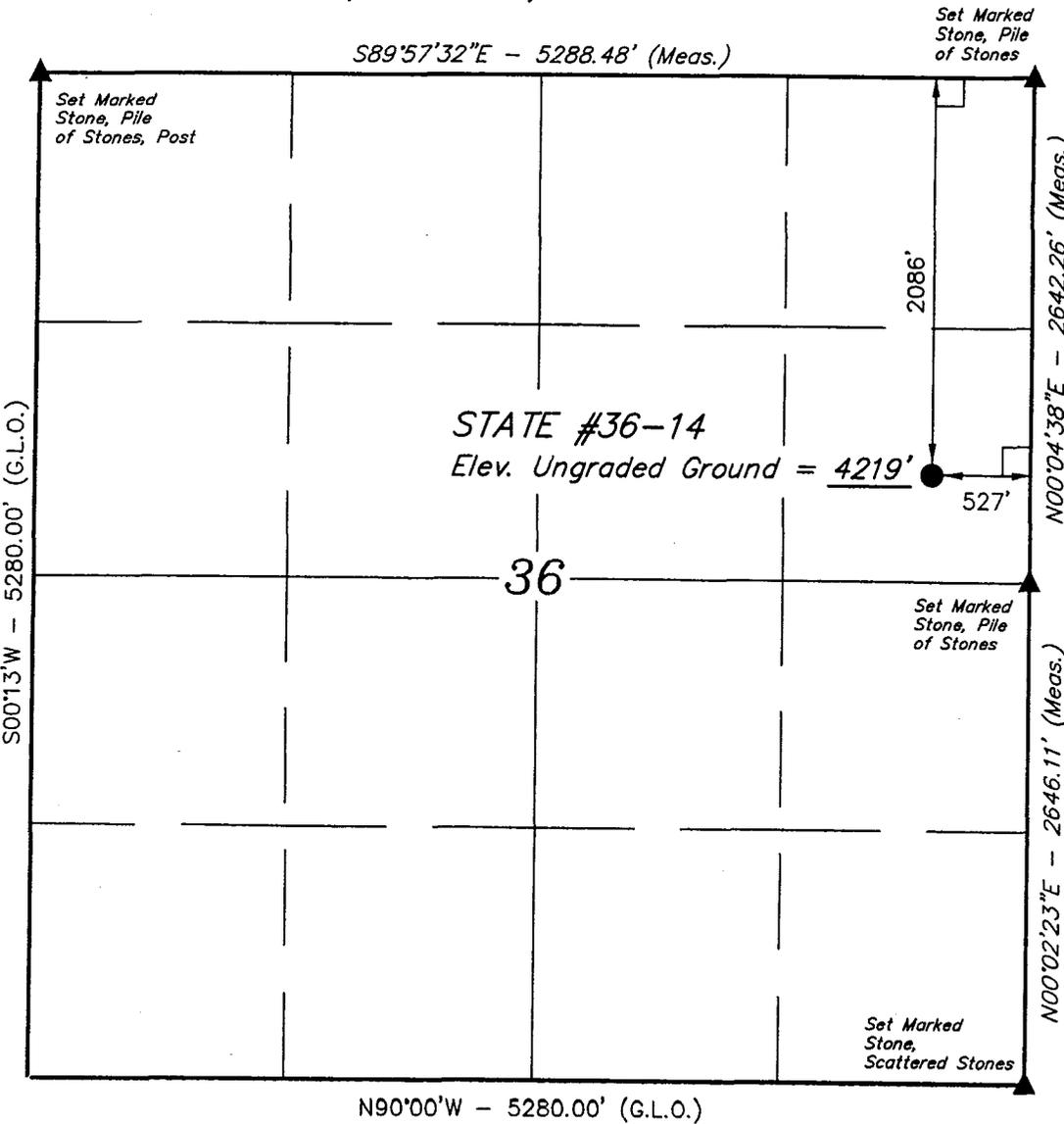
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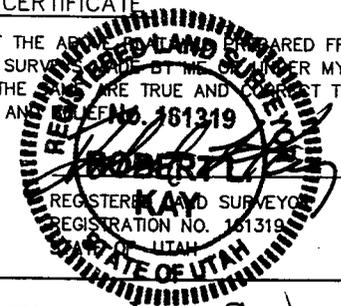
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REVISED: 05-08-07

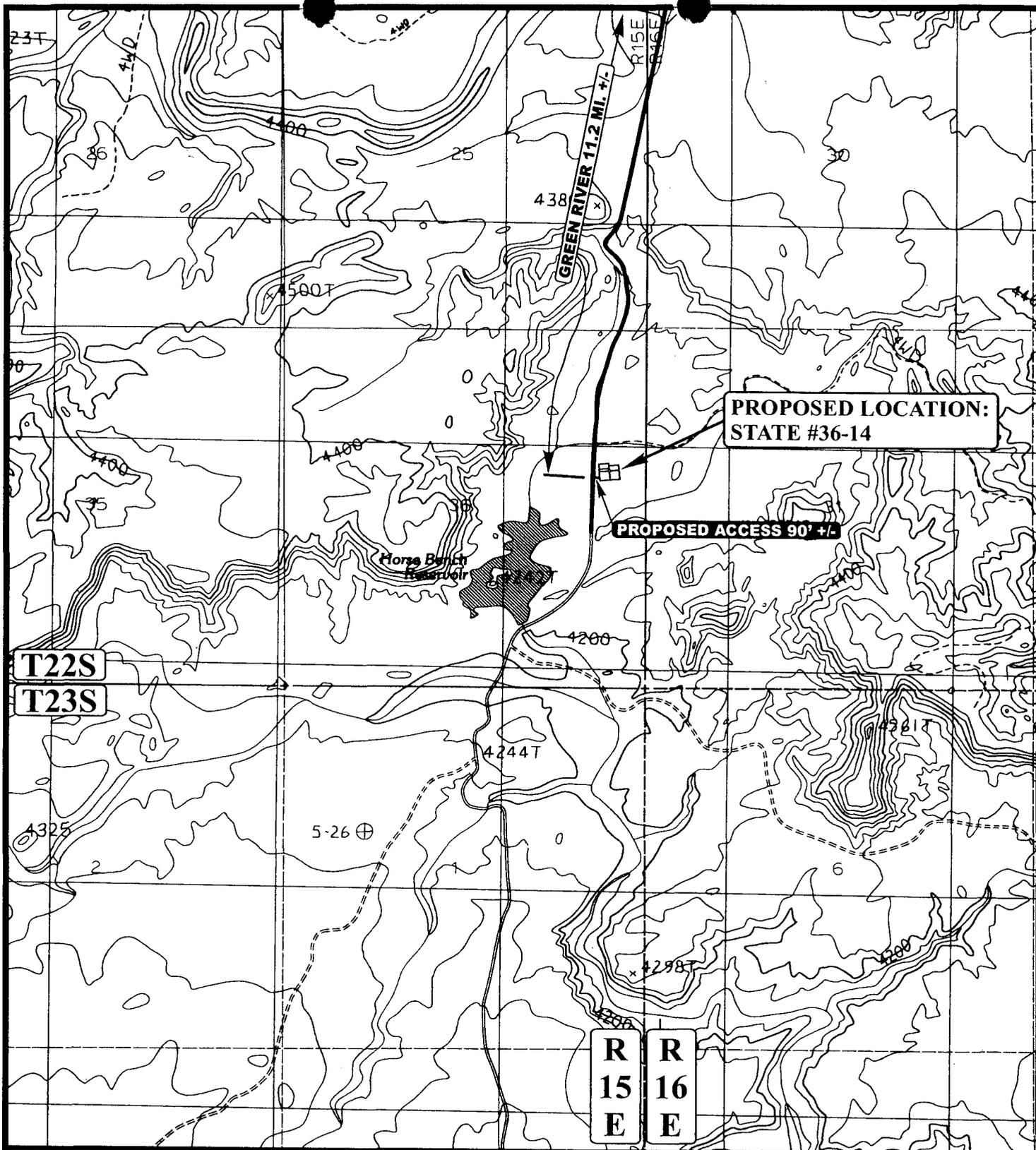
UINTAH ENGINEERING & LAND SURVEYING
 85 SOUTH 200 EAST - VERNAL, UTAH 84078
 (435) 789-1017

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PARTY L.K. T.A. L.K.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE Lonewolf Exploration & Production Company	



LEGEND:

- EXISTING ROAD
- - - - - PROPOSED ACCESS ROAD



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



Lonewolf Exploration & Production Company

STATE #36-14
SECTION 36, T22S, R15E, S.L.B.&M.
2086' FNL 527' FEL

TOPOGRAPHIC 04 30 07
MAP MONTH DAY YEAR
 SCALE: 1" = 2000' DRAWN BY: L.K. REVISED: 00-00-00



STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
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4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 906' FNL & 471' FEL			11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E S	
AT PROPOSED PRODUCING ZONE: 568485x 38.859295 43012514 -110.210695				
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8-1/2"	5-1/2"	P-110 LT	20#	4,500	see Drilling Plan
8-1/2"	5-1/2"	P-110 LT	23#	8,446	see Drilling Plan

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NAME (PLEASE PRINT) Don Hamilton TITLE Agent for Lonewolf E & P Company
SIGNATURE Don Hamilton DATE 6/12/2007

(This space for State use only)

API NUMBER ASSIGNED: 43-015-30715

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

APPROVAL:

Date: 06-28-07

(See Instructions on Reverse Side)

By: [Signature] **CONFIDENTIAL**

T22S, R15E, S.L.B.&M.

Lonewolf Exploration & Production Company

Well location, STATE #36-11, located as shown in the NE 1/4 NE 1/4 of Section 36, T22S, R15E, S.L.B.&M., Emery County, Utah.

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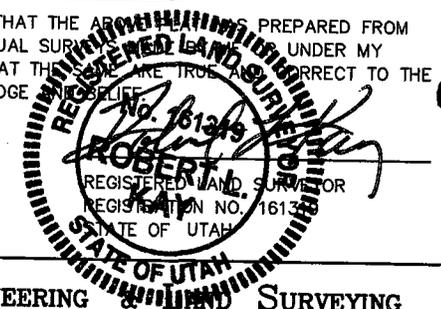
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SCALE

CERTIFICATE

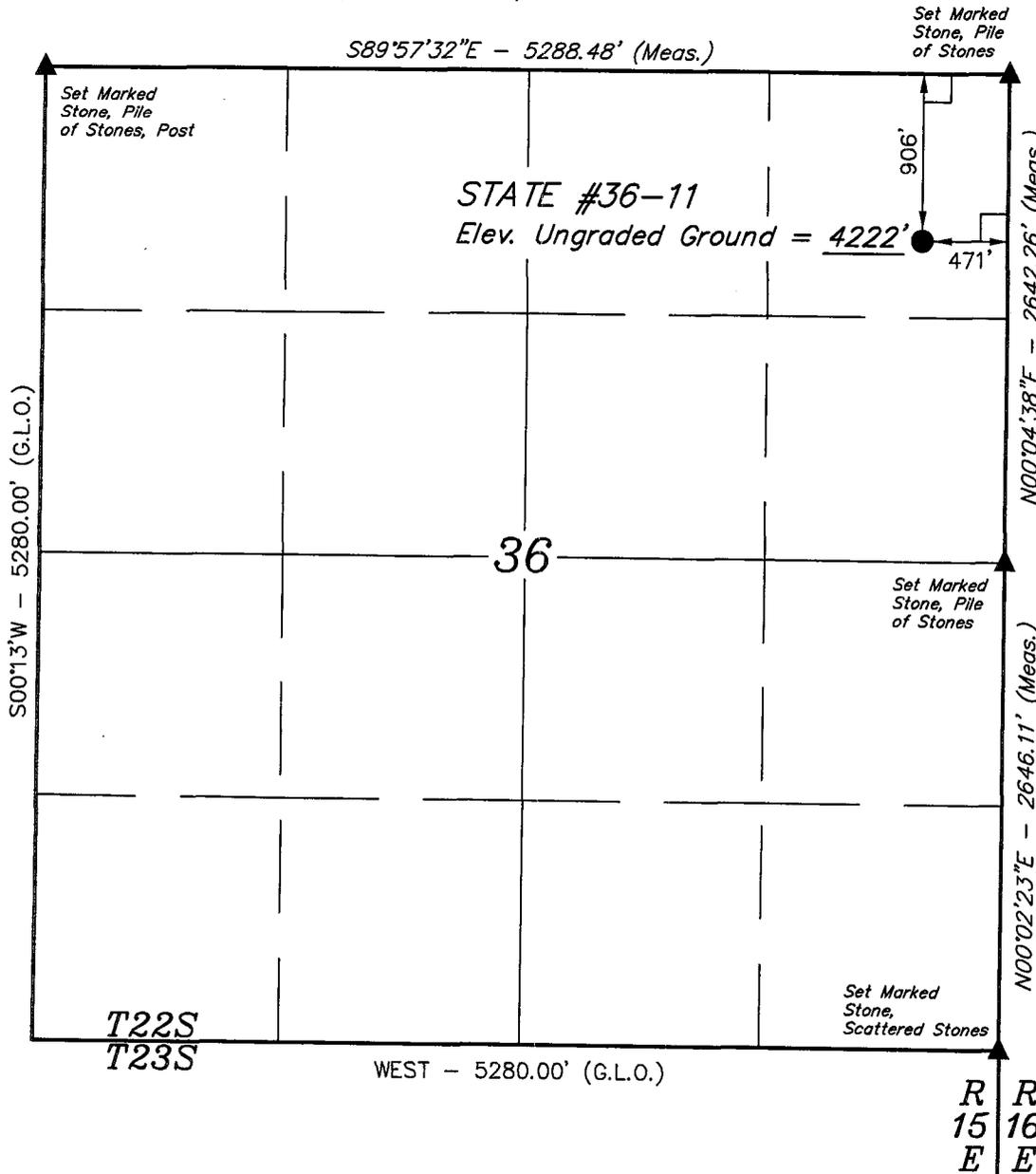
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R
15
E
R
16
E

DRILLING PLAN

APPROVAL OF OPERATIONS

Attachment for Permit to Drill

Name of Operator: Lonewolf Exploration & Production Company
Address: 6543 Elysian Road
Billings, MT 59101
Well Location: State #36-11
906' FNL & 471' FEL, NE/4 NE/4,
Section 36, T22S, R15E
Emery County, UT – Elevation 4,222'

1. GEOLOGIC SURFACE FORMATION Morrison

2 & 3. ESTIMATED DEPTHS OF IMPORTANT GEOLOGIC MARKERS AND FORMATIONS EXPECTED TO CONTAIN WATER, OIL AND GAS OR MINERALS

<u>Formation</u>	<u>Depth</u>
Morrison	Surface
Summerville	407 ft
Entrada	860 ft
Carmel	1,122 ft
Navajo	1,350 ft*
Kayenta	1,790 ft
Wingate	2,004 ft*
Chinle	2,325 ft
Shinarump	2,576 ft
Moenkope	2,649 ft
Sinbad	3,115 ft
White Rim	3,314 ft*
Organ Rock	3757 ft
Honaker Trail	4,025 ft*
Paradox	4897 ft
Paradox Salt	5,962 ft*
Leadville	8,271 ft
Mississippian	8,311 ft*
TD	8,446 ft

* PROSPECTIVE PAY

4. PROPOSED CASING PROGRAM

All casing used to drill this well will be new casing.

<u>Type</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Conn.</u>	<u>Top</u>	<u>Bottom</u>	<u>Hole</u>
Surface	9.625"	43.5 ppf	N-80	L&TC	0'	1,200'	12-1/4"
Production	5.500"	20.0 ppf	P-110	L&TC	0'	4500'	8 1/2"
	5.500"	23.0 ppf	P-110	L&TC	4500'	TD	8 1/2"

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DRILLING PLAN

APPROVAL OF OPERATIONS

5. OPERATOR'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

Surface hole: No BOPE will be utilized.

Production hole: Prior to drilling out the surface casing shoe, 5,000 psi BOP equipment will be installed. The pipe rams will be operated at least once per day from surface casing depth to total depth. The blind rams will be tested once per day from surface casing depth to total depth if operations permit.

A diagram of the planned BOP equipment for normal drilling operations in this area is attached. As denoted there will be two valves and one check valve on the kill line, two valves on the choke line, and two adjustable chokes on the manifold system. The BOP "stack" will consist of two BOP rams (1 pipe, 1 blind) and one annular type preventer, all rated to a minimum of 5,000 psi working pressure.

The BOP equipment will be pressure tested prior to drilling below the surface casing shoe. All test pressures will be maintained for fifteen (15) minutes without any significant pressure decrease. Clear water will be circulated into the BOP stack and lines prior to pressure testing. The BLM and the state of Utah Division of Oil, Gas and Mining will be notified 24 hours in advance of all BOP pressure tests.

6. MUD SYSTEMS

Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kick" will be available at the well site.

<u>Interval</u>	<u>Mud Weight (ppg)</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>Remarks</u>
0 – 40'	8.3 – 8.6	27-40	--	Native Spud Mud
40' – 1,200'	8.3 – 8.6	27-40	15 cc or less	Native/Gel/Lime
1,200' – 4750'	8.6 – 9.3	35-45	15 cc or less	Freshwater/KCl/Polymer
4750'-TD	9.3 – 12.5	45-55	15 cc or less	Freshwater/KCl/CaCl/ Salt Gel/Barite/Polymer

7. BLOOIE LINE

- An automatic igniter will not be installed on blooie line. The blooie will have a constant ignition source.
- A "target tee" connection will be installed on blooie line for 90° change of directions for abrasion resistance.
- "Target tee" connections will be a minimum of 50 feet from wellhead.
- The blooie line discharge will be a minimum of 100 feet from the wellhead.

8. AUXILIARY EQUIPMENT TO BE USED

- Upper Kelly cock; lower Kelly cock will be installed while drilling
- Inside BOP or stab-in valve (available on the rig floor)
- Safety valve(s) and subs to fit all string connections in use
- Mud monitoring will be visually observed

9. TESTING, LOGGING AND CORING PROGRAMS TO BE FOLLOWED

Cores None anticipated.
Testing None anticipated.
Sampling 30' samples; surface casing to TD
 Preserve samples all show intervals
Surveys Run every 1,000' and on trips
Logging DLL-GR-SP, FDC-CNL-GR-Caliper-Pe-Microlog, Sonic-GR, all TD to base of surface casing, GR through surface casing.

10. ANTICIPATED ABNORMAL PRESSURES OR TEMPERATURES EXPECTED

- No abnormal temperatures are anticipated.
- Based on offset well information, bottom Hole Pressure is expected at 5491 psi – 12.5 lb/gal. Barite will be on location to enable higher mud weights if needed.
- The formations to be penetrated do not contain known H₂S gas.

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DRILLING PLAN

APPROVAL OF OPERATIONS

11. **WATER SUPPLY**

- The water supply for construction, drilling and operations will be provided by the city of Green River, a local source of municipal water, through a direct water purchase.
- No water pipelines will be laid for this well.
- No water well will be drilled for this well.
- Drilling water for this will be hauled on the road(s) shown in Exhibit B.
- Should additional water sources be pursued they will be properly permitted through the State of Utah – Division of Water Rights.

12. **CEMENT SYSTEMS**

- Surface Casing: Lead: 165 sacks Rockies LT + 0.125lbm/sack Poly-E-Flake + 0.25 lbm/sack Kwik Seal + 17.3 gal/sack Fresh Water
 Weight: 11.5 ppg
 Yield: 2.94 cu.ft./sack
 Interval 700 feet to surface.
 Tail: 180 sacks Rockies LT + 0.125lbm/sack Poly-E-Flake + 0.25 lbm/sack Kwik Seal; + 9.33 gal/sack Fresh Water
 Weight: 13.5 ppg
 Yield: 1.80 cu.ft./sack
 Interval 1200 feet to 700 Feet.
 Cement will be circulated to surface with 100% excess

- Production Casing: 1960 sacks Premium Cement + 0.6% Halad R-413 + 12% Salt +0.2% CFR-3 + 0.2% HR-5 + 0.125 lbm/sack Poly-E-Flake+ 4.23 gal/sack Fresh Water;
 Weight: 16.5 ppg
 Yield: 1.09 cu.ft/sack
 Cement will be placed in two stages through the use of a stage tool. Depth determined based on potential pay sections, estimated at 4000 ft.
 Top of cement - 1000 feet.
 Volume will be log caliper +10% (volumes shown are for 25% over hole size)

13. **ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS**

Starting Date: July 1, 2007
Duration: 30 days, drilling and 40 days completion

SURFACE USE PLAN

Attachment for Permit to Drill

Name of Operator: Lonewolf Exploration & Production Company

Address: 6543 Elysian Road
Billings, MT 59101

Well Location: State #36-11
906' FNL & 471' FEL, NE/4 NE/4,
Section 36, T22S, R15E
Emery County, UT – Elevation 4,222'

The dirt contractor will be provided with an approved copy of this document prior to initiating construction. The well site is located on SITLA surface and SITLA mineral.

1. Existing Roads

- a. Proposed access road will utilize a 3.1 mile segment of the existing pavement surface Green River airport access road under Emery County maintenance from Green River town to the Flint Trail (See Exhibit "B").
- b. From the pavement surfaced Green River airport access road the existing gravel surface Flint Trail road under Emery County maintenance will be utilized for approximately 7.9 miles. The existing road will not be upgraded and an encroachment permit from Emery County will be secured prior to utilizing the road and constructing the proposed encroachment.
- c. We do not plan to change, alter or improve upon any other existing state or county roads.
- d. All existing roads will be maintained and kept in good repair during all phases of operation.
- e. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.
- f. A federal right-of-way is not anticipated at this time.

2. Planned Access Roads

- a. From the existing gravel surfaced Flint Trail access road an access is proposed trending east approximately 60' to the proposed well site. The access consists of entirely new disturbance and crosses no significant drainages.
- b. A road design plan is not anticipated at this time.
- c. The proposed access road will consist of a 24' travel surface within a 30' disturbed area across SITLA surface.
- d. SITLA approval to construct and utilize the proposed access road is requested with this application.
- e. A maximum grade of 10% will be maintained throughout the project with no major cuts and fills anticipated.
- f. No turnouts are proposed since the access road is only 60' long and adequate site distance exists in all directions.
- g. No low water crossings and one 18" culvert is anticipated. Adequate drainage structures will be incorporated into the remainder of the road.
- h. No surfacing material will come from federal or State lands.
- i. No gates or cattle guards are anticipated at this time.
- j. Surface disturbance and vehicular travel will be limited to the approved location access road.
- k. The operator will be responsible for all maintenance of the access road including drainage structures.

3. Location of Existing Wells

- a. See Exhibit "B". There are no proposed and no existing wells within a one mile radius of the proposed location.

4. Location of Existing and/or Proposed Facilities

- a. If the well is deemed productive a sundry notice reflecting the production site layout will be submitted for approval.
- b. Rehabilitation of all pad areas not used for production facilities will be made in accordance with SITLA stipulations.

5. Location and Type of Water Supply

- a. The location and type of water supply has been addressed as #11 within Exhibit "D". (Drilling Plan).

6. Source of Construction Materials

- a. Any necessary construction materials needed will be obtained locally from a private source and hauled to the location on existing roads.

7. Methods for handling waste disposal

- a. A small reserve pit will be constructed with a minimum of one-half the total depth below the original ground surface on the lowest point within the pit. The pit will be lined with a synthetic liner. Three sides of the reserve pit will be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.
- b. Following drilling, the liquid waste will be evaporated from the pit and the pit backfilled and returned to natural grade. No liquid hydrocarbons will be discharged to the reserve pit or location.
- c. In the event fluids are produced, any oil will be retained in tanks until sold and any water produced will be retained until its quality can be determined. The quality and quantity of the water will determine the method of disposal.
- d. Trash will be contained in a portable metal container and will be hauled from location periodically and disposed of at an approved disposal site. Chemical toilets will be placed on location and sewage will be disposed of at an appropriate disposal site.

8. Ancillary Facilities

- a. We anticipate no need for ancillary facilities with the exception of trailers to be located on the drill site.

9. Well-site Layout

- a. Available topsoil will be removed from the location and stockpiled. The location of the rig, reserve and blooie pits, and drilling support equipment will be located as shown on Exhibit "A", Figure 1 (Location Layout).
- b. A blooie pit will be located 100' from the drill hole. A line will be placed on the surface from the center hole to the blooie pit. The blooie pit will not be lined, but will be fenced on four sides to protect livestock/wildlife.
- c. Access to the well pad will be as shown on the location layout.
- d. Natural runoff will be diverted around the well pad as shown on the location layout.

10. Plans for Restoration of Surface

- a. All surface areas not required for producing operations will be graded to as near original condition as possible and contoured to maintain possible erosion to a minimum.
- b. Available topsoil will be stockpiled and will be evenly distributed over the disturbed areas and the area will be reseeded as prescribed by the SITLA.
- c. Pits and any other area that would present a hazard to wildlife or livestock will be fenced off when the rig is released and removed.
- d. Any oil accumulation on the pit will be removed or overhead flagged as dictated by then existing conditions.
- e. Rehabilitation will commence following completion of the well. Holes will be filled immediately upon release of the drilling rig from the location. If the well-site is to be abandoned, all disturbed areas will be re-contoured to the natural contour as is possible.

11. Surface Ownership

- a. Surface Ownership – State of Utah – under the management of the SITLA - State Office, 675 East 500 South, Suite 500, Salt Lake, City, Utah 84102-2818; 801-538-5100.
- b. Mineral Ownership – State of Utah – under the management of the SITLA - State Office, 675 East 500 South, Suite 500, Salt Lake, City, Utah 84102-2818; 801-538-5100.
- c. The operator shall contact the surface representative and the Division of Oil, Gas and Mining 48 hours prior to beginning construction activities.

12. Other Information:

- a. The primary surface use is wildlife habitat and grazing. The nearest dwelling is near Green River approximately 9 miles northeast of the proposed location. The nearest live water is Horse Bench Reservoir 1,300' southwest.
- b. If there is snow on the ground when construction begins, it will be removed before the soil is disturbed, and piled downhill from the topsoil stockpile location.
- c. The back-slope and fore-slope will be constructed no steeper than 3:1.
- d. All equipment and vehicles will be confined to the access road and well pad.
- e. A complete copy of the approved Application for Permit to Drill (APD) including conditions and stipulations and the surface use agreement shall be on the well-site during construction and drilling operations.
- f. There will be no deviation from the proposed drilling and/or workover program without prior approval from the Division of Oil, Gas & Mining.

13. **Company Representative**

Trent Sizemore
Lonewolf Exploration & Production Company
6543 Elysian Road; Billings, MT 59101
(406) 255-0637

Company Agent

Don Hamilton
Buys & Associates, Inc
2580 Creekview Road; Moab, Utah 84532
435-718-2018

14. **Certification**

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed by Lonewolf Exploration & Production Company and its subcontractors in conformity with this plan and the terms and conditions under which it is approved.

6-12-07
Date

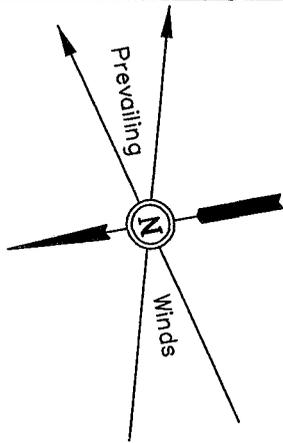
Don Hamilton
Don Hamilton
Agent for Lonewolf Exploration & Production Company

Lonewon Exploration & Production Company

FIGURE #1

LOCATION LAYOUT FOR

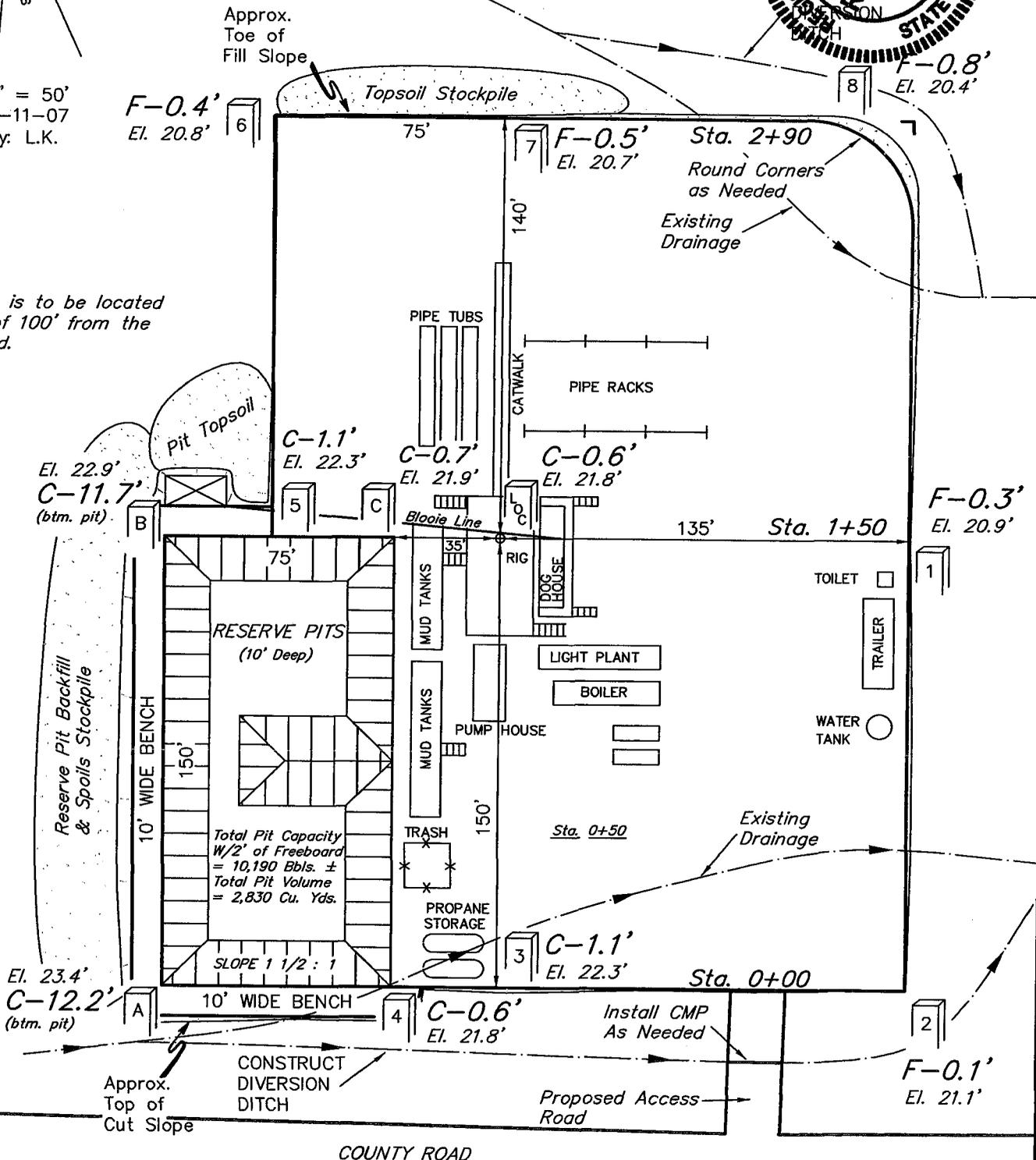
STATE #36-11
SECTION 36, T22S, R15E, S.L.B.&M.
906' FNL 471' FEL



SCALE: 1" = 50'
DATE: 06-11-07
Drawn By: L.K.

NOTE:

Flare Pit is to be located a min. of 100' from the Well Head.



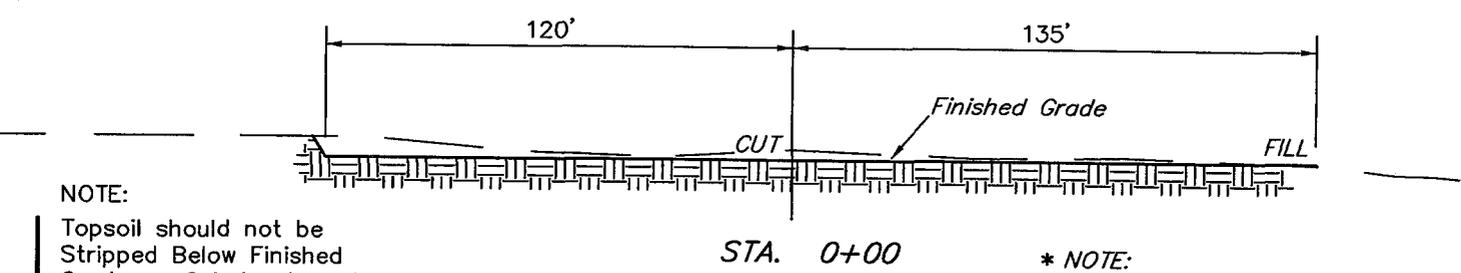
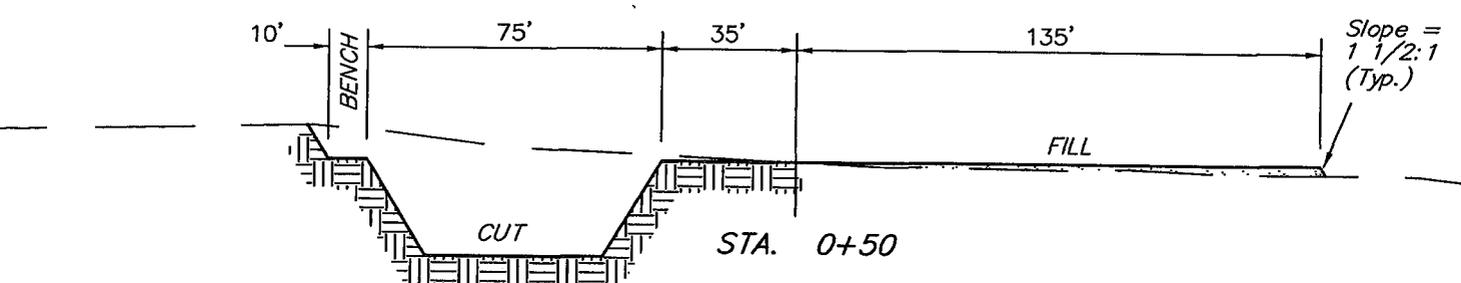
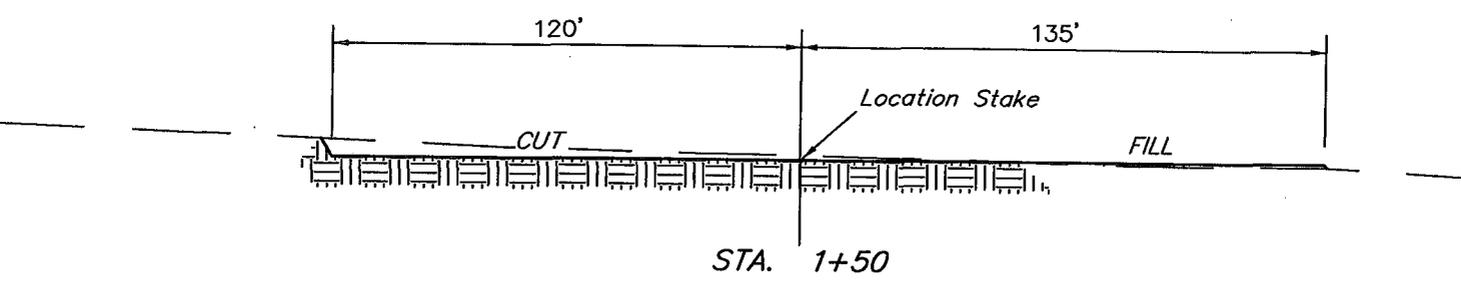
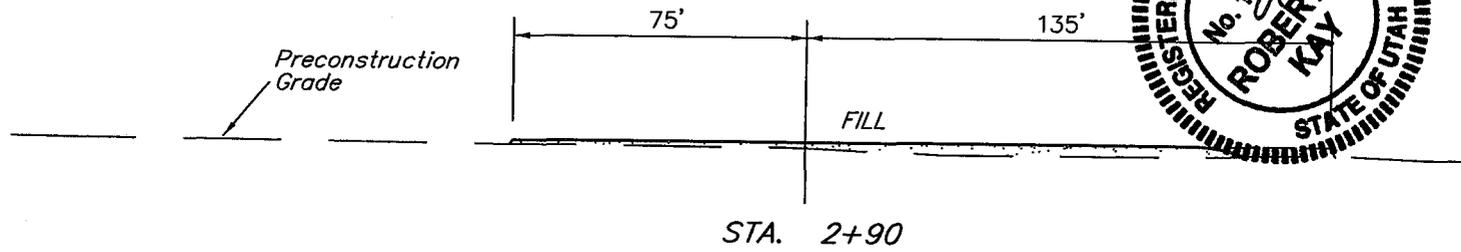
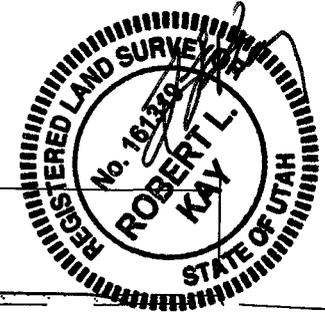
NOTES:

Elev. Ungraded Ground At Loc. Stake = 4221.8'
FINISHED GRADE ELEV. AT LOC. STAKE = 4221.2'

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

TYPICAL CROSS SECTIONS FOR
 STATE #36-11
 SECTION 36, T22S, R15E, S.L.B.&M.
 906' FNL 471' FEL

1" = 20'
 X-Section Scale
 1" = 50'
 DATE: 06-11-07
 Drawn By: L.K.



NOTE:
 Topsoil should not be Stripped Below Finished Grade on Substructure Area.

* NOTE:
 FILL QUANTITY INCLUDES 5% FOR COMPACTION

APPROXIMATE YARDAGES

CUT	
(6") Topsoil Stripping	= 1,350 Cu. Yds.
Remaining Location	= 3,410 Cu. Yds.
TOTAL CUT	= 4,760 CU.YDS.
FILL	= 1,990 CU.YDS.

EXCESS MATERIAL	= 2,770 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 2,770 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	= 0 Cu. Yds.

Lonewolf Exploration & Production Company

STATE #36-11

LOCATED IN EMERY COUNTY, UTAH
SECTION 36, T22S, R15E, S.L.B.&M.



PHOTO: VIEW OF LOCATION STAKE

CAMERA ANGLE: SOUTHERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: EASTERLY



- Since 1964 -

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS

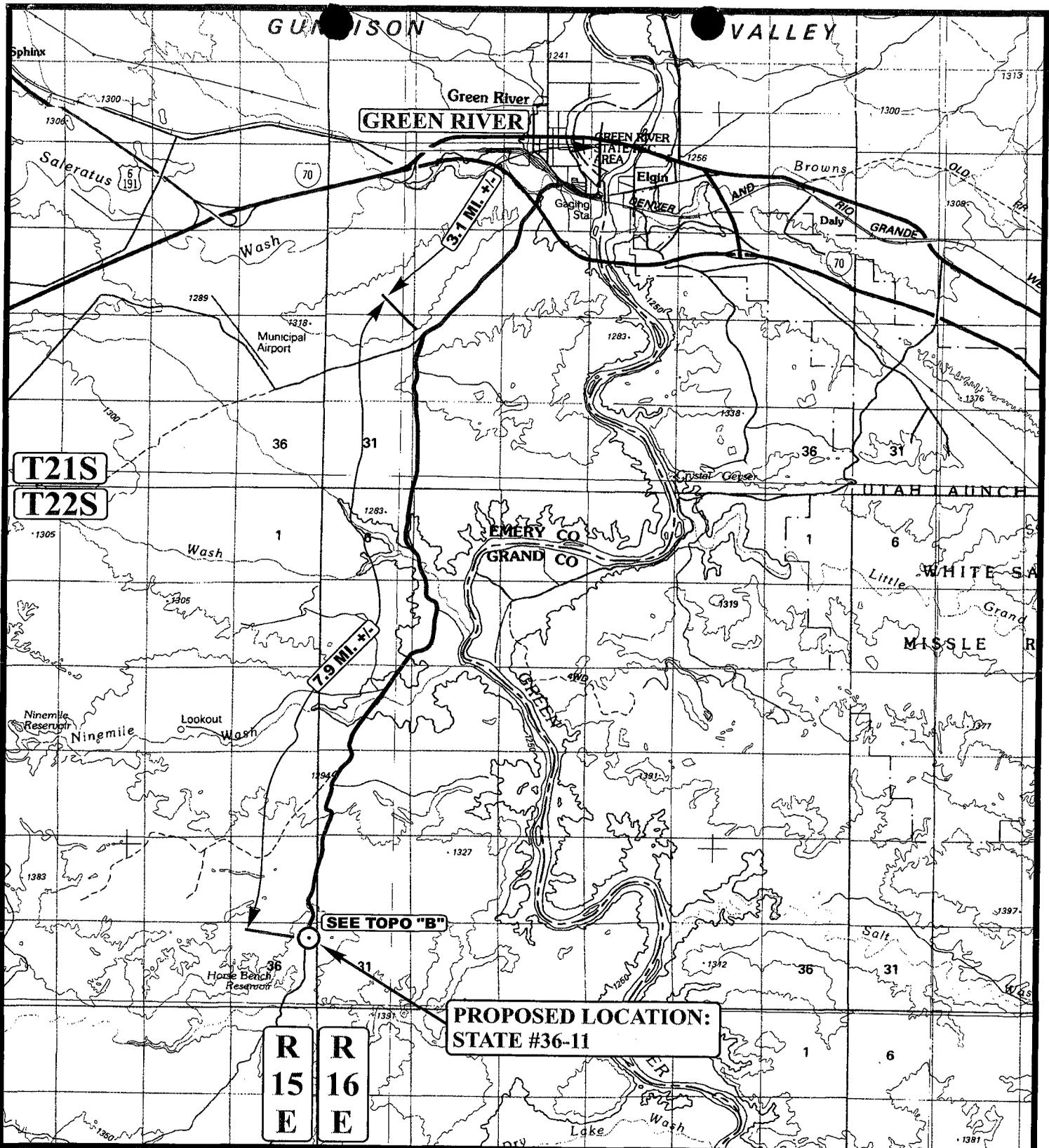
04 30 07
MONTH DAY YEAR

PHOTO

TAKEN BY: L.K.

DRAWN BY: L.K.

REVISED: 06-11-07



LEGEND:

⊙ PROPOSED LOCATION



Lonewolf Exploration & Production Company

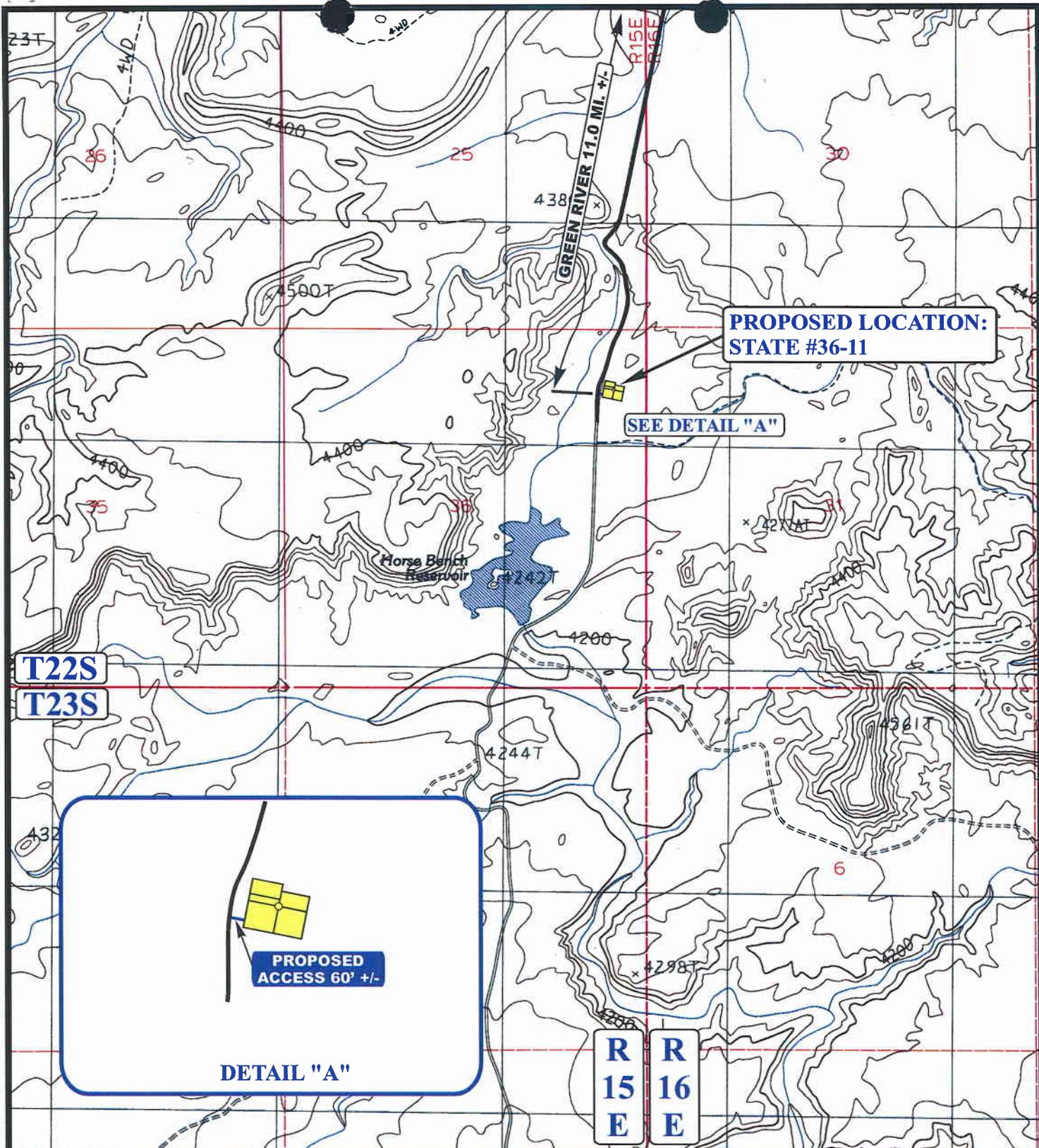
STATE #36-11
SECTION 36, T22S, R15E, S.L.B.&M.
906' FNL 471' FEL



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

TOPOGRAPHIC 04 30 07
MAP MONTH DAY YEAR
 SCALE: 1:100,000 DRAWN BY: L.K. REVISED: 06-11-07





**PROPOSED LOCATION:
STATE #36-11**

SEE DETAIL "A"

**T22S
T23S**

**R 15 E
R 16 E**

LEGEND:

- EXISTING ROAD
- PROPOSED ACCESS ROAD



Lonewolf Exploration & Production Company

**STATE #36-11
SECTION 36, T22S, R15E, S.L.B.&M.
906' FNL 471' FEL**

U E I S Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAG (435) 789-1813

TOPOGRAPHIC MAP 04 30 07
MONTH DAY YEAR
SCALE: 1" = 2000' DRAWN BY: L.K. REVISED: 06-11-07

B
TOPO

DRILLING PLAN

APPROVAL OF OPERATIONS

Attachment for Permit to Drill

Name of Operator: Lonewolf Exploration & Production Company

Address: 6543 Elysian Road
Billings, MT 59101

Well Location: State #36-14
2,086' FNL & 527' FEL, SE/4 NE/4,
Section 36, T22S, R15E
Emery County, UT

1. GEOLOGIC SURFACE FORMATION Morrison

2 & 3. ESTIMATED DEPTHS OF IMPORTANT GEOLOGIC MARKERS AND FORMATIONS EXPECTED TO CONTAIN WATER, OIL AND GAS OR MINERALS

<u>Formation</u>	<u>Depth</u>
Morrison	Surface
Summerville	405 ft
Entrada	858 ft
Carmel	1,120 ft
Navajo	1,348 ft*
Kayenta	1,788 ft
Wingate	2,002 ft*
Chinle	2,323 ft
Shinarump	2,574 ft
Moenkope	2,647 ft
Sinbad	3,113 ft
White Rim	3,312 ft*
Organ Rock	3755 ft
Honaker Trail	4,023 ft*
Paradox	4895 ft
Paradox Salt	5,960 ft*
Leadville	8,269 ft
Mississippian	8,309 ft*
TD	8,448 ft

* PROSPECTIVE PAY

4. PROPOSED CASING PROGRAM

All casing used to drill this well will be new casing.

