001

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

FORM 3

AMENDED REPORT ☐
(highlight changes)

APPLICATION FOR PERMIT TO DRILL

5. MINERAL LEASE NO: 47782
6. SURFACE: State

1A. TYPE OF WORK: DRILL [X] REENTER ☐ DEEPEN ☐

7. IF INDIAN, ALLOTTEE OR TRIBE NAME: Not Applicable

B. TYPE OF WELL: OIL ☐ GAS [X] OTHER _____ SINGLE ZONE ☐ MULTIPLE ZONE [X]

8. UNIT or CA AGREEMENT NAME: Not Applicable

2. NAME OF OPERATOR: THE HOUSTON EXPLORATION COMPANY 1100 Louisiana, Suite 2000

9. WELL NAME and NUMBER: Southman Canyon #6D-36

3. ADDRESS OF OPERATOR: CITY Houston STATE TX ZIP 77002 PHONE NUMBER: 713-830-6973

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: 2466' FNL, 2271' FWL (SE¼NW¼) of Section 36, T9S, R23E
4428174 Y 39.99283
AT PROPOSED PRODUCING ZONE: Same as above 647160 X -109.27627

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SE¼NW¼ of Section 36, T9S, R23E, S.L.B.&M.

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: Approximately thirty-four (34) miles southeast of Vernal, Utah

12. COUNTY: Uintah
13. STATE: UTAH

15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET): 2271'
16. NUMBER OF ACRES IN LEASE: 640 acres +/-
17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40 Acres
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET): +/- 1712.95'
19. PROPOSED DEPTH: 8300'
20. BOND DESCRIPTION: Statewide Blanket Bond
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 5370' GR
22. APPROXIMATE DATE WORK WILL START: February 15, 2004
23. ESTIMATED DURATION: Thirty days

24. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT
12.250"	9.625" J-55 36.0#	0- 450'	225 sx Premium Plus cement
7.875"	5.500" N-80 17.0#	0-8300'	740 sx 50/50 Pozmix Premium cement

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DIV. OF OIL, GAS & MINING

25. **ATTACHMENTS**

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

[X] WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
[X] EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER
[X] COMPLETE DRILLING PLAN
☐ FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) Robert M. Anderson TITLE Authorized Agent

SIGNATURE [signature] DATE November 19, 2003

(This space for State use only)

API NUMBER ASSIGNED: 43-047-35362

APPROVAL:

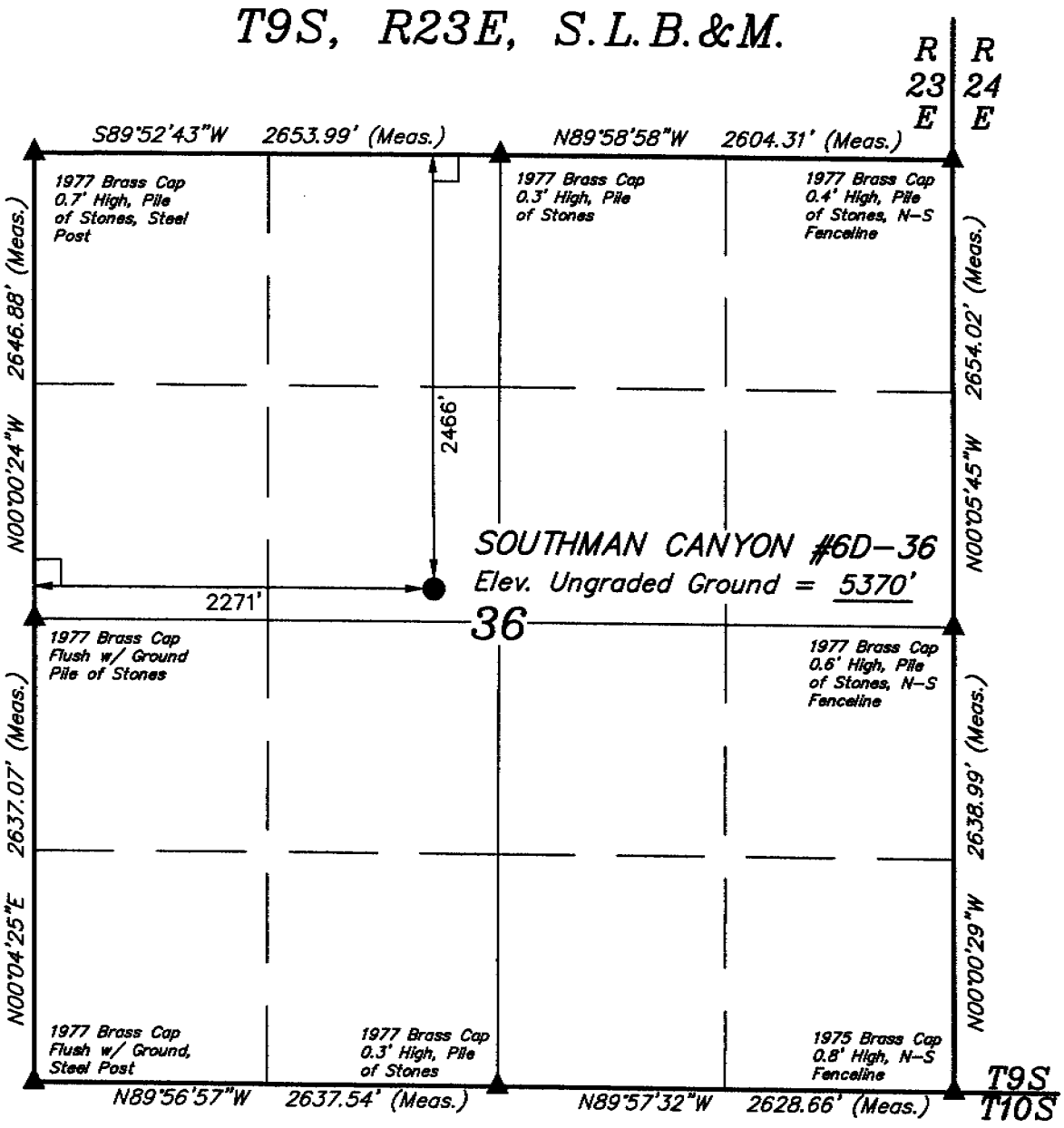
Approved by the
Utah Division of
Oil, Gas and Mining
Date: 01-12-04
By: [signature]

(11/2001)

(See Instructions on Reverse Side)

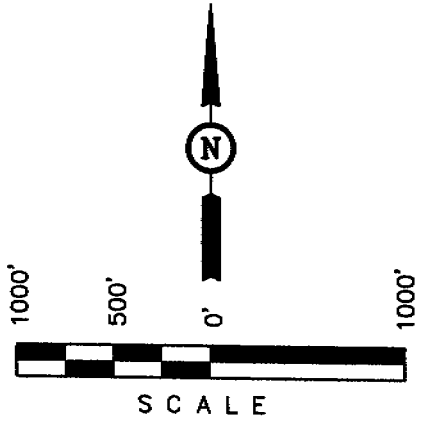
THE HOUSTON EXPLORATION COMPANY

Well location, SOUTHMAN CANYON #6D-36, located as shown in the SE 1/4 NW 1/4 of Section 36, T9S, R23E, S.L.B.&M. Uintah County, Utah.



BASIS OF ELEVATION

BENCH MARK (54EAM) LOCATED IN THE NW 1/4 OF SECTION 14, T9S, R23E, S.L.B.&M. TAKEN FROM THE RED WASH SE QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5031 FEET.



CERTIFICATE

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

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

LEGEND:

└ = 90° SYMBOL

● = PROPOSED WELL HEAD.

▲ = SECTION CORNERS LOCATED.

BASIS OF BEARINGS

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

(AUTONOMOUS NAD 83)

LATITUDE = 39°59'34.71" (39.992975)

LONGITUDE = 109°16'36.11" (109.276697)

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

SCALE 1" = 1000'	DATE SURVEYED: 10-10-03	DATE DRAWN: 10-13-03
PARTY D.K. P.J. D.R.B.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE THE HOUSTON EXPLORATION COMPANY	

THE HOUSTON EXPLORATION COMPANY
State of Utah Lease #47782, Southman Canyon #6D-36
SE¼SE¼NW¼, Section 36, T9S, R23E
Uintah County, Utah

DRILLING PROGNOSIS

1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Green River	Surface	Castlegate	7891'
Wasatch	3816'	Total Depth	8300'
Mesaverde	5396'		

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

Wasatch	3816'	Gas - Possible
Mesaverde	5396'	Gas - Possible
Castlegate	7891'	Gas - Primary Objective

Any shallow water zones encountered will be adequately protected and reported. All potentially productive hydrocarbon zones will be cemented off.

3. PRESSURE CONTROL EQUIPMENT

A. Type: Eleven (11) Inch Double Gate Hydraulic BOP with Eleven (11) Inch Annular Preventer. The Blow-Out Preventer will be equipped as follows:

1. One (1) blind ram (above).
2. One (1) pipe ram (below).
3. Drilling spool with two (2) side outlets (choke side 3-inch minimum, kill side 2-inch minimum).
4. Kill line (2-inch minimum).
5. Two (2) kill line valves, one of which will be a check valve (2-inch minimum).
6. One 3-inch (minimum) choke line.
7. Two (2) choke line valves (3-inch minimum).
8. Two (2) adjustable chokes.
9. Pressure gauge on choke manifold.
10. Upper kelly cock valve with handle available.
11. Safety valve & subs to fit all drill strings in use.
12. Fill-up line above the uppermost preventer.

B. Pressure Rating: 3,000 psi

C. Testing Procedure:

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface casing by a test plug) or to 70% of the internal yield strength of the surface casing (if the BOP is not isolated from the casing by a test plug). Pressure will be maintained for a period of at least 10 minutes or until the requirements of the test are met, whichever is longer.

3. PRESSURE CONTROL EQUIPMENT

C. Testing Procedure: Continued

At a minimum, the above pressure test will be performed:

1. When the BOP is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day.

All BOP drills and tests will be recorded in the IADC driller's log.

D. Choke Manifold Equipment:

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

E. Miscellaneous Information:

The Blow-Out Preventer and related pressure control equipment will be installed, tested and maintained in compliance with recommendations contained in API RP 53.

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub-structure. The hydraulic BOP closing unit will be located at least twenty-five (25) feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole.

4. THE PROPOSED CASING AND CEMENTING PROGRAM

A. Casing Program: All New

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Depth Set
12.250"	9.625"	36.0#	J-55	ST&C	0 - 450'
7.875"	5.500"	17.0#	N-80	LT&C	0 - 8300'

B. Cementing Program:

<u>Surface Casing</u> - Set with approximately 225 sx Premium Plus cement + additives mixed at 15.6 ppg (yield = 1.20 ft^3/sx). Cement will be circulated back to surface with 100% excess

4. THE PROPOSED CASING AND CEMENTING PROGRAM

B. Cementing Program: Continued

Production Casing - *Lead* with approximately 660 sx 50/50 Pozmix Premium cement + additives mixed at 14.3 ppg (yield = 1.47 ft^3/sx), foamed to 11.0 ppg.

Tail with approximately 80 sx 50/50 Pozmix Premium cement + additives mixed at 14.3 ppg (yield = 1.47 ft^3/sx).

The above cement volumes are approximate and were calculated under the assumption that a gauge hole will be achieved. Actual cement volumes may vary due to variations in the actual hole gauge and will be determined by running a caliper log on the drilled hole.

All waiting on cement (WOC) times will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. MUD PROGRAM - Visual Monitoring

Interval	Mud Type	Weight	Viscosity	Fluid Loss
0 - 2000'	Fresh Water	--------	------	----------
2000 - 8300'	LSND	9.0 - 9.7	28 - 32	< 12 cc's

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blowout will be available at the well site during drilling operations.

6. EVALUATION PROGRAM

Logs : DIL-FDC-BHC - from 8300' to 450'
CNL-SP-CAL-GR * - from 8300' to 450'

* Pull Gamma Ray Log Back to Surface

DST's : DST's will be run as warranted by logs and/or shows - none are scheduled at this time.

Cores : None anticipated.

The evaluation program may change at the discretion of the well site geologist.

7. ABNORMAL CONDITIONS

No abnormal temperatures or pressures are anticipated. No H_2S gas has been encountered in or known to exist from previous wells drilled to similar depths in the general area.

7. ABNORMAL CONDITIONS - Continued

Maximum anticipated bottom hole pressure equals approximately 4,150 psi (calculated at 0.50 psi/foot) and maximum anticipated surface pressure equals approximately 2,324 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. ANTICIPATED STARTING DATE

Anticipated Commencement Date	:	February 15, 2004
Drilling Days	:	Approximately 30 Days
Completion Days	:	Approximately 15 Days

9. OTHER INFORMATION

1. A comprehensive cultural resources inventory has been conducted on the proposed Southman Canyon #6D-36 well location and access road route. The subject inventory was conducted by John M. Scott/Metcalf Archaeological Consultants, Inc. (MAC) of Eagle, Colorado on October 28-30, 2003 and cultural clearance has been recommended for the subject proposal by Mr. Scott. A copy of the MAC report is appended hereto for your convenience.

2. Fresh water for use in drilling operations will be furnished by Dalbo, Inc. of Vernal, Utah under existing Water Right Number 49-2154, Temporary Application Number T74792, which has been amended to include an appropriation for use in drilling operations in Section 36, T9S, R23E. Drilling water will be diverted from Evacuation Wash and the White River at a point located approximately in the SE¼ of Section 2, T10S, R23E as approved in the subject Application to Appropriate Water.

STATE OF UTAH – DIVISION OF WATER RIGHTS – DATA PRINTOUT for 49-2154(T74792)

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 11/21/2003

WRNUM: 49-2154 APPLICATION/CLAIM NO.: T74792 CERT. NO.:

OWNERSHIP

NAME: Dalbo Inc. OWNER MISC:
ADDR: P. O. Box 1168
CITY: Vernal STATE: UT ZIP: 84078

LAND OWNED BY APPLICANT? No

DATES, ETC.

FILED: 02/20/2003	PRIORITY: 02/20/2003	PUB BEGAN:	PUB ENDED:	NEWSPAPER:
ProtestEnd:	PROTESTED: [No]	HEARNG HLD:	SE ACTION: [ ]	ActionDate: / PROOF DUE:
EXTENSION:	ELEC/PROOF: [ ]	ELEC/PROOF:	CERT/WUC:	LAP, ETC: / PROV LETTER:
RENOVATE:	RECON REQ:	TYPE: [ ]		

PD Book No. Map:

Type of Right: Temporary Application Source of Info: Application to Appropriate Status:

LOCATION OF WATER RIGHT

FLOW: 20.0 acre-feet SOURCE: Evacuation Wash and White River

COUNTY: Uintah COMMON DESCRIPTION: 3 miles south of Bonanza

POINTS OF DIVERSION -- SURFACE:
(1) N 400 ft W 1850 ft from E4 cor, Sec 02, T 10S, R 24E, SLBM
Diverting Works: Pump into tank trucks Source: White River
(2) N 1700 ft W 10 ft from SE cor, Sec 02, T 12S, R 25E, SLBM
Diverting Works: Pump into tank trucks Source: Evacuation Wash

PLACE OF USE OF WATER RIGHT

	NORTH-WEST¼	NORTH-EAST¼	SOUTH-WEST¼	SOUTH-EAST¼
	NW NE SW SE	NW NE SW SE	NW NE SW SE	NW NE SW SE
Sec 12 T 2S R104W 6SBM	* : : : *	* : : : *	* : : : *	* : : X: *
Sec 01 T 3S R104W 6SBM	* : : : *	* : : : X*	* : : : *	* : : : *
Sec 11 T 3S R104W 6SBM	* : : : *	* : X: : *	* : : : *	* : : : *
Sec 36 T 9S R 23E SLBM	* X: X: X: X*	* X: X: X: X*	* X: X: X: X*	* X: X: X: X*

USES OF WATER RIGHT

CLAIMS USED FOR PURPOSE DESCRIBED: 2154
Referenced To: Claims Groups: 1 Type of Reference -- Claims: Purpose: X Remarks:

###OIL EXPLORATION Drilling and completion of oil/gas wells in Park Canyon & Missouri Cr.
Period of Use - March 1, 2003 to February 29, 2004.

OTHER COMMENTS

Land is owned by Bureau of Land Management. Proper permits will be obtained.

END OF DATA

MAC
Metcalf Archaeological Consultants, Inc.

November 11, 2003

Mr Lloyd Bruce
The Houston Exploration Company
1100 Louisiana, Suite 2000
Houston, Texas 77002

Re: Archaeological inventory of five proposed well locations in Uintah County, Utah

Dear Mr Bruce,

Enclosed is a copy of our cultural resource inventory report for five of the proposed Southman Canyon Wells (2D-36, 4D-36, 6D-36, 10D-36, 12D-36) and their associated access roads . Fieldwork was done between November 28 and 30, 2003.

MAC recommends cultural resource clearance for all five locations. One site and one isolated find (IF) were located during this inventory. The isolate was discovered on the Southman 4D-36 access road and consisted of a single hole-in-cap can. This artifact is not eligible for the National Register and no further work is needed. The site was located on the Southman 12D-36 well pad inventory block and consisted of a single sheepherder's cairn. This site, 42UN3349, appears to meet no National Register Criteria and is recommended as not eligible for the National Register. The cairn is situated about 100' south of the proposed well's APE and will not be impacted. No further work is recommended.

All of the proposed wells are on State of Utah land while a portion of the access road is on Bureau of Land Management (BLM) property. Because the project is on both State and Federal land, we will be sending two copies of the report, one with original photographs and one with photocopies, to Blaine Phillips, BLM Vernal Field Office, one copy with original photographs to Kenneth Wintch, SITLA, and another copy, also with original photographs, to James Dykman, Deputy SHPO. Bob Anderson of Heitzman-Anderson will also receive a copy of the report.

Thank you for the opportunity to participate in this project. As always, please do not hesitate to contact our office if you have any questions or concerns about the enclosed report or about any aspect of our involvement in this project.

Sincerely,

John M. Scott

John M. Scott
Senior Staff Archaeologist

cc Bob Anderson of Heitzman-Anderson
Blaine Phillips, BLM, Vernal FO.
James Dykman, Deputy SHPO
Kenneth Wintch, SITLA

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DIV. OF OIL, GAS & MINING

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P.O. Box 2154
Bismarck, ND 58502
macnodak@btigate.com

The Houston Exploration Company:
Class III Cultural Resource Inventories for Five Southman Canyon Wells, and Access Roads
(2D-36, 4D-36, 6D-36, 10D-36, 12D-36)
in Uintah County, Utah

by
John M. Scott
Metcalf Archaeological Consultants, Inc.
P.O. Box 899
Eagle, CO 81631

for
The Houston Exploration Company
1100 Louisiana, Suite 2000
Houston Texas 77002

Utah Antiquities Permit U-03-MM
expires January 1, 2004
BLM Cultural Resource Use Permit 01UT54945
expires May 31, 2004

Project No. U-03-MM-0941bs

November, 2003

Abstract

Metcalf Archaeological Consultants, Inc. (MAC) conducted Class III cultural resource inventories for five of The Houston Exploration Company's proposed Southman Canyon wells in Uintah County, Utah. The report is titled: *The Houston Exploration Company: Class III Cultural Resource Inventories for Five Southman Canyon Wells, and Access Roads (2D-36, 4D-36, 6D-36, 10D-36, 12D-36) in Uintah County, Utah.* These five wells are all in the same section (section 36, T9S R23E) and include wells 2D-36 in the NE quarter, 4D-36 in the NW quarter, 6D-36 in the SW/NW quarter, 10D-36 in the SE quarter, and12D-36 in the SW quarter. Section 36 is owned by the State of Utah. A single main access road is proposed to connect all the wells with small branch accesses extending off of it for shorter distances to the proposed wells. This main access starts in the NW/NE/NE/SW of section 1, T10S R23E and runs north to the above-mentioned wells in section 36. Section 1 is managed by the Bureau of Land Management (BLM) Vernal Field Office (FO). The project is entirely on the USGS 7.5' quadrangle, Asphalt Wash (1968 [Photorevised 1987]).

Survey area for each of the well pads consisted of a ten-acre square-block centered on the individual well's location-to-drill stakes. Each well will be drilled on prepared level, earthen pads approximately 2.5 acres in size. A 100' wide corridor was inventoried for all of the proposed access associated with these wells. The access roads when constructed will be about 50' wide. No pipeline corridors were staked for these wells.

Total acreage inventoried for this project amounted to nearly 83 acres. Inventory on BLM property amounted to 2900' of access or 6.7 acres. Inventory on State lands totaled 76.1 acres which includes 11356' or 26.1 acres of access and 50 acres of block inventory.

Inventory of the proposed Southman 2D-36, 6D-36, and 10D-36 well projects failed to reveal the presence of cultural resources. The inventory of the Southman 4D-36 discovered a single hole-in-cap can (IF-JMS1) which is not eligible for the National Register and no further work is needed. Inventory of the 12D-36 located a single sheepherder's cairn that was recorded as a site (42UN3349). This site, 42UN3349, appears to meet no National Register Criteria and is recommended as not eligible for the National Register. The cairn is situated about 100' south of the proposed well's APE and will not be impacted. No further work is recommended. Cultural resource clearance is recommended for all five of these proposed developments.

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Figure 2 Sketch map of 42UN3349 showing nearest portion (pit A) of proposed well pad to the cairn. 5

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Introduction

Metcalf Archaeological Consultants, Inc. (MAC) conducted Class III cultural resource inventories for five of The Houston Exploration Company's proposed Southman Canyon wells in Uintah County, Utah. These five wells are all in the same section (section 36, T9S R23E) and include wells 2D-36, 4D-36, 6D-36, 10D-36, and12D-36 (Figure 1). Section 36 is owned by the State of Utah. A single main access road is proposed to connect all the wells with small branch accesses extending off of it for shorter distances to the proposed wells. This main access starts in the NW/NE/NE/SW of section 1, T10S R23E and runs north to the above-mentioned wells in section 36. Section 1 is managed by the Bureau of Land Management (BLM) Vernal Field Office (FO).

Survey area for each of the well pads consisted of a ten-acre square-block centered on the individual well's location-to-drill stakes. Each well will be drilled on prepared level, earthen pads approximately 2.5 acres in size. A 100' wide corridor was inventoried for all of the proposed access associated with these wells. The access roads when constructed will be about 50' wide. No pipeline corridors were staked for these wells.

Total acreage inventoried for this project amounted to nearly 83 acres. Inventory on BLM property amounted to 2900' of access or 6.7 acres. Inventory on State lands totaled 76.1 acres which includes 11356' or 26.1 acres of access and 50 acres of block inventory.

Fieldwork was conducted by John M. Scott between October 28 and 30, 2003 under the stipulations of Utah Antiquities Permit #U-03-MM (expires 1/1/04) and BLM Cultural Resource Use permit #01UT54945 (expires 5/31/04). All field notes, maps, and photographic negatives are on file at the MAC office in Eagle.

Project Setting

The proposed well locations are located in the southeastern portion of the Uinta Basin. More specifically they are on the north side of the White River between Bonanza on the northeast and the Southman Canyon Gas Fields on the south. This area is a plain that slopes down to the west-northwest, and is relatively rugged due to many rocky ridges, flat-topped hills/buttes, and moderately deep incised drainages. The region drains by a series of dendritic streams to the west and eventually into the White River. The individual well locations varied, but in general they were either on benches or in basin-like drainage areas. Table 1 contains information about each proposed well and access location.

Geologically the study area is dominated by the Tertiary (Eocene) age Uinta Formation, which includes sandstone, shale, siltstone and conglomerate (Hintze 1980; Stokes 1986:155). The area suffers substantial erosion and at most of the proposed well pad sites, there is very little soil development. In the lower and wider basin-like drainages, there is some deposition consisting of a mixture of aeolian and colluvial sands and silts. Even in these areas the sediment appears shallow and is often covered with shale slabs indicating very little potential for intact buried cultural deposits. Vegetation cover at the proposed well locations and along proposed access corridors ranged from about 10% to 25%. Visibility was very good to excellent in all areas inventoried. The general vegetation community is a semiarid shrubland with sagebrush, greasewood, saltbrush and a few mixed grasses. Sparse low cactus was also observed.

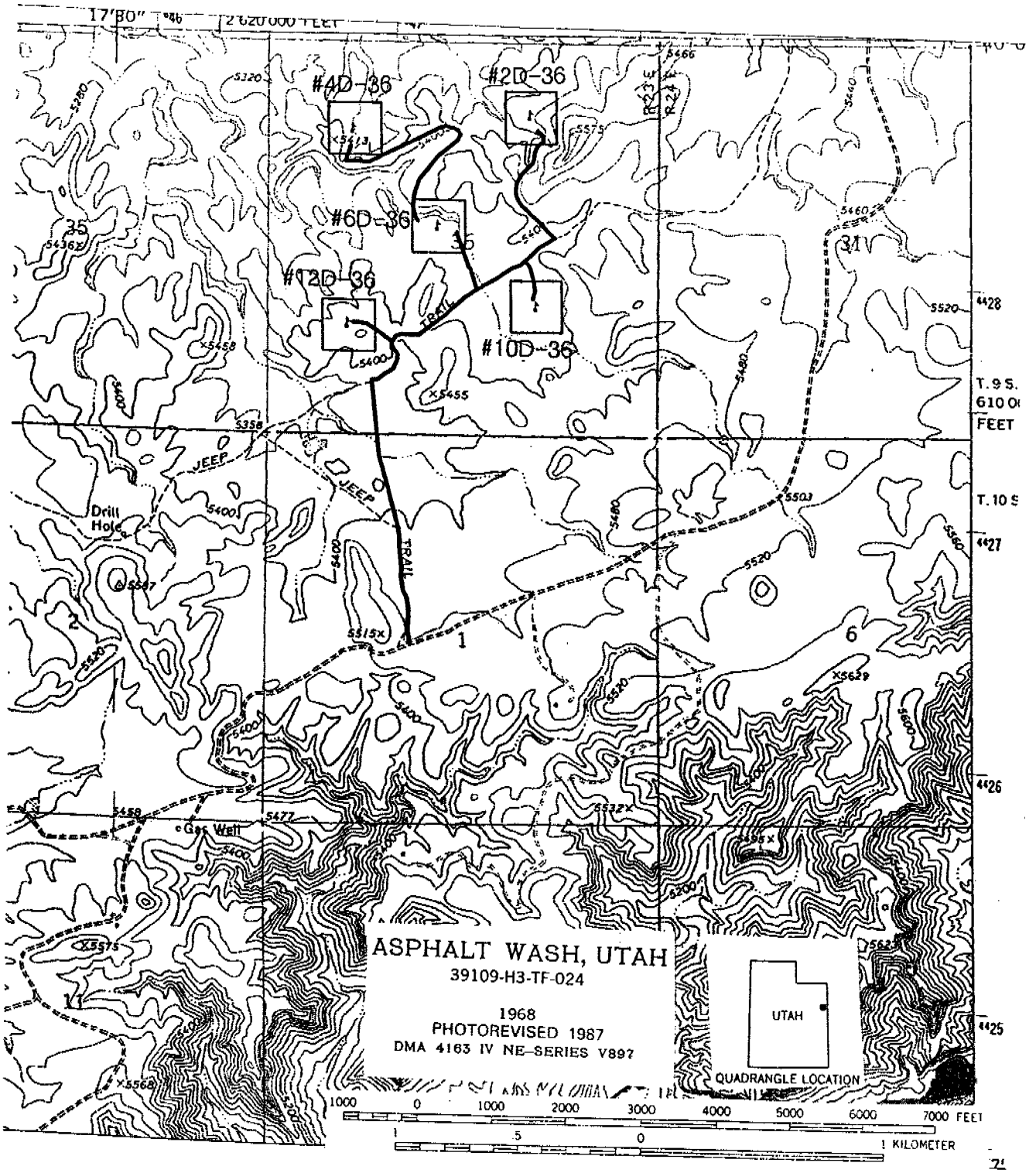

Figure 1 Project location depicted on a photocopied portion of USGS Asphalt Wash 1968 7.5' map (photorevised 1987)

Table 1 Summary of proposed well and access locations

Unit #	Center Stake Legals all are in sect 36 T9S R23E	Footages	Access length
Southman Canyon #2D-36	C/SE/NW/NE	960'FNL/1751'FEL	8976'
Southman Canyon #4D-36	S/SE/NW/NW	1163'FSL/1137'FWL	3169'
Southman Canyon #6D-36	S/SE/SE/NW	2466'FNL/2271'FWL	1056'
Southman Canyon #10D-36	N/SE/NW/SE	1757'FSL/1650'FEL	528'
Southman Canyon #12D-36	E/SE/NW/SW	1518'FSL/1069'FWL	528'

Cultural History and Files Search

A files search was conducted at the Utah Division of State History in Salt Lake City on October 23, 2003 for section 36, T9S R23E. An additional files search was conducted at the BLM Vernal FO on October 27, 2003 for the same section, and for section 1, T10S R23E. These searches revealed that only two projects had been conducted in the two sections. The most resent of these projects was an inventory conducted for a Veritas seismic line in 2002 (Montgomery 2002). That project encountered no sites in section 36 and one site (42UN3080) in section 1. That site is located nearly 1500' to the east-southeast of the current project's southern end and will not be affected. The second project was for a Utah Power and Light Company's 138KV power line (Billat and Hall 1983) conducted in 1983 that encountered no sites. Neither of these projects precluded any area from inventory during the current project.

The cultural history of the area has been covered by Spangler (1995), and the region immediately to the west in Colorado has been covered by Reed and Metcalf (1999). The reader is directed to these authors for an in-depth discussion of the region's cultural history.

Based on the files search information, MAC anticipated that very few sites would be encountered. These sites would be either short term prehistoric sites or sites associated with Gilsonite mining and exploration which is ongoing to the east and northeast of the project area.

Methods

The proposed well locations were studied by walking parallel pedestrian transects spaced no more than 15 m apart to cover north-south oriented 10 acre blocks centered on the staked drilling locations. Where proposed access routes fall outside these survey blocks, they were covered by walking one zigzag transect on each side of the proposed centerline, resulting in coverage of a 100' wide corridor. Special attention was given to areas affording a view of subsurface sediments (i.e., rodent back dirt piles, road cuts, ant hills, animal trails).

When cultural materia[illegible]ere discovered, transects were temporar[illegible]alted and the immediate area was more intensively investigated to determine the nature and extent of the resource(s). Isolated finds were recorded on MAC's isolated find forms. Sites, defined as more than 10 artifacts in association, or any cultural feature or structure (with or without artifacts), were documented on IMACS site forms, mapped, photographed, and plotted on the appropriate 7.5' USGS quadrangles.

Results and Recommendations

No cultural resources were discovered on three of the proposed Southman Canyon wells. These wells include 2D-36, 6D-36, and 10D-36. The inventory of the Southman 4D-36 access road resulted in the discover of a single historic isolated find (JMS1) and inventory for the proposed Southman Canyon 12D-36 result in the discovery of a single historic site (42UN3349) on its 10-acre survey block. Site and isolate locations plotted on a photocopied portion of a USGS 7.5' map is found in Appendix A (agency copies only). Site and Isolated finds are included with this report (agency copies only) in Appendix B.

42UN3349: This site consists of a single cairn of stacked rock. The cairn is situated on a small knoll that can be easily seen from a distance of about 3 to 5 miles from the north and south. To the east and west, there are other buttes that limit the distance from which the cairn can be seen to under a mile. The cairn measures 5.75' in height, 2.5' across at its base, and 1.5' across at its top. It consists of approximately 45 stones somewhat carelessly stacked in about 12 courses. Each course of rock is set crosswise to the next and each course is slightly smaller than the one below. Two large elongated slabs are leaning upright against its north side. All the stones have been gathered from the immediate vicinity and consist of sandstone or limestone-shale blocks. The largest stone is about 1 m in length and the smallest is about 25 cm in length. Very little lichen is growing on the stones and there is very little soil deposition at its base. It is surmised that the cairn has been repaired. Evidence of this comes from the upright slabs that may have been placed there to hold the cairn upright and from the way the three upper courses of stones appear to have been stacked slightly differently than the lower ones. Also, the lopsidedness of the cairn suggests that it would probably collapse in strong wind if not regularly repaired. There is a sheepherder camp about 700' to the east that contains modern cans that date from the late 1950s. This, coupled with the possibility that the cairn has been kept in repair, lacks a soil build up at its base, and the stones are relatively lichen free, indicates that it is probably not 50 years old. There are many of these types of cairns in the region and this one has not been as carefully or uniquely constructed as has several of the others.

The site's setting has been impacted by the visible presence of the Bonanza power plant to the north-northeast, a two-track road to the immediate south, and a relatively heavily used oilfield road at .75 miles to the south. The presence of the plant and the often used road detracts from the setting's feeling of solitude and desolation that is associated with sheep herding in this region. The cairn does not display any unique attributes, was obviously not constructed by a master-crafter or individual important in history, and is a relatively poor example of this type of feature. These observations coupled with the fact that it is most likely not historical indicates that the site does not fit any criteria for listing on the National Register. The site is recommended to be not eligible for the National Register and no further work is needed. The site is approximately 100' south of the current project's APE and will not be impacted.

IF-JMS1: This isolate consists of a single hole-in-cap food can. The can was smashed flat and there was no way to be sure of how it had been opened. The artifact is located on a southeast facing bench with a small ridge to the north. The surface is mostly exposed limestone shale with very little deposition. The vegetation is very sparse

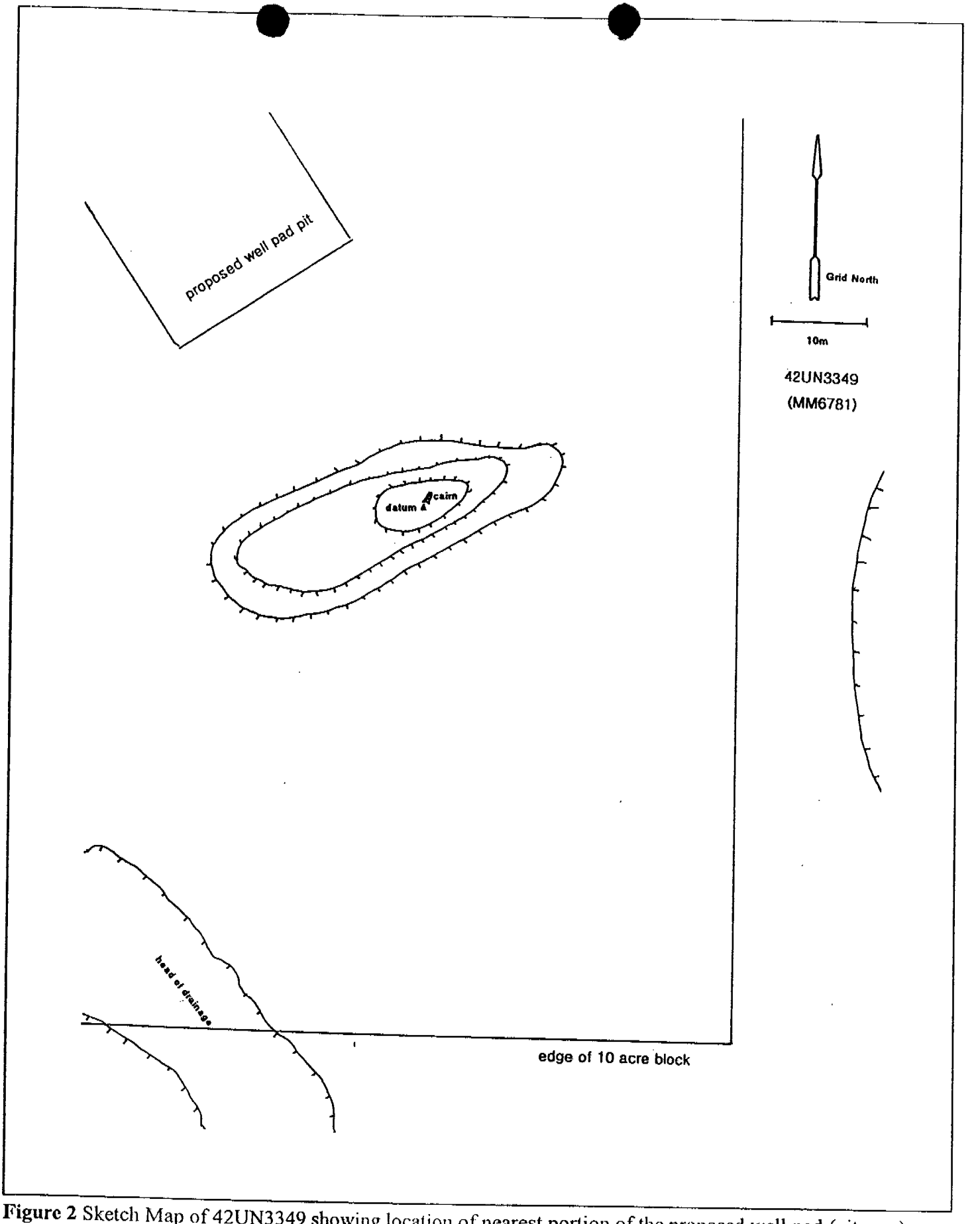

Figure 2 Sketch Map of 42UN3349 showing location of nearest portion of the proposed well pad (pit area).

with greasewood and sagebru[illegible]he dominate plants. This spot offers a[illegible]od view of the basin-like drainage area below and to the south. Isolated finds are by definition not eligible for the National Register and no further work is recommended.

