



# PETROLEUM DEVELOPMENT CORP.

801 E. 4th, Ste. 23 • Gillette, WY 82716  
Office (307) 682-4088 • Fax (307) 682-2767



July 27, 2001

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

Re: APD UTFee 15.524-16-32

Dear Sir or Madam:

Attached please find, in triplicate, Petroleum Development Corporation's (Pedco) application for permit to drill the referenced fee coalbed methane gas well. We request all information be held confidential.

Every attempt has been made to submit a complete and accurate application. Accompanying each copy of the APD is a copy of the survey plat and Master Drilling Plan.

Pedco's identifying number of the approval for use of water is 49-1657.

I respectfully request your earliest attention to this matter. Please call Scott Hedlund @ 307-682-4088 if you have any questions or require further information.

Sincerely,

Scott Hedlund  
Compliance technician

SEARCHED  
SERIALIZED  
INDEXED  
FILED  
AUG 1 2001  
SALT LAKE CITY

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

FORM 3

AMENDED REPORT   
(highlight changes)

<b>APPLICATION FOR PERMIT TO DRILL</b>		5. LEASE DESIGNATION AND SERIAL NUMBER: <u>Fee</u>	
1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
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"/>		7. UNIT or CA AGREEMENT NAME:	
2. NAME OF OPERATOR: <b>Petroleum Development Corporation</b>		8. WELL NAME and NUMBER: <b>UTFee 15.524-16-32</b>	
3. ADDRESS OF OPERATOR: <b>801 E. 4th St., Ste 23, Gillette, WY: 82716</b>		PHONE NUMBER: <b>307-682-4088</b>	9. FIELD AND POOL, OR WILDCAT: <b>Wildcat Undesignated</b>
4. LOCATION OF WELL (FOOTAGES)  AT SURFACE: <b>658 FSL &amp; 659 FEL</b> AT PROPOSED PRODUCING ZONE: <b>Same</b>		10. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  <b>SESE Sec.32, T15 1/2S R24E</b>	
13. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: <b>approximately 35 miles northwest of Grand Junction, CO</b>		11. COUNTY: <b>Grand</b>	12. STATE: <b>UTAH</b>
14. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) <b>659'</b>	15. NUMBER OF ACRES IN LEASE: <b>480.00</b>	16. NUMBER OF ACRES ASSIGNED TO THIS WELL: <b>40.0</b>	
17. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) <b>+/- 3900'</b>	18. PROPOSED DEPTH: <b>3600</b>	19. BOND DESCRIPTION: <b>No. RLB0003502</b>	
20. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): <b>8234 GR</b>	21. APPROXIMATE DATE WORK WILL START: <b>upon approval</b>	22. ESTIMATED DURATION: <b>7-10 days</b>	

CONFIDENTIAL

4368320 N  
647553 E

23. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT
13 1/2"	10 3/4", 32.75#	360'	Class C, 182 sks, 1.44, 14.4 ppg.
9 7/8"	7", 23#	3600'	Class C, 893 sks, 1.44, 14.4 ppg.

24. **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 checked="" 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) Scott Hedlund TITLE Compliance technician

SIGNATURE *Scott Hedlund* DATE July 27, 200

(This space for State use only)

API NUMBER ASSIGNED: 43-019-31388

APPROVAL:

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

DATE: 7-13-01  
BY: *A. Hunt*

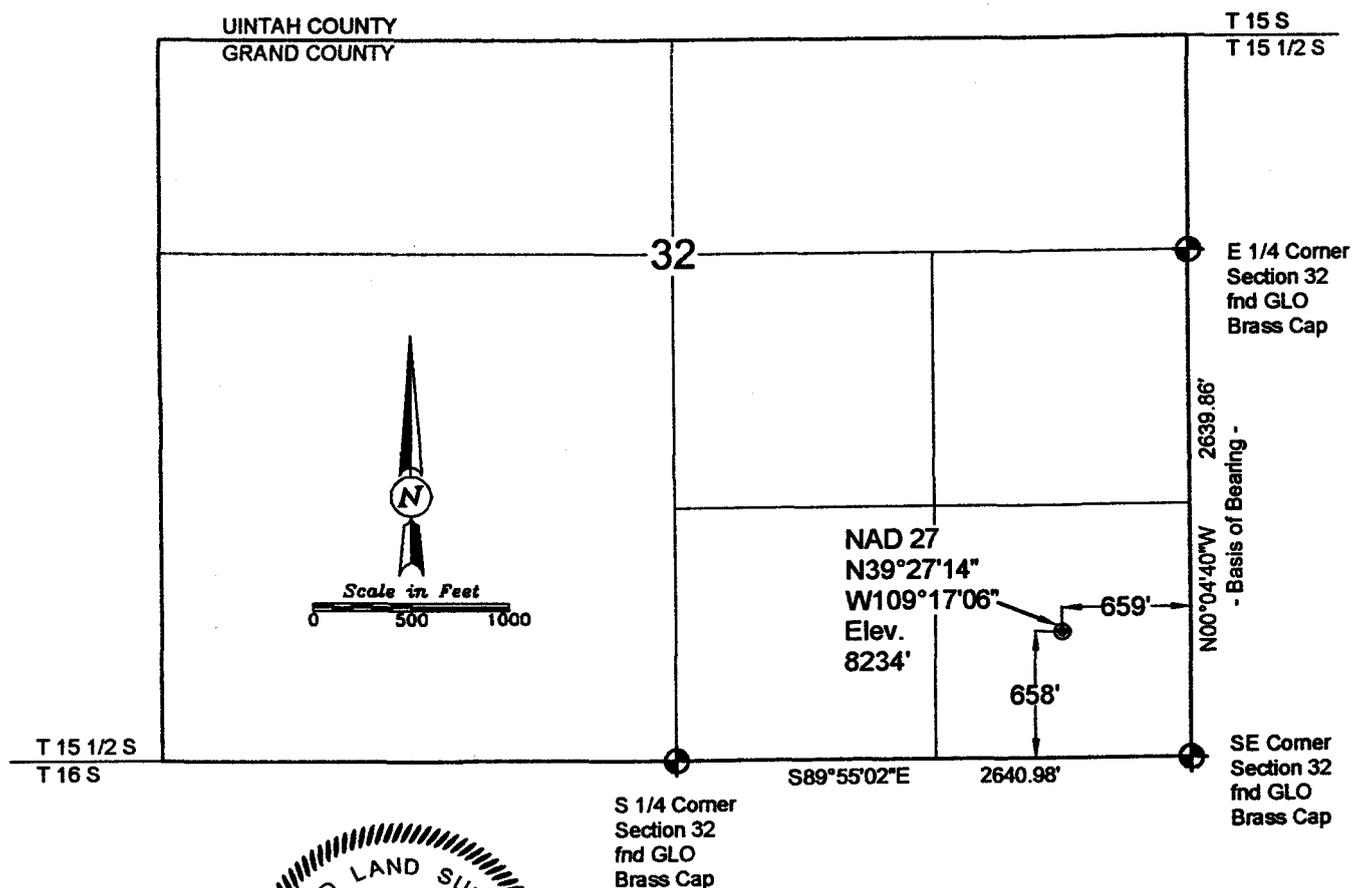


## Well Location Survey

### Petroleum Development Corporation UT Fee 15.524-16-32

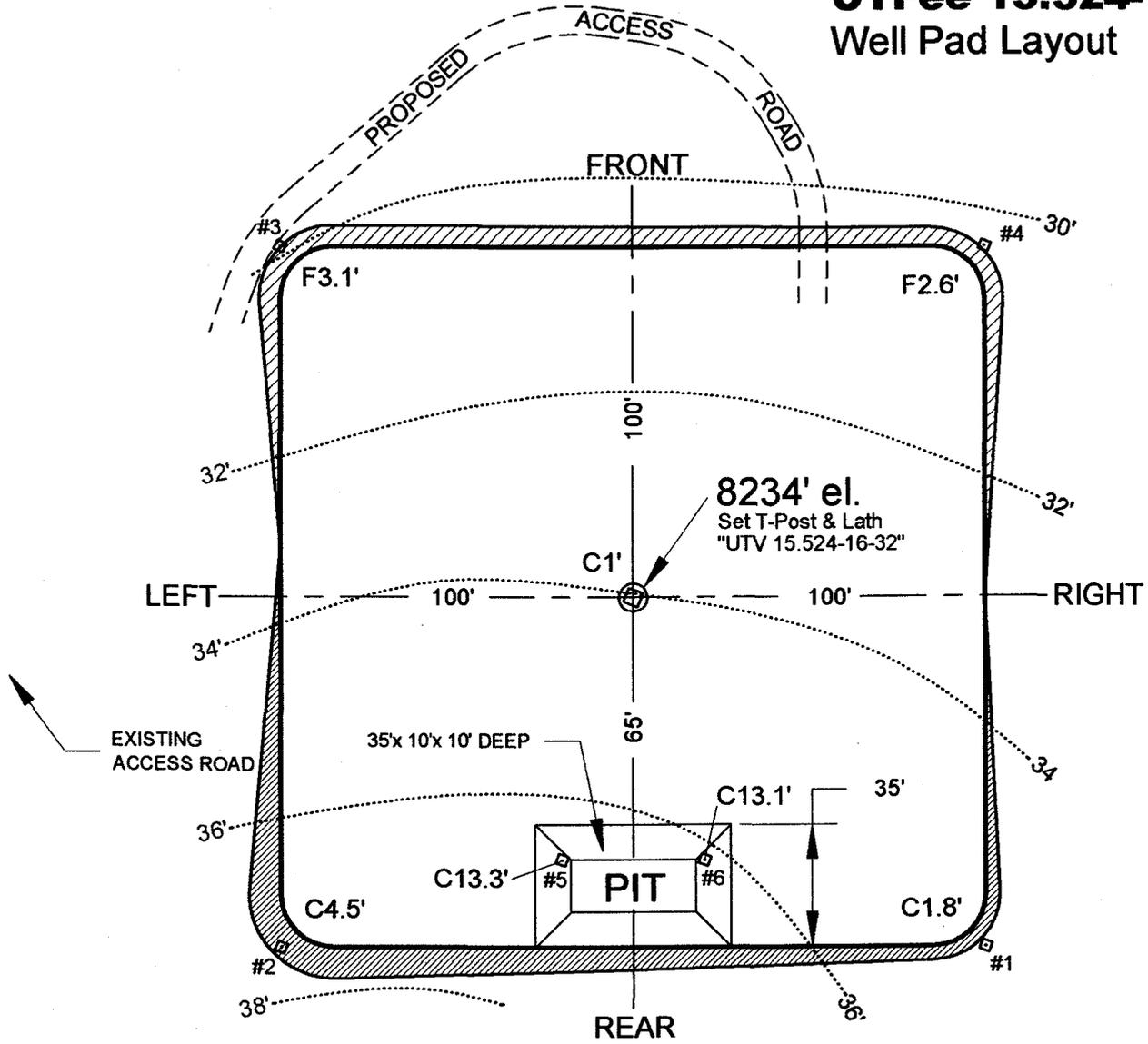
- Basis of Bearing is  $N00^{\circ}04'40''W$  between the SE corner and E 1/4 corner of Section 32 from GPS observations taken 13-July-2001

659' fsl & 658' fsl  
 Section 32, T15.5S, R24E, SLB&M.  
 Grand County, Utah  
 Ground Elevation- 8234' (NGVD29)

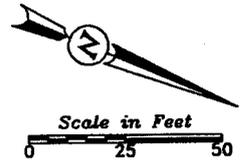


- Land use is grazing.
- There are no land ownership boundaries within 460 feet.
- There were no oil or gas wells observed within 920 feet.

**UTFee 15.524-16-32**  
**Well Pad Layout**



- ▣ Set Stake/Lath (6)
- ..... Existing Ground Contour
- ▨ Cut Slope
- ▩ Fill Slope
- C1' Cut or Fill Value



Petroleum Development Corp

UTFac 15524-16-82

T  
15  
S

26

Horn  
8260

x8222

P  
R

x8167

Ridge  
Drill Hole

8172x

35

8000

Pode  
Well  
x8065

8165x

P.R. Spring

PIPELINE

x8270

R23E

R24E

81

8000

Outcrop  
+ Springs  
Corial 33

32

Spring

UTFac 15524-32

x8255

x7950

x8092

8349

Main

PACK

TRAIL

Canyon

JEEP

TRAIL

x8608

x8139

Spring

x8315

lease  
boundary

T  
16  
S

R24E

x8229

USLM  
8304

x8278

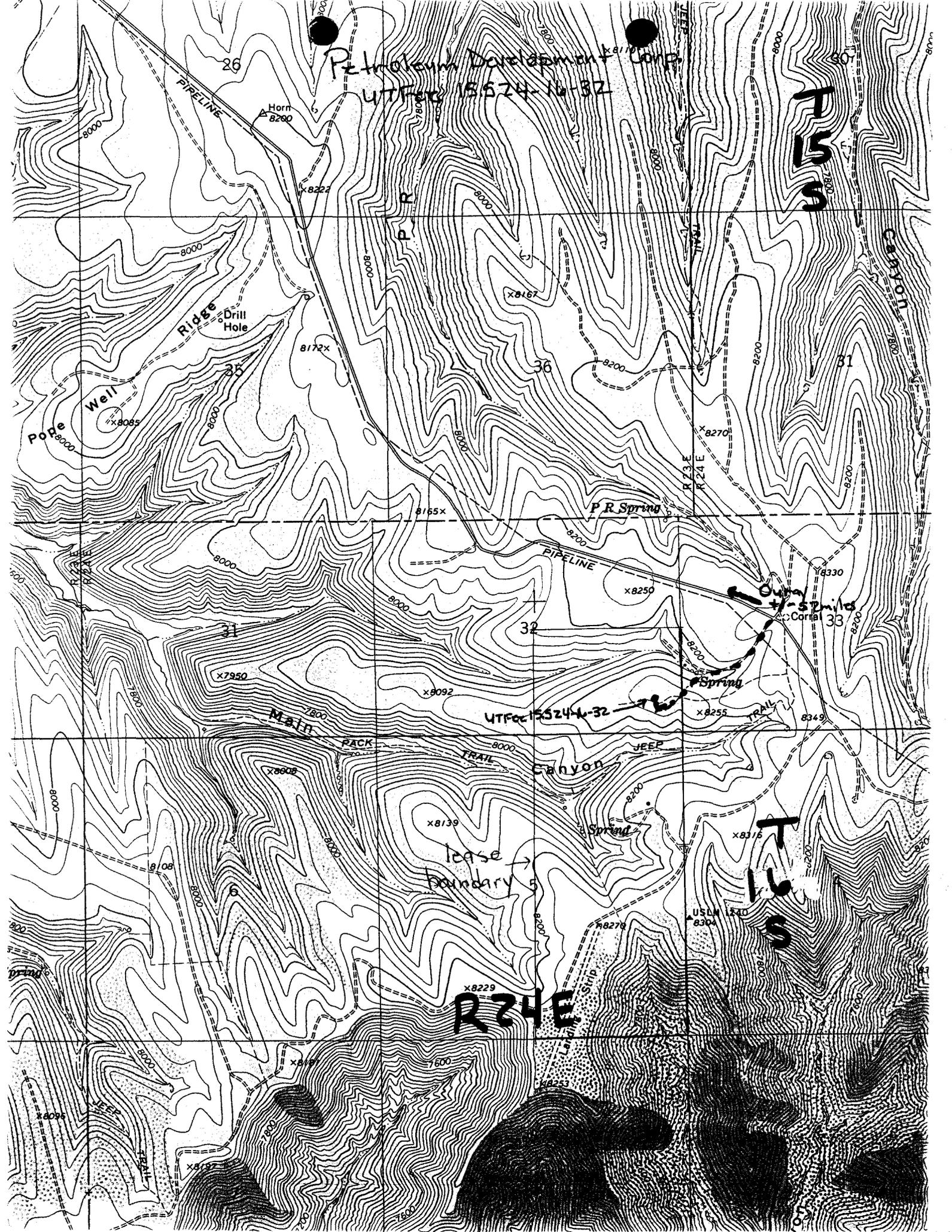
Strip

x8144

7600

x8095

x8144



## **METHODS FOR HANDLING WASTE DISPOSAL**

Drill cuttings (rock fragments generated during drilling) will be produced during the drilling of the borehole. Cuttings will be buried in the reserve pit upon closure of the reserve pit.

Upon completion of drilling, the reserve pit will be dewatered and reclaimed. Typically this procedure involves allowing the contents to dry naturally, and then backfilling, re-contouring and reclaiming the reserve pit area to approximate pre-drilling site condition. After abandonment of a productive well, all wellhead equipment that is no longer needed will be removed and the well site will be restored.

No oil or other oil-based drilling additives, chromium/metals-based muds, or saline muds will be used during drilling of this well. Only freshwater, biodegradable polymer soap, bentonite clay, and non-toxic additives will be used in the mud system. The well will not produce oil or saltwater typical of oil production. Furthermore, other liquid hydrocarbons are not anticipated. Should unexpected liquid petroleum hydrocarbons (e.g., crude oil or condensate) be encountered during drilling or well testing, all liquid petroleum hydrocarbons will be contained in test tanks on the well site.

A portable, self-contained chemical toilet will be provided on location during drilling and completion operations. Upon completion of operations, or as required, the contents of toilet holding tanks will be disposed of at an authorized sewage treatment and disposal facility. Disposal will be in accordance with State, County and Federal requirements regarding sewage treatment and disposal.

No trash will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, and well testing activities will be contained in an enclosed receptacle, removed from the drill location promptly, and hauled to an authorized disposal site.

Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash barrels will be cleaned up and removed from the well location. No potentially adverse materials or substances will be left on the drill location.

## **Hazardous Materials Management**

All project-related activities involving hazardous materials will be conducted in a manner that minimizes potential environmental impacts. An on-site file will be maintained containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds,

Petroleum Development Corporation  
UTFee 15.524-16-32  
Grand County, Utah

and/or substances that are used in the course of construction, drilling, completion, production, and reclamation operations.

No hazardous substance, as defined by CERCLA, will be used in the construction or drilling operations associated with these wells. No RCRA hazardous wastes will be generated by well-drilling operations.

Any spills of oil, gas, or any other potentially hazardous substance will be reported immediately to the landowner, local authorities, and other responsible parties and will be mitigated immediately, as appropriate, through cleanup or removal to an approved disposal site.

**MASTER DRILLING PROGRAM**  
**OPERATOR: Petroleum Development Corporation (Pedco)**  
Grand County, Colorado  
Section 32:SESE, T15 ½ S, R24E  
Fee Lease

**Drilling Program for the subject wells listed below:**

1. UTFee 15.524-16-32

**1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS**

<b>Formation</b>	<b>Depth</b>
Green River	Surface
Wasatch	+/- 500'
Tuscher	+/- 1200'
Mesaverde Group:	
Farrer	+/- 1800'
Nelsen	+/- 2900'
TD	+/- 3600'

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

Mesaverde Group                      Methane gas

There are several zones within the Mesaverde Group capable of producing fresh water, including the coal seams. Several coal seams may be tested for gas producing formations to total depth. All shallow water zones will be protected with casing and cement.

**Planned Objective:** coals of the Mesaverde Group

**3. Minimum BOP Requirements: - refer to attached BOP schematics**

1. The BOPE shall be closed whenever the well is unattended.
2. The BOPE shall be pressure tested when initially installed, whenever any seal subject to pressure testing is broken, after repairs, or every 30 days.

**4. Supplementary Information:**

The primary objective of this project is to drill, stimulate, and produce coalbed methane gas from the coal seams of the Mesaverde Group.

PEDCO proposes to test the coal formations between 1,800' and 3,600'. Stimulation of the perforated coal seams will be done by hydraulic fracturing. Fresh water, gelled water, and/or foam fracturing techniques will be used.

Please see the attached schematics for **Typical CBM Drill Site Layout, Configuration Options, Typical CBM Completed Well, and Typical CBM Well Site.**

**5. Casing Program:**

<u>Hole Size</u>	<u>Casing Size</u>	<u>Casing Wt.</u>	<u>Grade</u>	<u>Joint</u>	<u>Depth Set</u>	<u>New/Used</u>	<u>Rng</u>
13 3/8"	10 3/4"	32.75#	H-40	ST&C	0-160	New	3
9 7/8"	7"	23#	MC-50	LT&C	0-TD	New	3
<b>Surface Casing:</b>	10 3/4"	32.75 ppf.	H-40	STC	Collapse	Burst	Tension
				<b>Ratings:</b>	880	1820	205M

A.  $Burst = [0.052 * FG * TVD(shoe)] - [Gas Gradient * TVD]$   
 $= [0.052 * 9.3ppg * 360'] - [0.1psi/ft * 360']$   
 $= 138.09psi$   
 Safety Factor = Rating/Burst  
 $= 1820/138.09$   
 $= 13.18$

B.  $Collapse = 0.052 * MW * TVD(shoe)$   
 $= 0.052 * 8.8ppg * 360'$   
 $= 164.74psi$   
 Safety Factor = Rating/Collapse  
 $= 880/164.74$   
 $= 5.34$

C.  $Tension = Weight * MD * [1 - (MW/65.5ppg)]$   
 $= 32.75ppf * 360' * [1 - (8.8ppg/65.5ppg)]$   
 $= 10,257.3 lbs.$   
 Safety Factor = Rating/Tension  
 $= 205,000/10,257.3$   
 $= 19.99$

Surface casing shall have centralizers on the bottom 3 joints of the casing, starting with the shoe joint.

<b>Production Casing:</b>	7"	23 ppf.	MC-50	STC	Collapse	Burst	Tension
				<b>Ratings:</b>	3110	3960	273M

$$\begin{aligned} \text{A. Burst} &= [0.052 * 8.4\text{ppg} * 3600'] - [0.1\text{psi/ft} * 3600'] \\ &= 1212.48\text{psi} \end{aligned}$$

$$\begin{aligned} \text{Safety Factor} &= \text{Rating/Burst} \\ &= 3960/1212.48 \\ &= 3.27 \end{aligned}$$

$$\begin{aligned} \text{B. Collapse} &= 0.052 * 12.5\text{ppg} * 3600' \\ &= 2340\text{psi} \end{aligned}$$

$$\begin{aligned} \text{Safety Factor} &= \text{Rating/Collapse} \\ &= 3110/2340 \\ &= 1.33 \end{aligned}$$

$$\begin{aligned} \text{C. Tension weight} &= 23\text{lbs./ft} * 3600' * [1 - (12.5\text{ppg}/65.5\text{ppg})] \\ &= 23\text{lbs./ft} * 3600' * .8092 \\ &= 67,001.76 \text{ lbs.} \end{aligned}$$

$$\begin{aligned} \text{Safety Factor} &= \text{Rating/Tension} \\ &= 273,000/67,001.76 \\ &= 4.07 \end{aligned}$$

## 6. **Mud Program:**

Drilling mud will be used by the circulation medium. A fresh water, polymer, gel drilling mud will be used and visual monitoring will be done from spud to total depth. The anticipated mud weight will be between 8.5 – 9.8 ppg. Sufficient quantities of lost circulation material and barite will be available at the well site at all times for the purpose of assuring well control.