<u>Type</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Conn.</u>	<u>Top</u>	<u>Bottom</u>	<u>Hole</u>
Surface	9.625"	43.5 ppf	N-80	L&TC	0'	1,200'	12-1/4"
Production	5.500"	20.0 ppf	P-110	L&TC	0'	8,448'	8 1/2"

CONFIDENTIAL

DRILLING PLAN

APPROVAL OF OPERATIONS

5. OPERATOR'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

Surface hole: No BOPE will be utilized.

Production hole: Prior to drilling out the surface casing shoe, 5,000 psi BOP equipment will be installed. The pipe rams will be operated at least once per day from surface casing depth to total depth. The blind rams will be tested once per day from surface casing depth to total depth if operations permit.

A diagram of the planned BOP equipment for normal drilling operations in this area is attached. As denoted there will be two valves and one check valve on the kill line, two valves on the choke line, and two adjustable chokes on the manifold system. The BOP "stack" will consist of two BOP rams (1 pipe, 1 blind) and one annular type preventer, all rated to a minimum of 5,000 psi working pressure.

The BOP equipment will be pressure tested prior to drilling below the surface casing shoe. All test pressures will be maintained for fifteen (15) minutes without any significant pressure decrease. Clear water will be circulated into the BOP stack and lines prior to pressure testing. The BLM and the state of Utah Division of Oil, Gas and Mining will be notified 24 hours in advance of all BOP pressure tests.

6. MUD SYSTEMS

Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kick" will be available at the well site.

<u>Interval</u>	<u>Mud Weight (ppg)</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>Remarks</u>
0 – 40'	8.3 – 8.6	27-40	--	Native Spud Mud
40' – 1,200'	8.3 – 8.6	27-40	15 cc or less	Native/Gel/Lime
1,200' – 4750'	8.6 – 9.3	35-45	15 cc or less	Freshwater/KCl/Polymer
4750'-TD	9.3 – 12.5	45-55	15 cc or less	Freshwater/KCl/CaCl/ Salt Gel/Barite/Polymer

7. BLOOIE LINE

- An automatic igniter will not be installed on blooie line. The blooie will have a constant ignition source.
- A "target tee" connection will be installed on blooie line for 90° change of directions for abrasion resistance.
- "Target tee" connections will be a minimum of 50 feet from wellhead.
- The blooie line discharge will be a minimum of 100 feet from the wellhead.

8. AUXILIARY EQUIPMENT TO BE USED

- Upper Kelly cock; lower Kelly cock will be installed while drilling
- Inside BOP or stab-in valve (available on the rig floor)
- Safety valve(s) and subs to fit all string connections in use
- Mud monitoring will be visually observed

9. TESTING, LOGGING AND CORING PROGRAMS TO BE FOLLOWED

Cores None anticipated.
Testing None anticipated.
Sampling 30' samples; surface casing to TD
 Preserve samples all show intervals
Surveys Run every 1,000' and on trips
Logging DLL-GR-SP, FDC-CNL-GR-Caliper-Pe-Microlog, Sonic-GR, all TD to base of surface casing, GR through surface casing.

10. ANTICIPATED ABNORMAL PRESSURES OR TEMPERATURES EXPECTED

- No abnormal temperatures are anticipated.
- Based on offset well information, bottom Hole Pressure is expected at 5491 psi – 12.5 lb/gal. Barite will be on location to enable higher mud weights if needed.
- The formations to be penetrated do not contain known H₂S gas.

CONFIDENTIAL

DRILLING PLAN

APPROVAL OF OPERATIONS

11. **WATER SUPPLY**

- The water supply for construction, drilling and operations will be provided by the city of Green River, a local source of municipal water, through a direct water purchase.
- No water pipelines will be laid for this well.
- No water well will be drilled for this well.
- Drilling water for this will be hauled on the road(s) shown in Exhibit B.
- Should additional water sources be pursued they will be properly permitted through the State of Utah – Division of Water Rights.

12. **CEMENT SYSTEMS**

- Surface Casing: Lead: 165 sacks Rockies LT + 0.125lbm/sack Poly-E-Flake + 0.25 lbm/sack Kwik Seal + 17.3 gal/sack Fresh Water
 Weight: 11.5 ppg
 Yield: 2.94 cu.ft./sack
 Interval 700 feet to surface.
 Tail: 180 sacks Rockies LT + 0.125lbm/sack Poly-E-Flake + 0.25 lbm/sack Kwik Seal; + 9.33 gal/sack Fresh Water
 Weight: 13.5 ppg
 Yield: 1.80 cu.ft./sack
 Interval 1200 feet to 700 Feet.
 Cement will be circulated to surface with 100% excess

- Production Casing: 1960 sacks Premium Cement + 0.6% Halad R-413 + 12% Salt +0.2% CFR-3 + 0.2% HR-5 + 0.125 lbm/sack Poly-E-Flake+ 4.23 gal/sack Fresh Water;
 Weight: 16.5 ppg
 Yield: 1.09 cu.ft./sack
 Cement will be placed in two stages through the use of a stage tool. Depth determined based on potential pay sections, estimated at 4000 ft.
 Top of cement - 1000 feet.
 Volume will be log caliper +10% (volumes shown are for 25% over hole size)

13. **ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS**

Starting Date: June 15, 2007
Duration: 30 days, drilling and 40 days completion

SURFACE USE PLAN

Attachment for Permit to Drill

Name of Operator: Lonewolf Exploration & Production Company

Address: 6543 Elysian Road
Billings, MT 59101

Well Location: State #36-14
2,086' FNL & 527' FEL, SE/4 NE/4,
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The dirt contractor will be provided with an approved copy of this document prior to initiating construction. The well site is located on SITLA surface and SITLA mineral.

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- a. Proposed access road will utilize a 3.1 mile segment of the existing pavement surface Green River airport access road under Emery County maintenance from Green River town to the Flint Trail (See Exhibit "B").
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- c. We do not plan to change, alter or improve upon any other existing state or county roads.
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2. Planned Access Roads

- a. From the existing gravel surfaced Flint Trail access road an access is proposed trending east approximately 90' to the proposed well site. The access consists of entirely new disturbance and crosses no significant drainages.
- b. A road design plan is not anticipated at this time.
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Lonewolf Exploration & Production Company
6543 Elysian Road; Billings, MT 59101
(406) 255-0637

Company Agent

Don Hamilton
Buys & Associates, Inc
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435-718-2018

14. **Certification**

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed by Lonewolf Exploration & Production Company and its subcontractors in conformity with this plan and the terms and conditions under which it is approved.

5-10-07
Date

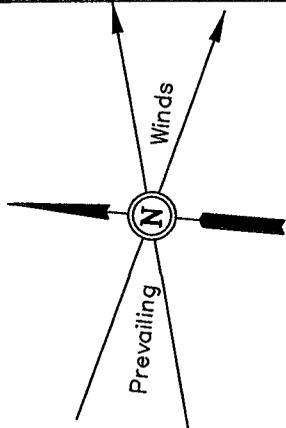
Don Hamilton
Don Hamilton
Agent for Lonewolf Exploration & Production Company

Lonewolf Exploration & Production Company

FIGURE #1

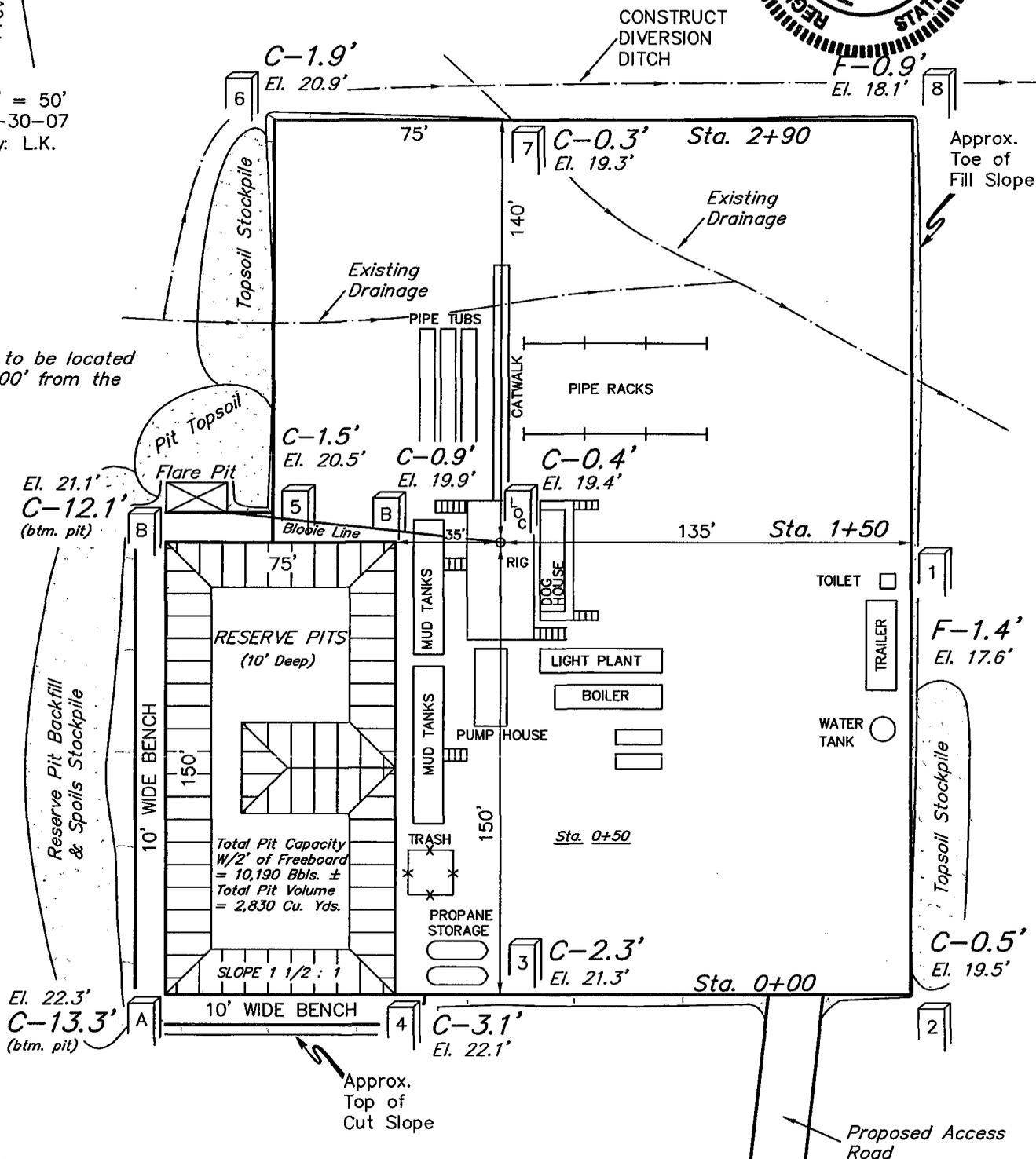
LOCATION LAYOUT FOR

STATE #36-14
SECTION 36, T22S, R15E, S.L.B.&M.
2086' FNL 527' FEL



SCALE: 1" = 50'
DATE: 04-30-07
Drawn By: L.K.

NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.



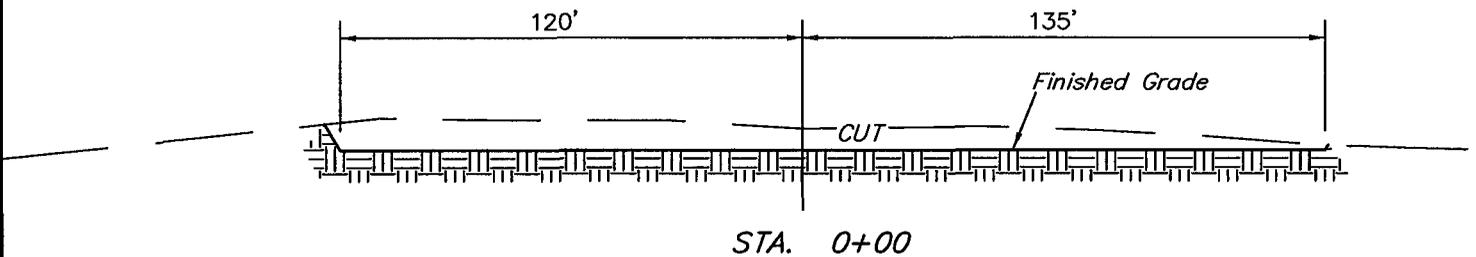
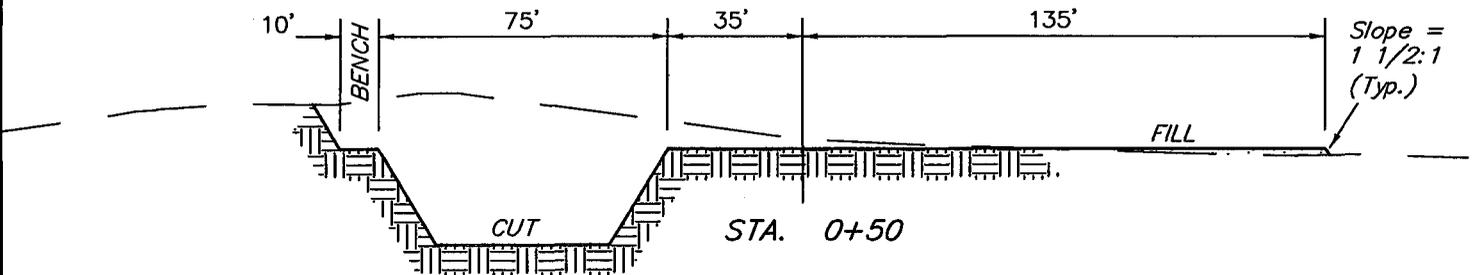
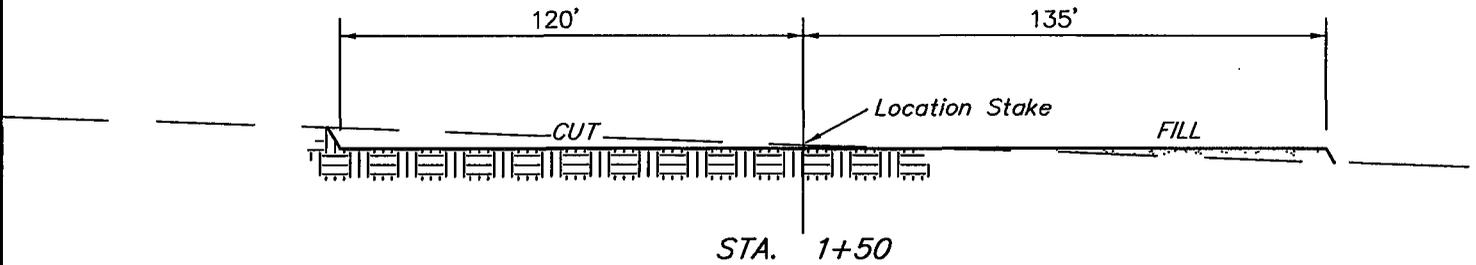
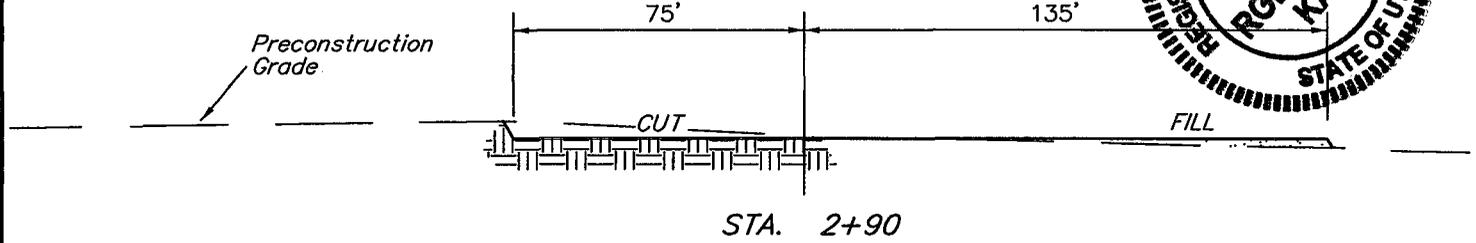
NOTES:

Elev. Ungraded Ground At Loc. Stake = 4219.4'
FINISHED GRADE ELEV. AT LOC. STAKE = 4219.0'

TYPICAL CROSS SECTIONS FOR
 STATE #36-14
 SECTION 36, T22S, R15E, S.L.B.&M.
 2086' FNL 527' FEL

1" = 20'
 X-Section
 Scale
 1" = 50'

DATE: 04-30-07
 Drawn By: L.K.



APPROXIMATE YARDAGES

CUT	
(6") Topsoil Stripping	= 1,370 Cu. Yds.
Remaining Location	= 4,790 Cu. Yds.
TOTAL CUT	= 6,160 CU.YDS.
FILL	= 1,850 CU.YDS.

EXCESS MATERIAL	= 4,310 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 2,790 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	= 1,520 Cu. Yds.

Lonewolf Exploration & Production Company

STATE #36-14

LOCATED IN EMERY COUNTY, UTAH
SECTION 36, T22S, R15E, S.L.B.&M.

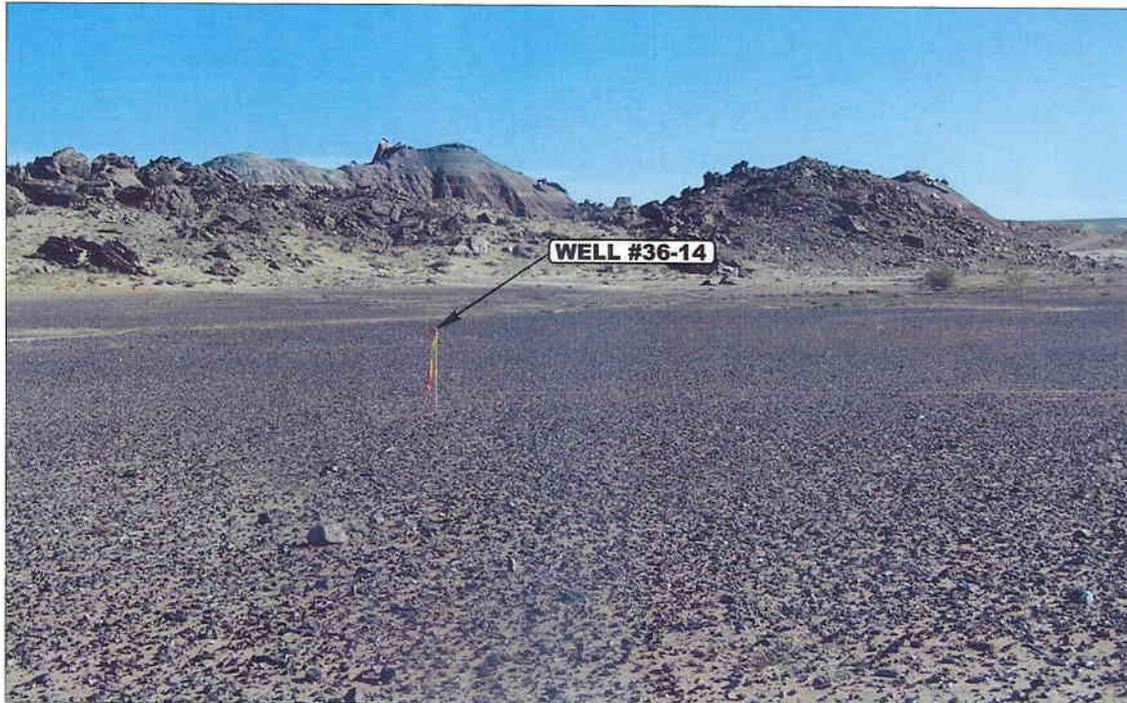


PHOTO: VIEW OF PROPOSED WELL HEAD

CAMERA ANGLE: SOUTHERLY

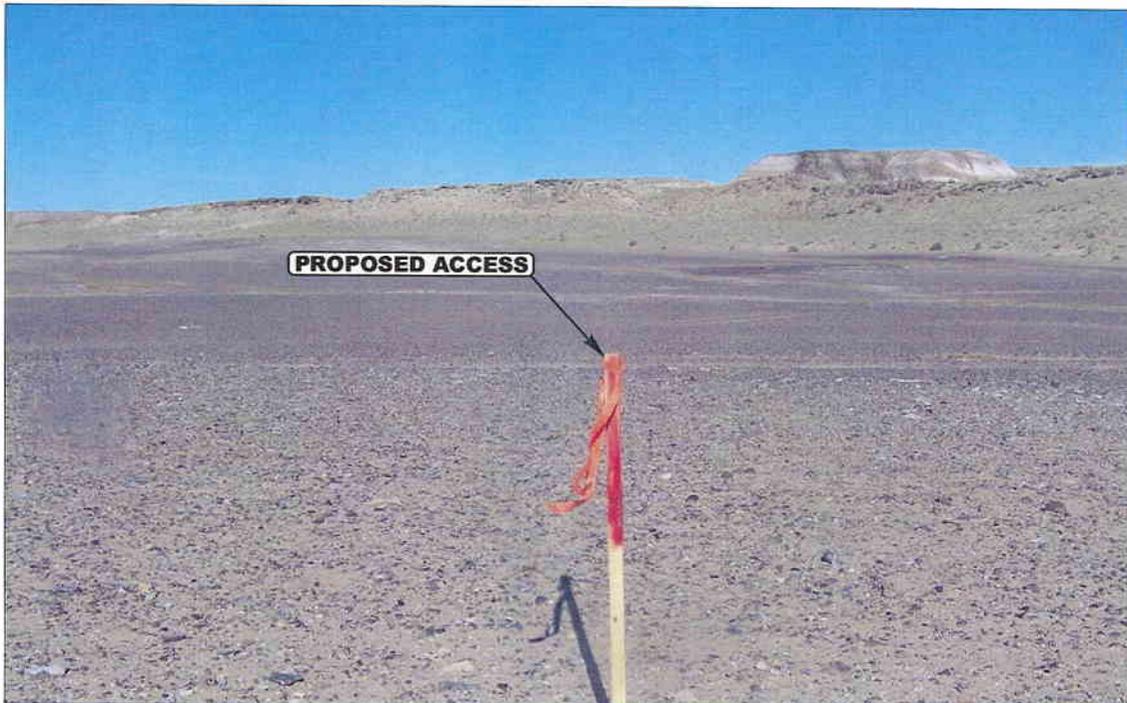


PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: EASTERLY



- Since 1964 -

**U
E
L
S** Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS

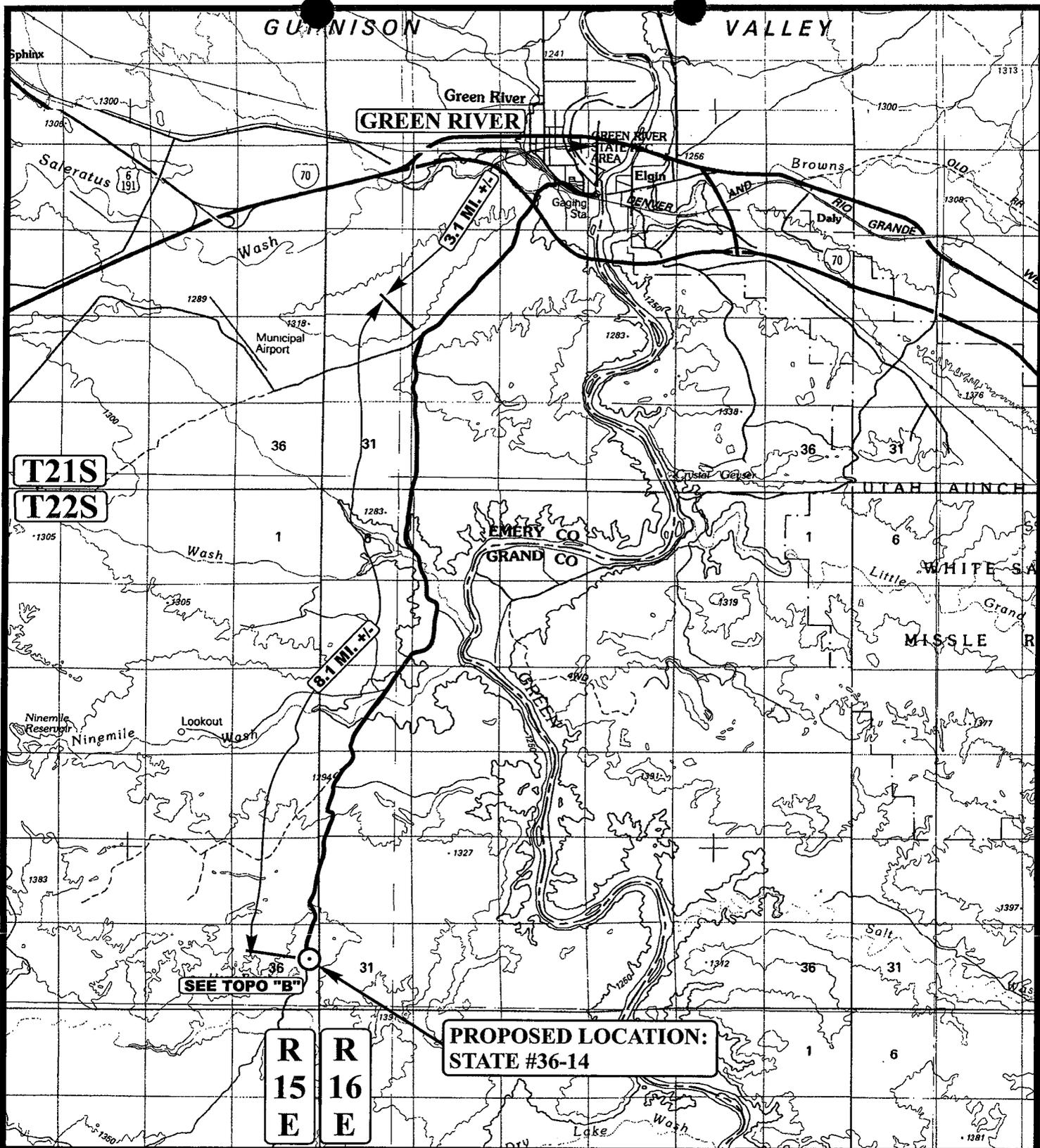
04 30 07
MONTH DAY YEAR

PHOTO

TAKEN BY: L.K.

DRAWN BY: L.K.

REVISED: 05-08-07



LEGEND:

○ PROPOSED LOCATION



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



Lonewolf Exploration & Production Company

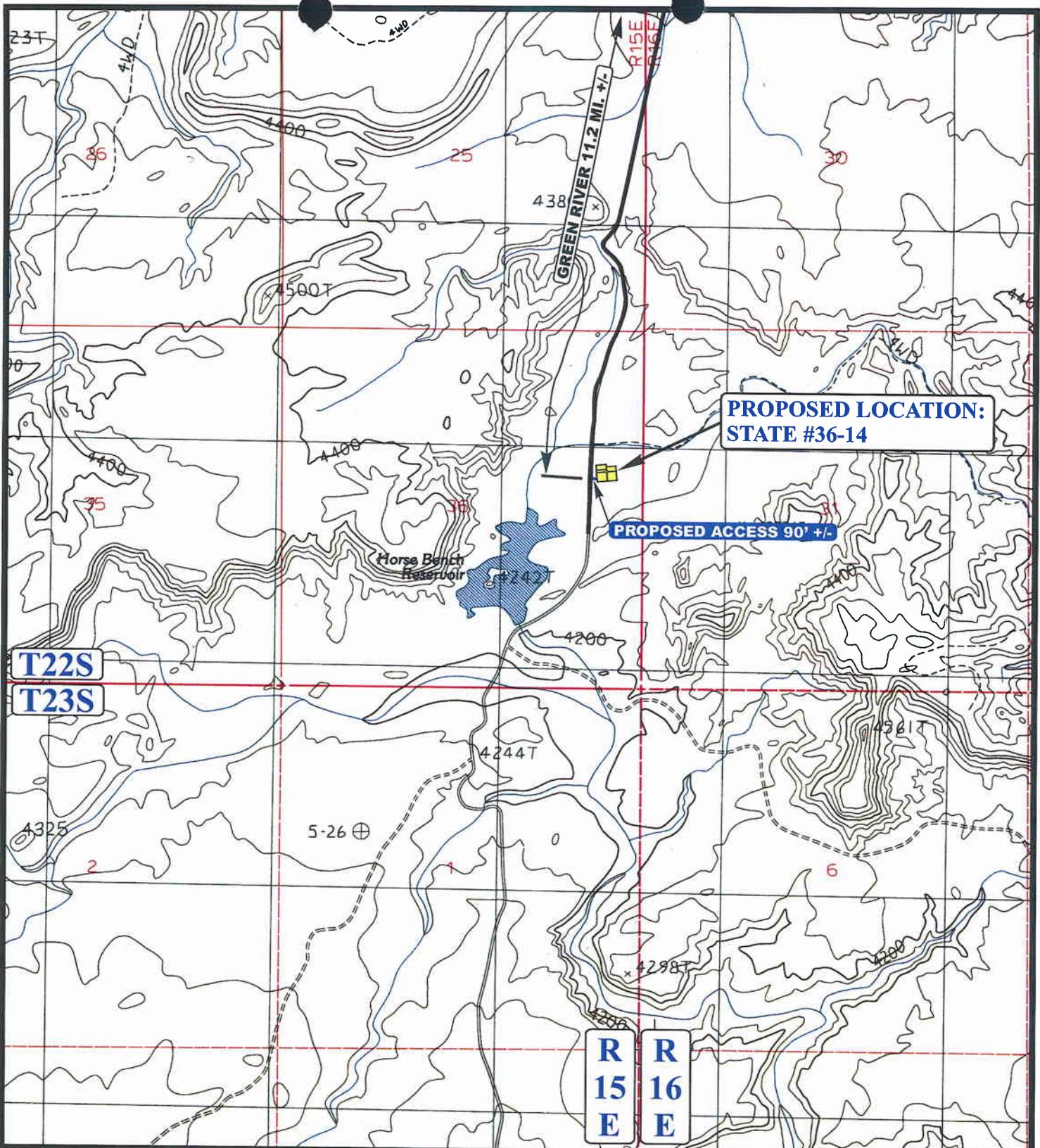
STATE #36-14
SECTION 36, T22S, R15E, S.L.B.&M.
2086' FNL 527' FEL

TOPOGRAPHIC
MAP

04 30 07
 MONTH DAY YEAR

SCALE: 1:100,000 | DRAWN BY: L.K. | REVISED: 00-00-00





LEGEND:

-  EXISTING ROAD
-  PROPOSED ACCESS ROAD

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

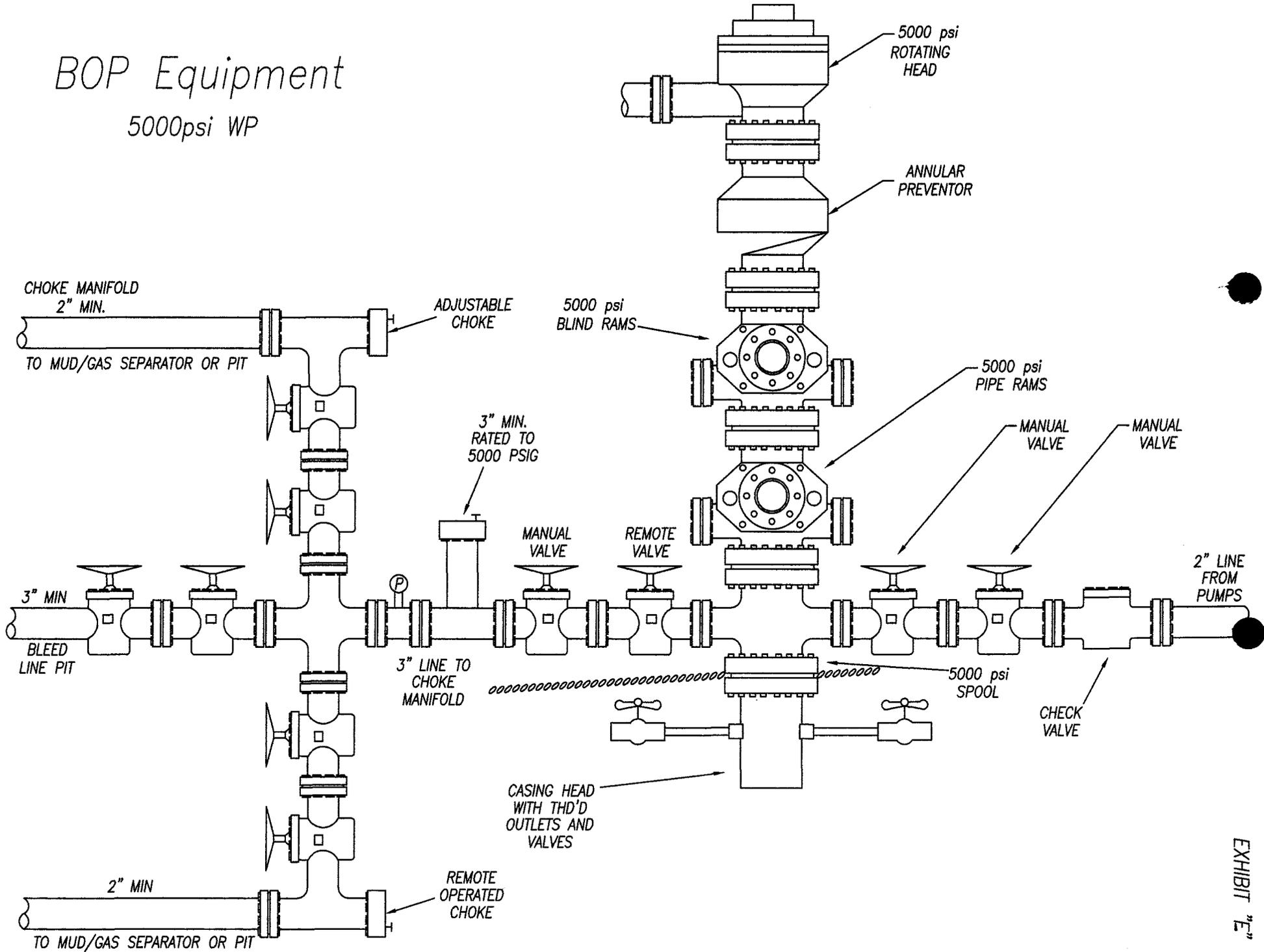
Lonewolf Exploration & Production Company
STATE #36-14
SECTION 36, T22S, R15E, S.L.B.&M.
2086' FNL 527' FEL

TOPOGRAPHIC 04 30 07
MAP MONTH DAY YEAR
 SCALE: 1" = 2000' DRAWN BY: L.K. REVISED: 00-00-00



BOP Equipment

5000psi WP



**WORKSHEET
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 05/11/2007

API NO. ASSIGNED: 43-015-30715

WELL NAME: STATE 36-1
 OPERATOR: LONEWOLF E&P COMPANY (N3165)
 CONTACT: DON HAMILTON

PHONE NUMBER: 406-255-0637

PROPOSED LOCATION:

NENE 36 220S 150E
 SURFACE: 0906 FNL 0471 FEL
 BOTTOM: 0906 FNL 0471 FEL
 COUNTY: EMERY
 LATITUDE: 38.85930 LONGITUDE: -110.2107
 UTM SURF EASTINGS: 568485 NORTHINGS: 4301251
 FIELD NAME: WILDCAT (1)

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering	DKD	6/25/07
Geology		
Surface		

LEASE TYPE: 3 - State
 LEASE NUMBER: ML-50652
 SURFACE OWNER: 3 - State

PROPOSED FORMATION: MSSP
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]
(No. 104664)
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit
(No. MUNICIPAL)
- RDCC Review (Y/N)
(Date: 05/29/2007)
- 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:

Drill (5-25-06)

STIPULATIONS:

- 1- Spacing Strip
- 2- Cement slp #3 (5 1/2" production, 1000' MD)
- 3- STATEMENT OF BASIS

T22S R15E

T22S R16E

STATE 36-14

36

T23S R15E

T23S R16E

OPERATOR: LONEWOLF EXPL (N3165)

SEC: 36 T.22S R. 15E

FIELD: WILDCAT (001)

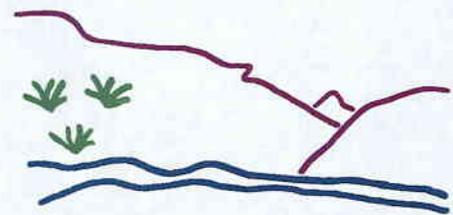
COUNTY: EMERY

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: 18-JUNE-2007

**WORKSHEET
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 05/11/2007

API NO. ASSIGNED: 43-015-30715

WELL NAME: STATE 36-14
 OPERATOR: LONEWOLF E&P COMPANY (N3165)
 CONTACT: DON HAMILTON

PHONE NUMBER: 406-255-0637

PROPOSED LOCATION:

SENE 36 220S 150E
 SURFACE: 2086 FNL 0527 FEL
 BOTTOM: 2086 FNL 0527 FEL
 COUNTY: EMERY
 LATITUDE: 38.85605 LONGITUDE: -110.2109
 UTM SURF EASTINGS: 568469 NORTHINGS: 4300891
 FIELD NAME: WILDCAT (1)

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

LEASE TYPE: 3 - State
 LEASE NUMBER: ML-50652
 SURFACE OWNER: 3 - State

PROPOSED FORMATION: MSSP
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]
(No. 104664)
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit
(No. MUNICIPAL)
- RDCC Review (Y/N)
(Date: 05/29/2007)
- Fee Surf Agreement (Y/N)
- Intent to Commingle (Y/N)

LOCATION AND SITING:

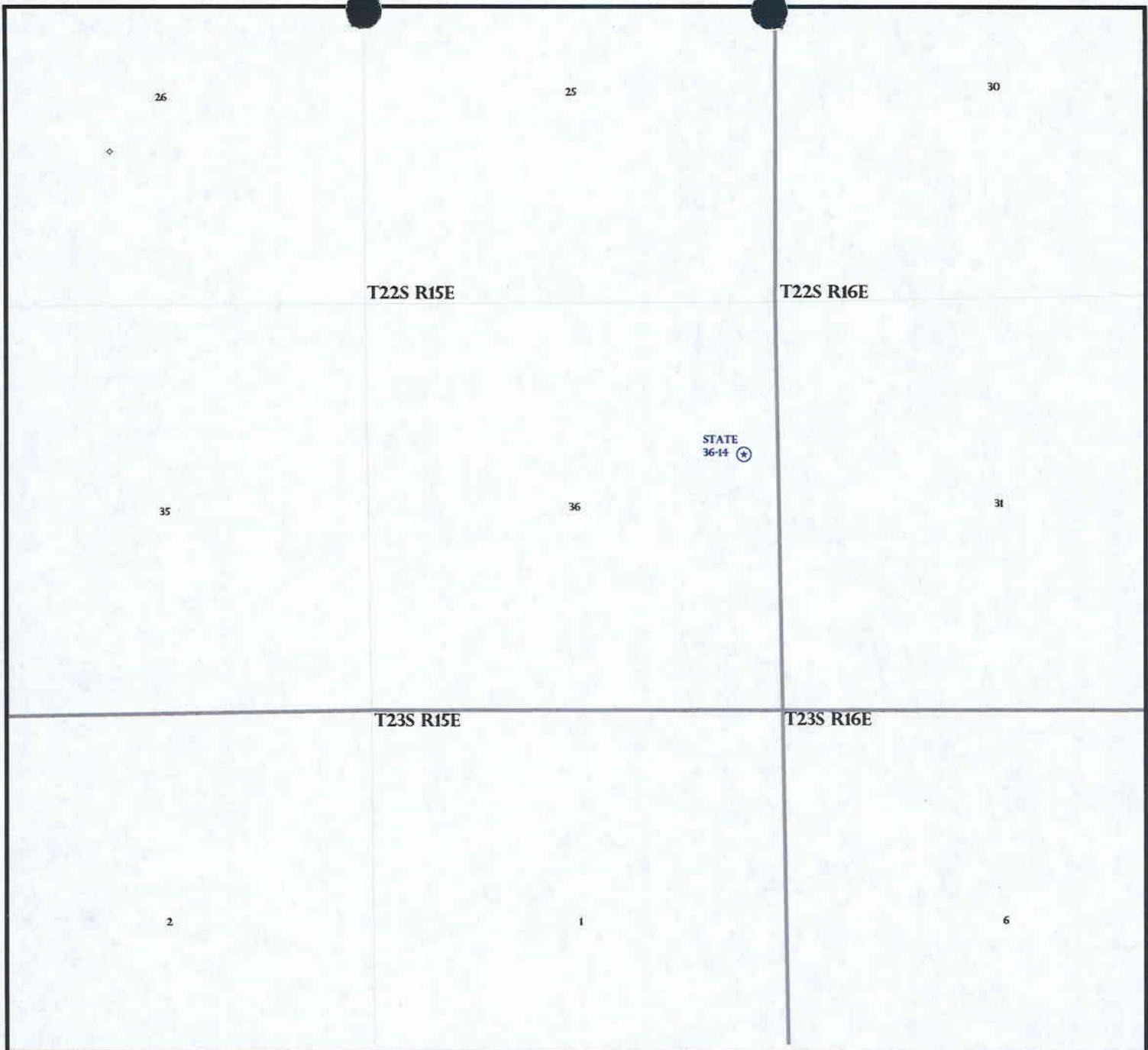
- R649-2-3.
- Unit: _____
- R649-3-2. General
Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- Drilling Unit
- Board Cause No: _____
- Eff Date: _____
- Siting: _____
- R649-3-11. Directional Drill

COMMENTS:

Needs Pres to (05-25-07)

STIPULATIONS:

- 1- Spacing Str
- 2- STATEMENT OF BASIS



OPERATOR: LONEWOLF EXPL & PROD (N3165)

SEC: 36 T.22S R. 15E

FIELD: WILDCAT (001)

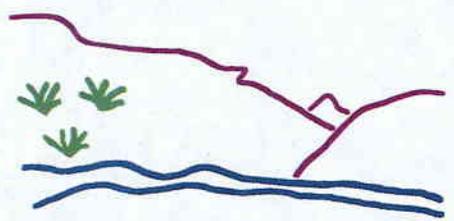
COUNTY: EMERY

SPACING: R649-3-2 / GENERAL SITING

- 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: 14-MAY-2007

Application for Permit to Drill

Statement of Basis

6/19/2007

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM
411	43-015-30715-00-00		GW	S	No
Operator	LONEWOLF E&P COMPANY		Surface Owner-APD		
Well Name	STATE 36-14		Unit		
Field	WILDCAT		Type of Work		
Location	NENE 36 22S 15E S 906 FNL 471 FEL GPS Coord (UTM) 568485E 4301251N				

Geologic Statement of Basis

Significant volumes of high quality ground water are unlikely to be encountered in the bedrock at this location. A poorly permeable soil is likely to be developed on the Jurassic-age Brushy Basin Member of the Morrison Formation. A small but locally important quality ground water resource may be encountered in several permeable Mesozoic aquifers in this area. The proposed casing and cementing program should adequately isolate any zones of fresh water that may be penetrated. No underground water rights have been filed on any area within a mile of the proposed well site.

Chris Kierst
APD Evaluator

5/30/2007
Date / Time

Surface Statement of Basis

On-site conducted May 25, 2007. Present: Bart Kettle-Division of Oil, Gas and Mining (DOGM), Ed Bonner-Trust Lands Administration (SITLA), Don Hamilton-Agent for Lonewolf Exploration & Production Company, Ray Peterson-Emery County, Josh Reynolds-Uintah Surveying, and Lucas Kay-Uintah Surveying. Invited and choosing not to attend: Kyle Beagley-Division of Wildlife Resources (DWR), and Leroy Mead-Division of Wildlife Resources (DWR).

Road encroachment permits in Emery County will require bonding in the future, may affect the drilling of this well. Operator should contact the road department.

Operator is not bonded with SITLA at the time of on-site evaluation, lease also requires designation of operator. All equipment and drilling activities are to remain within proposed areas found in submitted Application for Permit to Drill.

Amendment: Due to re-staking of well pad, project site revisited on June 13, 2007. Attending: Bart Kettle-Division of Oil, Gas and Mining, Don Hamilton-agent for Lonewolf E&P Company, Lucas Kay-Uintah Engineering & Land Surveying.