Summary

Inventory of the proposed Southman 2D-36, 6D-36, and 10D-36 well projects failed to reveal the presence of cultural resources. The inventory of the Southman 4D-36 discovered a single hole-in -cap can (IF-JMS1) which is not eligible for the National Register and no further work is needed. Inventory of the 12D-36 located a single sheepherder's cairn that was recorded as a site (42UN3349). This site, 42UN3349, appears to meet no National Register Criteria and is recommended as not eligible for the National Register. The cairn is situated about 100' south of the proposed well's APE and will not be impacted. No further work is recommended. Cultural resource clearance is recommended for all five of these proposed developments.

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1995 *Paradigms and Perspectives A Class I Overview of Cultural Resources In the Uinta Basin and Tavaputs Plateau.* Uintah Research, Salt Lake City. Prepared for the Utah Bureau of Land Management, Vernal Field Office. Ms on file, Utah Division of State History, Salt Lake City.

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Appendix A
Resource Location Map
(Agency Copies Only)

Appendix B
Site and Isolate Forms
(Agency Copies Only)

THE HOUSTON EXPLORATION COMPANY

SOUTHMAN CANYON #6D-36

LOCATED IN UINTAH COUNTY, UTAH
SECTION 36, T9S, R23E, S.L.B.&M.

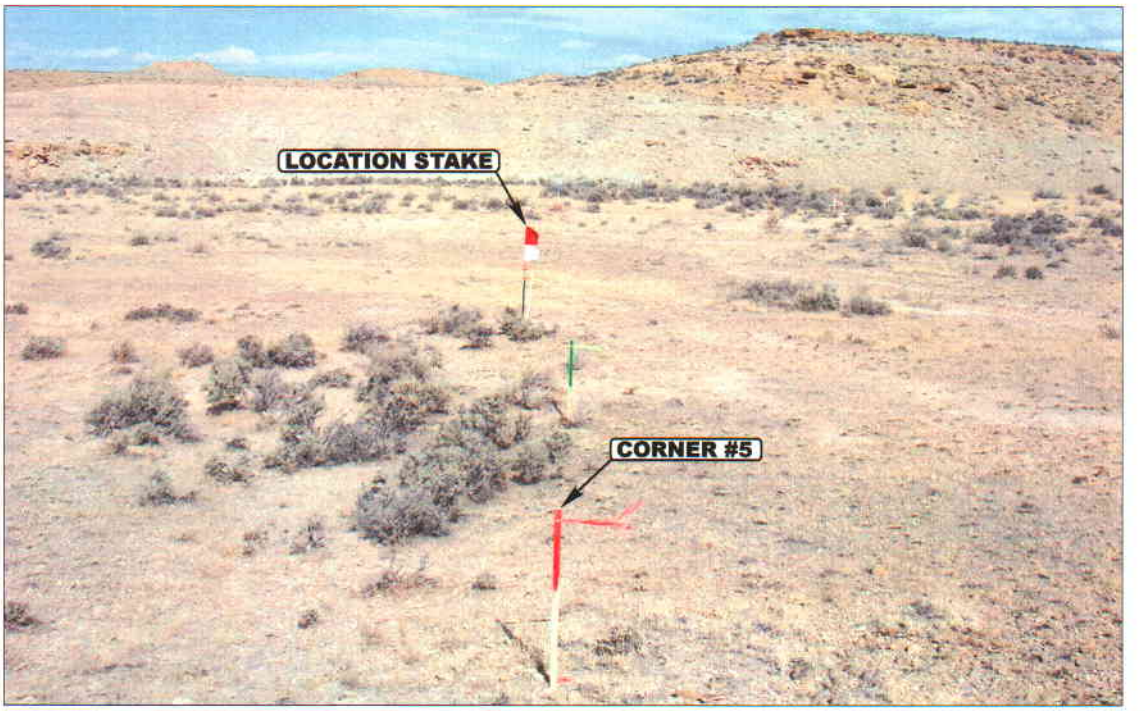


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE **CAMERA ANGLE: NORTHERLY**

PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS **CAMERA ANGLE: NORTHERLY**

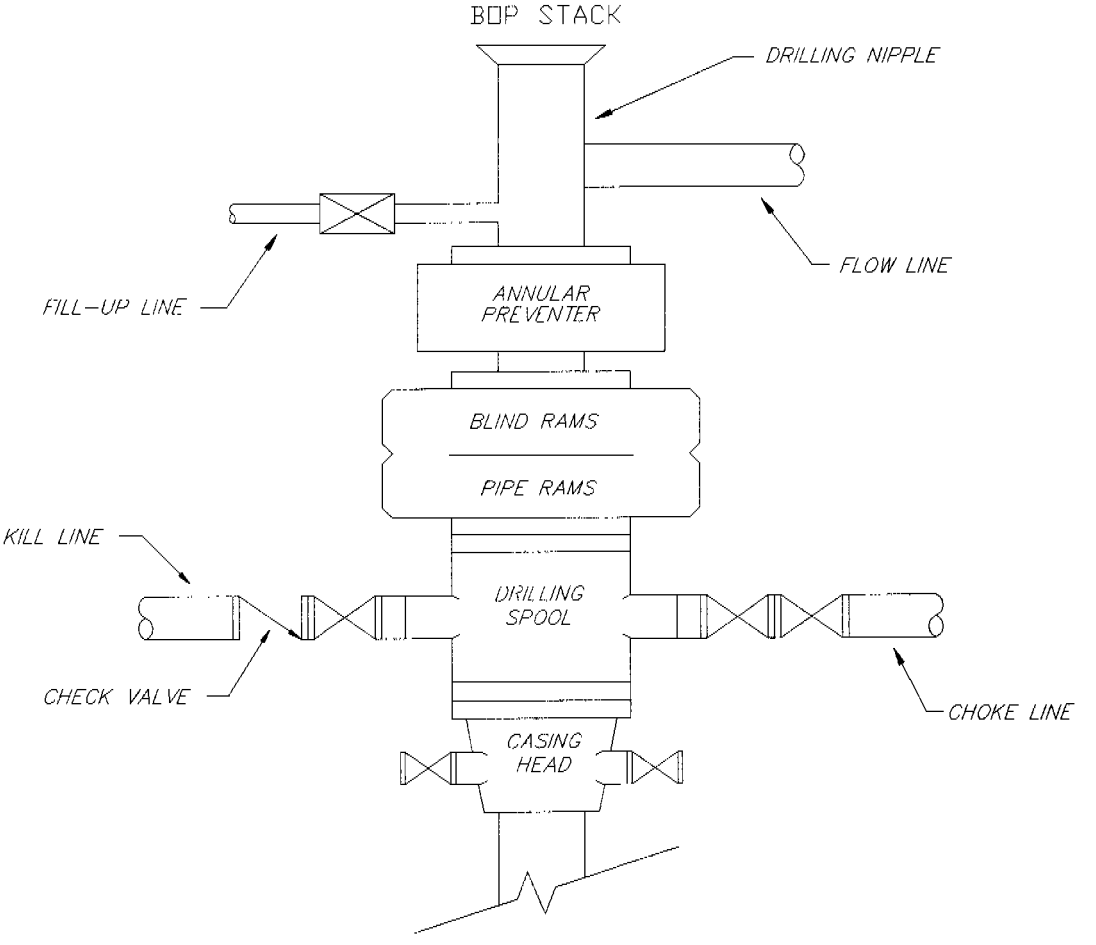
- Since 1964 -

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

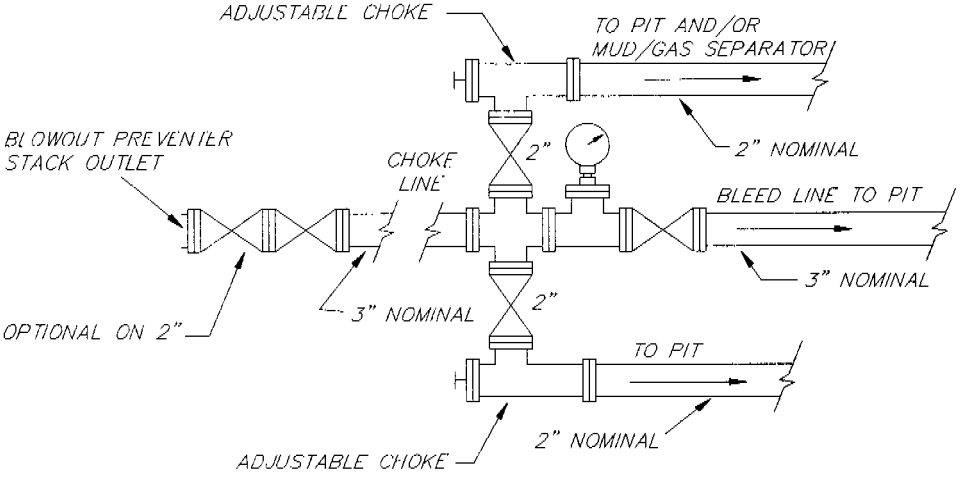
LOCATION PHOTOS	10 MONTH	14 DAY	03 YEAR	PHOTO
TAKEN BY: D.K.	DRAWN BY: P.M.	REVISED: 00-00-00		

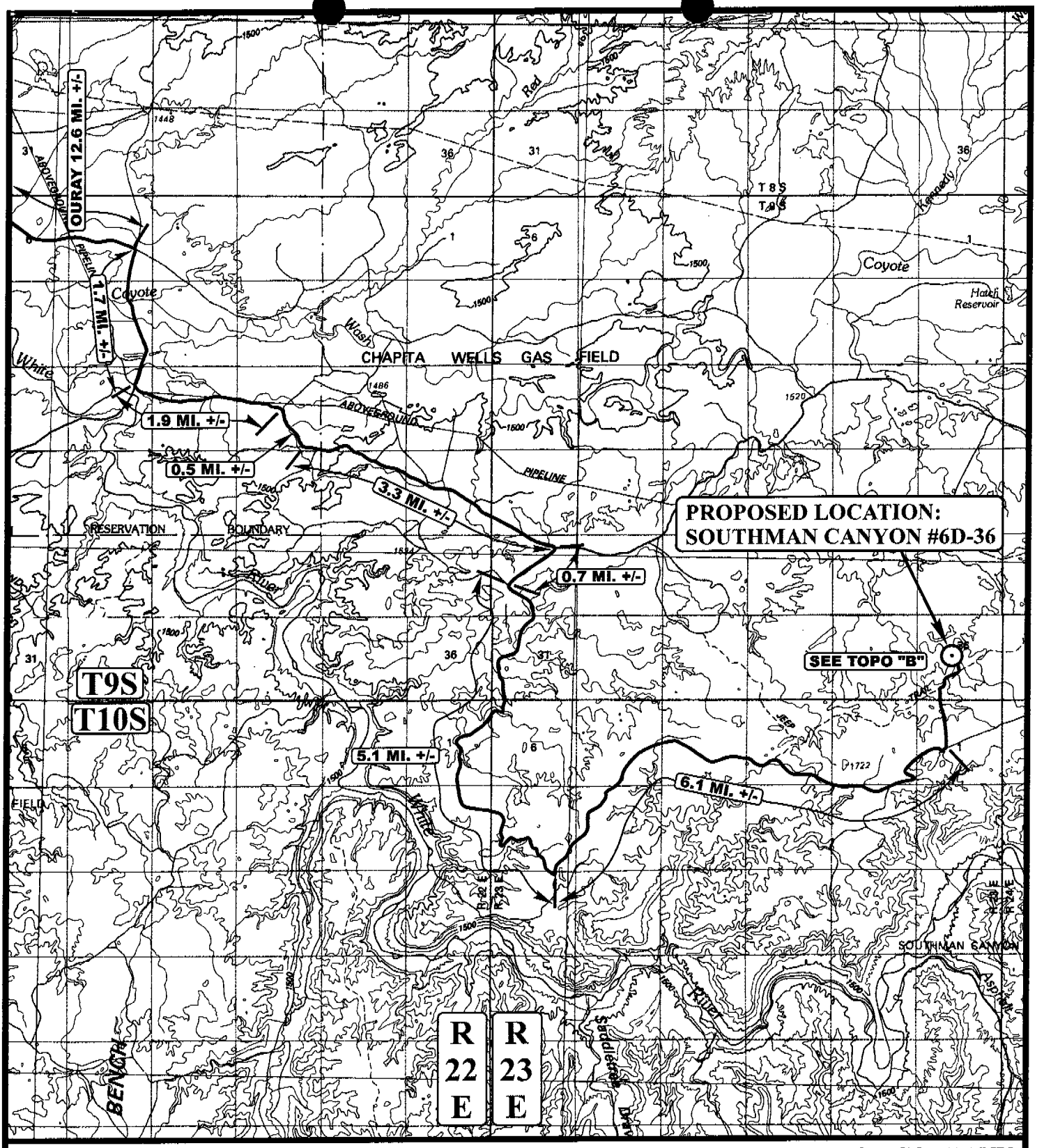
THE HOUSTON EXPLORATION COMPANY

TYPICAL 3,000 p.s.i. BLOWOUT PREVENTER SCHEMATIC



TYPICAL 3,000 p.s.i. CHOKE MANIFOLD SCHEMATIC





LEGEND:

⊙ PROPOSED LOCATION

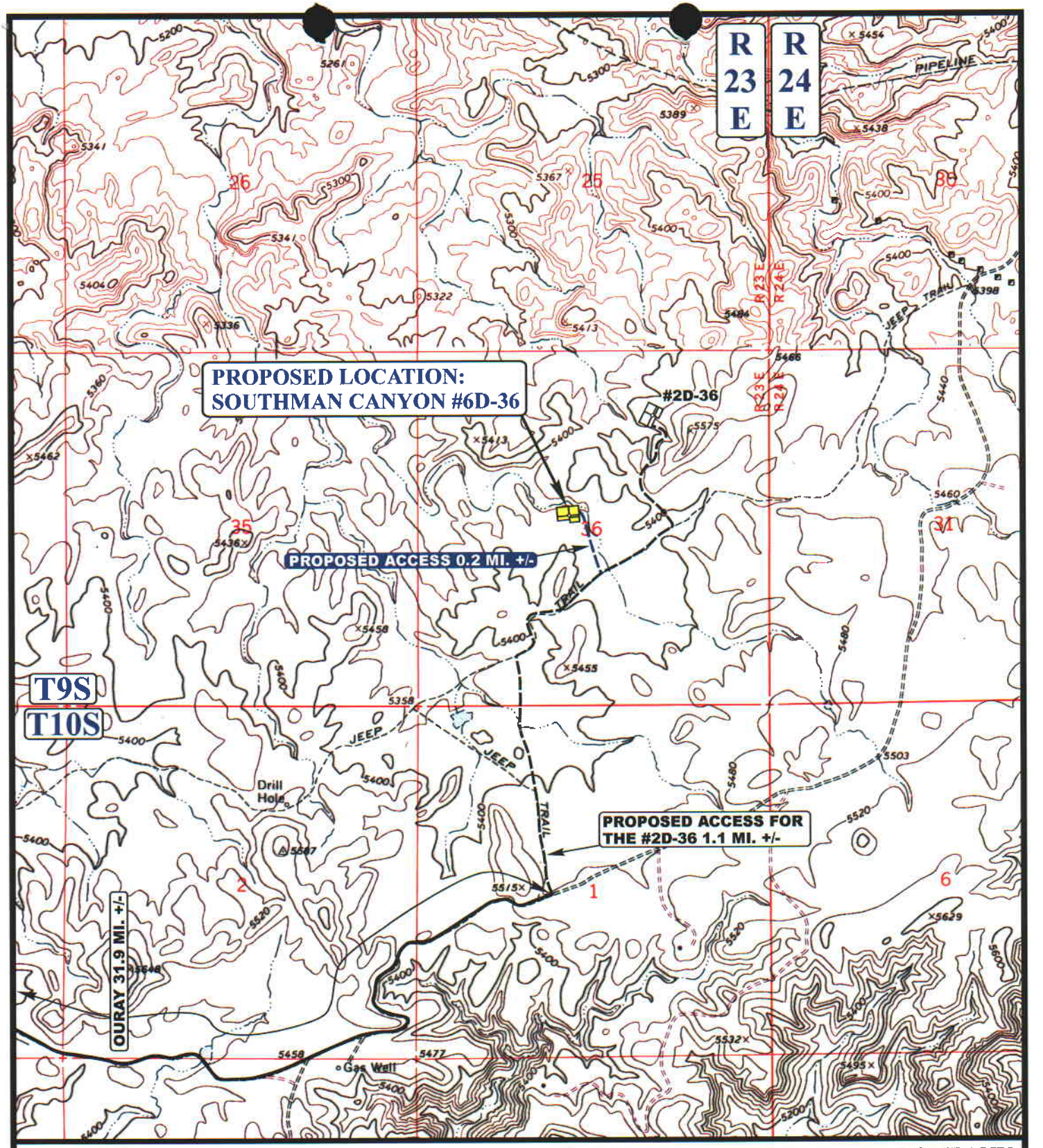
N

THE HOUSTON EXPLORATION COMPANY

SOUTHMAN CANYON #6D-36
SECTION 36, T9S, R23E, S.L.B.&M.
2466' FNL 2271' FWL

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

TOPOGRAPHIC MAP	10 MONTH	14 DAY	03 YEAR	A TOPO
SCALE: 1:100,000	DRAWN BY: P.M.	REVISED: 00-00-00		



LEGEND:

EXISTING ROAD

PROPOSED ACCESS ROAD

N

THE HOUSTON EXPLORATION COMPANY

SOUTHMAN CANYON #6D-36
SECTION 36, T9S, R23E, S.L.B.&M.
2466' FNL 2271' FWL

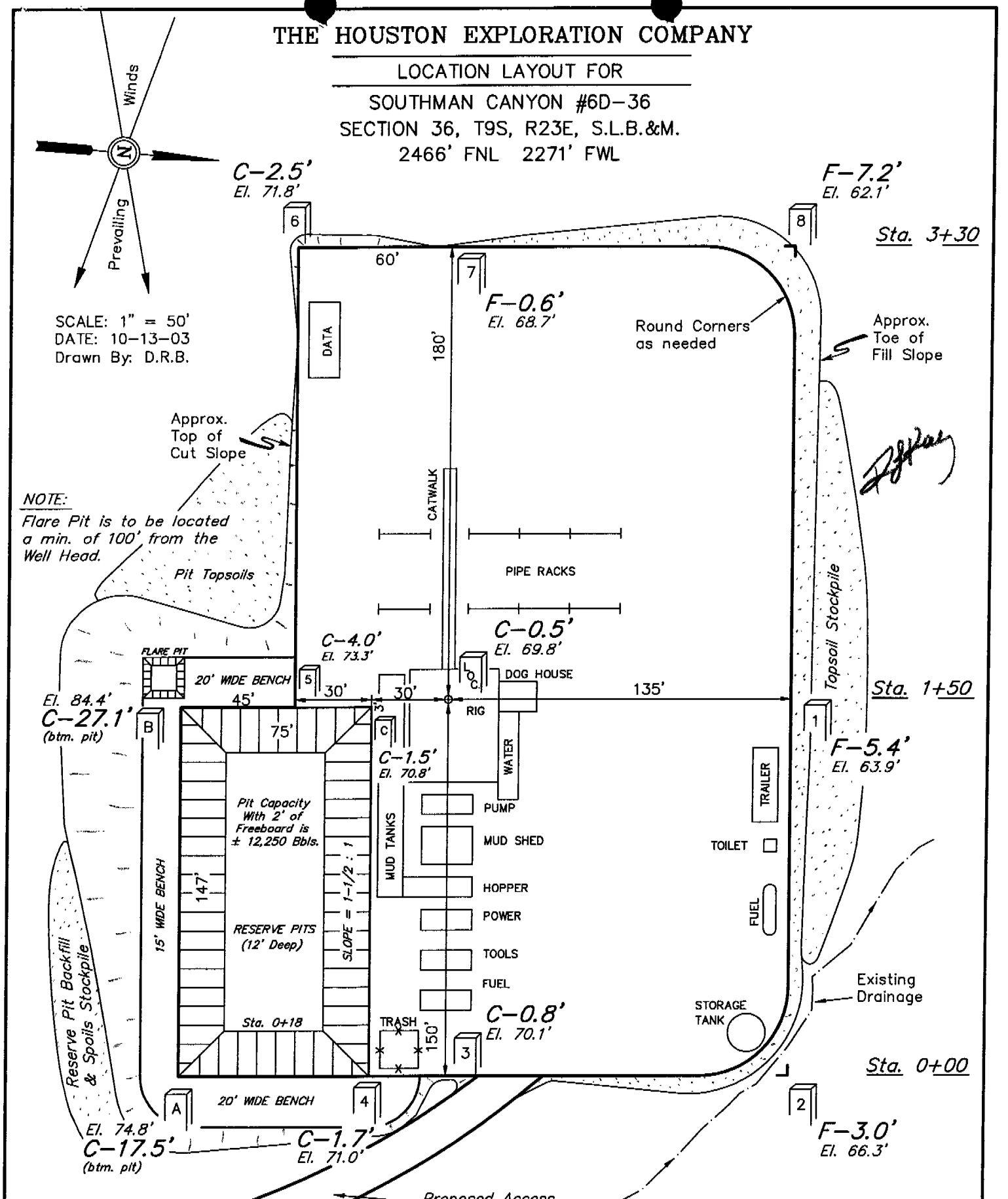
Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP	10 MONTH	14 DAY	03 YEAR	B TOPO
SCALE: 1" = 2000'	DRAWN BY: P.M.	REVISED: 00-00-00		

THE HOUSTON EXPLORATION COMPANY

LOCATION LAYOUT FOR

SOUTHMAN CANYON #6D-36
SECTION 36, T9S, R23E, S.L.B.&M.
2466' FNL 2271' FWL



NOTES:

Elev. Ungraded Ground At Loc. Stake = 5369.8'

FINISHED GRADE ELEV. AT LOC. STAKE = 5369.3'

FIGURE #1

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

THE HOUSTON EXPLORATION COMPANY

TYPICAL CROSS SECTIONS FOR

SOUTHMAN CANYON #6D-36
SECTION 36, T9S, R23E, S.L.B.&M.
2466' FNL 2271' FWL

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

DATE: 10-13-03
Drawn By: D.R.B.

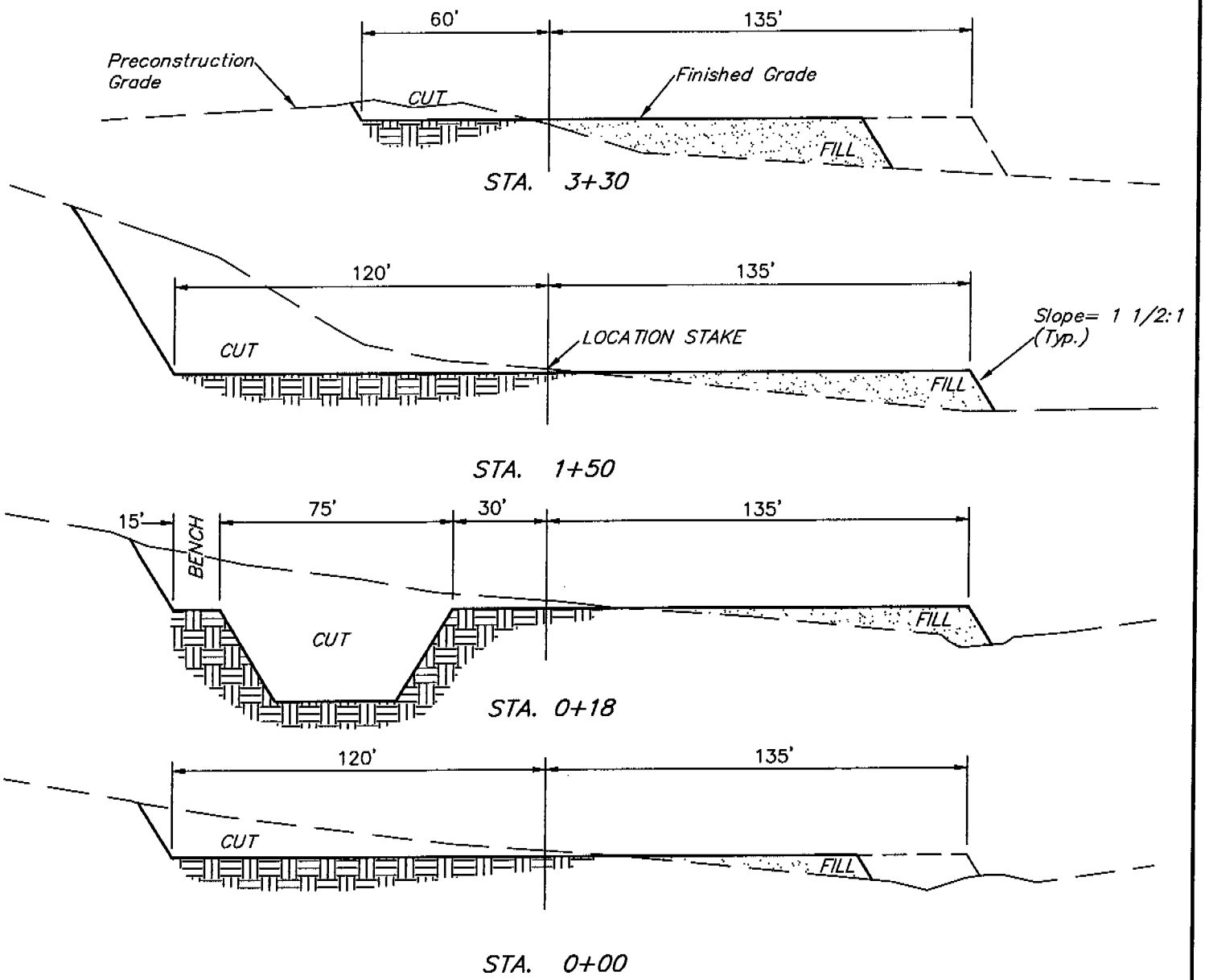


FIGURE #2

APPROXIMATE YARDAGES

CUT
(6") Topsoil Stripping = 1,420 Cu. Yds.
Remaining Location = 8,800 Cu. Yds.

TOTAL CUT = 10,220 CU.YDS.
FILL = 6,270 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION = 3,620 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.) = 3,080 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation) = 540 Cu. Yds.

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

003

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/24/2003

API NO. ASSIGNED: 43-047-35362

WELL NAME: SOUTHMAN CYN 6D-36
OPERATOR: HOUSTON EXPLORATION CO, (N2525)
CONTACT: ROBERT ANDERSON

PHONE NUMBER: 713-830-6973

PROPOSED LOCATION:
SENW 36 090S 230E
SURFACE: 2466 FNL 2271 FWL
BOTTOM: 2466 FNL 2271 FWL
UINTAH
NATURAL BUTTES (630)

LEASE TYPE: 3 - State
LEASE NUMBER: ML47782
SURFACE OWNER: 3 - State

PROPOSED FORMATION: CSLGT

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering	DKD	1/9/04
Geology		
Surface		

LATITUDE: 39.99283

LONGITUDE: 109.27627

RECEIVED AND/OR REVIEWED:

✓ Plat
✓ Bond: Fed[] Ind[] Sta[3] Fee[]
(No. 104155043)
N Potash (Y/N)
N Oil Shale 190-5 (B) or 190-3 or 190-13
✓ Water Permit
(No. 49-2154)
N RDCC Review (Y/N)
(Date:)
NA Fee Surf Agreement (Y/N)

LOCATION AND SITING:

___ R649-2-3.

Unit ___

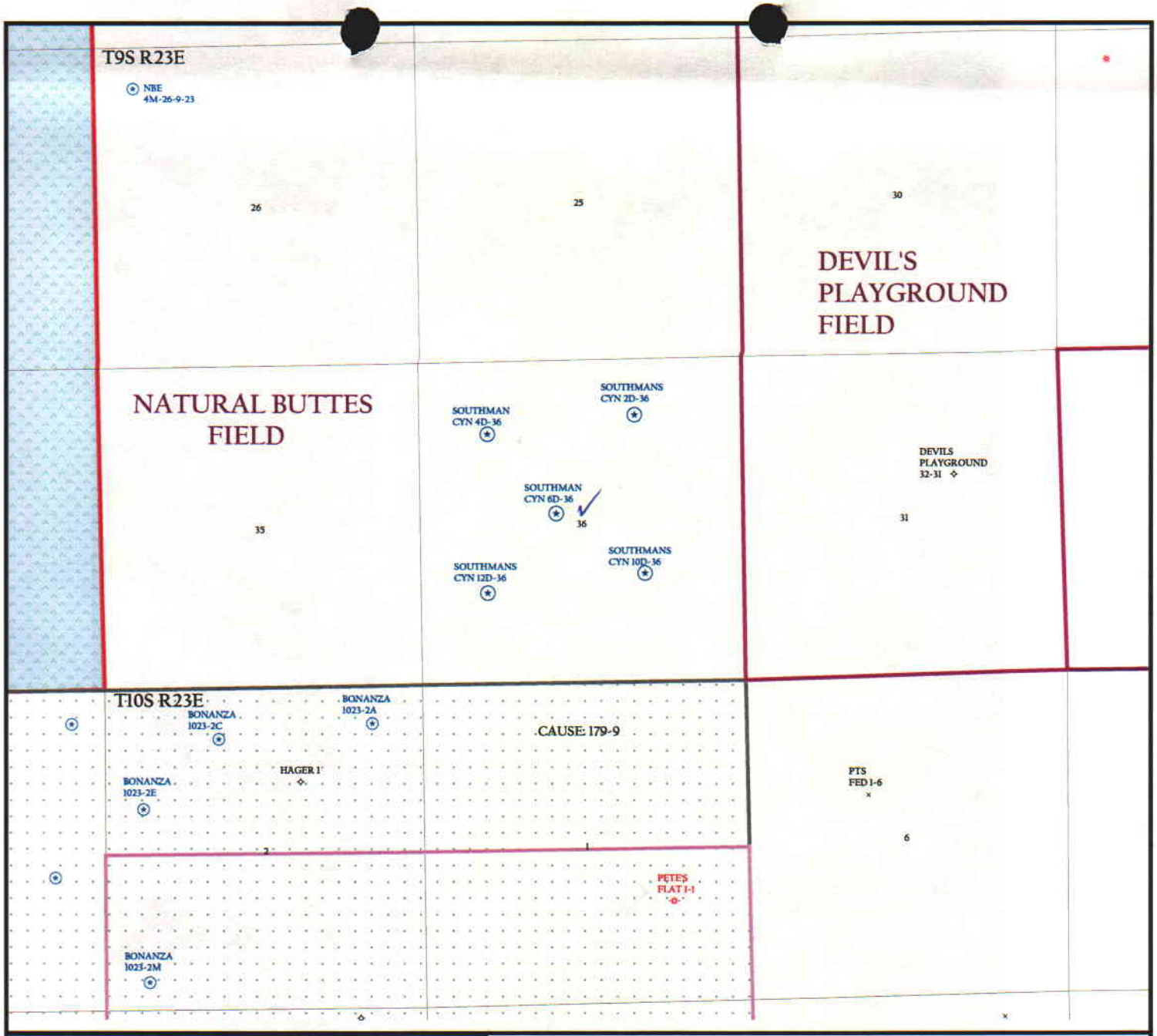
___ R649-3-2. General
Siting: 460 From Qtr/Qtr & 920' Between Wells
✓ R649-3-3. **Exception**

___ Drilling Unit
Board Cause No: ___
Eff Date: ___
Siting: ___

___ R649-3-11. Directional Drill

COMMENTS: Needs Presite (12-18-03)

STIPULATIONS: 1- Spacing Stip
2- STATEMENT OF BASIS
3- Prod Casing (5½") Cmt should be brought above the mod. Saline Groundwater (±3200')



OPERATOR: HOUSTON EXPL CO (N2525)

SEC. 36 T.9S, R.23E

FIELD: NATURAL BUTTES (630)

COUNTY: UINTAH

SPACING: R649-3-3 / EXCEPTION LOCATION

Utah Oil Gas and Mining

Wells
- 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

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

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

N
W E
S

PREPARED BY: DIANA WHITNEY
DATE: 25-NOVEMBER-2003

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

OPERATOR: THE HOUSTON EXPLORATION COMPANY
WELL NAME & NUMBER: SOUTHMAN CANYON 6D-36
API NUMBER: 43-047-35362
LOCATION: 1/4,1/4 SE/NW Sec: 36 TWP: 9S RNG: 23E 2466' FNL 2271' FWL

Geology/Ground Water:

The Houston Ex. Co. proposes to set 450 feet of surface casing cemented to the surface. The base of the moderately saline water is estimated at 3,400 feet. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this location is the Uinta Formation. The Uinta Formation is made up of discontinuous sands interbedded with shales and are not expected to produce prolific aquifers. The proposed surface casing should adequately protect any near surface aquifers.

Reviewer: Brad Hill **Date:** 12-31-03

Surface:

The predrill investigation of the surface was performed on 12/18/03. Floyd Bartlett with DWR and Ed Bonner with SITLA were invited to this investigation on 11/25/03. Mr. Bonner was present. He had no concerns regarding the construction of this location or the drilling of the well. The DWR did not have a representative present. This site is on State surface, with State minerals, and appears to be the best site for a location in the immediate area. A 20' wide bench will be constructed along the east side of the reserve pit, and a 15' wide bench will be constructed along the south side of the reserve pit.

Reviewer: David W. Hackford **Date:** 12/19/2003

Conditions of Approval/Application for Permit to Drill:

None.

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

OPERATOR: THE HOUSTON EXPLORATION COMPANY
WELL NAME & NUMBER: SOUTHMAN CANYON 6D-36
API NUMBER: 43-047-35362
LEASE: ML-47782 **FIELD/UNIT:** WILDCAT
LOCATION: 1/4,1/4 SE/NW **Sec:** 36 **TWP:** 9S **RNG:** 23E 2466' FNL 2271' FWL
LEGAL WELL SITING: 460 F **SEC. LINE;** 460 F **1/4,1/4 LINE;** 920 F **ANOTHER WELL.**
GPS COORD (UTM): 647184E 4428194N **SURFACE OWNER:** STATE OF UTAH

PARTICIPANTS

DAVID W. HACKFORD (DOGM), ED BONNER (SITLA), ROBERT KAY (UELS), BOB ANSERSON,(HOUSTON).

REGIONAL/LOCAL SETTING & TOPOGRAPHY

SITE IS IN AN AREA OF ROLLING HILLS AND KNOLLS WITH SHALLOW DRAWS DRAINING GRADUALLY TO THE WEST, AND EVENTUALLY TO THE SOUTH TO THE WHITE RIVER THREE MILES AWAY. OURAY, UTAH IS 34.2 MILES TO THE NORTHWEST, AND BONANZA, UTAH IS FIVE MILES TO THE NORTHEAST. THERE IS A DRY WATERCOURSE 200' NORTH OF THIS SITE DRAINING TO THE WEST AND A SANDSTONE OUTCROPPING 400' EAST OF SITE.

SURFACE USE PLAN

CURRENT SURFACE USE: WILDLIFE AND LIVESTOCK GRAZING, HUNTING.

PROPOSED SURFACE DISTURBANCE: LOCATION WILL BE 350' BY 240'. ACCESS ROAD WILL BE 1.1 MILES.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: SEE ATTACHED MAP FROM GIS DATABASE.

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: ALL PRODUCTION FACILITIES WILL BE ON LOCATION AND ADDED AFTER DRILLING WELL. PIPELINE WILL BE SURVEYED AT A LATER DATE IF NEEDED.

SOURCE OF CONSTRUCTION MATERIAL: ALL CONSTRUCTION MATERIAL WILL BE BORROWED FROM SITE DURING CONSTRUCTION OF LOCATION.

ANCILLARY FACILITIES: NONE WILL BE REQUIRED.

WASTE MANAGEMENT PLAN:

DRILLED CUTTINGS WILL BE SETTLED INTO RESERVE PIT. LIQUIDS FROM PIT WILL BE ALLOWED TO EVAPORATE. FORMATION WATER WILL BE CONFINED TO STORAGE TANKS. SEWAGE FACILITIES, STORAGE AND DISPOSAL WILL BE HANDLED BY COMMERCIAL CONTRACTOR. TRASH WILL BE CONTAINED IN TRASH BASKETS AND HAULED TO AN APPROVED LAND FILL.