## 7. **Cementing Program**

The following is the proposed procedure for cementing the 10 3/4" surface pipe and 7" long string:

### **Surface Casing:**

Lead: Class "C" Type III, 14.4 ppg., yield 1.44ft<sup>3</sup>/sk @ 101% excess. Compressive strength in 24 hours at 80°F 3100psi.

The surface casing shall be cemented back to surface. In the event cement does not circulate to surface or fall back of the cement column occurs, remedial cementing shall be done to cement the casing back to surface.

### **Long String:**

Lead: Class "C" Type III, 14.4 ppg., yield 1.44ft<sup>3</sup>/sk @ 35% excess. Compressive strength in 24 hours at 95°F 3200psi.

Estimated top of cement back to surface.

**8. Logging Program**

**Cores:** Rotary Cores will be taken as needed to evaluate the coal seams.

**DST's:** None Planned

**Logs:** Induction, GR, SP, Density, Neutron and Caliper – From surface to TD  
Cement Bond Log – From 10 ¾" casing shoe TD  
Mud Logger – As Needed.

**9. Pressure Data, Potential Hazards**

Bottom hole pressures anticipated @ 1400 – 1800 psi.

There is no history of hydrogen sulfide gas in the area and none is anticipated.

**10. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS**

**A. Anticipated Starting Dates:**

Anticipated Commencement Date-	- upon approval
Drilling Days	- Approximately 7 Days/Per Well
Completion Days	- Approximately 2 Days/Per Well
Testing Days	- Approximately 7-14 Days/Per Well

Note: Drilling operations will commence as soon as practical after approval of all necessary permits including the APDs.

**B. Notification of Operations:**

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



**SHAFER HYDRAULIC BLOWOUT PREVENTERS  
TYPE E DOUBLE PREVENTERS  
(RISING LOCKING SHAFTS)**

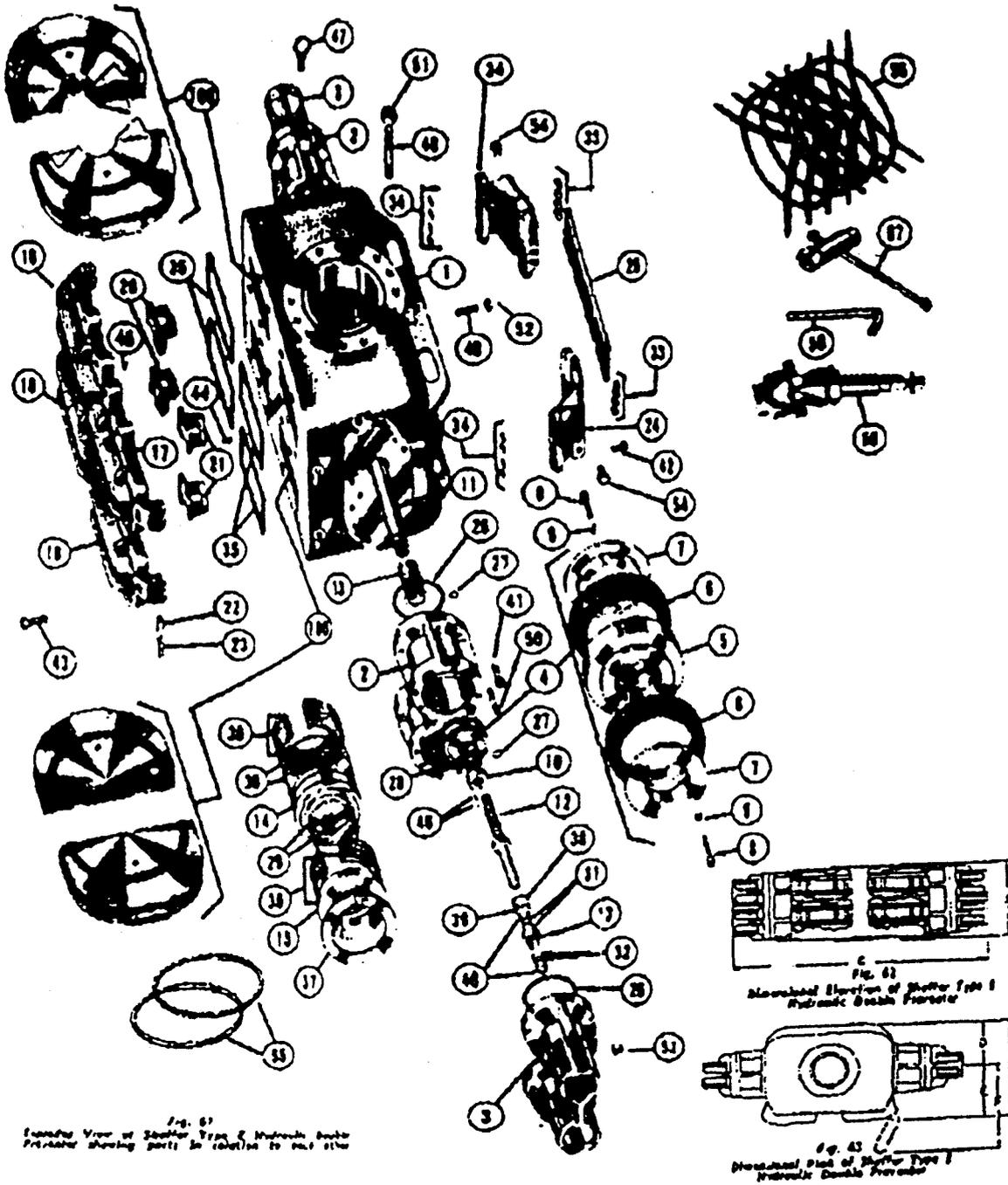


Fig. 61  
Exploded View of Shaffer Type E Hydraulic Blowout Preventer showing parts in relation to each other

Fig. 62  
Manual Operation of Shaffer Type E Hydraulic Blowout Preventer

Fig. 63  
Manual Piston of Shaffer Type E Hydraulic Blowout Preventer

Size 10"    Press. Rat 3,000psi    Test Press 6,000psi    Vertical bore 11"

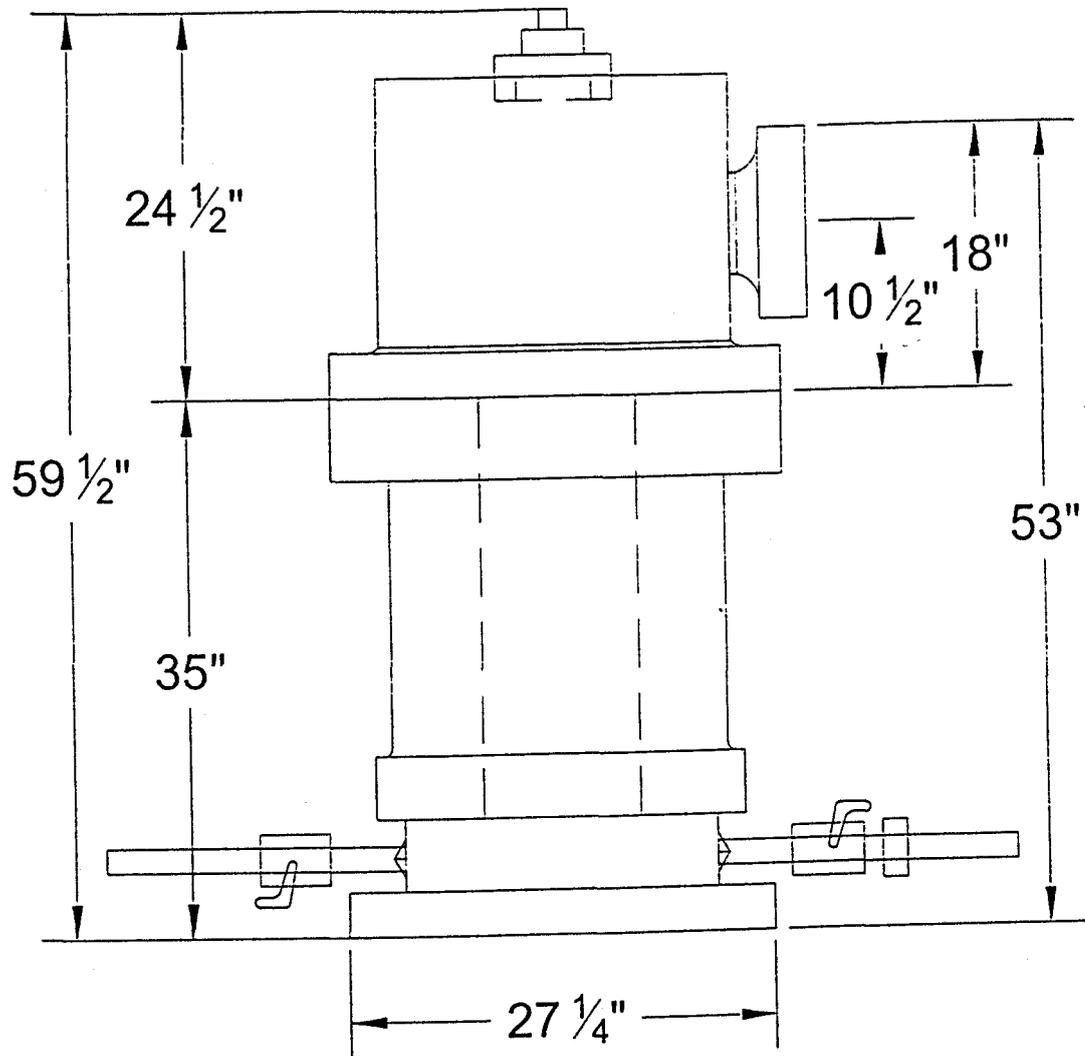
Height 27 1/2"

width 34 1/4"

Length 80 1/8"

close 3.25 gals

open 2.7 gals

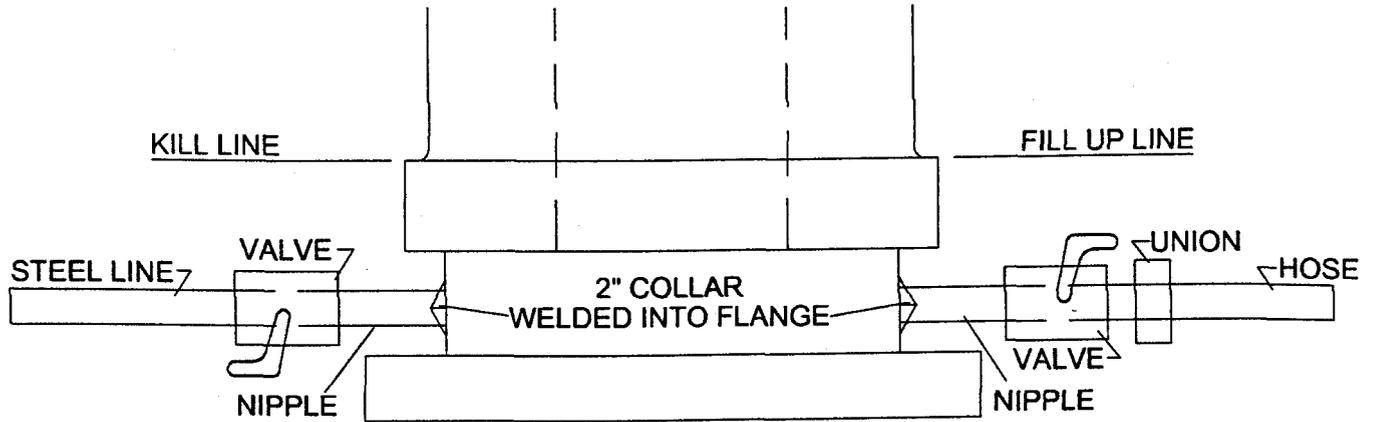


**SPECIFICATIONS**

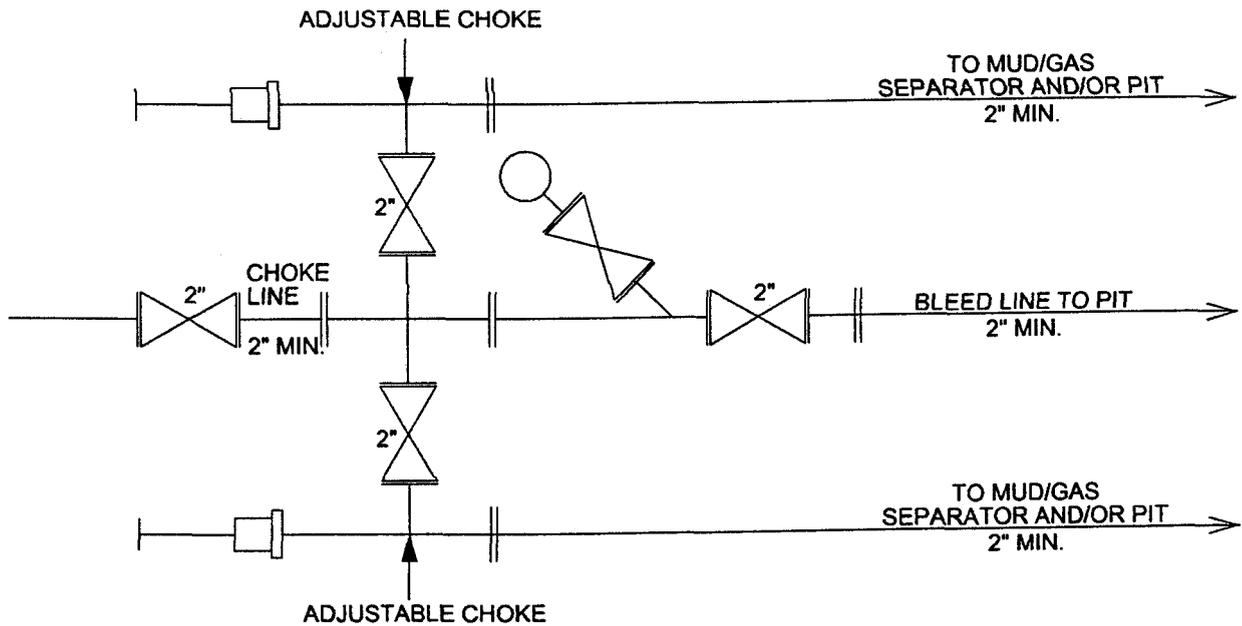
- 10" - 900 FLANGES ON B.O.P.
- 10" - 900 FLANGE ON ROTATING HEAD
- 6" - 600 FLANGE ON FLOWLINE
- 2" - COLLAR ON EACH SIDE OF B.O.P. AT BOTTOM

 PETROLUUM DEVELOPMENT CORP. 			
SCHEMATIC			
1500 P.S.I. REAGAN ANNULAR B.O.P.			
SCALE: AS NOTED	DATE: 05.04.01	DRAWN BY: MTM	FIGURE: 1

## BOTTOM FLANGE ON ANNULAR B.O.P.



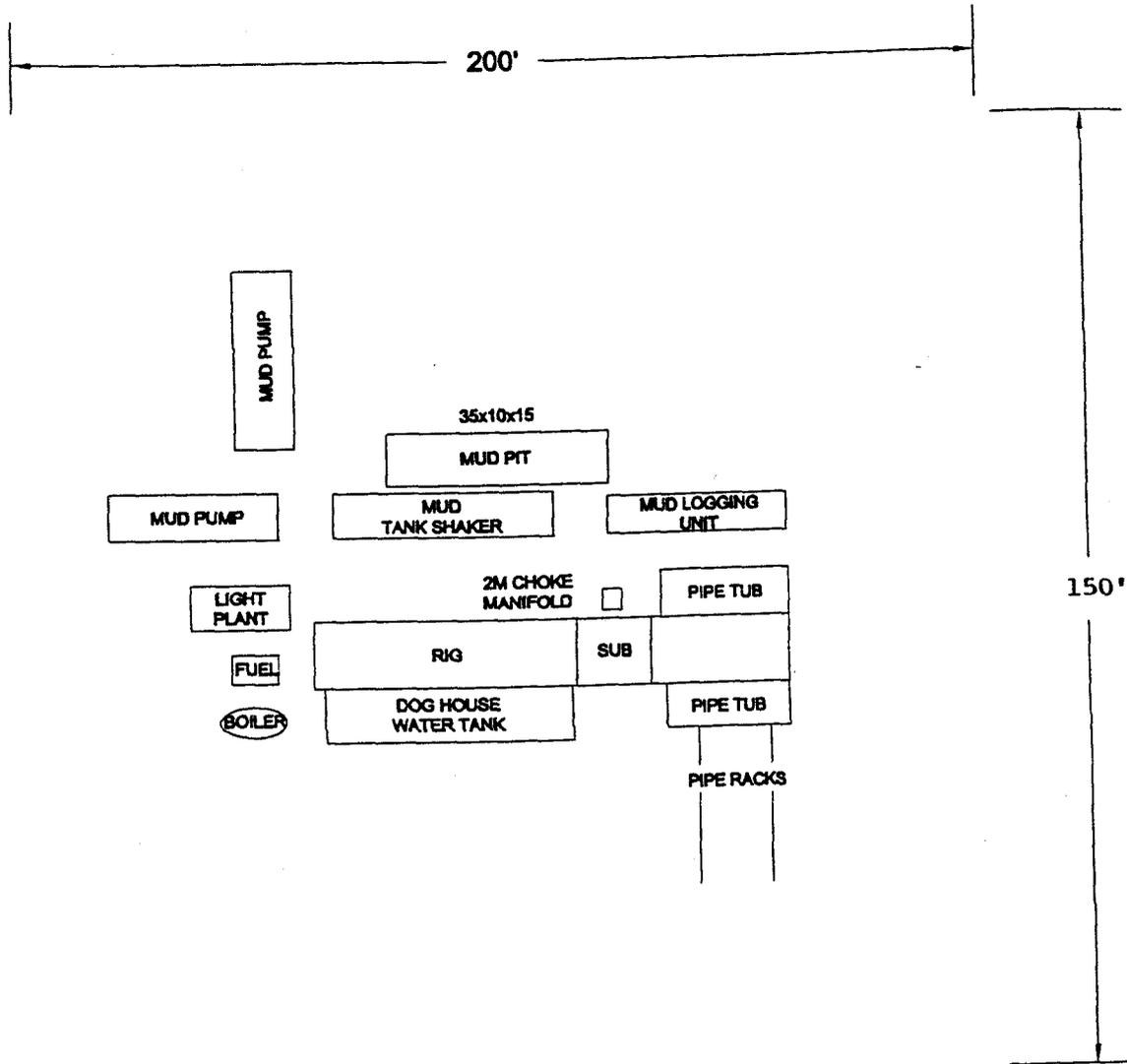
## 2M CHOKE MANIFOLD EQUIPMENT



### SPECIFICATIONS

- 10" - 900 FLANGES ON B.O.P.
- 10" - 900 FLANGES ON ROTATING HEAD
- 6" - 600 FLANGE ON FLOWLINE
- 2" - COLLAR ON EACH SIDE OF B.O.P. AT BOTTOM

 PETROLEUM DEVELOPMENT CORP. 	
SCHEMATIC	
<b>BOTTOM FLANGE ON ANNULAR B.O.P. &amp; 2M CHOKE MANIFOLD EQUIPMENT</b>	
SCALE: as noted	DATE: 05.04.01
DRAWN BY: MTM	FIGURE: 2

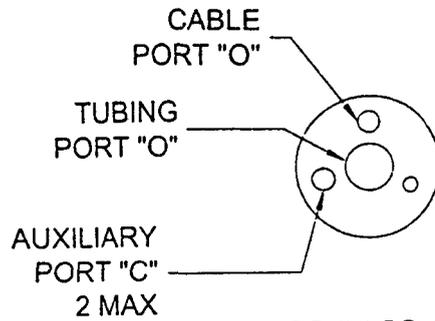


 **PETROLIUM DEVELOPMENT CORP.** 

**TYPICAL DRILLSITE LAYOUT**

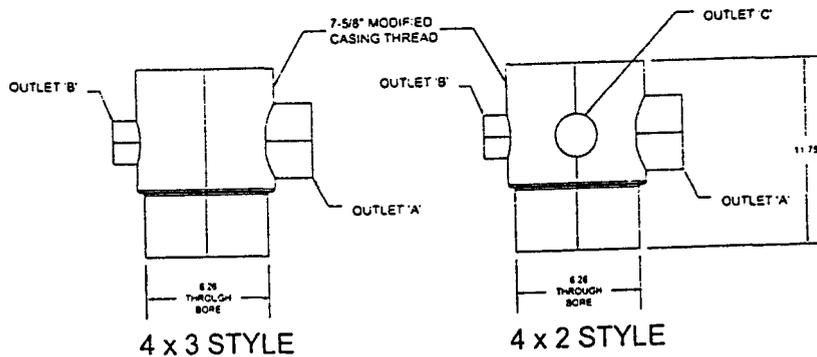
SCALE: NTS	DATE: 5.18.01	DRAWN BY: ML	FIGURE: -
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# MANDREL STYLE



**GS-3 / GS-4  
CENTERED HANGER  
WITH CABLE PORT &  
UP TO 2 AUX PORTS**

## BODY STYLES



Standard Body Configurations				
Body Style	Bottom Connection	Outlet "A"	Outlet "B"	Outlet "C"
4 x 2	7" Short Casing (Male or Female)	4" LP Female	2" LP Female	NA
4 x 3	7" Short Casing (Male or Female)	4" LP Female	3" LP Female	NA
4 x 2 x 2	7" Short Casing (Male or Female)	4" LP Female	2" LP Female	2" LP Female