Well pad layout identical to previous visit in similar terrain. DOGM requested that drainage be diverted around well pad on the southeast corner. Due to the lack of an "A horizon" in top soil it is agreed that topsoil stockpile material can be used for temporary diversion while drilling if required. Via message Emery County requested that drainage no be diverted from one water shed to another due to the inabilities of culverts on county road to handle changes. Emery County road encroachment permits will require bonding.

Bart Kettle
Onsite Evaluator

5/25/2007
Date / Time

Application for Permit to Drill

Statement of Basis

6/19/2007

Utah Division of Oil, Gas and Mining

Page 2

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 16 mils shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.
Surface	The well pad shall be bermed.
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 LONEWOLF E&P COMPANY
Well Name STATE 36-14
API Number 43-015-30715-0 **APD No** 411 **Field/Unit** WILDCAT
Location: 1/4,1/4 NENE **Sec** 36 **Tw** 22S **Rng** 15E 906 FNL 471 FEL
GPS Coord (UTM) 568466 4300888 **Surface Owner**

Participants

Bart Kettle-Division of Oil, Gas and Mining (DOG M), Ed Bonner-Trust Lands Administration (SITLA), Don Hamilton-Agent for Lonewolf Exploration & Production Company, Ray Peterson-Emery County, Josh Reynolds-Uintah Surveying, and Lucas Kay-Uintah Surveying

Regional/Local Setting & Topography

Proposed project site is located ~ten miles southwest of the town of Green River, in Emery County Utah. Annual precipitation is 6-8", and vegetation would be described as salt scrub rangelands. Topography immediately adjacent to the well is a series of small sandstone capped bluffs and alternating clay valleys cut by numerous small gullies. Drainage is to the east entering the Green River within five miles. Drainages in the immediate area are ephemeral in nature, being dry throughout a majority of the year. A rather large stock pond, Horse Bench Reservoir, is located within 500' of the project area. It appears that Horse Bench Reservoir holds water year round, but does not appear to have overflowed out the spillway in ten plus years.

Surface Use Plan

Current Surface Use

Grazing
Wildlife Habitat

New Road

Miles	Well Pad		Src Const Material	Surface Formation
0.01	Width 255	Length 290	Onsite	MORN

Ancillary Facilities N

Waste Management Plan Adequate? Y

Environmental Parameters

Affected Floodplains and/or Wetland Y

As staked well pad sits within 50' of areas thought to be flooded by ten year events

Flora / Fauna

Flora: Very little growing on chosen site, essentially bare soil.
Grass: Curly Galleta
Forbs: Halogeton, globe mallow
Shrubs: White stem rubber rabbit brush, mat salt brush
Trees: None

Fauna: Antelope, several species of lizards, incidental song bird use.

Soil Type and Characteristics

Red clays, many sand stone fragments, essentially no vegetation

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

High water mark of Horse Bench Reservoir appears to be 3' below well pad level.

Drainage Diversion Required Y

Divert drainage as necessary on eastern edge to prevent entrance onto well pad.

Berm Required? Y

Erosion Sedimentation Control Required? N

Paleo Survey Run? N

Paleo Potential Observed? N

Cultural Survey Run? Y

Cultural Resources? N

Reserve Pit

Site-Specific Factors

		Site Ranking
Distance to Groundwater (feet)	>200	0
Distance to Surface Water (feet)	200 to 300	10
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)	>1320	0
Native Soil Type	Low permeability	0
Fluid Type	TDS>5000 and <10000	10
Drill Cuttings	Salt or Detrimental	10
Annual Precipitation (inches)	<10	0
Affected Populations	<10	0
Presence Nearby Utility Conduits	Not Present	0

Final Score 30 1 **Sensitivity Level**

Characteristics / Requirements

Closed Loop Mud Required? N

Liner Required? Y

Liner Thickness 16

Pit Underlayment Required? N

Other Observations / Comments

Emery County requested that drainage no be diverted from one water shed to another due to the inabilities of culverts on county road to handle the changes. County road encroachment permits will require bonding in Emery County in the future, may affect this well.

Operator requesting permit is not bonded with SITLA, lease requires designation of operator or be signed over. Paleo survey's have not be performed, SITLA will determine if they are required. All equipment associated with drilling remain on permitted area.

Bart Kettle
Evaluator

5/25/2007
Date / Time



Online Services

Agency List

Business

Search

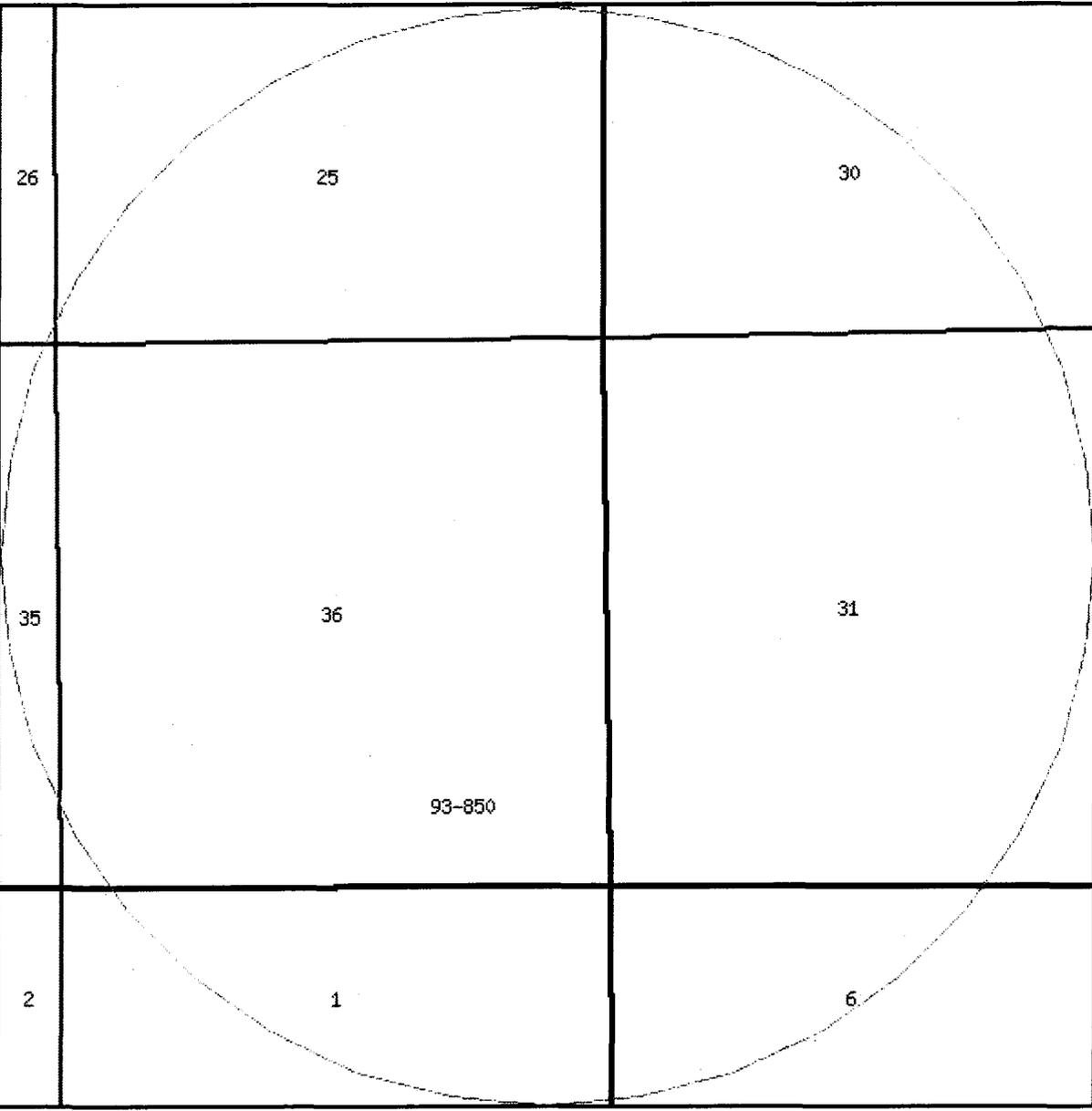


Utah Division of Water Rights

WRPLAT Program Output Listing

Version: 2007.04.13.01 Rundate: 05/30/2007 01:59 PM

Radius search of 5280 feet from a point S2086 W527 from the NE corner, section 36, Township 22S, Range 15E, SL b&m Criteria:wrtypes=W,C,E
podtypes=all status=U,A,P usetypes=all



Water Rights

WR Number	Diversion Type/Location	Well Log	Status	Priority	Uses	CFS	ACFT	Owner Name
<u>93-1564</u>	Surface		P	19800325	S	0.000	244.500	PRICE FIELD OFFICE USA BUREAU OF LAND MANAGEMENT 125 SOUTH 600 WEST
	N893 E916 S4 36 22S 15E SL							UTAH SCHOOL AND INSTITUTIONAL TRUST LANDS ADMIN. 675 EAST 500 SOUTH, 5TH FLOOR
<u>93-850</u>	Surface		P	18750000	S	0.000	40.000	UTAH SCHOOL AND INSTITUTIONAL TRUST LANDS ADMIN. 675 EAST 500 SOUTH, 5TH FLOOR
	N893 E916 S4 36 22S 15E SL							

[Natural Resources](#) | [Contact](#) | [Disclaimer](#) | [Privacy Policy](#) | [Accessibility Policy](#)

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

1. State Agency Oil, Gas and Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801	2. Approximate date project will start: Upon Approval or May 29, 2007
3. Title of proposed action: Application for Permit to Drill	
4. Description of Project: Lonewolf Exploration & Production Company proposes to drill the State 36-14 well (wildcat) on State lease ML-50652, Emery 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.	
5. Location and detailed map of land affected (site location map required, electronic GIS map preferred) (include UTM coordinates where possible) (indicate county) 2086' FNL 527' FEL, SE/4 NE/4, Section 36, Township 22 South, Range 15 East, Emery County, Utah	
6. Possible significant impacts likely to occur: 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.	
7. Identify local government affected 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?	
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: a. Has the representative and senator been contacted? N/A	
9. Areawide clearinghouse(s) receiving state action: (to be sent out by agency in block 1) Southeastern Utah Association of Governments	
10. For further information, contact: Diana Mason Phone: (801) 538-5312	11. Signature and title of authorized officer  Gil Hunt, Associate Director Date: May 14, 2007

Casing Schematic

Surface

BHP $0.052(8448)/12.5 = 5491 \text{ psi}$
anticipate 5491 psi

Gas $.12(8448) = 1014$
 $5491 - 1014 = 4477 \text{ psi}$
MASSP 9-5/8" MW 8.6 Frac 19.3

BOPE 5M ✓

Burst 6330
70% = 4431 psi

Max P @ surf shoe
 $.22(7248) = 1595$
 $5491 - 1595 = 3896 \text{ psi}$
max allowed pressure @ shoe = 200 psi !!
left to 3896 psi ✓

✓ Adequate OK 6/25/07

5-1/2" MW 12.5

- 12
- 18
- TOC @ Morrison 0.
- 405' Summerville ✓
- 858' Entrada
- 420' Carmel
- 1197' 400 w/5% w/o
- Surface Navajo
- 1348' 1200. MD → Depth has been used in arc
- 1788' Kayenta
- TOC @ 1961.
- 2002' Wingate
- 2323' Chinle
- 2574' Shinarump
- 2647' Moenkopi
- 3113' Sinbad
- 3312' White Rim
- 3755' Organ Rock
- 4023' Horner Trail
- 4895' Paradox
- 5960' Paradox Salt
- 8269' Leadville
- 8309' Mississippian
- Production 8448. MD

Propose to to 1000' MD based on Caliper ± 10%
✓ O.K.
i

Well name:

2007-06 Lonewolf State 36-14

Operator: **Lonewolf Exploration & Production Company**

String type: **Surface**

Project ID:

43-015-30715

Location: **Emery County**

Design parameters:

Collapse

Mud weight: 8.600 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: 92 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 290 ft

Cement top: Surface

Burst

Max anticipated surface pressure: 1,056 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 1,200 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: 1,045 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 8,448 ft
Next mud weight: 12.500 ppg
Next setting BHP: 5,486 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 1,200 ft
Injection pressure: 1,200 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	1200	9.625	43.50	N-80	LT&C	1200	1200	8.625	501.7
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	536	3810	7.107 ✓	1200	6330	5.27 ✓	45	825	18.14 J ✓

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

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

Date: June 13, 2007
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1200 ft, a mud weight of 8.6 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.

Well name:	2007-06 Lonewolf State 36-14	
Operator:	Lonewolf Exploration & Production Company	
String type:	Production	Project ID: 43-015-30715
Location:	Emery County	

Design parameters:

Collapse

Mud weight: 12.500 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 3,627 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 5,486 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

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: 6,849 ft

Environment:

H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 193 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,500 ft

Cement top: 1,961 ft

Non-directional string.

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	8448	5.5	20.00	P-110	LT&C	8448	8448	4.653	1051.9
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	5486	11100	2.023	5486	12630	2.30	137	548	4.00 J

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

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

Date: June 13, 2007
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 8448 ft, a mud weight of 12.5 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.

MEMORANDUM

DATE: May 21, 2007
TO: Utah Division of Oil, Gas and Mining
FROM: Utah Geological Survey, Ground Water and Paleontology Program
CC: Resource Development Coordinating Committee
SUBJECT: UGS comments on RDCC short-turn-around items 7968, 7969, and item 7978

7968. Division of Oil, Gas and Mining
Short Turn Around Drilling Permit
Sec. 36, T22S, R15E, Emery County
Application for Permit to Drill - Lonewolf Exploration and Production proposal to drill a wildcat well the State 36-14 on State lease ML-50652

There are known significant vertebrate fossil localities recorded in our files in or near this project area, and the Jurassic Morrison Formation that is exposed here has the potential for yielding additional significant vertebrate fossil localities. The office of the State Paleontologist therefore recommends that a paleontological survey be conducted for this project and its easements by a paleontologist with a valid permit.

7969. Division of Oil, Gas and Mining
Short Turn Around Drilling Permit
Sec. 12, T5S, R7W, Duchesne County
Application for Permit to Drill - Berry Petroleum Company proposal to drill a wildcat well the LC Fee 1-12D-57 on a Fee lease

Although there are no paleontological localities recorded in our files for this project area, the Eocene Uinta Formation that is exposed here has the potential for yielding significant vertebrate fossil localities. The office of the State Paleontologist therefore recommends that a paleontological evaluation be conducted for this project and its easements by a paleontologist with a valid permit.

7978. Division of Oil, Gas and Mining
Tony M. Mine - Mining Permit, Garfield County, Utah

There are known significant vertebrate fossil localities recorded in our files in or near this project area, and the Jurassic Morrison Formation that is exposed here has the potential for yielding additional significant vertebrate fossil localities. The office of the State Paleontologist therefore recommends that a paleontological survey be conducted for this project and its easements by a paleontologist with a valid permit.

From: Robert Clark
To: Mason, Diana
Date: 5/21/2007 9:30 AM
Subject: RDCC short turn-around comments

CC: Anderson, Tad; Mcneill, Dave; Wright, Carolyn
The following comments are in response to short turn-around items **RDCC #7968 and RDCC #7969.**

RDCC #7968, Comments begin: The Lone Wolf Exploration and Production Company proposal to drill the State 36-14 wildcat well, in Emery 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 .

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 . **Comments end.**

RDCC#7969, Comments begin: The Berry Petroleum Company proposal to drill the LC Fee 1-12D-57 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 .

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 . **Comments end.**

Robert Clark
Division of Air Quality
801-536-4435

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

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50652
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 checked="" type="checkbox"/> OTHER _____		7. UNIT or CA AGREEMENT NAME: undesigned
2. NAME OF OPERATOR: Lonewolf Exploration & Production Company		8. WELL NAME and NUMBER: State 36-14
3. ADDRESS OF OPERATOR: 6543 Elysian Road CITY Billings STATE MT ZIP 59101	PHONE NUMBER: (406) 255-0637	9. API NUMBER: 4301530715
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2,086' FNL & 527' FEL COUNTY: Emery QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENE 36 22S 15E S STATE: UTAH		10. FIELD AND POOL, OR WILDCAT: undesigned

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>7/1/2007</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 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 Relocation for Archaeology</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.

The State 36-14 well site and access corridor has been relocated 1,181' north and renamed the State 36-11 to avoid a archaeological resource found during the archaeological resources survey. The relocation is following the state onsite and prior to state authorization. The new location has been cleared for archeological resources with an archaeological and paleontological clearance report pending with a new location at 906' FNL & 471' FEL, NE/4 NE/4, Section 36, T22S, R15E, SLB&M.

Attached please find an updated Form 3, Exhibit 'A', 'B' 'D' and 'E' to replace those previously submitted within the APD.

NAME (PLEASE PRINT) <u>Don Hamilton</u>	TITLE <u>Agent for Lonewolf E & P Company</u>
SIGNATURE <u>Don Hamilton</u>	DATE <u>6/12/2007</u>

(This space for State use only)

RECEIVED

JUN 14 2007

(5/2000)

(See Instructions on Reverse Side)

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

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

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50652
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
7. UNIT or CA AGREEMENT NAME: undesigned
8. WELL NAME and NUMBER: State 36-11
9. API NUMBER: 4301530715
10. FIELD AND POOL, OR WILDCAT: undesigned

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.

1. TYPE OF WELL OIL WELL GAS WELL OTHER _____

2. NAME OF OPERATOR:
Lonewolf Exploration & Production Company

3. ADDRESS OF OPERATOR:
6543 Elysian Road CITY **Billings** STATE **MT** ZIP **59101** PHONE NUMBER: **(406) 255-0637**

4. LOCATION OF WELL

FOOTAGES AT SURFACE: **906' FNL & 471' FEL** COUNTY: **Emery**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **NENE 36 22S 15E S** 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: 7/1/2007	<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 type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" 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: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

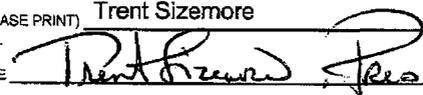
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Lonewolf Exploration & Production Company requests that the name of the operator be changed from Lonewolf Exploration & Production Company to Petro-Canada Resources (USA), Inc.

Petro-Canada will operate the well under Fidelity Bond # 4127699.

A request for exception to spacing (R649-3-2) is hereby requested based on topography since the new well location is located less than 460' of the drilling unit boundary. Petro-Canada is the only owner and operator within 460' of the proposed well.

NAME (PLEASE PRINT) **Trent Sizemore** TITLE **President of Lonewolf E & P Company**

SIGNATURE  DATE **6/20/2007**

(This space for State use only)

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

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50652
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 checked="" type="checkbox"/> OTHER _____		7. UNIT or CA AGREEMENT NAME: undesigned
2. NAME OF OPERATOR: Lonewolf Exploration & Production Company <i>N3165</i>		8. WELL NAME and NUMBER: State 36-11
3. ADDRESS OF OPERATOR: 6543 Elysian Road CITY Billings STATE MT ZIP 59101	PHONE NUMBER: (406) 255-0637	9. API NUMBER: 4301530715
4. LOCATION OF WELL FOOTAGES AT SURFACE: 906' FNL & 471' FEL		10. FIELD AND POOL, OR WILDCAT: undesigned
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E S		COUNTY: Emery
		STATE: UTAH

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

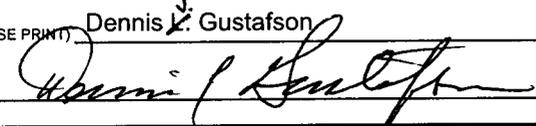
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>7/1/2007</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> 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
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	<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.

Petro-Canada Resources (USA) Inc. requests that the name of the operator be changed from Lonewolf Exploration & Production Company to Petro-Canada Resources (USA), Inc. *N 2705*

Petro-Canada will operate the well under Fidelity Bond # 4127699.

A request for exception to spacing (R649-3-2) is hereby requested based on topography since the new well location is located less than 460' of the drilling unit boundary. Petro-Canada is the only owner and operator within 460' of the proposed well.

NAME (PLEASE PRINT) <u>Dennis J. Gustafson</u>	TITLE <u>Manager of Land</u>	<u>Petro-Canada</u>
SIGNATURE 	DATE <u>6/21/2007</u>	<u>303 297-2300</u>

(This space for State use only)

APPROVED 7/13/07
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

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JUN 22 2007

DIV. OF OIL, GAS & MINING

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

Request to Transfer Application or Permit to Drill

(This form should accompany a Sundry Notice, Form 9, requesting APD transfer)

Well name:	State 36-11
API number:	4301530715
Location:	Qtr-Qtr: NENE Section: 36 Township: 22S Range: 15E
Company that filed original application:	Lonewolf Exploration & Production Company
Date original permit was issued:	
Company that permit was issued to:	

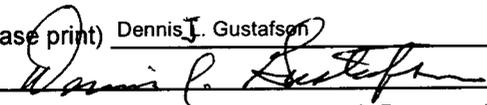
Check one	Desired Action:
<input checked="" type="checkbox"/>	Transfer pending (unapproved) Application for Permit to Drill to new operator
	The undersigned as owner with legal rights to drill on the property, hereby verifies that the information as submitted in the pending Application for Permit to Drill, remains valid and does not require revision. The new owner of the application accepts and agrees to the information and procedures as stated in the application.
	Transfer approved Application for Permit to Drill to new operator
	The undersigned as owner with legal rights to drill on the property as permitted, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.	Yes	No
If located on private land, has the ownership changed?		<input checked="" type="checkbox"/>
If so, has the surface agreement been updated?		
Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?		<input checked="" type="checkbox"/>
Have there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?		<input checked="" type="checkbox"/>
Have there been any changes to the access route including ownership or right-of-way, which could affect the proposed location?		<input checked="" type="checkbox"/>
Has the approved source of water for drilling changed?		<input checked="" type="checkbox"/>
Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?		<input checked="" type="checkbox"/>
Is bonding still in place, which covers this proposed well? Bond No. <u>Fidelity Bond # 4127699</u>	<input checked="" type="checkbox"/>	

Any desired or necessary changes to either a pending or approved Application for Permit to Drill that is being transferred, should be filed on a Sundry Notice, Form 9, or amended Application for Permit to Drill, Form 3, as appropriate, with necessary supporting information as required.

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JUN 22 2007

Name (please print) <u>Dennis J. Gustafson</u>	Title <u>Manager of Land</u>
Signature 	Date <u>06/21/2007</u>
Representing (company name) <u>Petro-Canada Resources (USA) Inc.</u>	

DIV. OF OIL, GAS & MINING

The person signing this form must have legal authority to represent the company or individual(s) to be listed as the new operator on the Application for Permit to Drill.

SOUTHEASTERNUTAH ASSOCIATION OF LOCAL GOVERNMENTS

DOUG ALLEN
CHAIRMAN

WILLIAM D. HOWELL
EXECUTIVE DIRECTOR



375 SOUTH CARBON AVE.
P.O. DRAWER 1106
PRICE, UTAH 84501
(435) 637-5444
FAX (435) 637-5448

AREA WIDE CLEARINGHOUSE REVIEW

Federal Action _____ State Action _____ Approved (x) Yes () No
Other (indicate) _____

Applicant Address:

Oil, Gas & Mining

1594 West North Temple #1210

SLC, UT 84114-5801

Name Diana Mason

Phone 801-538-5312

Title/Project Description: Application for Permit to Drill State 36-14 well ML-50652

Proposed well is on a state lease. Surface exploration disturbance of 5 acres for 5 wells.

Disturbance reduced to 2 acres if discovery is made and production ensues. Located at Sec. 36, T22S, R15E, Emery County. Site is approximate 11 miles south of Green

[] No Comment

[] See comment below

Comments: Favorable comment recommended.

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JUN 26 2007

Lorraine Bengtson
SEUALG

June 14, 2007

DATE

DIV. OF OIL, GAS & MINING

From: Ed Bonner
To: Mason, Diana
Date: 6/27/2007 3:17 PM
Subject: Well Clearance

CC: Davis, Jim; Garrison, LaVonne; Hill, Brad; Hunt, Gil

The following well has been given cultural resources clearance by the Trust Lands Cultural Resources Group:

Petro-Canada Resources (USA), Inc
State 36-11 (API 43 015 30715)

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



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

June 28, 2007

Lonewolf Exploration & Production Company
6543 Elysian Rd
Billings, MT 59101

Re: State 36-11 Well, 906' FNL, 471' FEL, NE NE, Sec. 36, T. 22 South, R. 15 East, Emery 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 43-015-30715.

Sincerely,

Gil Hunt
Associate Director

er
Enclosures

cc: Emery County Assessor
SITLA



Operator: Lonewolf Exploration & Production Company
Well Name & Number State 36-11
API Number: 43-015-30715
Lease: ML 50652

Location: NE NE **Sec.** 36 **T.** 22 South **R.** 15 East

Conditions of Approval

1. General

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

2. Notification Requirements

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

- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment – contact Dan Jarvis
- 24 hours prior to spudding the well – contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program – contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well – contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well – contact Dustin Doucet
- Any changes to the approved drilling plan – contact Dustin Doucet

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at: (801) 538-5338 office (801) 942-0873 home
- Carol Daniels at: (801) 538-5284 office
- Dustin Doucet at: (801) 538-5281 office (801) 733-0983 home

3. Reporting Requirements

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

4. 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. The Application for Permit to Drill has been forwarded to the Resource Development Coordinating Committee for review of this action. The operator will be required to comply with any applicable recommendations resulting from this review.
7. 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.
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 $\pm 1000'$ MD as indicated in the submitted drilling plan.



Petro-Canada Resources (USA) Inc.

Date: 7/13/2007

To: Mr. Dustin Doucet, State of Utah

Fax: 801/359-3940

From: Susan Miller

Pages: 2 including cover page

RE: STATE 36-11, API No. 016-30715
Sundry Notice – Revised Surface Casing Setting Depth

Dustin,

Please find attached the referenced Sundry Notice requesting revised surface casing setting depth.

I'm faxing this to you in hopes of expediting approval as we plan to commence rig mobilization. Please contact me when you can to discuss approval timeframe.

Your consideration is appreciated.

Susan Miller
Regulatory Analyst
1099 18th St., Ste. 400
Denver, CO 80202
Direct Line: 303/350-1212
Fax: 303/297-7708



RECEIVED
JUL 13 2007

DIV. OF OIL, GAS & MINING

1099 18th Street • Suite 400 • Denver, Colorado 80202
Office: 303-297-2300 • Fax 303:297-7708

CONFIDENTIAL

FORM 8

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

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.

1. TYPE OF WELL: OIL WELL GAS WELL OTHER _____

2. NAME OF OPERATOR: Petro-Canada Resources (USA) Inc

3. ADDRESS OF OPERATOR: 1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 59101 PHONE NUMBER: (303) 297-2300

4. LOCATION OF WELL: FOOTAGES AT SURFACE: 906' ENL AND 471' FEL COUNTY: Emery STATE: UTAH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 16E

5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50652

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

7. UNITY OR GA AGREEMENT NAME: undesignated

8. WELL NAME AND NUMBER: STATE 36-11

9. API NUMBER: 4301530715

10. FIELD AND POOL OR WILDCAT: undesignated

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>7/16/2007</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 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: _____
	<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.

Petro-Canada requests revision of the surface casing setting depth from 1200' to 1600'. Additional depth to cover potential shallow water flow intervals that have recently been noted on newly drilled wells in the immediate area. Cement volume to be adjusted appropriately to the revised depth of 1600'.

COPY SENT TO OPERATOR
Date: 7-18-07
Initials: PH

NAME (PLEASE PRINT) Peter Hampton TITLE Operations Manager

SIGNATURE [Signature] DATE 7/13/2007

(This space for State use only)

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

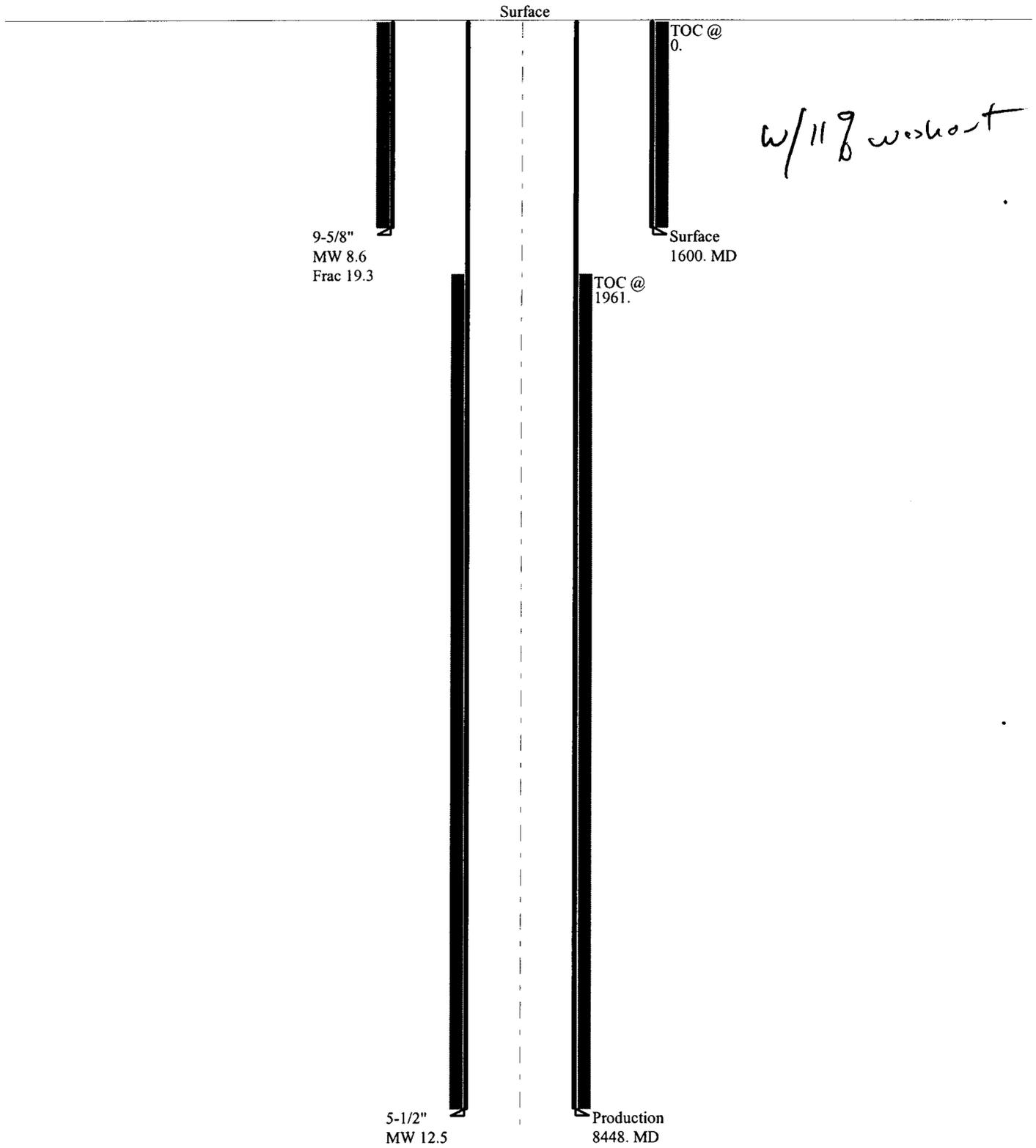
RECEIVED
JUL 13 2007

(5/2000)

DATE: 7/17/07
BY: [Signature]
** Surface casing shall be cemented to surface*

DIV. OF OIL, GAS & MINING

2007-06 Petro Canada State 36-11 rev.
Casing Schematic



Well name:	2007-06 Petro Canada State 36-11 rev.	
Operator:	Petro-Canada Resources (USA) Inc.	Project ID:
String type:	Surface	43-015-30715
Location:	Emery County	

Design parameters:

Collapse

Mud weight: 8.600 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: 97 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 290 ft

Cement top: Surface

Burst

Max anticipated surface pressure: 1,408 psi
 Internal gradient: 0.120 psi/ft
 Calculated BHP 1,600 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: 1,398 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 8,448 ft
 Next mud weight: 12.500 ppg
 Next setting BHP: 5,486 psi
 Fracture mud wt: 19.250 ppg
 Fracture depth: 1,600 ft
 Injection pressure: 1,600 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	1600	9.625	32.30	H-40	ST&C	1600	1600	8.876	707
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	715	1370	1.917	1600	2270	1.42	45	254	5.63 J

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

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

Date: July 17, 2007
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1600 ft, a mud weight of 8.6 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.

CONFIDENTIAL

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: LONEWOLF E&PCOMPANY, LC

Well Name: STATE 36-11

Api No: 43-015-30715 Lease Type: STATE

Section 36 Township 22S Range 15E County EMERY

Drilling Contractor PETE MARTIN DRLG RIG # RATHOLE

SPUDDED:

Date 07/17/07

Time 2:00 PM

How DRY

Drilling will Commence: _____

Reported by LARRY SESSIONS

Telephone # (435) 820-6359

Date 07/17/07 Signed CHD

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

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.

1. TYPE OF WELL OIL WELL GAS WELL OTHER _____

2. NAME OF OPERATOR: Petro-Canada Resources (USA) Inc
3. ADDRESS OF OPERATOR: 1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 59101 PHONE NUMBER: (303) 297-2300

4. LOCATION OF WELL: FOOTAGES AT SURFACE: 906' FNL and 471' FEL

5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50852

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

7. UNIT or CA AGREEMENT NAME: undesignated

8. WELL NAME and NUMBER: STATE 36-11

9. API NUMBER: 4301530715

10. FIELD AND POOL, OR WILDCAT: undesignated

COUNTY: Emery

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: 7/25/2007	<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 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: _____
	<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.
Petro-Canada requests revisions to surface casing setting depth and surface casing weight as follows:

Permitted 1600' 9-5/8" 43.5 ppf L80 LTC
Proposed 2000' 9-5/8" 40 ppf N80 LTC

Proposed Safety Factors / Properties
Collapse 3.30 / 3090 psi Burst 6.14 / 5750 psi Tensile 10.7 / 737 k-lbs

RECEIVED
JUL 25 2007

DIV. OF OIL, GAS & MINING

COPY SENT TO OPERATOR
Date: 7-29-07
Initials: CML

NAME (PLEASE PRINT) Susan Miller TITLE Regulatory Analyst
SIGNATURE *[Signature]* DATE 7/25/2007

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 7/26/07
BY: *[Signature]*

* Surface Casing Shall be cemented to setting depth back to surface



Petro-Canada Resources (USA) Inc.

Date: 7/25/2007
To: Mr. Dustin Doucet, State of Utah
Fax: 801/359-3940
From: Susan Miller
Pages: 2 including cover page
RE: STATE 36-11, API No. 015-30716
Sundry Notice – Revised Surface Casing Setting Depth
and Weight

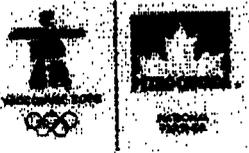
Dustin,

Please find attached the referenced Sundry Notice requesting revised surface casing setting depth and weight.

I understand you have reviewed the requested revisions with our drilling manager, Greg Olson.

Please advise as to approval of the sundry notice so I may provide a copy to our field personnel to have on location. Thank you for your consideration.

Susan Miller
Regulatory Analyst
1099 18th St., Ste. 400
Denver, CO 80202
Direct Line: 303/350-1212
Fax: 303/297-7708



RECEIVED
JUL 25 2007
DIV. OF OIL, GAS & MINING

1099 18th Street • Suite 400 • Denver, Colorado 80202
Office: 303-297-2300 • Fax 303:297-7708

Well name:	2007-06 Petro Canada State 36-11rev11.	
Operator:	Petro-Canada Resources (USA) Inc.	Project ID:
String type:	Surface	43-015-30715
Location:	Emery County	

Design parameters:

Collapse

Mud weight: 8.600 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: 598 ft

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)
 Butress: 1.60 (J)
 Premium: 1.50 (J)
 Body yield: 1.50 (B)

Tension is based on buoyed weight.
 Neutral point: 1,744 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 8,448 ft
 Next mud weight: 12.500 ppg
 Next setting BHP: 5,486 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	40.00	N-80	LT&C	2000	2000	8.75	851.5
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	894	3090	3.458	2000	5750	2.87	70	737	10.56 J

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

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

Date: July 25, 2007
 Salt Lake City, Utah

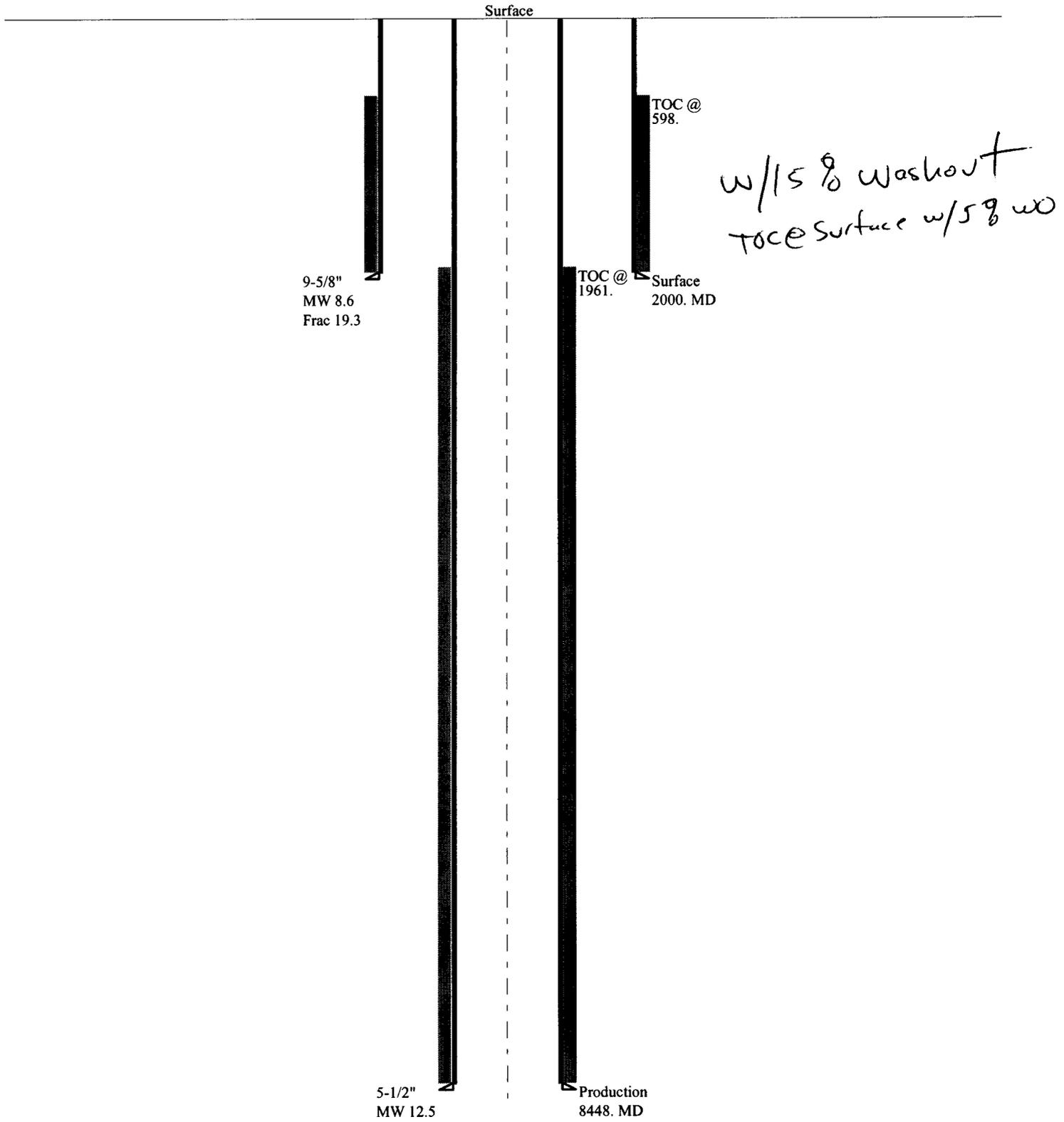
Remarks:

Collapse is based on a vertical depth of 2000 ft, a mud weight of 8.6 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.

2007-06 Petro Canada State 36-11 revII.
Casing Schematic



ENTITY ACTION FORM

Operator: Petro-Canada Resources (USA) Inc Operator Account Number: N 2705
 Address: 1099 18th Street, Suite 400
city Denver
state CO zip 80202 Phone Number: (303) 297-2300

Well 1

API Number	Well Name	QQ	Sec	Twp	Rng	County
015-30715	STATE 36-11	NENE	36	22S	15E	Emery
Action Code	Current Entity Number	New Entity Number		Spud Date		Entity Assignment Effective Date
A	99999	16278		7/17/2007		7/31/07
Comments: <u>mssp</u> CONFIDENTIAL						

Well 2

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

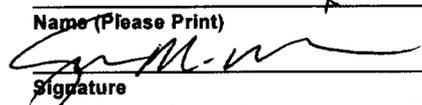
Well 3

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

ACTION CODES:

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

Susan Miller

 Name (Please Print)


 Signature
 Regulatory Analyst 7/25/2007

 Title Date

RECEIVED
JUL 27 2007



PETROCANADA Petro-Canada Resources (USA) Inc.

Date: 7/30/2007

To: Mr. Dustin Doucet, State of Utah

Fax: 801/359-3940

From: Susan Miller

Pages: 2 including cover page

STATE 36-11, API No. 015-30715

RE: Sundry Notice - Revision 2

Dustin,

Please find attached the referenced Sundry Notice requesting another revision to surface casing.

I understand you have reviewed the requested revisions with our drilling manager, Greg Olson.

Please advise as to approval of the sundry notice so I may provide a copy to our field personnel to have on location. Thank you for your consideration.

Susan Miller
Regulatory Analyst
1099 18th St., Ste. 400
Denver, CO 80202
Direct Line: 303/350-1212
Fax: 303/297-7708



RECEIVED

JUL 30 2007

DIV. OF OIL, GAS & MINING

1099 18th Street • Suite 400 • Denver, Colorado 80202
Office: 303-297-2300 • Fax 303:297-7708

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

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50662
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 checked="" type="checkbox"/> OTHER _____		7. UNIT or CA AGREEMENT NAME: undesignated
2. NAME OF OPERATOR: Petro-Canada Resources (USA) Inc		8. WELL NAME and NUMBER: STATE 36-11
3. ADDRESS OF OPERATOR: 1099 18th St., Ste. 400 City Denver STATE CO Zip 59101		9. API NUMBER: 4301530715
4. LOCATION OF WELL FOOTAGES AT SURFACE: 906' FNL and 471' FFL		10. FIELD AND POOL, OR WILDCAT: undesignated
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E		COUNTY: Garfield
		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: 7/30/2007	<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 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: _____
	<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.

Present Permitted Design

Hole Size: 12-1/4"

Depth	Size	Weight	Grade	Conn.	Collapse / SF	Burst / SF	Tensile / SF
2000'	9-5/8"	40.0 ppg	N80	LTC	3090 psi / 3.3	5750 psi / 6.14	737 k-lbs / 10.7

Cement (to surface, 500' tall)
Lead: 11.5 ppg, 2.94 ft³/sx, 165 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal
Tail: 13.5 ppg, 1.80 ft³/sx, 180 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal

Proposed Design

Hole Size: 14-3/4"

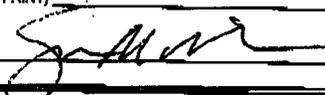
Depth	Size	Weight	Grade	Conn.	Collapse / SF	Burst / SF	Tensile / SF
2000'	10.75"	45.5 ppg	J55	STC	2090 psi / 2.23	3580 psi / 3.83	528 k-lbs / 6.7

Design based on 9.0 ppg pore press, .75 psi/ft frac gradient

Cement (to surface, 500' tall)
Lead: 11.5 ppg, 2.94 ft³/sx, 670 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal
Tail: 13.5 ppg, 1.80 ft³/sx, 310 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal

8-3-07
RM

NAME (PLEASE PRINT) Susan Miller TITLE Regulatory Analyst

SIGNATURE  DATE 7/30/2007

(This space for State use only)

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

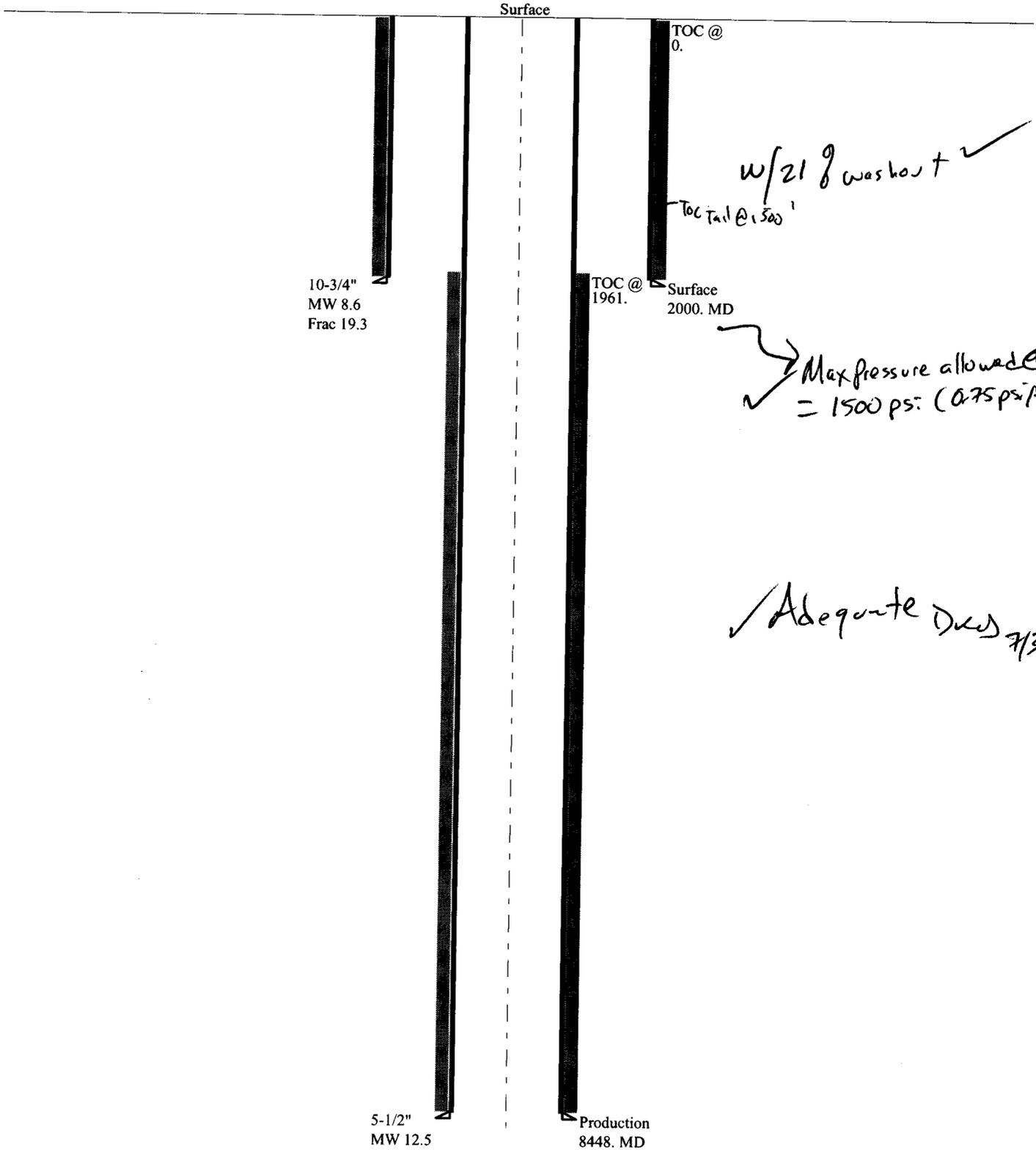
DATE: 7/30/07 BY:  (See Instructions on Reverse Side)

RECEIVED
JUL 30 2007
DIV. OF OIL, GAS & MINING

(5/2000)

2007-06 Petro Canada State 36-11 revIII.