ENVIRONMENTAL PARAMETERS

AFFECTED FLOODPLAINS AND/OR WETLANDS: NONE

FLORA/FAUNA: SAGE, GREASEWOOD, HORSEBRUSH, PRICKLY PEAR, SHADSCALE, CHEATGRASS: PRONGHORN, RODENTS, SONGBIRDS, RAPTORS, COYOTE, RABBITS.

SOIL TYPE AND CHARACTERISTICS: LIGHT BROWN SANDY CLAY.

EROSION/SEDIMENTATION/STABILITY: VERY LITTLE NATURAL EROSION. SEDIMENTATION AND STABILITY ARE NOT A PROBLEM AND LOCATION CONSTRUCTION SHOULDN'T CAUSE AN INCREASE IN STABILITY OR EROSION PROBLEMS.

PALEONTOLOGICAL POTENTIAL: NONE OBSERVED.

RESERVE PIT

CHARACTERISTICS: 147' BY 75' AND 12' DEEP.

LINER REQUIREMENTS (Site Ranking Form attached): A LINER WILL NOT BE REQUIRED FOR RESERVE PIT.

SURFACE RESTORATION/RECLAMATION PLAN

AS PER SITLA.

SURFACE AGREEMENT: AS PER SITLA.

CULTURAL RESOURCES/ARCHAEOLOGY: SITE WAS INSPECTED BY METCALF ARCHEOLOGICAL CONSULTANTS. A REPORT OF THIS INVESTIGATION WILL BE PLACED ON FILE.

OTHER OBSERVATIONS/COMMENTS

THIS PREDRILL INVESTIGATION WAS CONDUCTED ON A COLD, SUNNY DAY WITH SCATTERED SNOW COVER.

ATTACHMENTS

PHOTOS OF THIS SITE WERE TAKEN AND PLACED ON FILE.

DAVID W. HACKFORD	12/18/03, 11:00 AM
DOGM REPRESENTATIVE	DATE/TIME

Evaluation Ranking Criteria and Ranking Score
For Reserve and Onsite Pit Liner Requirements

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

Final Score 10 (Level III Sensitivity)

Sensitivity Level I = 20 or more; total containment is required.
Sensitivity Level II = 15-19; lining is discretionary.
Sensitivity Level III = below 15; no specific lining is required..

DEC 18 2003

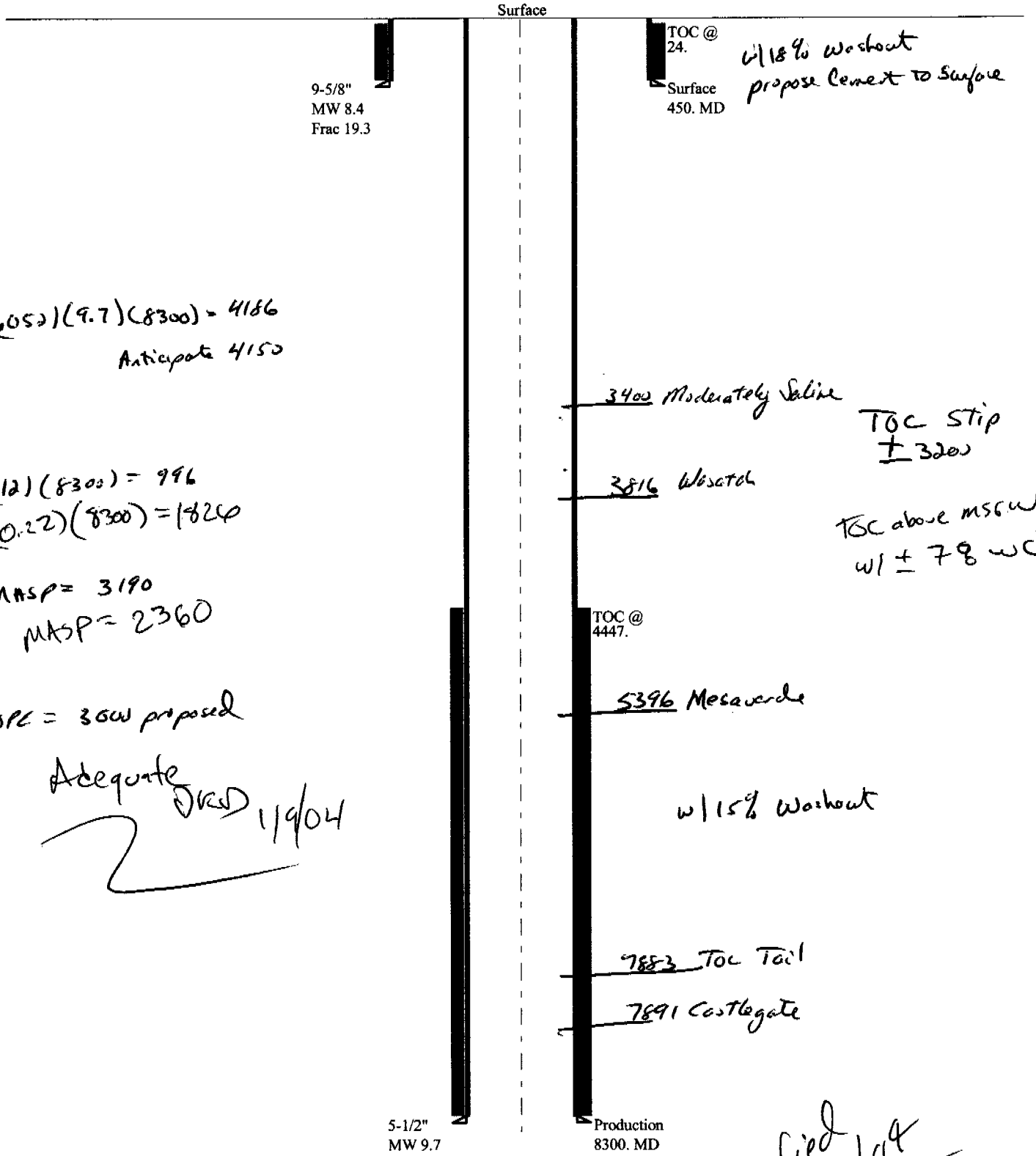
DEC 18 2003

DEC 18 2003

DEC 18 2003

01-04 Houston Southman Cyn 6D-36

Casing Schematic



Well name:	**01-04 Houston Southman Cyn 6D-36**
Operator:	**The Houston Exploration Company**
String type:	Surface
Project ID:	43-047-35362
Location:	Uintah County

Design parameters:

Collapse

Mud weight: 8.400 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 396 psi

Internal gradient: 0.120 psi/ft

Calculated BHP 450 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC: 1.80 (J)

8 Round LTC: 1.80 (J)

Buttress: 1.60 (J)

Premium: 1.50 (J)

Body yield: 1.50 (B)

Tension is based on buoyed weight.

Neutral point: 394 ft

Environment:

H2S considered? No

Surface temperature: 65 °F

Bottom hole temperature: 71 °F

Temperature gradient: 1.40 °F/100ft

Minimum section length: 250 ft

Cement top: 24 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 8,300 ft

Next mud weight: 9.700 ppg

Next setting BHP: 4,182 psi

Fracture mud wt: 19.250 ppg

Fracture depth: 450 ft

Injection pressure 450 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	450	9.625	36.00	J-55	ST&C	450	450	8.796	32

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	196	2020	10.287	450	3520	7.82	14	394	27.77 J

Prepared by: Clinton Dworshak
Utah Div. of Oil & Mining

Phone: 801-538-5280
FAX: 810-359-3940

Date: January 2,2004
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 450 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

Well name:	**01-04 Houston Southman Cyn 6D-36**
Operator:	**The Houston Exploration Company**
String type:	Production
Project ID:	43-047-35362
Location:	Uintah County

Design parameters:

Collapse

Mud weight: 9.700 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 3,186 psi

Internal gradient: 0.120 psi/ft

Calculated BHP 4,182 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

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

Tension is based on buoyed weight.

Neutral point: 7,079 ft

Environment:

H2S considered?	No
Surface temperature:	65 °F
Bottom hole temperature:	181 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	1,500 ft
Cement top:	4,447 ft

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	8300	5.5	17.00	N-80	LT&C	8300	8300	4.767	286

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	4182	6290	1.504	4182	7740	1.85	120	348	2.89 J

Prepared by: Clinton Dworshak
Utah Div. of Oil & Mining

Phone: 801-538-5280
FAX: 810-359-3940

Date: January 2,2004
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 8300 ft, a mud weight of 9.7 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

From: Ed Bonner
To: Whitney, Diana
Date: 11/25/03 1:49PM
Subject: Re: The Houston Exploaration Company

Lease is OK. Lease number is ML 47782. Bond No. 104155043 in the amount of $80,000 with Travelers Casualty and Insurance Company of America as surety.

From: Ed Bonner
To: Whitney, Diana
Date: 12/10/03 3:05PM
Subject: Well Clearance

The following wells have been given cultural resource clearance by the Trust Lands Cultural Resources Group:

Westport Oil & Gas Company
Bonanza 1023-2A Two significant sites in original pipeline corridor/access road.
Montgomery surveyed and cleared an alternate pipeline corridor/access road which must be used.
Bonanza 1023-2C
Bonanza 1023-2E
Bonanza 1023-2M

The Houston Exploration Company
Southman Canyon 2D-36
Southman Canyon 4D-36
Southman Canyon 6D-36
Southman Canyon 10D-36
Southman Canyon 12D-36

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

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

HEITZMAN DRILL-SITE SERVICES

DALE HEITZMAN (1925-2002)

ROBERT M. ANDERSON

January 6, 2004

STATE OF UTAH
Department of Natural Resources
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: Request for Location Exception

Southman Canyon #6D-36
2466' FNL, 2271' FWL (SE¼NW¼)
Section 36, T9S, R23E, S.L.B.&M.
Uintah County, Utah
State of Utah Lease #ML-47782

Gentlemen;

Pursuant to Rule R649-3-3 (Exception to Location and Siting of Wells) of the Utah Administrative Code (UAC), The Houston Exploration Company (THEC) hereby requests administrative approval for a location exception for the Southman Canyon #6D-36 well location. As indicated above, THEC proposes to drill the Southman Canyon #6D-36 from a surface hole location of 2466' FNL and 2271' FWL of Section 36 in Township 9 South, Range 23 East in Uintah County, Utah in order to test the productive potential of the Castlegate Formation at a total depth of 8300'.

Due to a combination of subsurface geologic considerations and surface topographic constraints, the proposed Southman Canyon #6D-36 could not be staked within 200 feet of the center of the selected forty-acre tract as required under UAC R649-3-2. THEC owns or controls all of the mineral acreage within a 460 foot radius of the proposed Southman Canyon #6D-36 and there are no producing wells within a 920 foot radius thereof.

Should you have any questions or require any additional information in this regard, please do not hesitate to give me a call at (307) 473-1268.

Sincerely,

Robert M. Anderson
Authorized Agent

RMA/ibm
Attachment

cc: Mr. Lloyd Bruce
The Houston Exploration Company
1100 Louisiana, Suite 2000
Houston, Texas 77002

P.O. DRAWER 3579, CASPER, WYOMING 82602 (307) 473-1268

004

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

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5340 telephone
(801) 359-3940 fax
(801) 538-7223 TTY
www.nr.utah.gov

Michael O. Leavitt
Governor
Robert L. Morgan
Executive Director
Lowell P. Braxton
Division Director

January 12, 2004

The Houston Exploration Company
1100 Louisiana, Suite 2000
Houston, TX 77002

Re: Southman Canyon #6D-36 Well, 2466' FNL, 2271' FWL, SE NW, Sec. 36, T. 9 South, R. 23 East, Uintah County, Utah

Gentlemen:

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

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-35362.

Sincerely,

John R. Baza
Associate Director

pab
Enclosures

cc: Uintah County Assessor
SITLA

Utah!
Where ideas connect

Operator: The Houston Exploration Company
Well Name & Number Southman Canyon #6D-36
API Number: 43-047-35362
Lease: 47782

Location: SE NW **Sec.** 36 **T.** 9 South **R.** 23 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 State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.

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

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

7. Production casing (5 ½") cement shall be brought above the moderately saline groundwater (±3200').

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: HOUSTON EXPLORATION COMPANY

Well Name: SOUTHMAN CYN 6D-36

Api No: 43-047-35362 Lease Type: STATE

Section 36 Township 09S Range 23E County UINTAH

Drilling Contractor STUBBS & STUBBS RIG # 111

SPUDDED:

Date 02/06/04

Time 10:00 AM

How ROTARY

Drilling will commence:

Reported by NIKKI STUBBS

Telephone # 1-435-789-8874

Date 02/06 /2004 Signed CHD

006

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

5 LEASE DESIGNATION AND SERIAL NUMBER: ML 47782

SUNDRY NOTICED AND REPORTS ON WELLS

6 IF INDIAN, ALLOT TEE OR TRIBE NAME: NA

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

7 UNIT OR CA AGREEMENT NAME: NA

1 TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER

8 WELL NAME AND NUMBER: Southman Canyon 6D-~~32~~ 36

2 NAME OF OPERATOR: The Houston Exploration Company
PHONE NUMBER: 713-830-6800

9 APE NUMBER: 43-047-35362

3 ADDRESS OF OPERATOR: 1100 Louisiana, Suite 2000, Houston TX 77002-5215

10 FIELD AND POOL, OR WILDCAT: None

4 LOCATION OF WELL

FOOTAGE AT SURFACE: 2466' FNL, 2271' FWL

COUNTY: Uintah

STATE: UTAH

QTR/QTR, SECTION, TOWNSHIP, RANGE,MERIDIAN: SENW, Sec. 36, T9S, R23E

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

TYPE OF SUBMISSION	TYPE OF ACTION		
[X] NOTICE OF INTENT (Submit in Duplicate)	[ ] ACIDIZE	[ ] DEEPEN	[ ] REPORT CURRENT FORMATION
approximate date work will start: ASAP	[ ] ALTER CASING	[ ] FRACTURE TREAT	[ ] SIDETRACK TO REPAIR WELL
	[ ] CASING REPAIRS	[ ] NEW CONSTRUCTION	[ ] TEMPORARILY ABANDON
	[ ] CHANGE TO PREVIOUS PLANS	[ ] OPERATOR CHANGE	[ ] TUBING REPAIRS
	[ ] CHANGE TUBING	[ ] PLUG AND ABANDON	[ ] VENT OR FLAIR
[ ] SUBSEQUENT REPORT (Submit Original Form Only)	[ ] CHANGE WELL NAME	[ ] PLUG BACK	[ ] WATER DISPOSAL
Date of work completion:	[ ] CHANGE WELL STATUS	[ ] PRODUCTION (START/RESUME)	[ ] WATER SHUT-OFF
	[ ] COMMINGLE PRODUCTION FORMATIONS	[ ] RECLAMATION OF WELL SITE	[ ] OTHER:
	[ ] CONVERT WELL TYPE	[ ] RECOMPLETE-DIFFERENT FORMATION	

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

Operator proposess changing the access road location. After construction started on the access road above and below a switch back it became appairent that the switch back would be to tight a turn for tankers and water trucks. No construction has been performed on the switch back and all area proposed for disturbance by the realinement would be inside of the archelogical surveyed area.

Please see the attached map for additional details.

If you require additional information please contact Bill Ryan (435-828-0968)

COPY SENT TO OPERATOR
Date: 2-12-04
Initials: CHD

NAME (PLEASE PRINT): William A. Ryan
TITLE: Agent
SIGNATURE: William A. Ryan
DATE: 2/3/2004

(This space for State use only)

Accepted by the
Utah Division of
Oil, Gas and Mining
Date: 2/13/04
By: [illegible]

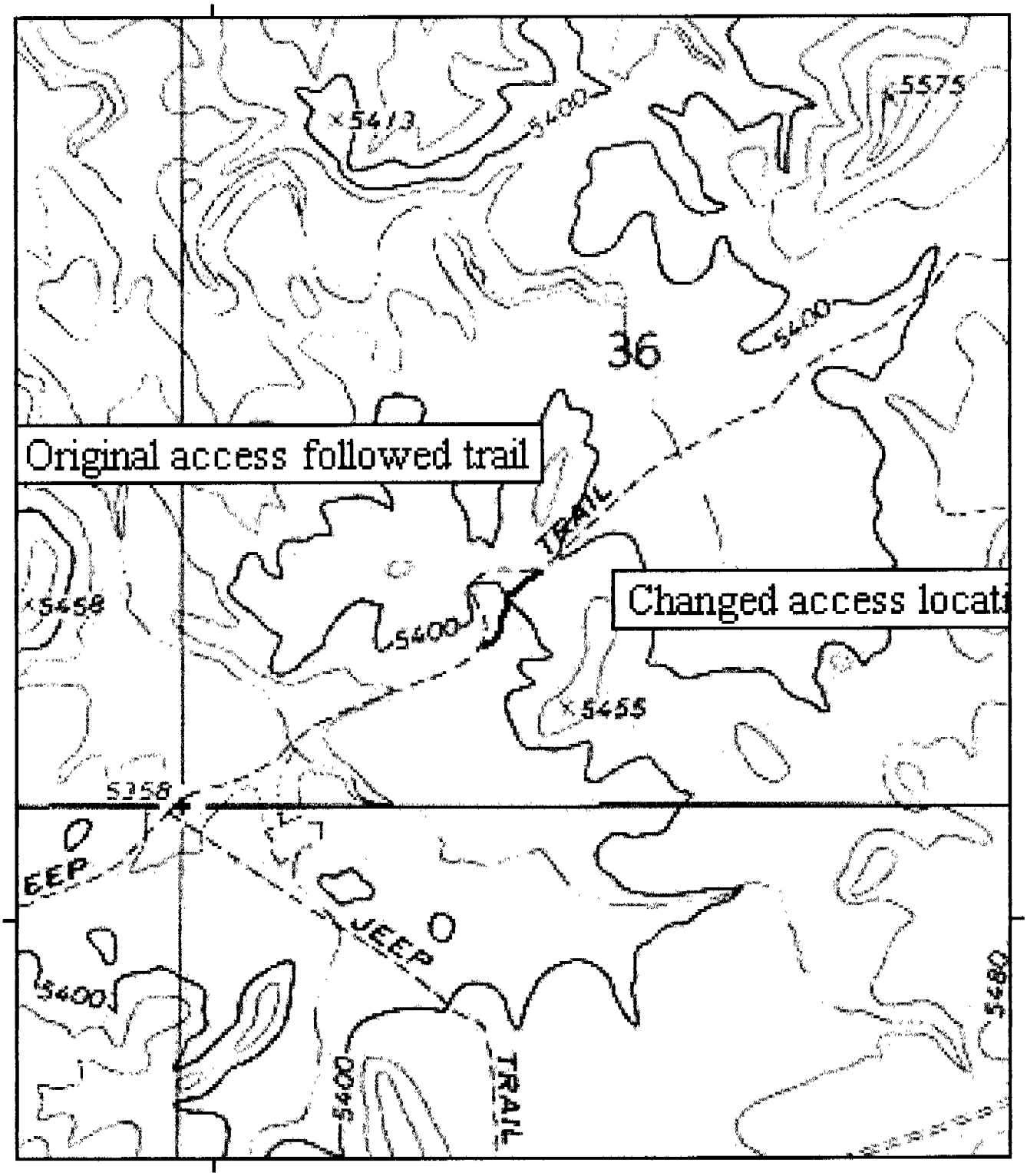
RECEIVED
FEB 12 2004
DIV. OF OIL, GAS & MINING

(5/2000)

* Approval should be gained from appropriate land management agency

nted on 02/03/04 from "THEX sec 36 road.tpo" anc

NAD27 109°17.000' W



NAD27 109°17.000' W

TN MN
12°

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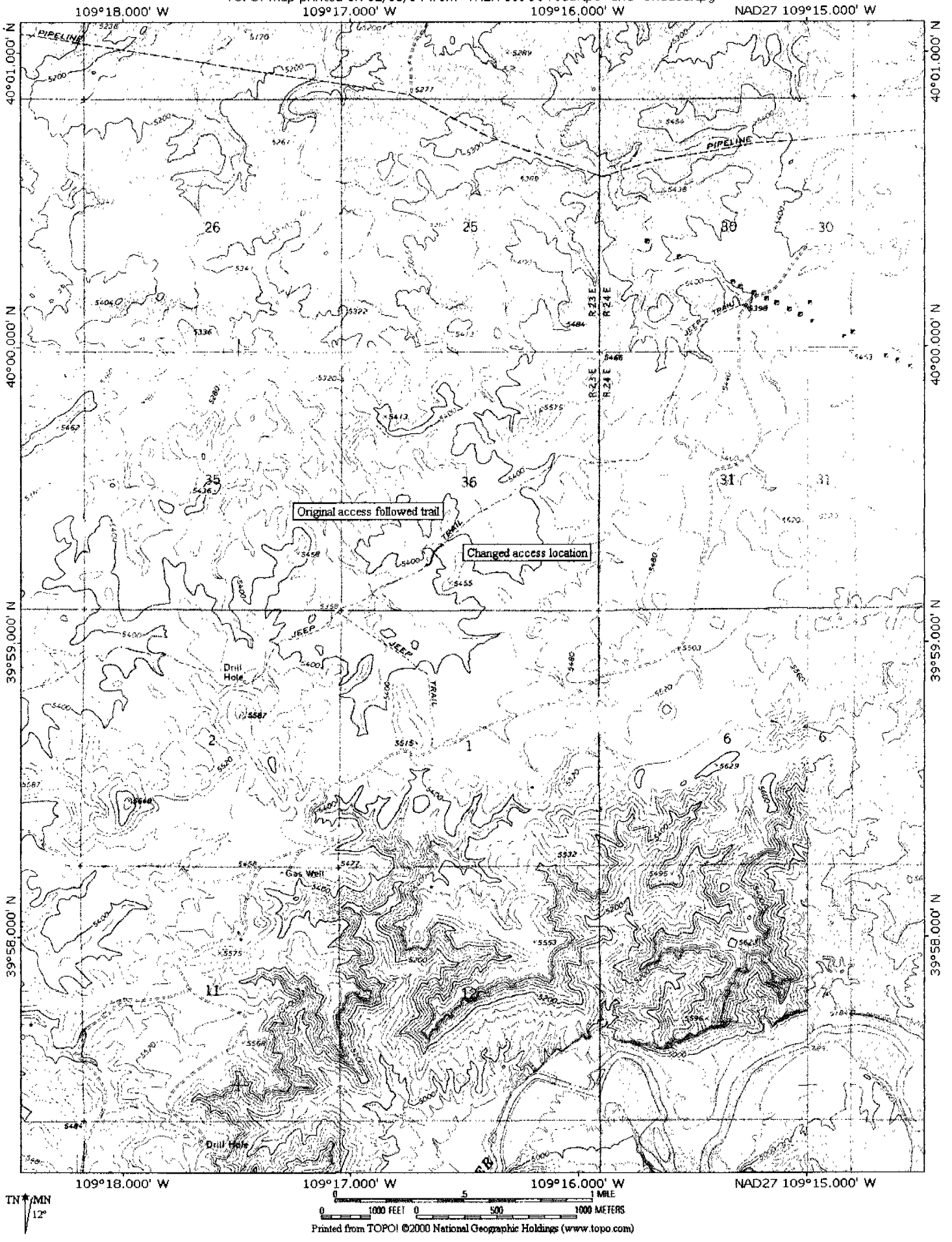
Printed from TOPO! ©2000 National Geographic Holdings (v

TOPO! map printed on 02/03/04 from "THEX sec 36 road.tpo" and "untitled.tpg"



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

5 LEASE DESIGNATION AND SERIAL NUMBER: **ML 47782**

SUNDRY NOTICED AND REPORTS ON WELLS

6 IF INDIAN, ALLOTTEE OR TRIBE NAME: **NA**

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 PERMITS TO DRILL form for such proposals

7 UNIT OR CA AGREEMENT NAME: **NA**

1 TYPE OF WELL
OIL WELL [ ] GAS WELL [X] OTHER

8 WELL NAME AND NUMBER: **Southman Canyon 6D-36**

2 NAME OF OPERATOR: **The Houston Exploration Company**
PHONE NUMBER: **713-830-6800**

9 APE NUMBER: **43-047-35362**

3 ADDRESS OF OPERATOR: **1100 Louisiana, Suite 2000, Houston TX 77002-5215**

10 FIELD AND POOL, OR WILDCAT: **None**

4 LOCATION OF WELL

FOOTAGE AT SURFACE: **2466' FNL, 2271' FWL**
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SENW, Sec. 36, T9S, R23E**

COUNTY: **Uintah**
STATE: **UTAH**

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

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

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

Operator proposes changing the casing design as follows,
Drill 20" hole to 86', set at 87' 13 3/8", 48#, H-40, STC
Drill 12 1/4", hole to 2,000'+/-. Set 2,000', 9 5/8", 36#, J-55, STC
Drill 7 7/8" hole to 8,000' +/-. Set 8,000', 5 1/2", 17#, N-80, LTC
The 13 3/8" conductor will be cemented to the surface w/6 bag mix, ready mix.
The 9 5/8" surface casing will be cemented to the surface as follows.
1st lead 253sks, 11.0 ppg, 3.38 cf/sk, Primium Lite II, .05#/sk Static Free, .25#/sk Cello Flake, 5#/sk Kol Seal, .002 gps FP-6L 10% bwoc Bentonite, .5% bwoc Sodium Metasilicate, 3% bwow Potassium Chloride
Tail 329 sks, 15.6 ppg, 1.2 cf/sk, Class G Cement, 2% bwoc Calcium Chloride, .25 #/sk Cello Flake
The 5 1/2" production will be cemented back to 2,500' as follows.
1st lead 206sks, 11.0 ppg, 3.38 cf/sk, Primium Lite II, .25#/sk Cello Flake,.05 #/sk Static Free, 5#/sk Kol Seal, 3% bwow Potassium Chloride, .005 gps FP-6L, 10% bwoc Bentonite, .5 bwoc Sodium Metasilicate
Tail 391 sks, 14.3 ppg, 1.66 cf/sk, Class G Cement, .05% bwoc Static Free, bwow Sodium Chloride, .1% bwoc R-3, 2% bwoc Bentonite. If you require additional information please contact Bill Ryan (435-828-0968)

NAME (PLEASE PRINT): **William A. Ryan** TITLE: **Agent**
SIGNATURE: William A. Ryan DATE: **2/18/2004**

(This space for State use only)

(5/2000)

007

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

FORM 6

ENTITY ACTION FORM

Operator: The Houston Exploration Company
Address: 1100 Louisiana, Suite 2000
city Houston
state TX zip 77002

Operator Account Number: N 2525

Phone Number: (713) 830-6800

Well 1

API Number	Well Name	QQ	Sec	Twp	Rng	County
43-047-35362	Southman Canyon #6D-36	SENW	36	9S	23E	Uintah

Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date
[illegible]	99999	14053	2/3/04	2/19/04

Comments: CSLGT

K

Well 2

API Number	Well Name	QQ	Sec	Twp	Rng	County
43-047-35364	Southman Canyon #12D-36	NWSW	36	9S	23E	Uintah

Action Code	Current Entity Number	New Entity Number	Spud Date	Entity Assignment Effective Date
[illegible]	99999	14063	2/9/04	3/3/04

Comments: CSLGT

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)

Theresa Overturf
Name (Please Print)

Theresa Overturf
Signature

Engineering Technician 2/19/04
Title Date

(6/2000)

FEB 19 2004

008

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

5 LEASE DESIGNATION AND SERIAL NUMBER: **ML 47782**

6 IF INDIAN, ALLOTTEE OR TRIBE NAME: **NA**

7 UNIT OR CA AGREEMENT NAME: **NA**

8 WELL NAME AND NUMBER: **Southman Canyon 6D-36**

9 API NUMBER: **43-047-35362**

10 FIELD AND POOL, OR WILDCAT: **None**

SUNDRY NOTICED AND REPORTS ON WELLS

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

1 TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER

2 NAME OF OPERATOR: **The Houston Exploration Company**

PHONE NUMBER: **713-830-6900**

3 ADDRESS OF OPERATOR: **1100 Louisiana, Suite 2000, Houston TX 77002-5215**

4 LOCATION OF WELL

FOOTAGE AT SURFACE: **2468' FNL, 2271' FWL**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SENW, Sec. 36, T9S, R23E** 9S 23E 36

COUNTY: **Uintah**

STATE: **UTAH**

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

TYPE OF SUBMISSION	TYPE OF ACTION		
[X] NOTICE OF INTENT (Submit in Duplicate)	[ ] ACIDIZE	[ ] DEEPEN	[ ] REPORT CURRENT FORMATION
approximate date work will start: ASAP	[ ] ALTER CASING	[ ] FRACTURE TREAT	[ ] SIDETRACK TO REPAIR WELL
	[ ] CASING REPAIR	[ ] NEW CONSTRUCTION	[ ] TEMPORARILY ABANDON
	[X] CHANGE TO PREVIOUS PLANS	[ ] OPERATOR CHANGE	[ ] TUBING REPAIRS
	[ ] CHANGE TUBING	[ ] PLUG AND ABANDON	[ ] VENT OR FLARE
[ ] SUBSEQUENT REPORT (Submit Original Form Only)	[ ] CHANGE WELL NAME	[ ] PLUG BACK	[ ] WATER DISPOSAL
Date of work completion:	[ ] CHANGE WELL STATUS	[ ] PRODUCTION (START/RESUME)	[ ] WATER SHUT-OFF
	[ ] COMMINGLE PRODUCTION FORMATIONS	[ ] RECLAMATION OF WELL SITE	[ ] OTHER:
	[ ] CONVERT WELL TYPE	[ ] RECOMPLETE-DIFFERENT FORMATION	

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

Operator proposes changing the casing design as follows,
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Drill 12 1/4", hole to 2,000'+/-. Set 2,000', 9 5/8", 36#, J-55, STC
Drill 7 7/8" hole to 8,000' +/-. Set 8,000', 5 1/2", 17#, N-80, LTC
The 13 3/8" conductor will be cemented to the surface w/8 bag mix, ready mix.
The 9 5/8" surface casing will be cemented to the surface as follows.
1st lead 253sks, 11.0 ppg, 3.38 cf/sk, Primium Lite II, .05#/sk Static Free, .25#/sk Cello Flake, 5#/sk Kol Seal, .002 gps FP-6L 10% bwoc Bentonite, .5% bwoc Sodium Metasilicate, 3% bwow Potassium Chloride
Tail 329 sks, 15.6 ppg, 1.2 cf/sk, Class G Cement, 2% bwoc Calcium Chloride, .25 #/sk Cello Flake
The 5 1/2" production will be cemented back to 2,500' as follows.
1st lead 206sks, 11.0 ppg, 3.38 cf/sk, Primium Lite II, .25#/sk Cello Flake,.05 #/sk Static Free, 5#/sk Kol Seal, 3% bwow Potassium Chloride, .005 gps FP-6L, 10% bwoc Bentonite, .5 bwoc Sodium Metasilicate
Tail 391 sks, 14.3 ppg, 1.56 cf/sk, Class G Cement, .05% bwoc Static Free, bwow Sodium Chloride, .1% bwoc R-3, 2% bwoc Bentonite. If you require additional information please contact Bill Ryan (435-828-0968)

NOTICE SENT TO OPERATOR
DATE: 3-16-04
INITIALS: CHD

NAME (PLEASE PRINT): William A. Ryan TITLE: Agent

SIGNATURE: William A. Ryan DATE: 2/18/2004

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS AND MINING
DATE: 3/9/04
BY: [illegible]

RECEIVED
FEB 20 2004
DIV. OF OIL, GAS & MINING

(5/2000)

Well name:	**01-04 Houston Southman Cyn 6D-36**
Operator:	**The Houston Exploration Company**
String type:	Surface
Project ID:	43-047-35362
Location:	Uintah County

Design parameters:

Collapse

Mud weight: 8.400 ppg

Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 1,760 psi

Internal gradient: 0.120 psi/ft

Calculated BHP 2,000 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

8 Round STC: 1.80 (J)

8 Round LTC: 1.80 (J)

Buttress: 1.60 (J)

Premium: 1.50 (J)

Body yield: 1.50 (B)

Tension is based on buoyed weight.

Neutral point: 1,751 ft

Environment:

H2S considered? No

Surface temperature: 65 °F

Bottom hole temperature: 93 °F

Temperature gradient: 1.40 °F/100ft

Minimum section length: 250 ft

Cement top: 30 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 8,300 ft

Next mud weight: 9.700 ppg

Next setting BHP: 4,182 psi

Fracture mud wt: 19.250 ppg

Fracture depth: 2,000 ft

Injection pressure 2,000 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft^3)
1	2000	9.625	36.00	J-55	ST&C	2000	2000	8.796	142.4

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	873	2020	2.315	2000	3520	1.76	63	394	6.25 J

Prepared by: Clinton Dworshak, Utah Div. of Oil & Mining

Phone: 801-538-5280

FAX: 810-359-3940

Date: February 20,2004

Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2000 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

Well name:	**01-04 Houston Southman Cyn 6D-36**
Operator:	**The Houston Exploration Company**
String type:	Production
Project ID:	43-047-35362
Location:	Uintah County

Design parameters:

Collapse

Mud weight: 9.700 ppg
Design is based on evacuated pipe.

Burst

Max anticipated surface pressure: 3,071 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 4,031 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Tension:

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

Tension is based on buoyed weight.
Neutral point: 6,823 ft

Environment:

H2S considered? No
Surface temperature: 65 °F
Bottom hole temperature: 177 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,500 ft

Cement top: 3,373 ft

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	8000	5.5	17.00	N-80	LT&C	8000	8000	4.767	275.7

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	4031	6290	1.560	4031	7740	1.92	116	348	3.00 J

Prepared by: Clinton Dworshak
Utah Div. of Oil & Mining
Phone: 801-538-5280
FAX: 810-359-3940
Date: February 20,2004
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 8000 ft, a mud weight of 9.7 ppg The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

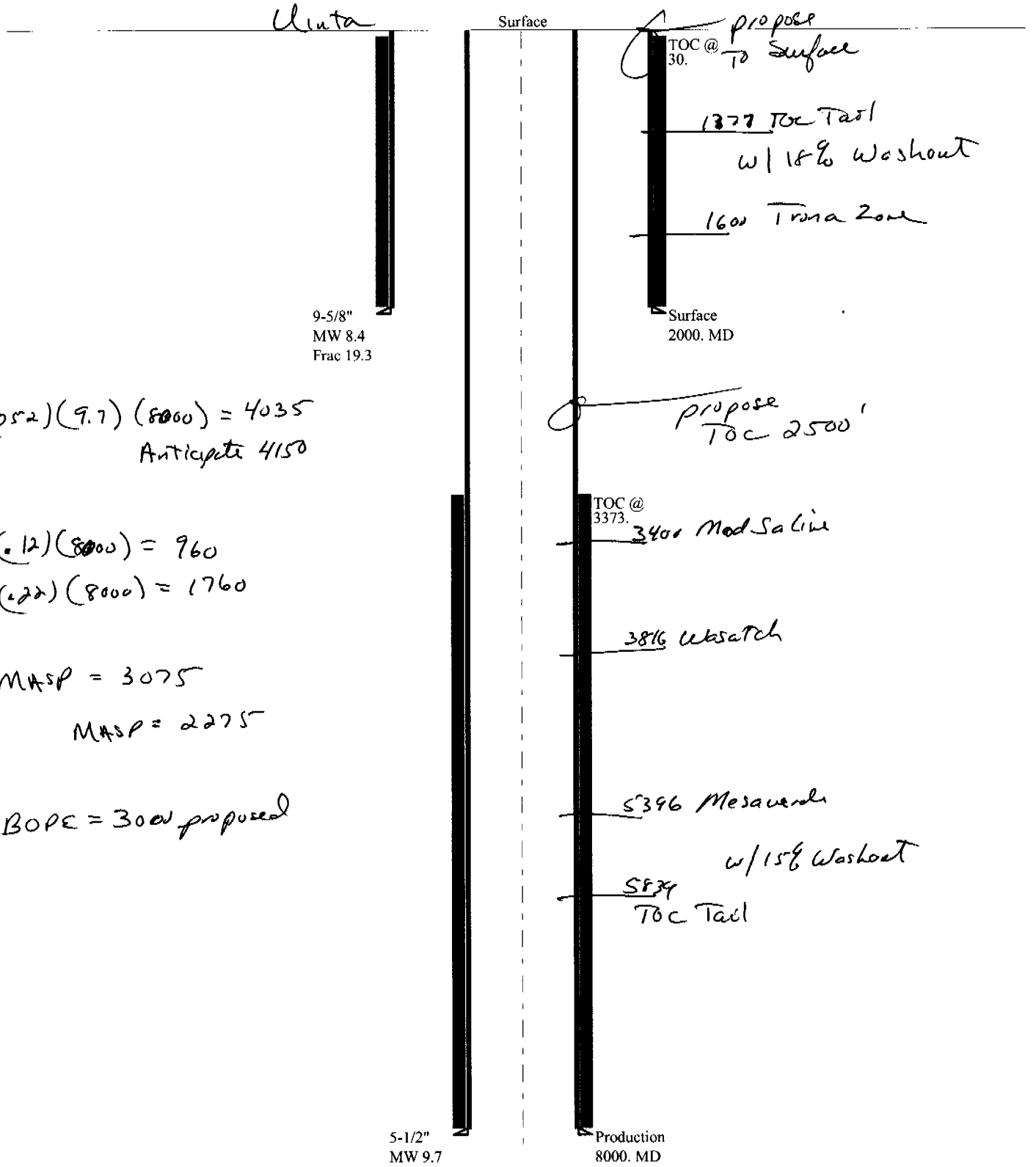
Burst strength is not adjusted for tension.