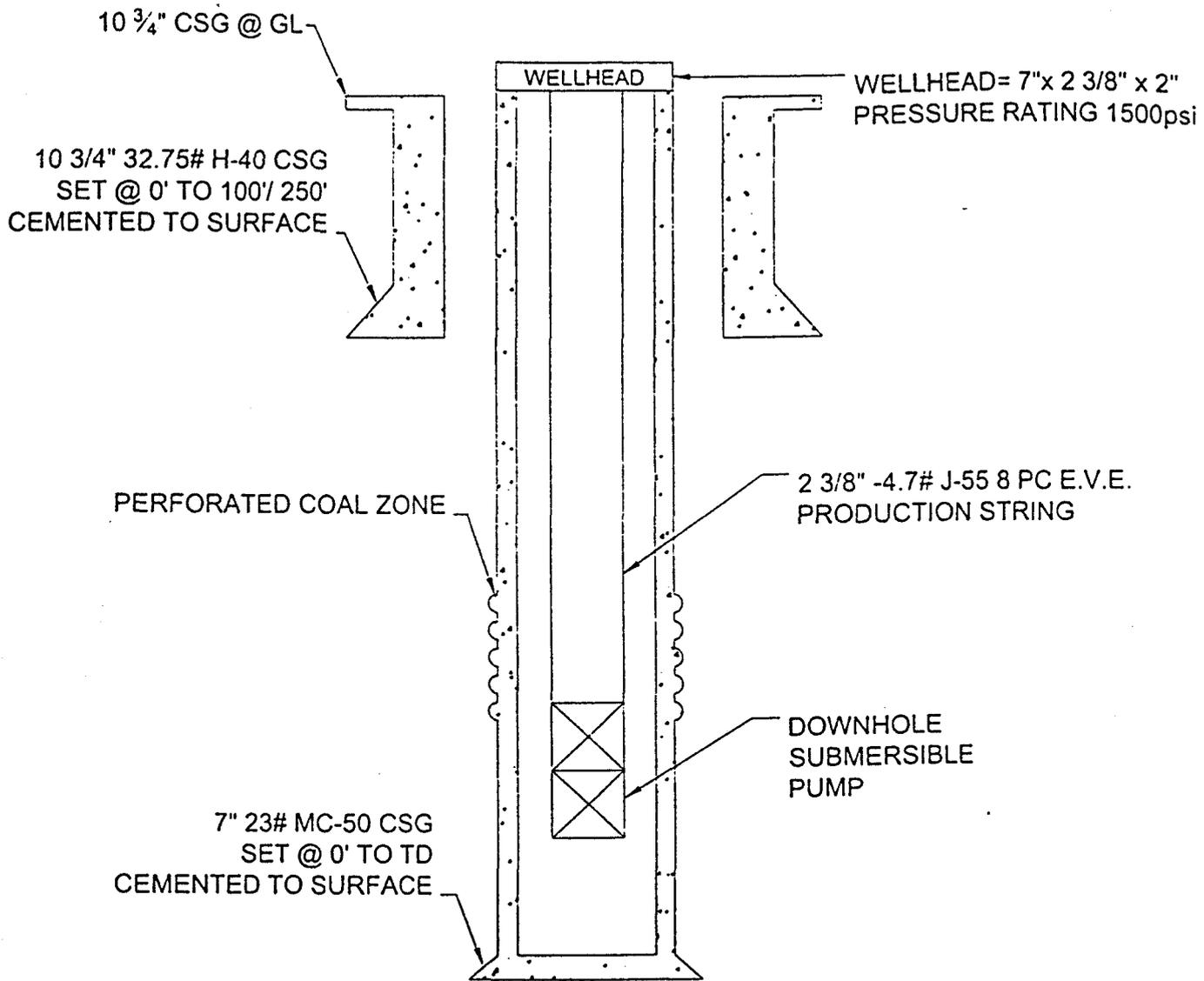
Standard Mandrel Configurations				
Mandrel Style	Port "C"	Port "D"	Port "E"	Approx Wt - LBS
GS-3	2-3/8" UPTBG Box Down X	1" LP	(1) 1/2" LP Box Up	26
GS-4	2-3/8" UPTBG Box Up	Box Up	(2) 1/2" LP Box Up	26

**PETROLEUM DEVELOPMENT CORP.**

**CONFIGURATION OPTIONS**

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SCALE: NTS	DATE: 05.04.01	DRAWN BY: MTM	FIGURE: 3
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PETROLUEM DEVELOPMENT CORP.



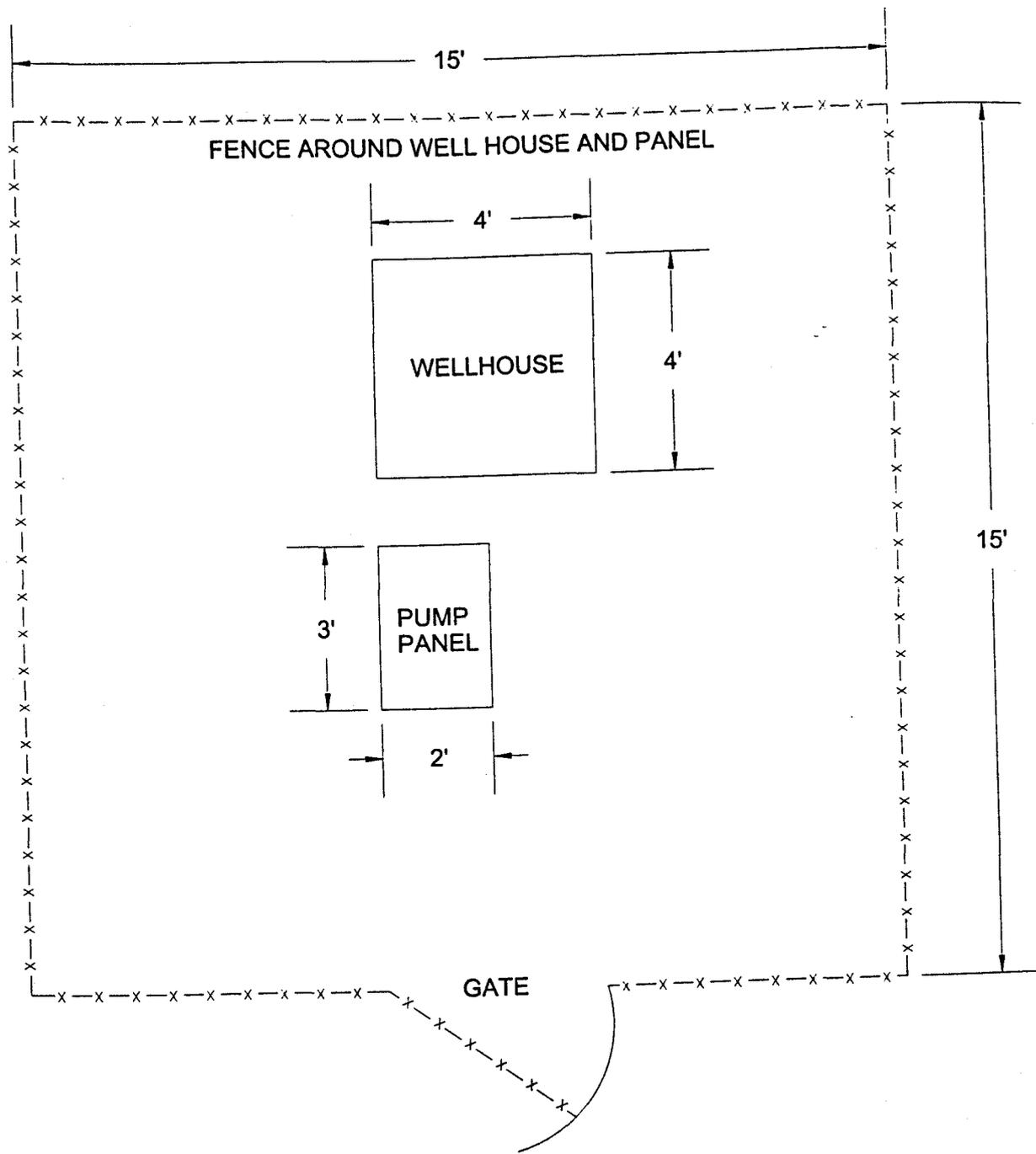
TYPICAL CBM COMPLETED WELL

SCALE: NTS

DATE: 05.04.01

DRAWN BY: MTM

FIGURE: 4



 <b>PETROLUUM DEVELOPMENT CORP.</b> 			
<b>TYPICAL CBM WELL SITE</b>			
SCALE: NTS	DATE: 05.04.01	DRAWN BY: MTM	FIGURE: 5

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 07/30/2001

API NO. ASSIGNED: 43-019-31388
--------------------------------

WELL NAME: UTFEE 15.524-16-32  
 OPERATOR: PETROLEUM DVLPMPT CORP ( N1865 )  
 CONTACT: SCOTT HEDLUND

PHONE NUMBER: 307-682-4088

PROPOSED LOCATION:

SESE 32 155S 240E  
 SURFACE: 0658 FSL 0659 FEL  
 BOTTOM: 0658 FSL 0659 FEL  
 GRAND  
 UNDESIGNATED ( 2 )

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering	DEK	8/21/01
Geology		
Surface		

LEASE TYPE: 4 - Fee  
 LEASE NUMBER: FEE  
 SURFACE OWNER: 4 - Fee

PROPOSED FORMATION: MVRD

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: ~~Fed~~[ ] Ind[ ] Sta[ ] Fee[4]  
(No. PLB0003502 )
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit  
(No. 49-1657 )
- RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )
- Fee Surf Agreement (Y)N

LOCATION AND SITING:

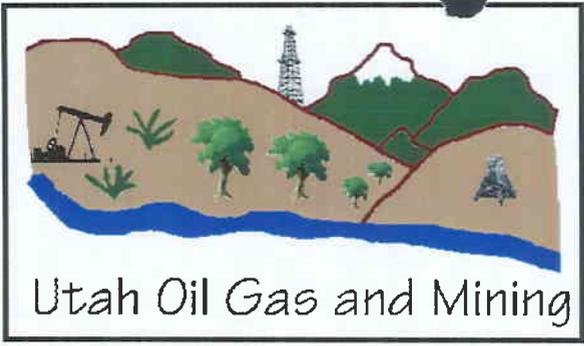
- R649-2-3. Unit \_\_\_\_\_
- R649-3-2. General  
Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- Drilling Unit  
Board Cause No: \_\_\_\_\_  
Eff Date: \_\_\_\_\_  
Siting: \_\_\_\_\_
- R649-3-11. Directional Drill

COMMENTS:

Need Presite. (8-6-2001)

STIPULATIONS:

statement of Basis



OPERATOR: PETROLEUM DEV CORP (N1865)  
 SEC. 32, T15.5S, R24E  
 FIELD: UNDESIGNATED (002)  
 COUNTY: GRAND SPACING: R649-3-2/GEN ST

<p>T15S R23E</p> <p>◇ FEE 1</p> <p>35</p>	<p>36</p>	<p>T15S R24E</p> <p><b>BLACK HORSE CANYON FIELD</b></p> <p>31</p> <p>BLACK HORSE CANYON FED 31-1 ●</p> <p>FEDERAL 31-13 ◇</p>
<p>T15.5S R24E</p> <p>31</p>	<p>32</p> <p>UTFEE 15.524-16-32 ⊕</p>	<p>T15.5S R24E</p> <p>33</p>
<p>T16S R24E</p> <p>6</p>	<p>5</p> <p>UTON 1 ⊕</p>	<p>T16S R24E</p> <p>4</p>

**Lisha Cordova - surface owner**

---

**From:** "Scott Hedlund" <s\_hedlund@vcn.com>  
**To:** "Lisha Cordova" <lcordova@state.ut.us>  
**Date:** 07/31/2001 2:19 PM  
**Subject:** surface owner

---

Lisha,

Petroleum Development Corporation (Pedco) has submitted an Application to Drill the UTFee 15.524-16-32 coalbed methane gas well. The well will be located in T15.5S, R24E Sec.32:SESE, Grand County, UT.

The surface owner is:  
Duwayne Johnson  
3276 South, 3690 West  
Salt Lake City, UT 84120  
801-968-4644

Please do not hesitate to call me at 307-682-4088 if you have any questions or require further information.

Scott Hedlund  
Compliance technician



**PETROLEUM DEVELOPMENT CORP.**

801 E. 4th, Ste. 23 • Gillette, WY 82716  
Office (307) 682-4088 • Fax (307) 682-2767



August 7, 2001

Brad Hill  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Ste. 1210  
Salt Lake City, UT 84114-5801

Re: Waste management plan, cut & fill diagram, access map for UTFee 15.524-16-32 well

Dear Brad:

Attached please find Waste Management Plan, cut & fill diagram and access map for Petroleum Development Corporation (Pedco) coalbed methane well to be located in T15 1/2S, R24E, Sec.32:SESE, Grand County, UT. Please note, the cut and fill diagram indicates a reserve pit size of 35' x 10' x 10' deep. The pit will actually be 35' x 15' x 10' deep.

If you have any questions or require further information do not hesitate to call me at 307-682-4088.

Sincerely,

Scott Hedlund  
Compliance technician

**RECEIVED**

AUG 13 2001

DIVISION OF  
OIL, GAS AND MINING

**DIVISION OF OIL, GAS AND MINING  
APPLICATION FOR PERMIT TO DRILL  
STATEMENT OF BASIS**

**Operator Name:** Petroleum Development Corporation

**Well Name & Number:** UTFee 15.524-16-32

**API Number:** 43-019-31388

**Location:** 1/4,1/4 SESE Sec. 32 T. 15 ½ S R. 24 E

**Geology/Ground Water:**

PDC has proposed setting 360 feet of surface casing at this location. The depth to the base of the moderately saline ground water is estimated to be at 3500 feet (near total depth for the proposed well). A search of Division of Water Rights records indicates that no water wells are located within a 10,000 foot radius of the center of Section 32. The surface formation at this location is the Green River Formation. The Green River Formation is made up of interbedded sandstones, limestones and shales. This is probably a recharge area for Green River Formation aquifers but the proposed surface casing should adequately protect any ground water.

**Reviewer:** Brad Hill

**Date:** 08/16/2001

**Surface:**

The pre-drill investigation of the surface was performed on 8/6/2001. The landowner (D. Johnson) was notified and was present for the investigation. The site appears to be the best spot for a location in the immediate area. The access road will be coming in from the NE along an old two track road leaving Seep Canyon Road on the ridge directly south of Hatch Cabin. A fresh water spring is located near the cabin which is ~1000' from the location. The gas production line will run above ground along the access road back to an existing gas line running parallel with Seep Canyon Rd.

**Reviewer:** Mark L. Jones

**Date:** 8/06/01

**Conditions of Approval/Application for Permit to Drill:**

**1) A properly installed and maintained, minimum 12-mil thickness, synthetic liner is required in the reserve pit.**

**ON-SITE PREDRILL EVALUATION**  
**Division of Oil, Gas and Mining**

**OPERATOR:** Petroleum Development Corporation

**WELL NAME & NUMBER:** UTFee 15.24-16-32

**API NUMBER:** 43-019-31388

**LEASE:** Fee **FIELD/UNIT:** UNDESIGNATED

**LOCATION:** 1/4, 1/4 SESE Sec: 32 TWP: 15½ S RNG: 24 E  
658 F S L 659 F E L

**LEGAL WELL SITING:** Statewide 400 foot window in center of 40  
acre tract and no closer than 920 feet from  
another well.

**GPS COORD (UTM):** 647562 E 4368340 N (Magellan GPS)

**SURFACE OWNER:** Duwayne Johnson

**PARTICIPANTS:**

Dennis Ingram and Mark Jones (DOGM), Duwayne Johnson  
(landowner), Glendon Merrell and Dee Bailey (PEDCO).

**REGIONAL/LOCAL SETTING & TOPOGRAPHY:**

The site sits on top of a ridge running NE to SW at the head of  
Main Canyon. Hatch cabin is NE of the site ~1000'. There is a  
fresh water spring near the cabin. The site is ~3/4 mile S of  
Seep Canyon Rd. and 1 mile N of the Bookcliff Divide Rd.

**SURFACE USE PLAN:**

**CURRENT SURFACE USE:** Grazing, wildlife habitat, recreation.

**PROPOSED SURFACE DISTURBANCE:** The operator proposes a 180' X  
200' pad and ~2640' of access road.

**LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS:** See GIS  
Data Base map.

**LOCATION OF PRODUCTION FACILITIES AND PIPELINES:** All  
equipment shall be on location with gas pipeline along  
access road east to existing pipeline.

**SOURCE OF CONSTRUCTION MATERIAL:** Native material.

**ANCILLARY FACILITIES:** N/A

**WASTE MANAGEMENT PLAN:**

Operator will submit to DOGM.

**ENVIRONMENTAL PARAMETERS:**

AFFECTED FLOODPLAINS AND/OR WETLANDS: None. There is a fresh water spring ~1000` to the NE of the location.

FLORA/FAUNA: Native grasses, sagebrush, pine, juniper, oak, elk, deer, rodents, various birds.

SOIL TYPE AND CHARACTERISTICS: Grey brown loamy clay

EROSION/SEDIMENTATION/STABILITY: No stability problems observed.

PALEONTOLOGICAL POTENTIAL: N/A

**RESERVE PIT:**

CHARACTERISTICS: Not provided for on-site. Operator will submit to DOGM.

LINER REQUIREMENTS (Site Ranking Form attached): 12 mil synthetic liner will be required.

**SURFACE RESTORATION/RECLAMATION PLAN:**

As per requests of landowner.

SURFACE AGREEMENT: Yes.

CULTURAL RESOURCES/ARCHAEOLOGY: None required or requested.

**OTHER OBSERVATIONS/COMMENTS:**

Access road had not been staked or flagged.  
Cut and fill sheet not provided by operator at time of pre-site  
Waste Management Plan also not provided during pre-site.

**ATTACHMENTS:**

Photo attachments.

Mark L. Jones  
DOGM REPRESENTATIVE

8/06/01 10:00 a.m.  
DATE/TIME

**Evaluation Ranking Criteria and Ranking Score  
For Reserve and On-site Pit Liner Requirements**

<u>Site-Specific Factors</u>	<u>Ranking</u>	<u>Site Ranking</u>
<b>Distance to Groundwater (feet)</b>		
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	
<25 or recharge area	20	<u>0</u>
<b>Distance to Surf. Water (feet)</b>		
>1000	0	
* 300 to 1000	2	
200 to 300	10	
100 to 200	15	
< 100	20	<u>10</u>
<b>Distance to Nearest Municipal Well (feet)</b>		
>5280	0	
1320 to 5280	5	
500 to 1320	10	
<500	15	<u>0</u>
<b>Distance to Other Wells (feet)</b>		
>1320	0	
300 to 1320	10	
<300	20	<u>0</u>
<b>Native Soil Type</b>		
Low permeability	0	
Mod. permeability	10	
High permeability	20	<u>10</u>
<b>Fluid Type</b>		
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	15	
TDS >10000 or Oil Base	20	
Mud Fluid containing high levels of hazardous constituents	<u>15</u>	
<b>Drill Cuttings</b>		
Normal Rock	0	
Salt or detrimental	10	<u>0</u>
<b>Annual Precipitation (inches)</b>		
<10	0	
10 to 20	5	
>20	10	<u>5</u>
<b>Affected Populations</b>		
<10	0	
10 to 30	6	
30 to 50	8	
>50	10	<u>0</u>
<b>Presence of Nearby Utility</b>		
<b>Conduits</b>		
Not Present	0	
Unknown	10	
Present	15	<u>0</u>
<b>Final Score</b>		<u>25</u>



Casing Schematic

Surface

Greenlaw

10-3/4"  
MW 8.5  
Frac 19.3

500'  
washout

1200'  
Tuscher

Magnolia  
1800'  
Farrer

2900'  
Nelson

7"  
MW 9.8

TOC @  
0.

TOC @  
0.

Surface  
360. MD

w/18" washout

w/8" washout

BOP

BHP  
 $(0.052)(9.8)(3600) = 1835 \text{ psi}$   
Anticipated = 1400 to 1800 psi

GSS  
 $(0.12)(3600) = 432 \text{ psi}$   
MASP = 1403 psi

3M BOP w/2M choke

Adequate DRO 8/21/01

Production  
3600. MD

Well name:	<b>08-01 Pet. Dev. Corp. UTFee 15.524-16-32</b>	
Operator:	<b>Petroleum Development Corporation</b>	
String type:	Surface	Project ID: 43-019-31388
Location:	Grand County	

**Design parameters:**

**Collapse**  
Mud weight: 8.500 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: 65 °F  
Bottom hole temperature: 70 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 200 ft

Cement top: 0 ft

**Burst**

Max anticipated surface pressure: 0 psi  
Internal gradient: 0.509 psi/ft  
Calculated BHP 183 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 air weight.  
Neutral point: 315 ft

Non-directional string.

**Re subsequent strings:**

Next setting depth: 3,600 ft  
Next mud weight: 9.800 ppg  
Next setting BHP: 1,833 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 500 ft  
Injection pressure 500 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	360	10.75	32.75	H-40	ST&C	360	360	10.067	22.9
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	159	840	5.28	183	1820	9.93	12	205	17.39 J

Prepared by: Dustin Doucet  
Utah Dept. of Natural Resources

Phone: 801-538-5281  
FAX: 801-359-3940

Date: August 21, 2001  
Salt Lake City, Utah

ENGINEERING STIPULATIONS: None  
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
Collapse is based on a vertical depth of 360 ft, a mud weight of 8.5 ppg. The casing is considered to be evacuated for collapse purposes.  
Burst strength is not adjusted for tension.

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

Well name: **08-01 Pet. Dev. Corp. UTFee 15.524-16-32**  
 Operator: **Petroleum Development Corporation**  
 String type: **Production** Project ID: **43-019-31388**  
 Location: **Grand County**

**Design parameters:**

**Collapse**  
 Mud weight: 9.800 ppg  
 Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**  
 Design factor 1.125

**Environment:**

H2S considered? No  
 Surface temperature: 65 °F  
 Bottom hole temperature: 115 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 368 ft

**Burst**

Max anticipated surface pressure: 0 psi  
 Internal gradient: 0.509 psi/ft  
 Calculated BHP 1,833 psi

**Burst:**

Design factor 1.00

Cement top: Surface

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)

Non-directional string.