Casing Schematic



10-3/4"
MW 8.6
Frac 19.3

5-1/2"
MW 12.5

TOC @
1961.

Production
8448. MD

TOC @
0.

Surface
2000. MD

w/21 g washout ✓
TOC tail @ 1500'

Max pressure allowed @ Skol
= 1500 psi (0.75 psi/ft frac gap)

✓ Adequate DWD 7/30/07

Well name:	2007-06 Petro Canada State 36-11revIII.	
Operator:	Petro-Canada Resources (USA) Inc.	
String type:	Surface	Project ID: 43-015-30715
Location:	Emery County	

Design parameters:

Collapse

Mud weight: 8.600 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: 1,745 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 8,448 ft
Next mud weight: 12.500 ppg
Next setting BHP: 5,486 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	10.75	45.50	J-55	ST&C	2000	2000	9.825	1079.9
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	893	2090	2.339	2000	3580	1.79	79	493	6.21 J

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

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

Date: July 30, 2007
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2000 ft, a mud weight of 8.6 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.

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

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML-50652

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:
undesigned

1. TYPE OF WELL
OIL WELL [] GAS WELL [x] OTHER []

8. WELL NAME and NUMBER:
STATE 36-11

2. NAME OF OPERATOR:
Petro-Canada Resources (USA) Inc

9. API NUMBER:
4301530715

3. ADDRESS OF OPERATOR:
1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 59101

PHONE NUMBER:
(303) 297-2300

10. FIELD AND POOL, OR WILDCAT:
undesigned

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 906' FNL and 471' FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E

COUNTY: Emery

STATE: UTAH

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

Table with columns: TYPE OF SUBMISSION, TYPE OF ACTION. Includes checkboxes for NOTICE OF INTENT, SUBSEQUENT REPORT, and various actions like ACIDIZE, DEEPEN, etc.

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

Petro-Canada requests revisions to surface casing setting depth and surface casing weight as follows:

Permitted 1600' 9-5/8" 43.5 ppf L80 LTC Proposed 2000' 9-5/8" 40 ppf N80 LTC

Proposed Safety Factors / Properties
Collapse 3.30 / 3090 psi Burst 6.14 / 5750 psi Tensile 10.7 / 737 k-lbs

COPY SENT TO OPERATOR
Date: 8/3/07
Initials: [Signature]

NAME (PLEASE PRINT) Susan Miller TITLE Regulatory Analyst
SIGNATURE [Signature] DATE 7/25/2007

(This space for State use only)

Fax copy approved 7/26/07 [Signature]

RECEIVED
JUL 31 2007

RECEIVED

JUN 20 2007

FORM 9

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

DIV. OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:

ML-50652

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

N/A

7. UNIT or CA AGREEMENT NAME:

undesignated

1. TYPE OF WELL

OIL WELL

GAS WELL

OTHER _____

8. WELL NAME and NUMBER:

State 36-11

2. NAME OF OPERATOR:

Lonewolf Exploration & Production Company

N3165

9. API NUMBER:

4301530715

3. ADDRESS OF OPERATOR:

6543 Elysian Road

CITY

Billings

STATE

MT

ZIP

59101

PHONE NUMBER:

(406) 255-0637

10. FIELD AND POOL, OR WILDCAT:

undesignated

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 906' FNL & 471' FEL

COUNTY: Emery

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E S

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>7/1/2007</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 checked="" 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: _____
	<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.

Lonewolf Exploration & Production Company requests that the name of the operator be changed from Lonewolf Exploration & Production Company to Petro-Canada Resources (USA), Inc. *N2705*

Petro-Canada will operate the well under Fidelity Bond # 4127699.

A request for exception to spacing (R649-3-2) is hereby requested based on topography since the new well location is located less than 460' of the drilling unit boundary. Petro-Canada is the only owner and operator within 460' of the proposed well.

NAME (PLEASE PRINT) Trent Sizemore

TITLE President of Lonewolf E & P Company

SIGNATURE

DATE

6/20/2007

(This space for State use only)

APPROVED 7 131 107

Earlene Russell

Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

(5/2000)

WMP

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

ROUTING
1. DJJ
2. CDW

X - Change of Operator (Well Sold)

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

7/1/2007

FROM: (Old Operator): N3165-Lonewolf Exploration & Production Co. 6543 Elysian Rd Billings, MT 59101 Phone: 1 (406) 255-0637	TO: (New Operator): N2705-Petro-Canada Resources (USA), Inc. 1099 18th St, Suite 400 Denver, CO 80202 Phone: 1 (303) 297-2300
---	--

CA No.

Unit:

WELL NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS	
STATE 36-11	36	220S	150E	4301530715		State	GW	DRL	C

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 6/22/2007
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 6/20/2007
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 7/31/2007
- 4a. Is the new operator registered in the State of Utah: Business Number: 6003372-0143
- 5a. (R649-9-2)Waste Management Plan has been received on: IN PLACE
- 5b. Inspections of LA PA state/fee well sites complete on: n/a
- 5c. Reports current for Production/Disposition & Sundries on: n/a
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM n/a BIA n/a
- Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a
- Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

DATA ENTRY:

- Changes entered in the **Oil and Gas Database** on: 7/31/2007
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 7/31/2007
- Bond information entered in RBDMS on: 7/31/2007
- Fee/State wells attached to bond in RBDMS on: 7/31/2007
- Injection Projects to new operator in RBDMS on: n/a
- Receipt of Acceptance of Drilling Procedures for APD/New on: 7/31/2007

BOND VERIFICATION:

- Federal well(s) covered by Bond Number: n/a
- Indian well(s) covered by Bond Number: n/a
- 3a. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 4127699
- 3b. The **FORMER** operator has requested a release of liability from their bond on: not yet

LEASE INTEREST OWNER NOTIFICATION:

- (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 8/1/2007

COMMENTS:

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

SUNDRY NOTICES AND REPORTS ON WELLS

5. LEASE DESIGNATION AND SERIAL NUMBER:

ML-50652

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

N/A

7. UNIT or CA AGREEMENT NAME:

undesignated

8. WELL NAME and NUMBER:

STATE 36-11

9. API NUMBER:

4301530715

10. FIELD AND POOL, OR WILDCAT:

undesignated

1. TYPE OF WELL

OIL WELL

GAS WELL

OTHER _____

2. NAME OF OPERATOR:

Petro-Canada Resources (USA) Inc

3. ADDRESS OF OPERATOR:

1099 18th St., Ste. 400 CITY Denver

STATE CO ZIP 59101

PHONE NUMBER:

(303) 297-2300

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 906' FNL and 471' FEL

COUNTY: Emery

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E

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>7/30/2007</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 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: _____
	<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.

Present Permitted Design

Hole Size: 12-1/4"

Depth	Size	Weight	Grade	Conn.	Collapse / SF	Burst / SF	Tensile / SF
2000'	9-5/8"	40.0 ppg	N80	LTC	3090 psi / 3.3	5750 psi / 6.14	737 k-lbs / 10.7

Cement (to surface, 500' tail)

Lead: 11.5 ppg, 2.94 ft3/sx, 165 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal

Tail: 13.5 ppg, 1.80 ft3/sx, 180 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal

Proposed Design

Hole Size: 14-3/4"

Depth	Size	Weight	Grade	Conn.	Collapse / SF	Burst / SF	Tensile / SF
2000'	10.75"	45.5 ppg	J55	STC	2090 psi / 2.23	3580 psi / 3.83	528 k-lbs / 6.7

Design based on 9.0 ppg pore press, .75 psi/ft frac gradient

Cement (to surface, 500' tail)

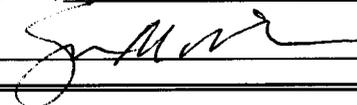
Lead: 11.5 ppg, 2.94 ft3/sx, 670 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal

Tail: 13.5 ppg, 1.80 ft3/sx, 310 sx Rockies LT, .125 lb/sx Poly-E-Flake, .25 lb/sx Kwik Seal

COPIES SENT TO OPERATOR
8/31/07
CHO

NAME (PLEASE PRINT) Susan Miller

TITLE Regulatory Analyst

SIGNATURE 

DATE 7/30/2007

(This space for State use only)

Fax Copy Approved 7/30/07 DKO

RECEIVED
AUG 01 2007

DIV. OF OIL, GAS & MINING

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

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML-50652

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 [x] OTHER []

8. WELL NAME and NUMBER:
STATE 36-11

2. NAME OF OPERATOR:
Petro-Canada Resources (USA) Inc

9. API NUMBER:
4301530715

3. ADDRESS OF OPERATOR:
1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 80202
PHONE NUMBER: (303) 297-2300

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 906' FNL and 471' FEL COUNTY: Emery

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E STATE: UTAH

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

Table with columns: TYPE OF SUBMISSION, TYPE OF ACTION. Includes checkboxes for NOTICE OF INTENT, SUBSEQUENT REPORT, and various actions like ACIDIZE, ALTER CASING, etc.

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

Spud well on 7/17/2007
Set surface casing at 2095', witnessed by Bart Kettle, State of Utah inspector
Currently drilling at 2418'

NAME (PLEASE PRINT) Susan Miller

TITLE Regulatory Analyst

SIGNATURE [Handwritten Signature]

DATE 8/15/2007

(This space for State use only)

RECEIVED

AUG 20 2007

DIV. OF OIL, GAS & MINING

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

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML-50652

SUNDRY NOTICES AND REPORTS ON WELLS

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

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7. UNIT or CA AGREEMENT NAME:
N/A

1. TYPE OF WELL
OIL WELL GAS WELL OTHER _____

8. WELL NAME and NUMBER:
STATE 36-11

2. NAME OF OPERATOR:
Petro-Canada Resources (USA) Inc

9. API NUMBER:
4301530715

3. ADDRESS OF OPERATOR:
1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 80202

PHONE NUMBER:
(303) 297-2300

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 906' FNL and 471' FEL COUNTY: Emery

STATE: UTAH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E

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

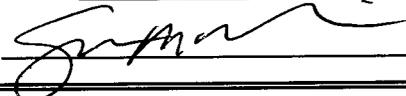
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
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	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 9/24/2007	<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: Monthly Progress Report
	<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.

Spud well on 7/17/2007
Set surface casing at 2095', witnessed by Bart Kettle, State of Utah inspector
Currently drilling at 8090'

NAME (PLEASE PRINT) Susan Miller

TITLE Regulatory Analyst

SIGNATURE 

DATE 9/26/2007

(This space for State use only)

RECEIVED
OCT 01 2007

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

SUNDRY NOTICES AND REPORTS ON WELLS

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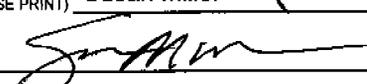
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50652
2. NAME OF OPERATOR: Petro-Canada Resources (USA) Inc		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
3. ADDRESS OF OPERATOR: 1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 80202		7. UNIT or CA AGREEMENT NAME: N/A
4. LOCATION OF WELL FOOTAGES AT SURFACE: 906' FNL and 471' FEL		8. WELL NAME and NUMBER: STATE 36-11
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E		9. API NUMBER: 4301530715
COUNTY: Emery		10. FIELD AND POOL, OR WILDCAT:
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
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	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 10/24/2007	<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: Monthly Progress Report
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

07/17/2007 spud well
08/08/2007 set surface casing at 2095', witnessed by Bart Kettle, State of Utah inspector
09/24/2007 reached total depth of 8090'
09/28/2007 set 7" casing at 8086'
09/29/2007 released rig, final drilling report

NAME (PLEASE PRINT) <u>Susan Miller</u>	TITLE <u>Regulatory Analyst</u>
SIGNATURE 	DATE <u>10/24/2007</u>

(This space for State use only)

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

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML-50652

SUNDRY NOTICES AND REPORTS ON WELLS

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

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7. UNIT or CA AGREEMENT NAME:
N/A

1. TYPE OF WELL
OIL WELL GAS WELL OTHER _____

8. WELL NAME and NUMBER:
STATE 36-11

2. NAME OF OPERATOR:
Petro-Canada Resources (USA) Inc

9. API NUMBER:
4301530715

3. ADDRESS OF OPERATOR:
1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 80202

PHONE NUMBER:
(303) 297-2300

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 906' FNL and 471' FEL COUNTY: Emery
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E STATE: UTAH

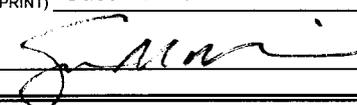
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TYPE OF SUBMISSION	TYPE OF ACTION		
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	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 11/24/2007	<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
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07/17/2007 spud well
08/08/2007 set surface casing at 2095', witnessed by Bart Kettle, State of Utah inspector
09/24/2007 reached total depth of 8090'
09/28/2007 set 7" casing at 8086'
09/29/2007 released rig, final drilling report

11/07/2007 commence completion operations. Perforated (3) intervals and treated
11/24/2007 flowing back

NAME (PLEASE PRINT) Susan Miller TITLE Regulatory Analyst
SIGNATURE  DATE 11/29/2007

(This space for State use only)

RECEIVED
DEC 03 2007
DIV. OF OIL, GAS & MINING

CONFIDENTIAL

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

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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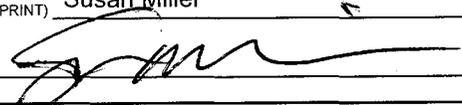
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50652
2. NAME OF OPERATOR: Petro-Canada Resources (USA) Inc		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
3. ADDRESS OF OPERATOR: 1099 18th St., Ste. 400 CITY Denver STATE CO ZIP 80202		7. UNIT or CA AGREEMENT NAME: N/A
4. LOCATION OF WELL FOOTAGES AT SURFACE: 906' FNL and 471' FEL COUNTY: Emery		8. WELL NAME and NUMBER: STATE 36-11
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E STATE: UTAH		9. API NUMBER: 4301530715
		10. FIELD AND POOL, OR WILDCAT:

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
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	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 1/17/2008	<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
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08/08/2007 set surface casing at 2095', witnessed by Bart Kettle, State of Utah inspector
09/24/2007 reached total depth of 8090'
09/28/2007 set 7" casing at 8086'
09/29/2007 released rig, final drilling report
11/07/2007 commence completion operations. Perforated (3) intervals and treated
11/24/2007 flowing back
12/18/07 Prepare for frac operations
01/16/08 Frac, flowback and currently swabbing

NAME (PLEASE PRINT) <u>Susan Miller</u>	TITLE <u>Regulatory Analyst</u>
SIGNATURE 	DATE <u>1/17/2008</u>

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DIV. OF OIL, GAS & MINING

CONFIDENTIAL

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.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-50652
2. NAME OF OPERATOR: Petro-Canada Resources (USA) Inc		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
3. ADDRESS OF OPERATOR: 999 18th St., Ste. 600 CITY Denver STATE CO ZIP 80202		7. UNIT or CA AGREEMENT NAME: N/A
4. LOCATION OF WELL FOOTAGES AT SURFACE: 906' FNL and 471' FEL		8. WELL NAME and NUMBER: STATE 36-11
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E		9. API NUMBER: 4301530715
COUNTY: Emery		10. FIELD AND POOL, OR WILDCAT:
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 type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<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: Monthly Progress Report
	<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.

07/17/2007 spud well
08/08/2007 set surface casing at 2095', witnessed by Bart Kettle, State of Utah inspector
09/24/2007 reached total depth of 8090'
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12/18/07 Prepare for frac operations
01/16/08 Frac, flowback and currently swabbing
02/19/08 Swabbing
03/19/08 Swabbing
04/02/08 Swabbing
Attached please find a complete chronological well report.

NAME (PLEASE PRINT) <u>Susan Miller</u>	TITLE <u>Regulatory Analyst</u>
SIGNATURE 	DATE <u>4/3/2008</u>

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State 36-11
Operator: Petro-Canada Resources (USA) Inc.
NENE Section 36, T22S, R15E, SLB&M
Emery County, Utah
API No. 43-015-30715
Excalibur Well No. 15833, AFE No. 1749
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- 07/16/07 Provided spud notifications at 9:00 a.m. to Carol Daniels and Bart Kettle with the state of Utah.
- 07/17/07 Pete Martin Drilling moved in and **spud well at 2:00 p.m., 07/17/2007.** Drilled 24" hole to 40' and ran and 16" conductor casing. Mouse and rat holes were drilled for Grey Wolf rig 802. Liners were run in both.
- 07/18/07 Day 2. 40' (0'). PO: MIRU. Cemented 40' of casing with 4 yards of redi-mix cement. Cement is standing at surface. Rig down Pete Martin and moved out rig.
- 07/25/07 Day 3. 40' (0'). PO: MIRU Grey Wolf Drilling rig no. 802. Finished reserve pit and installed matting and pit liner. Began hauling in water and installing pit. Water is being hauled in from the Green River. Hauled in a total of 7 loads today. Note: due to the location being situated on solid shale several loads of water were used to help with the dust and location set up.
- 07/26/07 Day 4. 40' (0'). PO: MIRU. Continued to move in rig. Moved in 9 loads. 2 loads were not for this operation and sent back to town. Grey Wolf working 2- 5 man crews. Only 3 men were on location today. 1- Speedy crane arrived at 8:00 PM. Several loads may be tied up at the port of entry due to a Grey Wolf tax problem.
- 07/27/07 Day 5. 40' (0'). PO: MIRU. 2- 5 man crews working today. Moved in a total of 12 loads today. Speedy trucks were released from the port of entry yesterday at 3 PM. These trucks were held up 3 days due to a Grey Wolf tax problem. Speedy and Grey Wolf not working together to get this rig moved in. Both blaming each other for the problems they are having. I have advised the rig pusher and Speedy's truck pusher that PCR will not pay for these delays. This rig should be moved in 2 days and rigged up and ready to drill in another 2 days. The rig move is only 4 hours and most of this is on a major Interstate. Moved in a total of 28 loads. Part of these loads are stacked at our staging area about 1/2 mile from location. 40% moved in and 10% rigged up.
- 07/28/07 Day 6. 40' (0'). PO: MIRU. Continued to move in rig and rig up. 2- 5 man crews on location. 3rd day with crews on location rigging up. All of the rig is on location, drill pipe, drill collars, and misc. should arrive today or tomorrow. 90% moved in and 30% rigged up.
- 07/29/07 Day 7. 40' (0'). PO: MIRU. Continued to move in rig and rig up. 2- 5 men crews on location. Speedy moving in drill pipe and drill collars. 4th day of rig up with crews. 98% moved in and 65% rigged up.

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- 07/30/07 Day 8. 40' (0'). PO: MIRU. Finished moving in rig and continued to rig up. 2 - 5 men crew on location rigging up. 5th day rigging up with crews. Received on location today: Swaco spud mud, shock sub, 7-5/8" x 6-5/8" XO, two 14-3/4" bits with assorted jets, and 18 jts of HWDP. 100% moved in and 80% rigged up.
- 07/31/07 Day 9. 40' (0'). PO: MIRU. Held safety meeting. Raised derrick. Problems with the A-leg matching up to derrick legs. Rig Supt. brought out hydraulic jacks and forced A-leg to match up so it could be pinned together. Continued to rig up. 2 welders have been working 16 hours a day assisting with the rig up. 1 man injured while installing the steel floor plate, employee had the tip of his finger severed. Tool pusher took him to the hospital in Green River and they sent him to Grand Junction, Co. Accident report will be sent in when I receive it. Note: received 6600 gallons of off-road low sulfur dyed fuel. Tank gauge at start of operation was empty. 95% rigged up.
- 08/01/07 Day 10. 40' (0'). PO: Wait on XO, slips and shaker screens. Continued to rig up. Waiting on XO for 8" drill collars, slips for 8" collars and shaker screens.
- 08/02/07 Day 11. 145' (105'). PO: Drilling 14-3/4" hole. Continue to rig up while waiting on 8" slips, shaker screens and XO's. Drain day tank filled with fresh water so welder could repair 2 major leaks in tank. Held safety meeting, pick up BHA, 14-3/4" bit, shock sub, XO and Kelly. Broke circulation and start drilling at 1800 hours. Drilling hard cement. Tag cement @ 33'. Drill from 40' to 145', very hard drilling. Pick up three 8" drill collars. Note: held pre-spud meeting with the following attendees: Petro-Canada - Peter Hampton, Greg Olson, and Rick Eggleston; P/C consultants - Larry Sessions, Jerry Jenson; Grey Wolf - Ken Biner, Rod Fantin, Max Hendersdon, and R.Smith. Note: hard drilling with very little weight to drill with.
- 08/03/07 Day 12. 405' (260'). PO: Drill ahead. Drill to 158'. Bit not wanting to drill. POOH and change bits. RIH with bit #2. Drill from 158' to 193'. Rig service - grease leaking swivel. Drill from 193' to 274'. Drilling with 30/35 wt, 60 to 65 rty. Work on leaking swivel. This is going to be a problem as the Kelly is bent. Drill from 274' to 405'. Unable to run the required weight on bit due to the Kelly being bent. Tried slow rotary, fast rotary, nothing helped. Ordered out and received 8" motor that we will run. Grey Wolf is bringing out new Kelly this A.M.

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- 08/04/07 Day 13. 425' (20'). PO: Work on swivel. Drill from 405' to 525'. Unable to run enough weight on bit due to bent Kelly. Wait on new Kelly from GJ. Rig service. POOH to change out Kelly. Will make repairs to Kelly spinner and swivel. Swivel has been leaking. Break out Kelly and Kelly spinner. LD both. Replace spinner with a new one. Pick up new Kelly. Load bent Kelly on truck and send in to be straightened. Change out swivel packing. Pick up bit, XO, 8" Hunting motor. TIH with 5 stands of drill collars. Kelly up, kick in pumps to circulate, swivel leaking again. Tighten packing. Swivel still leaking at 0600 hrs. Note: daily rig downtime = 17 1/2 hours; cum. rig downtime = 18.0 hours.
- 08/05/07 Day 14. 1015' (590'). PO: Drilling. Continue to work on swivel, unable to keep it from leaking. Ordered out new packing. Ran wireline survey while waiting on parts. Survey at 497' = 1°. Waiting on swivel packing. Packing arrived, put in new packing and tightened same, still leaking. Trip out with 6-1/2" collars. Break out swivel and lay down same. Pick up new swivel from town and make up same. Trip in hole with collars. Wash 30' to bottom, no fill. Circ 1/2 hour and drill from 425' to 1015'. Ordered out 10 3/4" casing.
- 08/06/07 Day 15. 1495' (480'). PO: work on #2 pump. Drill to 1030'. Wireline survey at 997' = 4°. Drill from 1030' to 1303'. Wireline survey at 1260' - misrun. Totco clock on instrument not working. Drill from 1303' to 1323'. Dump and clean out pits. Service rig. Drill from 1323' to 1371'. Wireline survey at 1325' = 3°. Drill from 1371' to 1434'. Rig downtime - work on #2 pump, change out valve and seat. Hard drilling, even with the shock sub it's hard to keep weight on bit. Bit bouncing with weight. 10-3/4" casing on location, 2125.32'. Notified Dan Jarvis with the State of Utah of our intent to run casing and cement in 24 hours. Total rig downtime = 19-1/2 hours. Severe rain and lightning storm last night, heavy rain.
- 08/07/07 Day 16. 2095' (600'). PO: Drilling. Repair #2 pump. Drill from 1495 to 1498. Circulate hole clean for bit trip. Pull out of hole. Break out bit, and make up RR bit. Trip in hole, no fill. Drill from 1498 to 1604'. Service rig. Drill from 1604 to 1623. Repairs to #2 pump. Drill from 1623' to 1812'. Repairs to #2 pump. Drill from 1812' to 1969'. No water loses or gains while drilling surface hole. Daily rig downtime: 3 hrs; corrected cum downtime: 38-1/2 hrs. Will run casing at 2101'.
- 08/08/07 Day 17. 2095' (0'). PO: Drilling. Drill from 1969' to 2095', will run surface casing. Circulate and run wire line survey at 2050' = 2-1/2°. Made 10 stand short trip, no drag, no fill. Circ and condition hole to run surface casing. Hole unloading sand after mixing sweep. POOH to run casing. Dropped survey to make check run, survey also 2-1/2°. Rig up to run 10-3/4" surface casing. **RIH with 48 joints of 10-3/4" casing: 45 joints**

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45.5 J 55, BT&C, and 3 joints of 45.5 I 80, BT&C. Shoe at 2095'. Ran 10 centralizers. Baker locked both the shoe and float collar. Made up Halliburton head and circulated while rigging down casing crew. Rig up Halliburton, test lines to 3900 PSI – OK. Pumped 20 bbls water spacer ahead of lead cement. Pumped **610 sacks** of Rockies LT cement, 11.5, 2.94 yield, with 01.25 Poly-Flake, 0.25 Kwik Seal. Followed by **320 sacks** of Rockies LT, 13.5ppg, 1.8 yeild. Full returns throughout job. Average 5 bpm. Displace with 186 bbls of river water and shut down. 10 bbls short due to reaching collapse pressure. Shut down at 1800 psi. Left 10 bbls of cement in pipe (104'). Broke down flow line and washed out cement. Conductor full of cement. Rig Down Halliburton and WOC. Bart Kettle the Utah inspector was on location while running casing and cementing. Held safety meeting prior to running casing & cementing. Circulated out 20 bbls of good cement with cement at surface.

- 08/09/07 Day 18. 2095' (0'). PO: Test BOPE. Nipple up BOP's, hook up choke manifold. Continued to nipple up 5000 PSI equipment. Tested BOP's while NU BOP's. Test annular to 3500 PSI ok, Test pipe and blind rams to 5000 psi. Test TIW, upper and lower Kelly and dart valve to 5000 psi. Hooking up choke manifold, Move in and set up gas buster, hooking up same.
- 08/10/07 Day 19. 2095' (0'). PO: Cementing surface casing.
- 08/11/07 Day 20. 2095' (0'). PO: POOH. Drilling cement. POH and wait on bit. MU 8-3/4" bit, TIH. Break circulation and drill cement 1726' to 2095' and POOH.
- 08/12/07 Day 21. 2325' (230'). PO: Work tight spots. POOH, LD 8-3/4" bit. TIH w/ 9-7/8" Tri cone bit. Work thru tight spot, drill cement. Drilling to 2325'. POOH f/ plugged jets. TIH with 9-7/8" string mill, work tight spots.
- 08/13/07 Day 22. 2328' (3'). PO: LD bit. POOH, lay down mill. PU 9-7/8" PDC bit and start in hole. Tag tight spot at 1353'. Air compressor blew up, wait on rental from Grand Junction. Finish out of hole, lay down 9 7/8" PDC. Finish RIH. Drilling at 2328'.
- 08/14/07 Day 23. 2418' (90'). PO: Drilling. Trip out of hole. Drawworks repair. Finish trip out of hole. Repairs to air compressor. Finish trip. Lay down motor and shock sub. Trip in hole. Drilling at 2418'.
- 08/15/07 Day 24. 2544 (126'). PO: pump repairs. Rig Service. Drill to 2577. Rig Repairs, generator problems. Ran wire line survey at 2594 = 2 1/2 degrees. Drill to 2544'. Repairs to #2 pump.

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- 08/16/07 Day 25. 3220' (676'). PO: Drilling. Pump Repairs. Drill to 2951'. Repairs to draw works, water leaking on brakes. Repairs, replace guards on draw works. Drill to 3078. Repairs to draw works, oiler replaced, removed chain from 2nd gear, bearings froze. We now have 1st and 3rd gear only. Ran wire line survey at 3064 = 2 1/4 degrees. Drilling ahead.
- 08/17/07 Day 26. REPORT IS A DUPLICATE OF REPORT FOR 08/16/07.
- 08/18/07 Day 27. 3552' (332'). PO: TOO H. Drill and service rig. Drilling, bit started to torque up. Circulate and condition hole for trip. Trip out of hole, did not rotate on trip.
- 08/19/07 Day 28. 4030' (478'). PO: POOH. Drill. Wire line survey at 3660' = 1 degree. Drill to 3895'. Circulate and change out shaker screens. Drill to 3927'. Service rig. Drill to 4030' and circulate. POOH for bit.
- 08/20/07 Day 29. 4030' (0'). PO: GW evaluating drawworks problem. Trip out with bit. Make up motor and trip in hole. Wash 5 joints to bottom. Brakes wet, hydromatic leaking. Driller could not stop blocks, set down 75K on PDC bit, locked up rotary. Pin on bushing snapped off and almost hit driller. A very near miss accident. Will POH and shut down rig until hydromatic and drawworks are repaired. Circulate and clean hole before trip. Trip out with bit. Working on drawworks. Grey Wolf to decide what to do - mechanic reports that the drawworks are not safe to operate.
- 08/21/07 Day 30. 4030' (0'). PO: Rig repair. Down for 24-hours rig repair. *Expect to be down a minimum of 8 to 10 days to work on drawworks.*
- 08/29/07 Down for rig repair – drawworks.
- 08/30/07 Down for rig repair – drawworks.
- 08/31/07 Down for rig repair – drawworks.
- 09/01/07 Down for rig repair – drawworks.
- 09/02/07 Down for rig repairs. After Midnight: Rig Repairs, Rigging up lights and floor misc. Status at 0600: Rig Repairs, Crane arrived at 09:30, Welders at 10:00, Mechanics at 14:00. Set Drawworks skid on subbase, Set and start installing floor motors and hydromatic. Set motor shed roof. Crane rigged down and left location at 17:00 Mechanics left location at 20:00, Welders left at 21:00, Rigging up lights and misc. Day Plan: Rig Repairs, Try and complete installation of drawworks and motors.

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- 09/03/07 Down for rig repairs, Fabricating and installing guards, hooking up misc. air, fuel and oil lines. Activity After Midnight: Rig Repairs, doing prep work on compound and hydramatic, installing chains and guards on the same. Status at 0600: Rig Repairs, Working with the welders and the mechanics on hooking up all of the miscellaneous oil, air, fuel lines and installing the proper guards. Day Plan: Rig Repairs, Finish up with mechanics and welders, Test run Drawwork, motors, rotary table and the hydramatic, Rig floor back up.
- 09/04/07 Status at Midnight: Rig Repairs, Work on chain and clutch guards for the compound, drawworks and hydramatic. Work on air and oil lines on the drawworks. Activity After Midnight: Rig Repairs, Function test Drawworks, Motors, Hydramatic and all of the clutches. Hydramatic would not function correctly, We had to remove it and send it to Grand Junction Colorado. This was a decision made by the Head Mechanic and Grey Wolf's Area Superintendent (Rod). Status at 0600: Rig Repairs, Wait on Hydramatic, Fill pits with water, Finish rigging up the drill floor. Day Plan: Rig Repairs, Wait on Hydramatic.
- 09/05/07 Status at Midnight: Rig Repairs, Install original hydramatic. Trouble shoot Rotary clutch and Drum clutch leaks and function problems. Activity After Midnight: Rig Repairs, Hooking up air and water lines to the hydramatic, modifying chain guard for the hydramatic, Repairing Rotary clutch air leaks, Removing Drum clutch, Replacing bearing on the input shaft. Status at 0600: Rig Repairs, Replacing bearing on out put shaft on the Drum clutch shaft, Fixing air leaks in the Rotary clutch and the Drum clutch. Day Plan: Rig Repairs, Function test Drawworks and the Rotary, Pick up Bit #10 and Trip in the hole.
- 09/06/07 Status at Midnight: Rig Repairs, Function test Drawworks and Rotary, Remove chain remove chain guards, take out half links on both rotary chains as they were slapping real hard. Function test again (Ok). Activity After Midnight: Rig repairs, Greasing and inspecting Drawworks, Hydramatic and rotary drive. (Ok). Trip out of the hole with 3 stands, Set Crown-A- Matic, it jammed, Repair Crown-A-Matic, Make up Bit # 10 picking up BHA. We had a lot of trouble with the ropes on the Drill collars. A peice of the slip die broke off and possibly went down the hole. Status at 0600: Rig Repair, The Rotor Seal on the Rotary clutch broke again, It appears that the plumbing needs to be modified as this is the second time we have had it break. Day Plan: Continue in the hole, Wash and Ream if necessary. Start Drilling Note: When we Started in the hole with the BHA on the 2nd stand we got approximately 1 bbl. of crude oil back over the shaker.

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- 09/07/07 Day 31. 4151' (121'). PO: Drilling. Status at Midnight: Rig Repair, Washing and Reaming at 3502', 5-10k WOB, 40-50 RPM 195 SPM total #1 and #2 pumps, Reaming every connection, pump sweep on every connection (Sweep = 10 bbls it consists of 10 sacks of Gel 1/2 sack of Soda Ash 5 sacks of Sawdust). The hole is cleaning up real good, We have not been experiencing any trouble on connection. Activity After Midnight: Rig Repairs, Washing and Reaming from 3502' to 4030' at 03:00. Start Drilling from 4030'. Status at 0600: Drilling ahead at 4151'. We are still pumping sweeps every 60' the hole is staying clean. Day Plan: Drilling Ahead.
- 09/08/07 Day 32. 5020' (869'). PO: reaming. Troubleshoot Drawworks clutch overheating, It was discovered that oil was leaking onto it causing the overheating, this was remedied and we have had no more problems with this. Drilling head from 4588' to 4616', wob 30-40k, rpm 60, 205 spm. with both pumps, 625 gpm., rop 18.6 fph. reaming on every connection, pump 10 bbl. sweep every 100'. Service Rig. Drilling ahead from 4616' to 5020', wob 30-50k, rpm 60-70, 205 spm with both pumps, 625 gpm., rop 26.7 fph., average for the day 25 fph., Reaming on every connection, pump 10 bbl. Sweep every 100'.
- 09/09/07 Day 33. 5210' (190'). PO: Survey. Drilling Ahead from 5020' to 5191', wob 40-50k, rpm 60-70, 205 spm. with both pumps, 625 gpm., ROP 18 fph., Reaming on every connection, pump 10 bbl. sweep every 100'. Circulate to run Wire Line Survey. Run Wire Line Survey, Miss fire. Drilling Ahead from 5191' to 5210', wob 30-50k, rpm 50-70, 205 spm. with both pumps, 625 gpm. ROP 12.6 fph.. Circulate and Drop Survey. Trip out with Bit # 10, Found Survey instrument at 3400' (Drill pipe screen was forgotten in the pipe when we washed and reamed to bottom). Rig up BOP tester, Hold Safety meeting with Tester. Test Bop'S, Upper and Lower Kelly valves, TIW and IBOP 500 psi. Low 5000 psi. High, HCR, Kill line valve, Choke Manifold 500 psi. Low 5000 psi high. We had trouble getting the testers plug to hold in the Wellhead.
- 09/10/07 Day 34. 5210' (0'). PO: rig on standby. Test Bop's, Make several attempts to get Test plug to Seal, Wait on new Test pLug Seals. Attempting to Pull Wear Bushing. Nipple Down BOP stack at the Well Head, Pull damaged Wear Bushing. Nipple Up BOP stack. Finish testing BOP's, Blind Rams Pipe Rams Inside Choke valve HCR valve Kill line valve Kill line check valve Choke line hose and Choke Manifold 500 psi. Low for 5 minutes 5000 psi. High for 10 minutes Annular Preventer 500 psi. Low for 5 minutes 3500 psi. High for 10 minutes, Function Test Accumulator. Rig down Tester. Nipple up Rotating Head and Flow line. Make up Bit # 11 and get ready to Trip in the hole. Rig on Standby due to

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shortage of Personnel, The Evening Tour crew walked off during the Pre-Tour Safety Meeting.

- 09/11/07 Day 35. 5210' (0'). PO: TIH. Crew walked off, Wait on Relief crew. Trip in the hole to 1738', Work Bit through tight spot from 1738' to 1762'. Trip in the hole to 4926', Strap the Drill pipe (Correction TD changed to 5146')? Lay-down 6 joints of 4 1/2 drill pipe. Break Circulation. Rig Repair, Troubleshoot # 1 Mud Pump. Wash and Ream from 4926' to 5146'. Circulate hole clean to run Wire Line Survey. Run Wire line Survey, Tool hung up, Attempt several methods of pulling wire line, The decision was made to cut the wire (Company Man made the decision). Circulate and move the pipe while clearing the wire line from the rig floor. Trip out of the hole to Retrieve the Wire Line Survey tool. Retrieve the Survey tool, It was stuck in the Crows foot. Trip in the hole with Bit # 11, Did not see anything at 1738' on this trip in.
- 09/12/07 Day 36. 5485' (275'). PO: Pump sweep. Trip in the hole to 5086'. Break Circulation, Wash and Ream to bottom (No fill). Drilling Ahead from 5146' to 5255', WOB 10-40, 60-70 RPM, 195 SPM with both pumps, 625 GPM, Average ROP 14.5 fph., Reaming every connection, Pump sweep every 30' (10 bbls.). Service Rig. Drilling Ahead from 5255' to 5485', WOB 30-45k, 70 RPM, 195 SPM with both pumps, 625 GPM, Reaming every connection, Pump sweep every 60' (10 bbls).
- 09/13/07 Day 37. 5652' (167'). PO: work on rotary clutch. Drilling Ahead from 5485' to 5652', WOB 35-50k, 70 RPM, 195 SPM with both pumps, 625 GPM, Reaming on every connection, Pump 10 bbl sweep every connection. Bit started torquing up. Circulate hole clean, Drop Totco Survey. Trip out of the hole for Bit # 12. Attempt to install Wear Bushing, Work on running tool, Grind and clean up Wear Bushing, Install Wear Bushing, Tighten Lock-down screws. Work on Rotary clutch guard. Make up PDC BIT and Trip in the hole to 1520', Bit would not go beyond this point. Trip out of the hole, Break PDC bit, Make up Roller cone bit. Trip in the hole to 5600', Work through tight spot at 1738'.
- 09/14/07 Day 38. 5924' (272'). PO: Drilling. Circulate and Build Volume. Drilling Head from 5652' to 5788', WOB 35-45k, 70 RPM, 210 SPM with both pumps, 670 GPM, Reaming on every connection, Pump 10 bbl. sweep every 30'. Troubleshoot overheating problems with #2 Light Plant. Drilling Ahead. Rig Repair, Electrician to Wire up #1 Generator as the standby Generator was not working right. Repair Leaking cap gasket on # 1 mud pump. Rig Repair, Repace valve and valve seat on # 2 mud pump. Circulate the hole with # 1 mud pump. Drilling Ahead. Change Swab and repair rod wash on # 2 mud pump. Drilling Ahead , Changing

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Mud over to Salt Water while drilling. Troubleshoot # 1 Generator problems. Drilling.

- 09/15/07 Day 39. 6185' (261'). PO: Drilling. Drilling Ahead from 5935' to 6152'. Circulate and condition mud, Mud became aired up and # 2 mud pump lost its prime, we had to add water and lower viscosity until it picked back up. Work pipe while circulating. Drilling Ahead from 5935' to 6182', wob 40-50k, rpm. 70, spm. 205 with both pumps, 650 gpm. Ream on every connection. Jet plugged, Drop Totco Survey, Work pipe while waiting for Survey to go off. Trip out of the hole for plugged jet with Bit # 12. Break Bit and bit sub. Rig Service, Grease Crown, Blocks and the Drawworks. Make up Bit # 13. Trip in the hole to 6120'. Break Circulation, Wash and Ream 60' to bottom (No fill). Drilling Ahead from 6182' to 6185', wob. 5-20k, rpm. 70-90, spm. 205 with both pumps, gpm. 650.
- 09/16/07 Day 40. 6493' (308'). PO: Drilling. Drilling AHead from 6182' to 6337', wob. 15-20k, rpm. 85, 205 spm. with both pumps, 655 gpm., Ream on every connection. Troubleshoot leak in mud line at #1 mud pump. Trip out of the hole to 2087' (10 3/4 Casing shoe). Wait on Welder, Repair "Y" on the mud pump line. Test mud line to 3000 psi. (Ok). Trip in the hole to 6277', Fill the pipe at 2087' and 4160'. Break circulation, Wash and Ream 60' to bottom (No fill). Drilling ahead, wob 15-20k, rpm. 85, spm. 205 with both pumps, 655 gpm., Ream on every connection.
- 09/17/07 Day 41. 6875' (382'). PO: Drilling. Rig Repair, Module washed on # 1 Mud Pump. Drilling Ahead from 6493' to 6538', wob. 5-15k, rpm. 85, 120 spm., 385 gpm. Ream on every connection. Replace Cap Gasket, try to fix Leak in # 1 Module with lead. Drilling Ahead from 6538' to 6724', wob. 10-25k, rpm. 85, spm. 120-190, gpm. 385-605, Ream on every connection. Drilling Ahead from 6724' to 6875', wob. 15-25k, rpm. 85, spm. 190, gpm. 605, Ream on every connection.
- 09/18/07 Day 42. 7222' (347'). PO: Drilling. Drilling Ahead from 6875' to 7075', wob 15-25k, rpm 85, spm 170 with both pumps, gpm 540, Ream on every connection. Service Rig. Drilling Ahead from 7075' to 7107', wob 15-25k, rpm 85, spm 170 with both pumps, gpm 540, Ream on every connection. Wire Line Survey at 7061', Wire Line machine is real weak, It needs to be checked out. Drilling Ahead from 7107' to 7139', wob 15-25k, rpm 85, spm 170 with both pumps, gpm 540, Ream on every connection. Install Rotating Head Rubber and Drive Bushing. Drilling Ahead from 7139' to 7222', wob 15-25k, rpm 85, spm 170 with both pumps, gpm 540, Ream on eveery connection.

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- 09/19/07 Day 43. 7452' (230'). PO: Drilling. Drilling Ahead from 7222' to 7260', wob 15-25k, rpm 85, spm 170 with both pumps, gpm 544, Ream on every connection, Raise mud weight from 10.5 ppg. to 11 ppg. We had a Drilling Break at 7243' to 7250'. Circulate bottoms up, Perform a Flow check (Flowing at 1-2 bbls. per minute) Circulating gas out, Max gas estimated at 12000 units as scale only goes to 10000, Raising Mud weight from 10.5 ppg. to 11 ppg. Drilling Ahead from 7260' to 7393', wob 15-25k, rpm 85, spm 170 with both pumps, gpm 544, Ream on every connection, Mud weight at 11.4 ppg., Max gas 4500 units. Rig Service. Drilling Ahead from 7393' to 7452', wob 15-25k, rpm 85, spm 160 with both pumps, gpm 512 gpm, Ream on every connection, Raising Mud weight to 12 ppg., We are having mud pump problems so we are trying to drill with one pump at 120 spm, it slows down the rop and we have problems making connection, we have to ream 2 or 3 times before it cleans up enough to make the connection.
- 09/20/07 Day 44. 7640' (188'). PO: Drilling. Drilling Ahead from 7452' to 7503', wob 15-25k, rpm 85, spm 165 with both pumps, gpm 530, Ream on every connection. Drill orientation with the new to the rig crew. Drilling Ahead from 7503' to 7551', wob 15-25k, rpm 85, spm 160 with both pumps, gpm 510, Ream on every connection. Rig Service. Rig Repair, Fix air line on # 1 drawworks motor clutch. Drilling Ahead from 7551' to 7640', wob 15-25k, rpm 85, spm 160 with both pumps, gpm 510, Ream on every connection. Troubleshoot leak on Module on # 1 mud pump.
- 09/21/07 Day 45. 7699' (59'). PO: WO seals. Rig Repair, Troubleshoot leak in # 1 mud pump module. Drilling Ahead from 7640' to 7699', wob 15-25k, rpm 85, spm 120, gpm 385, Reaming on every connection (We had to ream 4 times before hole cleaned up enough to let us make a connection). Jet plugged up and we were down to 90 spm with 2500 psi. Drop Totco and prepare to trip out of the hole, Work the pipe while waiting for the Survey to go off. Trip out of the Hole, Break Bit # 13 (Bit was balled up and had 2 plugged jets). Rig Repair, Repair Torque gauge on the tongs. Trip in the Hole. Rig Repair, Replace Rope in Drilling line guide. Trip in the hole to 2074'. Install Rotating Head Rubber Insert. Slip and Cut Drilling Line (105'). Rig Service. Rig Repair, Work on #1 Mud pump module, Wait on Seals.
- 09/22/07 Day 46. 7868' (169'). PO: Drilling. Rig Repair, Finish installing pump module, Waiting on seals for the module. Test run both pumps (Ok). Trip in the hole to 7602', Fill the pipe at 2074' and 5223'. Fix Kelly Spinner air hose. Break Circulation. Wash and Ream from 7602' to 7640'. Work Through Tight spot from 7640' to 7659', After working torque down we picked up on it and it came free (Over pull 70k, String weight 170k pulled to 240k) Driller is new to the rig (3 days, first trip) This is the spot where

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we drilled with just one mud pump, 320 gpm. Wash and Ream to 7699', 6' of fill. Drilling Ahead from 7699' to 7868', wob 2-15k, rpm 90-95, spm 170 with both pumps, gpm 545, psi. 2365, Reaming on every connection.