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

01-04 Houston Southman Cyn 6D-36

Casing Schematic

2/20/04 CD



(.052)(9.7)(8000) = 4035

Anticipate 4150

(.12)(8000) = 960

(.22)(8000) = 1760

MASP = 3075

MASP = 2275

BOPE = 3000 proposed

Rocky Mountain Consulting

Office (435) 789-0968
Cellular (435) 828-0968

350 S. 800 E.
Vernal, UT 84078

801-359-3940

Klint D.

Give me a call if you need additional info.

Bill Ryan.

~~[illegible]~~ -828-0968
435

Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

009

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
ML 47782

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
SOUTHMAN CANYON 6D-36

2. Name of Operator
THE HOUSTON EXPLORATION CO.

Contact: THERESA OVERTURF
E-Mail: toverturf@houstonexp.com

9. API Well No.
43-047-35362

3a. Address
1100 LOUISIANA, SUITE 2000
HOUSTON, TX 77002

3b. Phone No. (include area code)
Ph: 713.830.6938

10. Field and Pool, or Exploratory

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
2466' FNL & 2271' FWL; SENW, Sec 36, T9S, R23E

11. County or Parish, and State
UINTAH COUNTY, UT

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Drilling Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Operations 3/23/04 through 3/29/04 Prep to frac.

RECEIVED
APR 05 2004
DIV. OF OIL, GAS & MINING

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

Name *(Printed/Typed)* THERESA OVERTURF

Title AUTHORIZED REPRESENTATIVE

Signature Theresa Overturf

Date 3/30/04

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

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

Office

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

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

010

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: ML 47782

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA

7. UNIT or CA AGREEMENT NAME: NA

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

8. WELL NAME and NUMBER: Southman Canyon 6D-36

2. NAME OF OPERATOR: The Houston Exploration Company

9. API NUMBER: 4304735362

3. ADDRESS OF OPERATOR: 1100 Louisiana, Ste 2000 CITY Houston STATE TX ZIP 77002

PHONE NUMBER: (713) 830-6938

10. FIELD AND POOL, OR WILDCAT: None

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 2466' FNL, 2271' FWL

COUNTY: Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E

STATE: UTAH

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

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

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

2/18/04 - 6/30/04 Drld to 2020'. Ran 9 5/8" csg, set @ 2006', cmtd. Drld 2020'-8552'. Log. Ran 5 1/2" csg, set @ 8552', cmtd. Waiting on completion.

RECEIVED
JUL 19 2004
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) Theresa Overturf

TITLE Engineering Technician

SIGNATURE Theresa Overturf

DATE 7/14/2004

(This space for State use only)

(5/2000)

(See Instructions on Reverse Side)

011

FORM 9

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

SUNDRY NOTICES AND REPORTS ON WELLS

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9. API NUMBER: 4304735362
10. FIELD AND POOL, OR WILDCAT: None

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

2. NAME OF OPERATOR: The Houston Exploration Company

3. ADDRESS OF OPERATOR: 1100 Louisiana, Suite 2000 CITY Houston STATE TX ZIP 77002 PHONE NUMBER: (713) 830-6938

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 2466' FNL, 2271' FWL COUNTY: Uintah
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E STATE: UTAH

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	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Waiting On Pipeline
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

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

7/1/04 - 7/31/04 Waiting On Pipeline

NAME (PLEASE PRINT) Theresa Overturf TITLE Engineering Technician

SIGNATURE Theresa Overturf DATE 8/5/2004

(This space for State use only)

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AUG 09 2004
DIV. OF OIL, G...

(5/2000) (See Instructions on Reverse Side)

012

FORM 9

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

SUNDRY NOTICES AND REPORTS ON WELLS

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3. ADDRESS OF OPERATOR: 1100 Louisiana,Suite 2000 CITY Houston STATE TX ZIP 77002 PHONE NUMBER: (713) 830-6938

4. LOCATION OF WELL
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QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E STATE: UTAH

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	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Waiting on Pipeline
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

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

8/1/04 - 8/31/04 Waiting on Pipeline

RECEIVED
SEP 07 2004
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) Theresa Overturf TITLE Engineering Technician
SIGNATURE Theresa Overturf DATE 9/2/2004

(This space for State use only)

(5/2000) (See Instructions on Reverse Side)

013

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

AMENDED REPORT ☐ (highlight changes)

FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: ML 47782

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

8. WELL NAME and NUMBER: Southman Canyon 6D-36

9. API NUMBER: 4304735362

10 FIELD AND POOL, OR WILDCAT:

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36, 9S, 23E

12. COUNTY: Uintah

13. STATE: UTAH

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL [X] DRY ☐ OTHER

b. TYPE OF WORK: NEW WELL [X] HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

2. NAME OF OPERATOR: The Houston Exploration Company

3. ADDRESS OF OPERATOR: 1100 Louisiana Ste2000 CITY Houston STATE TX ZIP 77002 PHONE NUMBER: (713)830-6800

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: 2466' FNL & 2271' FWL
AT TOP PRODUCING INTERVAL REPORTED BELOW:
AT TOTAL DEPTH:

EXPIRED ON 5-15-05

14. DATE SPUDDED: 2/13/04
15. DATE T.D. REACHED: 3/5/04
16. DATE COMPLETED: 4/15/04 ABANDONED ☐ READY TO PRODUCE [X]
17. ELEVATIONS (DF, RKB, RT, GL): 5370' GL

18. TOTAL DEPTH: MD 8,552' TVD
19. PLUG BACK T.D.: MD 8,552; TVD
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)
CBL/GR/CCL, CVL/CAL/GR
Platform Express/IT COMBO/GR
AI/LC/GR

23.
WAS WELL CORED? NO [X] YES ☐ (Submit analysis)
WAS DST RUN? NO [X] YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO [X] 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
20"	13 3/8"	48	12'	99'		6sx ready mix		Surface	
12 1/4"	9 5/8"	36	12'	2006'		829 sx C1G	177	Surface	
7 7/8"	5 1/2"	17	12'	8552'		200 sx Prem	85	1790'	
						Lite II &			
						1215 sx C1G	283		

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"	6902'							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) Mesaverde	7808'	7852'		
(B) Mesaverde	7503'	7622'		
(C) Mesaverde	6942'	6962'		
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
7808'-7852'		81	Open [X] Squeezed ☐
7503'-7622'		72	Open [X] Squeezed ☐
6942'-6962'		60	Open [X] Squeezed ☐
			Open ☐ Squeezed ☐

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7808'-7852'	127,560# 20/40 sand
7503'-7622'	60,000# 20/40 sand
6942'-6962'	63,400# 20/40 sand

OCT 01 2004

29. ENCLOSED ATTACHMENTS:
[XX] ELECTRICAL/MECHANICAL LOGS
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION
☐ GEOLOGIC REPORT
☐ CORE ANALYSIS
☐ DST REPORT
☐ OTHER:
☐ DIRECTIONAL SURVEY

30. WELL STATUS: SGW ~~PGW~~

(5/2000)

(CONTINUED ON BACK)

A-C

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:
		4/16/04		24				1200	120	Flow
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:
18/64	800	1140		1050				1200	120	PGW

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)
				Uteland Butte	4013
				Wasatch	4116
				Mesaverde	5850
				Sego	8034
				Buck Tongue	8149
				Castlegate	8220
				Mancos	8517

35. ADDITIONAL REMARKS (Include plugging procedure)

WAITING ON PIPELINE. PLEASE KEEP WELL INFORMATION CONFIDENTIAL

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

NAME (PLEASE PRINT) Lloyd Bruce TITLE Senior Operations Engineer

SIGNATURE Lloyd Bruce DATE 9/29/04

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

(5/2000)

014

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.

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7. UNIT or CA AGREEMENT NAME:
8. WELL NAME and NUMBER: Southman Canyon 6D-36
9. API NUMBER: 4304735362
10. FIELD AND POOL, OR WILDCAT:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

CONFIDENTIAL

2. NAME OF OPERATOR: The Houston Exploration Company
3. ADDRESS OF OPERATOR: 1100 Louisiana, Ste 2000 CITY Houston STATE TX ZIP 77002 PHONE NUMBER: (713) 830-6938
4. LOCATION OF WELL
FOOTAGES AT SURFACE: 2466' FNL , 2271' FWL COUNTY: Uintah
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E STATE: UTAH

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

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☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
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	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

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

9/1/04 - 9/30/04 Waiting on pipeline.

NAME (PLEASE PRINT) Theresa Overturf TITLE Engineering Technician
SIGNATURE Theresa Overturf DATE 9/4/2004

(This space for State use only)

RECEIVED
OCT 0 6 2004
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

015

FORM 9

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

SUNDRY NOTICES AND REPORTS ON WELLS

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CONFIDENTIAL

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10/1/04 -10/31/04 Waiting on pipeline.

RECEIVED
NOV 12 2004
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) Theresa Overturf TITLE Engineering Technician
SIGNATURE Theresa Overturf DATE 11/8/04

(This space for State use only)

(5/2000) (See Instructions on Reverse Side)

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:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

8. WELL NAME and NUMBER: See Attached List

9. API NUMBER:

10. FIELD AND POOL, OR WILDCAT:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ OTHER

2. NAME OF OPERATOR: The Houston Exploration Company N2525

3. ADDRESS OF OPERATOR: 1100 Louisiana, Ste 2000 CITY Houston STATE TX ZIP 77002 PHONE NUMBER: (713) 830-6938

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See Attached List

COUNTY: Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: Effective 9/1/05	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE 9/1/05	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

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

Enduring Resources, LLC
475 17th Street, Ste 1500
Denver, CO 80202

Operator #N 2750

Utah State Bond #RLB0008031

Contact : Frank Hutto 303-350-5102

Frank Hutto V.P. OPS
Signature & Title

Date 9/19/05

NAME (PLEASE PRINT) Joanne Hresko TITLE Vice President/General Manager Onshore

SIGNATURE Joanne Hresko DATE 9/2/2005

(This space for State use only) APPROVED 9/29/2005
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

RECEIVED
SEP 26 2005
DIV. OF OIL, GAS & MINING

(5/2000) (Instructions on Reverse Side)

TRANSFER OF OPERATOR

NATURAL BUTTES FIELD, UINTAH COUNTY, UTAH
DRILLED WELLS, TO BE OPERATED BY ENDURING RESOURCES, LLC

API Well Number	Well Name	Well Status	Qtr/Qtr	Section	Township-Range	FNL/FSL	FEL/FWL	Latitude	Longitude
43047355550000	Bonanza #10D-18	SI	NWSE	18	9S-24E	1437 S	1800 E	40.03340	-109.25282
43047355510000	Bonanza #12D-12	Producing	NWSW	12	9S-23E	1556 S	867 W	40.04788	-109.28055
43047356930000	Bonanza #2D-27	Producing	NWNE	27	9S-24E	1064 N	1824 E	40.01123	-109.19600
43047359080000	Bonanza 10-11	Producing	NWSE	11	9S-23E	1991 S	1755 E	40.04866	-109.29035
43047356920000	Bonanza 10D-8	SI	NWSE	8	9S-24E	1510 S	1768 E	40.04789	-109.23383
43047355520000	Bonanza 1-11	Producing	NWNW	11	9S-23E	990 N	990 E	40.05431	-109.29891
43047359290000	Bonanza 12-20	Drlg	NWSW	20	9S-25E	1998 S	825 W	40.01947	-109.13150
43047-359210000	Bonanza 12A-18	Producing	NWSW	18	9S-24E	2067 S	813 W	40.03430	-109.26242
43047359090000	Bonanza 14-12	Evaluating	SESW	12	9S-23E	505 S	2001 W	40.04455	-109.27693
43047359940000	Bonanza 4-18	WOPL	NWNW	18	9S-24E	706 N	682 W	40.04119	-109.26288
43047-356220000	Bonanza 4D-16	Producing	NWNW	16	9S-24E	1152 N	1209 W	40.04000	-109.22349
43047358600000	Bonanza 6-36	Producing	SENW	36	9S-24E	2217 N	2009 W	39.99336	-109.16393
43047359120000	Bonanza 6B-8	Producing	SENW	8	9S-24E	2017 N	1878 W	40.05213	-109.24004
43047359200000	Bonanza 8D-7	Producing	SENE	7	9S-24E	1992 N	477 E	40.05220	-109.24845
43047359050000	Buck Canyon 15-24	P&A	SW/SE	24	12S-21E	700 S	2139 E	39.75386	-109.5134
43047348150000	Cartwright 2-35	TA	NWNE	35	9S-24E	858 N	2104 E	39.99733	-109.17882
43047332510000	East Bench 11-16	WOC	NESW	16	11S-22E	S S	1980 W	39.85889	-109.46172
43047347560000	Hoss 15	Producing	SWSE	20	9S-25E	1291 S	2088 E	40.01767	-109.12236
43047348140000	Little Joe 11-7	TA	NENE	7	9S-25E	710 N	644 E	40.05562	-109.13601
43047361500000	Rainbow 14-17	WOC	SESW	17	11S-24E	780 S	1726 W	39.85689	-109.25731
43047361840000	Rainbow 2-16	WOC	NWNE	16	11S-24E	837 N	2136 E	39.86708	-109.23348
43047353630000	Southman Canyon 10D-36	Producing	NWSE	36	9S-23E	1757 S	1650 E	39.98991	-109.27148
43047353640000	Southman Canyon 12D-36	Producing	NWSW	36	9S-23E	1518 S	1069 W	39.98977	-109.28040
43047357700000	Southman Canyon 14C-36	Producing	SESW	36	9S-23E	648 S	1717 W	39.98689	-109.27716
43047357720000	Southman Canyon 16C-36	Producing	SESE	36	9S-23E	542 S	736 E	39.98607	-109.26912
43047356910000	Southman Canyon 2D-30	Producing	NWNE	30	9S-24E	1171 N	1502 E	40.01111	-109.25269
43047353650000	Southman Canyon 2D-36	Producing	NWNE	36	9S-23E	960 N	1751 E	39.99711	-109.27228
43047353610000	Southman Canyon 4D-36	Producing	NWNW	36	9S-23E	1163 N	1137 W	39.99623	-109.28012
43047353620000	Southman Canyon 6D-36	Producing	SENW	36	9S-23E	2466 N	2271 W	39.99336	-109.27635
43047357710000	Southman Canyon 8C-36	Producing	SENE	36	9S-23E	2185 N	694 E	39.99358	-109.26783
43047355590000	Thurston Federal #12-1	Producing	SESW	12	12S-21E	692 S	1959 W	39.78280	-109.51768

TRANSFER OF OPERATOR
BLM APPROVED WELLS #2

PREVIOUS OPERATOR: Houston Exploration Company
NEW OPERATOR: Enduring Resources, LLC
EFFECTIVE DATE: September 1st, 2005

Well Name	Q/Q	Sec	T	R	Lease Number	Footages f/ Sec Lines - SL	API Number
~~Asphalt Wash 13-7~~	~~SW/SW~~	~~7~~	~~11S~~	~~24E~~	~~UTU-73940~~	~~739' FSL & 629' FWL~~	~~43-047-36234~~
Bonanza 16-18	SE/SE	18	9S	24E	UTU-73457	861' FSL & 715' FEL	43-047-35992
Bonanza 4-11	NW/NW	11	9S	23E	UTU-74426	671' FNL & 729' FWL	43-047-35968
Bonanza 10D-12	NW/SE	12	9S	23E	UTU-74426	1,785' FSL & 1,855' FEL	43-047-35919
Bonanza 12-11	NW/SW	11	9S	23E	UTU-74426	1748' FSL & 420' FWL	43-047-35916
Bonanza 14-18	SE/SW	18	9S	24E	UTU-73457	472' FSL & 2,010' FWL	43-047-35993
Bonanza 14A-8	SE/SW	8	9S	24E	UTU-73457	907' FSL & 2,298' FWL	43-047-35952
Bonanza 16A-27	SE/SE	27	9S	24E	UTU-80571	862' FSL & 581' FEL	43-047-35923
Bonanza 2-21	NW/NE	21	8S	25E	UTU-73470	1,207' FNL & 1,541' FEL	43-047-35926
Bonanza 3-8	NW/NW	8	9S	24E	UTU-73457	573' FNL & 1,518' FWL	43-047-35966
Bonanza 6D-7	SE NW	7	9S	24E	UTU-73457	2,310' FNL & 2,310' FWL	43-047-35690
Bonanza 8-11	SE/NE	11	9S	23E	UTU-74426	2,163 FNL & 615' FEL	43-047-35907
Bonanza 8B-27	SE/NE	27	9S	24E	UTU-80571	1,830' FNL & 735' FEL	43-047-35923
Buck Camp 4-25	NW/NW	25	11S	22E	UTU-74424	804 FNL & 695 FWL	43-047-36276
Buck Camp 4-26	NW/NW	26	11S	22E	UTU-74974	660' FNL & 660' FWL	43-047-36274
Buck Canyon 1-24	NE/NE	24	12S	21E	UTU-73440	488' FNL & 833' FEL	43-047-35606
~~Buck Canyon 15-24~~	~~SW/SE~~	~~24~~	~~12S~~	~~21E~~	~~UTU-73440~~	~~700' FSL & 2,139' FEL~~	~~43-047-35905~~
~~Buck Canyon 7-24~~	~~SW/NE~~	~~24~~	~~12S~~	~~21E~~	~~UTU-73440~~	~~2,041' FNL & 2,171' FEL~~	~~43-047-35904~~
~~Buck Canyon 9-24~~	~~NE/SE~~	~~24~~	~~12S~~	~~21E~~	~~UTU-73440~~	~~1784' FSL & 855' FEL~~	~~43-047-35903~~
Rainbow 1-17	NE/NE	17	11S	24E	UTU-73920	795' FNL & 586' FEL	43-047-36151
Southman Canyon #14-30	SE/SW	30	9S	24E	UTU-80571	740' FSL & 1,737' FWL	43-047-35914
Southman Canyon #4C-30	NW/NW	30	9S	24E	UTU-80571	676' FNL & 568' FWL	43-047-35913
Southman Canyon 12-30	NW/SW	30	9S	24E	UTU-80571	1,912' FSL & 513' FWL	43-047-36104
Southman Canyon 8-30	SE/NE	30	9S	24E	UTU-80571	1,875' FNL & 818' FEL	43-047-35994
Southman Canyon 9-30	NE/SE	30	9S	24E	UTU-80571	2,089' FSL & 831' FEL	43-047-36019

★ 43047-35906
• 43047-35953

TRANSFER OF OPERATOR
STATE OF UTAH APPROVED AND PENDING

#3

PREVIOUS OPERATOR: Houston Exploration Company
NEW OPERATOR: Enduring Resources, LLC
EFFECTIVE DATE: September 1st, 2005

Well Name	Q/Q	Sec	T	R	Lease Number	Footages f/ Sec Lines - SL	API Number	FIELD	Well Type
Asphalt Wash 11-16-11-24	NESW	16	11S	24E	ML-73921	2000 FSL & 1900 FWL	43-047-37088	Undesignated	Gas
Asphalt Wash 12-16-11-24	NWSW	16	11S	24E	ML-47080	2060 FSL & 839 FWL	43-047-36873	Undesignated	Gas
Asphalt Wash 14-16-11-24	SESW	16	11S	24E	ML-47080	537 FSL & 2140 FWL	43-047-36876	Undesignated	Gas
Asphalt Wash 3-16-11-24	NENW	16	11S	24E	ML-47080	825 FNL & 2116 FWL	43-047-36886	Undesignated	Gas
Asphalt Wash 4-16-11-24	NWNW	16	11S	24E	ML-47080	521 FNL & 766 FWL	43-047-36885	Undesignated	Gas
Asphalt Wash 5-16-11-24	SWNW	16	11S	24E	ML-47080	1880 FNL & 630 FWL	43-047-37089	Undesignated	Gas
Asphalt Wash 7-16-11-24	SWNE	16	11S	24E	ML-47080	1781 FNL & 1676 FEL	43-047-36874	Undesignated	Gas
Asphalt Wash 8-16-11-24	SENE	16	11S	24E	ML-47080	1905 FNL & 642 FEL	43-047-36875	Undesignated	Gas
Bonanza 14-20	SESW	20	9S	25E	ML-45558	838' FSL & 1,922' FWL	43-047-35930	Chapita Wells	Gas
Bonanza 4-20	NWNW	20	9S	25E	ML-45558	933' FNL & 583 FWL	43-047-35924	Chapita Wells	Gas
Bonanza 4-29	NWNW	29	9S	25E	ML-45559	600' FNL & 596' FWL	43-047-36010	Chapita Wells	Gas
Bonanza 4-36	NWNW	36	9S	24E	ML-46527	258' FNL & 862' FWL	43-047-35861	Natural Buttes	Gas
Bonanza 6-20	SENW	20	9S	25E	ML-45558	2,178' FNL & 1,839' FWL	43-047-35928	Chapita Wells	Gas
~~Buck Canyon 9-16-12-21~~	~~NESE~~	~~16~~	~~12S~~	~~21E~~	~~ML-47085~~	~~1980' FSL & 660' FEL~~	~~43-047-37091~~	~~Buck Canyon~~	~~Gas~~
Buck Canyon 11-16-12-21	NESW	16	12S	21W	ML-47085	NA	43-047-37119	Undesignated	Gas
Buck Canyon 13-16-21-21	SWSW	16	21S	21W	ML-47085	NA	43-047-37118	Undesignated	Gas
Buck Canyon 15-16-12-21	SWSE	16	12S	21W	ML-47085	NA	43-047-37120	Buck Canyon	Gas
East Bench 1-16	NENE	16	11S	22E	ML-46911	660' FNL & 660' FEL	43-047-36126	Undesignated	Gas
East Bench 15-16	SWSE	16	11S	22E	ML-46911	545' FSL & 1,848' FEL	43-047-36128	Undesignated	Gas
East Bench 3-16	NENW	16	11S	22E	ML-46911	832' FNL & 1,978' FWL	43-047-36125	Undesignated	Gas
East Bench 7-16	SWNE	16	11S	22E	ML-46911	1,909' FNL & 1,643' FEL	43-047-36127	Undesignated	Gas
East Bench 12-16-11-22	NWSW	16	11S	22E	ML-46911	1862 FSL & 838 FEL	43-047-37128	Undesignated	Gas
East Bench 13-16-11-22	SWSW	16	11S	22E	ML-46911	880 FSL & 750 FWL	43-047-37130	Undesignated	Gas
East Bench 14-16-11-22	SESW	16	11S	22E	ML-46911	848 FSL & 1930 FWL	43-047-37122	Undesignated	Gas
East Bench 16-16-11-22	SESE	16	11S	22E	ML-46911	663 FSL & 1055 FEL	43-047-37121	Undesignated	Gas
East Bench 2-16-11-22	NWNE	16	11S	22E	ML-46911	705 FNL & 2077 FEL	43-047-37125	Undesignated	Gas
East Bench 4-16-11-22	NWNW	16	11S	22E	ML-46911	760 FNL & 860 FWL	43-047-37126	Undesignated	Gas
East Bench 5-16-11-22	SWNW	16	11S	22E	ML-46911	1980 FNL & 758 FWL	43-047-37129	Undesignated	Gas
East Bench 6-16-11-22	SENW	16	11S	22E	ML-46911	1887 FNL & 2138 FWL	43-047-37124	Undesignated	Gas
East Bench 8-16-11-22	SENE	16	11S	22E	ML-46911	1880 FNL & 780 FEL	43-047-37127	Undesignated	Gas
East Bench 9-16-11-22	NESE	16	11S	22E	ML-46911	2035 FSL & 1422 FEL	43-047-37123	Undesignated	Gas
~~Gusher 6-2~~	~~SENW~~	~~2~~	~~6S~~	~~19E~~	~~ML-49144~~	~~1550 FNL 1825 FWL~~	~~43-047-36983~~	~~Moffit Canal~~	~~Oil~~
Hanging Rock 1-32	NENE	32	11S	23E	ML-47079	542' FNL & 690' FEL	43-047-36309	Undesignated	Gas
Little Pack Mountain 1-16	NWNW	16	12S	20E	ML-47082	609 FNL & 688 FEL	43-047-36981	Wildcat	Gas
Little Pack Mountain 7-32	SWNE	32	12S	20E	ML-47083	1792 FNL & 1797 FEL	43-047-36980	Wildcat	Gas
Rock House 12-36-10-23	NWSW	36	10S	23E	ML-47907	1844 FSL & 755 FWL	43-047-36534	Natural Buttes	Gas
Rock House 13-32-10-23	SWSW	32	10S	23E	ML-47063	564 FSL & 471 FWL	43-047-36411	Natural Buttes	Gas
Rock House 1-36-10-22	NENE	36	10S	22E	ML-47061	620 FNL & 850 FEL	43-047-36408	Natural Buttes	Gas
Rock House 3-36-10-22	NENW	36	10S	22E	ML-47061	934 FNL & 1783 FWL	43-047-36407	Natural Buttes	Gas
Rock House 4-32-10-23	SWNW	32	10S	23E	ML-47063	1406 FNL & 562 FWL	43-047-36412	Natural Buttes	Gas
Rock House 7-36-10-22	SWNE	36	10S	22E	ML-47061	2209 FNL & 2445 FEL	43-047-36409	Natural Buttes	Gas
~~Rock House 9-32-10-23~~	~~NESE~~	~~32~~	~~10S~~	~~23E~~	~~ML-47063~~	~~2098 FSL & 1042 FEL~~	~~43-047-36337~~	~~Natural Buttes~~	~~Gas~~
Rockhouse #13-36	SWSW	36	10S	22E	ML-46907	486 FSL & 844' FWL	43-047-35902	Natural Buttes	Gas
Rockhouse 16-2	SESE	2	11S	23E	ML-47078	909' FSL & 748' FEL	43-047-36152	Rockhouse	Gas
Seep Springs 10-13-12-24	NWSE	13	12S	24E	ML-49275	1950 FSL & 1802 FEL	43-047-36634	Undesignated	Gas
Seep Springs 1-13-12-24	NENE	13	12S	24E	ML-49275	753 FNL & 487 FEL	43-047-36628	Undesignated	Gas
Seep Springs 15-11-12-24	SWSE	11	12S	24E	ML-49274	829 FSL & 2178 FEL	43-047-36626	Undesignated	Gas
Seep Springs 15-13-12-24	SWSE	13	12S	24E	ML-49275	622 FSL & 1806 FEL	43-047-36630	Undesignated	Gas
Seep Springs 16-11-12-24	SESE	11	12S	24E	ML-49274	659 FSL & 466 FEL	43-047-36625	Undesignated	Gas
Seep Springs 16-13-12-24	SESE	13	12S	24E	ML 49275	686 FSL & 640 FEL	43-047-36629	Undesignated	Gas
Seep Springs 2-13-12-24	NWNE	13	12S	24E	ML-49275	465 FNL & 1807 FEL	43-047-36627	Undesignated	Gas
Seep Springs 7-13-12-24	SWNE	13	12S	24E	ML-49275	FNL & FEL	43-047-36631	Undesignated	Gas
Seep Springs 8-13-12-24	SENE	13	12S	24E	ML-49275	1969 FNL & 642 FEL	43-047-36632	Undesignated	Gas
Seep Springs 9-13-12-24	NESE	13	12S	24E	ML-49275	663 FSL & 1960 FEL	43-047-36633	Undesignated	Gas
~~Southman Canyon 11-36-9-23~~	~~NESW~~	~~36~~	~~9S~~	~~23E~~	~~ML-47782~~	~~1965 FSL & 1953 FWL~~	~~43-047-36535~~	~~Natural Buttes~~	~~Gas~~
~~Southman Canyon 13-36-9-23~~	~~SWSW~~	~~36~~	~~9S~~	~~23E~~	~~ML-47782~~	~~467 FSL & 823 FWL~~	~~43-047-36532~~	~~Natural Buttes~~	~~Gas~~

TRANSFER OF OPERATOR
STATE OF UTAH APPROVED AND PENDING

PREVIOUS OPERATOR: Houston Exploration Company
NEW OPERATOR: Enduring Resources, LLC
EFFECTIVE DATE: September 1st, 2005

Well Name	Q/Q	Sec	T	R	Lease Number	Footages f/ Sec Lines - SL	API Number	FIELD	Well Type
Southman Canyon 1-36-9-23	NENE	36	9S	23E	ML-47782	681 FNL & 496 FEL	43-047-36537	Natural Buttes	Gas
Southman Canyon 15-36-9-23	SWSE	36	9S	23E	ML-47782	529 FSL & 1784 FEL	43-047-36529	Natural Buttes	Gas
Southman Canyon 3-36-9-23	NENW	36	9S	23E	ML-47782	464 FNL & 1815 FWL	43-047-36530	Natural Buttes	Gas
Southman Canyon 5-36-9-23	SWNW	36	9S	23E	ML-47782	2028 FNL & 499 FWL	43-047-36531	Natural Buttes	Gas
Southman Canyon 7-36-9-23	SENE	36	9S	23E	ML-47782	2184 FNL & 1994 FEL	43-047-36536	Natural Buttes	Gas
Southman Canyon 9-36-9-23	NESE	36	9S	23E	ML-47782	1978 FNL & 657 FEL	43-047-36533	Natural Buttes	Gas

TRANSFER OF OPERATOR
BLM PENDING WELLS

PREVIOUS OPERATOR: Houston Exploration Company
NEW OPERATOR: Enduring Resources, LLC
EFFECTIVE DATE: September 1st, 2005

Well Name	Q/Q	Sec	T	R	Lease Number	Footages f/ Sec Lines - SL	API Number
~~Asphalt Wash 13-6~~	~~SW/SW~~	~~6~~	~~11S~~	~~24E~~	~~UTU-73919~~	~~400' FSL & 550' FWL~~	
Asphalt Wash 10-9-11-24	NW SE	9	11S	24E	UTU-73920	1846 FSL & 1942 FEL	43-047-37071
Asphalt Wash 11-9-11-24	NE SW	9	11S	24E	UTU-73920	1799 FSL & 1782 FWL	43-047-37073
Asphalt Wash 12-6-11-24	NW SW	6	11S	24E	UTU-73919	1844 FSL & 683 FWL	43-047-37066
Asphalt Wash 14-6-11-24	SE SW	6	11S	24E	UTU-73919	704 FSL & 2123 FWL	43-047-37067
Asphalt Wash 14-9-11-24	SE SW	9	11S	24E	UTU-73920	460 FSL & 2115 FWL	43-047-37076
Asphalt Wash 15-9-11-24	SW SE	9	11S	24E	UTU-73920	804 FSL & 1990 FEL	43-047-37074
Asphalt Wash 16-9-11-24	SE SE	9	11S	24E	UTU-73920	826 FSL & 472 FEL	43-047-37075
Asphalt Wash 2-6-11-24	NW NE	6	11S	24E	UTU-73919	735 FNL & 1590 FEL	43-047-37061
Asphalt Wash 2-7-11-24	NW NE	7	11S	24E	UTU-73919	621 FNL & 2462 FEL	43-047-37068
Asphalt Wash 2-9-11-24	NW NE	9	11S	24E	UTU-73920	829 FNL & 1774 FEL	43-047-37070
Asphalt Wash 3-6-11-24	NE NW	6	11S	24E	UTU-73919	792 FNL & 1925 FWL	43-047-37062
Asphalt Wash 4-6-11-24	NW NW	6	11S	24E	UTU-73919	820 FNL & 1007 FWL	43-047-37063
Asphalt Wash 5-6-11-24	SW NW	6	11S	24E	UTU-73919	1738 FNL & 716 FWL	43-047-37064
Asphalt Wash 6-7-11-24	SE NW	7	11S	24E	UTU-73919	2013 FNL & 2241 FWL	43-047-37069
Asphalt Wash 7-6-11-24	SW NE	6	11S	24E	UTU-73919	1616 FNL & 1615 FEL	43-047-37065
Asphalt Wash 7-9-11-24	SE NE	9	11S	24E	UTU-73920	1883 FNL & 1854 FEL	43-047-37072
Asphalt Wash 1-7-11-24	NE NE	7	11S	24E	UTU-73919	426 FNL & 270 FEL	43-047-37084
Asphalt Wash 4-7-11-24	NW NW	7	11S	24E	UTU-73919	856 FNL & 860 FWL	43-047-37085
Asphalt Wash 7-7-11-24	SW NE	7	11S	24E	UTU-73919	1909 FNL & 1893 FEL	43-047-37087
Asphalt Wash 8-7-11-24	SE NE	7	11S	24E	UTU-73919	1998 FNL & 683 FEL	43-047-37086
Bonanza 4-7	NW/NW	7	9S	24E	UTU-73457	809' FNL & 670' FWL	43-047-36017
Bonanza 8-17	SW/NE	17	9S	24E	UTU-73457	1865' FNL & 584' FEL	43-047-36041
Bonanza 11-11-9-23	NE SW	11	9S	23E	UTU-74426	2036 FSL & 2043 FWL	43-047-36649
Bonanza 11-12-9-23	NE SW	12	9S	23E	UTU-74426	1799 FSL & 1948 FWL	43-047-36655
Bonanza 11-18-9-24	NE SW	18	9S	24E	UTU-73457	1785 FSL & 2133 FWL	43-047-36637
Bonanza 12-23-9-24	NW/SW	23	9S	24E	UTU-81311	1882 FSL & 699 FWL	43-047-36640
Bonanza 12-35	NW/SW	35	9S	24E	UTU 73459	1374' FSL & 858' FWL	43-047-36020
Bonanza 13-11-9-23	SW SW	11	9S	23E	UTU-74426	463 FSL & 773 FWL	43-047-36650
Bonanza 13-12-9-23	SW SW	12	9S	23E	UTU-74426	661 FSL & 656 FWL	43-047-36528
Bonanza 13-18-9-24	SW SW	18	9S	24E	UTU-73457	767 FSL & 583 FWL	43-047-36638
Bonanza 14-11-9-23	SE SW	11	9S	23E	UTU-74426	756 FSL & 1859 FWL	43-047-36651
Bonanza 14-23-9-24	SE/SW	23	9S	24E	UTU-81311	560 FSL & 1878 FWL	43-047-36641
Bonanza 15-11-9-23	SW SE	11	9S	23E	UTU-74426	660 FSL & 1980 FEL	43-047-36652
Bonanza 15-12-9-23	SW SE	12	9S	23E	UTU-74426	607 FSL & 1920 FEL	43-047-36656
Bonanza 15-18-9-24	SW SE	18	9S	24E'	UTU-73457	463 FSL & 2162 FEL	43-047-36639
Bonanza 16-12-9-23	SE SE	12	9S	23E	UTU-74426	855 FSL & 536 FEL	43-047-36657
Bonanza 16-8	SE/SE	8	9S	24E	UTU-73457	588' FSL & 524' FEL	43-047-36101
Bonanza 2-11-9-23	NW NE	11	9S	23E	UTU 74426	664 FNL & 1925 FEL	43-047-36643
Bonanza 2-12-9-23	NW NE	12	9S	23E	UTU-74426	743 FNL & 1962 FEL	43-047-36527
Bonanza 3-11-9-23	NE NW	11	9S	23E	UTU 74426	499 FNL & 1898 FWL	43-047-36644
Bonanza 3-12-9-23	NE NW	12	9S	23E	UTU-74426	734 FNL & 1866 FWL	43-047-36524
Bonanza 4-35	NW/NW	35	9S	24E	UTU 73459	789' FNL & 807' FWL	43-047-35925
Bonanza 5-11-9-23	SW NW	11	9S	23E	UTU 74426	1794 FNL & 609 FWL	43-047-36645

TRANSFER OF OPERATOR
BLM PENDING WELLS

PREVIOUS OPERATOR: Houston Exploration Company
NEW OPERATOR: Enduring Resources, LLC
EFFECTIVE DATE: September 1st, 2005