Tension is based on air weight.  
 Neutral point: 3,069 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	3600	7	23.00	<u>WC-50</u>	LT&C	3600	3600	6.241	166.4
				<i>WC-50? given on APD Drilling plan</i>					
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	1833	<u>3110</u> 3110	1.70	1833	<u>4000</u> 3960	2.18	83	<u>287</u> 273	<u>3.47 J</u>

Prepared by: Dustin Doucet  
 Utah Dept. of Natural Resources

Phone: 801-538-5281  
 FAX: 801-359-3940

Date: August 21, 2001  
 Salt Lake City, Utah

ENGINEERING STIPULATIONS: None  
 Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
 Collapse is based on a vertical depth of 3600 ft, a mud weight of 9.8 ppg. The casing is considered to be evacuated for collapse purposes.  
 Burst strength is not adjusted for tension.

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



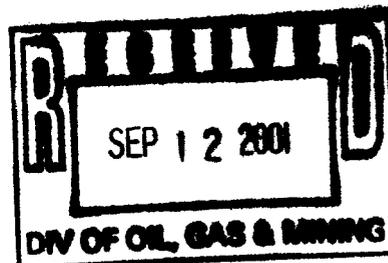
**PETROLEUM DEVELOPMENT CORP.**

801 E. 4th. Ste. 23 • Gillette, WY 82716  
Office (307) 682-4088 • Fax (307) 682-2767



September 12, 2001

Lisha Cordova  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Ste. 1210  
Salt Lake City, UT 84114



Re: Affidavit of Surface Use Agreement

Dear Lisha:

Petroleum Development Corporation of Utah (Pedco), has an application to drill the UT fee 15.524-16-32 submitted for approval. It is my understanding the only issue delaying the approval of this permit is proof a Surface Use Agreement exists between Pedco and the fee surface owners.

Pursuant to our telephone conversation the following is a copy of an Affidavit indicating a Surface Use Agreement has been entered into. A copy of the Affidavit will also go out in the mail to your office today.

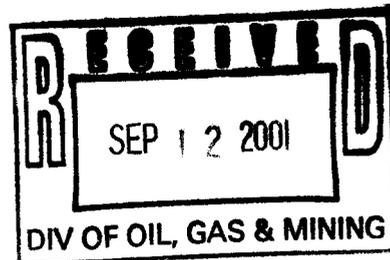
Your earliest attention to this matter will be greatly appreciated; it is my hope the APD can be approved within the next day or two.

Please call me at 307-682-4088 with any questions.

Sincerely,

Scott Hedlund  
Compliance technician

Post-it® Fax Note	7871	Date	9-12-01	# of pages	2
To	Lisha Cordova	From	Scott Hedlund		
Co./Dept.	UDOM	Co.	Pedco		
Phone #	801-555-5296	Phone #	307-682-4088		
Fax #	801-359-3940	Fax #	307-682-2767		



AFFIDAVIT

State of Wyoming }  
County of Campbell }ss

Ron R. Hedlund, whose address is , Gillette, WY 82716, being first duly sworn states:

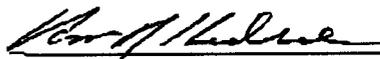
I am a Landman employed by Petroleum Development Corporation; and I am familiar with the ownership of the surface of the following described parcel of lands located in Grand County, Utah, to wit:

Township 15 1/2 South, Range 24 East, SLM  
Section 32:SE4

Township 16 South, Range 24 East, SLM  
Section 5:E2

I have knowledge of a Surface Land Use Agreement entered into between Petroleum Development Corporation, hereinafter referred to as "Operator" and D.T. Johnson Family Limited Partnership, and Richard P. Smoot Family L.L.C., hereinafter referred to as "Owners" of the above described lands which provides for surface use and settlement damages on behalf of Operator prior to entry upon said lands for the purpose of drilling, completing and operating the UTFee 15.524-16-32 at a legal location of 658' FSL & 659' FEL in SE1/4SE1/4 of Section 32, Township 15 1/2 South, Range 24 East, SLM.

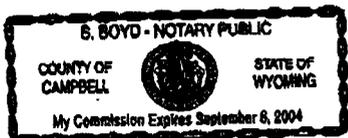
Said Surface Land Use Agreement was entered into September 10, 2001.

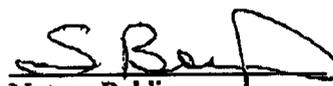
  
Ron R. Hedlund, Landman

BEFORE ME, the undersigned authority, on this day personally appeared Ron R. Hedlund, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 12<sup>th</sup> day of September, 2001.

My Commission Expires: 9-6-2004



  
Notary Public



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Kathleen Clarke  
Executive Director

Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

September 13, 2001

Petroleum Development Corporation  
801 East 4th St., Ste 23  
Gillette, WY 82716

Re: UTFee 15.524-16-32 Well, 658' FSL, 659' FEL, SE SE, Sec. 32, T. 15 1/2 South,  
R. 24 East, Grand County, Utah

Gentlemen:

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

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-019-31388.

Sincerely,

A handwritten signature in black ink, appearing to read "John R. Baza".

John R. Baza  
Associate Director

dm

Enclosures

cc: Grand County Assessor

Operator: Petroleum Development Corporation  
Well Name & Number UTFee 15.524-16-32  
API Number: 43-019-31388  
Lease: Fee

Location: SE SE                      Sec. 32                      T. 15 1/2 South                      R. 24 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 actions during drilling of this well:

- 24 hours prior to cementing or testing casing
- 24 hours prior to testing blowout prevention equipment
- 24 hours prior to spudding the well
- within 24 hours of any emergency changes made to the approved drilling program
- prior to commencing operations to plug and abandon the well

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

- Dan Jarvis at (801) 538-5338
- Carol Daniels at (801) 538-5284 (spud)

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 Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Kathleen Clarke  
Executive Director  
Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

UTAH DIVISION OF OIL, GAS AND MINING  
FACSIMILE COVER SHEET

DATE: 9/13/01  
FAX #: 307 682-2767  
ATTN: Scott Hedlund  
COMPANY: Petroleum Development  
DEPARTMENT: \_\_\_\_\_  
NUMBER OF PAGES: (INCLUDING THIS ONE) 7  
FROM: Earlene Russell <sup>801</sup> 538-5277

If you do not receive all of the pages, or if they are illegible, please call (801)538-5340.  
We are sending from a sharp facsimile machine. Our telecopier number is (801)359-3940.

MESSAGES:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Important: This message is intended for the use of the individual or entity of which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return this original message to us at the above address via regular postal service. Thank you.



**PETROLEUM DEVELOPMENT CORP.**

801 E. 4th, Ste. 23 • Gillette, WY 82716  
Office (307) 682-4088 • Fax (307) 682-2767



September 12, 2001

Lisha Cordova  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Ste. 1210  
Salt Lake City, UT 84114

**CONFIDENTIAL**

Re: Affidavit of Surface Use Agreement

Dear Lisha:

Petroleum Development Corporation of Utah (Pedco), has an application to drill the UTFee 15.524-16-32 submitted for approval. It is my understanding the only issue delaying the approval of this permit is proof a Surface Use Agreement exists between Pedco and the fee surface owners.

A copy of the enclosed Affidavit was faxed to you the morning of September 12, 2001 in an effort to get the APD approved. This copy is provided for your records.

Please call me at 307-682-4088 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Hedlund".

Scott Hedlund  
Compliance technician

**RECEIVED**

SEP 17 2001

DIVISION OF  
OIL, GAS AND MINING

AFFIDAVIT

State of Wyoming }  
County of Campbell }ss

Ron R. Hedlund, whose address is , Gillette, WY 82716, being first duly sworn states:

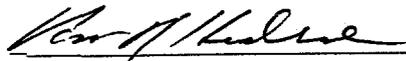
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Section 32:SE4

Township 16 South, Range 24 East, SLM  
Section 5:E2

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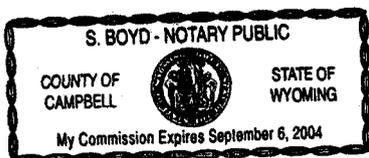
Said Surface Land Use Agreement was entered into September 10, 2001.

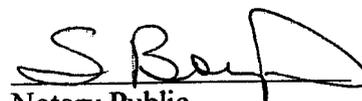
  
Ron R. Hedlund, Landman

BEFORE ME, the undersigned authority, on this day personally appeared Ron R. Hedlund, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 12<sup>th</sup> day of September, 2001.

My Commission Expires: 9-6-2004



  
Notary Public

SPUDDING INFORMATION

Name of Company: PETROLEUM DEVELOPMENT CORP

Well Name: UTFEE 15.524-16-32

Api No. 43-019-31388 LEASE TYPE: FEE

Section 32 Township 15.5S Range 24E County GRAND

Drilling Contractor PRECISION OILFIELD SERVICES INC RIG # 550

SPUDDED:

Date 09/18/2001

Time 11:30 AM

How ROTARY

Drilling will commence \_\_\_\_\_

Reported by GARY CONDER

Telephone # 1-307-389-7334

Date 09/20/2001 Signed: CHD

ENTITY ACTION FORM

Operator: Petroleum Development Corp. of Utah

Operator Account Number: N 1865

Address: 801 E. 4th St., Ste. 23

city Gillette,

state WY zip 82716

Phone Number: 307-682-4088

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
43-019-31388	UTFee 15.524-16-32		SESE	32	15 1/2S	24E	Grand
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	13298	September 17, 2001		9-26-01		
Comments:							

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)

Scott Hedlund  
Name (Please Print)

[Signature]  
Signature

Compliance technician Title      9-19-01 Date

(5/2000)

RECEIVED

SEP 26 2001

DIVISION OF  
OIL, GAS AND MINING

### JOB SUMMARY

JOB NUMBER: 1571815		JOB DATE: 10/10/01	
REGION: NORTH AMERICA / LAND		STATE: UTAH	
COUNTY: GRAND		LOCALITY: GRAND	
ADDRESS: 189804		EMPLOYEE NAME: KEN TRIPP JR.	
LOCATION: VERNAL		COMPANY: PEDCO	
WELL TYPE: 02-Gas		OPERATOR: GARY CONDER	
WELL ID: BEEP RIDGE		DEPARTMENT: CEMENT	
WELL DEPTH: 10		DESCRIPTION: PLUG TO ABANDON	
JOB NAME: UTC FEE 15.5-24-10-02		SEC TYPE / RING: SEC-32 / TWP-1512S / RNG24E	

U.S. EMP NAME / EMP # / (EXPOSURE HOURS)	HRS	HRS	HRS
Kenneth Tripp Jr. 189804	40.0		
Kavin Friabe 174902	40.0		
Lon Brinkhoff 220731	40.0		

U.S. INSTR # / (FT MILES)	R/T	R/T MILES	R/T MILES	R/T MILES
422103	193			
4853-76773	160			
4420	380			

Form Name	Type	From	To	Date	Called Out	On Location	Job Started	Job Completed
Form Thickness				10/10/01	10/10/01	10/10/01	10/10/01	10/12/01
Pecker Type	Set At			Time	1700	2130	2330	1454
Bottom Hole Temp	Pressure							
Retainer Depth	Total Depth							

Type and Size	Qty	Make	New/Used	Weight	Size	Gmcs	From	To	Max. Allow.
Float Collar			NEW						
Float Shoes									
Controlizers									
Bottom Plug									
Top Plug									
PDP Collar									
PDP Shoe			USED	18.5	4"		0	3,806	
Ball - Rubber -									Shots/ft
DV Tool									
LEAD CLAMP									
Plug Set									

Mud Type	Density	Lb/Gal	Date	Hours	Sp. Gr.	Hours
Disp. Fluid			10/10/01	2.5		1.0
Prop. Type			10/11/01	24.0		10.0
Prop. Type			10/12/01	18.0		8.0
Acid Type						
Acid Type						
Surfactant						
NE Agent						
Fluid Loss						
Gelling Agent						
Fric. Red.						
Breaker						
Blocking Agent						
Perpac Balls						
Other						
Other						
Other						
Other						

Ordered	Used
Treating	Overall
Reason	SHOE JOINT

Stage	Sacks	Cement	Bulk/Skg	NEAT CEMENT	Additives	WTRG.	Yield	Lbs/Gal
1	300	PREM AG-300	8KG	NEAT CEMENT		6.00	1.16	18.5

Circulating	Displacement	Pretitah:	Gal - BBI	Type:	FRESH-MUD
Breakdown	Maximum	Load & bkdn:	Gal - BBI	Pad: Bbl -Gal	
Lost Returns-YES	Lost Returns-NO	Excess /ReturnGa	BBI	Calc. Disp Bbl	
Om. RtnWBbl	Actual TOC	Calc. TOC:	Gal - BBI	Actual Disp	
Average	Frac. Gradient	Treatment	Gal - BBI	Disp: Bbl-Gal	
Shut In: Instant	15 Min. 30 Min.	Cement Slurry:	Gal - BBI	#VALU!	
		Total Volume	Gal - BBI		

THE INFORMATION STATED HEREIN IS CORRECT  
CUSTOMER REPRESENTATIVE: GARY CONDER

Halliburton		Job Log				TICKET #	TICKET DATE
REGION NORTH AMERICA LAND		NWA / COUNTRY WESTERN				BOA / STATE UTAH	COUNTY UINTAH
WELL ID / EMP. # 189804		H.E. # EMPLOYEE NAME KEN TRIPP JR				PBL DEPARTMENT CEMENT	
LOCATION VERNAL		COMPANY PEDCO				CUSTOMER REF / PHONE GARY CONDER	
WELL TYPE 02-Gas		DEPARTMENT ZONAL ISOLATION				JOB PURPOSE CODE PLUG TO ABANDON	
WELL LOCATION SEEP RIDGE		SEC 23 / TWP. 151/2S / RNG 24E					
LEASE/WELL # UTC FEE 18.6 24 16 22		WELL NO. 24 16 22					
37174	1700					CALL OUT TIME	
10/10/01	2130					ON LOCATION	
	2300					SAFETY MEETING W / CREW	
						1ST PLUG 3500.54'	
	2330	4.0	20.0		185	START FRESH	
	2336	3.8	7.3		320	START CEMENT @ 15.6#	
	2339	3.5	2.7		140	START FRESH	
	2340	3.6	30.0		150	START DISPLACEMENT	
	2344					END	
						2ND PLUG 2922.70'	
	0038	4.0	20.0		210	START FRESH	
	0042	4.0	8.1		300	START CEMENT @ 15.6# 2%CAL.CL2	
	0044	2.5	2.7		50	START FRESH	
	0045	4.0	23.0		210	START DISPLACEMENT	
	0049					END	
						2ND PLUG 2922.70'	
	0650	4.0	20.0		80	START FRESH	
	0655	3.0	8.1		120	START CEMENT @ 15.6# 2%CAL.CL2	
	0657	3.0	2.7		30	START FRESH	
	0658	4.0	23.0		40	START DISPLACEMENT	
	0703					END	
						3RD PLUG 1876.90'	
	1537	4.0	20.0		150	START FRESH	
	1543	4.0	8.1		177	START CEMENT @ 15.6#	
	1545	2.0	2.7		25	START FRESH	
	1548	2.6	13.0		30	START DISPLACEMENT	
	1549					END	
						4TH PLUG 1130'	
	1739	4.0	20.0		50	START FRESH	
	1744	4.0	7.3		55	START CEMENT @ 15.6#	
	1746	4.0	2.7		20	START FRESH	
	1747	3.0	5.0		10	START DISPLACEMENT	
	1748					END	





State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Tod Stewart  
Executive Director  
Lowell P. Branton  
Division Director

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-636-7223 (TDD)

UTAH DIVISION OF OIL, GAS AND MINING  
FACSIMILE COVER SHEET

DATE: 10/10/2001

FAX#: (307) 682-2767

ATTN: Scott Hedlund

COMPANY: PEDCO

DEPARTMENT: \_\_\_\_\_

NUMBER OF PAGES:(INCLUDING THIS ONE) 5

From: DUSTIN DOUCET

If you do not receive all of the pages, or if they are illegible, please call (801)538-5340.  
We are sending from a sharp facsimile machine. Our telecopier number is (801)359-3840.

MESSAGES:

Scott,

Here is the copy of the approval for the UT Fee 15-524-16-32

well.

Important: This message is intended for the use of the individual or entity of which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return this original message to us at the above address via regular postal service. Thank you.



**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Kathleen Clarke  
Executive Director

Lewell P. Braxton  
Division Director

1504 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-389-3940 (Fax)

801-538-7229 (TDD)

**CONDITIONS OF APPROVAL  
TO PLUG AND ABANDON WELL**

Well Name and Number: UTFee 15.524-16-32  
API Number: 43-019-31388  
Operator: Petroleum Development Corporation of Utah  
Reference Document: Original Sundry Notice dated October 9, 2001, Fax received by DOGM on October 10, 2001

Approval Conditions:

1. Notify the Division at least 24 hours prior to conducting abandonment operations. Please call Dan Jarvis at 801-538-5338.
2. The surface plug shall be from 50' to surface (approx. 25 sks).
3. Plugs #2, #3, and #5 shall be tagged to ensure the plugs are at the depths specified in proposal.
4. All annuli shall be cemented from a depth of 50' to the surface.
5. Reclaim surface per landowners specifications or surface use agreement.
6. All other requirements in the Oil and Gas Conservation General Rule R649-3-24 shall apply.
7. If there are any changes to the plugging procedure or wellbore configuration, notify Dustin Doucet at 801-538-5281 prior to continuing with the procedure.
8. All other requirements for notice and reporting in the Oil and Gas Conservation General Rules shall apply.

  
Dustin K. Doucet  
Petroleum Engineer

October 10, 2001

Date

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 permits—hole depth, monitor plugged wells, or to drill horizontal intervals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL  CBM/GAS WELL  OTHER \_\_\_\_\_

2. NAME OF OPERATOR: Petroleum Development Corporation of Utah

3. ADDRESS OF OPERATOR: 901 E. 4th St. CITY Gillette STATE WY ZIP 82716 PHONE NUMBER: 307-682-4088

4. LOCATION OF WELL: FOOTAGES AT SURFACE: 658' FSL & 659' FEL COUNTY: Grand  
 QUAD/CR. SECTION, TOWNSHIP, RANGE, MERIDIAN: SESE Sec.32, T151/2S, R24E STATE: Utah UTAH

5. LEASE DESIGNATION AND SERIAL NUMBER: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: \_\_\_\_\_

7. UNIT or CO. AGREEMENT NAME: \_\_\_\_\_

8. WELL NAME and NUMBER: UT Fee 15.524-16-32

9. API NUMBER: 43-019-31388

10. FIELD AND POOL, OR WILDCAT: wildcat

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: _____	<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"/> 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 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 casing, depths, volumes, etc.

See attached procedures

RECEIVED

OCT 10 2001

DIVISION OF  
OIL, GAS AND MINING

NAME (PLEASE PRINT): Scott Redlund TITLE: Compliance technician

SIGNATURE: [Signature] DATE: October 9, 2001

(This space for State Use only)

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

DATE: 10/10/2001

BY: [Signature]

SEE CONDITIONS OF APPROVAL

(02000)

**Petroleum Development Corporation  
Plug and Abandonment Procedure  
UTFee 15.524-16-32**

**Well information:****Estimated date to start work** - Upon approval**API#** 43-019-31388**Well Name** UTFee 15.524-16-32**Field** - Wildcat**Ord-Ord** - SESE Sec.32 T15 1/2S, R24E**Footages** - 658' FSL & 659' FEL**ID** - 3600' 3 7/8" Hole per Sect Method and 10/10/01**Surface pipe** - 10 1/2" - 32.75# - MC-50 set @ 355' GL 13 5" Hole per Sect Method**Reason for P&A**

Noncommercial

**Formation Data**

Green River Formation - surface

Wasatch Formation - 710'

Mesaverde Formation - 1768'

Neslen Formation - 2820'

Sego SS - 3404'

**P&A procedure**

1. Rig up and set plug #1 from 3504' - 3404'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
2. Trip up to 2920' and set plug #2 from 2920' - 2820'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
3. Trip up to 1868' and set plug #3 from 1868' to 1768'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
4. Trip up to 810' and set plug #4 from 810' - 710'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
5. Trip up to 405' and set plug #5 from 405' - 305'.  
34sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk  
This plug will be 50' outside surface casing and 50' inside surface casing
6. Trip up to 50' and set plug #6 from 50' to surface.  
16sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk

Cut off surface pipe 3' below ground level and install dry hole marker.