- 09/23/07 Day 47. 8087' (219'). PO: Drilling. Drilling Ahead from 7868' to 7936', wob 5-15k, rpm 90, spm 170 with both pumps, gpm 545, Ream on every connection. Rig Service. Drilling ahead from 7936' to 8087', wob 5-15k, rpm 100, spm 170 with both pumps, gpm 545, 2365 psi., Ream on every connection.
- 09/24/07 Day 48. **8090' TD (3')**. PO: Mix LCM. Drilling Ahead from 8087' to 8090', wob 5-15k, rpm 100, spm 170 with both pumps. 2375 psi., gpm 545. Lost Circulation, Mix and Pump LCM pill. Lost 225 bbls. of mud. Trip out of the hole to 5900' (Above the Salt formations). Build 250 bbls of volume in the mud pits, Had to wait on Bar and Salt. Rig Service. Finish building Volume. Trip in the hole to 8000', Hydramatic is not functioning properly, The Brakes were getting hot, At times it took 2 people to stop the pipe. Wash and Ream from 8000' to 8030' (60' off bottom) It started to get sticky and we started losing returns, We mixed and pumped a LCM pill.
- 09/25/07 Day 49. 8090' TD. Trip out of the hole to run Wire Line Logs. Rig up Wire Line Loggers, Hold Safety meeting. Wire Line Logging, Wire Line depth 8023'.
- 09/26/07 Day 50. 8090' TD. Wire Line Logging. Finish running Star/CBIL with 6 arm Calipher (Image Logs). Wire Line Logging, Running Rotary Side Wall Core tool.
- 09/27/07 Day 51. 8090' TD. Wire Line Logging, Run Rotary Side wall cores. Rig down Loggers. Make up Bit # RR 14, Trip in the Hole with BHA. Rig Service. Install Rotating Head Insert Rubber. Trip in the hole to 2095' (Casing Shoe). Break circulation. Trip in the hole to 5300'. Trip in the hole to 8000'. Wash and Ream from 8000' to 8080'. Mix and pump LCM sweep all the way around to clean hole, Then mix and spot high viscosity LCM sweep on bottom. Rig up Lay-Down Machine, Hold Safety Meeting with Lay-Down Crew. Laying down 4 1/2 Drill pipe, No tight spots or any other problems, Filling the hole every 9 joints, Hole was taking the right amount every time.
- 09/28/07 Day 52. 8090' TD. Finish Laying-down 4 1/2 Drill pipe. Pick up and break all Kelly connections, Pull Rotating Head rubber insert. Lay-down BHA, Heavy Wate, 6.5" drill collars and 8" drill collars. Pull Wear Bushing. Remove 4 1/2" Pipe rams and install 7" pipe rams in the BOP's. Rig up Casing Crew and Lay-down Machine to Pick up 7" casing. Hold

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Safety Meeting with crew. **Running 7" casing**, Run Order Float Shoe, 1 jt., Float Collar, 24 joints, Marker Joint, 24 joints, Marker joint, 24 joints, Marker joint, 118 joints., 72 joints of 35#, 118 joints of 29#, Run Centralizer on every joint up to 5900' (55) Then on every 4th joint to 1700' (25) Total 80 centralizers.

09/29/07 Day 53. 8090' TD. Circulate and condition hole, Reciprocate the casing string, Weight up 210k down 160k string 180k, Rigging up Halliburton Cementers. Pump 50 bbl. Saturated Salt spacer then switch lines over to Halliburton, Hold Safety Meeting with Cementers. Pressure Test cement lines to 6000 psi. (Ok) Nitrogen lines to 8000 psi. (Ok) Pump 10 bbls fresh water spacer. Pump 30 bbls. Tuned spacer, **Pump foamed Lead (2087 sacks Class G)** at 16.4 ppg, yeild 1.17, 435 bbls. **Pump unfoamed Tail 158 sacks Class G** at 16.4 ppg, yeild 1.17, 33 bbls. Displace with 310 bbls of fresh water. Bump plug, hold for 15 minutes - OK. Plug to 2975 psi. Rig down Halliburton Cementers. Wait on Cement. Rig up Stack Lift, Nippling Down BOP's, Lift Stack. Set Casing Slips with 160k on them, Make rough cut, Put temporary cap on 7" casing. Nipple Down BOP's, Cleaning Mud pits and pumps. **FINAL DRILLING REPORT.**

COMPLETION REPORTS -

11/07/07 Completion day 1. RU Black Warrior Wire Line and RIH to perforate. Perforated from **7716' to 7724'** W/ 2 SPF. Perforated with 3 5/8" gun, with a 301 charge. This operation was done on 11-06-07. RD BWWL. Move in and rig up Halliburton. Held Safety Meeting with all personnel on location. Tested lines to 9800' psi, ok. Began Frac, established injection at 9 BPM with 5377 psi. Pumped in 500 gallons of 15% acid. Pumped a total of 18400 lbs of premium white 20/40 sand. Prop conc (ppg) ranged from 0.50 to a max. of 2.00. Max. pump pressure during job 5756 psi, average during job 5560 psi. Average pump in rate 30.3 Bpm. Initial Frac Grad. 1.09, ISIP 5098. Flushed with 293 bbls of water. 5 min. 5051 psi, 10 min. 5050 psi, 15 min. 5053 psi. All fluid pumped was filtered river water. Samples were taken by Halliburton prior to pumping and approved. Total Load to Recover: 1262 bbls. RD Halliburton. RU Wood Group flow lines and choke manifold. Open well to flow back tank on 1/2" choke. Well flowing back with 5000 psi, pressure dropping, opened on 3/4" choke and pressure dropped to 0. Well continued to head and unload fluid. Recovered a total of 460 bbls of load water. Shut well in while emptying flow back tank. In 1 hour pressure built to 2100 psi, open well and recovered another 25 bbls of fluid. Well died, SDFN. Recovered a total of 485 bbls of load. Left to recover 777 bbls. SDFN. Frac was traced with Protechnics using Scandium (Sc-46 ZW).

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- 11/08/07 Completion day 2. WOD. SICP 4150 psi, open well and bleed off to flow back tank. Recovered a total of 45 bbls of fluid during day. SDFN.
- 11/09/07 Completion day 3. WOD. SHUT IN CASING PRESSURE: 4150. Move in and rig up Excell Well Service. RU pump and tank. Set up cat walk and pipe racks. NU 10K double BIP's. Install Washington Head. Measure pipe. Pick up 3500' of 2 7/8" 6.5 N80 tubing. Ran rabbit through each joint. Ran notch collar and S/N on bottom. SDFN.
- 11/10/07 Completion day 4. WOD, Crew travel. Picking up 2 7/8" tubing. Tagged fill at 7652'. Pipe standing full and displacing water out casing. Laid down 1 joint and prepared to swab. S/N at 7600'. Rigged up Lubricator and RIH with Swab. Had trouble getting swab cups to fall in tubing. Indications of frac sand in pipe. Tagging fluid at 2000', working line down to 1400'. Recovering 8 to 10 bbls of very oily, sandy, gassy fluid. Made a total of 10 runs, recovering a total of 47 bbls. 685 bbls OF LOAD TO RECOVER. Fluid recovered is very gassy, oily and frac sand. RD lubricator and pull out of hole with 5 stands. Crew travel and SDFN.
- 11/11/07 Completion day 5. WOD, Crew Change. RU to circulate out frac sand. Circulated and washed from 7632' to 7790'. Circulated with clean filtered water from frac tank. Solid sand from 7632' to 7790'. Washed each joint up and down 3 times. Fluid circulated up is a oily, slightly gassy, sandy fluid. Sand is frac sand. Pulled up and stood back 5 stands. SDFN. WOD.
- 11/12/07 Completion day 6. WOD, Crew Travel. RIH with notch collar and S/N to 7790'. No Fill. Pulled up to 7626' and RU to swab. RIH and tagged fluid at 600'. Made a total of 21 runs pulling from maximum depth of 3100'. Tagging fluid at 600' to 1200'. Swab cups hanging up on sand while running in hole. Recovered a total of 100 bbls of sandy, oily gassy, sandy fluid. SICP 2800 psi. On the last several runs fluid was very gassy and scattered. About 1/2 of swab pull was gas with no fluid. Total fluid left to recover is 585 bbls. SDFN, Crew Travel.
- 11/13/07 Completion day 7. WOD. On last 12 swab runs fluid was tagged at 1200', pulled down to 3100'. Fluid level remains at about 1200' on each run. Crew Travel. SICP 0, Values on manifold opened during night. RIH and tagged fluid at 800', worked down to 2100'. Swab hanging up on shale inside tubing. Made 8 runs with same problem. Recovered a total of 13 bbls. Fluid is dark in color which seems to be from shale fines. Slightly gassy. Pump 25 bbls of clean frac water down tubing to wash out same. Pulled up and stood back 10 stands of tubing in derrick. S/N at 6856. Moved up hole to move away from possible problem caused by shale. Made a total of 12 runs recovering a total of 90 bbls of slightly

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gassy fluid. Total runs today 20. Total recovery for today 103 bbls. Total of 482 bbls left to recover. Shut all valves on wellhead and manifold. SDFN, Crew Travel.

- 11/14/07 Completion day 8. 24 hours down waiting on Frac Crew to Frac Zone 2. Check pressure on well - 0 pressure.
- 11/15/07 Completion day 9. WOD, Crew Travel. PU lubricator and RU to swab. RIH tag fluid at surface. Fluid at surface from circulating yesterday. Made 4 runs and swabbed down to S/N. Recovered a total of 44 bbls. Made a total of 6 more runs recovering 16 bbls. Fluid has no gas and is dark in color due to shale fines. RD Lubricator, POH and prepare to Move up to Zone #2. SDFN, Crew Travel.
- 11/16/07 Completion day 10. WOD, Crew Travel. RU Black Warrior Wire line, MU and RIH with 5.75 Gauge Ring and Junk Basket. Ran in to 6550' and started taking weight. Worked same but did not force tools. POOH with GR. Junk Basket full of shale cuttings. LD tools. RD BWWL. Wait on 7' casing scrapper and bit. Make up bit and scrapper and RIH on 2 7/8" tubing to 6500'. Will circulate and clean out casing tomorrow. SDFN, Crew Travel.
- 11/17/07 Completion day 11. WOD, Crew Travel. Pick up 2 joints of tubing and RIH. Tag fill at 6550. RU power swivel and circulate. Wash and clean out 7" casing down to 7700'. Casing had several tight spots, very tight from 7214' to 7550'. Circulated out lots of shale. Worked pipe several times through tight spots. Circulated both ways in order to clean out casing and hole. LD swivel and POH. Stood back 80 stands of tubing before darkness. SDFN, Crew Travel.
- 11/18/07 Completion day 12. WOD, Crew Travel. Finish pulling out of hole, break out and lay down Bit and Scrapper. ND BOP's. RU Black Warrior Wire Line and slowly run in hole with CIBP and Perforating gun. Ran in hole with no problems. Correlated with open hole log and CBL. Set CIBP at 7500'. Picked up 50' and ran back and tagged plug at 7500'. **Perforated from 7250' to 7258'** with 2 SPF. Perforated with 3 5/8" gun. Pulled out with wire line. Inspected gun and all shots fired. RD BWWL. SDFN, Crew Travel.
- 11/19/07 Completion day 13. 24 hours down waiting on Frac Crew to Frac Zone 2. Check pressure on well. 0 pressure.

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- 11/20/07 Completion day 14. Total BBLs of Fluid pumped 1692. Total BBLs of fluid recovered 720. Left to recover 972 BBLs. Crew Travel. Wait on Halliburton. Spot equipment on location. Installed Halliburton manifold on Frac Valve, hooked up lines and tested all to 9800 psi, ok. Safety Meeting. **Perforations are 7250' to 7358'**. Frac zone # 2. Loaded hole and began job. Initial Breakdown Pressure at 14 BPM was 5695 psi. Max. rate 24.8 BPM, Average rate 23.5 BPM. Average pressure through job 5358 psi. Pumped a total of 23363 lbs of Ottawa 20/40 white sand. Pumped in a total of 1692 bbls of fluid. Fluid was traced with a single radioactive Iridium tracer. Max. sand conc. was 2.0 ppg. ISDP 4684, 5 min. 4403 psi, 10 min. 4232 psi, 15 min. 4044 psi. Pumped 500 gallons of 15% acid ahead of frac. RD Halliburton. Did not get up to designed rate due to a washed out pod on pump truck. Designed rate was 30 BPM, Averaged 23 BPM. From Halliburton shut down to opening well pressure increased from 4044 psi to 4700 psi. Opened well on 1/2" choke to flow back tank. Well unloaded 720 bbls of Frac fluid from 2000 hours to 0500 hours. Pressure gradually decreased to 0. Shut in 4 different times for 30 minutes and pressure would increase to 400 to 700 psi. Well would unload 8 to 10 bbls each time. Well died at 0500. Flowed back clean fresh water with no traces of gas.
- 11/21/07 Completion day 15. SD for holiday.
- 11/22/07 Completion day 16. Travel to Location. At 0500 SICP 3760 PSI. Opened well on 1/2" choke and flowed well to flow back tank. Flowed back a total of 221 bbls of frac fluid. Fluid is a milky white & is slightly gassy. After 7 hours of flowing well died and shut in. Total BBLs of fluid pumped was 1692 bbls. Have now recovered a total of 941 bbls. Have 751 BBLs of fluid left to recover. Well Shut in, will open and flow well again tomorrow.
- 11/23/07 No report
- 11/24/07 Completion day 18. Have recovered a total of 1147 bbls of frac fluid. 545 bbls of fluid left to recover. Travel to location. SICP 2600 psi. Open well on 1/2" choke and flowed back to flow back tank. Well flowed back a total of 65 bbls of milky white fluid with a very slight trace of gas. Well died a lot quicker today. Died at 10 AM. Shut in for 2 hours and pressure built up to 100 psi, bleed down to 0 in minutes.
- 11/25/07 Completion day 19. WOD, Crew Travel. SICP 2100 psi. Open well on 1/2" choke and flow back to flow back tank. Pressure dropped to 0 in 2 hours. Flowed back a total of 15 bbls. Fluid is a milky white slightly gassy fluid. Nipple up bop's. Make up S/N and RIH with 2 7/8" tubing. S/N at 6750'. RU to Swab. RIH with swab and tagged fluid at surface.

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Pulled from 1500' on 1st run. Made a total of 15 runs recovering a total of 111 bbls of fluid. Pulling from 4800'. Recovered a total of 126 BBls of fluid for the day. Fluid on last 3 swab runs were very gassy. Had a slight bbl to bbl and 1/2 after the last 3 runs. SDFN. 419 bbls of fluid left to recover. WOD.

- 11/26/07 Completion day 20. No report
- 11/27/07 Completion day 21. No report
- 11/28/07 Completion day 22. No report
- 11/29/07 Completion day 23. No report
- 11/30/07 Completion day 24. No report
- 12/01/07 Completion day 25. WOD, Crew Travel. SICP 400 psi, bleed down well, no fluid recovered. Pick up Fishing BHA and 4 drill collars and RIH. Tag fill 13' above fish. Fish at 7237'. RU power swivel and washed down to top of fish. Worked overshot down over fish and picked up. Indications are fish is in overshot. RD power swivel. Pull out of hole with 66 stands of pipe. Shut down due to darkness. SDFN, WOD.
- 12/02/07 Completion day 26. WOD, Crew Travel. SICP 400 psi, bleed down with no fluid returns. Finish pulling out of hole. Did not recover fish. Guide on overshot indicated that it did not get down far enough to allow grapples to catch XO. Make up overshot with a new guide and grapples and RIH. Tagged fill 8' above fish. Pick up and make up swivel and circulated down to top of fish. Well gassy on bottoms up. Worked overshot down on top of fish. Indications are the fish is inside the overshot. 800 psi increase in pump pressure and additional torque. Worked weight down on fish with up to 15000#. Pulled 40000# over string weight when starting out of hole. Worked pipe several times with jars jarring before freeing up. Pulled out with 95 stands. SDFN.
- 12/03/07 Completion day 27. WOD, Crew Travel, SICP 400 psi. Finish pulling out of hole. RECOVERED FISH, (bit,scraper, XO). Lay down all fishing tools, (jars, overshot, slips, elevators, etc.). Release fishing tools and operator. Load out and send to town. Pick up new bit and S/N and RIH. Tag solid fill at 7246'. Swivel up and circulate. Wash hard shale to 7380'. Hole unloading gassy dark fluid with lots of shale. Circulated hole clean, LD swivel. Pull out with 9 stands and SDFN. Will rig up Lubricator and swab tomorrow. WOD.
- 12/04/07 Completion day 28. No report

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- 12/05/07 Completion day 29. No report
- 12/06/07 Completion day 30. No report
- 12/07/07 Completion day 31. Preparing to Frac on Monday. Set in Mountain mover and loaded with sand. Topped of 6 Frac tanks with clean filtered river water. Halliburton picked up and took in water sample. No pressure after perforating.
- 12/08/07 Completion day 32. No report
- 12/09/07 Completion day 33. WOD. Moved in Halliburton for stage 3 Frac. Rig up Halliburton, Safety Meeting. Pressured up and tested all lines to 9500 psi. Repaired several leaks until pressure held. Opened well and filled with 125 bbls of clean filtered river water. Pumped 750 gallons of 15% HCL acid prior to pad. Broke down formation at 9.3 BPM with 5242 psi. Pumped a total of 2974 bbls of fluid. Max. rate during job 48.9 bpm, Average rate at 41.4 bpm. Max. pressure 9390 psi, ISIP 4744 psi, Gradient 1.11. 5 min. SI 4710 psi, 10 min. SI 4699, 15 min. SI 4689. Pumped a total of 506 sacks of Premium White 20/40 Sand. Max. Proppant 2.0 RD Halliburton and moved out equipment. Weather continues to be bad. At least 2' of water standing on location making movinig around slow. Opened well on 1/2" choke. Flowing well back to flow back tank. Pressure when opening well was 4700 psi. Well unloaded 800 bbls of frac fluid with pressure dropping to 0 at 2100 hours. Well continues to head and unload small amounts of fluid. When well completely dies will shut in for 4 hours and moniter build up pressure. Moniter well with night watchers. Well continues to head and unload water. Have a total of 2974 bbls of fluid to recover.
- 12/10/07 Completion day 34. No report.
- 12/11/07 Completion day 35. WOD, Shut well in at midnight. At 0700 SICP 1400 psi. Opened well on 1/2" choke and flowed back to flow back tank. Flowed back a total of 35 bbls of slightly gas cut fluid. Fluid smelled of acid on flow back. Well died. Made up Notch Collar and S/N and started in hole. Ran in slow, running rabbit through each stand looking for sinker bars and swab assembly. Visually inspecting pins and boxes on tubing. Laid down 5 bad joiints. Well began flowing up tubing on 4 different occasions unloading 30 bbls of fluid. Flowed back a total of 65 bbls of fluid for the day. Total left to recover: 1559 bbls. Finished in hole. S/N at 6533'. Install TIW and shut in for night. WOD.
- 12/12/07 Completion day 36. No report.

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12/13/07 Completion day 37. No report.

12/14/07 Completion day 38. No report.

12/15/07 Completion day 39. No report.

12/16/07 Completion day 40. No report.

12/17/07 Completion day 41. No report.

12/18/07 Completion day 42. WOD, Rig and crews off for the day. Haul in and load 2 -500 bbl tanks with clean filtered river water. Will need 7 tanks of water for Frac job.

12/19/07 Completion day 43. WO frac tanks.

12/20/07 Completion day 44. WO frac tanks.

12/21/07 Completion day 45. WO frac tanks.

01/02/08 Completion day 46. Flowed back well. Shut in pressure at 7:00 - 4500 psi.

01/03/08 Completion day 47. Rig up BOP & rig floor to TIH to swab well. Make-up Notch Collar, 1 jt of 2-7/8" tubing, and Seating Nipple. TIH 6 stds. Rig Repair. Transmission oil cooler line ruptured, disabling rig. Replacement hose came from Price. Installed new hose, refilled transmission. Resumed TIH. TIH with 2-7/8" tubing. Ran 99 stds, seat nipple, 1 jt, and notch collar. Install stripping rubber, rig up lubricator and swabbing equipment. Drain lines, close pipe rams, clean up. Total flowback including displacement = 30 bbls.

01/04/08 Completion day 48. Swab well. Recovered 199 bbls in 23 runs. Wait on splicing unit to repair sandline.

01/05/08 Completion day 49. Wait on splice crew to repair sand line. SICP 150 psi, SITP 0 psi. Open choke to 1/2" and pressure dropped to 0 on Casing. Flowback for minutes, mostly gas. Repaired Sandline and proceeded to swab well. Swabbed well with IFL @ 4000'. Completed 4 runs, 28.5 bbls recovered leaving 285 bbls frac fluid left to recover.

01/06/08 Completion day 50. Well shut in for weekend. 285 bbls Frac Fluid left in formation.

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- 01/07/08 Completion day 51. Swab well. Recovered 58.5 Bbls in 9 runs. IFL @ 3000'; SICP 100 psi; SITP 0 psi. Began to recover sand, wore out cups quickly. Still some blowback. 226 Bbls Frac Fluid left to recover. Wait on mechanic and parts to repair electrical short on rig.
- 01/08/08 Completion day 52. Waiting on replacement parts and a mechanic to make rig repairs. 226 bbls Frac fluid left to recover. SICP 0 psi, SITP 0 psi.
- 01/09/08 Completion day 53. Waiting on replacement parts and a mechanic to make rig repairs. 226 Bbls Frac fluid left to recover. SICP 0 psi, SITP 0 psi.
- 01/10/08 Completion day 54. Waiting on replacement parts and a mechanic to make rig repairs. 226 Bbls Frac fluid left to recover. SICP 0 psi, SITP 0 psi.
- 01/11/08 Completion day 55. WO rig repairs.
- 01/12/08 Completion day 56. Swab well. Retrieved 57.5 Bbls in 10 runs. SICP 100 psi, SITP 100 psi. Trip in hole to check for fill, tagged bottom at 6878. Trip out of hole for wireline operations.
- 01/13/08 Completion day 57. No report.
- 01/14/08 Completion day 58. Finish POH, Nipple Down, and R/U wireline truck. Wireline tagged at 6730 ft. No plug set or perforations performed. Work wireline free. POH with wireline. Wait on bit, x/o, and power swivel to TIH to clean out. TIH to clean out.
- 01/15/08 Completion day 59. RIH, tag at 6730'. Rig up to circulate and clean hole. Wash to 6950. Circulate bottoms up. POH 10 stands.
- 01/16/08 Completion day 60. POH and lay down bit. P/U notch collar and RIH 99 stds and 1 single. Tubing tripped in to 6497' to swab well. Swab well. Recovered 94 bbls in 10 runs. Sample Chlorides: 180 kppm @ 66 deg F. 147 Bbls of fluid left to recover.
- 01/17/08 Completion day 61. No report.
- 01/18/08 Completion day 62. Shut-in tubing frozen overnight. P/U 1 jt and lower tubing into wellbore to thaw. Flow well at #8 choke. Retrieved 6 Bbls. Swab well. IFL Surface. Recovered 126 Bbls in 15 runs. Shut in well for the weekend.

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- 01/19/08 Completion day 63. Well shut-in for weekend.
- 01/20/08 Completion day 64. Well shut-in for weekend.
- 01/21/08 Completion day 65. Swab well. Recovered 134.5 Bbls in 19 runs. Well started a minute flow at 1600. SICP 0 psi, SITP 0 psi with IFL 2500 ft. Sample 1: Slight gray tint with black (coal?) and white (salt?) precipitates. Slight gas odor. No condensate. Chlorides > 300 kppm at 62 deg F. Sample 2: Gray colored opaque fluid with black (coal?) particles in suspension. 3% or less condensate skim. Definite gas odor. Chlorides 180 kppm at 62 deg F.
- 01/22/08 Completion day 66. Swab well. Recovered 47.5 Bbls in 9 runs. SICP 0 psi, SITP 50 psi with IFL 4700 ft. POH & Nipple down BOP for wireline operations. RIH w/CIBP and set plug at 6850. **Perforate: 6756 to 6758, 6738 to 6740, 6718 to 6720, 6704 to 6710.** Top two shots did not fire. RIH with perforating guns and **perforate: 6718 to 6720, and 6704 to 6710.** All shots fired.
- 01/23/08 Completion day 67. Well shut-in. Waiting on frac crew. Heat frac water to 50 deg.
- 01/24/08 Completion day 68. Wait on Halliburton to Frac well. Rig up Halliburton, Protechnics, and frac well. Frac well per Paradox Group E design.
Breakdown: 5667 psi
Max Rate: 43.9
Max psi: 6779
Average Rate: 43.3
Average PSI: 5542
ISIP: 4584
Initial Frac Gradient: 1.11
ISDP: 4511
Final Frac Gradient: 1.1
Pumped 20 Bbls. Then 1000 gal 15% HCl.
10000 gal Pad.
10,000 gal 0.5 lb/gal of 20/40 White Sand
10,000 gal Pad.
60,000 gal 0.5 lb/gal of 20/40 White Sand
2,000 gal of 0.75lb/gal of 20/40 White Sand
2,000 gal of 1.0lb/gal of 20/40 White Sand
2,000 gal of 1.50lb/gal of 20/40 White Sand
2,000 gal of 2.00lb/gal of 20/40 White Sand
10,360 gal flush to perms.
Pumped 2604 Bbls into formation. Rig down Halliburton. Prepare to flow well.

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01/25/08 Completion day 69. Flow well back. SICP 1600 psi. Recovered 1312 Bbls in 19 hrs. 1292 Bbls left to recover.
Time Choke Size PSI Volume
0000 2 4600 0
0100 2 4000 187
0200 12 1600 503
0300 12 0 836
0400 12 0 1018
0800 12 0 1149
0900 12 0 1176
1000 12 0 1194
1100 12 0 1212
1200 14 0 1233
1300 14 0 1252
1400 14 0 1272
1500 14 0 1290
1700 14 0 1300
1900 14 0 1312

01/26/08 Completion day 70. Flow Well. Recovered 165 Bbls in 7 hrs. 1127 Bbls left to recover.
Time Choke Size PSI Volume
0700 12 2500 0
0800 12 0 38
0900 12 0 42
1000 12 0 20
1100 12 0 24
1200 12 0 13
1300 12 0 16
1400 32 0 12
1500 Run in hole with tubing and prepare to swab. RIH w/ 2-7/8" tubing. Tagged at 6820'. POH to 6400' and rig up to swab well.

01/27/08 Completion day 71. Flow well back to determine productivity. SICP 2000 SITP 1800. Recovered 12 Bbls in 4 hrs. 1115 Bbls left to recover.

01/28/08 Completion day 72. TIW valve froze up. Wait 1.5 hrs to thaw. Swab well. Recovered 160.5 Bbls in 18 runs. 954 Bbls left to recover. Sample Chlorides >300 kppm at 68 deg F. Sample is opaque with heavy precipitates (White: Salt/Sand?) and slight gas odor. SICP 1700 psi. SITP 2000 psi. Shut down at 4:30 because of high winds.

01/29/08 Completion day 73. No report.

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- 01/30/08 Completion day 74. SITP 130 psi. SICP 190 psi. IFL 4400 ft. Pulled from 6300 ft on last run. Recovered 78 BBls in 15 runs. 891 Bbls left to recover. Sample 1: This sample was caught on the very first swab run so we could get a good sample of the hydrocarbons in our later samples in smaller amounts. Sample is 20% water. Resistivity >10 ohm-meters at 68 deg F. Sample 2: 1/2 inch layer of hydrocarbon on top. Clear fluid, salt/sand on bottom, gas odor. Resistivity 0.05 ohm-meters at 70 deg F. Chlorides 175 kppm. Rig broke down at 1500 hrs (pop off on air compressor).
- 01/31/08 Completion day 75. Swab well. TIH to check for fill. Tagged at 6774, below perms. POH 3 stands to continue swabbing. IFL 5100 ft. SICP 60 psi. SITP 80 psi. Pulled fluid from 6500 ft on last run. Swab well. Recovered 61 bbls in 15 runs. 830 Bbls left to recover. Sample: 1" layer of hydrocarbons (4-8%). Tan fluid, gas odor, and salt/sand settled on bottom. 0.05 ohm-meters @ 70 deg F. Chlorides 200 kppm.
- 02/01/08 Completion day 76. SICP 60 psi. SITP 80 psi. IFL 5500. Pulled fluid from 6500 ft last run. Swab well. Recovered 31.5 Bbls in 11 runs. 798.5 Bbls left to recover. Sample: 1/2" layer of hydrocarbon. Salt settling to bottom. 0.05 ohm-meters at 64 deg F. Chlorides 300 kppm.
- 02/02/08 Completion day 77. Rig idle for weekend.
- 02/03/08 Completion day 78. Rig idle for weekend.
- 02/04/08 Completion day 79. No report.
- 02/05/08 Completion day 80. SICP 70 psi. SITP 30 psi. IFL 5600. Pulled from 6500 ft Last run. Swab well. Recovered 40 Bbls in 13 runs. 676 Bbls left to recover. Sample: 1/2" hydrocarbon layer. Gray colored fluid. Gas odor. Salt on bottom of sample bottle. Resistivity: 0.04 ohm-meters at 70 deg F. Chlorides: > 300 kppm.
- 02/06/08 Completion day 81. Swab well. SICP 80 psi. SITP 40 psi. IFL 5700 ft. Pulled from 6500 last run. Recovered 13.5 Bbls in 5 runs. 662.5 Bbls left to recover. Sample: 1/4" hydrocarbon layer. Some salt settled out. Grey colored fluid. Resistivity 0.04 ohm-meters at 72 deg F. Chlorides > 300 kppm. RIH, tag fill at approximately 6740. POH and nipple down BOP for wireline operations. Assist in filling uprights with diesel for Group F frac.

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- 02/07/08 Completion day 82. Rig up wireline truck to set CIBP and perforate Paradox Group E. Set CIBP at 6600 ft.
Perforations:
6,400' - 6,402'
6,410' - 6,412'
6,416' - 6,418'
6,448' - 6,450'
6,454' - 6,456'
Completed operations in 1 run. All shots fired properly.
- 02/08/08 Completion day 83. No report.
- 02/09/08 Completion day 84. Well Shut-in until Stimulation scheduled for Wednesday, February 13, 2008.
- 02/10/08 Completion day 85. Well Shut-in until Stimulation scheduled for Wednesday, February 13, 2008.
- 02/11/08 Completion day 86. Well Shut-in until Stimulation scheduled for Wednesday, February 13, 2008.
- 02/12/08 Completion day 87. Well Shut-in until Stimulation scheduled for Wednesday, February 13, 2008. Finish filling upright tanks with diesel for stimulation. Haul in required water for stimulation.
- 02/13/08 Completion day 88. No report.
- 02/14/08 Completion day 89. Flowback well to determine zone productivity. Flowed back 258 Bbls. 249 Bbls left to recover. Choke pressure died off at 3:00 AM. Flow dramatically reduced at around 8:00 AM. Pressure and flow reduced dramatically. Nipple up BOP & RIH. Tag fill at 6566 (Plug at 6600). POH to 6285 and rig up for swabbing operations.
- 02/15/08 Completion day 90. Flowback 26 Bbls to start. Swab 144 Bbls in 16 runs after well died down. SICP 4000 psi, SITP 3800 psi, IFL: Surface. Pulled from 5200 ft on the last run of the day. 79 Bbls left to recover.
- 02/16/08 Completion day 91. No report.
- 02/17/08 Completion day 91. No report.
- 02/18/08 Completion day 92. Well shut-in for weekend.

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- 02/19/08 Completion day 93. Swab well to determine zone productivity. SICP 0 psi. SITP 0 psi. IFL 2100 ft. Pulled from 6200 ft last run. Recovered 110 Bbls in 18 runs. All load recovered. (+32 Bbls). Three different samples were caught today. Sample 1: Sample 1 was mainly diesel, approximately 2% oil settled to bottom of sample. Sample 2: Sample 2 was water with approximately 2% oil and salt settling out. Sample 3: Sample 3 was a mix of water and diesel, approximately 22% oil.
- 02/20/08 Completion day 94. No report.
- 02/21/08 Completion day 95. Swab well to determine zone productivity. Recovered 10 Bbls in 11 runs. SICP 0 psi. SITP 0 psi. IFL 6000 ft. RIH 3 stds to try to recover more fluid. Full load recovered plus 76.5 Bbls.
- 02/22/08 Completion day 96. Swab well to determine zone productivity. 0.5 Bbls recovered in 2 runs. Rig up to pump freshwater into formation. Pump 220 Bbls into formation. No pressure was encountered. 208 Bbls calculated to fill hole. 12 Bbls into formation. Rig down pump and rig up to swab. Swab well to determine zone productivity. IFL 2200 ft. Recovered 11.5 Bbls. Sand line damaged on 2nd run. Repairs required. Repair Sand line. Swab well to determine zone productivity. No fluid encountered while lowering swab cups. Recovered 6 Bbls in 2 runs. Pulled from Seat Nipple both runs. 202.5 Bbls left to recover.
- 02/23/08 Completion day 97. Well Shut-in for weekend. 202.5 Bbls left to recover.
- 02/24/08 Completion day 98. Well Shut-in for weekend. 202.5 Bbls left to recover.
- 02/25/08 Completion day 99. Swab well 1 run. Sand line damaged. Sand line damaged on first run. Cut 3000 ft and re-terminated. Rig up to swab well to determine zone productivity. Recovered 16.5 Bbls in 3 runs. 186 Bbls freshwater left to be recovered. SICP 0 psi, SITP 0 psi, IFL 2500. Pulled from 5100 ft on last run.
- 02/26/08 Completion day 100. Wait on Halliburton. Rig up to Stimulate Sinbad Group I. Safety Meeting. Wait on Halliburton. Rig up to stimulate well. Stimulate Sinbad Group I:
Avg Wellhead Rate 20.94 BPM
Avg Slurry Rate 8.744 BPM
Avg N2 Rate 15166 SCFM
Avg Pressure 3636 psi
Max Wellhead Rate 40.05 BPM
Max Slurry Rate 12.22 BPM
Max N2 Rate 20097 SCFM
Max Pressure 4995 psi

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Break 4776 psi
Total Fluid Pumped 12632 gal
Total Sand in Formation 52,000 lb
N2 Downhole 591,000 SCF
N2 Cooldown 250,000 SCF
ISIP 3226 psi
5 min 2686 psi
10 min 2653 psi
15 min 2635 psi
Frac Gradient 1.47 psi/ft
Liquid Horsepower 779 hhp
300 Bbls fluid pumped into formation
Rig down Halliburton and flowback well to determine zone productivity.
Recovered 80 Bbls from 1500 to 2400.

02/27/08 Completion day 101. No report.

02/28/08 Completion day 102. No report.

02/29/08 Completion day 103. Well shut in to wait for stimulation crew to stimulate Paradox Group G interval.

03/01/08 Completion day 104. Well shut in to wait for stimulation crew to stimulate Paradox Group G interval.

03/02/08 Completion day 105. Well shut in to wait for stimulation crew to stimulate Paradox Group G interval.

03/03/08 Completion day 106. Well shut in to wait for stimulation crew to stimulate Paradox Group G interval.

03/04/08 Completion day 107. Swab Well to determine zone productivity. Recovered 117.7 Bbls in 21 runs (40/60 Diesel/Water). 117 Bbls Diesel Left to recover. 140 Bbls Water over load.

03/05/08 Completion day 108. Swab well to determine productivity. Recovered 52 Bbls in 13 runs (80/20 Diesel/Water). RIH to check for fill. Tagged CIBP at 6350. POH 3 stds to swab well. 75.4 Bbls Diesel left to recover. 150 Bbls Water over load.

03/06/08 Completion day 109. Swab well to determine zone productivity. Recovered 15.3 Bbls in 10 runs. 70.4 Bbls diesel left to recover. 160 Bbls water over load. POH to 5200 ft & fill wellbore. Wait on Cement equipment. Set Balanced cement plug from 5200 ft to 4700 ft with 85 sx Type G, Neat, 1.15 ft³/sk, 15.8 ppg. Shut in well for weekend.

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- 03/07/08 Completion day 110. Well Shut-in for the weekend. Waiting on perforators.
- 03/08/08 Completion day 111. Well Shut-in for the weekend. Waiting on perforators.
- 03/09/08 Completion day 112. Well Shut-in for the weekend. Waiting on perforators.
- 03/10/08 Completion day 113. POH and Nipple down BOP. **Perforate Sinbad Group H: 3237 to 3242 and 3247 to 3252.** Tagged Cement plug at 4730. RIH to 3000 ft. Swab well to determine zone productivity. Recovered 54.6 Bbls in 5 runs. Sample caught: Sample was dark brown with slight diesel smell. Looked oily in sample bottle. Resistivity was >10 ohm-meters at 70 deg F. Chlorides are < minimum value.
- 03/11/08 Completion day 114. Swab well to determine zone productivity. Recovered 37.9 Bbls in 23 runs. Sample Caught showed oil layer and resistivity of 10 ohm-meters, 600 ppm chloride content. Recovery showed 3.5 Bbl oil, 34.4 Bbl water.
- 03/12/08 Completion day 115. Swab well to determine zone productivity. Recovered 37.9 Bbls in 23 runs. Sample Caught showed oil layer and resistivity of 10 ohm-meters, 600 ppm chloride content. Recovery showed 3.5 Bbl oil, 34.4 Bbl water.
- 03/13/08 Completion day 116. Swab well to determine zone productivity. Recovered 0 Bbls in 11 runs. Rig down swabbing equipment and start POH, laying down tubing.
- 03/14/08 Completion day 117. Laying down tubing and preparing to rig down and suspend operations. POH and rig down BOP to set plug and perforate Sinbad Group I. Set plug at 3200 ft. Perforate Sinbad Group I: 3129 to 3136; 3140 to 3142. Rig Down Wireline and RIH to 2020 ft. Shut in well for the weekend.
- 03/15/08 Completion day 118. Well Shut in for weekend.
- 03/16/08 Completion day 119. Well Shut in for weekend.
- 03/17/08 Completion day 120. No report.

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- 03/18/08 Completion day 121. Swab well to determine zone productivity. Recovered 16.4 Bbls in 12 swab runs. Seven Samples were caught and tested. Sample 1: 10% oil. 80 kppm Chloride content from 0.08 ohm-meters at 88 deg F. Sample 2: 70% oil. 60 kppm chloride content from 0.12 ohm-meters at 84 deg F. Sample 3: 10% oil. 60 kppm chloride content from 0.12 ohm-meters at 80 deg F. Sample 4: 5% oil. 65 kppm chloride content from 0.10 ohm-meters at 70 deg F. Sample 5 6 7: 80% Condensate. Resistivity over 10 kppm.
- 03/19/08 Completion day 122. Swab well to determine zone productivity. Recovered 10 Bbls in 13 runs. Samples showed 80% hydrocarbons, resistivity >10 ohm-meters at 72 deg F. Chlorides 600 ppm.
- 03/20/08 Completion day 123. No report.
- 03/21/08 Completion day 124. No report.
- 03/22/08 Completion day 125. No report.
- 03/23/08 Completion day 126. No report.
- 03/24/08 Completion day 127. Swab well to determine zone productivity. Recovered 32 Bbls in 19 runs. Estimate 70% Hydrocarbon & 30% Water. Sample Resistivities: Sample 4: 100% Black colored water. Resistivity 0.32 ohm-meters at 74 deg F. Chlorides 20 kppm. Sample 9: 100% Water. Gray colored. Resistivity 0.16 ohm-meters at 78 deg F, Chlorides 35 kppm.
- 03/25/08 Completion day 128. SICP 50 psi, SITP 50 psi, IFL 2700 ft. Swab Well to determine zone productivity. Recovered 6 Bbls in 7 runs. POH and Nipple Down BOP to get ready for well stimulation.
- 03/26/08 Completion day 129. Wait on Halliburton. Rig up to Stimulate Sinbad Group I. Safety Meeting. Wait on Halliburton. Rig up to stimulate well. Stimulate Sinbad Group I:
Avg Wellhead Rate 20.94 BPM
Avg Slurry Rate 8.744 BPM
Avg N2 Rate 15166 SCFM
Avg Pressure 3636 psi
Max Wellhead Rate 40.05 BPM
Max Slurry Rate 12.22 BPM
Max N2 Rate 20097 SCFM
Max Pressure 4995 psi
Break 4776 psi
Total Fluid Pumped 12632 gal

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Total Sand in Formation 52,000 lb
N2 Downhole 591,000 SCF
N2 Cooldown 250,000 SCF
ISIP 3226 psi
5 min 2686 psi
10 min 2653 psi
15 min 2635 psi
Frac Gradient 1.47 psi/ft
Liquid Horsepower 779 hhp
300 Bbls fluid pumped into formation.
Rig down Halliburton and flowback well to determine zone productivity.
Recovered 80 Bbls from 1500 to 2400.

- 03/27/08 Completion day 130. Flowback well to determine zone productivity. Recovered 18 bbls in 12 hrs flowing back. Nipple up BOP and RIH with 2-7/8" Tubing. Tag CIBP at 3200 ft. POH to 3000 ft (S/N @ 2977). Swab well to determine zone productivity. Recovered 22.9 Bbls in 7 runs. 2-5% hydrocarbon with salt water. IFL 1800 ft. Pulled from 2977 ft last run. 40.9 Bbls total fluid recovered. 179.1 Bbls of load left to recover.
- 03/28/08 Completion day 131. Swab well to determine zone productivity. Recovered 53.4 Bbls in 22 runs. IFL 2200. Pulled from 2977 last run. SICP 0 psi, SITP 0 psi. Samples showed an average of 7% hydrocarbon. Sample 1 was about 35% hydrocarbon. Resistivity 0.42 ohm-meters at 72 deg F, Chlorides 16,000 ppm. Sample 2 was about 15% hydrocarbon. Resistivity 0.18 ohm-meters at 76 deg F, Chlorides 35,000 ppm. Sample 3 was 5% hydrocarbon. Resistivity was 0.10 ohm-meters at 80 deg F, Chlorides 70,000 ppm. Frac fluid Resistivity 0.10 ohm-meters at 80 deg F. Chlorides 70,000 ppm. 125.7 Bbls left to recover.
- 03/29/08 Completion day 132. No report.
- 03/30/08 Completion day 133. No report.
- 03/31/08 Completion day 134. Swab well to determine zone productivity. SICP 300 psi, SITP 100 psi, IFL 2100. Pulled from 2977 ft on last run. Recovered 50.2 Bbls in 19 runs. 75.2 5 Bbls left to recover. Samples recovered: 10% hydrocarbon average. Black water in all samples. Resistivities were all from 0.12 to 0.14 ohm-meters. Chloride content range from 50 - 70 kppm.

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- 04/01/08 Completion day 135. Swab well to determine zone productivity. IFL 2700 ft. Pulled from 2977'. SICP 90 psi, SITP 50 psi. Recovered 8 Bbls in 21 runs. 70.2 Bbls left to recover. Sample 1: 30% hydrocarbon. Black water. Resistivity 0.16 ohm-meters at 66 deg F. Chlorides 50 kppm. Sample 9: 10% hydrocarbon. Black water. Resistivity 0.14 ohm-meters at 66 deg F, Chlorides 55 kppm. Sample 21: 15% hydrocarbon. Black water. Resistivity 0.18 ohm-meters at 62 deg F, Chlorides 45 kppm.
- 04/02/08 Completion day 136. Swab well to determine zone productivity. 13.2 Bbls recovered in 19 runs. IFL 2600 ft. Pulled from 2977 ft last run. SICP 90 psi. SITP 80 psi. Samples collected showed an average of 10-15% hydrocarbon. The hydrocarbon layer was clumpy and very viscous. The resistivities were all right around 0.14 ohm-meters at 76 deg F, Chlorides 45 kppm. 1463 Bbls of diesel have been hauled off for sale. 57 Bbls left to recover.

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

CONFIDENTIAL

AMENDED REPORT FORM 8
(highlight changes)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML-50652

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

7. UNIT or CA AGREEMENT NAME
N/A

8. WELL NAME and NUMBER:
STATE 36-11

9. API NUMBER:
4301530715

10. FIELD AND POOL, OR WILDCAT
Undesignated

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
SWNE 23 13S 15E

12. COUNTY
EMERY

13. STATE
UTAH

1a. TYPE OF WELL: OIL WELL GAS WELL DRY OTHER _____

b. TYPE OF WORK: NEW WELL HORIZ. LATS. DEEP-EN RE-ENTRY DIFF. RESVR. OTHER _____

2. NAME OF OPERATOR:
PETRO-CANADA RESOURCES (USA) INC

3. ADDRESS OF OPERATOR:
999 18th Street, Ste. 600 CITY Denver STATE CO ZIP 80202 PHONE NUMBER: (303) 297-2300

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: 906' FNL, 471' FEL
AT TOP PRODUCING INTERVAL REPORTED BELOW: n/a
AT TOTAL DEPTH: 906' FNL, 471' FEL

14. DATE SPURRED: 7/17/2007

15. DATE T.D. REACHED: 9/24/2007

16. DATE COMPLETED: DRY HOLE ABANDONED READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):
GL 4222'; KB 4240'

18. TOTAL DEPTH: MD 8,090 TVD _____

19. PLUG BACK T.D.: MD _____ TVD _____

20. IF MULTIPLE COMPLETIONS, HOW MANY? *
N/A

21. DEPTH BRIDGE MD _____ PLUG SET: TVD _____

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
Dual Comp Z Densilog; XMAC Multipole Array Acoustilog GR; Spectralog GR; Dual Laterolog GR & Caliper; CBL

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

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

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
14-3/4"	10-3/4" J-55	45.5	Surface	2,095		Rockies LT 930		Surface	n/a
9-1/2"	7" P-110	29#, 35#	Surface	8,090		Class G 2,245		1200'	n/a

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
n/a								

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) n/a					See attached			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
See attached	

29. ENCLOSED ATTACHMENTS:

ELECTRICAL/MECHANICAL LOGS GEOLOGIC REPORT DST REPORT DIRECTIONAL SURVEY

SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION CORE ANALYSIS OTHER: As-drilled wellbore drawing

30. WELL STATUS:
P&A

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31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: N/A		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.)

N/A

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.