Well Name	Q/Q	Sec	T	R	Lease Number	Footages f/ Sec Lines - SL	API Number
Bonanza 5-12-9-23	SW NW	12	9S	23E	UTU-74426	1996 FNL & 558 FWL	43-047-36526
Bonanza 5-18-9-24	SW NW	18	9S	24E	UTU-73457	2147 FNL & 662 FWL	43-047-36635
Bonanza 5-22	SW/NW	22	8S	25E	UTU-73470	1,932' FNL & 415' FWL	43-047-35918
Bonanza 5-24-9-24	SW/NW	24	9S	24E	UTU-73458	2167 FNL & 714 FWL	43-047-36642
Bonanza 6-11-9-23	SE NW	11	9S	23E	UTU-74426	2069 FNL & 1801 FWL	43-047-36646
Bonanza 6-12-9-23	SE NW	12	9S	23E	UTU-74426	2114 FNL & 1871 FWL	43-047-36525
Bonanza 7-11-9-23	SW NE	11	9S	23E	UTU-74426	2060 FNL & 2134 FEL	43-047-36647
Bonanza 7-12-9-23	SW NE	12	9S	23E	UTU-74426	2065 FNL & 2159 FEL	43-047-36653
Bonanza 8-35	SENE	35	9S	24E	UTU-73459	1987' FNL & 909' FEL	43-047-36105
Bonanza 9-11-9-23	NE SE	11	9S	23E	UTU-74426	2008 FSL & 553 FEL	43-047-36648
Bonanza 9-12-9-23	NE SE	12	9S	23E	UTU-74426	1980 FSL & 660 FEL	43-047-36654
Bonanza 9-18-9-24	NE SE	18	9S	24E	UTU-73457	2009 FSL & 852 FEL	43-047-36636
Bonanza 9-22	NE/SE	22	9S	24E	UTU-75118	1,969' FSL & 495' FEL	43-047-36102
East Bench 9-20	NE/SE	20	11S	22E	UTU-73905	2,170' FSL & 472' FEL	43-047-36275
Rock House 12-30-10-23	NE SW	30	10S	23E	UTU-76281	2320 FSL & 1980 FWL	43-047-36548
Rock House 12-31-10-23	NW SW	31	10S	23E	UTU-76281	1900 FSL & 460 FWL	43-047-36552
Rock House 13-30-10-23	SW SW	30	10S	23E	UTU-76281	553 FSL & 573 FWL	43-047-36549
Rock House 14-31-10-23	SE SW	31	10S	23E	UTU-76281	860 FSL & 1890 FWL	43-047-36553
Rock House 3-31-10-23	NE NW	31	10S	23E	UTU-76281	854 FNL & 1940 FWL	43-047-36551
Rock House 5-30-10-23	SW NW	30	10S	23E	UTU-76281	1858 FNL & 703 FWL	43-047-36547
Rock House 5-31-10-23	SW NW	31	10S	23E	UTU-76281	2055 FNL & 2097 FWL	43-047-36550
Rock House 6-31-10-23	SE NW	31	10S	23E	UTU-76281	2059 FNL & 2111 FWL	43-047-36554
~~Rockhouse #12-30~~	~~NW/SW~~	~~30~~	~~10S~~	~~23E~~	~~UTU-80571~~	~~1,980' FSL & 660' FWL~~	~~43-047-36018~~ X
Rockhouse 13C-31	SW/SW	31	10S	23E	UTU-76281	135' FSL & 365' FWL	43-047-35911
Rockhouse 4D-30	NW NW	30	10S	23E	UTU-76281	1,116 FNL & 1,135' FWL	43-047-35882
Rockhouse 4D-31	NW NW	31	10S	23E	UTU-76281	990' FNL & 990' FWL	43-047-35807
Southman Canyon 12-3-11-24	NW/SW	3	11S	24E	UTU-73918	1,950' FSL & 514' FWL	43-047-36272
Southman Canyon 12-30-10-24	NW/SW	30	10S	24E	UTU-65371	2,118' FSL & 502' FWL	43-047-36238
Southman Canyon 13-30	SW/SW	30	9S	24E	UTU-80571	765' FSL & 303' FWL	43-047-36018
Southman Canyon 16-31-10-24	SE/SE	31	10S	24E	UTU-65371	621' FSL & 575' FEL	43-047-36270
Southman Canyon 4-30-10-24	NW/NW	30	10S	24E	UTU 65371	649' FNL & 607' FWL	43-047-36237
Southman Canyon 5-19-10-24	SW/NW	19	10S	24E	UTU-65371	1,978' FNL & 855' FWL	43-047-36236
Southman Canyon 6-30	SE/NW	30	9S	24E	UTU-80571	2,015' FNL & 2,581' FWL	43-047-36103

X Duplicate API - Different well name

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. DJJ
2. CDW

X **Change of Operator (Well Sold)** Designation of Agent/Operator

Operator Name Change Merger

The operator of the well(s) listed below has changed, effective: **9/1/2005**

FROM: (Old Operator):	**TO:** (New Operator):
N2525-The Houston Exploration Company 1100 Louisiana, Suite 2000 Houston, TX 77002	N2750-Enduring Resources, LLC 475 17th Street, Suite 1500 Denver, CO 80202
Phone: 1-(713) 830-6938	Phone: 1-(303) 350-5102

CA No. **Unit:**

WELL(S)

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS	
SOUTHMAN CYN 4D-36	36	090S	230E	4304735361	14136	State	GW	P	C
SOUTHMAN CYN 6D-36	36	090S	230E	4304735362	14053	State	GW	P	
EAST BENCH 11-16-11-22	16	110S	220E	4304733251	12542	State	GW	DRL	
ASPHALT WASH 3-6-11-24	06	110S	240E	4304737062		Federal	GW	APD	C
ASPHALT WASH 4-6-11-24	06	110S	240E	4304737063		Federal	GW	NEW	C
ASPHALT WASH 5-6-11-24	06	110S	240E	4304737064		Federal	GW	NEW	C
ASPHALT WASH 7-6-11-24	06	110S	240E	4304737065		Federal	GW	APD	C
ASPHALT WASH 12-6-11-24	06	110S	240E	4304737066		Federal	GW	APD	C
ASPHALT WASH 14-6-11-24	06	110S	240E	4304737067		Federal	GW	APD	C
ASPHALT WASH 2-7-11-24	07	110S	240E	4304737068		Federal	GW	APD	C
ASPHALT WASH 6-7-11-24	07	110S	240E	4304737069		Federal	GW	APD	C
ASPHALT WASH 1-7-11-24	07	110S	240E	4304737084		Federal	GW	APD	C
ASPHALT WASH 4-7-11-24	07	110S	240E	4304737085		Federal	GW	APD	C
ASPHALT WASH 8-7-11-24	07	110S	240E	4304737086		Federal	GW	APD	C
ASPHALT WASH 7-7-11-24	07	110S	240E	4304737087		Federal	GW	APD	C
ASPHALT WASH 2-9-11-24	09	110S	240E	4304737070		Federal	GW	APD	C
ASPHALT WASH 10-9-11-24	09	110S	240E	4304737071		Federal	GW	APD	C
ASPHALT WASH 7-9-11-24	09	110S	240E	4304737072		Federal	GW	APD	C
ASPHALT WASH 11-9-11-24	09	110S	240E	4304737073		Federal	GW	APD	C
ASPHALT WASH 15-9-11-24	09	110S	240E	4304737074		Federal	GW	APD	C
ASPHALT WASH 16-9-11-24	09	110S	240E	4304737075		Federal	GW	APD	C
ASPHALT WASH 14-9-11-24	09	110S	240E	4304737076		Federal	GW	APD	C

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 9/26/2005
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 9/26/2005
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 9/29/2005
4. Is the new operator registered in the State of Utah: YES Business Number: 5771233-0161
5. If **NO**, the operator was contacted contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: Requested 9/29/05

6b. Inspections of LA PA state/fee well sites complete on: n/a

6c. Reports current for Production/Disposition & Sundries on: 9/29/2005

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA n/a

8. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: _____ not yet

9. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 9/29/2005
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 9/29/2005
3. Bond information entered in RBDMS on: 9/30/2005
4. Fee/State wells attached to bond in RBDMS on: 9/30/2005
5. Injection Projects to new operator in RBDMS on: n/a
6. Receipt of Acceptance of Drilling Procedures for APD/New on: 9/26/2005

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: UTB000173

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: n/a

FEE & STATE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number RLB0008031
2. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: _____

LEASE INTEREST OWNER NOTIFICATION:

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

COMMENTS:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18th STREET - SUITE 300
DENVER, CO 80202-2466
http://www.epa.gov/region08

DEC 08 2006

RECEIVED
DEC 14 2006
DIV. OF OIL, GAS & MINING

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Alex Campbell
Enduring Resources, LLC
475 17th Street Suite 1500
Denver, CO 80202

43-047-35362
9S 23E 36

Re: Underground Injection Control Program
Permit for the Southman Canyon 9-23-22-36 WD
Well
Uintah County, UT
EPA Permit No. UT21061-07149

Dear Mr. Campbell:

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Permit for the proposed Southman Canyon 9-23-22-36 WD injection well. A Statement of Basis, which discusses development of the conditions and requirements of the Permit, also is included.

The Public Comment period ended on DEC 2 2006. There were no comments on the Draft Permit received during the Public Notice period, and therefore the Final Permit becomes effective on the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect on the date that this Permit becomes effective.

Please note that under the terms of the Final Permit, you are authorized only to construct the proposed injection well, and must fulfill the "Prior to Commencing Injection" requirements of the Permit, Part II Section C Subpart 1 and obtain written Authorization to Inject prior to commencing injection. It is your responsibility to be familiar with and to comply with all provisions of the Final Permit.

The Permit and the authorization to inject are issued for the operating life of the well unless terminated (Part III, Section B). The EPA will review this Permit at least every five (5) years to determine whether action under 40 CFR § 144.36(a) is warranted.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY

Printed on Recycled Paper

If you have any questions on the enclosed Final Permit or Statement of Basis, please call Patricia Pfeiffer of my staff at (303) 312-6271, or toll-free at (800) 227-8917, ext. 6271.

Sincerely,

Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

enclosure:
Final UIC Permit
Statement of Basis
Form 7520-7 Application to Transfer Permit
Form 7520-11 Monitoring Report
Form 7520-14 Plugging Plan
Form 7520-12 Well Rework Record
Groundwater Section Guidance 34
Groundwater Section Guidance 35
Groundwater Section Guidance 37
Groundwater Section Guidance 39

cc:
Maxine Natchees, Acting Chairperson
Uintah & Ouray Business Committee
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, UT 84026

Chester Mills, Superintendent
BIA - Uintah & Ouray Indian Agency
P.O. Box 130
Fort Duchesne, UT 84026

Mr. Jack Watson
Senior Geologist
Enduring Resources
475 Seventeenth Street, Suite 1500
Denver, CO 80202

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Shaun Chapoose
Director of Land Use Department
Ute Indian Tribe
P.O. Box 460
Fort Duchesne, UT 84026

Brad Hill
Technical Services Manager
Utah Division of Oil, Gas, and Mining
1594 West North Temple - Suite 1220
Salt Lake City, UT 84114-5801

Fluid Minerals Engineering Office
BLM - Vernal Office
170 South 500 East
Vernal, UT 84078

Lynn Becker, Director
Energy and Minerals Department
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, UT 84026

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FORM 9

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: ML-47782
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
7. UNIT or CA AGREEMENT NAME: N/A
8. WELL NAME and NUMBER: Southman Canyon 9-23-22-36
9. API NUMBER: 4304735362
10. FIELD AND POOL, OR WILDCAT: Natural Buttes

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Water Disposal

2. NAME OF OPERATOR: Enduring Resources, LLC

3. ADDRESS OF OPERATOR: 475 17th Street, Suite 1500 CITY Denver STATE CO ZIP 80202 PHONE NUMBER: (303) 350-5114

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 2466' FNL - 2271' FWL S.L.B.& M. COUNTY: Uintah
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E S STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
Approximate date work will start:	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
7/5/2007	☑ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☑ WATER DISPOSAL
	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
Date of work completion:	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Convert Well to Water Disposal
	☑ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

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

1. This well is not producing in paying amounts.
2. This well is located in ("Indian Country") on SITLA lands.
3. Have requested and received an EPA Water Disposal Permit #UT2106-07149 (attached).
4. Have a water disposal agreement with SITLA pending.
5. Enduring Resources owns all the contiguous, leasehold interest, off-set, well locations in all directions.

Request approval to convert well to a water disposal well:

a. Subject to the conditions set forth in the attached EPA Water Disposal Permit #UT2106-07149, and
b. Subject to an agreement being acquired and finalized with SITLA to dispose water on SITLA lands.

Accepted by the Utah Division of Oil, Gas and Mining
Date: 06-25-07
By: [illegible]

cc: SITLA

NAME (PLEASE PRINT) Alvin R. (Al) Arlian TITLE Landman - Regulatory Specialist
SIGNATURE [signature] DATE 6/20/2007

(This space for State use only)

COPY SENT TO OPERATOR
Date: 6-25-07
Initials: RM

RECEIVED
JUN 22 2007
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 WYNKOOP STREET
DENVER, CO 80202-1129
http://www.epa.gov/region8

JUN 14 2007

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

(RE-COMPLETION)

Alex Campbell
Enduring Resources, LLC
475 17th Street Suite 1500
Denver, CO 80202

Re: FINAL Permit
EPA UIC Permit UT21061-07149
Well: Southman Canyon 9-23-22-36 WD
Uintah County, UT

Dear Mr. Campbell:

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Permit for the proposed Southman Canyon 9-23-22-36 WD injection well. A Statement of Basis, which discusses development of the conditions and requirements of the Permit, also is included.

The Public Comment period ended on MAY 31 2007. There were no comments on the Draft Permit received during the Public Notice period, and therefore the Final Permit becomes effective on the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect on the date that this Permit becomes effective.

Please note that under the terms of the Final Permit, you are authorized only to construct the proposed injection well, and must fulfill the "Prior to Commencing Injection" requirements of the Permit, Part II Section C Subpart 1 and obtain written Authorization to Inject prior to commencing injection. It is your responsibility to be familiar with and to comply with all provisions of the Final Permit.

The Permit and the authorization to inject are issued for the operating life of the well unless terminated (Part III, Section B). The EPA will review this Permit at least every five (5) years to determine whether action under 40 CFR § 144.36(a) is warranted.

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If you have any questions on the enclosed Final Permit or Statement of Basis, please call Patricia Pfeiffer of my staff at (303) 312-6271, or toll-free at (800) 227-8917, ext. 312-6271.

Sincerely,

for Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

enclosure:
Final UIC Permit
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Form 7520-14 Plugging Plan
Form 7520-12 Well Rework Record
Groundwater Section Guidance 34
Groundwater Section Guidance 35
Groundwater Section Guidance 37
Groundwater Section Guidance 39

cc:
Curtis Cesspooch, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Irene Cuch, Vice- Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ronald Groves, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Steven Cesspooch, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

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Phillip Chimburas, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Frances Poowegup, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Chester Mills, Superintendent
BIA-Uintah & Ouray Business Council

Mr. Jack Watson, Senior Geologist
Enduring Resources

Shaun Chapoose, Director of Land Use Department
Ute Indian Tribe

Fluid Minerals Engineering Office
U.S. Bureau of Land Management
Vernal, UT

Lynn Becker, Director of Energy and Minerals Department
Ute Indian Tribe

Gilbert Hunt, Associate Director
State of Utah
Division of Oil, Gas, and Mining

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EPA

UNDERGROUND INJECTION CONTROL PROGRAM

PERMIT

PREPARED: May 2007

Permit No. UT21061-07149

Class II Salt Water Disposal Well

Southman Canyon 9-23-22-36 WD
Uintah County, UT

Issued To

Enduring Resources LLC
475 17th Street, Suite 1500
Denver, CO 80202

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Part I. AUTHORIZATION TO CONSTRUCT AND OPERATE

Under the authority of the Safe Drinking Water Act and Underground Injection Control (UIC) Program regulations of the U. S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (40 CFR) Parts 2, 124, 144, 146, and 147, and according to the terms of this Permit,

Enduring Resources LLC
475 17th Street, Suite 1500
Denver, CO 80202

is authorized to construct and to operate the following Class II injection well or wells:

Southman Canyon 9-23-22-36 WD
2466' FNL 2271' FWL, SENW S36, T9S, R23E
Uintah County, UT

EPA regulates the injection of fluids into injection wells so that injection does not endanger underground sources of drinking water (USDWs). EPA UIC Permit conditions are based on authorities set forth at 40 CFR Parts 144 and 146, and address potential impacts to USDWs.

Under 40 CFR Part 144, Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General permit conditions for which the content is mandatory and not subject to site-specific differences are not discussed in this document. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize injury to persons or property or invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. (40 CFR §144.35) An EPA UIC Permit may be issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR §§144.39, 144.40 and 144.41, and may be reviewed at least once every five (5) years to determine if action is required under 40 CFR §144.36(a).

This Permit is issued for the life of the well(s) unless modified, revoked and reissued, or terminated under 40 CFR 144.39 or 144.40. This EPA Permit may be adopted, modified, revoked and reissued, or terminated if primary enforcement authority for a UIC Program is delegated to an Indian Tribe or State. Upon the effective date of delegation, reports, notifications, questions and other correspondence should be directed to the Indian Tribe or State Director.

Issue Date: JUN 14 2007 Effective Date JUN 14 2007

for Stephen S. Tuber
Assistant Regional Administrator*
Office of Partnerships and Regulatory Assistance

*NOTE: The person holding this title is referred to as the "Director" throughout this Permit.

PART II. SPECIFIC PERMIT CONDITIONS

Section A. WELL CONSTRUCTION REQUIREMENTS

These requirements represent the approved minimum construction standards for well casing and cement, injection tubing, and packer.

Details of the approved well construction plan are incorporated into this Permit as APPENDIX A. Changes to the approved plan that may occur during construction must be approved by the Director prior to being physically incorporated.

1. Casing and Cement.

The well or wells shall be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The well casing and cement shall be designed for the life expectancy of the well and of the grade and size shown in APPENDIX A. Remedial cementing may be required if shown to be inadequate by cement bond log or other attempted demonstration of Part II (External) mechanical integrity.

2. Injection Tubing and Packer.

Injection tubing is required, and shall be run and set with a packer at or below the depth indicated in APPENDIX A. The packer setting depth may be changed provided it remains below the depth indicated in APPENDIX A and the Permittee provides notice and obtains the Director's approval for the change.

3. Sampling and Monitoring Devices.

The Permittee shall install and maintain in good operating condition:

(a) a "tap" at a conveniently accessible location on the injection flow line between the pump house or storage tanks and the injection well, isolated by shut-off valves, for collection of representative samples of the injected fluid; and

(b) one-half (1/2) inch female iron pipe fitting, isolated by shut-off valves and located at the wellhead at a conveniently accessible location, for the attachment of a pressure gauge capable of monitoring pressures ranging from normal operating pressures up to the Maximum Allowable Injection Pressure specified in APPENDIX C:

  (i) on the injection tubing; and

  (ii) on the tubing-casing annulus (TCA); and

(c) a pressure actuated shut-off device attached to the injection flow line set to shut-off the injection pump when or before the Maximum Allowable Injection Pressure (MAIP) specified in APPENDIX C is reached at the wellhead; and

(d) a non-resettable cumulative volume recorder attached to the injection line.

4. Well Logging and Testing

Well logging and testing requirements are found in APPENDIX B. The Permittee shall ensure the log and test requirements are performed within the time frames specified in APPENDIX B. Well logs and tests shall be performed according to current EPA-approved procedures. Well log and test results shall be submitted to the Director within sixty (60) days of completion of the logging or testing activity, and shall include a report describing the methods used during logging or testing and an interpretation of the test or log results.

5. Postponement of Construction or Conversion

The Permittee shall complete well construction within one year of the Effective Date of the Permit, or in the case of an Area Permit within one year of Authorization of the additional well. Authorization to construct and operate shall expire if the well has not been constructed within one year of the Effective Date of the Permit or Authorization and the Permit may be terminated under 40 CFR 144.40, unless the Permittee has notified the Director and requested an extension prior to expiration. Notification shall be in writing, and shall state the reasons for the delay and provide an estimated completion date. Once Authorization has expired under this part, the complete permit process including opportunity for public comment may be required before Authorization to construct and operate may be reissued.

6. Workovers and Alterations

Workovers and alterations shall meet all conditions of the Permit. Prior to beginning any addition or physical alteration to an injection well that may significantly affect the tubing, packer or casing, the Permittee shall give advance notice to the Director and obtain the Director's approval. The Permittee shall record all changes to well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workover, logging, or test data to EPA within sixty (60) days of completion of the activity.

A successful demonstration of Part I MI is required following the completion of any well workover or alteration which affects the casing, tubing, or packer. Injection operations shall not be resumed until the well has successfully demonstrated mechanical integrity and the Director has provided written approval to resume injection.

Section B. MECHANICAL INTEGRITY

The Permittee is required to ensure each injection well maintains mechanical integrity at all times. The Director, by written notice, may require the Permittee to comply with a schedule describing when mechanical integrity demonstrations shall be made.

An injection well has mechanical integrity if:

(a) There is no significant leak in the casing, tubing, or packer (Part I); and

(b) There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore (Part II).

1. Demonstration of Mechanical Integrity (MI).

The operator shall demonstrate MI prior to commencing injection and periodically thereafter. Well-specific conditions dictate the methods and the frequency for demonstrating MI and are discussed in the Statement of Basis. The logs and tests are designed to demonstrate both internal (Part I) and external (Part II) MI as described above. The conditions present at this well site warrant the methods and frequency required in Appendix B of this Permit.

In addition to these regularly scheduled demonstrations of MI, the operator shall demonstrate internal (Part I) MI after any workover which affects the tubing, packer or casing.

The Director may require additional or alternative tests if the results presented by the operator are not satisfactory to the Director to demonstrate there is no movement of fluid into or between USDWs resulting from injection activity. Results of MI tests shall be submitted to the Director as soon as possible but no later than sixty (60) days after the test is complete.

2. Mechanical Integrity Test Methods and Criteria

EPA-approved methods shall be used to demonstrate mechanical integrity. Ground Water Section Guidance No. 34 "Cement Bond Logging Techniques and Interpretation", Ground Water Section Guidance No. 37, "Demonstrating Part II (External) Mechanical Integrity for a Class II injection well permit", and Ground Water Section Guidance No. 39, "Pressure Testing Injection Wells for Part I (Internal) Mechanical Integrity" are available from EPA and will be provided upon request.

The Director may stipulate specific test methods and criteria best suited for a specific well construction and injection operation.

3. Notification Prior to Testing.

The Permittee shall notify the Director at least 30 days prior to any scheduled mechanical integrity test. The Director may allow a shorter notification period if it would be sufficient to enable EPA to witness the mechanical integrity test. Notification may be in the form of a yearly or quarterly schedule of planned mechanical integrity tests, or it may be on an individual basis.

4. Loss of Mechanical Integrity.

If the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity becomes evident during operation (such as presence of pressure in the TCA, water flowing at the surface, etc.), the Permittee shall notify the Director within 24 hours (see Part III Section E Paragraph 11(e) of this Permit) and the well shall be shut-in within 48 hours unless the Director requires immediate shut-in.

Within five days, the Permittee shall submit a follow-up written report that documents test results, repairs undertaken or a proposed remedial action plan.

Injection operations shall not be resumed until after the well has successfully been repaired and demonstrated mechanical integrity, and the Director has provided approval to resume injection.

Section C. WELL OPERATION

INJECTION BETWEEN THE OUTERMOST CASING PROTECTING UNDERGROUND SOURCES OF DRINKING WATER AND THE WELL BORE IS PROHIBITED.

Injection is approved under the following conditions:

1. Requirements Prior to Commencing Injection.

Well injection, including for new wells authorized by an Area Permit under 40 CFR 144.33 (c), may commence only after all well construction and pre-injection requirements herein have been met and approved. The Permittee may not commence injection until construction is complete, and

(a) The Permittee has submitted to the Director a notice of completion of construction and a completed EPA Form 7520-10 or 7520-12; all applicable logging and testing requirements of this Permit (see APPENDIX B) have been fulfilled and the records submitted to the Director; mechanical integrity pursuant to 40 CFR 146.8 and Part II Section B of this Permit has been demonstrated; and

(i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the Permit; or

(ii) The Permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Paragraph 1a, in which case prior inspection or review is waived and the Permittee may commence injection.

2. Injection Interval.

Injection is permitted only within the approved injection interval, listed in APPENDIX C. Additional individual injection perforations may be added provided that they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6.

3. Injection Pressure Limitation

(a) The permitted Maximum Allowable Injection Pressure (MAIP), measured at the wellhead, is found in APPENDIX C. Injection pressure shall not exceed the amount the Director determines is appropriate to ensure that injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into a USDW.

(b) The Permittee may request a change of the MAIP, or the MAIP may be increased or decreased by the Director in order to ensure that the requirements in Paragraph (a) above are fulfilled. The Permitee may be required to conduct a step rate injection test or other suitable test to provide information for determining the fracture pressure of the injection zone. Change of the permitted MAIP by the Director shall be by modification of this Permit and APPENDIX C.

4. *Injection Volume Limitation.*

Injection volume is limited to the total volume specified in APPENDIX C.

5. *Injection Fluid Limitation.*

Injected fluids are limited to those which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, pursuant to 40 CFR 144.6(b). The well also may be used to inject approved Class II wastes brought to the surface such as drilling fluids and spent well completion, treatment and stimulation fluids. Non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, are NOT approved. This well is NOT approved for commercial brine or other fluid disposal operation.

Fluid sources are listed in Appendix C of the Permit No. UT 21061-07149.

6. *Tubing-Casing Annulus (TCA)*

The tubing-casing annulus (TCA) shall be filled with water treated with a corrosion inhibitor, or other fluid approved by the Director. The TCA valve shall remain closed during normal operating conditions and the TCA pressure shall be maintained at zero (0) psi.

If TCA pressure cannot be maintained at zero (0) psi, the Permittee shall follow the procedures in Ground Water Section Guidance No. 35 "Procedures to follow when excessive annular pressure is observed on a well."

Section D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

1. *Monitoring Parameters, Frequency, Records and Reports.*

Monitoring parameters are specified in APPENDIX D. Pressure monitoring recordings shall be taken at the wellhead. The listed parameters are to be monitored, recorded and reported at the frequency indicated in APPENDIX D even during periods when the well is not operating.

Monitoring records must include:

(a) the date, time, exact place and the results of the observation, sampling, measurement, or analysis, and;

(b) the name of the individual(s) who performed the observation, sampling, measurement, or analysis, and;

(c) the analytical techniques or methods used for analysis.

2. *Monitoring Methods.*

(a) Monitoring observations, measurements, samples, etc. taken for the purpose of complying with these requirements shall be representative of the activity or condition being monitored.

(b) Methods used to monitor the nature of the injected fluids must comply with analytical methods cited and described in Table 1 of 40 CFR 136.3 or Appendix III of 40 CFR 261, or by other methods that have been approved in writing by the Director.

(c) Injection pressure, annulus pressure, injection rate, and cumulative injected volumes shall be observed and recorded at the wellhead under normal operating conditions, and all parameters shall be observed simultaneously to provide a clear depiction of well operation.

(d) Pressures are to be measured in pounds per square inch (psi).

(e) Fluid volumes are to be measured in standard oil field barrels (bbl).

(f) Fluid rates are to be measured in barrels per day (bbl/day).

3. Records Retention.

(a) Records of calibration and maintenance, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a period of AT LEAST THREE (3) YEARS from the date of the sample, measurement, report, or application. This period may be extended anytime prior to its expiration by request of the Director.

(b) Records of the nature and composition of all injected fluids must be retained until three (3) years after the completion of any plugging and abandonment (P&A) procedures specified under 40 CFR 144.52(a)(6) or under Part 146 Subpart G, as appropriate. The Director may require the Permittee to deliver the records to the Director at the conclusion of the retention period. The Permittee shall continue to retain the records after the three (3) year retention period unless the Permittee delivers the records to the Director or obtains written approval from the Director to discard the records.

(c) The Permittee shall retain records at the location designated in APPENDIX D.

4. Annual Reports.

Whether the well is operating or not, the Permittee shall submit an Annual Report to the Director that summarizes the results of the monitoring required by Part II Section D and APPENDIX D. The report of fluids injected during the year must identify each new fluid source by well name and location, and the field name or facility name.

The first Annual Report shall cover the period from the effective date of the Permit through December 31 of that year. Subsequent Annual Reports shall cover the period from January 1 through December 31 of the reporting year. Annual Reports shall be submitted by February 15 of the year following data collection. EPA Form 7520-11 may be copied and shall be used to submit the Annual Report, however, the monitoring requirements specified in this Permit are mandatory even if EPA Form 7520-11 indicates otherwise.

Section E. PLUGGING AND ABANDONMENT

1. Notification of Well Abandonment, Conversion or Closure.

The Permittee shall notify the Director in writing at least forty-five (45) days prior to: 1) plugging and abandoning an injection well, 2) converting to a non-injection well, and 3) in the case of an Area Permit, before closure of the project.

2. Well Plugging Requirements

Prior to abandonment, the injection well shall be plugged with cement in a manner which isolates the injection zone and prevents the movement of fluids into or between underground sources of drinking water, and in accordance with 40 CFR 146.10 and other applicable Federal, State or local law or regulations. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. Prior to placement of the cement plug(s) the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director.

3. Approved Plugging and Abandonment Plan.

The approved plugging and abandonment plan is incorporated into this Permit as APPENDIX E. Changes to the approved plugging and abandonment plan must be approved by the Director prior to beginning plugging operations. The Director also may require revision of the approved plugging and abandonment plan at any time prior to plugging the well.

4. Forty Five (45) Day Notice of Plugging and Abandonment.

The Permittee shall notify the Director at least forty-five (45) days prior to plugging and abandoning a well and provide notice of any anticipated change to the approved plugging and abanonment plan.

5. Plugging and Abandonment Report.

Within sixty (60) days after plugging a well, the Permittee shall submit a report (EPA Form 7520-13) to the Director. The plugging report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:

(a) A statement that the well was plugged in accordance with the approved plugging and abandonment plan; or

(b) Where actual plugging differed from the approved plugging and abandonment plan, an updated version of the plan, on the form supplied by the Director, specifying the differences.

6. *Inactive Wells.*

After any period of two years during which there is no injection the Permittee shall plug and abandon the well in accordance with Part II Section E Paragraph 2 of this Permit unless the Permittee:

(a) Provides written notice to the Director;

(b) Describes the actions or procedures the Permittee will take to ensure that the well will not endanger USDWs during the period of inactivity. These actions and procedures shall include compliance with mechanical integrity demonstration, Financial Responsibility and all other permit requirements designed to protect USDWs; and

(c) Receives written notice by the Director temporarily waiving plugging and abandonment requirements.

PART III. CONDITIONS APPLICABLE TO ALL PERMITS

Section A. EFFECT OF PERMIT

The Permittee is allowed to engage in underground injection in accordance with the conditions of this Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR 142 or may otherwise adversely affect the health of persons. Any underground injection activity not authorized by this Permit or by rule is prohibited. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of any other Federal, State or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any enforcement action brought under the provisions of Section 1431 of the Safe Drinking Water Act (SDWA) or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health or the environment, nor does it serve as a shield to the Permittee's independent obligation to comply with all UIC regulations. Nothing in this Permit relieves the Permittee of any duties under applicable regulations.

Section B. CHANGES TO PERMIT CONDITIONS

1. Modification, Reissuance, or Termination.

The Director may, for cause or upon a request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR 124.5, 144.12, 144.39, and 144.40. Also, this Permit is subject to minor modification for causes as specified in 40 CFR 144.41. The filing of a request for modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit.

2. Conversions.

The Director may, for cause or upon a written request from the Permittee, allow conversion of the well from a Class II injection well to a non-Class II well. Conversion may not proceed until the Permittee receives written approval from the Director. Conditions of such conversion may include but are not limited to, approval of the proposed well rework, follow up demonstration of mechanical integrity, well-specific monitoring and reporting following the conversion, and demonstration of practical use of the converted configuration.

3. Transfer of Permit.

Under 40 CFR 144.38, this Permit is transferable provided the current Permittee notifies the Director at least thirty (30) days in advance of the proposed transfer date (EPA Form 7520-7) and provides a written agreement between the existing and new Permittees containing a specific date for transfer of Permit responsibility, coverage and liability between them. The notice shall adequately demonstrate that the financial responsibility requirements of 40 CFR 144.52(a)(7) will be met by the new Permittee. The Director may require modification or revocation and reissuance of the Permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act; in some cases, modification or revocation and reissuance is mandatory.

4. Permittee Change of Address.

Upon the Permittee's change of address, or whenever the operator changes the address where monitoring records are kept, the Permittee must provide written notice to the Director within 30 days.

5. Construction Changes, Workovers, Logging and Testing Data

The Permittee shall give advance notice to the Director, and shall obtain the Director's written approval prior to any physical alterations or additions to the permitted facility. Alterations or workovers shall meet all conditions as set forth in this permit. The Permittee shall record any changes to the well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workovers, logging , or test data to EPA within sixty (60) days of completion of the activity.

Following the completion of any well workovers or alterations which affect the casing, tubing, or packer, a successful demonstration of mechanical integrity (Part III, Section F of this Permit) shall be made, and written authorization from the Director received, prior to resuming injection activities.

Section C. SEVERABILITY

The Provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

Section D. CONFIDENTIALITY

In accordance with 40 CFR Part 2 and 40 CFR 144.5, information submitted to EPA pursuant to this Permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

- The name and address of the Permittee, and
- information which deals with the existence, absence or level of contaminants in drinking water.

Section E. GENERAL PERMIT REQUIREMENTS

1. Duty to Comply.

The Permittee must comply with all conditions of this Permit. Any noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; except that the Permittee need not comply with the provisions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit under 40 CFR 144.34. All violations of the SDWA may subject the Permittee to penalties and/or criminal prosecution as specified in Section 1423 of the SDWA.

2. Duty to Reapply.

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, under 40 CFR 144.37 the Permittee must apply for a new permit prior to the expiration date.

3. Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

4. Duty to Mitigate.

The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Permit.

5. Proper Operation and Maintenance.

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

6. Permit Actions.

This Permit may be modified, revoked and reissued or teminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

7. Property Rights.

This Permit does not convey any property rights of any sort, or any exclusive privilege.

8. Duty to Provide Information.

The Permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit. The Permittee is required to submit any information required by this Permit or by the Director to the mailing address designated in writing by the Director.

9. Inspection and Entry.

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,

(d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

10. Signatory Requirements.

All applications, reports or other information submitted to the Director shall be signed and certified according to 40 CFR 144.32. This section explains the requirements for persons duly authorized to sign documents, and provides wording for required certification.

11. Reporting Requirements.

(a) Planned changes. The Permittee shall give notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility, and prior to commencing such changes.

(b) Anticipated noncompliance. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Monitoring Reports. Monitoring results shall be reported at the intervals specified in this Permit.

(d) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 30 days following each schedule date.

(e) Twenty-four hour reporting. The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:

(i) Any monitoring or other information which indicates that any contaminant may cause endangerment to a USDW; or

(ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

Information shall be provided, either directly or by leaving a message, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting EPA Region VIII UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region VIII Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

(f) Oil Spill and Chemical Release Reporting: The Permittee shall comply with all reporting requirements related to the occurence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website http://www.nrc.uscg.mil/index.htm.

(g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.

(h) Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.

Section F. FINANCIAL RESPONSIBILITY

1. Method of Providing Financial Responsibility.

The Permittee shall maintain continuous compliance with the requirement to maintain financial responsibility and resources to close, plug, and abandon the underground injection well(s). No substitution of a demonstration of financial responsibility shall become effective until the Permittee receives written notification from the Director that the alternative demonstration of financial responsibility is acceptable. The Director may, on a periodic basis, require the holder of a permit to revise the estimate of the resources needed to plug and abandon the well to reflect changes in such costs and may require the Permittee to provide a revised demonstration of financial responsibility.

2. Insolvency.

In the event of:

(a) the bankruptcy of the trustee or issuing institution of the financial mechanism; or

(b) suspension or revocation of the authority of the trustee institution to act as trustee; or

(c) the institution issuing the financial mechanism losing its authority to issue such an instrument

the Permittee must notify the Director in writing, within ten (10) business days, and the Permittee must establish other financial assurance or liability coverage acceptable to the Director within sixty (60) days after any event specified in (a), (b), or (c) above.

The Permittee must also notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U.S. Code naming the owner or operator as debtor, within ten (10) business days after the commencement of the proceeding. A guarantor, if named as debtor of a corporate guarantee, must make such a notification as required under the terms of the guarantee.

APPENDIX A

WELL CONSTRUCTION REQUIREMENTS

The drilling operations described below may have minor changes due to field conditions. If the drilling procedure below is modified, then the operator will call EPA for approval prior to any variations to the procedure described below.

The well will be killed with produced formation water. The 2-3/8" tubing string will be pulled from the well and a bridge plug will be set 50' to 100' above the top existing perforation. Go in hole with tubing and pressure test the bridge plug and casing to 1000#. Pump a 50' cement plug on top of the bridge plug. The 50' plug will be 6 sacks of Class G cement with additives. The plug will be placed utilizing the balanced plug method. Pull 2-3/8" tubing from the well and lay down work string.

This will abandon the perforations at 7845-52', 7808'-28', 7618-22', 7570-74', 7528-36' & 7503-08' & 6942'-62'.

The proposed injection intervals in the upper Wasatch will be perforated from 4560-72', 4600-22' & 4631-4700' with 4 shots per foot, 120 degree phase, 22.7 gram charges casing gun.