10/10/2001

**Wellbore Diagram**

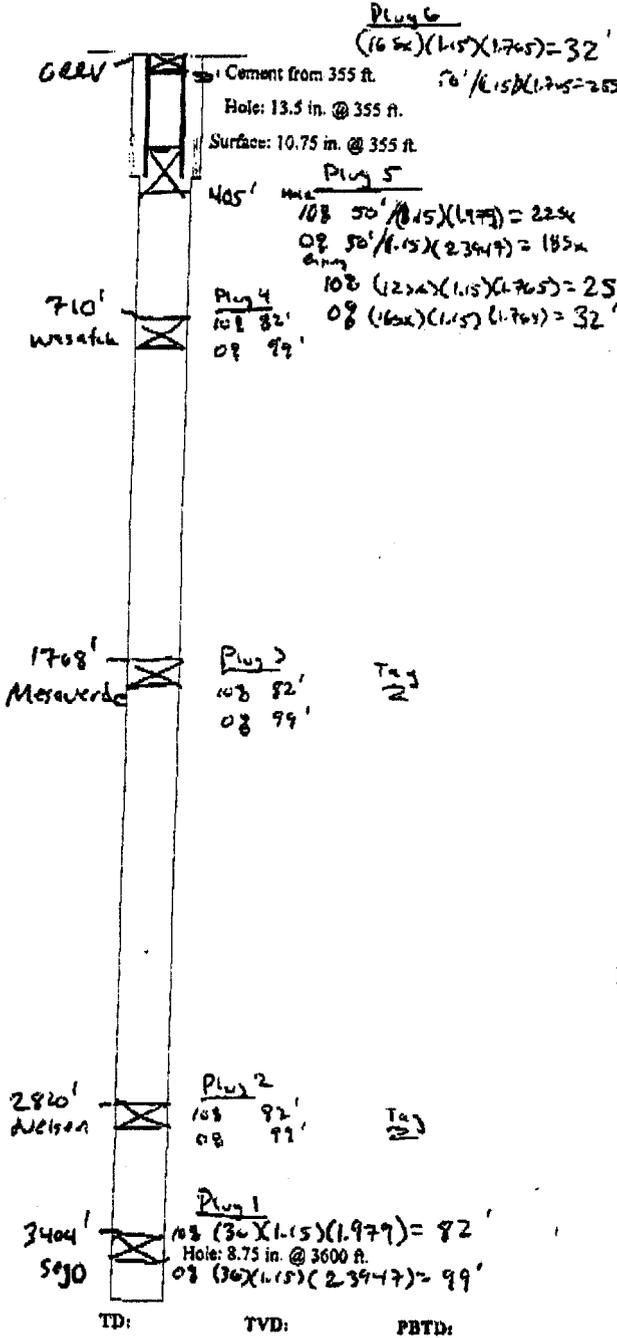
r263

API Well No: 43-019-31388-00-00 Permit No:  
 Company Name: PETROLEUM DVLPMT CORP  
 Location: Sec: 32 T: 15S R: 24E Spot: SESE  
 Coordinates: X: 647553 Y: 4368320  
 Field Name: UNDESIGNATED  
 County Name: GRAND

Well Name/No: UTFEE 15.524-16-32

**String Information**

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)
HOL1	355	13.5		
SURF	355	10.75	32.7	355
HOL2	3600	8.75		



8.75" Hole Capacity  
 $\frac{(1 - (1.15)^2)}{183.33} = 0.5053 \text{ 1/cf} = 1.979$   
 $08 = 0.4176 \text{ 1/cf} = 2.3947 \text{ 1/cf}$   
 $32.75 \text{ 10.75"} \text{ Surface Casing Capacity} = 0.5645 \text{ 1/cf} = 1.765 \text{ 1/cf}$

**Cement Information**

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
SURF	355			

**Perforation Information**

**Formation Information**

Formation	Depth	Formation	Depth
GRRV	0		
WSTC	710		
MVRD	1768		
MVDCL	2820		
SEGO	3404		

**PEDCO**  
801 E. 4<sup>th</sup> St., Ste. 23  
Gillette, WY 82716

CONFIDENTIAL

**Phone: (307) 682-4088**

**Fax: (307) 682-2767**

**Date: October 10, 2001**  
**Fax To: Dustin Doucet, UDOGM**  
**From: Scott Hedlund**

**No. of pages including cover: 3**

**Re: verbal approval to plug UTFee 15.524-16-32 coalbed methane exploratory well**

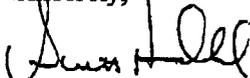
**Dear Dustin:**

Petroleum Development Corporation of Utah has drilled the UTFee 15.524-16-32 coalbed methane well and determined it to be noncommercial. We are seeking verbal approval to plug and abandon the well.

The following 2 pages are a copy of the Sundry Notice with procedures to plug and abandon the well. Please review and if it meets with your approval extend to us verbal approval to begin plugging procedures. The Sundry Notice will be mailed to your office in duplicate.

Thank you for your consideration in this matter.

Sincerely,

  
Scott Hedlund

**RECEIVED**

OCT 10 2001

DIVISION OF  
OIL, GAS AND MINING

**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: <b>Fee</b>
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME:
8. WELL NAME and NUMBER: <b>UTFee 15.524-16-32</b>
9. API NUMBER: <b>43-019-31388</b>
10. FIELD AND POOL, OR WILDCAT: <b>wildcat</b>

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

1. TYPE OF WELL    **OIL WELL**  **CBMGAS WELL**  **OTHER** \_\_\_\_\_

2. NAME OF OPERATOR:  
**Petroleum Development Corporation of Utah**

3. ADDRESS OF OPERATOR:    **801 E. 4th St.    City Gillette    STATE WY    ZIP 82716**    PHONE NUMBER: **307-682-4088**

4. LOCATION OF WELL

FOOTAGES AT SURFACE:    **658' FSL & 659' FEL**    COUNTY: **Grand**

QTR/QR, SECTION, TOWNSHIP, RANGE, MERIDIAN:    **SESE Sec.32, T151/2S, R24E**    STATE: **Utah    UTAH**

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

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

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

See attached procedures

**RECEIVED**  
**OCT 10 2001**  
**DIVISION OF**  
**OIL, GAS AND MINING**

NAME (PLEASE PRINT) Scott Redlund    TITLE Compliance technician

SIGNATURE *Scott Redlund*    DATE October 9, 2001

(This space for State use only)

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING  
(See Instructions on Reverse Side)

DATE: 10/10/2001  
BY: *Scott Redlund*  
SEE CONDITIONS OF APPROVAL

COPY SENT TO OPERATOR  
DATE: 10-10-01  
BY: CTD

**Petroleum Development Corporation  
Plug and Abandonment Procedure  
UTFee 15.524-16-32**

**Well information:**Estimated date to start work - Upon approvalAPI# 43-019-31388Well Name UTFee 15.524-16-32Field - WildcatQtr-Qtr - SESE Sec.32 T15 1/2S, R24EFootages - 658' FSL & 659' FELID - 3600' 8 7/4" Hole per Scott Hedlund 10/10/01Surface pipe - 10 3/4" - 32.75# - MC-50 set @ 355' GL 13.5" Hole per Scott HedlundReason for P&A

Noncommercial

**Formation Data**

Green River Formation - surface

Wasatch Formation - 710'

Mesaverde Formation - 1768'

Neslen Formation - 2820'

Sego SS - 3404'

**P&A procedure**

1. Rig up and set plug #1 from 3504' - 3404'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
2. Trip up to 2920' and set plug #2 from 2920' - 2820'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
3. Trip up to 1868' and set plug #3 from 1868' to 1768'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
4. Trip up to 810' and set plug #4 from 810' - 710'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
5. Trip up to 405' and set plug #5 from 405' - 305'.  
34sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk  
This plug will be 50' outside surface casing and 50' inside surface casing
6. Trip up to 50' and set plug #6 from 50' to surface.  
16sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk

Cut off surface pipe 3' below ground level and install dry hole marker.



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Kathleen Clarke  
Executive Director  
Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

***CONDITIONS OF APPROVAL  
TO PLUG AND ABANDON WELL***

Well Name and Number: UTFee 15.524-16-32  
API Number: 43-019-31388  
Operator: Petroleum Development Corporation of Utah  
Reference Document: Original Sundry Notice dated October 9, 2001, Fax received by DOGM on October 10, 2001

Approval Conditions:

1. Notify the Division at least 24 hours prior to conducting abandonment operations. Please call Dan Jarvis at 801-538-5338.
2. The surface plug shall be from 50' to surface (approx. 25 sks).
3. Plugs #2, #3, and #5 shall be tagged to ensure the plugs are at the depths specified in proposal.
4. All annuli shall be cemented from a depth of 50' to the surface.
5. Reclaim surface per landowners specifications or surface use agreement.
6. All other requirements in the Oil and Gas Conservation General Rule R649-3-24 shall apply.
7. If there are any changes to the plugging procedure or wellbore configuration, notify Dustin Doucet at 801-538-5281 prior to continuing with the procedure.
8. All other requirements for notice and reporting in the Oil and Gas Conservation General Rules shall apply.

Dustin K. Doucet  
Petroleum Engineer

October 10, 2001

Date

# Wellbore Diagram

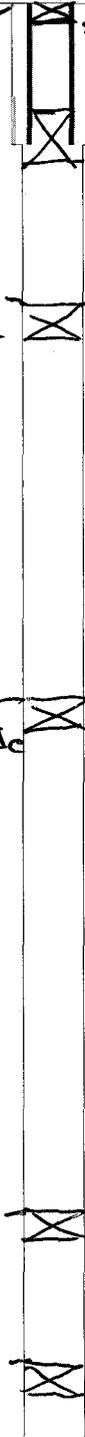
API Well No: 43-019-31388-00-00 Permit No:  
 Company Name: PETROLEUM DVLPM T CORP  
 Location: Sec: 32 T: 15S R: 24E Spot: SESE  
 Coordinates: X: 647553 Y: 4368320  
 Field Name: UNDESIGNATED  
 County Name: GRAND

Well Name/No: UTFEE 15.524-16-32

### String Information

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)
HOL1	355	13.5		
SURF	355	10.75	32.7	355
HOL2	3600	8.75		

GRRV



Cement from 355 ft.  
 Hole: 13.5 in. @ 355 ft.  
 Surface: 10.75 in. @ 355 ft.

Plug 6

$(16 \text{ sk})(1.15)(1.765) = 32'$  8-3/4" Hole Capacity

$50' / (1.15)(1.765) = 25 \times 10 \text{ g} \frac{(1.1)(8.75)^2}{183.35} = 0.5053 \text{ f/cf} = 1.979$

$0.8 = 0.4176 \text{ cf/f} = 2.3947 \text{ f/cf}$

$32.75 \times 10 \text{ 3/4" Surface Casing Capacity} = 0.5645 \text{ cf/f} = 1.765 \text{ f/cf}$

Plug 5

405' Hole  
 $10 \text{ g } 50' / (1.15)(1.979) = 22 \text{ sk}$   
 $0.8 \text{ g } 50' / (1.15)(2.3947) = 18 \text{ sk}$

Tag

Plug 4

710' Wesatch  
 $10 \text{ g } (22 \text{ sk})(1.15)(1.765) = 25'$   
 $0.8 \text{ g } (16 \text{ sk})(1.15)(1.765) = 32'$

### Cement Information

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
SURF	355			

### Perforation Information

### Formation Information

Formation	Depth	Formation	Depth
GRRV	0		
WSTC	710		
MVRD	1768		
MVDCL	2820		
SEGO	3404		

Plug 3

1768' Mesaverde  
 $10 \text{ g } 82'$   
 $0.8 \text{ g } 99'$

Tag

Plug 2

2820' Nelson  
 $10 \text{ g } 92'$   
 $0.8 \text{ g } 99'$

Tag

Plug 1

3404' Sejo  
 $10 \text{ g } (36)(1.15)(1.979) = 82'$   
 Hole: 8.75 in. @ 3600 ft.  
 $0.8 \text{ g } (36)(1.15)(2.3947) = 99'$

TD: TVD: PBTD:



# PETROLEUM DEVELOPMENT CORP.

801 E. 4th, Ste. 23 • Gillette, WY 82716  
Office (307) 682-4088 • Fax (307) 682-2767



October 10, 2001

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

Re: Sundry Notice – Intent to Abandon UTFee 15.524-16-32

Dear Dustin:

Attached please find, in triplicate, Sundry Notice of Intent to Plug and Abandon the UTFee 15.524-16-32 coalbed methane well. A copy of this Sundry was faxed to you the morning of October 10<sup>th</sup> and was granted approval with conditions attached (copy enclosed).

Please call me at 307-682-4088 if you have any questions or require further information.

Sincerely,

Scott Hedlund  
Compliance technician

**RECEIVED**

OCT 17 2001

DIVISION OF  
OIL, GAS AND MINING

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"/> CBMGAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER Fee
2. NAME OF OPERATOR: Petroleum Development Corporation of Utah		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 801 E. 4th St. CITY Gillette STATE WY ZIP 82716		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL		8. WELL NAME and NUMBER: UTFee 15.524-16-32
FOOTAGES AT SURFACE: 658' FSL & 659' FEL		9. API NUMBER: 43-019-31388
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESE Sec. 32, T151/2S, R24E		10. FIELD AND POOL, OR WILDCAT: wildcat
		COUNTY: Grand
		STATE: Utah 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: _____  <input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<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"/> 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.

See attached procedures

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DIVISION OF  
OIL, GAS AND MINING

NAME (PLEASE PRINT) <u>Scott Hedlund</u>	TITLE <u>Compliance technician</u>
SIGNATURE <u>[Signature]</u>	DATE <u>October 9, 2001</u>

(This space for State use only)

File  
Fax Copy Approved with Conditions 10/10/2001 DRD

CONFIDENTIAL  
PROPERTY OF PETROLEUM DEVELOPMENT CORPORATION

**Petroleum Development Corporation  
Plug and Abandonment Procedure  
UTFee 15.524-16-32**

**Well information:**

Estimated date to start work – Upon approval

API# 43-019-31388

Well Name UTFee 15.524-16-32

Field – Wildcat

Qrt-Qtr – SESE Sec.32 T15 1/2S, R24E

Footages – 658' FSL & 659' FEL

TD – 3600'

Surface pipe – 10 3/4" – 32.75# - MC-50 set @ 355' GL

Reason for P&A

Noncommercial

**Formation Data**

Green River Formation - surface

Wasatch Formation – 710'

Mesaverde Formation – 1768'

Neslen Formation – 2820'

Sego SS – 3404'

**P&A procedure**

1. Rig up and set plug #1 from 3504' - 3404'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
2. Trip up to 2920' and set plug #2 from 2920' – 2820'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
3. Trip up to 1868' and set plug #3 from 1868' to 1768'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
4. Trip up to 810' and set plug #4 from 810' – 710'.  
36sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk
5. Trip up to 405' and set plug #5 from 405' – 305'.  
34sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk  
This plug will be 50' outside surface casing and 50' inside surface casing
6. Trip up to 50' and set plug #6 from 50' to surface.  
16sx Class "G" Neat 15.6ppg @ 1.15ft<sup>3</sup>/sk

Cut off surface pipe 3' below ground level and install dry hole marker.



# PETROLEUM DEVELOPMENT CORP.

801 E. 4th, Ste. 23 • Gillette, WY 82716  
Office (307) 682-4088 • Fax (307) 682-2767



October 30, 2001

CONFIDENTIAL

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

Re: Sundry Notice – Subsequent Report of Abandonment UTFee 15.524-16-32

Dear Dustin:

Attached please find Sundry Notice – Subsequent Report of Abandonment for the UTFee 15.524-16-32 coalbed methane well. Included with the SRA are copies of the job summary and job log.

Please call me at 307-682-4088 if you have any questions or require further information.

Sincerely,

Scott Hedlund  
Compliance technician

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DIVISION OF  
OIL, GAS AND MINING

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.

5. LEASE DESIGNATION AND SERIAL NUMBER:  
Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

8. WELL NAME and NUMBER:  
UTFee 15.524-16-32

9. API NUMBER:  
43-019-31388

10. FIELD AND POOL, OR WILDCAT:  
Wildcat

1. TYPE OF WELL: OIL WELL  CBM GAS WELL  OTHER \_\_\_\_\_

2. NAME OF OPERATOR:  
Petroleum Development Corporation of Utah

3. ADDRESS OF OPERATOR: 801 E. 4th St., Ste 23 Gillette STATE WY ZIP 82716 PHONE NUMBER: 307-682-4088

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 658' FSL & 659' FEL COUNTY: Grand

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Sec.32:SESE, T 15 1/2S, R24E 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: 10-10-01	<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.

The plugging procedures were performed October 10, 2001.

Plugs were placed at the following depths:

- 1) 3509.54'
- 2) 2922.70'
- 3) 1876.90'
- 4) 830'
- 5) 399'
- 6) 61'

Dennis Ingram was on-site during the plugging procedures.

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NOV 13 2001

DIVISION OF  
OIL, GAS AND MINING

NAME (PLEASE PRINT) Scott Hedlund TITLE Compliance technician

SIGNATURE [Signature] DATE October 26, 2001

(This space for State use only)



**CEMENT JOB REPORT**

CUSTOMER PEDBOC		DATE 20-SEP-01	F.R. # 281710216	SERV. SUPV. Timothy Bonnet							
LEASE & WELL NAME LI Fee 24-16-32 - API 43019313880000		LOCATION Sec 92 T16 R-24E		COUNTY-PARISH-BLOCK Grand Utah							
DISTRICT Vernal		DRILLING CONTRACTOR RIG # Fleak Coll Tech 550		TYPE OF JOB Surface							
SIZE & TYPE OF PLUGS Cement Plug, Rubber, Top 10-3/4 in		LIBY-C&G-HARDWARE Guide Shoe, Cement Nose, 10-3/4 in Insert Float, APD, LTC, 10-3/4 - 8rd		PHYSICAL SLURRY PROPERTIES							
		SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT <sup>3</sup>	WATER GPM	PUMP TIME HR:MIN	BSI SLURRY				
							BSI MIX WATER				
MATERIALS FURNISHED BY BJ											
H2O			8.3				10				
Prem-I Cmt+2%CACL2+.25% wk Calcio-Fluka		200	14.6	1.41	6.64	02:30	60				
H2O			6.34				31.7				
Available Mix Water 200 Bbl.		Available Displ. Fluid 200 Bbl.		TOTAL			91.7				
32.43											
HOLE				T&G-C&G-D.P.				COLLAR DEPTHS			
SIZE	EXCESS	DEPTH	SIZE	WGT.	TYPE	DEPTH	GRADE	SIZE	DEPTH	STAGE	
13.5		362	10.75	32.75	C&G	357	K-55	357	314.1	0	
LAST CASING			PKR-CMT RET-DR PL-LINER			PERF. DEPTH		TOP CONN		WELL FLUID	
SIZE	WGT	TYPE	DEPTH	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.
				No Packer	0	0	0	10.75	5 RD	WATER BASED MUD	9.1
DISPL. VOLUME		DISPL. FLUID		CAL. PSI		CAL. MAX PSI		OP. MAX		MAX TRG PSI	
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SHL PSI	RATED	Operator	RATED	Operator	MIX WATER SOURCE
31.7	BBLs	H2O	6.34	10'	0	0	0	0	1820	1485	RIG
EXPLANATION: TROUBLE SETTING TOOL, RUNNING C&G, ETC. PRIOR TO CEMENTING: <span style="float:right">N/A</span>											
PRESSURE/RATE DETAIL						EXPLANATION					
TIME HR:MIN	PRESSURE - PSI		RATE BPM	DISP. FLUID PUMPED	FLUID TYPE	SAFETY MESSING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>					
	PIPE	ANNULUS				TEST LINES: 2000 PSI					
						CIRCULATING WELL - RIG <input checked="" type="checkbox"/> BJ <input type="checkbox"/>					
07:51	2000	0	.5	1	H2O	PRESSURE TEST PUMP @ LINES					
07:53	83	0	3.5			START H2O SPACER					
07:55	50	0	3.5	10	H2O	END H2O SPACER					
07:58	85	0	3			START CMT SLURRY 14.5#					
08:12	135	0	3	50	CMT	END CMT SLURRY 14.5					
08:12	0	0	0	0		SHUT DOWN @ DROP PLUG					
08:14	60	0	4		H2O	START DISPLACEMENT					
08:17	85	0	3.5	10	H2O	CMT TO PIT 21.5 21.5 BBLs CMT TO PIT					
08:25	119	0	3.5	31.5	H2O	DISP. 31.7 BBLs SHUT DOWN @ SHUT IN 125 PSI LEFT ON CSG					
						THANK YOU TIM @ CREW					
						THANK YOU TIM @ CREW					
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL. CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERV. SUPV.				
Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>	21.5	62.7	125	Y <input type="checkbox"/> N <input type="checkbox"/>					



# PETROLEUM DEVELOPMENT CORP.

801 E. 4th, Ste. 23 • Gillette, WY 82716  
Office (307) 682-4088 • Fax (307) 682-2767



November 15, 2001

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

Re: Completion report UTFee 15.524-16-32

Dear Dustin:

Attached please find, in triplicate, completion report for the UTFee 15.524-16-32 coal bed methane gas well. This well was plugged and abandoned in September, 2001. The completion report includes copies of the NIA and SRA. A copy of the well logs are also included.

We wish to keep this information confidential.

Please call me at 307-682-4088 if you have any questions or require further information.

Sincerely,

Scott Hedlund  
Compliance technician

**RECEIVED**

NOV 19 2001

DIVISION OF  
OIL, GAS AND MINING

CONFIDENTIAL

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

AMENDED REPORT  FORM 8  
(highlight changes)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  OTHER \_\_\_\_\_

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

2. NAME OF OPERATOR: **Petroleum Development Corporation of Utah**

3. ADDRESS OF OPERATOR: **801 E. 4th** CITY **Gillette** STATE **WY** ZIP **82716** PHONE NUMBER: **307-682-4088**

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: **658' FSL & 659' FEL**  
AT TOP PRODUCING INTERVAL REPORTED BELOW: \_\_\_\_\_  
AT TOTAL DEPTH: **same**

5. LEASE DESIGNATION AND SERIAL NUMBER: **Fee**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: \_\_\_\_\_

7. UNIT or CA AGREEMENT NAME: \_\_\_\_\_

8. WELL NAME and NUMBER: **UTFee 15.524-16-32**

9. API NUMBER: **43-019-31388**

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

11. QTR/QR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SESE 32 T15 1/2S, R24E**

12. COUNTY: **Grand** 13. STATE: **UTAH**

14. DATE SPUDDED: **9/18/01** 15. DATE T.D. REACHED: **10/8/01** 16. DATE COMPLETED: **10/10/01** ABANDONED  READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL): **8234GR**

18. TOTAL DEPTH: MD **3600'** TVD **3600'** 19. PLUG BACK T.D.: MD **3600'** TVD **3600'** 20. IF MULTIPLE COMPLETIONS, HOW MANY? \* \_\_\_\_\_ 21. DEPTH BRIDGE PLUG SET: MD \_\_\_\_\_ TVD \_\_\_\_\_

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)  
**Array Induction - 11-19-01**  
**Compensated Neutron - 11-19-01**

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
13 1/2"	10.75"	32.75#	0	355'		200 sks		surface	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A)								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

29. ENCLOSED ATTACHMENTS:  ELECTRICAL/MECHANICAL LOGS  GEOLOGIC REPORT  DST REPORT  DIRECTIONAL SURVEY  SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION  CORE ANALYSIS  OTHER: **cement job report**

30. WELL STATUS: **P&A**

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DIVISION OF  
OIL, GAS AND MINING

**31. INITIAL PRODUCTION**

**INTERVAL A (As shown in item #26)**

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

**INTERVAL B (As shown in item #26)**

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

**INTERVAL C (As shown in item #26)**

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

**INTERVAL D (As shown in item #26)**

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

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

**33. SUMMARY OF POROUS ZONES (Include Aquifers):**

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

**34. FORMATION (Log) MARKERS:**

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				Green River	surface
				Wasatch	770'
				Price River	1888'
				Neslen	2828'
				Sego SS	3385'

**35. ADDITIONAL REMARKS (Include plugging procedure)**

See attached copies of NIA and SRA

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

NAME (PLEASE PRINT) Scott Hedlund TITLE Compliance technician  
 SIGNATURE [Signature] DATE November 9, 2001

This report must be submitted within 30 days of

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

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

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

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

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

**RECEIVED**

NOV 19 2001

DIVISION OF  
 OIL, GAS AND MINING

**COCHRANE RESOURCES, INC.**

Engineering  
Wellsite Supervision  
Lease Operating

PO Box 1656  
Roosevelt, Utah 84066  
Phone (435) 722-5081  
Cell (435)722-9448

June 30, 2008

State of Utah  
Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, UT 84115-5801

Dear Sir:

Please find attached the application to drill the Divide #2 Well. The project involves the re-entry of a 3600' dry hole, (the UT Fee 15.524-196-32) and deepening it to the Wingate or 8200'.