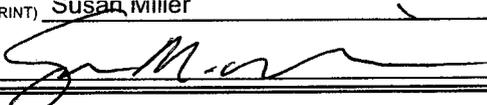
34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
Sinbad	3,132	3,260	Sidewall core	Chinle	2,343
Paradox	6,144	6,905	Sidewall core	Shinarump	2,612
Paradox	7,012	7,908	Sidewall core	Moenkopi	2,657
				Sinbad	2,946
				White Rim	3,329
				Organ Rock	3,798
				Honaker Trail	4,080
				Paradox	4,934
				Top Paradox Salt	5,971
				Pinkerton Trail	7,860

35. ADDITIONAL REMARKS (Include plugging procedure)

L/D Tubing to 2153 ft. Pump 100ft Balanced plug from 2153 to 2053 (extra sacks used to set cement above shoe). Pumped 27 sx type G w/ 2% CaCl2. POH 12 stds. Wash down two bottoms up, reverse circulating. L/D all tubing except 4 jts. Pump cement to surface. 25 sx type G w/ 2% CaCl2. As soon as cement reached surface tubing was pulled and washed down. Circulated across top of wellhead to washout cement as well. Rig down Cement trucks and choke, etc. Rig released 1300 hrs, 04/16/2008. On 4/17/08 welder to cut off wellhead and mark abandoned hole with monument.

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

NAME (PLEASE PRINT) Susan Miller TITLE Regulatory Analyst
 SIGNATURE  DATE 5/2/2008

This report must be submitted within 30 days of

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

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

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

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

Phone: 801-538-5340
 Fax: 801-359-3940



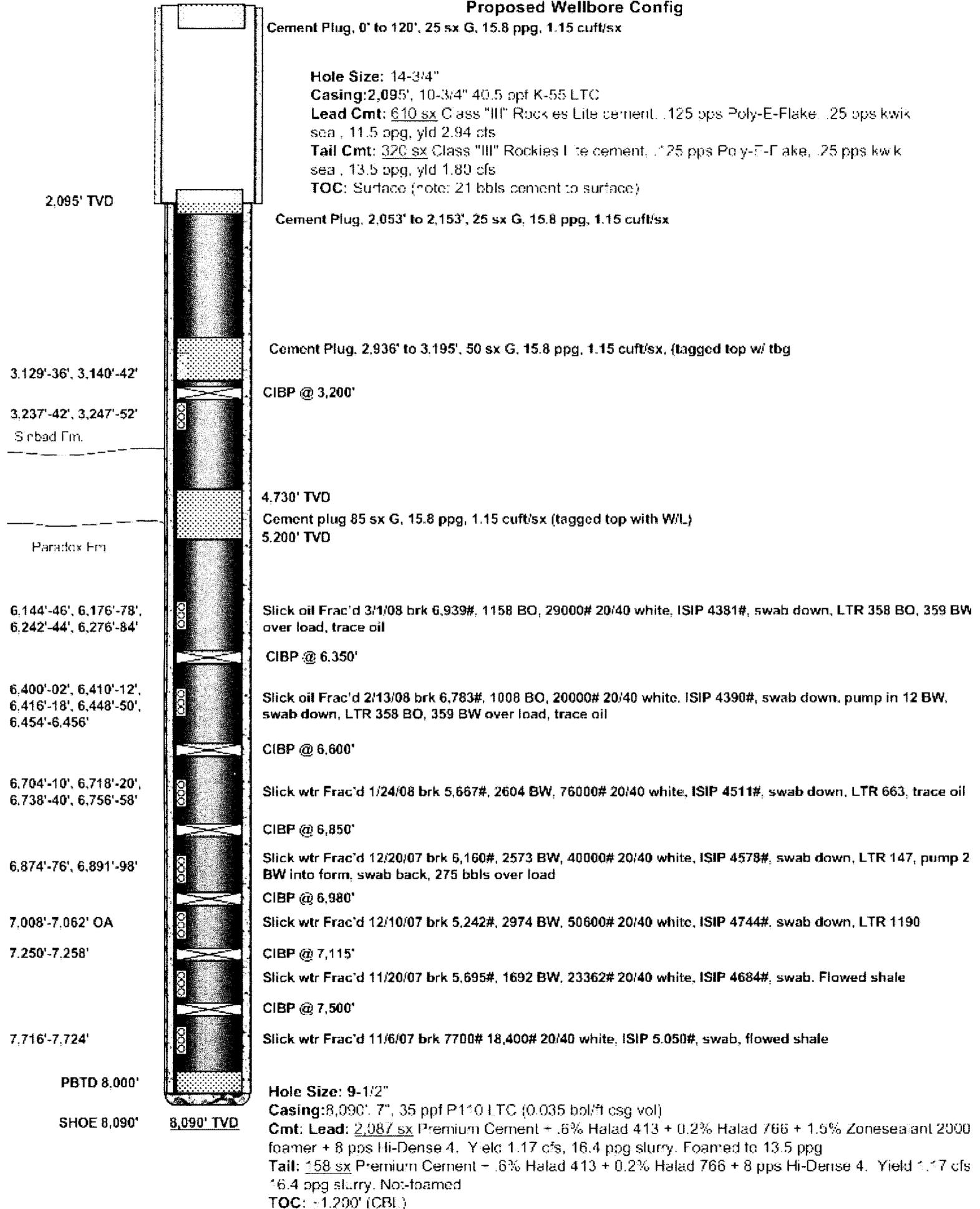
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Attachment to Well Completion or Recompletion Report and Log (form 8)
 STATE 36-11
 Section 36, T22S, R15E
 Emery County, Utah
 API No. 43-015-30715

Perforation Interval	Frac Material/Volume
Sinbad 3129' - 3142'	52,000 lbs 20/40 White Sand
Paradox 6144' - 6146' 6176' - 6178' 6242' - 6244' 6276' - 6284'	28,749 lbs 20/40 White Sand
Paradox 6400' - 6402' 6410' - 6412' 6416' - 6418' 6448' - 6450' 6454' - 6456'	10000 gal Pad. 10,000 gal 0.5 lb/gal of 20/40 White Sand 10,000 gal Pad. 60,000 gal 0.5 lb/gal of 20/40 White Sand 2,000 gal of 0.75lb/gal of 20/40 White Sand 2,000 gal of 1.0lb/gal of 20/40 White Sand 2,000 gal of 1.50lb/gal of 20/40 White Sand 2,000 gal of 2.00lb/gal of 20/40 White Sand
Paradox 7250' - 7358'	23363 lbs of Ottawa 20/40 white sand
Paradox 7716' - 7724'	18400 lbs of premium white 20/40 sand

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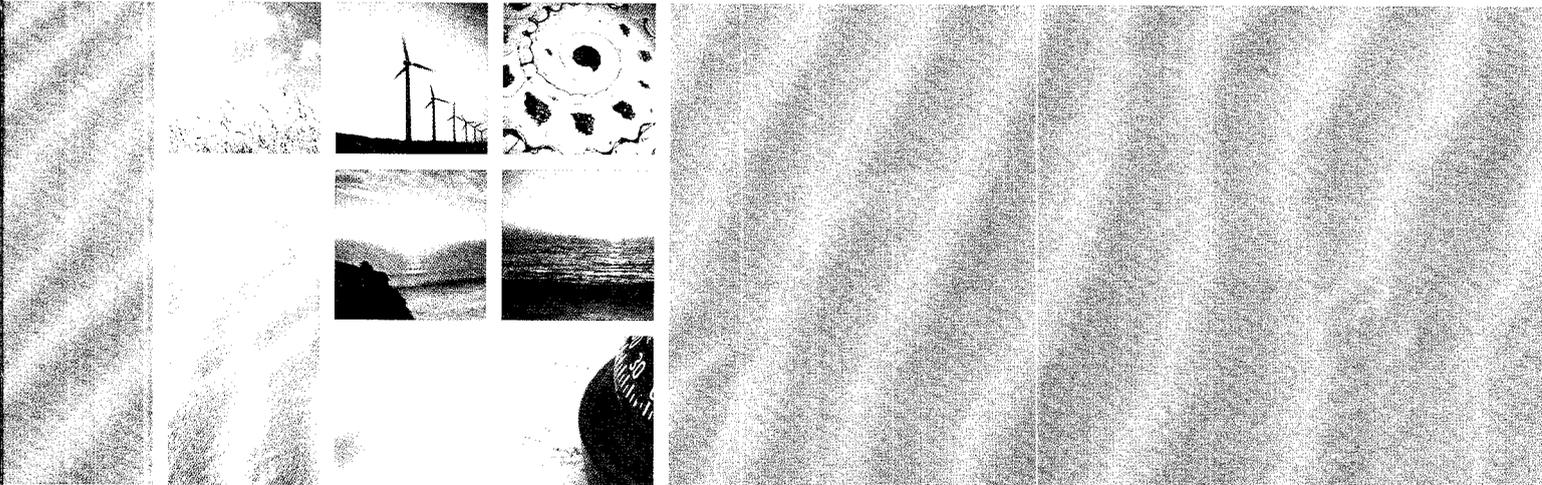
**State 36-11 Well
Section 36, T22S - R15E
Emery County, Utah
Proposed Wellbore Config**





STATE #36-11

**GREEN RIVER
UTAH**



RPS CD ENCLOSED

www.rpsgroup.com

PETRO-CANADA RESOURCES (USA) INC.

CONFIDENTIAL

STATE #36-11

**GREEN RIVER
UTAH**

<p>PERMIT TO PRACTICE RPS ENERGY CANADA LTD.</p> <p>Signature <u><i>Gregory S.</i></u></p> <p>Date <u>NOV 27 / 07</u></p> <p>PERMIT NUMBER: P 4348</p> <p>The Association of Professional Engineers, Geologists and Geophysicists of Alberta</p>

RECEIVED

MAY 17 2008

DIV OF OIL, GAS & MINING
RPS Group Plc

**GEOLOGICAL REPORT
ON
STATE #36-11
FOR
Petro-Canada Resources (USA) Inc.
Green River, Utah**

TABLE OF CONTENTS

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August-September 2007

John Mael
Wellsite Geologist



WELL DATA SUMMARY

STATE 36-11

WELL NAME: State #36-11
OPERATOR: Petro-Canada Resources USA, Inc.
DRILLING CONTRACTOR: Grey Wolf Drilling, Rig #802

LOCATION: NE ¼ NE ¼ of Sec.36, T22S R15E Emery Co. Utah
CO-ORDINATES: Surface: 906'S of N, 471' W of East boundary.
Bottom hole: Vertical well
GEOGRAPHIC LOCATION: 12mi South of Green River, Emery County, Utah
LATITUDE / LONGITUDE: 38° 51' 33.42" North Latitude; 110° 12' 41.09" West Longitude
GROUND LEVEL: 4221.2'
KELLY BUSHINGS: 4239.7'

API Unique Identifier 43-015-30715

SPUD DATE: August 2, 2007, 19:00
TOTAL DEPTH DATE: September 24, 2007, 00:30

CASING: 48jts; 10 3/4"; 45.5lbs/ft; J55 & L80; set at 2095'
7" production casing set to 8030' TD

HOLE SIZE: 14.75" from 0 to 2095'
9.875" from 2095' to 6181'
9.50" from 6181' to 8090' Total depth

SAMPLE INTERVAL: Every 30' from 2100' to 5950'
Every .15' from 5950' to 8090' Total Depth
Grab samples into plastic sealed containers at gas peaks.

MUD TYPE: Water and Floc-water 0-5800'
Salt Gel 5800' to 8090' TD

WELL STATUS: Tight hole. Cased.

FORMATION TOPS

STATE #36-11

Ground Level: 4221.2'
Kelly Bushing: 4239.7'

Formation	Prognosis			Sample			Logs		
	Meas	TVD	S.S.	M Dp.	TVD	S.S.	M. Dp.	T.V.D.	SubSea
Morrison	0	0	+4240						
Summerville	426	426	+3814						
Entrada	879	879	+3361				885	885	+3355
Carmel	1140	1140	+3099				1137	1137	+3103
Navajo	1369	1369	+2871				1355	1355	+2885
Kayenta	1809	1809	+2431				1814	1814	+2426
Wingate	2023	2023	+2217				1976	1976	+2264
Chinle	2344	2344	+1896	2385	2385	+1855	2343	2343	+1897
Shinarump	2594	2594	+1645	2578	2578	+1662	2612	2612	+1628
Moenkopi	2668	2668	+1572	2652	2652	+1588	2657	2657	+1583
Sinbad	3134	3134	+1106	2970	2970	+1270	2946	2946	+1294
White Rim	3333	3333	+907	3324	3324	+916	3329	3329	+911
Organ Rock	3776	3776	+464	3795	3795	+445	3798	3798	+442
Honaker Trail	4044	4044	+196	4120	4120	+120	4080	4080	+160
Paradox	4916	4916	-676	5050	5050	-810	4934	4934	-694
Top Paradox Salt	5981	5981	-1741	5974	5974	-1734	5971	5971	-1731
Pinkerton Trail	7868	7868	-3628	7856	7856	-3616'	7860	7860	-3620
Total Depth (rev)	8160	8160	-3920	8090	8090	-3850	8023	8023	-3783
Leadville	8290	8290	-4050						
Top Miss. Por	8330	8330	-4090						
Base Miss. Por.	8410	8410	-4170						
Total Depth	8465	8465	-4225						

-pipe tally and drilled depths incomplete and erratic above 5210'

DEVIATION SURVEYS

STATE #36-11

497'	1.0
997'	4.0
1325'	3.0
2050'	2.5
3064'	2.25
3660'	1.0
5113'	1.25
5607'	1.75
6152'	0.75
7664'	4.75
8090'	misrun

BIT RECORD

STATE #36-11

Location: NE 1/4, NE 1/4 Sec.36, T22S, R15E, Emery County, Utah
Spud Date: August 2, 2007, 19:00
Surface Casing: 28jts; 10 3/4"; 45.5lbs/ft; J55 & L80; set at 2095'
Intermediate Casing: None set
Total Depth: 8090' at 00:30, August 24

Bit No.	1A	2A	3A	1	2	3	4
Size (in)	14.75	14.75	14.75	9.875	8.75	9.875	9.875
Make		Smith	Smith	Hughe s	Hughe s	Hughe s	Hughes
Type	T51CD H	FDG	XR+	HC505	GX22	GX097	HC506Z
Serial Number	N9669 0	KV2448	PG47 88	71111 96	51299 69	50752 46	7111819
Jets (1/32")		3x22	2x20 1x24	3x16 4x14	2x15 1x14	3x14	5x15 1x14
Depth Out	171	533	2095	N/A	2120	2326	2607
Feet Drilled	171	362	1562	N/A	394	206	281
Hours	13	N/A	N/A	N/A	N/A	N/A	38.5

BIT RECORD

STATE #36-11

Location: NE 1/4, NE 1/4 Sec.36, T22S, R15E, Emery County, Utah
Spud Date: August 2, 2007, 19:00
Surface Casing: 28jts; 10 3/4"; 45.5lbs/ft; J55 & L80; set at 2095'
Intermediate Casing: None set
Total Depth: 8090' at 00:30, August 24

Bit No.	5	6	7	8	9	12
Size (in)	9.875	9.875	9.5	9.875	9.875	9.875
Make	Hughes	Smith	Smith	Hughes	Hughes	Hughes
Type	GX30	F30VPS	MA74	GX44	GX44	HR44
Serial Number	5128392	PF3121	JT8270	5126216	5125382	5104990
Jets (1/32")	2x18 1x20	2x18 1x20	3x16 3x14	3x16	3x16	3x18
Depth Out	2607	3552	4030	5210	5652	6182
Feet Drilled	471	945	0	1180	502	530
Hours	38.5	17.5		54	27	

BIT RECORD

STATE #36-11

Location: NE 1/4, NE 1/4 Sec.36, T22S, R15E, Emery County, Utah
Spud Date: August 2, 2007, 19:00
Surface Casing: 28jts; 10 3/4"; 45.5lbs/ft; J55 & L80; set at 2095'
Intermediate Casing: None set
Total Depth: 8090' at 00:30, August 24

*Bit records pieced together from very incomplete drilling records.

Bit No.	13	14
Size (in)	9.5	9.5
Make	Hughes	Smith
Type	HC406 Z	MRS568
Serial Number	71124 2	JT1718
Jets (1/32")	2x13 4x12	6x15
Depth Out	7699	8090
Feet Drilled	529	319
Hours	27	23.5
Accumulated Hours		
Weight on Bit (klbs)	42	15
RPM	70	100

DAILY DRILLING SUMMARY

STATE #36-11

Date 2007	Depth	Prog.	Hours Drilling	Mud Weight	Mud Vis	Fluid Loss	pH	Status at 06:00
August 9	2095	0	0	8.6	27	-	8.0	Trip for wash-out
August 10-12	2095	0	0	8.6	27	-	8.0	Drilling cement. Rig repairs
August 13	2235	140	13.5	8.6	28	-	8.4	Drilling at 2265'
August 14	2341	106	7.25	8.6	28	-	8.2	POOH
August 15	2432	91	5.0	8.6	28	-	8.0	Drilling ahead at 2515'
August 16	2708	276	17.75	8.5	30	-	8.3	Drilling ahead at 2856'
August 17	3219	511	20.25	8.6	29	-	11.1	Drilling ahead at 3455'
August 18	3628	409	12.0	9.1	29	-	9.5	Drilling ahead at 3792'
August 19	4030	402	19.25	8.7	29	-	9.5	RIH with NB #7
August 20	4030	0	0	8.9	34	-	9.5	Rig repairs
August 21-31	4030	0	0	-	-	-	-	Rig repairs. Draw works.
Sept. 1-3	4030	0	0	-	-	-	-	Rig repairs. Clutch
September 4	4030	0	0	-	-	-	-	Rig repairs Hydromatic
September 5	4030	0	0	-	-	-	-	Rig repairs. Clutch.
September 6	4030	0	0	-	-	-	-	RIH to drill
September 7	4030	0	0	8.6	31	-	9.5	Drilling ahead at 4148'
September 8	4468	379	19.25	8.7	29	-	9.5	Drilling ahead at 4588'

DAILY DRILLING SUMMARY

STATE #36-11

Date 2007	Depth	Prog.	Hours Drilling	Mud Weight	Mud Vis	Fluid Loss	pH	Status at 06:00
September 9	5020	552	21.5	8.6	28	-	9.5	Drilling ahead at 5138'
September 10	5210	190	10.25	8.6	28	-	8.5	Prep to test BOPs
September 11	5210	0	0	8.6	45	-	8.5	RIH to drill ahead
September 12	5149	Corr.	0	8.6	33	-	8.4	Drilling ahead at 5170'
September 13	5486	346	17.5	8.6	31	-	8.4	Drilling ahead at 5627'
September 14	5652	66	17.5	8.6	32	-	8.4	Drilling ahead at 5720'
September 15	5938	286	17.25	8.4	34	-	8.5	Drilling ahead at 6125'
September 16	6195	258	10.25	8.6	32	-	8.4	Drilling ahead at 6329'
September 17	6499	304	10.25	8.5	32	-	8.5	Drilling ahead at 6575'
September 18	6875	376	22.25	8.6	32	-	8.4	Drilling ahead at 6990'
September 19	7222	347	22.25	10.7	36	17	8.0	Drilling ahead at 7277'
September 20	7453	251	21.25	11.7	33	17	8.0	Drilling ahead at 7488'

DAILY DRILLING SUMMARY

STATE #36-11

Date 2007	Depth	Prog.	Hours Drilling	Mud Weight	Mud Vis	Fluid Loss	pH	Status at 06:00
September 20	7453	251	21.25	11.6	33	17	8.0	Drilling ahead at 7488'
September 21	7638	185	20.0	11.7	38	6.5	8.7	POOH at 7698'
September 22	7698	60	5.75	11.6	37	6.5	8.7	RIH to drill.
September 23	7868	170	11.75	11.8	41	6.5	8.7	Drilling ahead at 7915'
September 24	8086	218	11.75	12.1	37	6.8	8.8	Building mud volume
September 25	8090	4	0.50	11.1	39	6.9	8.7	Logging run #1
September 26	8090	0	0	11.1	37	6.8	8.8	Logging run #3
September 27	8090	0	0	11.7	34	8.6	8.5	Retrieving side-wall cores
September 28	8090	0	0	11.5	35	8.5	8.8	Prepare to run casing.

Sidewall Core Points	
Formation	Measured Depth
Sinbad	
	3132
	3139
	3223
	3239
	3250
	3260
Paradox Clastics	
Unit 1	6144
	6154
shale	6166
	6216
	6226
shale	6237
	6267
	6280
Unit 2	6408
	6450
Unit 3	6610
Unit 4	6720
shale	6733
	6738
	6746
Unit 5	6896
	6905
Unit 6	
shale	7002
	7012
	7018
	7062
	7072
Pinkerton Trail	
	7903.8
	7908

2nd attempt successful.

Washed out at 7902'

Cores 7908-7012' were cut in the first run. The remainder on the second run.
 LCM towards the bottom of the hole jammed the coring mechanism on the deeper cores.

WELLSITE LOGGING REPORT

STATE #36-11

HOLE DATA

Hole Size: 9 1/2"
 Driller's T.D.: 8090'

Strap: No strap
 Logger's T.D.: 2672.0m

Casing Driller: 2095'

Casing Logger: 2131'

Conditions at TD: Good to LCM pill

MUD DATA

Type: Salt-Gel Logging Co.: Baker Hughes
 Density: 10.9lb/gal Engineer: F. Reinitz

Viscosity: 36sec Truck No.: HL6741 Grand Jct.
 W.L. : 9.0cm³ Start Date: September 25

pH 8.0 Start Time: 01:30

End Date: September 27

End Time: 07:00

LOGGING (53.5 hrs total logging including rig ups)

Run	Interval	Hours	Logs Run	Remarks
One	8023' - 2131'	9.00	MLL-XMac-SGR.	GR to surface
Two	8023' - 2131'	4.75	Dual ZDL / CN	Neutron log to surface
Three	8023' - 3100'	17.5	DCBIL / Star	To top of Sinbad Mbr.
Four	7908' - 7012'	3.0	RCOR	Tool plugging wi LCM
Five	7002' - 3132'	6.0	RCOR	More smoothly

LOGGING OPERATIONS

Date	From	To	Operation	
September 24		00:30	Drill to final TD of 8090' Loss of circulation.	
		00:30	15:45	Pull up to 5940' Circulate and condition mud. Build volume.
		15:45	16:15	Spot LCM pill on bottom.
		16:15	01:30	POOH.
September 25		01:30	02:30	Safety meeting. Rig up sheaves and make up tools.
		02:30	11:30	Logging run #1. DLL-XMac. On bottom @ 05:30. Start main pass 06:15
		11:30	12:30	Rig out Run #1. Make up tool for Run #2
		12:30	17:15	Logging run #2. ZDL / CN. On bottom 14:15. Neutron log to surface.
		17:15	19:00	Rig out tools for #2, Rig up for #3. Calibrate callipers
September 26		19:00	12:30	Logging run #3 DCBIL/Star
		12:30	14:00	Rig out Tools. Build coring tool. RIH.
		14:00	17:00	Cut sidewall cores 1-6. Tool jamming with LCM. POOH.
		17:00	18:30	Change out coring tool. No communication with bottom of tool.
		18:30	21:30	Re-build first coring tool. Replace stripped hydraulic motor gear.
		21:30	22:30	RIH with coring tool.
September 27		22:30	04:30	Cutting cores 6-30
		04:30	07:00	POOH. Retrieve cores. Full recovery. 30 cut / 30 recovered
		07:00		RIH for clean-out trip before casing.

REMARKS:

DCBIL data transmitted to HEF petrophysical. Safe job. Loggers left location 07:30, September 27.

WELL SUMMARY

STATE #36-11

The State #36-11 well was drilled to evaluate the hydrocarbon potential of the intrasalt in the Paradox Formation of the Pennsylvanian Hermosa Group, with secondary targets in the Triassic Sinbad member and the Pinkerton Trail, the bottommost formation of the Hermosa.

Grey Wolf Rig #802 was moved on to location at the end of July, and the well was spudded on August 2, 2007 into the interbedded shale and sandstone of the Jurassic Morrison Formation. Three 14 3/4" bits were needed to drill to 2095' where 10 3/4" casing was run and cemented into place. More surface casing than was originally planned was set to avoid potential water flow from the shallower porous Jurassic sandstone. Drilling resumed after nipping up and testing BOPs with 9 7/8" conventional tri-cone bits, after several attempt to run in with 9 7/8" PDC bits bridged off inside casing. Geological supervision with a NorAm total gas detector was in place from the drilling out of the surface casing shoe to total depth.

Drilling continued with frequent breakdowns to a depth of 4030', where a major overhaul of the draw-works was deemed necessary. The draw works were taken down off the drill floor on August 20th, taken to a shop in Grand Junction Colorado for major repairs, and returned over the Labor Day weekend. Finishing the draw-works and repairs to both the brakes and hydraulic clutch delayed the resumption of drilling to September 6, 2007. Drilling continued as did the frequent breakdowns and power outages, especially to the pumps and manifolds, with delays compounded by inexperienced hands.

Salt was added to the mud system starting at 5800', before the Paradox salts were penetrated, to prevent their solution and hole enlargement. Slow mud losses of 40-50 bbls / day started here, likely into the thick permeable Jurassic sandstones uphole.

While drilling at 7250' in a fractured intrasalt, gas readings climbed from a background of 20 units to the maximum reading possible of 10,000 units. A flow check showed no significant increase in flow, and drilling resumed while mud weight was increased to 12 lbs / gal. The increase in mud weight also increased the rate of mud loss to as much as 100 bbls / day, and decreased the chloride level of the mud, allowing more of the Paradox salts to be dissolved from the borehole wall into the under-saturated mud. This influx may also have masked the much smaller increases in the deeper intrasalt.

Drilling continued below the bottommost salt and into the Pinkerton Trail Formation, but at 8090', circulation was lost and drilling halted to increase mud volume. The decision was made to call TD, and a suite of logs was run, including an imaging log, after which 30 sidewall cores were cut and recovered. After a clean-out trip, 7" casings were run to allow for a longer term evaluation of the production potential of the well.

FORMATION EVALUATIONS

STATE #36-11

WINGATE 1976' (+2264' SS)

Geological supervision with total gas detection started at the surface casing shoe set at 2095', 120' below the top of the Jurassic Wingate formation. A thick sequence of light red or light grey, quartz fine or very fine grained well sorted sub rounded sandstone was seen, with only widely scattered shaley partings or matrix. Although generally tight, some porosity was inferred where the matrix and cementation decreased, but no staining was seen, nor was any significant increase in gas readings seen.

CONCLUSION: The Wingate is not of economic interest here.

CHINLE 2343' (+1897' SS)

The Chinle Formation of the late Triassic was seen here in samples as very fine grained red or red orange sandstone, often grading to a darker red argillaceous siltstone. No rock of reservoir quality was seen, and no significant increases in gas readings were seen.

CONCLUSION: The Chinle is not of economic interest here.

SHINARUMP MEMBER 2612' (+1628' SS)

The Shinarump, the basal member of the Chinle formation, is a siliceous, poorly sorted, mottled red quartz sandstone interbedded with red orange siltstone and silty shale. No porosity was seen, and no significant increase in gas readings was noted.

CONCLUSION: The Shinarump is not of economic interest here.

MOENKOPI 2657' (+1583' SS)

The Moenkopi Formation of the upper Triassic is at this location almost 400' of thinly interbedded red or red orange shale and siltstones occasionally grading to thin fine grained tight sandstone. No rock of reservoir quality was seen, and no significant increase in gas readings was seen.

CONCLUSION: The Moenkopi was not of commercial interest here.

SINBAD MEMBER 2946' (+1294' SS)

The Sinbad member of the Moenkopi was noted as a potential zone of interest, and was seen in sample as about 130' of interbedded sandy limestone and calcareous sandstone. Two bands of porosity were seen, the topmost, from 3120' to 3145' showed 6% to 8% porosity with some spotty 10% to 12% intergranular porosity in quartz sandstone in a calcareous matrix. In spite of the poor porosity, gas readings showed a good increase from a background of 10 units to a peak of 300 units, with good dark oil staining and a faint fluorescence.

The second, lower interval of porosity, from 3200' to 3270' showed the same poor 8% to 10% porosity, with good dark brown oil staining and good fluorescence and milky cut. Gas readings showed good increases in the streaky poor porosity with three or four peaks in the 400 units to 600 units range over a background of 30 units to 40 units. A thin sheen of oil was seen on the mud tanks after penetrating the Sinbad, and cuttings samples had a faint petroleum odour, especially on warming. The sidewall cores taken should be evaluated, especially for permeability.

CONCLUSION: The Sinbad is certainly oil-bearing, but production may not be in economic quantities without stimulation.

WHITE RIM MEMBER 3329' (+911' SS)

The White Rim member of the Permian Cutler group was seen here as more than 450' of light grey or white, occasionally red or pink mottled very clean quartz sandstone, often with a siliceous cement and with some scattered euhedral silica seen. Porosity was limited by the silty matrix and silica cements to at best some scattered 5% to 8% intergranular porosity. No staining was seen, and gas readings showed no increase through the interval.

CONCLUSION: The White Rim is not of economic interest here.

ORGAN ROCK MEMBER 3798' (+442' SS)

Almost 300' of interbedded fine grained sandstone and shale make up the Organ Rock member of the Cutler Group. An argillaceous matrix blocked all potential porosity, and gas readings showed no significant increase.

CONCLUSION: The Organ Rock is not of economic interest here.

HONAKER TRAIL 4080' (+160' SS)

The Honaker Trail Formation marks the top of the Pennsylvanian Hermosa group, and was seen in samples as almost 900' of interbedded limestone and sandstone. Over these depths, a very erratic pipe tally on the rig floor lead to frequent depth corrections and 'de-corrections', resulting in erratic cuttings sample reliability and occasional missed or overlapping gas reading data.

The limestone was mostly sandy or silty, and almost always dense, but the scattered sandstone beds, with less calcareous matrix present, occasionally showed some potential, as in the 4620' to 4670' interval.

(4530-4620' on logs) where the absence of the calcareous matrix allowed from 8% to 12% intergranular porosity to be developed in the fine to medium grained quartz sandstone. No staining was seen, but gas readings showed a small increase from a background of 40 units to 50 units to peaks of 100 units to 120 units over the interval. Other clean sandstones were seen from 4730' to 4750' and 4900' to 4930' where similar porosity was seen with similar gas increases. These sections might be examined on logs, and testing considered.

CONCLUSION: The intervals noted may be capable of commercial production.

PARADOX 4935' (-694' SS)

The Paradox Formation of the Hermosa Group was seen in samples as a nearly 1000' thick sequence of interbedded limestone, calcareous sandstone and dolomites. Although no significant porosity was seen in the sandstone or limestone, some scattered 6% to 10% intercrystalline porosity was seen in the dolomites, with the most prospective interval from 5580' to 5620' where 6% to 8% was seen in a light grey or brown finely crystalline occasionally sucrosic dolomite. Gas readings showed a good increase from a background of 150 units to peaks of 350 units to 450 units. This interval, and other, thinner dolomites should be examined on logs and testing considered.

CONCLUSION: Although unlikely to be capable of producing large volumes, these intervals may contribute to the well's total production if stimulated.

PARADOX SALT 5971' (-1731' SS)

The thick salt sections of the Paradox are not productive themselves, but form a perfect seal for the hydrocarbons generated in the several intrasalt intervals. These intrasalt was typically made up of anhydrite at the top and base, and a varying thickness of dolomitic or quartz sandstone with a very organic calcareous black shale source rock in the center. This sequence may be interrupted or repeated in specific intrasalt, but these elements are almost always present. In general, the highest gas readings in these intrasalt, from 1000 units to 1500 units, were seen from the organic shale. Although difficult to produce, this 'shale gas' might be produced in economic quantities with stimulation.

The most prospective intrasalt for immediate gas production is in the interval from 7235' to 7270', where gas readings saturated at 10000 units after fractured organic shale and sandy dolomite were penetrated. Mud weight had to be increased and sustained at 12+ lbs / gal to control the influx. Good fracture porosity was inferred from the presence of common euhedral pyrite and silica fracture lining as well as the gas reading increase.

The remaining intrasalt showed varying porosity and gas readings, depending on the proportion of dolomitic and argillaceous matrix in the usually quartz sandstones. The best, and one of the thickest of these intrasalt, from 6980-7080' showed 8% to 10% intergranular porosity in the fine grained, 80% quartz, 20% dolomite clast sandstone. Scattered salt matrix and infill was inferred from the presence of pitting and 'vugs' after washing in clear fresh water, but closer examination in thin section may be needed to more exactly determine percentages. Gas readings increased from a background of 10 units to 20 units to peaks of 150 units to 350 units through the sandstones, and several sidewall cores were taken in the sandy intervals. As with the other intrasalt, the highest gas readings were seen from the organic shale source rocks, with a peak at 1200 units.

Another prospective intrasalt was seen in the interval from 6690' to 6765' where 6% to 10% intergranular porosity was seen in a light grey or tan dolomite and quartz sandstone in a dolomitic matrix. This sandstone graded to a sandy, argillaceous less porous dolomite in the lower half of the intrasalt, reflected in gas readings, with peaks as high as 200 units to 250 units above the central shale, decreasing to 80 units to 120 units in the sandy dolomite below.

The thickest of the intrasalt seen in this well, from 6115' to 6305' followed the pattern, with sandy dolomite grading to dolomitic or anhydritic sandstone showing 8% to 10% intergranular porosity at best. Unfortunately, no depth data was generated from the Pason system over most of this interval, but a peak of 750 units was seen from the upper dolomitic sandstone. Several sidewall cores were taken over this big interval, and will be evaluated for matrix and cementation.

CONCLUSION: The sandstones and sandy dolomites in the intrasalt here are certainly capable of gas production, but longer term evaluation will be needed to determine profitability.

PINKERTON TRAIL 7860' (-3620' SS)

The Pinkerton trail Formation was the basal Formation of the Pennsylvanian Hermosa Group, and was a secondary zone of interest here. In sample it was seen as argillaceous dense limestone with scattered thin interbedded anhydrite and sandstone.

8% to 10% porosity was seen in the 7890' to 7910' interval in a sandy argillaceous limestone, with an increase in gas readings to 300 units over a background of 50 units. This interval might be examined on logs and testing considered combine with a close examination of the two sidewall cores cut in this interval.

While drilling at 8075' mud returns started to decrease, and at 8090' circulation was completely lost. Drilling was halted at 8090', and although the well was stable while not pumping, the added pressure while circulating again caused large fluid losses. TD was called, and the hole conditioned for logging. Although the cuttings samples were lost over this interval, and wireline logs did not get to this depth, the loss of circulation is often associated with the underlying Mississippian Leadville Formation.

CONCLUSION: The Pinkerton Trail here is unlikely to be capable of sustained rates of economic production.

LITHOLOGICAL DESCRIPTIONS

STATE #36-11

- 2100-2130 ft **SANDSTONE:** light grey to pink, grading very light red, occasionally red orange iron oxide stain, very fine to fine grained, quartz, no chert, subangular to subrounded, moderately to well sorted, spotty silty matrix, rare argillaceous matrix, poor consolidated or friable, occasionally unconsolidated scattered kaolin, traces dark minerals, rare well rounded loose frosted clear quartz grains, tight, with poor porosity in unconsolidated sandstone, no staining. Abundant cement, decreasing with depth.
- 2130-2190 ft **SANDSTONE:** light pink, increasing grading to medium red, medium red to orange, rarely translucent where less red staining, increasingly very fine grained, increasingly well sorted, increasingly sand with scattered subrounded, decreasing medium grained frosted quartz grains, friable, increasingly unconsolidated tight, no staining. Possible poor porosity where unconsolidated and no matrix. Casing cement decreasing to <10%.
- 2190-2250 ft **SANDSTONE:** light red, pink, commonly red to orange, very fine to decreasingly fine grained, quartz, no chert, moderately to well sorted, subangular, decreasingly subrounded, spotty argillaceous matrix, decreasing kaolin cement, increasingly friable and increasingly unconsolidated decreasing dark minerals to very rare, tight with possible poor porosity where unconsolidated and no matrix, no staining.
- 2250-2310 ft **SANDSTONE:** light red, pink, commonly red to orange, increasingly white, rarely translucent, quartz, no chert, very fine to increasingly very fine grained, occasionally grading to silt, moderately to well sorted, subangular subrounded in part, silty and part argillaceous matrix, argillaceous cement, very friable or unconsolidated, trace kaolin, increasing dark minerals, grading to **SANDSTONE:** light red to brown, not translucent, very fine grained to silty, quartz, moderately to well sorted, subangular, silty and increasing argillaceous matrix, friable grading unconsolidated tight, no staining.
- 2310-2340 ft **SANDSTONE:** light red, pink, quartz, rarely translucent, quartz, very fine to fine grained, increasingly silty, increasingly argillaceous, moderately to well sorted, subangular to subrounded, spotty argillaceous matrix and cement, very rare dark minerals, tight with poor porosity inferred in unconsolidated sandstone with less matrix. Sample quality very poor in interval, cement, cavings and debris predominant.
- 2340-2385 ft **SANDSTONE:** pink, light red to orange, occasionally translucent, quartz, very rare dark minerals, very fine grained to silty, moderately to well sorted, subangular to subrounded, spotty argillaceous matrix and cement, trace kaolin cement, scattered fine to rare medium grained well rounded frosted loose quartz grains.

CHINLE 2385' (+1855' SS)

- 2385-2430 ft **SILTSTONE:** medium red, medium red brown, occasionally dark red, quartz, argillaceous matrix, argillaceous and part calcareous cement, firm, tight, occasionally grading to **SANDSTONE:** medium to light red to brown, light red to orange, not translucent, quartz, very fine grained to silty, subangular, moderately to well sorted, argillaceous and silty matrix, argillaceous and scattered calcareous cement, tight, with thin interbedded **CLAYSTONE:** medium to dark red brown, amorphous, very silty, occasionally sandy, very slightly calcareous, occasionally platy.

- 2430-2450 ft **SILTSTONE:** medium red, medium red to orange, as above, but increasingly grading to **SANDSTONE:** light to medium red to orange, pink, rarely translucent, quartz, very fine grained grading silty, decreasingly grading silty with depth, well sorted, subangular to subrounded, argillaceous and silty matrix, argillaceous and scattered calcareous cement, tight, no staining.
- 2450-2470 ft **SANDSTONE:** light red, pink, pink to orange, rarely translucent, quartz, very fine to fine grained with rare medium grained, moderately, occasionally poor sorted, subangular rarely angular, argillaceous matrix and cement, decreasing calcareous cement, firm, tight, trace thin laminae of siltstone and rare **CLAYSTONE:** as above.
- 2470-2480 ft **SANDSTONE:** medium red to brown, light red to orange, quartz, very fine to fine grained, moderately to well sorted, subangular to subrounded, decreasing argillaceous matrix, argillaceous cement, firm, tight with thin stringers **SILTSTONE:** medium to dark red, quartz, argillaceous, as above.
- 2486-2510 ft **SANDSTONE:** as above, rare mottled light green, with trace thin laminae of **CLAYSTONE:** light grey, light grey green mottled pink, platy, common waxy texture, slightly silty, rarely sandy.
- 2510-2552 ft **SILTSTONE:** medium red, red to brown, quartz, argillaceous matrix and cement, common calcareous, rare mica, tight, grading to and interbedded with **SANDSTONE:** medium red to pink, not translucent, very fine grained to silty, quartz, subangular, moderately to well sorted, argillaceous and silty matrix, argillaceous and calcareous cement, firm, tight with increasing interbedded **SHALE:** medium to dark red to brown, occasionally mottled light green to grey, subblocky, firm, commonly silty, occasionally sandy, commonly calcareous.
- 2552-2575 ft **SANDSTONE:** light red, medium red, grading pink, rarely white, not translucent, quartz, very fine to fine grained, moderately to well sorted, argillaceous matrix and cement, grading to **SILTSTONE:** as above, tight and minor and decreasing **SHALE:** medium red to brown, silty, as above.

SHINARUMP 2578' (+1662' SS)

- 2575-2608 ft **SILTSTONE:** medium red, red to brown, quartz, argillaceous matrix and cement, common calcareous, rare mica, tight, grading to and interbedded with **SANDSTONE:** medium red to pink, not translucent, very fine grained to silty, rare loose medium grained, quartz, subangular, moderately to well sorted, argillaceous and silty matrix, argillaceous and calcareous cement, firm, tight with increasing interbedded **SHALE:** medium to dark red to brown, rarely mottled light green to grey, subblocky, firm, commonly silty, occasionally sandy, commonly calcareous.
- 2608-2652 ft **SANDSTONE:** light grey, commonly mottled red, occasionally mottled light green grey, quartz, very fine to medium grained, rare granules very rare small pebbles, moderately to poor sorted, argillaceous and silty matrix and cement, scattered calcareous cement, rare euhedral silica?, tight grading to and thin interbedded with **SILTSTONE:** light grey, medium grey, decreasingly mottled red, increasingly mottled light green, quartz, argillaceous matrix, argillaceous and calcareous cement, tight, and minor **SHALE:** medium red to brown, subblocky, silty, firm.

MOENKOPI 2652' (+1588' SS)

- 2652-2702 ft **SILTSTONE:** medium to dark red brown, increasingly grading brown red, quartz, argillaceous matrix, argillaceous and calcareous cement, commonly calcareous, scattered fine to rare medium clear quartz grains, tight, increasingly grading to and interbedded with **SHALE:** medium to dark red, brown to red, subblocky, firm, commonly silty, occasionally sandy, commonly calcareous, firm, with minor interbedded **SANDSTONE:** light red, pink, decreasingly white, not mottled green, quartz, very fine grained grading silty, moderately to well sorted, subangular to subrounded, argillaceous matrix and cement, scattered calcareous cement, thin laminae **SHALE:** medium red, silty, sandy, firm.
- 2702-2740 ft **SILTSTONE:** as above, increasingly grading to **SHALE:** medium to dark red, increasingly grading to brown to red, subblocky, occasionally subfissile, very silty, commonly sandy, commonly calcareous, with minor thin **SANDSTONE:** medium red, quartz, very fine grained grading silty, quartz, subrounded to subangular, moderately to well sorted, argillaceous matrix and cement, common calcareous cement, firm, tight.
- 2740-2770 ft **SHALE:** medium to dark red, red brown, subblocky to subfissile, commonly silty, occasionally sandy, firm, slightly calcareous, decreasingly grading to **SILTSTONE:** medium red brown, quartz, argillaceous matrix, commonly calcareous, rare mica?, tight, rarely grading to thin laminae of **SANDSTONE:** medium to light red to brown, very fine grain, tight, as above.
- 2770-2800 ft **SANDSTONE:** medium red grading pink, not white, occasionally red brown, quartz, very fine grained, subangular, moderately to well sorted, argillaceous and silty matrix, argillaceous and common clastic matrix and cement, tight, grading to and interbedded with **SILTSTONE:** medium red to brown, quartz, argillaceous matrix, calcareous cement, tight and decreasing **SHALE:** medium to dark red to brown, subblocky, commonly silty, occasionally sandy, firm.
- 2800-2850 ft **SILTSTONE:** medium to dark red brown, increasingly grading brown red, quartz, argillaceous matrix, argillaceous and calcareous cement, commonly calcareous, scattered fine to rare medium clear quartz grains, tight, increasingly grading to and interbedded with **SHALE:** medium to dark red, brown to red, subblocky, firm, commonly silty, occasionally sandy, commonly calcareous, firm, with minor interbedded **SANDSTONE:** light red, pink, decreasingly white, not mottled green, quartz, very fine grained grading silty, moderately to well sorted, subangular to subrounded, argillaceous matrix and cement, scattered calcareous cement, thin laminae **SHALE:** medium red, silty, sandy, firm.
- 2850-2910 ft **SILTSTONE:** as above, tight, commonly interbedded with **SHALE:** medium to dark red to brown, silty, as above but with increasing thin beds **SILTSTONE:** light grey grading white, rarely white to green, rarely mottled pink, quartz, argillaceous and calcareous matrix, calcareous cement, very rare disseminated pyrite, tight, rarely grading to very silty, very sandy, dense limestone.
- 2910-2952 ft **SILTSTONE:** as above increasingly grading to **SANDSTONE:** light red, pink, occasionally white, not translucent, quartz, very fine grained, moderately to well sorted, subangular to subrounded, argillaceous and silty matrix, common calcareous cement, very rare disseminated pyrite, tight, with minor interbedded **SHALE:** medium red, silty, as above.

2952-2970 ft **SILTSTONE:** as above, tight, commonly interbedded with **SHALE:** medium to dark red to brown, silty, as above, and minor **SANDSTONE:** red to orange, very fine grained, tight, as above.

SINBAD MEMBER 2970' (+1270' SS)

2970-3010 ft **SILTSTONE:** medium red to brown, quartz, argillaceous matrix, as above with common interbedded **SILTSTONE:** light grey, occasionally motor flecked medium red, pink, quartz, calcareous matrix and cement, very rare disseminated pyrite, tight grading to **LIMESTONE:** white, very light grey occasionally flecked pink, micro crystalline, chalky texture, very silty, commonly sandy, dense, no staining.

3010-3048 ft **SILTSTONE:** medium to dark red brown, increasingly grading brown red, quartz, argillaceous matrix, argillaceous and calcareous cement, commonly calcareous, scattered fine to rare medium clear quartz grains, tight, increasingly grading to and interbedded with **SHALE:** medium to dark red, brown to red, subblocky, firm, commonly silty, occasionally sandy, commonly calcareous, firm, with minor interbedded **SANDSTONE:** light red, pink, decreasingly white, not mottled green, quartz, very fine grained grading silty, moderately to well sorted, subangular to subrounded, argillaceous matrix and cement, scattered calcareous cement, thin laminae **SHALE:** medium red, silty, sandy, firm.

3048-3090 ft **SANDSTONE:** white, buff, occasionally very light grey green, increasingly light grey green to base interval, not mottled pink, not translucent, quartz, no lithics, no chert, very fine to fine grained, moderately to well sorted, subangular, argillaceous matrix, calcareous matrix and cement, firm, increasing disseminated pyrite, scattered euhedral pyrite increasing with depth, tight with thin laminae **SHALE:** light grey, light grey green, subblocky, waxy texture, trace disseminated pyrite, slightly silty.

3090-3120 ft **SANDSTONE:** as above grading with depth to **SANDSTONE:** light grey, light grey green, very fine grained to silty. Quartz, moderately to well sorted, subangular, argillaceous matrix, silty matrix, increasing fine disseminated pyrite, tight, grading to **SILTSTONE:** light grey, light to medium grey green, quartz, argillaceous matrix, argillaceous and calcareous cement, scattered fine disseminated pyrite, tight, and minor **SHALE:** medium to light grey green, subfissile, very silty, firm, scattered fine disseminated pyrite.