An injection packer will be set within 100' of the top perf at 4560'. The 2-7/8" 6.5# J-55 injection tubing will be run in the hole to the top of the packer. The hole will be displaced with fresh water annulas fluid containing corrosion inhibitors and oxygen scavengers. The tubing will be spaced out and latched onto the packer. The wellhead will be installed and the perfs will be broke down to insure communication with the injection intervals.

A mechanical integrity test will be conducted on the annular space between the 2-7/8" tubing string and the 5-1/2" casing.

If the injection zone formation contains water with less than 10,000 mg/L total dissolved solids, then the operator will be required to apply for exemption for USDW status for the area within 1/4 mile radius of the wellbore. In the public notice, EPA will encourage comments on any concerns about the proposed injection zone or potential exemption. If no comments are received, EPA may approve the aquifer exemption without public notification.

PROPOSED CONVERSION TO WATER DISPOSAL WELL

WELL NAME: SOUTHMAN CANYON 9-23-22-36 DATE: 20-Feb-07

LOCATION: SENW SECTION 36-T9S-R23E, 2466' FNL & 2271' FWL, UINTAH CTY, UTAH

Lat 39 59" 49.60", Long 109 16" 20.21"

API #: 43 047 35362

SPUD DATE: 2/13/2004

RIG RELEASED: 8/3/2004

EPA Region 8
Ground Water Program

KB ELEV: 5,374 Ft

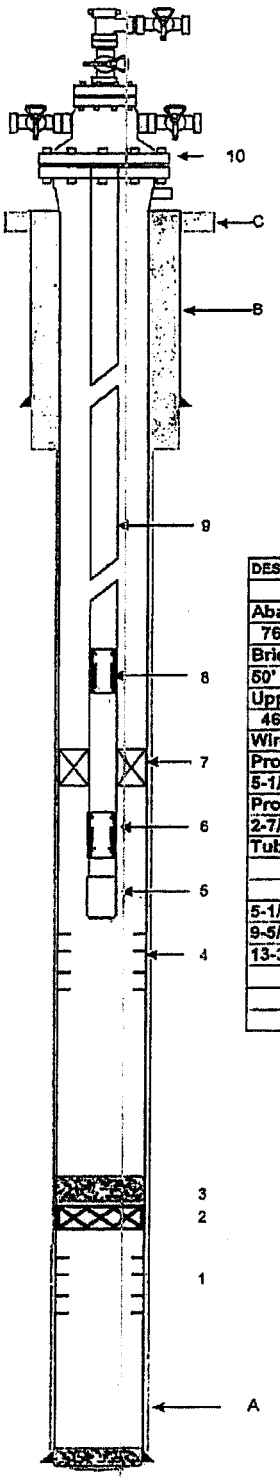
GL ELEV: 5,370 Ft

TD: 8,552 Ft PBTD: 4,495 Ft

TUBULARS:	SIZE Inch	WEIGHT #/ft	GRADE	THREAD	DEPTH	OTHER
Conductor:	13-3/8"	48	H-40	ST&C	99	
SURFACE:	9-5/8	36	J-55	ST&C	2,006	
PRODUCTION:	5-1/2	17	N-80	LT&C	8,552	
TUBING:	2-7/8	6.5	J-55	EUE	4,500	

CURRENT ZONE: ABANDON MESAVERDE PERFS 6942'-7852' GROSS INTERVAL

WASATCH INJECTION PERFS 4560'-4700' GROSS INTERVAL



DESCRIPTION (starting at the bottom)	LENGTH (ft)	DEPTH (ft)	
BOTTOM OF TOOL STRING →		+/- 4500	#
Abandoned Mesaverde Perforations 7845-52', 7808-28',			1
7618-22', 7570-74', 7528-36', 7503-08' & 6942-62'			
Bridge Plug			2
50' Cement Plug			3
Upper Wasatch Injection Perforations 4681-4700',			4
4600-22' & 4560-72'			
Wire Line Re-Entry Guide			5
Profile Nipple			6
5-1/2" Packer set within 100' of top injection perf			7
Profile Nipple			8
2-7/8" 6.5 #/ft J-55 EUE tubing			9
Tubing Hanger & Wellhead			10
5-1/2" 17#/ft N-80 LT&C		8,552	A
9-5/8" 36# J-55 ST&C		2,006	B
13-3/8" 48# H-40 ST&C		99	C

DIAGRAM NOT TO SCALE

SC9-23-22-36.jpg

APPENDIX B

LOGGING AND TESTING REQUIREMENTS

Logs.
Logs will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well logging required as a condition of this permit.

NO LOGGING REQUIREMENTS

Tests.
Tests will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well test required as a condition of this permit.

WELL NAME: Southman Canyon 9-23-22-36 WD

TYPE OF TEST	DATE DUE
Injection Zone Water Sample	Prior to injection; swab testing on formation; conductivity to be monitored for consistency prior to sample collection
Standard Annulus Pressure	Prior to injection and at least once every 5 years thereafter
Pore Pressure	Prior to injection
Step Rate Test	Within 30 days of injection operations

APPENDIX C

OPERATING REQUIREMENTS

MAXIMUM ALLOWABLE INJECTION PRESSURE:
Maximum Allowable Injection Pressure (MAIP) as measured at the surface shall not exceed the pressure(s) listed below.

WELL NAME	MAXIMUM ALLOWED INJECTION PRESSURE (psi) ZONE 1 (Upper)
Southman Canyon 9-23-22-36 WD	1,310

INJECTION INTERVAL(S):
Injection is permitted only within the approved injection interval listed below. Injection perforations may be altered provided they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6. Specific injection perforations can be found in Appendix A.

Fluid Sources include:

Well Name	TDS (mg/L)
Southman Canyon 6D-37	30,428
Southman Canyon 10C-36	37,114
Southman Canyon 14C-36	36,037
Southman Canyon 16C-36	36,092
Southman Canyon 2D-30	33,783
Southman Canyon 2D-36	38,528
Southman Canyon 4D-36	50,404
Southman Canyon 6D-36	30,428
Southman Canyon 8C-36	49,335
Southman Canyon 12D-36	54,689
Red Wash 9-24-23-30	16,605

WELL NAME: Southman Canyon 9-23-22-36 WD

FORMATION NAME	APPROVED INJECTION INTERVAL (KB, ft) TOP	BOTTOM	FRACTURE GRADIENT (psi/ft)
Wasatch Formation	4,535.00 -	4,710.00	0.730

ANNULUS PRESSURE:

The annulus pressure shall be maintained at zero (0) psi as measured at the wellhead. If this pressure cannot be maintained, the Permittee shall follow the procedures listed under Part II, Section C. 6. of this permit.

MAXIMUM INJECTION VOLUME:

There is no limitation on the number of barrels per day (bbls/day) of water that shall be injected into this well, provided further that in no case shall injection pressure exceed that limit shown in Appendix C.

APPENDIX D

MONITORING AND REPORTING PARAMETERS

This is a listing of the parameters required to be observed, recorded, and reported. Refer to the permit Part II, Section D, for detailed requirements for observing, recording, and reporting these parameters.

OBSERVE WEEKLY AND RECORD AT LEAST ONCE EVERY THIRTY DAYS	
OBSERVE AND RECORD	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)

ANNUALLY	
ANALYZE	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH

ANNUALLY	
REPORT	Each month's maximum and averaged injection pressures (psig)
	Each month's maximum and averaged annulus pressure(s) (psig)
	Each month's averaged injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbl)
	Written results of annual injected fluid analysis
	Sources of all fluids injected during the year

Records of all monitoring activities must be retained and made available for inspection at the following location:

Enduring Resources
475 Seventeenth Street, Suite 1500
Denver, CO 80202

APPENDIX E

PLUGGING AND ABANDONMENT REQUIREMENTS

The drilling operations described below may have minor changes due to field conditions. If the drilling procedure below is modified, then the operator will call EPA for approval prior to any variations to the procedure described below.

Operator will file and obtain approval for a detailed P&A plan for approval prior to initiating any P&A operations. Typical P&A operations may be as follows:

Set wireline bridge plug 50' to 100' above the top injection perforation. Pressure test the casing string and the bridge plug.

Go in hole with tubing and pump one 50' cement plug on top of the bridge plug and four 100 ft cement plugs from 4161' to 4061' across Wasatch top at 4111', from 3219' to 3119' across the USDW at 3169', from 2056' to 1956' across surface casing at 2006' and from 100' to surface. The cement will be Class G with additives. The 50' plug will be 6 sacks of cement and the 100' plugs will each be 12 sacks of cement. Water-based muds or brines containing a plugging gel with a density of at least 9.2 lb/gal will be used during plugging operations and will remain between plugs in the well after cement placement. All plugs will be placed with tubing utilizing the balanced plug method. Plug placement will be verified by tagging the top of the plug after the cement has had adequate time to set.

Remove wellhead. Install plug and abandon marker. Remove all equipment and reclaim location.

A plugging procedure will be submitted and approval obtained with the appropriate regulatory agencies before any plugging operations are conducted.

PROPOSED PLUG AND ABANDON SCHEMATIC

WELL NAME: SOUTHMAN CANYON 9-23-22-36 DATE: 21-Feb-07

LOCATION: SENW SECTION 36-T8S-R23E, 2466' FNL & 2271' FWL, UINTAH CTY, UTAH

Lat 39 59" 49.80", Long 109 16' 20.21"

API #: 43 047 35362

SPUD DATE: 2/18/2004

RIG RELEASED: 8/3/2004

KB ELEV: 5,374 Ft

GL ELEV: 5,370 Ft

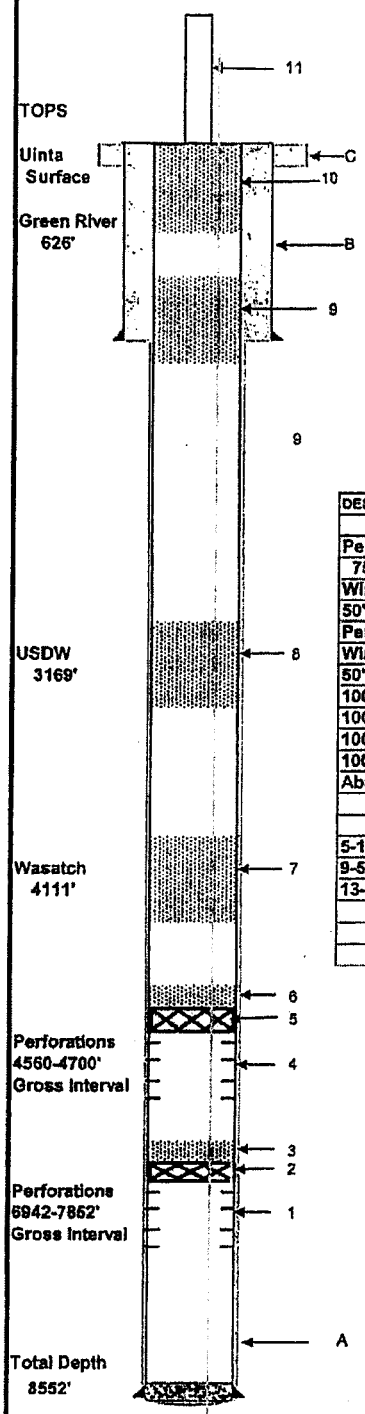
TD: 8,552 Ft

RECEIVED APR 1 5 2007 EPA Region 8 Ground Water Program

TUBULARS:	SIZE Inch	WEIGHT #/ft	GRADE	THREAD	DEPTH	OTHER
Conductor:	13-3/8"	48	H-40	ST&C	99	
SURFACE:	9-5/8	36	J-55	ST&C	2,006	
PRODUCTION:	5-1/2	17	N-80	LT&C	8,552	
TUBING:						

CURRENT ZONE: ABANDON MESAVERDE PERFS 6942'-7852' GROSS INTERVAL

ABANDON WASATCH INJECTION PERFS 4560'-4700' GROSS INTERVAL



DESCRIPTION (starting at the bottom)	LENGTH (ft)	DEPTH (ft)	#
Perforations 7845-52', 7808-28', 7618-22', 7570-74', 7528-36', 7503-08' & 6942-62'			1
Wire line set bridge plug			2
50' cement plug			3
Perforations 4560-72', 4600-22' & 4681-4700'			4
Wire line set bridge plug			5
50' cement plug			6
100' cement plug from 4161' to 4061'			7
100' cement plug from 3219' to 3119'			8
100' cement plug from 2056' to 1956'			9
100' cement plug from 100' to surface			10
Abandoned Well marker			11
5-1/2" 17#/ft N-80 LT&C		8,552	A
9-5/8" 36# J-55 ST&C		2,006	B
13-3/8" 48# H-40 ST&C		99	C

DIAGRAM NOT TO SCALE

SC9-23-22-36 P&A.jpg

APPENDIX F

CORRECTIVE ACTION REQUIREMENTS

No corrective action is deemed necessary for this project.

STATEMENT OF BASIS

ENDURING RESOURCES LLC
SOUTHMAN CANYON 9-23-22-36 WD
UINTAH COUNTY, UT

EPA PERMIT NO. UT21061-07149

CONTACT: Patricia Pfeiffer
U. S. Environmental Protection Agency
Ground Water Program, 8P-W-GW
1595 Wynkoop Street
Denver, Colorado 80202-1129
Telephone: 1-800-227-8917 ext. 312-6271

This STATEMENT OF BASIS gives the derivation of site-specific UIC Permit conditions and reasons for them. Referenced sections and conditions correspond to sections and conditions in the Permit.

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water. EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 CFR Parts 144 and 146, and address potential impacts to underground sources of drinking water. Under 40 CFR 144.35 Issuance of this permit does not convey any property rights of any sort or any exclusive privilege, nor authorize injury to persons or property of invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. Under 40 CFR 144 Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General Permit conditions for which the content is mandatory and not subject to site-specific differences (40 CFR Parts 144, 146 and 147) are not discussed in this document.

Upon the Effective Date when issued, the Permit authorizes the construction and operation of injection wells so that the injection does not endanger underground sources of drinking water, governed by the conditions specified in the Permit. The Permit is issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR 144.39, 144.40 and 144.41. The Permit is subject to EPA review at least once every five (5) years to determine if action is required under 40 CFR 144.36(a).

PART I. General Information and Description of Facility

Enduring Resources LLC
475 17th Street, Suite 1500
Denver, CO 80202

on

Resubmitted September 22, 2006
Major Modification requested March 19, 2007

April 3, 2006

submitted an application for an Underground Injection Control (UIC) Program Permit or Permit Modification for the following injection well or wells:

In the original application, Enduring Resources proposed to drill and complete a Class II well. Enduring Resources made an economic decision, and requested modification of their original Permit to instead allow use of a pre-existing wellbore to be converted into an injection well. The pre-existing wellbore is located approximately 153 feet to the southwest of the originally proposed drill site.

The injection well will be used for the disposal of water produced from natural gas in the Rock House Field area, Uinta County, Utah. The injection fluids currently proposed for disposal will be produced water from the Wasatch and Mesaverde Formations.

The well is located within the exterior boundaries of the Uintah & Ouray Indian Reservation. Notice of intent of the EPA proposed permit decision will be published in the local newspaper and notices will be sent to the U.S. Bureau of Land Management-Vernal Office, Bureau of Indian Affairs, Ute Indian Tribe, and State of Utah-Natural Resources Division.

Southman Canyon 9-23-22-36 WD
2466' FNL 2271' FWL, SENW S36, T9S, R23E
Uintah County, UT

Regulations specific to Uintah-Ouray Indian Reservation injection wells are found at 40 CFR 147 Subpart TT.

The application, including the required information and data necessary to issue or modify a UIC Permit in accordance with 40 CFR Parts 144, 146 and 147, was reviewed and determined by EPA to be complete.

The Permit will expire upon delegation of primary enforcement responsibility (primacy) for applicable portions of the UIC Program to the Ute Indian Tribe or the State of Utah unless the delegated agency has the authority and chooses to adopt and enforce this Permit as a Tribal or State Permit.

TABLE 1.1 shows the status of the well or wells as "New", "Existing", or "Conversion" and for Existing shows the original date of injection operation. Well authorization "by rule" under 40 CFR Part 144 Subpart C expires automatically on the Effective Date of an issued UIC Permit.

TABLE 1.1 WELL STATUS / DATE OF OPERATION		
NEW WELLS		
Well Name	**Well Status**	**Date of Operation**
Southman Canyon 9-23-22-36 WD	New	N/A

PART II. Permit Considerations (40 CFR 146.24)

The Uinta Basin is a major sedimentary basin of the western-central Rocky Mountain province. The basin is both a structural and a topographic basin located in northeastern Utah and northwest Colorado. The surface terrain is high mountain desert in the central part of the basin, and elevations vary from approximately 5,600 feet to over 11,000 feet above sea level. The topographic basin extends about 200 miles west to east and 173 miles north to south and has an area of about 10,000 square miles. It is strongly asymmetric, bounded by the Uinta Mountain uplift on the north and by the Wasatch Mountain uplift and the eastern faulted margin of the Wasatch Plateau on the west. Dip on the southwest and southeast flanks range from a few degrees to up to 15°. The north flank is highly complex, with major faulting and steep to overturned beds. The basin is considered to be a major producer of gas for the United States. The greatest portion of the energy resources are hydrocarbons, in the forms of coal, oil and gas, bituminous sandstone and limestone, and some gilsonite. The Uintah & Ouray Indian Reservation comprises just over 4 million acres of this area, reaching from the Utah-Colorado border west to the Wasatch Mountain Range.

Groundwater hydrology of the Uinta Basin is controlled primarily by the geologic structure of the region. Recharge of groundwater is greatest near the northern edge of the basin. On the south flank of the basin, most recharge is in the areas of highest altitude where precipitation is greatest. However, because of the low dip of the south flank, few formations except the Green River Formation are exposed to recharge. The major direction of ground water flow in this portion of the Uinta Basin is predominantly toward the White River. The White River is located approximately 2 miles to the south of the proposed well location. Intermittent drainages near the well connect to Coyote Wash, which eventually feeds into the White River.

During the Eocene time, large amounts of sediment form adjacent higher areas were deposited in various lacustrine and fluvial environments in the basin. These sediments total more that 15,000 feet thick in the center of the basin and contain important mineral resources. During the Sevier/Laramide mountain building episode, deformation (thrust faulting and downwarping) occurred in the basin. The basin had several lakes that accumulated large amounts of organic material, and later heat and pressure of burial changed the organic-rich sediment into the thick oil shale of the middle and upper Green River Formation. The geologic formations of interest for this well, in descending order, are the Uinta and Green River Formations and the Wasatch Group.

The Uinta Formation is exposed at the surface in the area of the proposed well. The Uinta is comprised of thinly bedded calcareous shale, siltstone, and fine-grained sandstone. Hydraulic conductivity of the Uinta may be greatly enhanced by naturally occurring fractures.

The Green River Formation is comprised of sandstones, limestone and shale beds that were deposited along the edges and on the broad level floor of Lake Uinta as it expanded and contracted through time. Deposition in and around Lake Uinta consisted of open to marginal lacustrine sediments that make up the Green River Formation. The cyclic nature of deposition in the southern shore area resulted in numerous stacked deltaic deposits. Distributary mouth bars, distributary channels, and near shore bars are the primary producing sandstone reservoirs in the area (Ref: "Reservoir Characterization of the Lower Green River Formation, Southwest Uinta Basin, Utah Biannual Technical Progress Report, 4/1/99 9/30/99", by C. D. Morgan, Program Manager, November 1999, Contract DE AC26 98BC15103). Intervals in which porous sandstones occur are comprised of tight sandstone and interbedded shale forming the confining layers to the individual sandstone lenses. Two members of the Green River Formation, the Evacuation Creek and Parachute Members, are exposed at the surface approximately 7 miles from the well location upstream along the White River. In some areas there is complex intertonguing between the sediments of the underlying Wasatch and the Green River Formation. In the eastern portion of the basin, the Green River thins to about 1000 ft as the lower part pinches out. Gilsonite, a naturally occurring solid amorphous asphaltic bitumen originated by solidification of petroleum, occurs in veins that fill the vertical tensional fractures in this area that are rooted in the upper Green River oil shale.

The Wasatch Group, in descending order, is divided into the Colton, Flagstaff, and North Horn Formations. The Flagstaff Formation is not present at the proposed well location. The Colton is described as being primarily sandstone with mudstone (shale) and minor limestone. The sandstone units are characterized by mud chips, mud clasts, and discontinuous finer-grained beds. The Colton displays complex reservoir geometry, and heterogeneity is typical. The North Horn consists of conglomerate, sandstone, siltstone, and lacustrine limestone and shale. The basal unit consists of thin lacustrine shale and lime wackestone overlain by variegated floodplain mudstones and fine-grained fluvial sandstones.

Geologic Setting (TABLE 2.1)

TABLE 2.1
GEOLOGIC SETTING
Southman Canyon 9-23-22-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Lithology
Uinta Formation	0	626	0 - 3,000	calcareous shale, some limestone, claystone, and sandstone
Green River Formation	626	4,115	0 - 3,000	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil shale, and trona (sodium carbonate)
Wasatch Formatin	4,115	5,803	3,000 - 35,000	shale and claystone with interbedded conglomerate and sandstone
Mesaverde Formation	5,803	8,552	10,000 - 35,000	interbedded sandstone, siltstone, and shale with minor coal beds

Proposed Injection Zone(s) (TABLE 2.2)

An injection zone is a geological formation, group of formations, or part of a formation that

receives fluids through a well. The proposed injection zones are listed in TABLE 2.2.

Injection will occur into an injection zone that is separated from USDWs by a confining zone which is free of known open faults or fractures within the Area of Review.

The Wasatch is the proposed injection zone. EPA has evaluated the capacity of the proposed injection zone to accept fluids, using porosity data and the effective height from the Southman Canyon 9-23-22-36 (6D-36) production well. The portion of the Wasatch Formation proposed for injection was calculated to have a cumulative volume capacity of approximately 6,717,000 barrels within the quarter mile area of review.

An Injection Profile Survey, using either a spinner or tracer test, will be required prior to injection. Along with a profile of fluid loss versus depth, these data provide an indication of the absence of fluid channeling away from the well bore, and also can be used to determine an accurate volume that the formation can receive should an aquifer exemption be necessary.

Formation fluid sampling and analysis of the injection zone will be required during drilling and completion of the well. Swab testing will be conducted, with conductivity monitored for consistency before the sample is collected.

If the injection zone formation contains water with less than 10,000 mg/L total dissolved solids, then the operator will be required to apply for exemption for USDW status for the area within 1/4 mile radius of the wellbore. In the public notice, EPA will encourage comments on any concerns about the proposed injection zone or potential exemption. If no comments are received, EPA may approve the aquifer exemption without public notification.

TABLE 2.2

INJECTION ZONES

Southman Canyon 9-23-22-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Fracture Gradient (psi/ft)	Porosity	Exempted?*
Wasatch Formation	4,535	4,710	3,000 - 35,000	0.730		N/A

*** C - Currently Exempted**
E - Previously Exempted
P - Proposed Exemption
N/A - Not Applicable

Confining Zone(s) (TABLE 2.3)

A confining zone is a geological formation, part of a formation, or a group of formations that limits fluid movement above the injection zone. The confining zone or zones are listed in TABLE 2.3.

Impermeable intervals of the Wasatch are identified as the confining zones that will prevent migration of fluid outside of the injection zone. The following estimated depths are based on wireline logs of the Southman Canyon 9-23-22-36 (6D-36) production well.

1. The upper confining zone, a 285 foot section of shale and claystone, is estimated at between 4250-4535 feet below ground surface.

2. The lower confining zone, a 252 foot section that consists primarily of shale and claystone, is estimated at between 4710-4962 feet below ground surface.

Gilsonite veins in the Uinta Basin vary in width from fractions of an inch to almost 18 feet, and average about 3 to 6 feet. These veins can be vertically continuous for hundreds to approximately 2,000 feet and more. The closests gilsonite vein that has been mapped at the surface is located approximately 1 mile to the northeast of the wellbore's location.

TABLE 2.3
CONFINING ZONES
Southman Canyon 9-23-22-36 WD

Formation Name	Formation Lithology	Top (ft)	Base (ft)
Wasatch Formation-Upper	primarily shale and claystone	4,250	4,535
Wasatch Formation-Lower	primarily shale and claystone	4,710	4,962

Underground Sources of Drinking Water (USDWs) (TABLE 2.4)
Aquifers or the portions thereof which contain less than 10,000 mg/l total dissolved solids (TDS) and are being or could in the future be used as a source of drinking water are considered to be USDWs. The USDWs in the area of this facility are identified in TABLE 2.4.

Based on the Technical Publication No. 92, Utah Department of Natural Resources, the base of USDWs at the proposed well location is found at 3,168 feet below ground surface. However, according to published information, water in the Uinta, Green River, and Wasatch aquifers has been found to range from fresh to briny. Therefore, unless water samples are collected and prove otherwise, these will be considered to be USDWs.

The Douglas Creek-Renegade aquifer, consisting of the Douglas Creek Member of the Green River Formation and the Renegade Tongue of the Wasatch Formation, is a basin-wide aquifer underlying the Duchesne River-Uinta aquifer. The Douglas Creek-Renegade aquifer is thick, and has a hydraulic conductivity ranging from 0.05 to 0.25 ft/d in the southeastern part of the Uinta Basin (Holmes and Kimball, 1983).

TABLE 2.4
UNDERGROUND SOURCES OF DRINKING WATER (USDW)
Southman Canyon 9-23-22-36 WD

Formation Name	Formation Lithology	Top (ft)	Base (ft)	TDS (mg/l)
Uinta Formation	calcareous shale, some limestone, claystone, and sandstone	0	626	0 - 3,000
Green River	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil shale, and trona (sodium carbonate); USGS Pub.92 places the base od USDW at 3168 ft bgs	626	4,115	0 - 3,000
Wasatch Formation	shale and claystone with interbedded conglomerate and sandstone	4,115	5,803	3,000 - 35,000
Mesaverde Formation	deposits of shale, sandstone, and coal beds.	5,803	8,552	10,000 - 35,000

PART III. Well Construction (40 CFR 146.22)

TABLE 3.1
WELL CONSTRUCTION REQUIREMENTS
Southman Canyon 9-23-22-36 WD

Casing Type	Hole Size (in)	Casing Size (in)	Cased Interval (ft)	Cemented Interval (ft)
surface	12.25	9.63	0 - 2,006	0 - 2,006
longstring	7.88	5.50	0 - 8,552	1,808 - 8,552

The approved well completion plan will be incorporated into the Permit as APPENDIX A and will be binding on the Permittee. Modification of the approved plan is allowed under 40 CFR 144.52(a)(1) provided written approval is obtained from the Director prior to actual modification.

Casing and Cementing (TABLE 3.1)
The well construction plan was evaluated and determined to be in conformance with standard practices and guidelines that ensure well injection does not result in the movement of fluids into USDWs. Well construction details for this "new" injection well is shown in TABLE 3.1.

Remedial cementing may be required if the casing cement is shown to be inadequate by cement bond log or other demonstration of Part II (External) mechanical integrity.

Tubing and Packer
Injection tubing is required to be installed from a packer up to the surface inside the well casing. The packer will be set above the uppermost perforation. The tubing and packer are designed to prevent injection fluid from coming into contact with the outermost casing.

Tubing-Casing Annulus (TCA)

The TCA allows the casing, tubing and packer to be pressure-tested periodically for mechanical integrity, and will allow for detection of leaks. The TCA will be filled with fresh water treated with a corrosion inhibitor or other fluid approved by the Director.

Monitoring Devices

The permittee will be required to install and maintain wellhead equipment that allows for monitoring pressures and providing access for sampling the injected fluid. Required equipment may include but is not limited to: 1) shut-off valves located at the wellhead on the injection tubing and on the TCA; 2) a flow meter that measures the cumulative volume of injected fluid; 3) fittings or pressure gauges attached to the injection tubing and the TCA for monitoring the injection and TCA pressure; and 4) a tap on the injection line, isolated by shut-off valves, for sampling the injected fluid.

All sampling and measurement taken for monitoring must be representative of the monitored activity.

PART IV. Area of Review, Corrective Action Plan (40 CFR 144.55)

The State of Utah, Division of Water Rights web page was reviewed and no water wells were found in the AOR.

Two production wells are located within ¼ mile of the proposed location for the Southman Canyon 9-23-22-36 WD well. The Southman Canyon 9-23-32-36 production well and Southman Canyon 9-23-23-36. The CBL's for both of the production wells showed that adequate cement is behind pipe through the injection zone.

Gilsonite veins in the Uinta Basin vary in width from fractions of an inch to almost 18 feet, and average about 3 to 6 feet. These veins can be veritcally continuous for hundreds to approximately 2,000 feet and more. The closest gilsonite vein that has been mapped at the surface is located approximately 1 mile to the northeast of the well's location.

TABLE 4.1
AOR AND CORRECTIVE ACTION

Well Name	Type	Status (Abandoned Y/N)	Total Depth (ft)	TOC Depth (ft)	CAP Required (Y/N)
Southman Canyon 9-23-23-36	Producer	No	8,050	2,300	No

TABLE 4.1 lists the wells in the Area of Review ("AOR") and shows the well type, operating status, depth, top of casing cement ("TOC") and whether a Corrective Action Plan ("CAP") is required for the well.

Area Of Review

Applicants for Class I, II (other than "existing" wells) or III injection well Permits are required to identify the location of all known wells within the injection well's Area of Review (AOR) which penetrate the injection zone, or in the case of Class II wells operating over the fracture pressure of

the formation, all known wells within the area of review that penetrate formations which may be affected by increased pressure. Under 40 CFR 146.6 the AOR may be a fixed radius of not less than one quarter (1/4) mile or a calculated zone of endangering influence. For Area Permits, a fixed width of not less than one quarter (1/4) mile for the circumscribing area may be used.

Corrective Action Plan

For wells in the AOR which are improperly sealed, completed, or abandoned, the applicant shall develop a Corrective Action Plan (CAP) consisting of the steps or modifications that are necessary to prevent movement of fluid into USDWs.

The CAP will be incorporated into the Permit as APPENDIX F and become binding on the permittee.

No corrective acting is required.

PART V. Well Operation Requirements (40 CFR 146.23)

Enduring Resources will be the sole operator of the proposed Southman Canyon 9-23-22-36 WD injection well. To monitor and record injection pressures, each well head will be equipped with a pressure chart that will be read by an approved Enduring Resources employee (pumper) on a weekly basis. Electronic data from the pressure chart will be checked daily for accuracy and compliance with system requirements.

Enduring Resources is requiring truck drivers hauling disposable water to the wells to be pre-qualified and be identified with a truck number and driver number. No driver will be able to enter the site without pre-authorization. No water will be accepted from any industrial process or from fracture fluids, or from any source other than those pre-screened and pre-approved by Enduring Resources and approved by the EPA. Enduring Resource will be maintaining chain of custody documentation.

The Southman Canyon 9-23-22-36 WD injection well will be enclosed inside a chain link fence. All fence gates will be locked and keys or entrance codes will only be provided to authorized Enduring Resources employees or contractors.

TABLE 5.1
INJECTION ZONE PRESSURES
Southman Canyon 9-23-22-36 WD

Formation Name	Depth Used to Calculate MAIP (ft)	Fracture Gradient (psi/ft)	Initial MAIP (psi)
Wasatch Formation	4,560	0.730	1,310

Approved Injection Fluid

The approved injection fluid is limited to Class II injection well fluids pursuant to 40 CFR § 144.6(b). For disposal wells injecting water brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, the fluid may be commingled and

the well used to inject other Class II wastes such as drilling fluids and spent well completion, treatment and stimulation fluid. Injection of non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes, and vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste, is prohibited.

Well Name	TDS (mg/L)
Southman Canyon 6D-37	30,428
Southman Canyon 10C-36	37,114
Southman Canyon 14C-36	36,037
Southman Canyon 16C-36	36,092
Southman Canyon 2D-30	33,783
Southman Canyon 2D-36	38,528
Southman Canyon 4D-36	50,404
Southman Canyon 6D-36	30,428
Southman Canyon 8C-36	49,335
Southman Canyon 12D-36	54,689
Red Wash 9-24-23-30	16,605

Injection Pressure Limitation

Injection pressure, measured at the wellhead, shall not exceed a maximum calculated to assure that the pressure used during injection does not initiate new fractures or propagate existing fractures in the confining zones adjacent to the USDWs.

A step rate test will be required for the proposed injection zone to determine the fracture gradient for the zone. The initial Maximum Allowable Injection Pressure (MAIP) of 1,310 psig, based on an estimated fracture gradient of 0.73 psi/ft, will initially be approved until results of the step rate test are evaluated.

The applicant submitted injection fluid density and injection zone data which was used to calculate a formation fracture pressure and to determine the maximum allowable injection pressure (MAIP), as measured at the surface, for this Permit.

TABLE 5.1 lists the fracture gradient for the injection zone and the approved MAIP, determined according to the following formula:

$$FP = [fg - (0.433 * sg)] * d$$

FP = formation fracture pressure (measured at surface)
fg = fracture gradient (from submitted data or tests)
sg = specific gravity (of injected fluid)
d = depth to top of injection zone (or top perforation)

Injection Volume Limitation

Cumulative injected fluid volume limits are set to assure that injected fluids remain within the boundary of the exempted area. Cumulative injected fluid volume is limited when injection occurs into an aquifer that has been exempted from protection as a USDW.

Mechanical Integrity (40 CFR 146.8)
An injection well has mechanical integrity if:

1. there is no significant leak in the casing, tubing, or packer (Part I); and
2. there is no significant fluid movement into a USDW through vertical channels adjacent to the injection well bore (Part II).

The Permit prohibits injection into a well which lacks mechanical integrity.

The Permit requires that the well demonstrate mechanical integrity prior to injection and periodically thereafter. A demonstration of mechanical integrity includes both internal (Part I) and external (Part II). The methods and frequency for demonstrating Part I and Part II mechanical integrity are dependent upon well-specific conditions as explained below.

PART VI. Monitoring, Recordkeeping and Reporting Requirements

Injection Well Monitoring Program
At least once a year the permittee must analyze a sample of the injected fluid for total dissolved solids (TDS), specific conductivity, pH, and specific gravity. This analysis shall be reported to EPA annually as part of the Annual Report to the Director. Any time a new source of injected fluid is added, a fluid analysis shall be made of the new source.

Instantaneous injection pressure, injection flow rate, cumulative fluid volume and TCA pressures must be observed on a weekly basis. A recording, at least once every thirty (30) days, must be made of the injection pressure, injection flow rate and cumulative fluid volume, and the maximum and average value for each must be determined for each month. This information is required to be reported annually as part of the Annual Report to the Director.

PART VII. Plugging and Abandonment Requirements (40 CFR 146.10)

Plugging and Abandonment Plan
Prior to abandonment, the well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs, and in accordance with any applicable Federal, State or local law or regulation. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. Within sixty (60) days after plugging the owner or operator shall submit Plugging Record (EPA Form 7520 13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. The plugging and abandonment plan is described in Appendix E of the Permit.

PART VIII. Financial Responsibility (40 CFR 144.52)

Demonstration of Financial Responsibility

The permittee is required to maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director. The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance such as financial statements or other materials acceptable to the Director. The Regional Administrator may, on a periodic basis, require the holder of a lifetime permit to submit a revised estimate of the resources needed to plug and abandon the well to reflect inflation of such costs, and a revised demonstration of financial responsibility if necessary. Initially, the operator has chosen to demonstrate financial responsibility with:

Surety Bond, received October 10, 2006

Evidence of continuing financial responsibility is required to be submitted to the Director annually.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 WYNKOOP STREET
DENVER, CO 80202-1129
http://www.epa.gov/region8

JUN 14 2007

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY

Alex Campbell
Enduring Resources, LLC
475 17th Street Suite 1500
Denver, CO 80202

43-047-35362
9S 23E 36

Re: FINAL Permit
EPA UIC Permit UT21061-07149
Well: Southman Canyon 9-23-22-36 WD
Uintah County, UT

Dear Mr. Campbell:

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Permit for the proposed Southman Canyon 9-23-22-36 WD injection well. A Statement of Basis, which discusses development of the conditions and requirements of the Permit, also is included.

The Public Comment period ended on MAY 31 2007. There were no comments on the Draft Permit received during the Public Notice period, and therefore the Final Permit becomes effective on the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect on the date that this Permit becomes effective.

Please note that under the terms of the Final Permit, you are authorized only to construct the proposed injection well, and must fulfill the "Prior to Commencing Injection" requirements of the Permit, Part II Section C Subpart 1 and obtain written Authorization to Inject prior to commencing injection. It is your responsibility to be familiar with and to comply with all provisions of the Final Permit.

The Permit and the authorization to inject are issued for the operating life of the well unless terminated (Part III, Section B). The EPA will review this Permit at least every five (5) years to determine whether action under 40 CFR § 144.36(a) is warranted.