The well currently has 355' of 10 3/4" csg set and cemented to surface and 8 3/4" holed drilled to 3600'. Cement plugs are set from surface to 50', 305' - 405', 710' - 810', 1768' - 1868', 2820' - 2920' and from 3403' - 3504'.

The hole will be under reamed with 10 1/2" bit to a depth of 800', where 8 5/8" 24# csg will be set and cemented. Setting the 8 5/8" csg with an existing plug under it should help ensure a good cement job around the bottom of the pipe. The remainder of the hole will be drilled with a 7 7/8" bit.

The original pad will be enlarged to accommodate a larger rig as follows:

The north and south ends will be enlarged 50' each direction  
The west side will be enlarged 25'.  
The east side will be enlarged 46'.

Please advise if you have any questions.

Sincerely,



Ken Allen

RECEIVED

JUL 02 2008

DIV. OF OIL, GAS & MINING

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

FORM 3

AMENDED REPORT   
(highlight changes)

<b>APPLICATION FOR PERMIT TO DRILL</b>				5. MINERAL LEASE NO: Fee	6. SURFACE: Fee
1A. TYPE OF WORK: DRILL <input type="checkbox"/> REENTER <input checked="" type="checkbox"/> DEEPEN <input checked="" type="checkbox"/>				7. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
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:	
2. NAME OF OPERATOR: Cochrane Resources, Inc.				9. WELL NAME and NUMBER: Divide #2	
3. ADDRESS OF OPERATOR: PO Box 1656 CITY Roosevelt STATE UT ZIP 84066			PHONE NUMBER: (435) 722-5081	10. FIELD AND POOL, OR WILDCAT: <del>W</del> Black Horse Canyon <sup>550</sup>	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 658" FSL 659" FEL 647561X 39.453794 AT PROPOSED PRODUCING ZONE: Same 43685314 -109.284979				11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESE 32 15 1/2 S 24E	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 55 Miles South of Ouray				12. COUNTY: Grand	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 658'		16. NUMBER OF ACRES IN LEASE: 480		17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 160	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) 1/2 Mile		19. PROPOSED DEPTH: 8,200		20. BOND DESCRIPTION: 0279088728	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 8234' GR		22. APPROXIMATE DATE WORK WILL START: 8/15/2008		23. ESTIMATED DURATION: 20 Days	

**PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT			
13 7/8"	10 3/4"	J55	32.75	355	Class G	1406#gal	To Surface	Already Set
10 1/2'	8 5/8"	J55	24#	800	Class G	1505X 1406#gal	To Surface	1,26 ft <sup>3</sup> /sx
7 7/8"	4 1/2"	N-80	1106#	8,200	Lead: 11/6#gal	HYFill	6000'- 1500'	
					Tail 14.6# gal	50/50 Poz	TD - 6000'	

**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) Ken Allen TITLE President  
SIGNATURE *Ken Allen* DATE 6/30/2008

Approved by the  
Utah Division of  
Oil, Gas and Mining

APPROVAL:

Date: 06-25-08

By: *[Signature]*

**RECEIVED**

**JUL 02 2008**

DIV. OF OIL, GAS & MINING

(This space for State use only)

API NUMBER ASSIGNED: 43-019-31388

977 West 2100 South  
 Salt Lake City, Utah 84119  
 (801) 972-6222  
 (801) 972-6235 FAX  
 www.andersoneng.com

Grants, New Mexico  
 (505) 285-6484



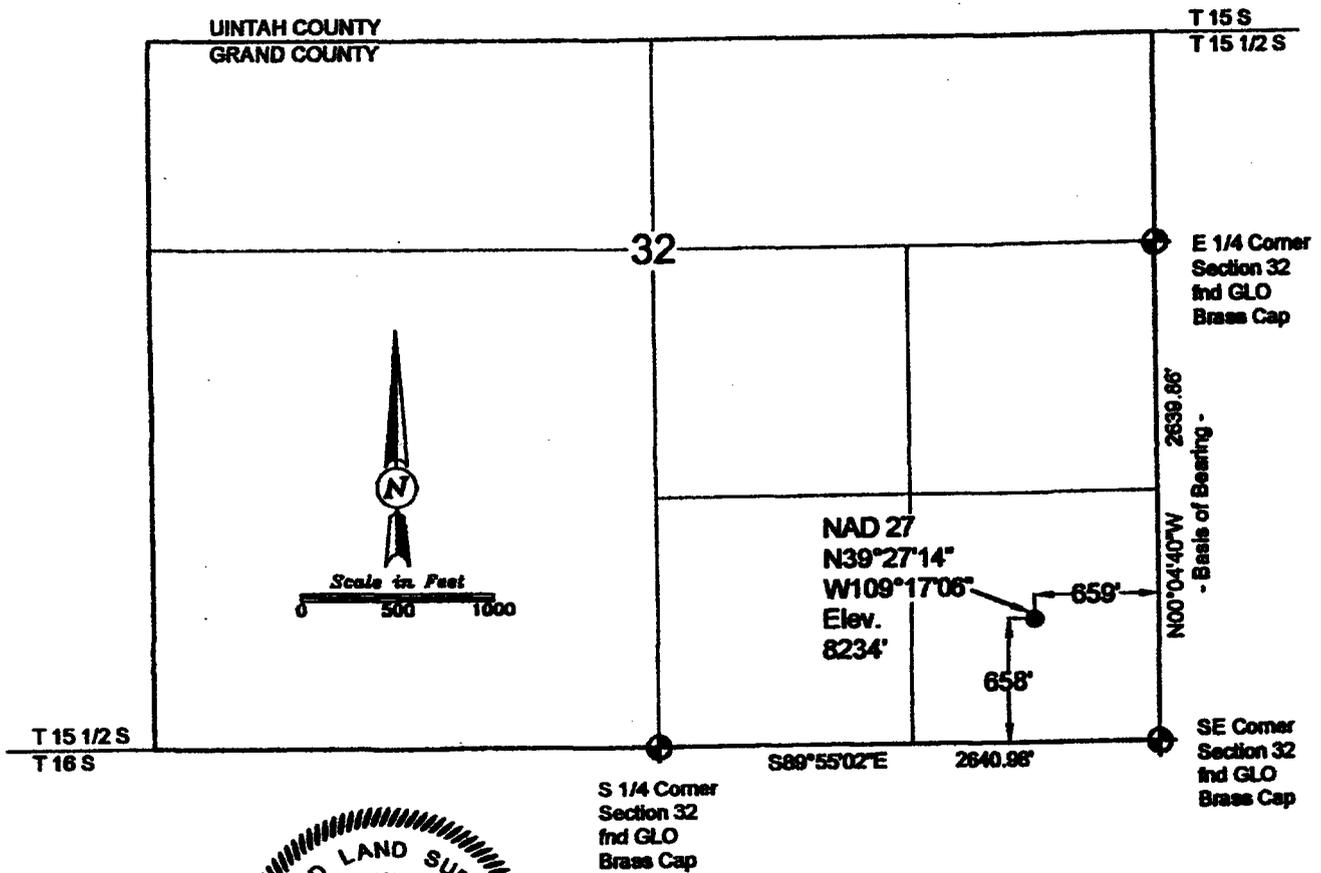
*Cochrane Resources Inc.  
 Divide No 2.*

### Well Location Survey

**Petroleum Development Corporation**  
~~UT Fee 15-524-16-32~~

- Basis of Bearing is  $N00^{\circ}04'40''W$  between the SE corner and E 1/4 corner of Section 32 from GPS observations taken 13-July-2001

659' fsl & 658' fsl  
 Section 32, T15.5S, R24E, SLB&M.  
 Grand County, Utah  
 Ground Elevation- 8234' (NGVD29)



- Land use is grazing.
- There are no land ownership boundaries within 460 feet.
- There were no oil or gas wells observed within 920 feet.

# Cochrane Resources, Inc.

Divide #2  
SESE Section 32 – T15 – R24E  
Grand County, Utah  
Lease No. Fee

## Drilling Plan

1. Estimated Tops of Important Geologic Markers & Anticipated Water, Oil, Gas or Mineral Formations:

Formation	Depth	Hydrocarbon/Water Bearing Zones
Green River	Surface	Gas/Oil
Mancos	3970'	Gas
Dakota	7678'	Gas
TD	8200'	

2. Pressure Control Equipment

All well control equipment shall be in accordance with Onshore Order #2 for 5M Systems.

The minimum specifications for pressure control equipment that will be provided are included on the attached schematic diagram showing size, pressure ratings, testing procedures, and testing frequency.

*To Ken Allen  
see e-mail*

*3000  
3000  
3000*

~~5000# BOP With 4 1/2" Pipe Rams  
5000# BOP with Blind Rams  
5000# Annular~~

Auxiliary equipment to be used:

- Upper Kelly cock with handle available.

The manifold includes appropriate valves and adjustable chokes. The kill line will have check valve. Ram type preventers will be pressure tested to full working pressure (utilizing a test plug) at:

- initial installation;
- whenever any seal subject to test pressure is broken;
- following related repairs;
- at 30 day intervals

The annular preventer will be pressure tested to 50 percent of the rated working pressure. All pressure tests shall be maintained at least ten minutes or until provisions of test are met, whichever is longer.

Annular preventers shall be functionally operated at least weekly.

Pipe and blind rams shall be activated each trip.

A BPOE pit level will be conducted weekly for each drilling crew.

All tests and rills will be recorded in the drilling log.

The accumulator will have sufficient capacity to open the HCR valve, close all rams plus the annular preventer, and retain 200 psi above pre-charge pressure without the use of closing unit pumps. The system will have two independent power sources to close the preventers in accordance with 5M system requirements outlined in Onshore Order #2.

Remote controls shall be readily accessible to the driller. Master controls shall be at the accumulator.

3. Casing & Cementing Program:

A. The proposed casing will be as follows:

*7/6 Ken Ailer  
8/4/08  
9 5/8" collars*

Depath	Hole Size	Csg Size	Grade	Wt	Thread	Cond.
0-355'	12 1/4	10 3/4	J-55	32.75	ST&C	New
0-1825' <sup>800</sup>	<del>9 7/8</del> 10.5	8 5/8	J-55	24	LT&C	New
0-8200'	7 7/8	4 1/2	N-80	11.6	LT&C	New

The proposed casing and cementing program shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting will contain the maximum pressure to which it will be exposed during normal drilling including: presence/absence of hydrocarbons, fracture gradients, usable water zones, formation pressure, lost circulation zones, other minerals or other unusual characteristics.

All casing, except conductor casing, shall be new or reconditioned and tested. Used casing shall meet or except API standards for new casing.

The 8 5/8" intermediate casing shall be cemented back to surface casing, either during the primary cement job or by remedial cementing. *Class*

The bottom three joints of the intermediate casing will have one centralizer per joint and one centralizer every fourth joint thereafter.

Casing design subject to revision based on geologic conditions encountered.

B. The proposed cementing program will be as follows:

Production String: Estimated volume (gauge hole + 15%)  
 Lead: 450sx Hifill @ 11.6 ppg, 3.84 cu.fl./sx.  
 Tail: 1400 sx 50/50 POZ @ 14.6 ppg, 1.26 cu. ft/sx.

Actual volumes will be calculated and adjusted with caliper log prior to cementing. Fifteen percent excess will be pumped.

For intermediate casing, waiting on cement time will be adequate to achieve 500 psi compressive strength at the casing shoe prior to drilling out.

Anticipated cement tops will be reported as to depth, not the expected number of sacks of cement to be used.

After cementing the intermediate pipe and/or any other intermediate strings, but before commencing any test, the casing string shall stand cemented until the cement has reached a compressive strength of at least 500 psi at the shoe. WOC time shall be recorded in the Driller's Log.

4. Drilling Fluids Program:

<u>Interval</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Viscosity</u>	<u>pH</u>	<u>Water Loss</u>	<u>Remarks</u>
0 – 1825'	Spud	8.4 – 9.0	30 – 45+	8.0	NC	Gel & Lime as required
1825' – 5500'	Wtr/gel	8.4 – 8.8	27 – 35	8.5 – 9.0	NC	Min. Wt.
5500' - TD	KCL/Mud	8.5 – 8.8*	35 -40	9.0 – 11.0	10-15 cc @ TD	*Min Wt. to control formation pressure.

Water will come from: Water Right No. 43-10447, located in Sec 9 T8S R20E.

Sufficient quantities of mud material will be maintained on site or be readily accessible for the purpose of assuring well control. SPR will be recorded on daily drilling report after mudding up. Visual monitoring will be conducted during operations.

5. Evaluation Program:

Logs: DLLT/GR: TD to base surface casing

FCC/CNL.GR.CAL  
Bond Log

TD to 3000'  
TD to 200' above cement top

6. **Abnormal Conditions:**

No anticipated abnormal pressures or temperatures are expected to be encountered. No hydrogen sulfide is expected.

Anticipated bottom-hole pressure is 1500 psi.

7. **Other Information:**

The anticipated starting date and duration of the operation will be as follows:

Starting Date:	Upon Approval
Duration	20 Drilling Days & Completion Days

8. **Surface and Mineral Ownership:**

DT Johnson, LLC  
c/o Ted G Johnson  
3468 W Eden View Drive  
South Jordan, UT 84095  
Phone: (303) 785-0522

Richard P Smoot Family LLC  
847 East 4<sup>th</sup> South  
Salt Lake City, UT 84102  
Phone: (801) 532-6664

## SURFACE USE AGREEMENT

This agreement is between D. T. Johnson LLC whose address is 3468 W. Eden View Drive, South Jordan, UT 84095 and Richard P. Smoot Family LLC, whose address is 847 East 4<sup>th</sup> South, Salt Lake City, Utah 84102 hereinafter collectively referred to as “Owner”, and Cochrane Resources, Inc., whose address is P. O. Box 1636, Roosevelt, Utah 84066, hereinafter referred to as “Operator”.

In consideration of the premises and the payments and rentals set forth below, the above parties agree to the basic understanding as follows:

1. Operator plans to commence drilling operations for the Divide #2 well located in the SE4SE4 of Section 32, Township 15.5 South, Range 24 East, Grand County, Utah. Prior to the commencement of any drilling operations, Operator shall pay Owner Ten Thousand Dollars (\$10,000.00) as compensation for damage to the surface for a drill site location not to exceed four (4) acres, and access road to well site. The route for access road shall be mutually agreed upon by parties herein, and Operator shall diligently attempt to avoid irrigated, wetlands and pasture lands. In the event the road is abandoned by Operator, Owner shall have the option to take over operation of the road free of cost, and accept liability and upkeep of the access road.
2. The access road shall not exceed 30 feet in width (maximum).
3. In the event of a dry hole, the drill site and roadway will be restored to their original condition as nearly as practicable within 180 days after plugging date of the well.
4. In the event of production, Operator shall have the right to install production equipment, upgrade the access road, lay pipeline, power lines and telephone lines (below plow depth) on the surface of the owner property within the drill site location. Operator shall pay an annual rental fee of \$500.00 for use of said surface at well site, and shall pay a one time fee equal to \$16.00 per linear rod for any pipelines, power lines and telephone lines. Rights of ways for pipelines, power lines and telephone lines shall not exceed 30 feet in width (maximum) and shall be located in a single corridor immediately adjacent to the access road.
5. Firearms, dogs and liquor shall be prohibited from the well location, access road,

and Owner property.

6. The location shall be fenced at the request of Owner. All gates (if applicable) shall remain closed during operations by Operator and if requested by Owner. In the event of production, a permanent fence and aesthetic contouring of the location and surface equipment will be contained in an aesthetic looking structure to minimize visual aspects of the location site.
7. Only Operator personnel and authorized contractors performing work for Operator will have the combination (or key) to the locked gate and will lock it each time they pass through it.
8. Unauthorized personnel, contractors, etc. will not be allowed on location or have access to location.
9. Operator will make every reasonable effort to have a company representative on the location at all times during drilling/completion operations.
10. In the event of production, Owner shall agree to a right of way allowing a pipeline to be laid along the surface of land owned by Owner to market gas from the well in conformance with Paragraph 4 above. Operator shall tender a one time payment equal to \$20.00 per linear rod for the laying of the marketing pipeline.
11. Operator will be responsible for any damage to or loss of property, or for any injury to or death of any person or livestock, directly or indirectly, resulting from Operator's activities under this Agreement. Operator shall hold Owner harmless, and shall indemnify Owner against any and all claims therefore, excluding only any claims, damages, losses or liabilities arising solely from the gross negligence or willful misconduct of Owner, its agents, successors, or assigns.
12. This agreement shall be governed by the laws of the State of Utah.
13. Operator shall conduct its operations as a prudent operator and in a manner which will minimize, insofar as reasonably practical, the impact on the Owner's use, occupation, enjoyment of, and operations on the Owner property.
14. This agreement shall be binding upon the parties herein, and their executors, administrators, successors, and assigns and all contract workers, and shall inure to the benefit of all parties herein.

15. This agreement may be executed in counterparts, and each signature shall be binding upon the parties who have executed such counterparts hereto with the same force and effect as if all parties have signed the same document.
16. Operator and Owner agree to execute and acknowledge a mutually acceptable Memorandum of this Agreement in Grand County, Utah, and to execute and deliver such documents and take such other actions necessary or advisable to carry out their obligations under this Agreement.