3120-3140 ft **SANDSTONE:** medium to stained dark grey, very fine grained grading silty, moderately sorted, subangular, argillaceous and calcareous matrix, spotty 5 to 8% intergranular porosity good dark brown dark grey oil staining, faint fluorescence, immediate blooming white to yellow cut, fair odor oily on warming, interbedded with **SHALE:** medium to light grey green, subblocky, waxy texture, firm, very silty, very sandy, scattered disseminated pyrite.

3140-3150 ft **SANDSTONE:** light grey, white, very fine to fine grained, quartz, moderately to well sorted, silty matrix, calcareous matrix, tight, interbedded with **LIMESTONE:** white, very fine to fine crystalline, crystalline and leached oolitic texture, spotty 10 to 12% oolites and inter crystalline porosity, no live staining, common bitumen, occasionally occluding porosity.

3150-3174 ft **SANDSTONE:** light grey, white, commonly light grey green, very fine to fine grained, rare medium grained, quartz, subangular, moderately to well sorted, calcareous matrix, calcareous cement, commonly grading to **LIMESTONE:** light grey, light grey green, rarely translucent, very fine granular, very silty, very sandy, argillaceous,

dense, grading to and interbedded with **SILTSTONE**: medium grey, light grey green, quartz, argillaceous and calcareous matrix, scattered disseminated pyrite, tight.

3174-3210 ft

SILTSTONE: medium grey, medium grey green, quartz, calcareous matrix, calcareous and argillaceous cement, scattered disseminated pyrite, grading to **LIMESTONE**: light grey, light grey green, very fine crystalline, crystalline texture, very silty, very sandy, argillaceous, scattered disseminated pyrite, dense, with minor thin interbedded **SANDSTONE**: light grey, quartz, very fine grained, as above.

3210-3272 ft

SANDSTONE: light to medium grey, stained dark grey, quartz, very fine to fine grained, rarely medium grained, moderately sorted, subangular, calcareous matrix and cement, firm, spotty 6 to 8% intergranular porosity, good dark brown, dark grey oil stain, faint flour, immediate white to yellow bloom cut, faint oily odor on warming, grading to **LIMESTONE**: medium grey, very fine to good crystalline, crystalline and grainy texture, very silty, very sandy, grading to **SILTSTONE**: medium grey, light grey green, quartz, calcareous and argillaceous matrix, scattered disseminated pyrite, tight.

3272-3324 ft

SILTSTONE: light grey, medium grey green, quartz, argillaceous matrix, argillaceous and part calcareous cement, firm, scattered disseminated pyrite, tight, grading to **SANDSTONE**: light grey, occasionally mottled light grey green, very fine grained to silty, quartz, subangular, moderately to well sorted, argillaceous matrix, argillaceous and calcareous cement, firm, tight, occasionally grading to thin laminae **LIMESTONE**: light grey, light grey green, very fine to micro crystalline, crystalline texture, very silty, very sandy, scattered disseminated pyrite, dense.

WHITE RIM MEMBER 3324' (+916' SS)

3324-3416 ft

SANDSTONE: white, colorless, commonly translucent, hyaline quartz, no lithics, no chert, fine to medium grained, subrounded to subangular, scattered euhedral quartz, moderately to well sorted, spotty argillaceous cement, rare silica cement, trace euhedral pyrite grains?, unconsolidated, very poor consolidated, poor to fair porosity inferred, no staining. Euhedral quartz increasing with depth.

3416-3505 ft

SANDSTONE: colorless, clear, occasionally white, quartz, hyaline, no chert, no lithics, fine to medium grained, moderately sorted, subrounded, subangular with euhedral faces, occasional pressure solution, spotty silty matrix, scattered argillaceous and rare silica cement, very friable to unconsolidated, trace euhedral pyrite, poor to fine porosity inferred, no staining.

3505-3535 ft

SANDSTONE: colorless, clear, occasionally white, quartz, hyaline, no chert, no lithics, very fine to fine grained with scattered medium grained, subrounded, and with euhedral faces, moderately to well sorted, spotty argillaceous matrix and cement, scattered silica cement, very friable to unconsolidated, poor to fine porosity inferred, no staining.

3535-3550 ft

SANDSTONE: colorless, clear, occasionally white, quartz, hyaline, no chert, no lithics, fine to medium grained, moderately sorted, subrounded, subangular with euhedral faces, occasional pressure solution, spotty silty matrix, scattered argillaceous and rare silica cement, very friable to unconsolidated, trace euhedral pyrite, poor to fine porosity inferred, no staining.

3550-3645 ft

SANDSTONE: colorless, clear, occasionally white, quartz, hyaline, no chert, no lithics, fine to medium grained, moderately sorted, subangular with euhedral faces

increasingly angular, occasional pressure solution, spotty silty matrix, scattered argillaceous and rare silica cement, very friable to unconsolidated, trace euhedral pyrite, poor to fine porosity inferred, no staining.

3645-3685 ft

SANDSTONE: white, light grey, commonly translucent, quartz, no chert, no lithics, fine grained, subangular, moderately to well sorted, spotty argillaceous matrix, trace argillaceous cement, trace silica cement, rare silica solution, friable, trace disseminated and rare euhedral pyrite, poor to fair porosity inferred, no staining.

3685-3742 ft

SANDSTONE: colorless, clear, occasionally white, quartz, hyaline, no chert, no lithics, fine to medium grained, moderately sorted, subangular with euhedral faces, increasingly angular with depth, occasional pressure solution, spotty silty matrix, scattered argillaceous and increasing silica cement, very friable to unconsolidated, trace euhedral pyrite, poor to fine porosity inferred, no staining.

3742-3795 ft

SANDSTONE: white, decreasingly colorless, very fine to fine grained, quartz, no chert, no lithics, subangular to angular with euhedral silica faces, moderately to well sorted, trace silica matrix, trace argillaceous cement, scattered silica cement, scattered silica pressure solution, friable, occasionally firm, scattered poor to fair porosity inferred in unconsolidated sandstone, no staining.

ORGAN ROCK MEMBER 3795' (+445' SS)

3795-3830 ft

SANDSTONE: white, increasing light grey, occasionally cream, rare mottled pink, very fine to fine grained increasingly grading silty, quartz, very rare dark minerals, subangular to angular, moderately to well sorted, scattered argillaceous matrix and cement, scattered silica cement, firm, tight, no staining.

3830-3865 ft

SANDSTONE: cream, occasionally pink, decreasingly white, not translucent, very fine to fine grained, increasingly grading silty, quartz, rare dark minerals, rare mica, increasing argillaceous matrix, increasing argillaceous cement, rare very fine disseminated pyrite, tight, with rare thin laminae of **SHALE:** medium red to red brown, subfissile, occasional waxy texture, silty, commonly sandy.

3865-3880 ft

SANDSTONE: white, pink, increasingly mottled red, rarely mottled light green, very fine to fine grained with increasing medium grained, quartz, rare dark minerals, rare mica, argillaceous matrix and cement, occasional calcareous cement, decreasing silica cement, friable, tight, spotty poor porosity inferred in poor consolidated sandstone, no staining, with thin laminae and rare interbedded **SHALE:** medium red, as above and minor **SHALE:** light grey green, subblocky, common very fine disseminated pyrite, silty, and rare carbonaceous debris, occasionally fibrous.

3880-3966 ft

SANDSTONE: as above with **SANDSTONE:** medium red to medium red orange, occasionally translucent, quartz, scattered dark minerals, trace mica, very fine to fine grained with increasing medium grained, moderately to poor sorted, subangular to angular, silty matrix, argillaceous and silica cement, friable, tight, with increasing thin **SHALE:** medium red to orange, subfissile, silty, occasionally sandy.

3966-3980 ft

SANDSTONE: as above increasingly very fine grained, increasingly grading to **SILTSTONE:** medium red to orange, quartz, trace dark minerals, argillaceous and calcareous matrix and cement, firm, abrasive, tight, with thin interbedded **SHALE:** medium to dark red to brown, subfissile, silty, sandy, rare carbonaceous debris.

3980-4020 ft **SILTSTONE:** dark red to orange, as above. increasingly grading to **SHALE:** medium to dark red, red to brown, red to orange, commonly mottled light grey green, subfissile, very silty, very sandy, scattered mica, trace dark minerals, slightly calcareous, trace carbonaceous debris.

4020-4089 ft depth correction

4089-4120 ft **SILTSTONE:** dark red to orange, as above. increasingly grading to **SHALE:** medium to dark red, red to brown, red to orange, commonly mottled light grey green, subfissile, very silty, very sandy, scattered mica, trace dark minerals, slightly calcareous, trace carbonaceous debris.

HONAKER TRAIL 4120' (+120' SS)

4120-4142 ft **SANDSTONE:** white, occasionally clear, rarely translucent, rarely mottled red to orange, quartz with trace lithics, fine grained grading silty, traces medium grained rounded loose frosted quartz angular, moderately to poor sorted, calcareous matrix and cement, trace silica cement, firm, tight, grading to **LIMESTONE:** white, rarely mottled red, very fine crystalline, crystalline texture, very silty, occasionally sandy, dense, firm, limestone increasing with depth.

4142-4210 ft **LIMESTONE:** white, very rarely mottled pink, very fine crystalline, crystalline texture, increasingly cream with depth, dolomitic, commonly silty, occasionally sandy, trace very fine disseminated pyrite, slightly argillaceous, dense, decreasingly grading to **SANDSTONE:** light grey, white, rarely mottled pink, very fine grained grading silty, quartz, subangular to angular, moderately to well sorted, calcareous matrix and cement, firm, tight.

4210-4236 ft **SILTSTONE:** medium to dark grey rarely translucent, quartz, calcareous matrix, calcareous cement, tight, firm, grading to and interbedded with **LIMESTONE:** medium to light grey, rarely white, very fine to fine crystalline, crystalline texture, commonly silty, occasionally sandy, dense.

4236-4270 ft **LIMESTONE:** medium grey, light grey grading white, very fine to micro crystalline, crystalline texture and occasional amorphous, commonly silty, occasionally sandy, traces translucent light grey chert, thin interbedded siltstone a below and trace **SANDSTONE:** light grey, white, tight, as above, dense, commonly grading to **SILTSTONE:** light to medium grey, quartz, rare lithics, calcareous matrix and cement, tight.

4270-4305 ft **LIMESTONE:** medium grey, commonly dark grey, very fine to micro crystalline, crystalline and granular texture, very slightly dolomitic, commonly silty, occasionally sandy, dense with trace isolated 1 to 2% inter crystalline porosity, no staining, with scattered interbedded **SILTSTONE:** medium grey, quartz, calcareous matrix and cement, tight.

4305-4325 ft **LIMESTONE:** medium grey increasingly grading to dark grey, very fine to micro crystalline, crystalline texture, commonly argillaceous, commonly silty, slightly dolomitic, firm, dense, grade to and interbedded with **SILTSTONE:** dark grey, medium grey, quartz, calcareous matrix and cement, argillaceous, occasionally sandy, and tight.

4325-4405 ft **LIMESTONE:** light grey, cream, very fine crystalline, crystalline texture, very st, occasionally sandy, very slightly dolomitic, trace disseminated pyrite, rare light grey

translucent chert, dense with trace 1 to 2% inter granular and inter crystalline porosity, no staining, commonly grading to **SILTSTONE**: light grey, cream, quartz, calcareous and argillaceous matrix, rarely grading to very fine sandstone, tight, no staining.

4405-4460 ft **LIMESTONE**: medium grey, commonly dark grey, very fine to micro crystalline, crystalline and granular texture, very slightly dolomitic, commonly silty, occasionally sandy, dense with trace isolated 1 to 2% inter crystalline porosity, no staining, with scattered interbedded **SILTSTONE**: medium grey, quartz, calcareous matrix and cement, tight.

4460-4490 ft **LIMESTONE**: medium grey, dark grey, as above but increasingly sandy and silty, trace 1 to 2% isolated inter crystalline and rare vuggy porosity, with increasing **LIMESTONE**: medium to light grey, occasionally cream, fine crystalline texture, increasingly silty, increasingly sandy, commonly very sandy, scattered light brown translucent chert, slightly dolomitic, slightly argillaceous, dense, grading to and interbedded with **SANDSTONE**: light grey, medium grey, very fine to fine grained, rarely medium grained, quartz and lithics, scattered mica, subrounded, subangular, moderately to poor sorted, calcareous and argillaceous matrix and cement, tight.

4490-4534 ft **LIMESTONE**: light grey, light brown, granular texture, occasional crystalline texture, packstone, sandy, slightly dolomitic, increasing chert, increasing fossil fragments (Forams?), dense with spotty 1 to 2% inter granular and rare vug porosity, no staining, grading to **SANDSTONE**: light grey, calcareous matrix, tight, as above, with **LIMESTONE**: medium to dark grey, very fine crystalline, no fossil, dense increasing with depth.

4534-4568 ft **SANDSTONE**: light grey, colorless, commonly translucent, quartz, no chert, no lithics, very fine to fine grained with scattered medium grained, moderately to well sorted, subangular, calcareous matrix and cement, friable, scattered 5 to 8% inter granular porosity inferred where very friable, no staining, thin interbedded **LIMESTONE**: light grey, very sandy, dense, as above.

4568-4620 ft **LIMESTONE**: light to mottled dark grey, granular texture, packstone / wackestone, silty, argillaceous, scattered fossil debris (foram?) poss oolites, pisolites, firm, scattered light grey translucent chert increase with depth, dense with decreasing **SANDSTONE**: as above, tight.

4620-4648 ft **SANDSTONE**: medium grey, occasionally medium to light grey green, occasionally mottled pink or pink orange, very fine to fine grained, quartz, moderately sorted, subangular, common lithics, scattered dark minerals, common mica occasionally altered to chlorite, trace feldspar altered to kaolin?, scattered disseminated pyrite, calcareous matrix and cement, firm, occasionally friable, with thin interbedded **LIMESTONE**: light to mottled dark grey, sandy, dense, as above.

4648-4676 ft **SANDSTONE**: light grey, white, occasionally translucent, occasionally mottled pink or pink orange, decreasingly light grey green, quartz, and to subangular, moderately sorted, spotty argillaceous matrix and cement, friable, occasionally unconsolidated, scattered mica and lithics, scattered euhedral quartz, scattered 6 to 10% inter granular porosity inferred in unconsolidated sandstone, no staining.

4676-4720 ft **LIMESTONE**: light to mottled dark grey, granular texture, packstone / wackestone, silty, argillaceous, scattered fossil debris (foram?) poss oolites, pisolites, firm,

scattered light grey translucent chert increase with depth, dense with decreasing **SANDSTONE:** as above, tight.

4720-4750 ft

SANDSTONE: medium grey, occasionally medium to light grey green, occasionally mottled pink or pink orange, very fine to fine grained, quartz, moderately sorted, subangular, common lithics, scattered dark minerals, common mica occasionally altered to chlorite, trace feldspar altered to kaolin?, scattered disseminated pyrite, calcareous matrix and cement, firm, occasionally friable, with thin interbedded **LIMESTONE:** light to mottled dark grey, sandy, dense, as above, and increasing thin laminae of **SHALE:** medium to dark red orange, fissile, very silty, occasionally sandy.

4750-4780 ft

LIMESTONE: medium grey increasingly grading to dark grey, very fine to micro crystalline, crystalline texture, commonly argillaceous, commonly silty, slightly dolomitic, firm, dense, grade to and interbedded with **SILTSTONE:** dark grey, medium grey, quartz, calcareous matrix and cement, argillaceous, occasionally sandy, tight, and minor **SANDSTONE:** medium grey, quartz, calcareous matrix and cement, tight with spotty 8 to 10% inter granular porosity where less matrix, no staining.

4780-4800 ft

LIMESTONE: cream, light grey, micro crystalline, occasionally amorphous, slightly silty, sandy, very slightly dolomitic, very cherty, dense, with interbedded or nodular **CHERT:** light grey, light brown, translucent, amorphous, silty, and thin **SANDSTONE:** light grey, white, very fine grained, quartz, no lithics, subangular, moderately to well sorted, calcareous matrix and cement, scattered silica cement, firm, tight.

4800-4820 ft

SANDSTONE: medium grey, light grey, occasionally mottled dark grey, quartz, common lithics, very fine grained, subangular, moderately to well sorted, argillaceous and calcareous matrix and cement, scattered mica, trace disseminated pyrite, tight with spotty 8 to 10% inter granular porosity where less matrix, no staining, occasionally grading to and interbedded with **LIMESTONE:** medium grey, granular texture, very sandy, very silty, firm, dense, limestone increasing with depth.

4820-4910 ft

LIMESTONE: medium grey, light grey, occasionally mottled dark grey or medium brown, very fine to micro granular, granular texture and amorphous, commonly silty, commonly sandy, very slightly dolomitic, trace disseminated pyrite, trace light brown translucent chert, dense, occasionally grading to thin interbedded **SANDSTONE:** medium grey, occasionally dark grey, very fine grained, as above, tight, sandstone decreasing with depth. Fractures inferred at 4861 and 4888'.

4910-4926 ft

SANDSTONE: medium grey, light grey, occasionally mottled dark grey, quartz, common lithics, very fine grained, subangular, moderately to well sorted, argillaceous and calcareous matrix and cement, scattered mica, trace disseminated pyrite, tight with spotty 8 to 10% inter granular porosity where less matrix, no staining, rarely grading to and interbedded with **LIMESTONE:** medium grey, granular texture, very sandy, very silty, firm, dense, limestone increasing with depth.

4926-4942 ft

LIMESTONE: medium grey, light grey, occasionally mottled dark grey or medium brown, very fine to micro granular, granular texture and amorphous, commonly silty, commonly sandy, very slightly dolomitic, trace disseminated pyrite, trace light brown translucent chert, dense, occasionally grading to thin interbedded **SANDSTONE:** medium grey, occasionally dark grey, very fine grained, as above, tight, sandstone decreasing with depth.

4942-4985 ft **SANDSTONE:** white, light grey, quartz, no lithics, very fine grained, moderately to well sorted, angular to subangular, spotty calcareous matrix and cement, friable, commonly unconsolidated, trace disseminated pyrite, 8 to 12% inter granular porosity inferred, no staining, thin interbedded **LIMESTONE:** medium to light grey, sandy, dense, as above, decreasing with depth.

4985-5025 ft **SANDSTONE:** as above, increasingly light grey, cream, increasingly very fine grained, occasionally silty, increasing calcareous matrix and cement, spotty 4 to 8% inter granular porosity where less matrix, no staining, interbedded **LIMESTONE:** medium to light grey, occasionally cream, very fine granular, granular texture, commonly sandy, commonly silty, firm, dense, no staining.

5025-5050 ft **SANDSTONE:** medium grey, light grey, occasionally mottled dark grey, quartz, common lithics, very fine grained, subangular, moderately to well sorted, argillaceous and calcareous matrix and cement, increasing mica, trace disseminated pyrite, tight, no staining, rarely grading to and interbedded with **LIMESTONE:** medium grey, granular texture, very sandy, very silty, firm, dense, limestone increasing with depth.

HERMOSA 5050' (810' SS)

5050-5100 ft **LIMESTONE:** medium brown light grey, light brown, packstone wackestone, not dolomitic, slightly silty, rarely sandy, trace light brown translucent chert, scattered fossil debris (Brach? Foraminifera?) dense, increasingly sandy to bottom of interval.

5100-5112 ft **SANDSTONE:** light grey, white, very fine to fine grained, quartz, no lithics, calcareous matrix, calcareous and part dolomitic cement, trace silica cement, firm, trace disseminated pyrite, tight, grading to and interbedded with **LIMESTONE:** medium grey, medium grey to brown, very fine granular, granular texture, silty, sandy, slightly dolomitic, dense.

5112-5140 ft **SILTSTONE:** dark grey occasionally grading black, quartz, very argillaceous, very calcareous, commonly dolomitic, tight, grading to **SHALE:** medium to dark grey grading black, subfissile, firm, dolomitic, calcareous, silty, commonly sandy, rare very fine disseminated pyrite.

5140-5173 ft **SANDSTONE:** light grey, white, very fine to fine grained, quartz, no lithics, calcareous matrix, calcareous and part dolomitic cement, trace silica cement, firm, trace disseminated pyrite, tight, grading to and interbedded with **LIMESTONE:** medium grey, medium grey to brown, very fine granular, granular texture, dolomitic, silty, sandy, dense.

5173-5222 ft **LIMESTONE:** medium brown light grey, light brown, packstone wackestone, slightly dolomitic, slightly silty, rarely sandy, trace light brown translucent chert, scattered fossil debris (Brach? Foraminifera?) dense, interbedded with **SANDSTONE:** light grey, white, very fine to fine grained, quartz, no lithics, calcareous matrix, calcareous and part dolomitic cement, increase silica cement, firm, hard, trace disseminated pyrite, scattered mica and lithics increasing with depth, tight.

5222-5247 ft **LIMESTONE:** medium to light brown, packstone, common granular texture, silty, rarely sandy, commonly anhydritic, occasionally dolomitic, rare fossil debris?, dense, interbedded with **ANHYDRITE:** white, colorless, commonly translucent, crystalline texture, occasionally amorphous, slightly dolomitic, slightly silty, dense.

- 5247-5270 ft **LIMESTONE:** light brown, medium brown, mudstone, very fine to micro granular, granular or crystalline texture, increasingly dolomitic, slightly silty, occasionally slightly sandy, commonly mottled with anhydrite, commonly dolomitic, dense, occasionally grading to **SILTSTONE:** medium to light grey light brown, quartz no lithics, angular, calcareous and rare anhydrite matrix and cement, tight, mottled with limestone and anhydrite as above.
- 5270-5318 ft **SANDSTONE:** light grey to white occasionally cream, commonly translucent, quartz no lithics, very fine to fine grained, subangular to subrounded, moderately to well sorted, calcareous and part anhydrite matrix and cement, common dolomitic matrix, trace disseminated pyrite, scattered chert and silicified fossil debris, tight, interbedded and with nodules? of **ANHYDRITE:** white, colorless, as above, increasingly amorphous, occasionally silty, occasionally dolomitic, dense, increasing **SILTSTONE:** medium to light grey, quartz, argillaceous and calcareous matrix and cement, as above, tight.
- 5318-5360 ft **SANDSTONE:** light grey, translucent, quartz with abundant lithics, very fine to fine grained, rare medium grained, moderately to well sorted, subangular, spotty argillaceous matrix, calcareous and common silica cement, very friable, occasionally unconsolidated, common mica, scattered disseminated pyrite, scattered euhedral silica, rarely anhydritic, tight, with spotty 8 to 10% inter granular porosity inferred in unconsolidated sandstone, no staining, with thin interbedded **LIMESTONE:** medium to light brown, wackestone, slightly silty, dense, as above.
- 5360-5430 ft **LIMESTONE:** medium brown, dark brown, packstone, slightly dolomitic, slightly silty, occasionally anhydritic, dense, interbedded with **LIMESTONE:** light brown, buff, mudstone, very fine crystalline, crystalline texture, commonly silty, occasionally sandy, scattered anhydrite inclusions, light brown translucent chert nodules increasing with depth, dense, with laminae increasing to thin interbeds of **ANHYDRITE:** white, translucent, colorless, as above, dense.
- 5430-5460 ft **LIMESTONE:** light brown, tan grading cream, micro crystalline, crystalline texture or amorphous, increasingly dolomitic, slightly silty, rarely sandy, increasing cream translucent chert nodules or laminae, dense, increasingly grading to **DOLOMITE:** light brown, very fine crystalline and scattered sucrosic texture, calcareous, rare very fine disseminated pyrite, slightly silty, spotty 2 to 4% inter crystalline porosity, no staining, and minor and decreasing **ANHYDRITE:** white, colorless, as above, dense.
- 5460-5496 ft **LIMESTONE:** as above increasingly dark brown, increasingly grading to **DOLOMITE:** medium brown, mottled dark brown, very fine to micro crystalline, crystalline texture, increasing sucrosic texture, increasingly friable, slightly calcareous, slightly silty, decreasingly anhydritic, spotty 2 to 4% inter crystalline porosity, no staining, no fluorescence.
- 5496-5547 ft **DOLOMITE:** light brown, mottled medium brown, very fine to fine crystalline, crystalline and increasing sucrosic texture, slightly silty, slightly calcareous, rarely sandy, increasingly sandy with depth, occasionally mottled with anhydrite, trace light grey or light brown translucent chert, increasingly common 2 to 4% inter crystalline porosity, no staining, interbedded **LIMESTONE:** medium occasionally dark brown, packstone, dolomitic, silty, scattered chert, dense, increasing laminae or thin interbedded **ANHYDRITE:** white, colorless, crystalline, as above, dense.
- 5547-5572 ft **LIMESTONE:** medium occasionally dark brown, occasionally translucent, mudstone, packstone, slightly silty, slightly dolomitic, rare fossil debris, dense, occasionally

grading to **DOLOMITE**: medium brown, light brown, very fine to micro crystalline, crystalline and scattered sucrosic texture, slightly silty, slightly sandy, calcareous, rare disseminated pyrite, very rarely anhydritic, spotty 1 to 2% inter crystalline porosity, no staining.

5572-5640 ft **DOLOMITE**: light brown, mottled medium brown, very fine to fine crystalline, crystalline and increasing sucrosic texture, slightly silty, decreasingly calcareous, increasingly siliceous, scattered light grey, light brown translucent chert, rare very fine disseminated pyrite, 1 to 3% inter crystalline porosity, no staining, no fluorescence, with minor **LIMESTONE**: medium to light brown, granular texture, slightly dolomitic, slightly silty, rarely sandy, scattered chert, dense.

5640-5705 ft **DOLOMITE**: medium brown occasionally dark brown, occasionally translucent, very fine to micro crystalline, crystalline texture, firm, hard, commonly siliceous, slightly silty, slightly sandy, slightly calcareous, dense with spotty isolated 1 to 2% inter crystalline porosity, no staining, grading to and with interbedded **LIMESTONE**: medium brown, light brown, granular texture, slightly silty, slightly sandy, commonly dolomitic, trace disseminated pyrite, dense, no staining. Both limestone and dolomite increasingly sandy with depth grading to **SANDSTONE**: medium brown, light brown, quartz, no lithics, very fine to fine grained rare medium grained, moderately sorted, subrounded, calcareous and dolomitic matrix, common silica matrix, silica cement, firm, hard, trace disseminated pyrite, tight.

5705-5730 ft **DOLOMITE**: medium to light brown, occasionally mottled dark brown, very fine to fine crystalline, crystalline or common earthy texture, slightly silty, slightly sandy with scattered small inclusions of white anhydrite, dense, no staining, rarely grading to **SILTSTONE**: light brown, light grey, quartz, no lithics, dolomitic and argillaceous matrix and cement, firm, tight.

5730-5770 ft **DOLOMITE**: light grey, medium grey, rarely light brown, very fine with increasingly micro crystalline, crystalline and increasing earth texture, occasionally anhydritic, slightly silty, increasingly argillaceous, rare disseminated pyrite, increasingly calcareous, dense, no staining, rarely grading to **SILTSTONE**: medium grey, quartz, dolomitic and occasional calcareous matrix and cement, firm, tight.

5770-5800 ft **DOLOMITE**: light grey, medium grey, as above, grading to minor **SILTSTONE**: as above, with increasing interbedded **LIMESTONE**: medium brown, rarely translucent, slightly dolomitic, slightly silty, not argillaceous, dense, no staining.

5800-5830 ft **SANDSTONE**: white, light grey, buff, quartz, very fine grained grading silty, subangular to subrounded, moderately to well sorted, dolomitic and calcareous matrix and cement, rare very fine disseminated pyrite, tight, with thin interbedded **LIMESTONE**: medium brown, occasionally amorphous, rarely translucent, as above, dense.

5830-5845 ft **LIMESTONE**: cream, light brown, occasionally white, commonly translucent, wackestone, slightly silty, rarely sandy, trace fossil debris (foram?), occasionally anhydritic, scattered nodules of light brown translucent amorphous chert, dense, no staining.

5845-5880 ft **SANDSTONE**: light brown commonly grading cream, quartz, no lithics, very fine grained to silty, common calcareous matrix and cement, occasionally dolomitic cement, occasionally siliceous, commonly hard, brittle, scattered nodules light brown translucent chert, trace very fine disseminated pyrite, tight, no staining, occasionally

grading to **LIMESTONE:** light brown, medium brown, rarely translucent, rarely amorphous, increasingly dolomitic with depth, commonly silty, dense.

5880-5920 ft

SANDSTONE: as above, increasingly interbedded with **LIMESTONE:** medium to light brown, very fine granular texture, sandy, silty, dense, and scattered **DOLOMITE:** medium to dark brown, micro crystalline, crystalline texture and amorphous, silty, occasionally sandy, slightly calcareous, dense.

5920-5948 ft

DOLOMITE: medium to dark brown, rarely translucent, micro crystalline, crystalline texture and amorphous, occasionally silty, occasionally sandy, commonly siliceous, hard, dense.

5948-5974 ft

SANDSTONE: light grey, light brown, rarely translucent, quartz, very fine to fine grained commonly grading to silty, subrounded to subangular, moderately to well sorted, dolomitic matrix, dolomitic and common silica cement, firm, hard, tight, interbedded with **DOLOMITE:** medium to light brown, very fine to micro crystalline texture, common silty, commonly siliceous, occasionally anhydritic with scattered anhydrite inclusions, firm, dense.

PARADOX SALT 5974' (-1734' SS) SALT #1

5974-6116 ft

SALT: clear, colorless, crystalline, soluble, dense, with rare laminae or inclusions of **ANHYDRITE:** light grey, white, very fine crystalline, crystalline texture or amorphous, dense.

6116-6120 ft

ANHYDRITE: light grey, light brown, commonly translucent, dolomitic, dense.

6120-6145 ft

DOLOMITE: light grey, medium grey, very fine to micro crystalline, crystalline texture, commonly very sandy, dense, grading to **SANDSTONE:** light grey, white, 85% quartz, 15% dolomite, very fine grained to silty, subrounded, well sorted, dolomite matrix, dolomite cement, tight.

6145-6156 ft

SANDSTONE: light grey, buff, 80% quartz, 20% dolomite, very fine grained to silty, subrounded, well sorted, dolomite matrix and cement, tight, interbedded with **DOLOMITE:** medium to light brown, as above, dense.

6156-6166 ft

DOLOMITE: medium brown, as above, grading to **SANDSTONE:** medium brown, 60% quartz 40% dolomite, very fine grained to silty, dolomitic matrix, spotty 4 to 8% inter granular porosity, no staining.

6166-6175 ft

SHALE: very dark grey grading black, subblocky, very soft, friable, very slightly silty, slightly dolomitic, and organic.

6175-6195 ft

DOLOMITE: light brown, tan, very fine to fine crystalline, crystalline texture, sandy, silty, commonly very anhydritic, dense, grading to and interbedded with **ANHYDRITE:** white, colorless, translucent, fine crystalline, very crystalline texture, dolomitic, silty, dense.

6195-6230 ft

SANDSTONE: light grey, cream, very fine grained occasionally grading silty, 60% quartz, 40% dolomite, dolomite increasing with depth, subrounded to rounded, dolomitic matrix, dolomitic and anhydritic cement, firm, scattered 6 to 8% inter granular porosity where less matrix, no staining, interbedded with **ANHYDRITE:** colorless, crystalline, dense, as above.

- 6230-6242 ft **SHALE:** very dark grey grading black, subfissile, soft, friable, very organic, calcareous, scattered calcareous inclusions, slightly silty, rarely slightly sandy.
- 6242-6256 ft **SANDSTONE:** light brown, medium brown, very fine grained to silty, 60% quartz, 40% dolomite, subrounded, dolomitic and part anhydritic matrix, common salt inclusions and cementing (pits dissolved from fresh water wash) dolomitic and salt cement, friable, spotty 6 to 8% inter granular porosity, no staining.
- 6256-6274 ft **DOLOMITE:** light brown, very fine crystalline, crystalline texture, very sandy, very silty, decreasingly anhydritic, decreasing salt, dense, with thin interbedded **SANDSTONE:** light grey, light brown, as above, decreasing anhydritic and no salt solution pits, spotty 3 to 6% inter granular porosity where less dolomitic matrix, no staining.
- 6274-6285 ft **DOLOMITE:** light brown grading cream, very fine to micro crystalline, crystalline texture, decreasingly sandy, decreasingly silty, anhydrite decreasing to trace, no salt solution pits seen, dense, spotty 1 to 3% inter crystalline porosity, no staining.
- 6285-6300 ft **SANDSTONE:** light grey, cream, very fine to fine grained, commonly grading silty, 60% quartz, 30% dolomite, 10% mica and lithics, subrounded, moderately to well sorted, dolomitic and part anhydritic matrix and cement, friable, no salt inferred, tight, scattered 2 and 6% inter granular porosity where less matrix, no staining.
- SALT #2 6298' (-2056' SS)**
- 6300-6390 ft **SALT:** clear, colorless, crystalline, crystalline texture, rare anhydrite inclusions.
- 6390-6396 ft **ANHYDRITE:** light grey, white, commonly translucent, very fine to micro crystalline, crystalline texture, slightly dolomitic, scattered inclusions of dolomite, dense.
- 6396-6415 ft **SANDSTONE:** light brown, cream, very fine grained to silty, 70% quartz, 30% dolomite, subrounded, well sorted, dolomitic matrix, dolomitic and common salt cement, scattered anhydritic cement, friable, occasionally unconsolidated, spotty 4 to 8% inter granular porosity where less matrix, no staining, interbedded with thin **ANHYDRITE:** white, as above, increasingly light brown, translucent, dense, and **DOLOMITE:** light brown, micro crystalline, silty, anhydritic, dense.
- 6415-6430 ft **SHALE:** medium to dark grey commonly grading black, subfissile, very friable, soft, calcareous, silty, dolomitic, organic, scattered disseminated pyrite and rare thin laminae of pyrite.
- 6430-6452 ft **SANDSTONE:** light brown, cream, very fine grained to silty, 70% quartz, 30% dolomite, subrounded, well sorted, dolomitic matrix, dolomitic and decreasing salt cement, increasing pyrite, friable to firm, spotty 4 to 8% inter granular porosity where less matrix, no staining, interbedded with thin **ANHYDRITE:** white, as above, increasingly light brown, translucent, dense, and **DOLOMITE:** light brown, micro crystalline, silty, anhydritic, dense.
- 6452-6460 ft **ANHYDRITE:** white, translucent, very fine to fine crystalline, crystalline and increasing sucrosic texture, slightly dolomitic, dense.

SALT #3 6460' (-2220' SS)

- 6460-6580 ft **SALT:** colorless, white, translucent, crystalline texture, dense with rare anhydrite or dolomite inclusions, common cavings of dark grey or black organic calcareous dolomitic shale and abundant LCM mica.
- 6580-6588 ft **ANHYDRITE:** white, mottled light grey, occasionally mottled light brown, very fine to micro crystalline, crystalline and scattered sucrosic texture, occasionally mo t with light brown do, occasionally silty, occasionally sandy, dense.
- 6588-6610 ft **DOLOMITE:** light grey, light brown, very fine to micro crystalline, crystalline and occasionally amorphous, rarely sucrosic texture, varying sandy, varying silty, spotty 2 to 4% inter granular porosity, no stain, grading to and interbedded with **SANDSTONE:** light brown, light grey, 60% quartz, 40% dolomite, very fine to grained, subrounded, dolomitic matrix, dolomitic cement, scattered salt inclusions or matrix, firm, spotty 5 to 8% inter granular porosity, no staining.
- 6610-6630 ft **DOLOMITE:** medium to light brown, slightly silty, increasingly sandy with depth, with trace anhydrite inclusions increasing to base, rare 1 to 2% inter crystalline porosity, no staining. Common dark grey grading black subfissile soft friable organic shale cavings.

SALT #4 6630' (-2390' SS)

- 6630-6691 ft **SALT:** colorless, occasionally cloudy, translucent, crystalline texture, scattered anhydrite inclusions, with rare thin laminae of anhydrite, as above, and common cavings of dark grey or black friable, soft shale. Common mica LCM.
- 6691-6694 ft **ANHYDRITE:** white, mottled light grey, occasionally mottled light brown, very fine to micro crystalline, crystalline and scattered sucrosic texture, occasionally mo t with light brown do, occasionally silty, occasionally sandy, dense.
- 6694-6724 ft **DOLOMITE:** light brown, very fine crystalline, crystalline texture, very sandy, very silty, trace anhydrite inclusions, decreasing salt, dense, with thin interbedded **SANDSTONE:** light grey, light brown, as above, decreasing anhydritic and rare salt solution pits, spotty 3 to 6% inter granular porosity where less dolomitic matrix, no staining.
- 6724-6732 ft **SHALE:** medium to dark grey commonly grading black, subfissile, very friable, soft, calcareous, silty, dolomitic, organic, scattered disseminated pyrite and rare thin laminae of pyrite.
- 6732-6760 ft **DOLOMITE:** light grey, medium grey, very fine to micro crystalline, earth texture, commonly argillaceous, slightly silty, not sandy, rare very fine disseminated pyrite, rare thin stringers anhydrite, dense. No salt solution pits.
- 6760-6765 ft **ANHYDRITE:** white, mottled light grey, occasionally mottled light brown, very fine to micro crystalline, crystalline and scattered sucrosic texture, occasionally mo t with light brown do, occasionally silty, occasionally sandy, dense.

SALT #5 6765' (-2525' SS)

- 6765-6846 ft **SALT:** colorless, occasionally cloudy, translucent, crystalline texture, scattered anhydrite inclusions, with rare thin laminae of anhydrite, as above, and common cavings of dark grey or black friable, soft shale. Common mica LCM.
- 6846-6852 ft **ANHYDRITE:** white, mottled light grey, occasionally mottled light brown, very fine to micro crystalline, crystalline and scattered sucrosic texture, occasionally mo t with light brown do, occasionally silty, occasionally sandy, dense.
- 6852-6868 ft **DOLOMITE:** light grey, light brown, very fine to micro crystalline, crystalline and occasionally amorphous, rarely sucrosic texture, varying sandy, varying silty, spotty 2 to 4% inter granular porosity, no stain, grading to and interbedded with **SANDSTONE:** light brown, light grey, 60% quartz, 40% dolomite, very fine to grained, subrounded, dolomitic matrix, dolomitic cement, scattered salt inclusions or matrix, firm, spotty 5 to 8% inter granular porosity, no staining.
- 6868-6888 ft **SANDSTONE:** light brown, cream, very fine grained to silty, 70% quartz, 30% dolomite, subrounded, well sorted, dolomitic matrix, dolomitic and decreasing salt cement, increasing pyrite, friable to firm, spotty 4 to 8% inter granular porosity where less matrix, no staining, interbedded with **SHALE:** dark grey grading black, subblocky, subfissile, commonly calcareous, commonly dolomitic, scattered pyrite, rarely in thin laminae, organic.
- 6888-6908 ft **DOLOMITE:** medium brown, light brown, very fine to fine crystalline, crystalline texture, occasionally amorphous, silty, sandy, trace disseminated pyrite, dense, with trace 1 to 2% inter crystalline porosity, no staining, and minor **SANDSTONE:** light grey, very fine grained, as above, dolomitic matrix, tight.

SALT #6 6908' (-2668' SS)

- 6908-6980 ft **SALT:** colorless, occasionally cloudy, translucent, crystalline texture, scattered anhydrite inclusions, with rare thin laminae of anhydrite, as above, and decreasing cavings of dark grey or black friable, soft shale, decreasing LCM in sample.
- 6980-6984 ft **ANHYDRITE:** white, mottled and banded light grey, occasionally translucent, very fine to fine crystalline, common crystalline and common sucrosic texture, firm, occasionally dolomitic, occasional, silty, dense.
- 6984-6998 ft **DOLOMITE:** light brown, very fine crystalline, crystalline texture, very sandy, very silty, dense, grading to **SANDSTONE:** light brown, very fine grained grading silty, 70% quartz 30% dolomite clasts, subrounded to rounded, moderately to well sorted, dolomitic matrix, dolomitic cement, firm, rare disseminated pyrite, no salt solution pits seen, spotty 6 to 5% inter granular porosity, no staining.
- 6998-7004 ft **SHALE:** black, commonly very dark grey, subblocky, subfissile, very calcareous, occasionally dolomite, occasionally silty, very organic.
- 7004-7024 ft **SANDSTONE:** light grey grading white, very fine grained grading silty, 80% quartz 20% dolomite clasts, subrounded to rounded, moderately to well sorted, dolomitic matrix, part argillaceous matrix, dolomitic cement, no salt solution pits seen, scattered 8 to 10% inter granular porosity where less matrix, no staining, slow milky yellow cut in solvent, occasionally grading to **DOLOMITE:** light grey, light brown, very sandy, as above dense with spotty 4 to 6% inter crystalline porosity, no staining.

- 7024-7032 ft **ANHYDRITE:** white, mottled and banded light grey, dense, as above, with increasing interbedded **DOLOMITE:** light brown, silty, dense, as above.
- 7032-7038 ft **SHALE:** black, occasionally dark grey, soft, friable, very organic, as above.
- 7038-7048 ft **ANHYDRITE:** light grey, white, increasingly dolomitic, with scattered thin interbedded **DOLOMITE:** light grey, light brown, silty, anhydritic, dense.
- 7048-7056 ft **DOLOMITE:** medium brown, occasionally grading dark brown, very fine crystalline, crystalline texture, silty, slightly sandy, increasingly argillaceous, rare anhydrite inclusions, dense, no staining.
- 7056-7087 ft **SANDSTONE:** light grey grading white, very fine grained grading silty, 80% quartz 20% dolomite clasts, subrounded to rounded, moderately to well sorted, dolomitic matrix, part argillaceous matrix, dolomitic cement, scattered salt solution pits seen, scattered 4 to 8% inter granular porosity where less matrix, no staining, slow milky yellow cut in solvent, occasionally grading to **DOLOMITE:** light grey, light brown, very sandy, as above dense with spotty 4 to 6% inter crystalline porosity, no staining.
- 7087-7100 ft **SANDSTONE:** as above with decreasing salt solution and increasingly grading to **DOLOMITE:** light brown, very sandy, very silty, dense, as above, and increasingly anhydritic with depth. Increasing LCM material in sample.

SALT #7 7101' (-2861' SS)

- 7100-7236 ft **SALT:** colorless, occasionally cloudy, translucent, crystalline texture, scattered anhydrite inclusions, with rare thin laminae of anhydrite, as above, and decreasing cavings of dark grey or black friable, soft shale, decreasing LCM in sample.
- 7236-7242 ft **ANHYDRITE:** light grey, white, occasionally colorless, translucent, very fine to fine crystalline, crystalline texture, and occasional amorphous, dense.
- 7242-7250 ft **SHALE:** black, blocky, firm, occasionally brittle, calcareous and dolomitic, not silty, scattered euhedral pyrite and quartz increasing to abundant with depth, fracture inferred.
- 7250-7266 ft **SANDSTONE:** light grey, white, quartz, rare dolomite clasts, very fine to medium grained, subangular, moderately to poor sorted, spotty silica cement, scattered silica overgrowths, scattered pyrite matrix and cement, friable, unconsolidated, 10 to 12% inter granular porosity with fracture porosity inferred from euhedral pyrite and quartz, no staining, thin interbedded **DOLOMITE:** light grey, very fine crystalline, sandy, silty, dense. Common quartz and mica from added LCM.

SALT #8 7266' (-3026' SS)

- 7266-7282 ft **SALT:** colorless, occasionally cloudy, translucent, as above, with abundant cavings of black, blocky shale and euhedral pyrite and quartz, decreasing proportion of LCM.
- 7282-7292 ft **ANHYDRITE:** white, colorless, increasingly sandy, grading to **SANDSTONE:** light grey, white, 70% 30% dolomite clasts, very fine grained to silty, dolomitic and anhydritic matrix and cement, tight, rare 2 to 6% inter crystalline porosity, no staining. Abundant shale cavings.

7292-7310 ft **DOLOMITE:** light brown, very fine crystalline, crystalline texture, very sandy, very silty, dense, grading to **SANDSTONE:** light brown, very fine grained grading silty, 70% quartz 30% dolomite clasts, subrounded to rounded, moderately to well sorted, dolomitic matrix, dolomitic cement, firm, rare disseminated pyrite, no salt solution pits seen, spotty 2 to 4% inter granular porosity, no staining. Abundant shale cavings.

SALT #9 7310' (-3070' SS)

7310-7360 ft **SALT:** colorless, occasionally cloudy, translucent, as above, with abundant cavings of black, blocky shale and euhedral pyrite and quartz, decreasing slowly with depth and increasing mud weight.

7360-7368 ft **DOLOMITE:** medium brown, occasionally grading dark brown, very fine crystalline, crystalline texture, silty, slightly sandy, increasingly argillaceous, rare anhydrite inclusions, dense, no staining.

7368-7374 ft **SHALE:** black grading very dark grey, subblocky, subfissile, calcareous, dolomitic, very organic, scattered disseminated thin laminae pyrite, commonly euhedral. Abundant LCM in sample.

7374-7390 ft **DOLOMITE:** light brown, very fine crystalline, crystalline texture, very sandy, very silty, dense, grading to **SANDSTONE:** light brown, very fine grained grading silty, 70% quartz 30% dolomite clasts, subrounded to rounded, moderately to well sorted, dolomitic matrix, dolomitic cement, firm, rare disseminated pyrite, no salt solution pits seen, spotty 2 to 4% inter granular porosity, no staining. Increasing **ANHYDRITE:** white, light grey, translucent, dense. Abundant shale cavings, abundant LCM.

SALT #10 7390' (-3150' SS)

7390-7434 ft **SALT:** colorless, occasionally cloudy, translucent, as above, with cavings of black, blocky shale and euhedral pyrite and quartz, decreasing with depth and increasing mud weight. Abundant LCM.

7434-7442 ft **ANHYDRITE:** white, colorless, commonly translucent, very fine to fine crystalline, crystalline texture, occasional sucrosic texture, occasionally dolomitic, dense.

7442-7450 ft **DOLOMITE:** light brown, medium brown, very fine to fine crystalline, crystalline texture, sandy, silty, dense grading to **SANDSTONE:** light grey, light brown, 80% quartz 20% dolomite clasts, very fine grained, well sorted, subrounded, dolomitic matrix and cement, tight with trace 1 to 5% inter granular porosity where less matrix, no staining.

7450-7454 ft **ANHYDRITE:** light grey, dense, as above.