RECEIVED
JUN 29 2007
DIV. OF OIL, GAS & MINING

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If you have any questions on the enclosed Final Permit or Statement of Basis, please call Patricia Pfeiffer of my staff at (303) 312-6271, or toll-free at (800) 227-8917, ext. 312-6271.

Sincerely,

for Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

enclosure:
Final UIC Permit
Statement of Basis
Form 7520-7 Application to Transfer Permit
Form 7520-11 Monitoring Report
Form 7520-14 Plugging Plan
Form 7520-12 Well Rework Record
Groundwater Section Guidance 34
Groundwater Section Guidance 35
Groundwater Section Guidance 37
Groundwater Section Guidance 39

cc:
Curtis Cesspooch, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Irene Cuch, Vice- Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ronald Groves, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Steven Cesspooch, Councilman
Uintah & Ouray Business Committee
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Phillip Chimburas, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Frances Poowegup, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Chester Mills, Superintendent
BIA-Uintah & Ouray Business Council

Mr. Jack Watson, Senior Geologist
Enduring Resources

Shaun Chapoose, Director of Land Use Department
Ute Indian Tribe

Fluid Minerals Engineering Office
U.S. Bureau of Land Management
Vernal, UT

Lynn Becker, Director of Energy and Minerals Department
Ute Indian Tribe

Gilbert Hunt, Associate Director
State of Utah
Division of Oil, Gas, and Mining

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EPA

UNDERGROUND INJECTION CONTROL PROGRAM

PERMIT

PREPARED: May 2007

Permit No. UT21061-07149

Class II Salt Water Disposal Well

Southman Canyon 9-23-22-36 WD
Uintah County, UT

Issued To

Enduring Resources LLC
475 17th Street, Suite 1500
Denver, CO 80202

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Part I. AUTHORIZATION TO CONSTRUCT AND OPERATE

Under the authority of the Safe Drinking Water Act and Underground Injection Control (UIC) Program regulations of the U. S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (40 CFR) Parts 2, 124, 144, 146, and 147, and according to the terms of this Permit,

Enduring Resources LLC 475 17th Street, Suite 1500 Denver, CO 80202

is authorized to construct and to operate the following Class II injection well or wells:

Southman Canyon 9-23-22-36 WD 2466' FNL 2271' FWL, SENW S36, T9S, R23E Uintah County, UT

EPA regulates the injection of fluids into injection wells so that injection does not endanger underground sources of drinking water (USDWs). EPA UIC Permit conditions are based on authorities set forth at 40 CFR Parts 144 and 146, and address potential impacts to USDWs.

Under 40 CFR Part 144, Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General permit conditions for which the content is mandatory and not subject to site-specific differences are not discussed in this document. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize injury to persons or property or invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. (40 CFR §144.35) An EPA UIC Permit may be issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR §§144.39, 144.40 and 144.41, and may be reviewed at least once every five (5) years to determine if action is required under 40 CFR §144.36(a).

This Permit is issued for the life of the well(s) unless modified, revoked and reissued, or terminated under 40 CFR 144.39 or 144.40. This EPA Permit may be adopted, modified, revoked and reissued, or terminated if primary enforcement authority for a UIC Program is delegated to an Indian Tribe or State. Upon the effective date of delegation, reports, notifications, questions and other correspondence should be directed to the Indian Tribe or State Director.

Issue Date: JUN 14 2007 Effective Date JUN 14 2007

for Stephen S. Tuber
Assistant Regional Administrator*
Office of Partnerships and Regulatory Assistance

*NOTE: The person holding this title is referred to as the "Director" throughout this Permit.

PART II. SPECIFIC PERMIT CONDITIONS

Section A. WELL CONSTRUCTION REQUIREMENTS

These requirements represent the approved minimum construction standards for well casing and cement, injection tubing, and packer.

Details of the approved well construction plan are incorporated into this Permit as APPENDIX A. Changes to the approved plan that may occur during construction must be approved by the Director prior to being physically incorporated.

1. Casing and Cement.

The well or wells shall be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The well casing and cement shall be designed for the life expectancy of the well and of the grade and size shown in APPENDIX A. Remedial cementing may be required if shown to be inadequate by cement bond log or other attempted demonstration of Part II (External) mechanical integrity.

2. Injection Tubing and Packer.

Injection tubing is required, and shall be run and set with a packer at or below the depth indicated in APPENDIX A. The packer setting depth may be changed provided it remains below the depth indicated in APPENDIX A and the Permittee provides notice and obtains the Director's approval for the change.

3. Sampling and Monitoring Devices.

The Permittee shall install and maintain in good operating condition:

(a) a "tap" at a conveniently accessible location on the injection flow line between the pump house or storage tanks and the injection well, isolated by shut-off valves, for collection of representative samples of the injected fluid; and

(b) one-half (1/2) inch female iron pipe fitting, isolated by shut-off valves and located at the wellhead at a conveniently accessible location, for the attachment of a pressure gauge capable of monitoring pressures ranging from normal operating pressures up to the Maximum Allowable Injection Pressure specified in APPENDIX C:

  (i) on the injection tubing; and

  (ii) on the tubing-casing annulus (TCA); and

(c) a pressure actuated shut-off device attached to the injection flow line set to shut-off the injection pump when or before the Maximum Allowable Injection Pressure (MAIP) specified in APPENDIX C is reached at the wellhead; and

(d) a non-resettable cumulative volume recorder attached to the injection line.

4. Well Logging and Testing

Well logging and testing requirements are found in APPENDIX B. The Permittee shall ensure the log and test requirements are performed within the time frames specified in APPENDIX B. Well logs and tests shall be performed according to current EPA-approved procedures. Well log and test results shall be submitted to the Director within sixty (60) days of completion of the logging or testing activity, and shall include a report describing the methods used during logging or testing and an interpretation of the test or log results.

5. Postponement of Construction or Conversion

The Permittee shall complete well construction within one year of the Effective Date of the Permit, or in the case of an Area Permit within one year of Authorization of the additional well. Authorization to construct and operate shall expire if the well has not been constructed within one year of the Effective Date of the Permit or Authorization and the Permit may be terminated under 40 CFR 144.40, unless the Permittee has notified the Director and requested an extension prior to expiration. Notification shall be in writing, and shall state the reasons for the delay and provide an estimated completion date. Once Authorization has expired under this part, the complete permit process including opportunity for public comment may be required before Authorization to construct and operate may be reissued.

6. Workovers and Alterations

Workovers and alterations shall meet all conditions of the Permit. Prior to beginning any addition or physical alteration to an injection well that may significantly affect the tubing, packer or casing, the Permittee shall give advance notice to the Director and obtain the Director's approval. The Permittee shall record all changes to well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workover, logging, or test data to EPA within sixty (60) days of completion of the activity.

A successful demonstration of Part I MI is required following the completion of any well workover or alteration which affects the casing, tubing, or packer. Injection operations shall not be resumed until the well has successfully demonstrated mechanical integrity and the Director has provided written approval to resume injection.

Section B. MECHANICAL INTEGRITY

The Permittee is required to ensure each injection well maintains mechanical integrity at all times. The Director, by written notice, may require the Permittee to comply with a schedule describing when mechanical integrity demonstrations shall be made.

An injection well has mechanical integrity if:

(a) There is no significant leak in the casing, tubing, or packer (Part I); and

(b) There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore (Part II).

1. Demonstration of Mechanical Integrity (MI).

The operator shall demonstrate MI prior to commencing injection and periodically thereafter. Well-specific conditions dictate the methods and the frequency for demonstrating MI and are discussed in the Statement of Basis. The logs and tests are designed to demonstrate both internal (Part I) and external (Part II) MI as described above. The conditions present at this well site warrant the methods and frequency required in Appendix B of this Permit.

In addition to these regularly scheduled demonstrations of MI, the operator shall demonstrate internal (Part I) MI after any workover which affects the tubing, packer or casing.

The Director may require additional or alternative tests if the results presented by the operator are not satisfactory to the Director to demonstrate there is no movement of fluid into or between USDWs resulting from injection activity. Results of MI tests shall be submitted to the Director as soon as possible but no later than sixty (60) days after the test is complete.

2. Mechanical Integrity Test Methods and Criteria

EPA-approved methods shall be used to demonstrate mechanical integrity. Ground Water Section Guidance No. 34 "Cement Bond Logging Techniques and Interpretation", Ground Water Section Guidance No. 37, "Demonstrating Part II (External) Mechanical Integrity for a Class II injection well permit", and Ground Water Section Guidance No. 39, "Pressure Testing Injection Wells for Part I (Internal) Mechanical Integrity" are available from EPA and will be provided upon request.

The Director may stipulate specific test methods and criteria best suited for a specific well construction and injection operation.

3. Notification Prior to Testing.

The Permittee shall notify the Director at least 30 days prior to any scheduled mechanical integrity test. The Director may allow a shorter notification period if it would be sufficient to enable EPA to witness the mechanical integrity test. Notification may be in the form of a yearly or quarterly schedule of planned mechanical integrity tests, or it may be on an individual basis.

4. Loss of Mechanical Integrity.

If the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity becomes evident during operation (such as presence of pressure in the TCA, water flowing at the surface, etc.), the Permittee shall notify the Director within 24 hours (see Part III Section E Paragraph 11(e) of this Permit) and the well shall be shut-in within 48 hours unless the Director requires immediate shut-in.

Within five days, the Permittee shall submit a follow-up written report that documents test results, repairs undertaken or a proposed remedial action plan.

Injection operations shall not be resumed until after the well has successfully been repaired and demonstrated mechanical integrity, and the Director has provided approval to resume injection.

Section C. WELL OPERATION

INJECTION BETWEEN THE OUTERMOST CASING PROTECTING UNDERGROUND SOURCES OF DRINKING WATER AND THE WELL BORE IS PROHIBITED.

Injection is approved under the following conditions:

1. Requirements Prior to Commencing Injection.

Well injection, including for new wells authorized by an Area Permit under 40 CFR 144.33 (c), may commence only after all well construction and pre-injection requirements herein have been met and approved. The Permittee may not commence injection until construction is complete, and

(a) The Permittee has submitted to the Director a notice of completion of construction and a completed EPA Form 7520-10 or 7520-12; all applicable logging and testing requirements of this Permit (see APPENDIX B) have been fulfilled and the records submitted to the Director; mechanical integrity pursuant to 40 CFR 146.8 and Part II Section B of this Permit has been demonstrated; and

(i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the Permit; or

(ii) The Permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Paragraph 1a, in which case prior inspection or review is waived and the Permittee may commence injection.

2. Injection Interval.

Injection is permitted only within the approved injection interval, listed in APPENDIX C. Additional individual injection perforations may be added provided that they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6.

3. Injection Pressure Limitation

(a) The permitted Maximum Allowable Injection Pressure (MAIP), measured at the wellhead, is found in APPENDIX C. Injection pressure shall not exceed the amount the Director determines is appropriate to ensure that injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into a USDW.

(b) The Permittee may request a change of the MAIP, or the MAIP may be increased or decreased by the Director in order to ensure that the requirements in Paragraph (a) above are fulfilled. The Permitee may be required to conduct a step rate injection test or other suitable test to provide information for determining the fracture pressure of the injection zone. Change of the permitted MAIP by the Director shall be by modification of this Permit and APPENDIX C.

4. Injection Volume Limitation.

Injection volume is limited to the total volume specified in APPENDIX C.

5. Injection Fluid Limitation.

Injected fluids are limited to those which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, pursuant to 40 CFR 144.6(b). The well also may be used to inject approved Class II wastes brought to the surface such as drilling fluids and spent well completion, treatment and stimulation fluids. Non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, are NOT approved. This well is NOT approved for commercial brine or other fluid disposal operation.

Fluid sources are listed in Appendix C of the Permit No. UT 21061-07149.

6. Tubing-Casing Annulus (TCA)

The tubing-casing annulus (TCA) shall be filled with water treated with a corrosion inhibitor, or other fluid approved by the Director. The TCA valve shall remain closed during normal operating conditions and the TCA pressure shall be maintained at zero (0) psi.

If TCA pressure cannot be maintained at zero (0) psi, the Permittee shall follow the procedures in Ground Water Section Guidance No. 35 "Procedures to follow when excessive annular pressure is observed on a well."

Section D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

1. Monitoring Parameters, Frequency, Records and Reports.

Monitoring parameters are specified in APPENDIX D. Pressure monitoring recordings shall be taken at the wellhead. The listed parameters are to be monitored, recorded and reported at the frequency indicated in APPENDIX D even during periods when the well is not operating.

Monitoring records must include:

(a) the date, time, exact place and the results of the observation, sampling, measurement, or analysis, and;

(b) the name of the individual(s) who performed the observation, sampling, measurement, or analysis, and;

(c) the analytical techniques or methods used for analysis.

2. Monitoring Methods.

(a) Monitoring observations, measurements, samples, etc. taken for the purpose of complying with these requirements shall be representative of the activity or condition being monitored.

(b) Methods used to monitor the nature of the injected fluids must comply with analytical methods cited and described in Table 1 of 40 CFR 136.3 or Appendix III of 40 CFR 261, or by other methods that have been approved in writing by the Director.

(c) Injection pressure, annulus pressure, injection rate, and cumulative injected volumes shall be observed and recorded at the wellhead under normal operating conditions, and all parameters shall be observed simultaneously to provide a clear depiction of well operation.

(d) Pressures are to be measured in pounds per square inch (psi).

(e) Fluid volumes are to be measured in standard oil field barrels (bbl).

(f) Fluid rates are to be measured in barrels per day (bbl/day).

3. Records Retention.

(a) Records of calibration and maintenance, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a period of AT LEAST THREE (3) YEARS from the date of the sample, measurement, report, or application. This period may be extended anytime prior to its expiration by request of the Director.

(b) Records of the nature and composition of all injected fluids must be retained until three (3) years after the completion of any plugging and abandonment (P&A) procedures specified under 40 CFR 144.52(a)(6) or under Part 146 Subpart G, as appropriate. The Director may require the Permittee to deliver the records to the Director at the conclusion of the retention period. The Permittee shall continue to retain the records after the three (3) year retention period unless the Permittee delivers the records to the Director or obtains written approval from the Director to discard the records.

(c) The Permittee shall retain records at the location designated in APPENDIX D.

4. Annual Reports.

Whether the well is operating or not, the Permittee shall submit an Annual Report to the Director that summarizes the results of the monitoring required by Part II Section D and APPENDIX D. The report of fluids injected during the year must identify each new fluid source by well name and location, and the field name or facility name.

The first Annual Report shall cover the period from the effective date of the Permit through December 31 of that year. Subsequent Annual Reports shall cover the period from January 1 through December 31 of the reporting year. Annual Reports shall be submitted by February 15 of the year following data collection. EPA Form 7520-11 may be copied and shall be used to submit the Annual Report, however, the monitoring requirements specified in this Permit are mandatory even if EPA Form 7520-11 indicates otherwise.

Section E. PLUGGING AND ABANDONMENT

1. Notification of Well Abandonment, Conversion or Closure.

The Permittee shall notify the Director in writing at least forty-five (45) days prior to: 1) plugging and abandoning an injection well, 2) converting to a non-injection well, and 3) in the case of an Area Permit, before closure of the project.

2. Well Plugging Requirements

Prior to abandonment, the injection well shall be plugged with cement in a manner which isolates the injection zone and prevents the movement of fluids into or between underground sources of drinking water, and in accordance with 40 CFR 146.10 and other applicable Federal, State or local law or regulations. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. Prior to placement of the cement plug(s) the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director.

3. Approved Plugging and Abandonment Plan.

The approved plugging and abandonment plan is incorporated into this Permit as APPENDIX E. Changes to the approved plugging and abandonment plan must be approved by the Director prior to beginning plugging operations. The Director also may require revision of the approved plugging and abandonment plan at any time prior to plugging the well.

4. Forty Five (45) Day Notice of Plugging and Abandonment.

The Permittee shall notify the Director at least forty-five (45) days prior to plugging and abandoning a well and provide notice of any anticipated change to the approved plugging and abanonment plan.

5. Plugging and Abandonment Report.

Within sixty (60) days after plugging a well, the Permittee shall submit a report (EPA Form 7520-13) to the Director. The plugging report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:

(a) A statement that the well was plugged in accordance with the approved plugging and abandonment plan; or

(b) Where actual plugging differed from the approved plugging and abandonment plan, an updated version of the plan, on the form supplied by the Director, specifying the differences.

6. Inactive Wells.

After any period of two years during which there is no injection the Permittee shall plug and abandon the well in accordance with Part II Section E Paragraph 2 of this Permit unless the Permittee:

(a) Provides written notice to the Director;

(b) Describes the actions or procedures the Permittee will take to ensure that the well will not endanger USDWs during the period of inactivity. These actions and procedures shall include compliance with mechanical integrity demonstration, Financial Responsibility and all other permit requirements designed to protect USDWs; and

(c) Receives written notice by the Director temporarily waiving plugging and abandonment requirements.

PART III. CONDITIONS APPLICABLE TO ALL PERMITS

Section A. EFFECT OF PERMIT

The Permittee is allowed to engage in underground injection in accordance with the conditions of this Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR 142 or may otherwise adversely affect the health of persons. Any underground injection activity not authorized by this Permit or by rule is prohibited. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of any other Federal, State or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any enforcement action brought under the provisions of Section 1431 of the Safe Drinking Water Act (SDWA) or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health or the environment, nor does it serve as a shield to the Permittee's independent obligation to comply with all UIC regulations. Nothing in this Permit relieves the Permittee of any duties under applicable regulations.

Section B. CHANGES TO PERMIT CONDITIONS

1. Modification, Reissuance, or Termination.

The Director may, for cause or upon a request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR 124.5, 144.12, 144.39, and 144.40. Also, this Permit is subject to minor modification for causes as specified in 40 CFR 144.41. The filing of a request for modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit.

2. Conversions.

The Director may, for cause or upon a written request from the Permittee, allow conversion of the well from a Class II injection well to a non-Class II well. Conversion may not proceed until the Permittee receives written approval from the Director. Conditions of such conversion may include but are not limited to, approval of the proposed well rework, follow up demonstration of mechanical integrity, well-specific monitoring and reporting following the conversion, and demonstration of practical use of the converted configuration.

3. Transfer of Permit.

Under 40 CFR 144.38, this Permit is transferable provided the current Permittee notifies the Director at least thirty (30) days in advance of the proposed transfer date (EPA Form 7520-7) and provides a written agreement between the existing and new Permittees containing a specific date for transfer of Permit responsibility, coverage and liability between them. The notice shall adequately demonstrate that the financial responsibility requirements of 40 CFR 144.52(a)(7) will be met by the new Permittee. The Director may require modification or revocation and reissuance of the Permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act; in some cases, modification or revocation and reissuance is mandatory.

4. Permittee Change of Address.

Upon the Permittee's change of address, or whenever the operator changes the address where monitoring records are kept, the Permittee must provide written notice to the Director within 30 days.

5. Construction Changes, Workovers, Logging and Testing Data

The Permittee shall give advance notice to the Director, and shall obtain the Director's written approval prior to any physical alterations or additions to the permitted facility. Alterations or workovers shall meet all conditions as set forth in this permit. The Permittee shall record any changes to the well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workovers, logging , or test data to EPA within sixty (60) days of completion of the activity.

Following the completion of any well workovers or alterations which affect the casing, tubing, or packer, a successful demonstration of mechanical integrity (Part III, Section F of this Permit) shall be made, and written authorization from the Director received, prior to resuming injection activities.

Section C. SEVERABILITY

The Provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

Section D. CONFIDENTIALITY

In accordance with 40 CFR Part 2 and 40 CFR 144.5, information submitted to EPA pursuant to this Permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

- The name and address of the Permittee, and
- information which deals with the existence, absence or level of contaminants in drinking water.

Section E. GENERAL PERMIT REQUIREMENTS

1. Duty to Comply.

The Permittee must comply with all conditions of this Permit. Any noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; except that the Permittee need not comply with the provisions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit under 40 CFR 144.34. All violations of the SDWA may subject the Permittee to penalties and/or criminal prosecution as specified in Section 1423 of the SDWA.

2. Duty to Reapply.

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, under 40 CFR 144.37 the Permittee must apply for a new permit prior to the expiration date.

3. Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

4. Duty to Mitigate.

The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Permit.

5. Proper Operation and Maintenance.

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

6. Permit Actions.

This Permit may be modified, revoked and reissued or teminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

7. Property Rights.

This Permit does not convey any property rights of any sort, or any exclusive privilege.

8. Duty to Provide Information.

The Permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit. The Permittee is required to submit any information required by this Permit or by the Director to the mailing address designated in writing by the Director.

9. Inspection and Entry.

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,

(d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

10. Signatory Requirements.

All applications, reports or other information submitted to the Director shall be signed and certified according to 40 CFR 144.32. This section explains the requirements for persons duly authorized to sign documents, and provides wording for required certification.

11. Reporting Requirements.

(a) Planned changes. The Permittee shall give notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility, and prior to commencing such changes.

(b) Anticipated noncompliance. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Monitoring Reports. Monitoring results shall be reported at the intervals specified in this Permit.

(d) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 30 days following each schedule date.

(e) Twenty-four hour reporting. The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:

(i) Any monitoring or other information which indicates that any contaminant may cause endangerment to a USDW; or

(ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

Information shall be provided, either directly or by leaving a message, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting EPA Region VIII UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region VIII Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

(f) Oil Spill and Chemical Release Reporting: The Permittee shall comply with all reporting requirements related to the occurence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website http://www.nrc.uscg.mil/index.htm.

(g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.

(h) Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.

Section F. FINANCIAL RESPONSIBILITY

1. Method of Providing Financial Responsibility.

The Permittee shall maintain continuous compliance with the requirement to maintain financial responsibility and resources to close, plug, and abandon the underground injection well(s). No substitution of a demonstration of financial responsibility shall become effective until the Permittee receives written notification from the Director that the alternative demonstration of financial responsibility is acceptable. The Director may, on a periodic basis, require the holder of a permit to revise the estimate of the resources needed to plug and abandon the well to reflect changes in such costs and may require the Permittee to provide a revised demonstration of financial responsibility.

2. Insolvency.

In the event of:

(a) the bankruptcy of the trustee or issuing institution of the financial mechanism; or

(b) suspension or revocation of the authority of the trustee institution to act as trustee; or

(c) the institution issuing the financial mechanism losing its authority to issue such an instrument

the Permittee must notify the Director in writing, within ten (10) business days, and the Permittee must establish other financial assurance or liability coverage acceptable to the Director within sixty (60) days after any event specified in (a), (b), or (c) above.

The Permittee must also notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U.S. Code naming the owner or operator as debtor, within ten (10) business days after the commencement of the proceeding. A guarantor, if named as debtor of a corporate guarantee, must make such a notification as required under the terms of the guarantee.

APPENDIX A

WELL CONSTRUCTION REQUIREMENTS

The drilling operations described below may have minor changes due to field conditions. If the drilling procedure below is modified, then the operator will call EPA for approval prior to any variations to the procedure described below.

The well will be killed with produced formation water. The 2-3/8" tubing string will be pulled from the well and a bridge plug will be set 50' to 100' above the top existing perforation. Go in hole with tubing and pressure test the bridge plug and casing to 1000#. Pump a 50' cement plug on top of the bridge plug. The 50' plug will be 6 sacks of Class G cement with additives. The plug will be placed utilizing the balanced plug method. Pull 2-3/8" tubing from the well and lay down work string.

This will abandon the perforations at 7845-52', 7808'-28', 7618-22', 7570-74', 7528-36' & 7503-08' & 6942'-62'.

The proposed injection intervals in the upper Wasatch will be perforated from 4560-72', 4600-22' & 4681-4700' with 4 shots per foot, 120 degree phase, 22.7 gram charges casing gun.

An injection packer will be set within 100' of the top perf at 4560'. The 2-7/8" 6.5# J-55 injection tubing will be run in the hole to the top of the packer. The hole will be displaced with fresh water annulas fluid containing corrosion inhibitors and oxygen scavengers. The tubing will be spaced out and latched onto the packer. The wellhead will be installed and the perfs will be broke down to insure communication with the injection intervals.

A mechanical integrity test will be conducted on the annular space between the 2-7/8" tubing string and the 5-1/2" casing.

If the injection zone formation contains water with less than 10,000 mg/L total dissolved solids, then the operator will be required to apply for exemption for USDW status for the area within 1/4 mile radius of the wellbore. In the public notice, EPA will encourage comments on any concerns about the proposed injection zone or potential exemption. If no comments are received, EPA may approve the aquifer exemption without public notification.

PROPOSED CONVERSION TO WATER DISPOSAL WELL

WELL NAME: SOUTHMAN CANYON 9-23-22-36 DATE: 20-Feb-07

LOCATION: SENW SECTION 36-T9S-R22E, 2486' FNL & 2271' FWL, UINTAH CTY, UTAH

Lat 39 69" 49.60", Long 109 19" 39.21"

API #: 43 047 35362

SPUD DATE: 2/13/2004

RIG RELEASED: 8/3/2004

RECEIVED
APR 18 2007
EPA Region 8
Ground Water Program

KB ELEV: 5,374 Ft

GL ELEV: 5,370 Ft

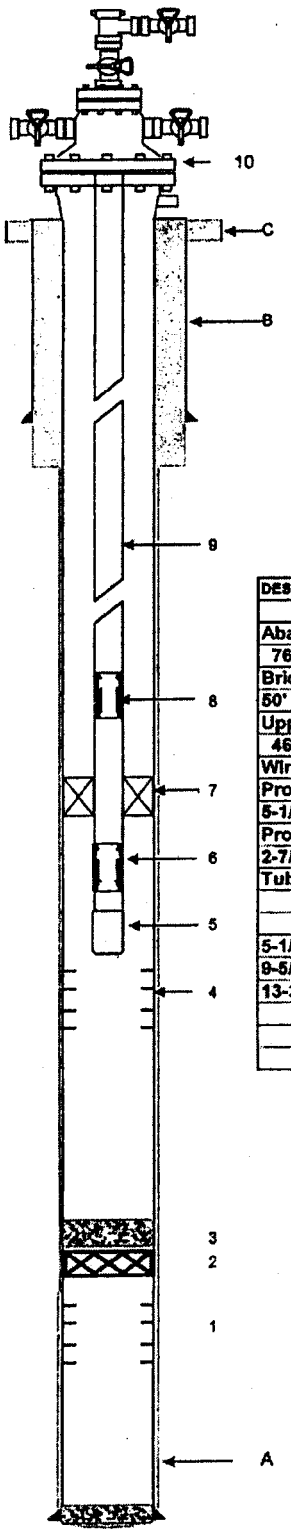
TD: 8,552 Ft

PBTD: 4,495 Ft

TUBULARS:	SIZE inch	WEIGHT #/ft	GRADE	THREAD	DEPTH	OTHER
Conductor:	13-3/8"	48	H-40	ST&C	99	
SURFACE:	9-5/8	36	J-55	ST&C	2,006	
PRODUCTION:	5-1/2	17	N-80	LT&C	8,552	
TUBING:	2-7/8	6.5	J-55	EUE	4,500	

CURRENT ZONE: ABANDON MESAVERDE PERFS 6942'-7852' GROSS INTERVAL

WASATCH INJECTION PERFS 4560'-4700' GROSS INTERVAL



DESCRIPTION (starting at the bottom)	LENGTH (ft)	DEPTH (ft)	#
BOTTOM OF TOOL STRING →		+/- 4500	
Abandoned Mesaverde Perforations 7845-52', 7808-28',			1
7618-22', 7570-74', 7528-36', 7503-08' & 6942-62'			
Bridge Plug			2
50' Cement Plug			3
Upper Wasatch Injection Perforations 4681-4700',			4
4600-22' & 4560-72'			
Wire Line Re-Entry Guide			5
Profile Nipple			6
5-1/2" Packer set within 100' of top injection perf			7
Profile Nipple			8
2-7/8" 6.5 #/ft J-55 EUE tubing			9
Tubing Hanger & Wellhead			10
5-1/2" 17#/ft N-80 LT&C		8,552	A
9-5/8" 36# J-55 ST&C		2,006	B
13-3/8" 48# H-40 ST&C		99	C

DIAGRAM NOT TO SCALE

SC9-23-22-36.jpg

APPENDIX B

LOGGING AND TESTING REQUIREMENTS

Logs.
Logs will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well logging required as a condition of this permit.

NO LOGGING REQUIREMENTS

Tests.
Tests will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well test required as a condition of this permit.

WELL NAME: Southman Canyon 9-23-22-36 WD

TYPE OF TEST	DATE DUE
Injection Zone Water Sample	Prior to injection; swab testing on formation; conductivity to be monitored for consistency prior to sample collection
Standard Annulus Pressure	Prior to injection and at least once every 5 years thereafter
Pore Pressure	Prior to injection
Step Rate Test	Within 30 days of injection operations

APPENDIX C

OPERATING REQUIREMENTS

MAXIMUM ALLOWABLE INJECTION PRESSURE:

Maximum Allowable Injection Pressure (MAIP) as measured at the surface shall not exceed the pressure(s) listed below.

WELL NAME	MAXIMUM ALLOWED INJECTION PRESSURE (psi) ZONE 1 (Upper)
Southman Canyon 9-23-22-36 WD	1,310

INJECTION INTERVAL(S):

Injection is permitted only within the approved injection interval listed below. Injection perforations may be altered provided they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6. Specific injection perforations can be found in Appendix A.

Fluid Sources include:

Well Name	TDS (mg/L)
Southman Canyon 6D-37	30,428
Southman Canyon 10C-36	37,114
Southman Canyon 14C-36	36,037
Southman Canyon 16C-36	36,092
Southman Canyon 2D-30	33,783
Southman Canyon 2D-36	38,528
Southman Canyon 4D-36	50,404
Southman Canyon 6D-36	30,428
Southman Canyon 8C-36	49,335
Southman Canyon 12D-36	54,689
Red Wash 9-24-23-30	16,605

WELL NAME: Southman Canyon 9-23-22-36 WD

FORMATION NAME	APPROVED INJECTION INTERVAL (KB, ft) TOP	BOTTOM	FRACTURE GRADIENT (psi/ft)
Wasatch Formation	4,535.00 -	4,710.00	0.730

ANNULUS PRESSURE:

The annulus pressure shall be maintained at zero (0) psi as measured at the wellhead. If this pressure cannot be maintained, the Permittee shall follow the procedures listed under Part II, Section C. 6. of this permit.

MAXIMUM INJECTION VOLUME:

There is no limitation on the number of barrels per day (bbls/day) of water that shall be injected into this well, provided further that in no case shall injection pressure exceed that limit shown in Appendix C.

APPENDIX D

MONITORING AND REPORTING PARAMETERS

This is a listing of the parameters required to be observed, recorded, and reported. Refer to the permit Part II, Section D, for detailed requirements for observing, recording, and reporting these parameters.

OBSERVE WEEKLY AND RECORD AT LEAST ONCE EVERY THIRTY DAYS	
OBSERVE AND RECORD	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)

ANNUALLY	
ANALYZE	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH

ANNUALLY	
REPORT	Each month's maximum and averaged injection pressures (psig)
	Each month's maximum and averaged annulus pressure(s) (psig)
	Each month's averaged injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbl)
	Written results of annual injected fluid analysis
	Sources of all fluids injected during the year

Records of all monitoring activities must be retained and made available for inspection at the following location:

Enduring Resources
475 Seventeenth Street, Suite 1500
Denver, CO 80202

APPENDIX E

PLUGGING AND ABANDONMENT REQUIREMENTS

The drilling operations described below may have minor changes due to field conditions. If the drilling procedure below is modified, then the operator will call EPA for approval prior to any variations to the procedure described below.

Operator will file and obtain approval for a detailed P&A plan for approval prior to initiating any P&A operations. Typical P&A operations may be as follows:

Set wireline bridge plug 50' to 100' above the top injection perforation. Pressure test the casing string and the bridge plug.

Go in hole with tubing and pump one 50' cement plug on top of the bridge plug and four 100 ft cement plugs from 4161' to 4061' across Wasatch top at 4111', from 3219' to 3119' across the USDW at 3169', from 2056' to 1956' across surface casing at 2006' and from 100' to surface. The cement will be Class G with additives. The 50' plug will be 6 sacks of cement and the 100' plugs will each be 12 sacks of cement. Water-based muds or brines containing a plugging gel with a density of at least 9.2 lb/gal will be used during plugging operations and will remain between plugs in the well after cement placement. All plugs will be placed with tubing utilizing the balanced plug method. Plug placement will be verified by tagging the top of the plug after the cement has had adequate time to set.

Remove wellhead. Install plug and abandon marker. Remove all equipment and reclaim location.

A plugging procedure will be submitted and approval obtained with the appropriate regulatory agencies before any plugging operations are conducted.

PROPOSED PLUG AND ABANDON SCHEMATIC

WELL NAME: SOUTHMAN CANYON 9-23-22-36 DATE: 21-Feb-07

LOCATION: SENW SECTION 36-T9S-R23E, 2466' FNL & 2271' FWL, UINTAH CTY, UTAH

Lat 39 58" 49.80", Long 109 16' 20.21"

API #: 43 047 35362

SPUD DATE: 2/18/2004

RIG RELEASED: 8/3/2004

RECEIVED APR 1 5 2007 EPA Region 8 Ground Water Program

KB ELEV: 5,374 Ft

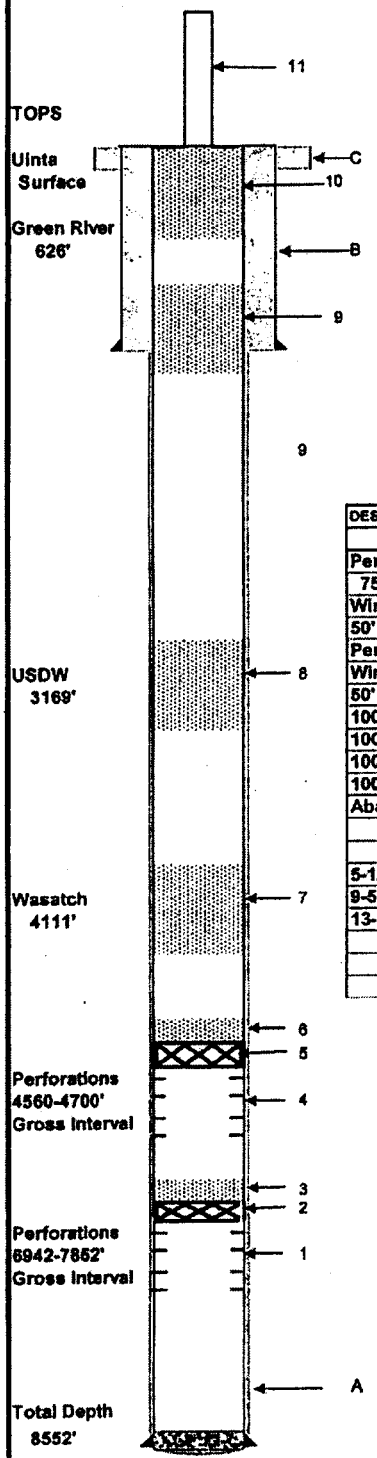
GL ELEV: 5,370 Ft

TD: 8,552 Ft

TUBULARS:	SIZE Inch	WEIGHT #/ft	GRADE	THREAD	DEPTH	OTHER
Conductor:	13-3/8"	48	H-40	ST&C	99	
SURFACE:	9-5/8	36	J-55	ST&C	2,006	
PRODUCTION:	5-1/2	17	N-80	LT&C	8,552	
TUBING:						

CURRENT ZONE: ABANDON MESAVERDE PERFS 6942'-7852' GROSS INTERVAL

ABANDON WASATCH INJECTION PERFS 4560'-4700' GROSS INTERVAL



DESCRIPTION (starting at the bottom)	LENGTH (ft)	DEPTH (ft)	#
Perforations 7845-52', 7808-28', 7618-22', 7570-74', 7528-36', 7503-08' & 6942-62'			1
Wire line set bridge plug			2
50' cement plug			3
Perforations 4560-72', 4600-22' & 4681-4700'			4
Wire line set bridge plug			5
50' cement plug			6
100' cement plug from 4161' to 4061'			7
100' cement plug from 3219' to 3119'			8
100' cement plug from 2056' to 1956'			9
100' cement plug from 100' to surface			10
Abandoned Well marker			11
5-1/2" 17#/ft N-80 LT&C		8,552	A
9-5/8" 36# J-55 ST&C		2,006	B
13-3/8" 48# H-40 ST&C		99	C

DIAGRAM NOT TO SCALE

SC9-23-22-36 P&A.jpg

APPENDIX F

CORRECTIVE ACTION REQUIREMENTS

No corrective action is deemed necessary for this project.

STATEMENT OF BASIS

ENDURING RESOURCES LLC
SOUTHMAN CANYON 9-23-22-36 WD
UINTAH COUNTY, UT

EPA PERMIT NO. UT21061-07149

CONTACT: Patricia Pfeiffer
U. S. Environmental Protection Agency
Ground Water Program, 8P-W-GW
1595 Wynkoop Street
Denver, Colorado 80202-1129
Telephone: 1-800-227-8917 ext. 312-6271

This STATEMENT OF BASIS gives the derivation of site-specific UIC Permit conditions and reasons for them. Referenced sections and conditions correspond to sections and conditions in the Permit.