Signed this 17<sup>th</sup> day of June, 2008

**D. T. JOHNSON LLC**

**By:**

 Ted G. Johnson

**Title:**

Partner

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2008

**RICHARD P. SMOOT FAMILY LLC, a Utah Limited Liability Company**

 RICHARD P SMOOT

**By:**

**Title:**

partner

Signed this 27 day of June, 2008

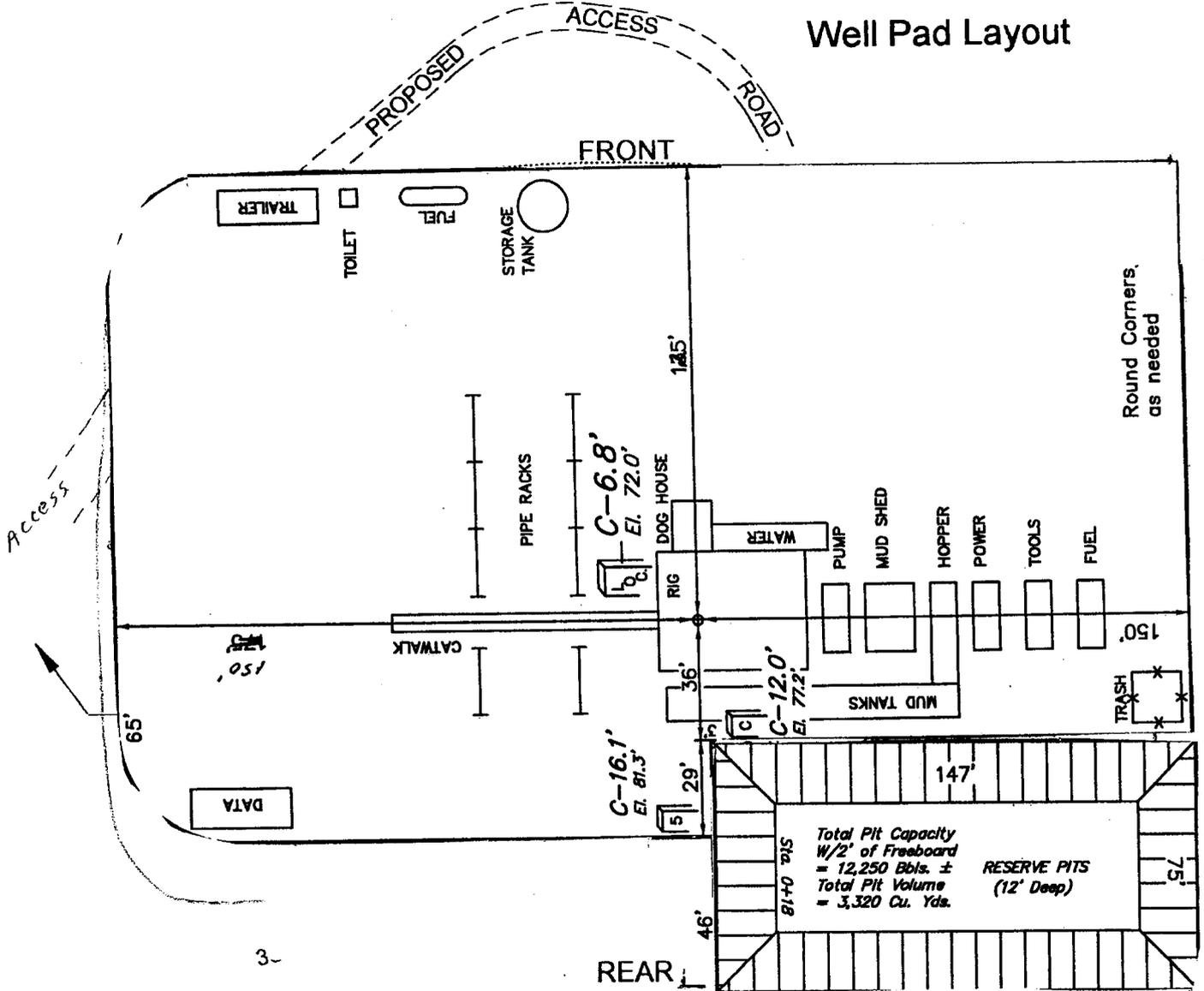
**COCHRANE RESOURCES, INC.**

**By:**   
Ken Allen

**Title:** *President*

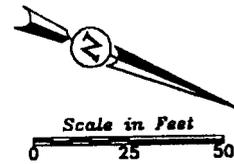


Divide No 2  
 Well Pad Layout



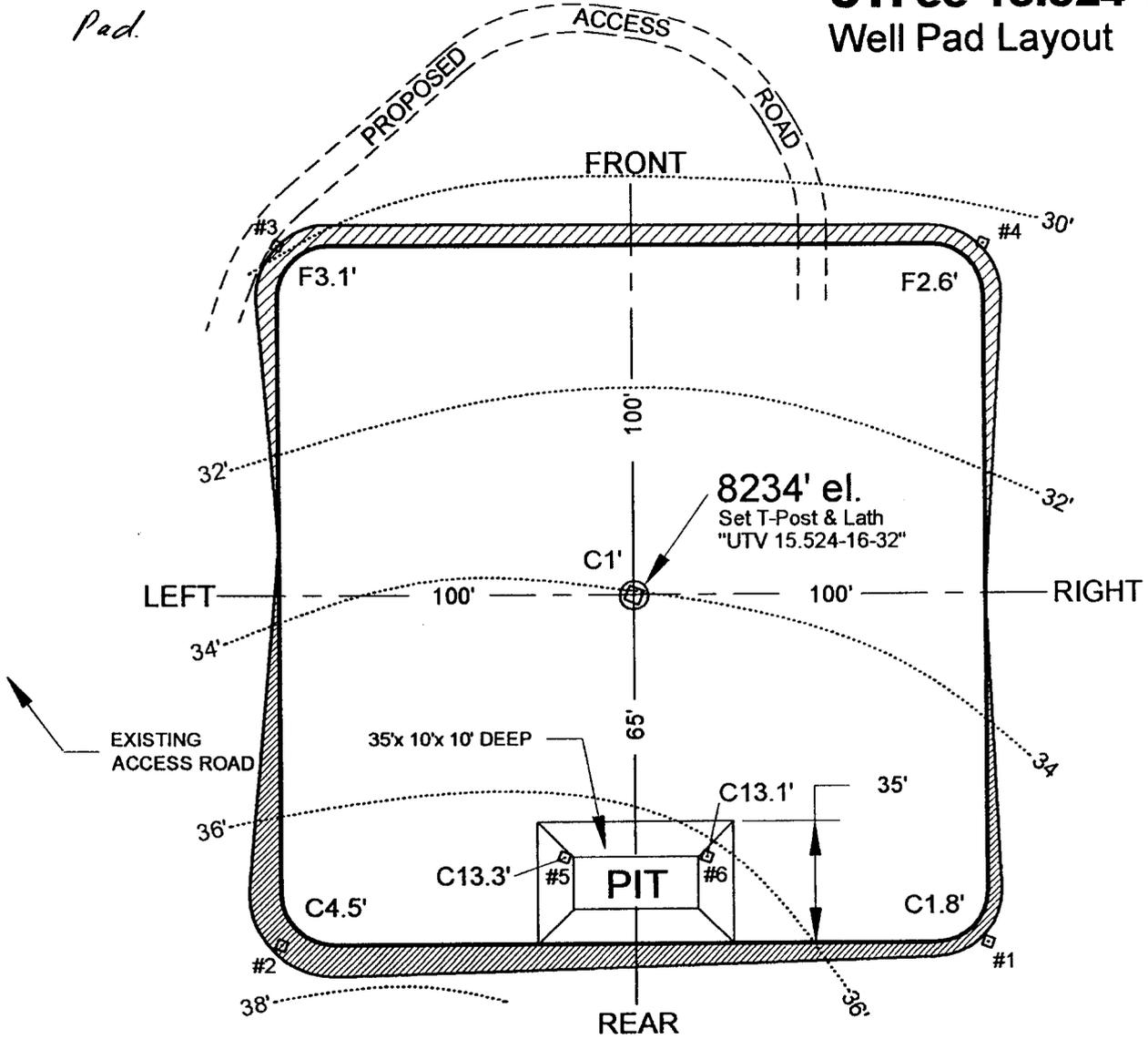
3-

- ◻ Set Stake/Lath (6)
- 38'----- Existing Ground Contour
- ▨ Cut Slope
- ▧ Fill Slope
- C1' Cut or Fill Value

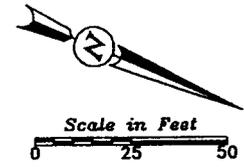


*Existing  
 Pad.*

**UTFee 15.524-16-32**  
**Well Pad Layout**

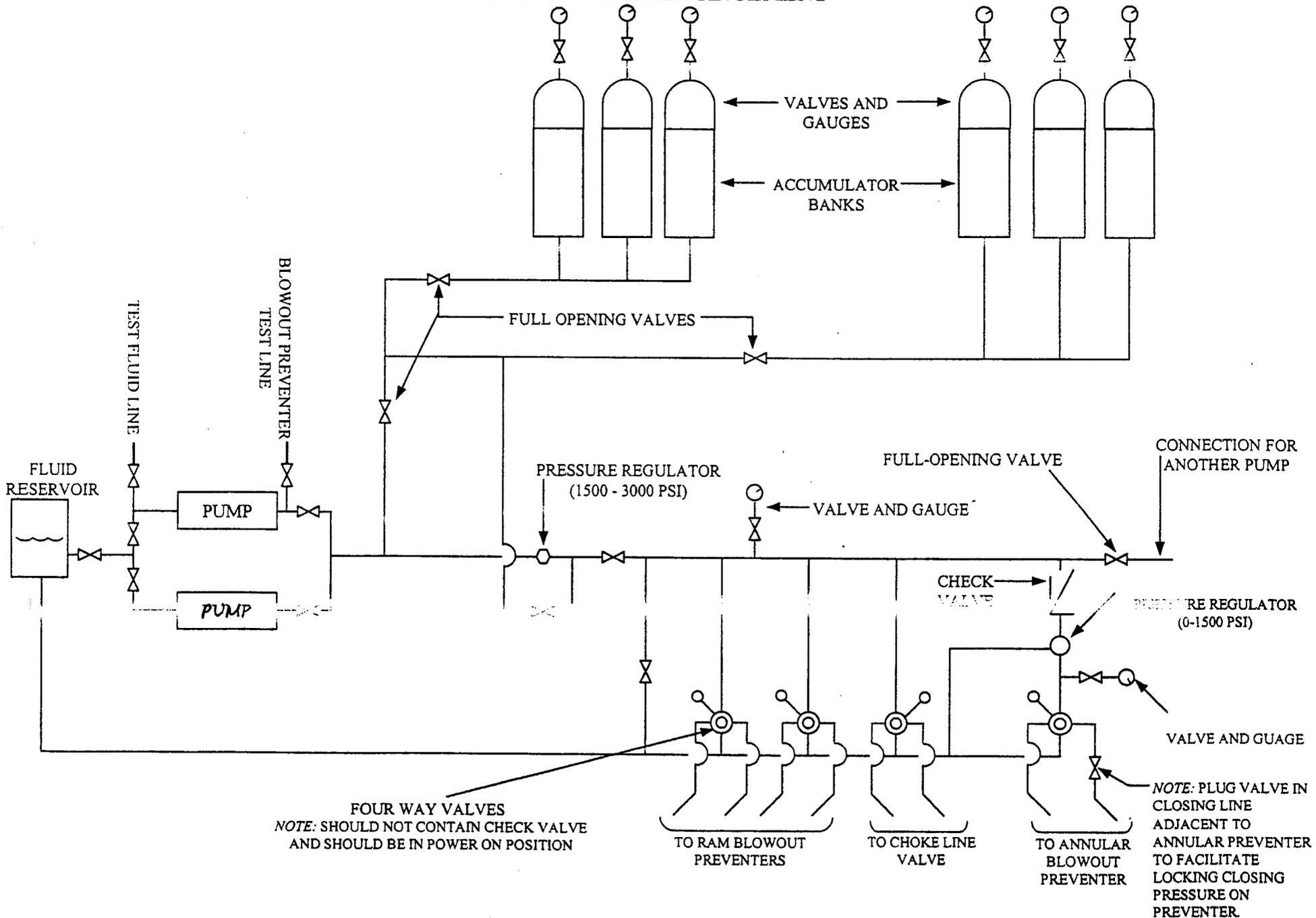


- ◊ Set Stake/Lath (6)
- 38'..... Existing Ground Contour
- ▨ Cut Slope
- ▩ Fill Slope
- C1' Cut or Fill Value





# TYPICAL BLOWOUT PREVENTER CLOSING UNIT ARRANGEMENT



**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 07/02/2008

API NO. ASSIGNED: 43-019-31388

WELL NAME: DIVIDE 2  
 OPERATOR: COCHRANE RESOURCES INC ( N7015 )  
 CONTACT: KEN ALLEN

PHONE NUMBER: 435-722-5081

PROPOSED LOCATION: 15 1/2 S  
 SESE 32 155S 240E  
 SURFACE: 0658 FSL 0659 FEL  
 BOTTOM: 0658 FSL 0659 FEL  
 COUNTY: GRAND  
 LATITUDE: 39.45379 LONGITUDE: -109.2850  
 UTM SURF EASTINGS: 647561 NORTHINGS: 4368331  
 FIELD NAME: BLACK HORSE CYN ( 550 )

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering	DWA	8/4/08
Geology		
Surface		

LEASE TYPE: 4 - Fee  
 LEASE NUMBER: FEE  
 SURFACE OWNER: 4 - Fee

PROPOSED FORMATION: DKTA  
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]  
(No. 0279088728 )
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit  
(No. 43-10447 )
- RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )
- Fee Surf Agreement (Y/N)
- Intent to Commingle (Y/N)

LOCATION AND SITING:

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

COMMENTS:

Needs Permit (07-29-08)

STIPULATIONS:

1- Spacing Slip  
2- STATEMENT OF BASIS

NFC  
LINDISFARNE  
ST 43-35  
BHL  
43-35

BLACK HORSE  
CANYON FED 31-1  
\*

FEDERAL  
31-13

T15S R23E

T15.5S R24E

DIVIDE  
32-32\*

BLACK HORSE  
CANYON FIELD

UTFEE  
15.524-16-32

T16S R24E

DIVIDE  
#1 \*

T 11-6

UTON 1  
\*

OPERATOR: COCHRANE RES INC (N7015)

SEC: 32 T.15 1/2S R. 24E

FIELD: BLACK HORSE CANYON (550)

COUNTY: GRAND

SPACING: R649-3-2 / GENERAL SITING



OIL, GAS & MINING

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

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



PREPARED BY: DIANA MASON  
DATE: 22-JULY-2008

# Application for Permit to Drill

## Statement of Basis

Utah Division of Oil, Gas and Mining

7/31/2008

Page 1

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM
878	43-019-31388-00-00		D	P	No
<b>Operator</b>	PETROLEUM DVLPMNT CORP	<b>Surface Owner-APD</b>			
<b>Well Name</b>	UTFEE 15.524-16-32	<b>Unit</b>			
<b>Field</b>	UNDESIGNATED	<b>Type of Work</b>			
<b>Location</b>	SESE 32 15.5S 24E S 658 FSL 659 FEL	GPS Coord (UTM) 647561E 4368331N			

### Geologic Statement of Basis

Cochrane plans to re-enter of the UTFEE 15.524-16-32. There is 355 feet of conductor pipe already cemented to surface. Cochrane proposes to run 800 feet of surface casing and cement it to surface. The base of the moderately saline ground water is estimated to be at a depth of 3,200 feet. A search of Division of Water Rights records that there is 1 water well within a 10,000 foot radius of the center of Section 32. This well is located approximately 1/2 mile NE of the proposed location. Depth is listed as 1,900 feet and listed for use in mining tar sands. Production casing cement should be brought up above the base of the moderately saline ground water in order to isolate it from fresher waters uphole.

Brad Hill  
APD Evaluator

7/31/2008  
Date / Time

### Surface Statement of Basis

This predrill site inspection was conducted on 7/29/2008. This site is on fee surface with fee minerals . This well was previously plugged and abandoned and the site has been recontoured. There is good vegetation growth on the site along with undesirable thistle which is growing only on the old location area. It appears that the proposed location layout would be improved by rotating the layout 90 degrees counter clockwise placing the reserve pit on the north side of the location. This rotation fits the previous location dimesions better and will result in less disturbance, easier equipment access and will still keep the reserve pit in cut. It was agreed by Ken Allen, Dempsey Day and Richard Powell that this rotation would be an improvement. The owners of the land and minerals are Ted G Johnson and Richard P Smoot. Both of the owners were contacted by Richard Powell and invited to attend the predrill site inspection but neither were able to attend and gave their approval to go ahead with the inspection without them.

Richard Powell  
Onsite Evaluator

7/29/2008  
Date / Time

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

Category	Condition
Drilling	Location to be turned 90 degrees
Pits	A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Pits	The reserve pit should be located on the north side of the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** PETROLEUM DVLPMNT CORP  
**Well Name** UTFEE 15.524-16-32  
**API Number** 43-019-31388-0 **APD No** 878 **Field/Unit** UNDESIGNATED  
**Location:** 1/4,1/4 SESE **Sec** 32 **Tw** 15.5S **Rng** 24E 658 FSL 659 FEL  
**GPS Coord (UTM)** 647562 4368340 **Surface Owner**

### Participants

Richard Powell (DOGM), Ken Allen (Cochrane Resources), Dempsey Day (Drilling Consultant)

### Regional/Local Setting & Topography

This location lies on the center of a short ridge, which extends off from the south side of Seep Ridge near the top of the Book Cliffs divide. The ridge, and the area around the location, slopes gradually to the southwest toward Main Canyon, a fairly deep northwest flowing drainage of the Book Cliffs. To the north and west of the location there are small canyons, which lead to Main Canyon. Ouray, UT is approximately 55 miles to the northwest along the Seep Ridge road.

### Surface Use Plan

#### **Current Surface Use**

Wildlife Habitat  
Grazing  
Recreational

#### **New Road**

<b>Miles</b>	<b>Well Pad</b>		<b>Src Const Material</b>	<b>Surface Formation</b>
0	<b>Width</b> 236	<b>Length</b> 300	Onsite	GRRV

**Ancillary Facilities** N

### Waste Management Plan Adequate? Y

### Environmental Parameters

**Affected Floodplains and/or Wetland** N

#### **Flora / Fauna**

Deer, Elk, Cougar, Coyote, Black Bear, Rabbit, Rodents, Raptors, Song Birds.  
Thistle, Grasses, sage, Mahogany

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

Loam with scattered rock fragments

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diversion Required** N

**Berm Required?** N

**Erosion Sedimentation Control Required? N**

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

**Reserve Pit**

<b>Site-Specific Factors</b>		<b>Site Ranking</b>
<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>	>1320	0
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>	10 to 20	5
<b>Affected Populations</b>	<10	0
<b>Presence Nearby Utility Conduits</b>	Unknown	10
	<b>Final Score</b>	<b>35 1 Sensitivity Level</b>

**Characteristics / Requirements**

Reserve pit 147 ft by 75 ft by 12 ft deep. Pit will be placed in cut. Unsure of location of previous reserve pit.

**Closed Loop Mud Required? N Liner Required? Y Liner Thickness 16 Pit Underlayment Required? Y**

**Other Observations / Comments**

Richard Powell  
**Evaluator**

7/29/2008  
**Date / Time**

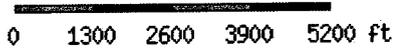
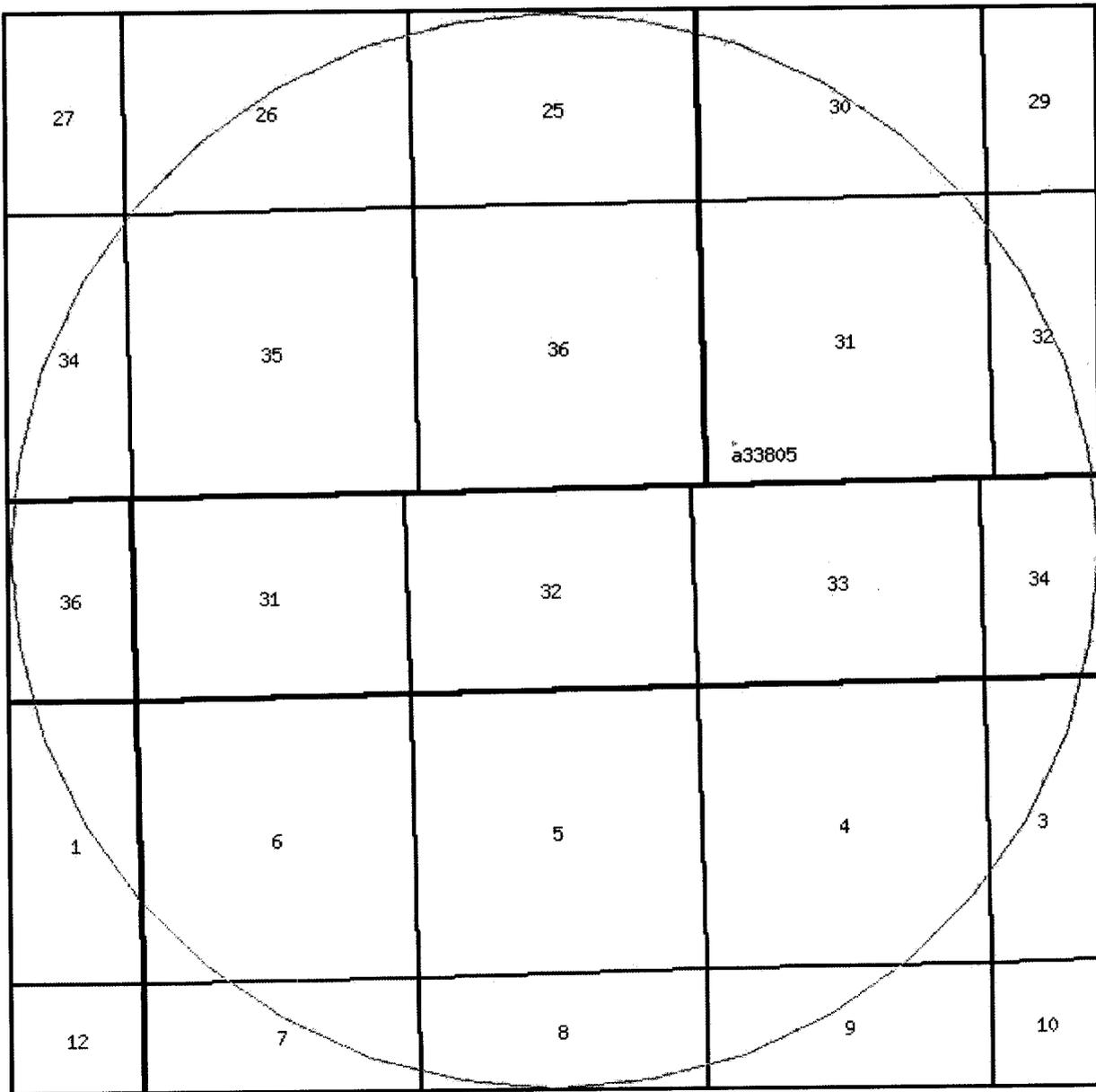

Online Services
Agency List
Business

# Utah Division of Water Rights

## WRPLAT Program Output Listing

Version: 2007.04.13.01    Rundate: 07/31/2008 04:42 PM

Radius search of 10000 feet from a point N2640 E2640 from the SW corner, section 32, Township 15HS, Range 24E, SL b&m Criteria:wrtypes=W,C,E podtypes=U status=U,A,P usetypes=all



**Water Rights**

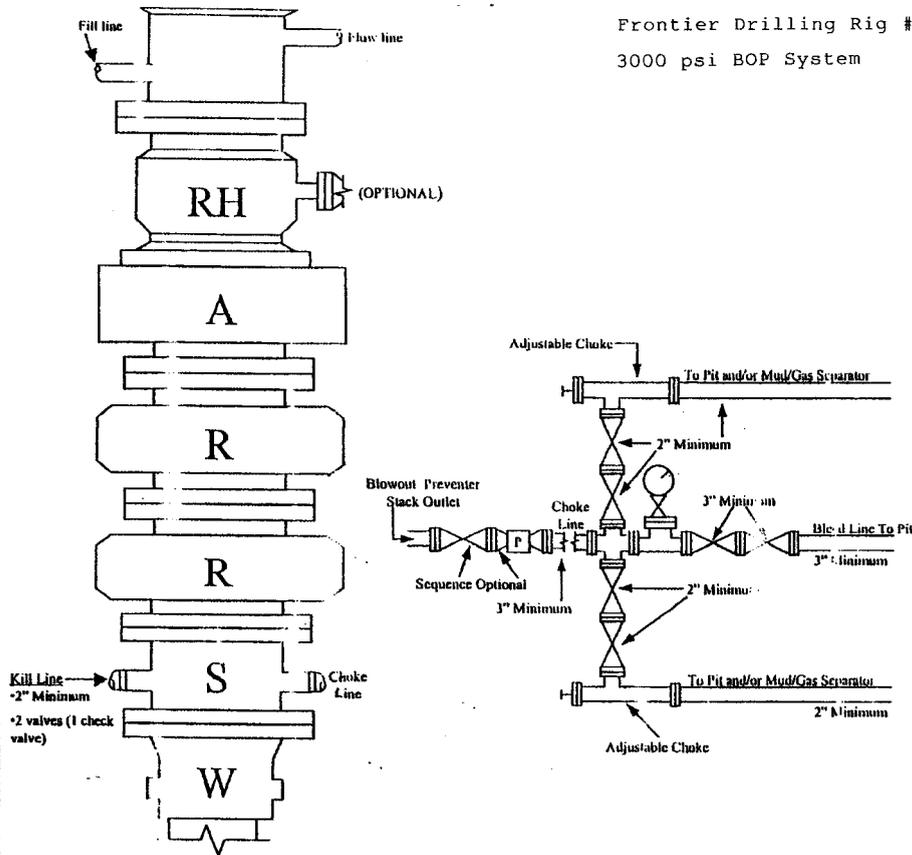
<b>WR Number</b>	<b>Diversion Type/Location</b>	<b>Well Log</b>	<b>Status</b>	<b>Priority</b>	<b>Uses</b>	<b>CFS</b>	<b>ACFT</b>	<b>Owner</b>
<u>49-2274</u>	Underground N750 E500 SW 31 15S 24E SL		A	19580807	X	0.000	360.000	STATE OF UTAH WATER RESOURC BOX 146201
<u>a33805</u>	Underground N750 E500 SW 31 15S 24E SL		A	20071129	X	0.000	360.000	EARTH ENERGY INC. - USER SUITE 740, 404 - 6

Utah Division of Water Rights | 1594 West North Temple Suite 220, P.O. Box 146300, Salt Lake City, Utah 84114-6300 | 801-538-7240

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

**DOUBLE RAM TYPE PREVENTERS WITH AN OPTIONAL ROTATING HEAD**

Frontier Drilling Rig #1  
3000 psi BOP System



\* Note: Kill line shall be 2" minimum diameter and have two valves, one of which shall be a check valve. Both valves 2" minimum.