7454-7460 ft **DOLOMITE:** light brown, medium brown, as above, dense, grading to **SANDSTONE:** grey, light brown, 70% quartz 30% dolomite clasts, tight with trace 1 to 5% inter granular porosity where less matrix, no staining.

7460-7478 ft **ANHYDRITE:** white, grading light grey, micro crystalline, crystalline and bit induced chalky texture, mottled dolomitic, rarely silty, dense, grading to and interbedded with **DOLOMITE:** light brown, as above grading to **SANDSTONE:** light grey, white, very fine grained, as above, tight.

- 7478-7502 ft **DOLOMITE:** light grey, medium grey, very fine to fine crystalline, crystalline and occasional sucrosic texture, slightly silty, slightly sandy, dense with spotty 2 to 4% inter crystalline porosity and sucrosic porosity, no staining, grading to **SANDSTONE:** light grey grading white, very fine to fine grained, commonly grading silty, 80% quartz, 20% dolomite clasts, dolomitic matrix and cement, common salt solution pits implying salt matrix and cement, rare disseminated pyrite, scattered 6 to 8% inter granular porosity, no staining.
- 7502-7517 ft **SANDSTONE:** light grey, grading white, very fine to fine grained commonly grading silty, 80% quartz, 20% dolomite clasts, common dolomitic matrix and cm, common solution implying salt matrix and cement, scattered 6 to 8% inter granular porosity, no staining, grading to **DOLOMITE:** light brown, occasionally translucent, very fine to micro crystalline, crystalline texture, commonly sandy, commonly sandy, dense with trace 1 to 3% inter crystalline porosity, no staining.
- 7517-7528 ft **SHALE:** dark grey grading black, friable, soft, slightly silty, dolomitic, calcareous, very organic, interbedded with thin **SANDSTONE:** light grey, as above, tight.
- 7528-7548 ft **DOLOMITE:** light grey, medium grey, very fine to fine crystalline, crystalline texture and amorphous, as above, commonly sandy, with thin interbedded **LIMESTONE:** medium brown, packstone to grainstone, granular texture, very slightly dolomitic, trace fossil debris (foram? Brach?) not sandy, not silty, dense.
- 7548-7568 ft **DOLOMITE:** light grey, medium grey, as above, dense with spotty 2 to 4% inter crystalline porosity and sucrosic porosity, no staining, grading to **SANDSTONE:** light grey grading white, very fine to fine grained, commonly grading silty, 80% quartz, 20% dolomite clasts, as above, at base of interval **ANHYDRITE:** white, colorless, very fine crystalline, crystalline texture, dense.
- 7568-7590 ft **SALT:** colorless, occasionally cloudy, and translucent, as above, with cavings of black, blocky shale and euhedral pyrite and quartz, decreasing slowly with depth and increasing mud weight. Samples 90%+ LCM.
- 7590-7698 ft **SALT:** colorless, occasionally cloudy, and translucent, as above, with decreasing LCM and cavings.
- 7698-7856 ft **SALT:** colorless, occasionally cloudy, translucent, as above, abundant cavings of dolomite and minor shale, abundant LCM in sample.
- PINKERTON TRAIL 7856' (-3616' SS)**
- 7856-7866 ft **SHALE:** dark grey, commonly grading black, subblocky, soft, friable, slightly calcareous, very organic, rare disseminated pyrite.
- 7866-7876 ft **LIMESTONE:** light to medium grey, mudstone, commonly argillaceous, commonly silty, firm, common bit generated chalky texture, dense, trace 1 to 2% inter granular porosity, no staining.
- 7876-7889 ft **ANHYDRITE:** white, opaque, slightly silty, amorphous with common bit generated chalky texture, slightly calcareous, dense, commonly interbedded with light grey limestone as above, interbedded with **LIMESTONE:** light grey, soft, dense, as above.
- 7889-7909 ft **LIMESTONE:** light grey, mudstone, silty, sandy, friable, occasionally anhydritic, dense, occasionally grading to **SANDSTONE:** light grey to white, very fine grained

grading silty, quartz, subangular, moderately to well sorted, calcareous matrix, spotty 5 to 8% inter granular porosity where less matrix. no staining, with thin interbedded **ANHYDRITE**: white, bit generated chalky texture, dense.

7909-7920 ft **LIMESTONE**: light brown, occasionally translucent, commonly packstone, slightly silty, commonly siliceous, scattered fossil debris, scattered chert nodules, dense.

7920-7940 ft **LIMESTONE**: light grey, very sandy, dense, grading to **SANDSTONE**: light grey to white, very fine grained grading silty, quartz, subangular, moderately to well sorted, calcareous matrix, spotty 5 to 8% inter granular porosity where less matrix. no staining, with increasing **ANHYDRITE**: white, micro crystalline, crystalline texture or amorphous with common bit generated chalky texture, dense.

7940-7970 ft **LIMESTONE**: light grey, medium grey, mudstone, very silty, commonly sandy, trace disseminated pyrite, dense, occasionally grading to and interbedded with **SILTSTONE**: light grey, medium grey, quartz, no lithics, calcareous matrix, calcareous and part dolomitic cement, trace disseminated pyrite, tight.

7970-7992 ft **LIMESTONE**: medium grey, commonly grading dark grey, mudstone, silty, very argillaceous, soft, dense, occasionally grading to and interbedded with **SHALE**: medium grey, dark grey, subblocky, very calcareous, slightly silty, trace disseminated pyrite, with shale increasing with depth.

7992-8006 ft **ANHYDRITE**: white, micro crystalline, crystalline texture or amorphous with common bit generated chalky texture, dense, grading to and interbedded with **LIMESTONE**: light grey, mudstone, silty, sandy, friable, occasionally anhydritic, dense.

8006-8018 ft **LIMESTONE**: light grey, medium grey, mudstone, commonly silty, commonly argillaceous, occasionally slightly anhydritic, trace disseminated pyrite, dense, no staining.

8018-8032 ft **LIMESTONE**: light grey, mudstone, silty, sandy, friable, occasionally anhydritic, dense, occasionally grading to **SANDSTONE**: light grey to white, very fine grained grading silty, quartz, subangular, moderately to well sorted, calcareous matrix, spotty 5 to 8% inter granular porosity where less matrix. no staining.

8032-8070 ft **LIMESTONE**: light grey, very sandy, dense, grading to **SANDSTONE**: light grey to white, very fine grained grading silty, quartz, subangular, moderately to well sorted, calcareous matrix, spotty 5 to 8% inter granular porosity where less matrix. no staining, with increasing **ANHYDRITE**: white, micro crystalline, crystalline texture or amorphous with common bit generated chalky texture, dense.

8070-8090 ft Lost circulation. No sample.

TOTAL DEPTH was reached at 8090' MD/TVD (-3850' SS) on September 24, 2007 at 00:30 hours.

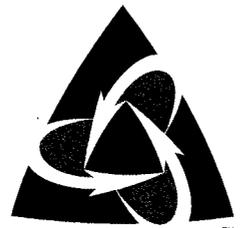
RPS ENERGY

TERMS

All interpretations and conclusions presented herein are opinions based on inferences from geological, geophysical, engineering and other available data. The report represents RPS Energy's best professional judgement and best efforts, and should not be considered a guarantee of results.

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Under no circumstances shall RPS's liability to the customer exceed the amount of fees it received for performing the services under this agreement.



Core LabTM
RESERVOIR OPTIMIZATION

CORE LABORATORIES

**CORE ANALYSIS REPORT
FOR
PETRO-CANADA
PETRO-CANADA STATE 36-11
STATE 36-11
STATE , UTAH**

RECEIVED

MAY 07 2008

DIV. OF OIL, GAS & MINING

THESE ANALYSES, OPINIONS OR INTERPRETATIONS ARE BASED ON OBSERVATIONS AND MATERIALS SUPPLIED BY THE CLIENT TO WHOM; AND FOR WHOSE EXCLUSIVE AND CONFIDENTIAL USE; THIS REPORT IS MADE. THE INTERPRETATIONS OR OPINIONS EXPRESSED REPRESENT THE BEST JUDGEMENT OF CORE LABORATORIES (ALL ERRORS AND OMISSIONS EXCEPTED); BUT CORE LABORATORIES AND ITS OFFICERS AND EMPLOYEES, ASSUME NO RESPONSIBILITY AND MAKE NO WARRANTY OR REPRESENTATIONS, AS TO THE PRODUCTIVITY, PROPER OPERATIONS, OR PROFITABLENESS OF ANY OIL, GAS OR MINERAL WELL OR FORMATION IN CONNECTION WITH WHICH SUCH REPORT IS USED OR RELIED UPON. CORE LABORATORIES IS COMMITTED TO CUSTOMER SATISFACTION AND WELCOMES YOUR FEEDBACK. YOU CAN E-MAIL THE GENERAL MANAGER WITH YOUR COMMENTS AT PSCANADA.FEEDBACK@CORELAB.COM.



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January 29, 2008

Petro-Canada
150, 6th Avenue S.W.
Calgary, Alberta T2P 3E3

Attention: Ms. Beth Haverslew

Subject: PETRO-CANADA STATE 36-11
Our File Number: 52131-07-0287

Rotary sidewall coring equipment and water base mud were used to core the subject well. The samples were labeled at the wellsite and transported to our Calgary laboratory for analysis.

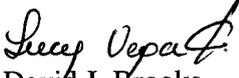
1. Conventional, Plug Type Analysis

Twenty-six samples (25.4 mm diameter) were cleaned in a vapour phase extractor using toluene, re-cleaned using methanol, and dried in a gravity oven. Analysis includes porosity by Boyle's Law technique using helium as the gaseous medium, and horizontal permeability to air.

Thank you for the opportunity to be of service.

Yours truly,

CORE LABORATORIES CANADA, LTD.


FOR: David J. Brooks
Supervisor, Routine Rock Properties

DJB/mn
enclosures

CORE LABORATORIES

Company : PETRO-CANADA	Field : STATE	File No. : 52131-07-0287
Well : PETRO-CANADA STATE 36-11	Formation : VARIOUS	Date : 2007-09-27
Location : STATE 36-11	Coring Equip : SIDEWALL	Analysts : DJB
State : UTAH	Coring Fluid : WATER BASE MUD	Core Dia : 25.4 mm

CORE ANALYSIS RESULTS

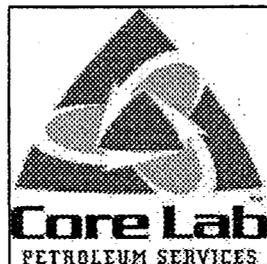
SAMPLE NUMBER	DEPTH ft	PERMEABILITY (MAXIMUM) Kair mD	POROSITY (HELIUM) %	BULK DENSITY (gm/cc)	GRAIN DENSITY (gm/cc)	DESCRIPTION
31	3132.0	3.64	20.4	2.26	2.84	dol i ppv foss
30	3139.0	0.57	20.2	2.25	2.82	dol i ppv calc
29	3223.0	<.01	1.3	2.72	2.76	ss vf dol
28	3239.0	0.14	9.0	2.45	2.69	ss vf calc dol
27	3250.0	0.17	9.1	2.46	2.71	ss vf calc dol
26	3260.0	0.04	6.1	2.58	2.75	ss vf calc dol
25	6144.0	0.01	5.7	2.56	2.71	ss vf calc
24	6154.0	<.01	7.4	2.53	2.73	ss vf calc dol
23						NO SAMPLE
22	6216.0	0.01	8.4	2.53	2.76	ss vf dol
21	6226.0	0.02	8.5	2.52	2.76	ss vf dol lam
20						NO SAMPLE
19	6267.0	0.07	6.1	2.52	2.68	ss vf calc dol lam
18	6280.0	0.30	7.5	2.46	2.65	ss vf calc lam
17	6408.0	0.16	16.9	2.30	2.77	ss vf dol
16	6450.0	0.32	13.4	2.30	2.66	ss vf
15	6610.0	4.50	17.6	2.17	2.63	ss vf
14	6720.0	0.15	8.5	2.47	2.70	ss vf dol
13						NO SAMPLE
12	6738.0	2.12	9.4	2.37	2.62	ss vf calc
11	6746.0	1.75	12.6	2.30	2.63	ss vf lam

CORE LABORATORIES

Company : PETRO-CANADA	Field : STATE	File No. : 52131-07-0287
Well : PETRO-CANADA STATE 36-11	Formation : VARIOUS	Date : 2007-09-27
Location : STATE 36-11	Coring Equip : SIDEWALL	Analysts : DJB
State : UTAH	Coring Fluid : WATER BASE MUD	Core Dia : 25.4 mm

CORE ANALYSIS RESULTS

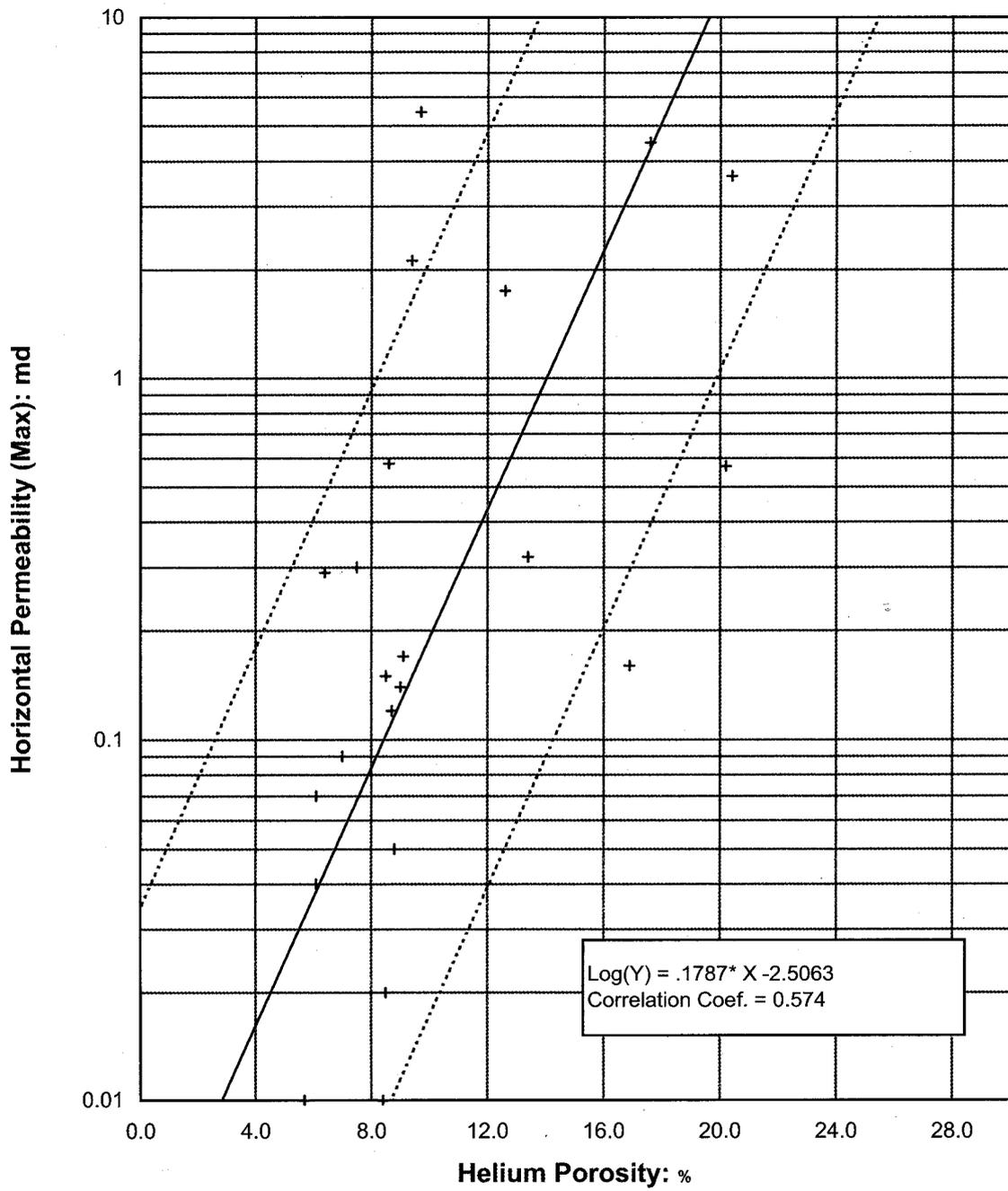
SAMPLE NUMBER	DEPTH ft	PERMEABILITY (MAXIMUM) Kair mD	POROSITY (HELIUM) %	BULK DENSITY (gm/cc)	GRAIN DENSITY (gm/cc)	DESCRIPTION
10	6896.0	0.09	7.0	2.55	2.74	ss vf dol
9	6905.0	*	*	*	2.55	ss vf shy dol ru GD ONLY
8						NO SAMPLE
7	7012.0	*	*	*	2.71	ss vf dol lam GD ONLY
6						NO SAMPLE
5	7018.0	0.05	8.8	2.46	2.70	ss vf dol
4	7062.0	5.45	9.7	2.36	2.62	ss vf dol
3	7072.0	0.58	8.6	2.41	2.64	ss vf dol
2	7903.8	0.12	8.7	2.47	2.71	ss vf f dol
1	7908.0	0.29	6.4	2.50	2.67	ss vf f dol



CODE KEY - DESCRIPTIONS

ACA	= Removed for advanced core analysis	ls	= Limestone	SPH	= Humidity analysis of small plug sample at 60 degrees Celsius and 50 % relative humidity
anhy	= Anhydrite	lv	= Large vug	SPP	= Small plug from preserved section of the core
arg	= Argillaceous	m	= Medium	SPT	= Small Plug used for tracer analysis
AST	= Appears similar to	mi	= Mud invaded	ss	= Sandstone
bit	= Bitumen	mv	= Medium vug	ssdy	= Slightly sandy (<20%)
bk	= Break	NA	= Not analyzed by request	sshy	= Slightly shaly (<20%)
c	= Coarse	NR	= Not received	sty	= Stylolite (ic)
calc	= Calcite (calcareous)	OB	= Overburden sample (permeability and porosity measured at net overburden stress)	sulf	= Sulphur
carb	= Carbonaceous	ool	= Oolitic	sv	= Small vug
cbl	= Cobble	pbl	= Pebble	TEC	= Thermal Extraction Chromatography to determine oil richness
cgl	= Conglomerate	PFD	= Preliminary Full Diameter sample	TS	= Thin section
cht	= Chert	ppv	= Pinpoint vug	uncons	= Unconsolidated
coal	= Coal/coal inclusion	PR	= Preserved for future studies	vc	= Very coarse
coq	= Coquina	PSA	= Particle size analysis	vf	= Very fine
dol	= Dolomite	PSP	= Preliminary Small Plug sample	vfrac	= Vertical fracture
f	= Fine	pyr	= Pyrite (pyritic)	VIS	= Viscosity of oil measured
fc	= Filter cake on surface of core sample	pyrbit	= Pyrobitumen	VOB	= Vertical overburden sample (vertical permeability measured at net overburden stress)
FD	= Full diameter analysis including three directional permeabilities, porosity and densities	ru	= Rubble	vshy	= Very shaly (>40%)
foss	= Fossil (fossiliferous)	SA	= Sieve analysis	VSP	= Vertical small plug drilled from whole core to measure vertical permeability (and occasionally porosity)
frac	= Fracture (undifferentiated)	sdv	= Sandy	vug	= Vuggy (vuggular)
fri	= Friable	SEM	= Scanning electron microscope analysis	ws	= Water sand
glauc	= Glauconite (glauconitic)	sh	= Shale	XRD	= X-ray diffraction
grnl	= Granule	shy	= Moderately shaly (20% - 40%)	*	= Data unavailable due to poor sample quality
gyp	= Gypsum	sid	= Siderite	10240	= Permeability >10 Darcies, (maximum routine permeability measurement)
hal	= Halite (salt)	siltst	= Siltstone		
hfrac	= Horizontal fracture	sily	= Silty		
i	= Intercrystalline	SP	= Small plug (sample drilled from core in maximum horizontal direction and parallel to bedding plane where possible) permeability porosity, and grain density are measured		
IFD	= Inner Full Diameter (Full diameter sample is drilled from the bulk portion of the core in the vertical direction for permeability and porosity measurements)	SPA	= (Prefix A) Horizontal matrix permeability measured by pressure decay profile permeametry through a probe tip due to sample quality		
incl	= Inclusions				
lam	= Laminae (laminated)				

Permeability vs Porosity



<p>PETRO-CANADA</p> <p>PETRO-CANADA STATE 36-11</p> <p>STATE</p> <p>VARIOUS (3132.0 - 7908.0 ft)</p> <p>Core Laboratories Canada Ltd.</p>	<p>- LEGEND -</p>
---	-------------------

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

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML-50652

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:
undesignated

1. TYPE OF WELL OIL WELL GAS WELL OTHER _____

8. WELL NAME and NUMBER:
STATE 36-11

2. NAME OF OPERATOR:
Petro-Canada Resources (USA) Inc

9. API NUMBER:
4301530715

3. ADDRESS OF OPERATOR:
999 18th St., Ste. 600 CITY Denver STATE CO ZIP 59101

PHONE NUMBER:
(303) 297-2300

10. FIELD AND POOL, OR WILDCAT:
undesignated

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 906' FNL and 471' FEL

COUNTY: Emery

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 22S 15E

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 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 checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 4/17/2008	<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.

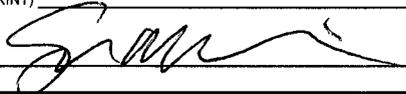
Petro-Canada plugged & abandoned the subject well as follow. Please find attached wellbore diagram showing post P&A.

L/D Tubing to 2153 ft. Pump 100ft Balanced plug from 2153 to 2053 (extra sacks used to set cement above shoe). Pumped 27 sx type G w/ 2% CaCl2. POH 12 stds. Wash down two bottoms up, reverse circulating. L/D all tubing except 4 jts. Pump cement to surface. 25 sx type G w/ 2% CaCl2. As soon as cement reached surface tubing was pulled and washed down. Circulated across top of wellhead to washout cement as well. Rig down Cement trucks and choke, etc. Rig released 1300 hrs, 04/16/2008. On 04/17/08 welder cut off wellhead and marked abandoned hole with monument.

- Petro-Canada requests CONFIDENTIAL STATUS for this location -

NAME (PLEASE PRINT) Susan Miller

TITLE Regulatory Analyst

SIGNATURE 

DATE 5/2/2008

(This space for State use only)

RECEIVED
MAY 07 2008

From: Dustin Doucet
To: Olson, Greg
Date: 4/14/2008 4:00 PM
Subject: Re: State 36-11 plugging

CC: Erickson, Jacob; Miller, Susan
I think that will work. Send in the sundry request and I will process. 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

>>> "Olson, Greg" <Greg.Olson@petro-canada.com> 4/14/2008 3:55 PM >>>
Dustin,

Attached are well bore diagrams for the Petro-Canada State 36-11 well in Emory County, Utah. There is one for the existing wellbore and one for the proposed plugged wellbore as previously discussed. Please let us know if there's any changes to the plan for plugging this well.

Thanks. <<State 36-11 wellbore sketch.gif>> <<State 36-11 proposed wellbore sketch.gif>>

Greg Olson
U.S. Drilling Manager
Petro-Canada
(303) 350-1185 office
(303) 241-9538 cell
greg.olson@petro-canada.com

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

UNCONFIDENTIAL

FORM 9

LEASE DESIGNATION AND SERIAL NUMBER:
ML-50652

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

7. UNIT or CA AGREEMENT NAME:
undesignated

1. TYPE OF WELL
OIL WELL GAS WELL OTHER _____

8. WELL NAME and NUMBER:
STATE 36-11

2. NAME OF OPERATOR:
Petro-Canada Resources (USA) Inc

9. API NUMBER:
4301530715

3. ADDRESS OF OPERATOR:
999 18th St., Ste. 600 CITY **Denver** STATE **CO** ZIP **59101**

PHONE NUMBER:
(303) 297-2300

10. FIELD AND POOL, OR WILDCAT:
undesignated

4. LOCATION OF WELL
FOOTAGES AT SURFACE: **906' FNL and 471' FEL**

COUNTY: **Emery**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **NENE 36 22S 15E**

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 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"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<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.

Petro-Canada proposes to plug & abandon the subject well as follow. Please find attached wellbore diagrams showing pre and post P&A.

TIH with open ended tubing to 3,195'.

Mix and pump 50 sx class G cement with 2% CaCl, 15.8 ppg, 1.15 cuft/sx yield and spot as balanced plug. Estimated TOC +/-2,902'.

POH 12 stands and circulate clean. WOC 6 hrs.

TIH and tag plug. POH to 2,145'.

Mix and pump 30 sx class G cement with 2% CaCl, 15.8 ppg, 1.15 cuft/sx yield and spot as balanced plug. Estimated TOC +/-1,969'.

POH 12 stands and circulate clean.

POH to 150'.

Mix and pump 30 sx class G cement with 2% CaCl, 15.8 ppg, 1.15 cuft/sx yield and spot as balanced plug. Cement to circulate.

Cut off all casing 3' below ground level. Weld dry hole marker as per SITLA.

COPY SENT TO OPERATOR

Date: 5.28.2008

Initials: KS

NAME (PLEASE PRINT) Susan Miller

TITLE Regulatory Analyst

SIGNATURE _____

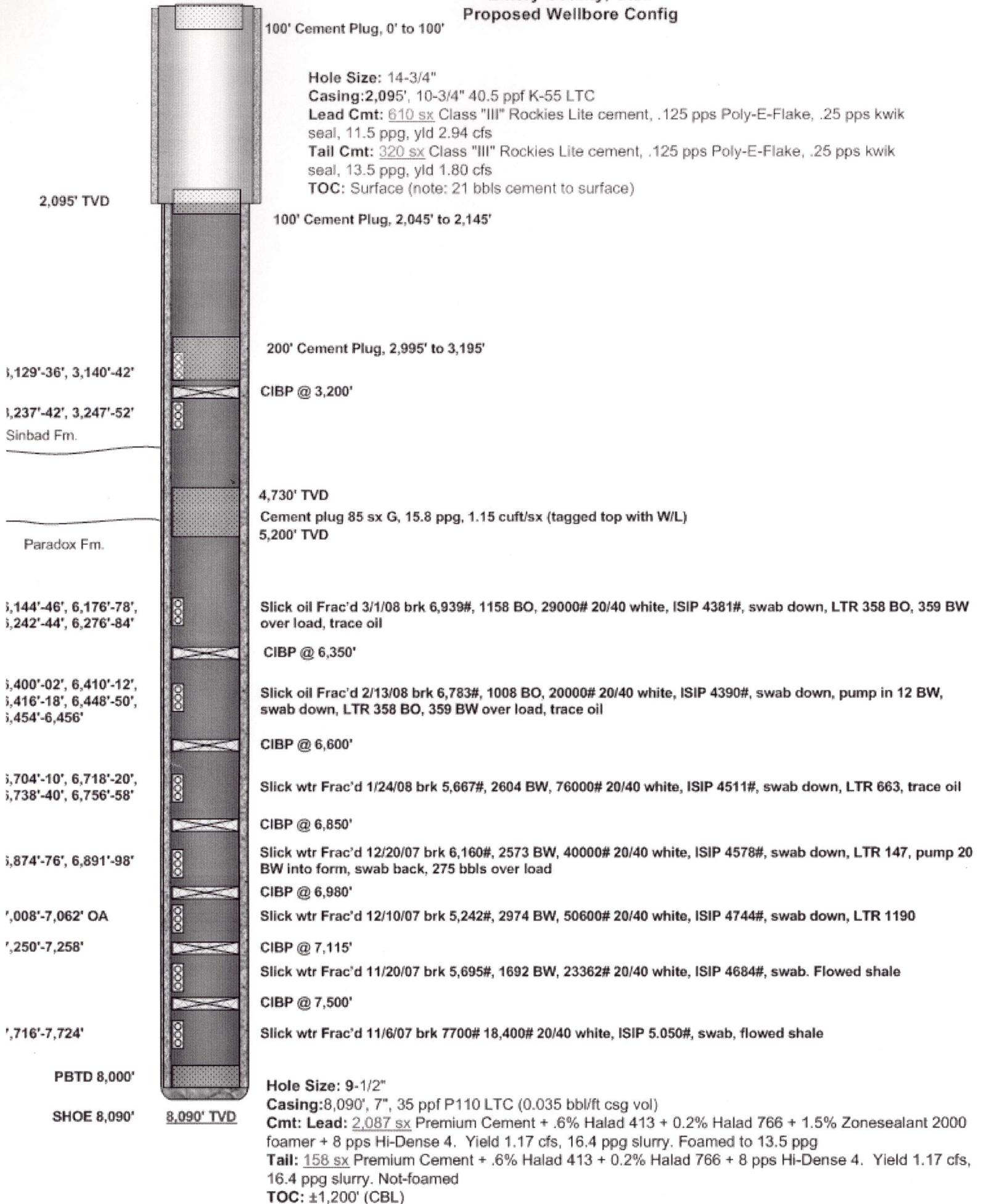
DATE _____

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 5/23/08
BY: [Signature]
** Verbal Approval given 4/14/08*

RECEIVED
APR 15 2008
DIV. OF OIL, GAS & MINING

**State 36-11 Well
Section 36, T22S - R1E
Emery County, Utah
Proposed Wellbore Config**



State 36-11 Well
 Section 36, T22S - R15E
 Emery County, Utah
 Wellbore Config as of 3/10/08

Hole Size: 14-3/4"

Casing: 2,095', 10-3/4" 40.5 ppf K-55 LTC

Lead Cmt: 610 sx Class "III" Rockies Lite cement, .125 pps Poly-E-Flake, .25 pps kwik seal, 11.5 ppg, yld 2.94 cfs

Tail Cmt: 320 sx Class "III" Rockies Lite cement, .125 pps Poly-E-Flake, .25 pps kwik seal, 13.5 ppg, yld 1.80 cfs

TOC: Surface (note: 21 bbls cement to surface)

2,095' TVD

,129'-36', 3,140'-42'

CIBP @ 3,200'

,237'-42', 3,247'-52'

Sinbad Fm.

4,730' TVD

Cement plug 85 sx G, 15.8 ppg, 1.15 cuft/sx (tagged top with W/L)

5,200' TVD

aradox Fm.

,144'-46', 6,176'-78',
,242'-44', 6,276'-84'

Slick oil Frac'd 3/1/08 brk 6,939#, 1158 BO, 29000# 20/40 white, ISIP 4381#, swab down, LTR 358 BO, 359 BW over load, trace oil

CIBP @ 6,350'

,400'-02', 6,410'-12',
,416'-18', 6,448'-50',
,454'-6,456'

Slick oil Frac'd 2/13/08 brk 6,783#, 1008 BO, 20000# 20/40 white, ISIP 4390#, swab down, pump in 12 BW, swab down, LTR 358 BO, 359 BW over load, trace oil

CIBP @ 6,600'

,704'-10', 6,718'-20',
,738'-40', 6,756'-58'

Slick wtr Frac'd 1/24/08 brk 5,667#, 2604 BW, 76000# 20/40 white, ISIP 4511#, swab down, LTR 663, trace oil

CIBP @ 6,850'

,874'-76', 6,891'-98'

Slick wtr Frac'd 12/20/07 brk 6,160#, 2573 BW, 40000# 20/40 white, ISIP 4578#, swab down, LTR 147, pump 21 BW into form, swab back, 275 bbls over load

CIBP @ 6,980'

,008'-7,062' OA

Slick wtr Frac'd 12/10/07 brk 5,242#, 2974 BW, 50600# 20/40 white, ISIP 4744#, swab down, LTR 1190

,250'-7,258'

CIBP @ 7,115'

Slick wtr Frac'd 11/20/07 brk 5,695#, 1692 BW, 23362# 20/40 white, ISIP 4684#, swab. Flowed shale

CIBP @ 7,500'

,716'-7,724'

Slick wtr Frac'd 11/6/07 brk 7700# 18,400# 20/40 white, ISIP 5.050#, swab, flowed shale

PBTD 8,000'

Hole Size: 9-1/2"

Casing: 8,090', 7", 35 ppf P110 LTC (0.035 bbl/ft csg vol)

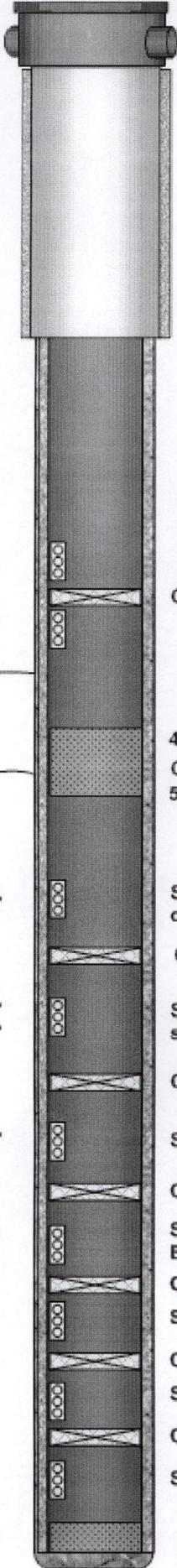
Cmt: Lead: 2,087 sx Premium Cement + .6% Halad 413 + 0.2% Halad 766 + 1.5% Zonesealant 2000 foamer + 8 pps Hi-Dense 4. Yield 1.17 cfs, 16.4 ppg slurry. Foamed to 13.5 ppg

Tail: 158 sx Premium Cement + .6% Halad 413 + 0.2% Halad 766 + 8 pps HI-Dense 4. Yield 1.17 cfs, 16.4 ppg slurry. Not-foamed

TOC: ±1,200' (CBL)

SHOE 8,090'

8,090' TVD



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

CONFIDENTIAL

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. CASING REGISTRATION AND SERIAL NUMBER: **ML-50652**

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

7. UNIT or CA AGREEMENT NAME: **undesignated**

8. WELL NAME and NUMBER: **STATE 36-11**

9. API NUMBER: **4301530715**

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

1. TYPE OF WELL: OIL WELL GAS WELL OTHER _____

2. NAME OF OPERATOR: **Petro-Canada Resources (USA) Inc**

3. ADDRESS OF OPERATOR: **999 18th St., Ste. 600** CITY **Denver** STATE **CO** ZIP **59101** PHONE NUMBER: **(303) 297-2300**

4. LOCATION OF WELL: FOOTAGES AT SURFACE: **906' FNL and 471' FEL** COUNTY: **Emery**
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **NENE 36 22S 15E** 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
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	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 1/19/2009	<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: CLOSURE REPORT
	<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.

Petro-Canada is filing the attached "Closure Report " on the State 36-11.

Rick Eggleston from Petro-Canada has been in contract with Bart Kettle throughout this process.

NAME (PLEASE PRINT) Jan Kajiwara TITLE Regulatory Analyst

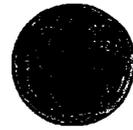
SIGNATURE *Jan Kajiwara* DATE 2/26/2009

(This space for State use only)

RECEIVED
MAR 02 2009

Earthworks, Inc.

1 Hutchison Road
Riverton, WY 82501



PETRO-CANADA

Closure Report

State 36-11

RECEIVED

MAR 02 2009

DIV. OF OIL, GAS & MINING

Office: (307) 857-4260
earthworks@wyoming.com

DAILY ACTIVITY REPORT

Petro-Canada

Location: State 36-11

January 05-08 Monday

- 7:00 AM: Travel from Green River to field location.
- 1:10 PM: Escorting equipment to location.
- 2:00 PM: On location, taking down fence and unloading equipment.
- 2:30 PM: Using excavator to pre mix pit and pushing dirt with dozer.
- 5:00 PM: Off location, travel from location to Green River Utah.

January 06-09 Tuesday

- 8:00 AM: Travel from Green River to field location. Escort trucks to location.
- 9:00 AM: Arrive at location, meet trucks and track hoe, warm up equipment and have a safety meeting.
- 9:30 AM: Take down fence again.
- 10:00 AM: Start unloading reagent into reserve pit.
- 12:00 PM: Done unloading reagent, start mixing.
- 5:00 PM: Done mixing for the day, grease & fuel equipment.
- 5:30 PM: Off location, travel from location to Green River.

January 07-09**Wednesday**

- 7:30 AM: Travel from Green River to field location.
- 8:00 AM: Arrive at location, meet trucks and track hoe, warm up equipment and have a safety meeting.
- 8:45 AM: Start unloading reagent into reserve pit and using dozer to back half of pit.
- 12:00 PM: Done unloading reagent, start mixing.
- 3:40 PM: Done mixing for the day.
- 4:00 PM: Off location, travel from location to Green River.

January 08-09**Thursday**

- 6:30 AM: Travel from Green River to field location.
- 7:00 AM: Arrive at location, meet trucks and track hoe, warm up equipment and have a safety meeting.
- 7:30 AM: Take composite samples of treated materials.
- 8:45 AM: Start placing cover soil on pit.
- 5:00 PM: Done placing cover soil.
- 5:30 PM: Off location, travel from location to Green River.

January 09-09**Friday**

- 6:30 AM: Travel from Green River to field location.
- 7:00 AM: Arrive at location, meet trucks and track hoe, warm up equipment and have a safety meeting.
- 7:30 AM: Continue placing cover soil on pit.
- 9:30 AM: Done reclaiming location.
- 12:00 PM: Off location, travel from location to Green River.

Job Finished



PETRO-CANADA RESOURCES (USA), INC.

1-435-820-6359

STATE 36-11

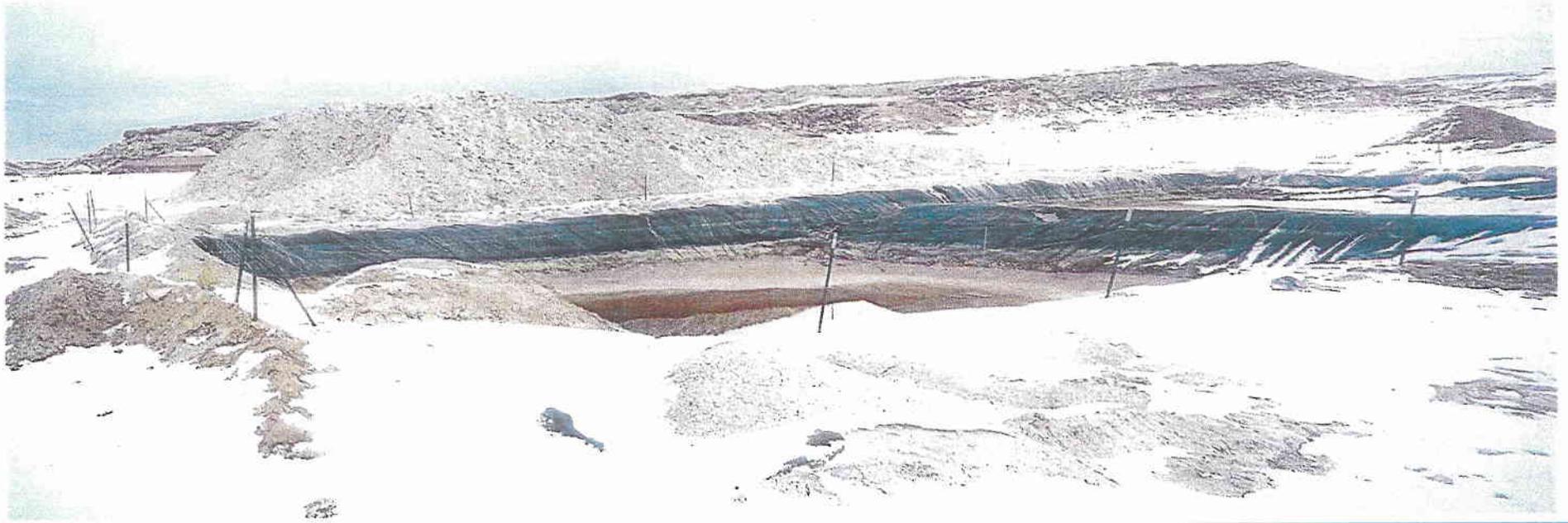
NE / NE 906' FNL 471' FEL

T22S, R15E, Sec. 36

EMERY COUNTY

LEASE: ML-50652





EARTHWORKS, INC.
Job Hazard Risk Assessment Tool
(307) 857-4260

WORK LOCATION		WORK/TEAM/CREW #	Date, <u>4/15/19</u>
WORK ACTIVITY (JOB)	<u>Solidify and cover reserve pit and reclaim location</u>		
Emergency Gathering Point;	<u>EXIT</u>		
Emergency Notification phone # Other	<u>911</u>		
Nearest Emergency Contact Person, (name, radio #, phone #)	<u>Ken Halseiter 307 857 6515</u>		

Any "NO" answer in the "Hazard Controlled" column will STOP the work activity.

CONTACT YOUR TEAM LEADER.

#	Required Assessments	Y E S	N O	NA	Potential Accident or Hazard	Recommendation to Reduce or Eliminate Hazard	(Y/N)
1.	Off-site communications established?	<input checked="" type="checkbox"/>					
2.	First Aid Kit on-site?	<input checked="" type="checkbox"/>					
3.	Required PPE identified & used?	<input checked="" type="checkbox"/>					
4.	Written job procedure?	<input checked="" type="checkbox"/>					
5.	Crew(s) qualified to do this job?	<input checked="" type="checkbox"/>					
6.	Adequate number of personnel?	<input checked="" type="checkbox"/>					
7.	Haz. Mat. identified and reviewed?	<input checked="" type="checkbox"/>					
8.	Precautions taken to prevent spills/gas releases?	<input checked="" type="checkbox"/>					
9.	Electrical hazards assessed?	<input checked="" type="checkbox"/>					
10.	Adequate lighting?	<input checked="" type="checkbox"/>					
11.	Bending/Lifting hazards reviewed?	<input checked="" type="checkbox"/>					
12.	Tripping/Slipping hazards identified?	<input checked="" type="checkbox"/>					
13.	Lockout/Tagout requirements met?	<input checked="" type="checkbox"/>					
14.	Blinding requirements met?			<input checked="" type="checkbox"/>			
15.	Overhead power line hazard assessed?	<input checked="" type="checkbox"/>					
16.	Congested work area(s) assessed?	<input checked="" type="checkbox"/>					
17.	Fall protection requirements met? (Platforms, scaffolding, ladders ok?)			<input checked="" type="checkbox"/>			
18.	Heavy equipment hazards identified?	<input checked="" type="checkbox"/>					
19.	Pressurized lines identified?	<input checked="" type="checkbox"/>					
20.	Barricading requirements in place?	<input checked="" type="checkbox"/>					
21.	Has "One Call" been contacted?			<input checked="" type="checkbox"/>			
22.	Utilities/pipelines marked/flagged?			<input checked="" type="checkbox"/>			
23.	Management of Change Completed?			<input checked="" type="checkbox"/>			

EARTHWORKS, INC.
Job Hazard Risk Assessment Tool

(307) 857-4260

Required Assessments	Y E S	N O	NA	Potential Accident or Hazard Circle all identified hazards	Recommendation to Reduce or Eliminate Hazard	(Y/N)
24. Hazardous atmospheres identified?			X	Flammable Toxic None Other	Oxygen enriched Oxygen deficient	
25. Other site hazards reviewed?			X	Low/High Temp Biological Animals/Insects Other	Mercury Environmental None	
26. Hazardous weather conditions identified?	X			Ice - Snow None Other	Mud - Wind - cold	
27. Hot Work Permit required?			X	If Yes, - attach Hot Work Permit		
28. Required personnel trained in Hot Work procedures?			X			
29. Confined Space Entry Permit?			X	If Yes, attach C. S. E. Permit		
30. Required personnel trained in Confined Space procedures?			X			
31. Excavation Permit			X	If Yes, attach Excavation Permit		

Sequence of Basic Job Steps	Potential Accident or Hazard	Recommendation to Reduce or Eliminate Hazard	(Y/N)
use excavator to pre mix	Pinch points, noise + dusty conditions	wash gloves, hearing protection	
Hook up pneumatics to hopper	Pressured vessels and hoses, Tript	Watch where your going, watch	
Pressure up pneumatics and	Falls, being hit by equipment	your hands, watch gauges, know	
How reagent into pit mix		movement of equipment, eye contact	
reagent and cutting together		with operator	
wiring excavator cover		Communication	
using excavator + DOZER		Communication	

Work Crew Members (Signatures)

JHRAT completed by: Mitch Diener

NOTE: If the job cannot be completed contact your Team Leader and review the Potential Hazard report. _____

Earthworks, Inc.

Regulatory Agency Pit Closure Report

1. Report submitted to: B.L.M.
2. Content of pit: Fresh water, drill cuttings & mud.
3. Size of pit: 6,779 BBLS
4. Operator: Petro-Canada
5. Closure Contractor: Earthworks Inc.
6. Lease Name & Number: State 36-11
7. Location: Sec 36, T22N, R15E
8. Start Date: 1/06/09 End Date: 1/09/09
9. Treating Materials added: LKD, CKD, Portland Cement
10. Was pit lined? Yes
11. Pre-Treatment Analysis (see attached)
TPH: Trace TDS: NA
12. Post-Treatment Analysis (see attached)
TPH < 0.5 > 10mg/L TDS < 1,710 > 500 mg/l
13. Stiffness/Compressive strength test results: Ran Scraper over it.
14. Type of pit: Reserve Pit

Signed: Ken Hostetter Title: President Date: 02/12/09

Earthworks, Inc.

Pre-Testing Results

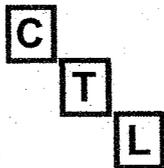
Operator Petro-Canada

Well State 36-11

TPH Trace Water 68% Solids 32%

All above values are arrived at using a baroid retort distillation unit and represent percentage of volume of sample tested.

Tested by Ken Hostetter



CONTI TESTING LABORATORIES, INC.

P.O. BOX 174 - BETHEL PARK, PA 15102

(412) 833-7766, Fax (412) 854-0373

contilab@verizon.net

Earthworks

2/11/2009

1 Hutchinson Rd

Riverton, WY 82501

Attn: Ken Hostetter

Office: 307-856-4699/307-857-4260

Fax: 307-857-6683

Email: earthworks@wyoming.com

Received: 01/29/09

Sampled By: client

CTL ID: 126700

RESULTS

Sample ID: **Petro Canada Resources State 36-11 Fresh**

	<u>mg/l</u>	<u>Method</u>	<u>DL (mg/l)</u>
Total Dissolved Solids	1,710	EPA 160.1	10
Total Petroleum Hydrocarbon	0.5	EPA 1664	0.1

Ref: Wyoming Leach

Approved By: J.G. Otroba