Minimum BOP Stack	3000	psi Working Pressure
One Pipe Ram 4 1/2"	3000	psi Working Pressure
One Blind Ram	3000	psi Working Pressure
One Annular	3000	psi Working Pressure
Well Head	3000	psi Working Pressure
Manifold	3000	psi Working Pressure

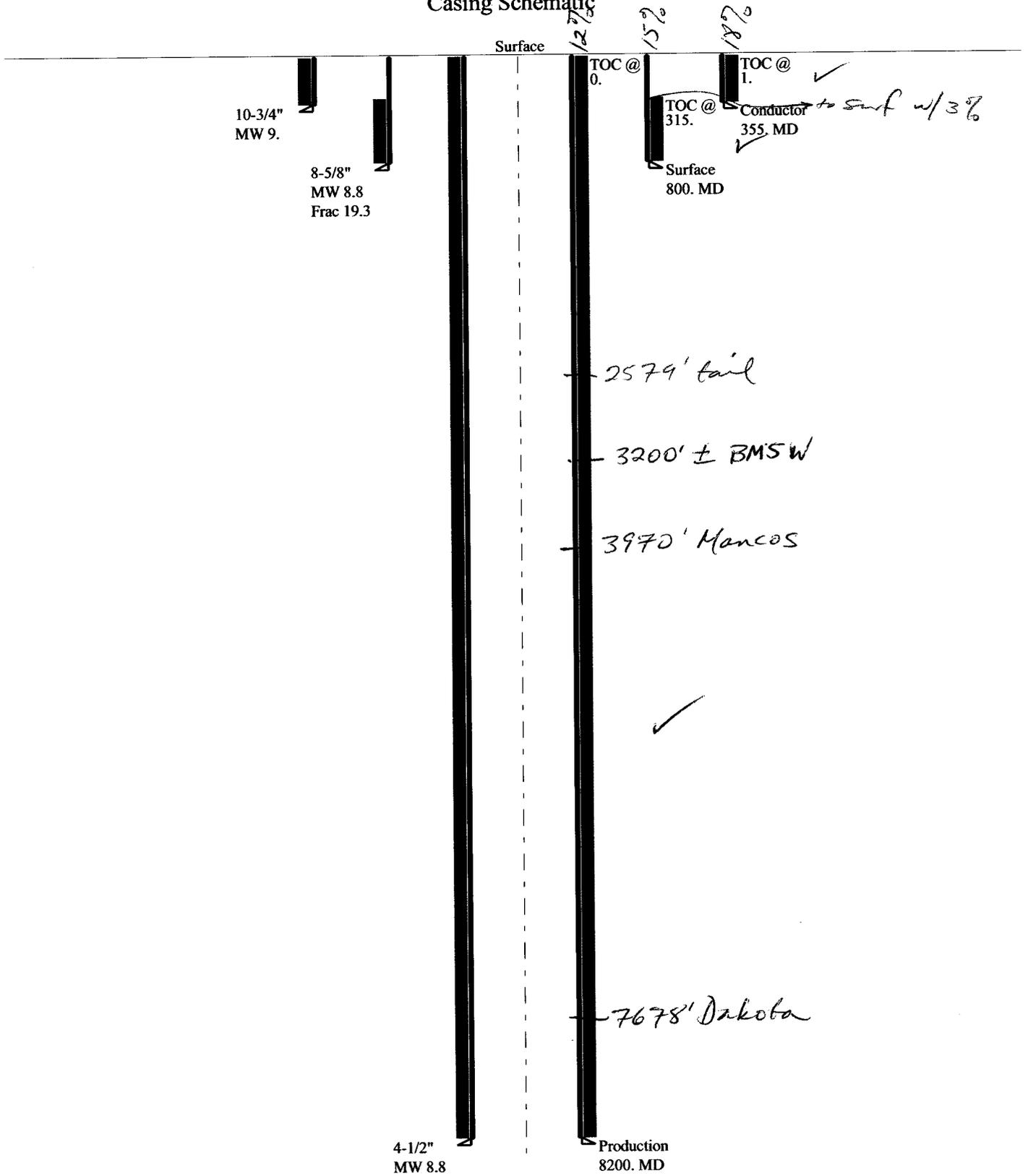
**RECEIVED**

**AUG 04 2008**

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

# 2008-08 Cochrane Divide #2

## Casing Schematic



Well name:	<b>2008-08 Cochrane Divide #2</b>	
Operator:	<b>Cochrane Resources Inc.</b>	Project ID:
String type:	Conductor	43-019-31388
Location:	Grand County	

<b>Design parameters:</b>	<b>Minimum design factors:</b>	<b>Environment:</b>
<u><b>Collapse</b></u>	<u><b>Collapse:</b></u>	H2S considered? No
Mud weight: 9,000 ppg	Design factor 1.125	Surface temperature: 65 °F
Design is based on evacuated pipe.		Bottom hole temperature: 70 °F
		Temperature gradient: 1.40 °F/100ft
		Minimum section length: 368 ft
	<u><b>Burst:</b></u>	Cement top: 1 ft
	Design factor 1.00	
<u><b>Burst</b></u>		Completion type is subs
Max anticipated surface pressure: 88 psi		<b>Non-directional string.</b>
Internal gradient: 0.220 psi/ft	<u><b>Tension:</b></u>	
Calculated BHP 166 psi	8 Round STC: 1.80 (J)	
No backup mud specified.	8 Round LTC: 1.80 (J)	
	Buttress: 1.60 (J)	
	Premium: 1.50 (J)	
	Body yield: 1.50 (B)	
	Tension is based on air weight.	
	Neutral point: 308 ft	

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	355	10.75	32.75	H-40	ST&C	355	355	10.067	201.1

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	166	840	5.061	166	1820	10.97	12	205	17.63 J

Prepared by: Helen Sadik-Macdonald Div of Oil, Gas & Minerals	Phone: 831-538-5357 FAX: 801-359-3940	Date: August 4, 2008 Salt Lake City, Utah
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ENGINEERING STIPULATIONS: NONE  
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
Collapse is based on a vertical depth of 355 ft, a mud weight of 9 ppg. The casing is considered to be evacuated for collapse purposes.  
Burst strength is not adjusted for tension.

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

Well name:

**2008-08 Cochrane Divide #2**

Operator: **Cochrane Resources Inc.**

String type: **Surface**

Project ID:

43-019-31388

Location: **Grand County**

**Design parameters:**

**Collapse**

Mud weight: 8.800 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: 65 °F  
Bottom hole temperature: 76 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 185 ft

Cement top: 315 ft

**Burst**

Max anticipated surface pressure: 704 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 800 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 air weight.  
Neutral point: 694 ft

Completion type is subs  
**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 8,200 ft  
Next mud weight: 8.800 ppg  
Next setting BHP: 3,749 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 800 ft  
Injection pressure: 800 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 (ft <sup>3</sup> )
1	800	8.625	24.00	J-55	ST&C	800	800	7.972	286.1
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	366	1370	3.746	800	2950	3.69	19	244	12.71 J

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

Phone: 831-538-5357  
FAX: 801-359-3940

Date: August 4, 2008  
Salt Lake City, Utah

**ENGINEERING STIPULATIONS: NONE**

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
Collapse is based on a vertical depth of 800 ft, a mud weight of 8.8 ppg. The casing is considered to be evacuated for collapse purposes.  
Burst strength is not adjusted for tension.

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

Well name:	<b>2008-08 Cochrane Divide #2</b>	
Operator:	<b>Cochrane Resources Inc.</b>	Project ID:
String type:	Production	43-019-31388
Location:	Grand County	

**Design parameters:**

**Collapse**

Mud weight: 8.800 ppg  
Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 1,944 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP: 3,748 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 air weight.  
Neutral point: 7,121 ft

**Environment:**

H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 180 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 368 ft

Cement top: Surface

Completion type is subs  
**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 (ft <sup>3</sup> )
1	8200	4.5	11.60	N-80	LT&C	8200	8200	3.875	715.6
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	3748	6350	1.694	3748	7780	2.08	95	223	2.34 J

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

Phone: 831-538-5357  
FAX: 801-359-3940

Date: August 4, 2008  
Salt Lake City, Utah

**ENGINEERING STIPULATIONS: NONE**

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
Collapse is based on a vertical depth of 8200 ft, a mud weight of 8.8 ppg. The casing is considered to be evacuated for collapse purposes.  
Burst strength is not adjusted for tension.

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

**BOPE REVIEW**

**Cochrane Divide #2**

**API # 43-019-31388**

Well Name Casing Size (") Setting Depth (TVD) Previous Shoe Setting Depth (TVD) Max Mud Weight (ppg) BOPE Proposed (psi) Casing Internal Yield (psi) Operators Max Anticipated Pressure (psi)	Cochrane Divide #2		API # 43-019-31388	
	String 1	String 2	String 3	
	10 3/4	8 5/8	4 1/2	
	355	800	8200	
	40	355	800	
	8.4	8.8	8.8	
	0	0	3000	
	1820	2950	7780	
	1500		3.5 ppg	

<b>Calculations</b>	<b>String 1</b>	<b>10 3/4 "</b>	
Max BHP [psi]	.052*Setting Depth*MW =	155	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	112	NO <i>Already in place</i>
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	77	NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	86	NO
Required Casing/BOPE Test Pressure		0 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		40 psi	*Assumes 1psi/ft frac gradient

<b>Calculations</b>	<b>String 2</b>	<b>8 5/8 "</b>	
Max BHP [psi]	.052*Setting Depth*MW =	366	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	270	NO
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	190	NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	268	YES <i>- Reasonable Depth - no expected pressure</i>
Required Casing/BOPE Test Pressure		800 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		355 psi	*Assumes 1psi/ft frac gradient

<b>Calculations</b>	<b>String 3</b>	<b>4 1/2 "</b>	
Max BHP [psi]	.052*Setting Depth*MW =	3752	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	2768	YES ✓
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	1948	YES
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	2124	NO <i>(Reasonable) Depth - Known pressures (re-entry)</i>
Required Casing/BOPE Test Pressure		3000 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		800 psi	*Assumes 1psi/ft frac gradient

**Helen Sadik-Macdonald - Divide # 2**

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**From:** "Allen"  
**To:**  
**Date:** 08/04/2008 1:57 PM  
**Subject:** Divide # 2

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Helen:

As per our conversion the cement for the 8 5/8" csg string will be Class G, 14,6#/gal, with a yield of 1.26 ft<sup>3</sup>/sk. the csg will be set at 800', and cemented with 150 sks, which is 30% excess. 1" pipe will be used to top off the cement, if it does not get to surface.

The BOP system is a 3000PSI system. a diagram of this system is attached, which replaces the 5,000PSI system first proposed.

Thank you for your consideration and let me know if you require additional information.

Ken Allen



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

August 5, 2008

Cocharane Resources, Inc.  
P O Box 1656  
Roosevelt, UT 84066

Re: Divide 2 Well, 658' FSL, 659' FEL, SE SE, Sec. 32, T. 15 1/2 South, R. 24 East,  
Grand County, Utah

Gentlemen:

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

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-019-31388.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Grand County Assessor

Operator: Cocharane Resources, Inc.

Well Name & Number Divide 2

API Number: 43-019-31388

Lease: Fee

Location: SE SE                      Sec. 32                      T. 15 1/2 South                      R. 24 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) 942-0871 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 Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)

5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

# DIVISION OF OIL, GAS AND MINING

## **SPUDDING INFORMATION**

Name of Company: COCHRANE RESOURCES INC

Well Name: DIVIDE 2

Api No: 43-019-31388 Lease Type: FEE

Section 32 Township 15.5S Range 24E County GRAND

Drilling Contractor FRONTIER RIG # 1

## **SPUDDED:**

Date 08/11/08

Time 9:30 AM

How DRY

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

Reported by DEMPSEY DAY

Telephone # (435) 828-7622

Date 08/11/08 Signed CHD

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

FORM 6

**ENTITY ACTION FORM**

Operator: Cochrane Resources, Inc Operator Account Number: N 7015  
 Address: PO Box 1656  
city Roosevelt  
state UT zip 84066 Phone Number: (435) 722-5081

**Well 1**

15.5S0

API Number	Well Name		QQ	Sec	Twp	Rng	County
4301931388	Divide #2		SESE	32	15	24E	Grand
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	—	13298	8/12/2008		9/22/08		
Comments: <u>DKTA</u>							

**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:							

**RECEIVED**  
SEP 11 2008

**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)

DIV. OF OIL, GAS & MINING

Name (Please Print) Ken Allen  
 Signature *maAllen*  
 Title President Date Sept 7 -08

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

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>Fee</b>
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		8. WELL NAME and NUMBER: <b>Divide #2</b>
2. NAME OF OPERATOR: <b>Cochrane Resources, Inc.</b>		9. API NUMBER: <b>4301931388</b>
3. ADDRESS OF OPERATOR: PO Box 1656                      CITY <b>Roosevelt</b> STATE <b>UT</b> ZIP <b>84066</b>		10. FIELD AND POOL, OR WILDCAT: <b>Black Horse Canyon</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>658 FSL 659 FEL</b>		COUNTY: <b>Grand</b>
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SESE 32 15 1/4<sup>S</sup> 24E</b>		STATE: <b>UTAH</b>

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input 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 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>Change of csg string</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.

Cochrane Resources ran 5 1/2" csg, 15.5# and 17#, in the Divide #2 as opposed to the 4 1/2", 11.6# csg proposed in the drilling permit. Change in csg was due to availability.

COPY SENT TO OPERATOR  
Date: 10.14.2008  
Initials: KS

NAME (PLEASE PRINT) Ken Allen TITLE President  
SIGNATURE *Ken Allen* DATE 9/18/2008

(This space for State use only)

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
For Record Only (See Instructions on Reverse Side)

*\* Charges should be approved by the Division Prior to work being done*

**RECEIVED**  
**SEP 22 2008**  
DIV. OF OIL, GAS & MINING

Well name:	<b>2008-08 Cochrane Divide #2</b>		
Operator:	<b>Cochrane Resources Inc.</b>		
String type:	Production	Project ID:	43-019-31388
Location:	Grand County		

<b>Design parameters:</b>	<b>Minimum design factors:</b>	<b>Environment:</b>
<b>Collapse</b>	<b>Collapse:</b>	H2S considered? No
Mud weight: 8.800 ppg	Design factor: 1.125	Surface temperature: 65 °F
Design is based on evacuated pipe.		Bottom hole temperature: 180 °F
		Temperature gradient: 1.40 °F/100ft
		Minimum section length: 368 ft
	<b>Burst:</b>	Cement top: Surface
	Design factor: 1.00	
<b>Burst</b>		Completion type is subs
Max anticipated surface pressure: 1,944 psi		<b>Non-directional string.</b>
Internal gradient: 0.220 psi/ft	<b>Tension:</b>	
Calculated BHP: 3,748 psi	8 Round STC: 1.80 (J)	
No backup mud specified.	8 Round LTC: 1.80 (J)	
	Buttress: 1.60 (J)	
	Premium: 1.50 (J)	
	Body yield: 1.50 (B)	
	Tension is based on air weight.	
	Neutral point: 7,108 ft	

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	8199	5.5	15.50	J-55	ST&C ?	8199	8199	4.825	1095.8
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	3748	4040	1.078	3748	4810	1.28	127	202	1.59 J

used 17# as well, probably o.k.

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

Phone: 831-538-5357  
FAX: 801-359-3940

Date: October 7, 2008  
Salt Lake City, Utah

ENGINEERING STIPULATIONS: NONE  
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
Collapse is based on a vertical depth of 8199 ft, a mud weight of 8.8 ppg The casing is considered to be evacuated for collapse purposes.  
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

AMENDED REPORT  FORM 8  
(highlight changes)

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

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:  
Cochrane Resources, Inc.

3. ADDRESS OF OPERATOR: PO Box 1656 CITY Roosevelt STATE UT ZIP 84066 PHONE NUMBER: (434) 722-5081

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: 658 FSL 659 FEL  
AT TOP PRODUCING INTERVAL REPORTED BELOW:  
AT TOTAL DEPTH:

5. LEASE DESIGNATION AND SERIAL NUMBER:  
Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME

8. WELL NAME and NUMBER:  
Divide #2

9. ABL NUMBER:  
401931388

10. FIELD AND POOL, OR WILDCAT  
Black Horse Canyon

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
SESE 32 15 1/2 24E

12. COUNTY Grand 13. STATE UTAH

14. DATE SPUNDED: 8/11/2008 15. DATE T.D. REACHED: 8/21/2008 16. DATE COMPLETED: 9/12/2008 ABANDONED  READY TO PRODUCE  17. ELEVATIONS (DF, RKB, RT, GL): 8247 KB

18. TOTAL DEPTH: MD 7,890 TVD 19. PLUG BACK T.D.: MD 7,840 TVD 20. IF MULTIPLE COMPLETIONS, HOW MANY? \* 21. DEPTH BRIDGE MD PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)  
GR, BHC SONIC, CD, CN, DIG

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
12/14"	10 3/4 J-55	32.75	0	355		? 175	37	Surface	None
10 1/2"	8 5/8 J-55	24	0	797		Lite 355	241	Surface	None
7 7/8"	5 1/2 J-55	15.5	0	7,880		50-50 455	99	2018'	None
	5 1/2 P-110	17						6000'	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	7,755							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) Dakota Cdr Mtn	7,626	7,830			7,796 7,810	.38	28	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

27. PERFORATION RECORD

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL

29. ENCLOSED ATTACHMENTS:

- ELECTRICAL/MECHANICAL LOGS  GEOLOGIC REPORT  DST REPORT  DIRECTIONAL SURVEY  
 SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION  CORE ANALYSIS  OTHER: \_\_\_\_\_

30. WELL STATUS:

Shut In

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31. INITIAL PRODUCTION

INTERVAL A (As shown in item #28)

DATE FIRST PRODUCED: 9/12/2008		TEST DATE: 9/12/2008		HOURS TESTED: 4		TEST PRODUCTION RATES: →		OIL – BBL: 0	GAS – MCF: 300	WATER – BBL: 0	PROD. METHOD: Flow
CHOKE SIZE: 24/64	TBG. PRESS. 520	CSG. PRESS. 650	API GRAVITY	BTU – GAS 1,095	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 1,800	WATER – BBL: 0	INTERVAL STATUS: Shut In	

INTERVAL B (As shown in item #26)

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

INTERVAL C (As shown in item #26)

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

INTERVAL D (As shown in item #26)

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

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

33. SUMMARY OF POROUS ZONES (Include Aquifers):

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

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				Wasatch	1,238
				Mesaverde	2,120
				Castle Gate	3,865
				Mancos B	3,973
				Mancos	4,805
				Dakota Silt	7,572
				Dakota	7,626
				Cedar Mtn	7,740
				Morrison	7,830

35. ADDITIONAL REMARKS (Include plugging procedure)

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

NAME (PLEASE PRINT) Ken Allen TITLE President  
 SIGNATURE *Ken Allen* DATE 9/19/2008

This report must be submitted within 30 days of

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

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

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

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

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

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

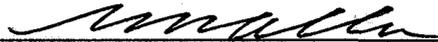
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: Fee
2. NAME OF OPERATOR: Cochrane Resources, Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: PO Box 1656 CITY Roosevelt, STATE UT ZIP 84066		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 658 FSL 659 FEL COUNTY: Grand		8. WELL NAME and NUMBER: Divide #2
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESE 32 15 1/2 24E STATE: UTAH		9. API NUMBER: 4301931388
		10. FIELD AND POOL, OR WILDCAT: Black Horse Canyon

**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 checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<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"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input checked="" 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.  
Please be advised that the subject well went on production October 22, 2008 at a rate of 1 MMCF/day.

NAME (PLEASE PRINT) <u>Ken Allen</u>	TITLE <u>President</u>
SIGNATURE <u></u>	DATE <u>10/28/2008</u>

(This space for State use only)

**RECEIVED**  
**OCT 28 2008**  
DIV. OF OIL, GAS & MINING

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

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>			5. LEASE DESIGNATION AND SERIAL NUMBER: <b>Fee</b>
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
			7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____	2. NAME OF OPERATOR: <b>Cochrane Resources, Inc.</b>		8. WELL NAME and NUMBER: <b>Divide #2</b>
3. ADDRESS OF OPERATOR: PO Box 1656 CITY Roosevelt STATE UT ZIP 84066	PHONE NUMBER: <b>(435) 722-5081</b>	9. API NUMBER: <b>4301931388</b>	
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>658 FSL 659 FEL</b>		10. FIELD AND POOL, OR WILDCAT: <b>Black Horse Canyon</b>	
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SESE 32 15 1/2 24E</b>		COUNTY: <b>Grand</b>	STATE: <b>UTAH</b>

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input 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 checked="" type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	<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.

Cochrane Resources, Inc. would like to request permission to commingle production from the Dakota and Cedar Mountain formations.

Although there are no immediate plans to re-complete in the Dakota formation, commingling would insure that the maximum amount of reserves are recovered.

**COPY SENT TO OPERATOR**  
Date: 2.5.2009  
Initials: KS

NAME (PLEASE PRINT) <u>Ken Allen</u>	TITLE <u>President</u>
SIGNATURE <u><i>Ken Allen</i></u>	DATE <u>1/29/2008</u>

(This space for State use only)

**REQUEST DENIED**  
Utah Division of  
Oil, Gas and Mining  
Date: 2/4/09  
By: [Signature] (See Instructions on Reverse Side)  
\* See requirements of R649-3-22

**RECEIVED**  
**FEB 02 2009**  
DIV. OF OIL, GAS & MINING

(5/2000)