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water. EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 CFR Parts 144 and 146, and address potential impacts to underground sources of drinking water. Under 40 CFR 144.35 Issuance of this permit does not convey any property rights of any sort or any exclusive privilege, nor authorize injury to persons or property of invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. Under 40 CFR 144 Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General Permit conditions for which the content is mandatory and not subject to site-specific differences (40 CFR Parts 144, 146 and 147) are not discussed in this document.

Upon the Effective Date when issued, the Permit authorizes the construction and operation of injection wells so that the injection does not endanger underground sources of drinking water, governed by the conditions specified in the Permit. The Permit is issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR 144.39, 144.40 and 144.41. The Permit is subject to EPA review at least once every five (5) years to determine if action is required under 40 CFR 144.36(a).

PART I. General Information and Description of Facility

Enduring Resources LLC
475 17th Street, Suite 1500
Denver, CO 80202

on

Resubmitted September 22, 2006
Major Modification requested March 19, 2007

April 3, 2006

submitted an application for an Underground Injection Control (UIC) Program Permit or Permit Modification for the following injection well or wells:

In the original application, Enduring Resources proposed to drill and complete a Class II well. Enduring Resources made an economic decision, and requested modification of their original Permit to instead allow use of a pre-existing wellbore to be converted into an injection well. The pre-existing wellbore is located approximately 153 feet to the southwest of the originally proposed drill site.

The injection well will be used for the disposal of water produced from natural gas in the Rock House Field area, Uinta County, Utah. The injection fluids currently proposed for disposal will be produced water from the Wasatch and Mesaverde Formations.

The well is located within the exterior boundaries of the Uintah & Ouray Indian Reservation. Notice of intent of the EPA proposed permit decision will be published in the local newspaper and notices will be sent to the U.S. Bureau of Land Management-Vernal Office, Bureau of Indian Affairs, Ute Indian Tribe, and State of Utah-Natural Resources Division.

Southman Canyon 9-23-22-36 WD
2466' FNL 2271' FWL, SENW S36, T9S, R23E
Uintah County, UT

Regulations specific to Uintah-Ouray Indian Reservation injection wells are found at 40 CFR 147 Subpart TT.

The application, including the required information and data necessary to issue or modify a UIC Permit in accordance with 40 CFR Parts 144, 146 and 147, was reviewed and determined by EPA to be complete.

The Permit will expire upon delegation of primary enforcement responsibility (primacy) for applicable portions of the UIC Program to the Ute Indian Tribe or the State of Utah unless the delegated agency has the authority and chooses to adopt and enforce this Permit as a Tribal or State Permit.

TABLE 1.1 shows the status of the well or wells as "New", "Existing", or "Conversion" and for Existing shows the original date of injection operation. Well authorization "by rule" under 40 CFR Part 144 Subpart C expires automatically on the Effective Date of an issued UIC Permit.

TABLE 1.1 WELL STATUS / DATE OF OPERATION		
NEW WELLS		
Well Name	**Well Status**	**Date of Operation**
Southman Canyon 9-23-22-36 WD	New	N/A

PART II. Permit Considerations (40 CFR 146.24)

The Uinta Basin is a major sedimentary basin of the western-central Rocky Mountain province. The basin is both a structural and a topographic basin located in northeastern Utah and northwest Colorado. The surface terrain is high mountain desert in the central part of the basin, and elevations vary from approximately 5,600 feet to over 11,000 feet above sea level. The topographic basin extends about 200 miles west to east and 173 miles north to south and has an area of about 10,000 square miles. It is strongly asymmetric, bounded by the Uinta Mountain uplift on the north and by the Wasatch Mountain uplift and the eastern faulted margin of the Wasatch Plateau on the west. Dip on the southwest and southeast flanks range from a few degrees to up to 15°. The north flank is highly complex, with major faulting and steep to overturned beds. The basin is considered to be a major producer of gas for the United States. The greatest portion of the energy resources are hydrocarbons, in the forms of coal, oil and gas, bituminous sandstone and limestone, and some gilsonite. The Uintah & Ouray Indian Reservation comprises just over 4 million acres of this area, reaching from the Utah-Colorado border west to the Wasatch Mountain Range.

Groundwater hydrology of the Uinta Basin is controlled primarily by the geologic structure of the region. Recharge of groundwater is greatest near the northern edge of the basin. On the south flank of the basin, most recharge is in the areas of highest altitude where precipitation is greatest. However, because of the low dip of the south flank, few formations except the Green River Formation are exposed to recharge. The major direction of ground water flow in this portion of the Uinta Basin is predominantly toward the White River. The White River is located approximately 2 miles to the south of the proposed well location. Intermittent drainages near the well connect to Coyote Wash, which eventually feeds into the White River.

During the Eocene time, large amounts of sediment form adjacent higher areas were deposited in various lacustrine and fluvial environments in the basin. These sediments total more that 15,000 feet thick in the center of the basin and contain important mineral resources. During the Sevier/Laramide mountain building episode, deformation (thrust faulting and downwarping) occurred in the basin. The basin had several lakes that accumulated large amounts of organic material, and later heat and pressure of burial changed the organic-rich sediment into the thick oil shale of the middle and upper Green River Formation. The geologic formations of interest for this well, in descending order, are the Uinta and Green River Formations and the Wasatch Group.

The Uinta Formation is exposed at the surface in the area of the proposed well. The Uinta is comprised of thinly bedded calcareous shale, siltstone, and fine-grained sandstone. Hydraulic conductivity of the Uinta may be greatly enhanced by naturally occurring fractures.

The Green River Formation is comprised of sandstones, limestone and shale beds that were deposited along the edges and on the broad level floor of Lake Uinta as it expanded and contracted through time. Deposition in and around Lake Uinta consisted of open to marginal lacustrine sediments that make up the Green River Formation. The cyclic nature of deposition in the southern shore area resulted in numerous stacked deltaic deposits. Distributary mouth bars, distributary channels, and near shore bars are the primary producing sandstone reservoirs in the area (Ref: "Reservoir Characterization of the Lower Green River Formation, Southwest Uinta Basin, Utah Biannual Technical Progress Report, 4/1/99 9/30/99", by C. D. Morgan, Program Manager, November 1999, Contract DE AC26 98BC15103). Intervals in which porous sandstones occur are comprised of tight sandstone and interbedded shale forming the confining layers to the individual sandstone lenses. Two members of the Green River Formation, the Evacuation Creek and Parachute Members, are exposed at the surface approximately 7 miles from the well location upstream along the White River. In some areas there is complex intertonguing between the sediments of the underlying Wasatch and the Green River Formation. In the eastern portion of the basin, the Green River thins to about 1000 ft as the lower part pinches out. Gilsonite, a naturally occurring solid amorphous asphaltic bitumen originated by solidification of petroleum, occurs in veins that fill the vertical tensional fractures in this area that are rooted in the upper Green River oil shale.

The Wasatch Group, in descending order, is divided into the Colton, Flagstaff, and North Horn Formations. The Flagstaff Formation is not present at the proposed well location. The Colton is described as being primarily sandstone with mudstone (shale) and minor limestone. The sandstone units are characterized by mud chips, mud clasts, and discontinuous finer-grained beds. The Colton displays complex reservoir geometry, and heterogeneity is typical. The North Horn consists of conglomerate, sandstone, siltstone, and lacustrine limestone and shale. The basal unit consists of thin lacustrine shale and lime wackestone overlain by variegated floodplain mudstones and fine-grained fluvial sandstones.

Geologic Setting (TABLE 2.1)

TABLE 2.1
GEOLOGIC SETTING
Southman Canyon 9-23-22-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Lithology
Uinta Formation	0	626	0 - 3,000	calcareous shale, some limestone, claystone, and sandstone
Green River Formation	626	4,115	0 - 3,000	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil shale, and trona (sodium carbonate)
Wasatch Formatin	4,115	5,803	3,000 - 35,000	shale and claystone with interbedded conglomerate and sandstone
Mesaverde Formation	5,803	8,552	10,000 - 35,000	interbedded sandstone, siltstone, and shale with minor coal beds

Proposed Injection Zone(s) (TABLE 2.2)

An injection zone is a geological formation, group of formations, or part of a formation that

receives fluids through a well. The proposed injection zones are listed in TABLE 2.2.

Injection will occur into an injection zone that is separated from USDWs by a confining zone which is free of known open faults or fractures within the Area of Review.

The Wasatch is the proposed injection zone. EPA has evaluated the capacity of the proposed injection zone to accept fluids, using porosity data and the effective height from the Southman Canyon 9-23-22-36 (6D-36) production well. The portion of the Wasatch Formation proposed for injection was calculated to have a cumulative volume capacity of approximately 6,717,000 barrels within the quarter mile area of review.

An Injection Profile Survey, using either a spinner or tracer test, will be required prior to injection. Along with a profile of fluid loss versus depth, these data provide an indication of the absence of fluid channeling away from the well bore, and also can be used to determine an accurate volume that the formation can receive should an aquifer exemption be necessary.

Formation fluid sampling and analysis of the injection zone will be required during drilling and completion of the well. Swab testing will be conducted, with conductivity monitored for consistency before the sample is collected.

If the injection zone formation contains water with less than 10,000 mg/L total dissolved solids, then the operator will be required to apply for exemption for USDW status for the area within 1/4 mile radius of the wellbore. In the public notice, EPA will encourage comments on any concerns about the proposed injection zone or potential exemption. If no comments are received, EPA may approve the aquifer exemption without public notification.

TABLE 2.2
INJECTION ZONES
Southman Canyon 9-23-22-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Fracture Gradient (psi/ft)	Porosity	Exempted?*
Wasatch Formation	4,535	4,710	3,000 - 35,000	0.730		N/A

* **C - Currently Exempted**
E - Previously Exempted
P - Proposed Exemption
N/A - Not Applicable

Confining Zone(s) (TABLE 2.3)

A confining zone is a geological formation, part of a formation, or a group of formations that limits fluid movement above the injection zone. The confining zone or zones are listed in TABLE 2.3.

Impermeable intervals of the Wasatch are identified as the confining zones that will prevent migration of fluid outside of the injection zone. The following estimated depths are based on wireline logs of the Southman Canyon 9-23-22-36 (6D-36) production well.

1. The upper confining zone, a 285 foot section of shale and claystone, is estimated at between 4250-4535 feet below ground surface.

2. The lower confining zone, a 252 foot section that consists primarily of shale and claystone, is estimated at between 4710-4962 feet below ground surface.

Gilsonite veins in the Uinta Basin vary in width from fractions of an inch to almost 18 feet, and average about 3 to 6 feet. These veins can be vertically continuous for hundreds to approximately 2,000 feet and more. The closests gilsonite vein that has been mapped at the surface is located approximately 1 mile to the northeast of the wellbore's location.

TABLE 2.3
CONFINING ZONES
Southman Canyon 9-23-22-36 WD

Formation Name	Formation Lithology	Top (ft)	Base (ft)
Wasatch Formation-Upper	primarily shale and claystone	4,250	4,535
Wasatch Formation-Lower	primarily shale and claystone	4,710	4,962

Underground Sources of Drinking Water (USDWs) (TABLE 2.4)
Aquifers or the portions thereof which contain less than 10,000 mg/l total dissolved solids (TDS) and are being or could in the future be used as a source of drinking water are considered to be USDWs. The USDWs in the area of this facility are identified in TABLE 2.4.

Based on the Technical Publication No. 92, Utah Department of Natural Resources, the base of USDWs at the proposed well location is found at 3,168 feet below ground surface. However, according to published information, water in the Uinta, Green River, and Wasatch aquifers has been found to range from fresh to briny. Therefore, unless water samples are collected and prove otherwise, these will be considered to be USDWs.

The Douglas Creek-Renegade aquifer, consisting of the Douglas Creek Member of the Green River Formation and the Renegade Tongue of the Wasatch Formation, is a basin-wide aquifer underlying the Duchesne River-Uinta aquifer. The Douglas Creek-Renegade aquifer is thick, and has a hydraulic conductivity ranging from 0.05 to 0.25 ft/d in the southeastern part of the Uinta Basin (Holmes and Kimball, 1983).

TABLE 2.4
UNDERGROUND SOURCES OF DRINKING WATER (USDW)
Southman Canyon 9-23-22-36 WD

Formation Name	Formation Lithology	Top (ft)	Base (ft)	TDS (mg/l)
Uinta Formation	calcareous shale, some limestone, claystone, and sandstone	0	626	0 - 3,000
Green River	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil shale, and trona (sodium carbonate); USGS Pub.92 places the base od USDW at 3168 ft bgs	626	4,115	0 - 3,000
Wasatch Formation	shale and claystone with interbedded conglomerate and sandstone	4,115	5,803	3,000 - 35,000
Mesaverde Formation	deposits of shale, sandstone, and coal beds.	5,803	8,552	10,000 - 35,000

PART III. Well Construction (40 CFR 146.22)

TABLE 3.1
WELL CONSTRUCTION REQUIREMENTS
Southman Canyon 9-23-22-36 WD

Casing Type	Hole Size (in)	Casing Size (in)	Cased Interval (ft)	Cemented Interval (ft)
surface	12.25	9.63	0 - 2,006	0 - 2,006
longstring	7.88	5.50	0 - 8,552	1,808 - 8,552

The approved well completion plan will be incorporated into the Permit as APPENDIX A and will be binding on the Permittee. Modification of the approved plan is allowed under 40 CFR 144.52(a)(1) provided written approval is obtained from the Director prior to actual modification.

Casing and Cementing (TABLE 3.1)
The well construction plan was evaluated and determined to be in conformance with standard practices and guidelines that ensure well injection does not result in the movement of fluids into USDWs. Well construction details for this "new" injection well is shown in TABLE 3.1.

Remedial cementing may be required if the casing cement is shown to be inadequate by cement bond log or other demonstration of Part II (External) mechanical integrity.

Tubing and Packer
Injection tubing is required to be installed from a packer up to the surface inside the well casing. The packer will be set above the uppermost perforation. The tubing and packer are designed to prevent injection fluid from coming into contact with the outermost casing.

Tubing-Casing Annulus (TCA)

The TCA allows the casing, tubing and packer to be pressure-tested periodically for mechanical integrity, and will allow for detection of leaks. The TCA will be filled with fresh water treated with a corrosion inhibitor or other fluid approved by the Director.

Monitoring Devices

The permittee will be required to install and maintain wellhead equipment that allows for monitoring pressures and providing access for sampling the injected fluid. Required equipment may include but is not limited to: 1) shut-off valves located at the wellhead on the injection tubing and on the TCA; 2) a flow meter that measures the cumulative volume of injected fluid; 3) fittings or pressure gauges attached to the injection tubing and the TCA for monitoring the injection and TCA pressure; and 4) a tap on the injection line, isolated by shut-off valves, for sampling the injected fluid.

All sampling and measurement taken for monitoring must be representative of the monitored activity.

PART IV. Area of Review, Corrective Action Plan (40 CFR 144.55)

The State of Utah, Division of Water Rights web page was reviewed and no water wells were found in the AOR.

Two production wells are located within ¼ mile of the proposed location for the Southman Canyon 9-23-22-36 WD well. The Southman Canyon 9-23-32-36 production well and Southman Canyon 9-23-23-36. The CBL's for both of the production wells showed that adequate cement is behind pipe through the injection zone.

Gilsonite veins in the Uinta Basin vary in width from fractions of an inch to almost 18 feet, and average about 3 to 6 feet. These veins can be veritcally continuous for hundreds to approximately 2,000 feet and more. The closest gilsonite vein that has been mapped at the surface is located approximately 1 mile to the northeast of the well's location.

TABLE 4.1
AOR AND CORRECTIVE ACTION

Well Name	Type	Status (Abandoned Y/N)	Total Depth (ft)	TOC Depth (ft)	CAP Required (Y/N)
Southman Canyon 9-23-23-36	Producer	No	8,050	2,300	No

TABLE 4.1 lists the wells in the Area of Review ("AOR") and shows the well type, operating status, depth, top of casing cement ("TOC") and whether a Corrective Action Plan ("CAP") is required for the well.

Area Of Review

Applicants for Class I, II (other than "existing" wells) or III injection well Permits are required to identify the location of all known wells within the injection well's Area of Review (AOR) which penetrate the injection zone, or in the case of Class II wells operating over the fracture pressure of

the formation, all known wells within the area of review that penetrate formations which may be affected by increased pressure. Under 40 CFR 146.6 the AOR may be a fixed radius of not less than one quarter (1/4) mile or a calculated zone of endangering influence. For Area Permits, a fixed width of not less than one quarter (1/4) mile for the circumscribing area may be used.

Corrective Action Plan

For wells in the AOR which are improperly sealed, completed, or abandoned, the applicant shall develop a Corrective Action Plan (CAP) consisting of the steps or modifications that are necessary to prevent movement of fluid into USDWs.

The CAP will be incorporated into the Permit as APPENDIX F and become binding on the permittee.

No corrective acting is required.

PART V. Well Operation Requirements (40 CFR 146.23)

Enduring Resources will be the sole operator of the proposed Southman Canyon 9-23-22-36 WD injection well. To monitor and record injection pressures, each well head will be equipped with a pressure chart that will be read by an approved Enduring Resources employee (pumper) on a weekly basis. Electronic data from the pressure chart will be checked daily for accuracy and compliance with system requirements.

Enduring Resources is requiring truck drivers hauling disposable water to the wells to be pre-qualified and be identified with a truck number and driver number. No driver will be able to enter the site without pre-authorization. No water will be accepted from any industrial process or from fracture fluids, or from any source other than those pre-screened and pre-approved by Enduring Resources and approved by the EPA. Enduring Resource will be maintaining chain of custody documentation.

The Southman Canyon 9-23-22-36 WD injection well will be enclosed inside a chain link fence. All fence gates will be locked and keys or entrance codes will only be provided to authorized Enduring Resources employees or contractors.

TABLE 5.1
INJECTION ZONE PRESSURES
Southman Canyon 9-23-22-36 WD

Formation Name	Depth Used to Calculate MAIP (ft)	Fracture Gradient (psi/ft)	Initial MAIP (psi)
Wasatch Formation	4,560	0.730	1,310

Approved Injection Fluid

The approved injection fluid is limited to Class II injection well fluids pursuant to 40 CFR § 144.6(b). For disposal wells injecting water brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, the fluid may be commingled and

the well used to inject other Class II wastes such as drilling fluids and spent well completion, treatment and stimulation fluid. Injection of non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes, and vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste, is prohibited.

Well Name	TDS (mg/L)
Southman Canyon 6D-37	30,428
Southman Canyon 10C-36	37,114
Southman Canyon 14C-36	36,037
Southman Canyon 16C-36	36,092
Southman Canyon 2D-30	33,783
Southman Canyon 2D-36	38,528
Southman Canyon 4D-36	50,404
Southman Canyon 6D-36	30,428
Southman Canyon 8C-36	49,335
Southman Canyon 12D-36	54,689
Red Wash 9-24-23-30	16,605

Injection Pressure Limitation

Injection pressure, measured at the wellhead, shall not exceed a maximum calculated to assure that the pressure used during injection does not initiate new fractures or propagate existing fractures in the confining zones adjacent to the USDWs.

A step rate test will be required for the proposed injection zone to determine the fracture gradient for the zone. The initial Maximum Allowable Injection Pressure (MAIP) of 1,310 psig, based on an estimated fracture gradient of 0.73 psi/ft, will initially be approved until results of the step rate test are evaluated.

The applicant submitted injection fluid density and injection zone data which was used to calculate a formation fracture pressure and to determine the maximum allowable injection pressure (MAIP), as measured at the surface, for this Permit.

TABLE 5.1 lists the fracture gradient for the injection zone and the approved MAIP, determined according to the following formula:

$$FP = [fg - (0.433 * sg)] * d$$

FP = formation fracture pressure (measured at surface)
fg = fracture gradient (from submitted data or tests)
sg = specific gravity (of injected fluid)
d = depth to top of injection zone (or top perforation)

Injection Volume Limitation

Cumulative injected fluid volume limits are set to assure that injected fluids remain within the boundary of the exempted area. Cumulative injected fluid volume is limited when injection occurs into an aquifer that has been exempted from protection as a USDW.

Mechanical Integrity (40 CFR 146.8)
An injection well has mechanical integrity if:

1. there is no significant leak in the casing, tubing, or packer (Part I); and
2. there is no significant fluid movement into a USDW through vertical channels adjacent to the injection well bore (Part II).

The Permit prohibits injection into a well which lacks mechanical integrity.

The Permit requires that the well demonstrate mechanical integrity prior to injection and periodically thereafter. A demonstration of mechanical integrity includes both internal (Part I) and external (Part II). The methods and frequency for demonstrating Part I and Part II mechanical integrity are dependent upon well-specific conditions as explained below.

PART VI. Monitoring, Recordkeeping and Reporting Requirements

Injection Well Monitoring Program
At least once a year the permittee must analyze a sample of the injected fluid for total dissolved solids (TDS), specific conductivity, pH, and specific gravity. This analysis shall be reported to EPA annually as part of the Annual Report to the Director. Any time a new source of injected fluid is added, a fluid analysis shall be made of the new source.

Instantaneous injection pressure, injection flow rate, cumulative fluid volume and TCA pressures must be observed on a weekly basis. A recording, at least once every thirty (30) days, must be made of the injection pressure, injection flow rate and cumulative fluid volume, and the maximum and average value for each must be determined for each month. This information is required to be reported annually as part of the Annual Report to the Director.

PART VII. Plugging and Abandonment Requirements (40 CFR 146.10)

Plugging and Abandonment Plan
Prior to abandonment, the well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs, and in accordance with any applicable Federal, State or local law or regulation. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. Within sixty (60) days after plugging the owner or operator shall submit Plugging Record (EPA Form 7520 13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. The plugging and abandonment plan is described in Appendix E of the Permit.

PART VIII. Financial Responsibility (40 CFR 144.52)

Demonstration of Financial Responsibility

The permittee is required to maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director. The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance such as financial statements or other materials acceptable to the Director. The Regional Administrator may, on a periodic basis, require the holder of a lifetime permit to submit a revised estimate of the resources needed to plug and abandon the well to reflect inflation of such costs, and a revised demonstration of financial responsibility if necessary. Initially, the operator has chosen to demonstrate financial responsibility with:

Surety Bond, received October 10, 2006

Evidence of continuing financial responsibility is required to be submitted to the Director annually.

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

AMENDED REPORT ☐ (highlight changes)

FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: ML-47782

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

7. UNIT or CA AGREEMENT NAME: N/A

8. WELL NAME and NUMBER: Southman Canyon 09-23-22-36

9. API NUMBER: 4304735362

10 FIELD AND POOL, OR WILDCAT: Natural Buttes

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ OTHER Water disposal

b. TYPE OF WORK: NEW WELL ☐ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER Convert to WDW

2. NAME OF OPERATOR: Enduring Resources, LLC

3. ADDRESS OF OPERATOR: 475 17th St, Suite 1500 CITY Denver STATE CO ZIP 80202

PHONE NUMBER: (303) 573-1222

4. LOCATION OF WELL (FOOTAGES)

AT SURFACE: 2466' FNL - 2271' FWL

AT TOP PRODUCING INTERVAL REPORTED BELOW: same as above

AT TOTAL DEPTH: same as above

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E S

12. COUNTY: Uintah

13. STATE: UTAH

14. DATE SPUDDED: 2/13/2004

15. DATE T.D. REACHED: 3/5/2004

16. DATE COMPLETED: 11/2/2007 ABANDONED ☐ READY TO PRODUCE ☐

17. ELEVATIONS (DF, RKB, RT, GL): 5370 GL

18. TOTAL DEPTH: MD 8,552 TVD

19. PLUG BACK T.D.: MD 6,865 TVD

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE PLUG SET: MD 6,890 TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

Previously submitted.

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
20"	13.4	48#	12	99		6		0 (CIR)	0
12-1/4"	9 5/8	36#	12	2,006		Cl G 829	177	0 (CIR)	0
7-7/8"	5 1/2	17#	12	8,552		Cl G 1,415	283	1790	0

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"	4,481	4,499						

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) WSMVD				
(B)				
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
6,942 7,852		213	Open ☐ Squeezed ☑
4,560 4,700	.93"	212	Open ☑ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐

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

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6865 - 6890	CIBP placed at 6865' with 25' cement on top of plug
4560 - 4700	Spot 1500 gallons 15% HCl acid

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: Injecting

(5/2000)

(CONTINUED ON BACK)

RECEIVED
DEC 20 2007
DIV. OF OIL, GAS & 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)
Wasatch	4,116				
Mesaverde	5,850				
Sego	8,034				

35. ADDITIONAL REMARKS (Include plugging procedure)

Well injection zone per EPA permit #UT21061-07149

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

NAME (PLEASE PRINT) Kevin Lee TITLE Engineering Tech

SIGNATURE DATE 12/18/2007

This report must be submitted within 30 days of

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

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

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

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

Phone: 801-538-5340

Fax: 801-359-3940

(5/2000)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 WYNKOOP STREET
DENVER, CO 80202-1129
http://www.epa.gov/region8

SEP 10 2008

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY

Alex Campbell
Enduring Resources, LLC
475 17th Street Suite 1500
Denver, CO 80202

Re: FINAL Permit
EPA UIC Permit UT21061-07149
Well: Southman Canyon 9-23-22-36 WD
Uintah County, UT
43 047 35362
9S 23E 36

Dear Mr. Campbell:

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Permit for the proposed Southman Canyon 9-23-22-36 WD injection well. A Statement of Basis that discusses the conditions and requirements of this EPA UIC Permit, is also included.

The Public Comment period for this Permit ended on AUG 15 2008. No comments on the Draft Permit were received during the Public Notice period; therefore the Effective Date for this EPA UIC Permit is the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect as of the Effective Date of this Permit.

Please note that under the terms and conditions of this Final Permit you are authorized only to construct the proposed injection well. Prior to commencing injection, you first must fulfill all "Prior to Commencing Injection" requirements of the Final Permit, Part II Section C Subpart 1, and obtain written Authorization to Inject from the EPA. It is your responsibility to be familiar with and to comply with all provisions of your Final Permit. The EPA forms that are referenced in the permit can be found at http://www.epa.gov/safewater/uic/reportingforms.html. Guidance documents for Cement Bond Logging, Radioactive Tracer testing, Step Rate testing, Mechanical Integrity demonstration, Procedure in the Event of a Mechanical Integrity Loss, and other UIC guidances, are available at http://www.epa.gov/region8/water/uic/deep_injection.html. Upon request, hard copies of the EPA forms and guidances can be provided.

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

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This EPA UIC Permit is issued for the operating life of the well unless terminated (Part III, Section B). The EPA may review this Permit at least every five (5) years to determine whether any action is warranted pursuant to 40 CFR § 144.36(a).

If you have any questions on the enclosed Final Permit or Statement of Basis, please call Patricia Pfeiffer of my staff at (303) 312-6271, or toll-free at (800) 227-8917, ext. 312-6271.

Sincerely,

Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

enclosure: Final UIC Permit
Statement of Basis
Form 7520-7 Application to Transfer Permit
Form 7520-11 Monitoring Report
Form 7520-14 Plugging Plan
Form 7520-12 Well Rework Record
Groundwater Section Guidance 34
Groundwater Section Guidance 35
Groundwater Section Guidance 37
Groundwater Section Guidance 39

cc: Gil Hunt, Utah Division of Oil Gas and Mining
Matt Baker, Fluid Minerals Engineering Office, Bureau of Land Management
Robin Hansen, Fluid Minerals Engineering Office, Bureau of Land Management
Stan Perkes, Solid Minerals Office, Bureau of Land Management
Director, Energy and Minerals Department, Ute Indian Tribe
Shaun Chapoose, Land Use Department, Ute Indian Tribe
Daniel Picard, Bureau of Indian Affairs, U&O Agency
Curtis Cesspooch, Chairman, Uintah & Ouray Business Committee
Irene Cuch, Vice-Chairwoman, Uintah & Ouray Business Committee
Ronald Groves, Councilman, Uintah & Ouray Business Committee
Frances Poowegup, Councilwoman, Uintah & Ouray Business Committee
Phillip Chimburas, Councilman, Uintah & Ouray Business Committee
Steven Cesspooch, Councilman, Uintah & Ouray Business Committee

Printed on Recycled Paper

STATEMENT OF BASIS

ENDURING RESOURCES LLC
SOUTHMAN CANYON 9-23-22-36 WD
UINTAH COUNTY, UT

EPA PERMIT NO. UT21061-07149

CONTACT: Patricia Pfeiffer
U. S. Environmental Protection Agency
Ground Water Program, 8P-W-GW
1595 Wynkoop Street
Denver, Colorado 80202-1129
Telephone: 1-800-227-8917 ext. 312-6271

This STATEMENT OF BASIS gives the derivation of site-specific UIC Permit conditions and reasons for them. Referenced sections and conditions correspond to sections and conditions in the Permit.

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water. EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 CFR Parts 144 and 146, and address potential impacts to underground sources of drinking water. Under 40 CFR 144.35 Issuance of this permit does not convey any property rights of any sort or any exclusive privilege, nor authorize injury to persons or property of invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. Under 40 CFR 144 Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General Permit conditions for which the content is mandatory and not subject to site-specific differences (40 CFR Parts 144, 146 and 147) are not discussed in this document.

Upon the Effective Date when issued, the Permit authorizes the construction and operation of injection wells so that the injection does not endanger underground sources of drinking water, governed by the conditions specified in the Permit. The Permit is issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR 144.39, 144.40 and 144.41. The Permit is subject to EPA review at least once every five (5) years to determine if action is required under 40 CFR 144.36(a).

PART I. General Information and Description of Facility

Enduring Resources LLC
475 17th Street, Suite 1500
Denver, CO 80202

on

Resubmitted September 22, 2006
Major Modification 1 requested March 19, 2007
Major Modification 2 requested on June 12, 2008

April 3, 2006

submitted an application for an Underground Injection Control (UIC) Program Permit or Permit Modification for the following injection well or wells:

Major Modification 1:
In the original application, Enduring Resources proposed to drill and complete a Class II well. Enduring Resources made an economic decision, and requested modification of their original Permit to instead allow use of a pre-existing wellbore to be converted into an injection well. The pre-existing wellbore is located approximately 153 feet to the southwest of the originally proposed drill site.

The injection well will be used for the disposal of water produced from natural gas in the Rock House Field area, Uinta County, Utah. The injection fluids currently proposed for disposal will be produced water from the Wasatch and Mesaverde Formations.

The well is located within the exterior boundaries of the Uintah & Ouray Indian Reservation. Notice of intent of the EPA proposed permit decision will be published in the local newspaper and notices will be sent to the U.S. Bureau of Land Management-Vernal Office, Bureau of Indian Affairs, Ute Indian Tribe, and State of Utah-Natural Resources Division.

Major Modification 2:
The purpose of the proposed Major Modification is to include an additional interval in the Wasatch Formation and selected intervals in the Mesaverde Formation.

Southman Canyon 9-23-22-36 WD
2446' FNL 2366' FWL, SENW S36, T9S, R23E
Uintah County, UT

Regulations specific to Uintah-Ouray Indian Reservation injection wells are found at 40 CFR 147 Subpart TT.

The application, including the required information and data necessary to issue or modify a UIC Permit in accordance with 40 CFR Parts 144, 146 and 147, was reviewed and determined by EPA to be complete.

The Permit will expire upon delegation of primary enforcement responsibility (primacy) for applicable portions of the UIC Program to the Ute Indian Tribe or the State of Utah unless the

delegated agency has the authority and chooses to adopt and enforce this Permit as a Tribal or State Permit.

TABLE 1.1 shows the status of the well or wells as "New", "Existing", or "Conversion" and for Existing shows the original date of injection operation. Well authorization "by rule" under 40 CFR Part 144 Subpart C expires automatically on the Effective Date of an issued UIC Permit.

TABLE 1.1

WELL STATUS / DATE OF OPERATION

EXISTING WELLS		
Well Name	**Well Status**	**Date of Operation**
Southman Canyon 9-23-22-36 WD	Existing	4/2/2008

PART II. Permit Considerations (40 CFR 146.24)

The Uinta Basin is a major sedimentary basin of the western-central Rocky Mountain province. The basin is both a structural and a topographic basin located in northeastern Utah and northwest Colorado. The surface terrain is high mountain desert in the central part of the basin, and elevations vary from approximately 5,600 feet to over 11,000 feet above sea level. The topographic basin extends about 200 miles west to east and 173 miles north to south and has an area of about 10,000 square miles. It is strongly asymmetric, bounded by the Uinta Mountain uplift on the north and by the Wasatch Mountain uplift and the eastern faulted margin of the Wasatch Plateau on the west. Dip on the southwest and southeast flanks range from a few degrees to up to 15°. The north flank is highly complex, with major faulting and steep to overturned beds. The basin is considered to be a major producer of gas for the United States. The greatest portion of the energy resources are hydrocarbons, in the forms of coal, oil and gas, bituminous sandstone and limestone, and some gilsonite. The Uintah & Ouray Indian Reservation comprises just over 4 million acres of this area, reaching from the Utah-Colorado border west to the Wasatch Mountain Range.

Groundwater hydrology of the Uinta Basin is controlled primarily by the geologic structure of the region. Recharge of groundwater is greatest near the northern edge of the basin. On the south flank of the basin, most recharge is in the areas of highest altitude where precipitation is greatest. However, because of the low dip of the south flank, few formations except the Green River Formation are exposed to recharge. The major direction of ground water flow in this portion of the Uinta Basin is predominantly toward the White River. The White River is located approximately 2 miles to the south of the proposed well location. Intermittent drainages near the well connect to Coyote Wash, which eventually feeds into the White River.

During the Eocene time, large amounts of sediment form adjacent higher areas were deposited in various lacustrine and fluvial environments in the basin. These sediments total more that 15,000 feet thick in the center of the basin and contain important mineral resources. During the Sevier/Laramide mountain building episode, deformation (thrust faulting and downwarping) occurred in the basin. The basin had several lakes that accumulated large amounts of organic material, and later heat and pressure of burial changed the organic-rich sediment into the thick oil

shale of the middle and upper Green River Formation. The geologic formations of interest for this well, in descending order, are the Uinta and Green River Formations and the Wasatch Group.

The Uinta Formation is exposed at the surface in the area of the proposed well. The Uinta is comprised of thinly bedded calcareous shale, siltstone, and fine-grained sandstone. Hydraulic conductivity of the Uinta may be greatly enhanced by naturally occurring fractures.

The Green River Formation is comprised of sandstones, limestone and shale beds that were deposited along the edges and on the broad level floor of Lake Uinta as it expanded and contracted through time. Deposition in and around Lake Uinta consisted of open to marginal lacustrine sediments that make up the Green River Formation. The cyclic nature of deposition in the southern shore area resulted in numerous stacked deltaic deposits. Distributary mouth bars, distributary channels, and near shore bars are the primary producing sandstone reservoirs in the area (Ref: "Reservoir Characterization of the Lower Green River Formation, Southwest Uinta Basin, Utah Biannual Technical Progress Report, 4/1/99 9/30/99", by C. D. Morgan, Program Manager, November 1999, Contract DE AC26 98BC15103). Intervals in which porous sandstones occur are comprised of tight sandstone and interbedded shale forming the confining layers to the individual sandstone lenses. Two members of the Green River Formation, the Evacuation Creek and Parachute Members, are exposed at the surface approximately 7 miles from the well location upstream along the White River. In some areas there is complex intertonguing between the sediments of the underlying Wasatch and the Green River Formation. In the eastern portion of the basin, the Green River thins to about 1000 ft as the lower part pinches out. Gilsonite, a naturally occurring solid amorphous asphaltic bitumen originated by solidification of petroleum, occurs in veins that fill the vertical tensional fractures in this area that are rooted in the upper Green River oil shale.

The Wasatch Group, in descending order, is divided into the Colton, Flagstaff, and North Horn Formations. The Flagstaff Formation is not present at the proposed well location. The Colton is described as being primarily sandstone with mudstone (shale) and minor limestone. The sandstone units are characterized by mud chips, mud clasts, and discontinuous finer-grained beds. The Colton displays complex reservoir geometry, and heterogeneity is typical. The North Horn consists of conglomerate, sandstone, siltstone, and lacustrine limestone and shale. The basal unit consists of thin lacustrine shale and lime wackestone overlain by variegated floodplain mudstones and fine-grained fluvial sandstones.

Major Modification 2:
The Mesaverde formation consist of continental deposits of shale, sandstone, and coal beds. Interfingers with the upper part of the underlying Mancos Shale and may interfinger with the overlying Currant Creek and North Horn Formations. Maximum thickness ranges from 400 to 1,160 feet in thickness in the eastern part of the Uintah Basin.

(Reference: Base of Moderately Saline Ground Water in the Uinta Basin, UT. Technical Publication No.92; State of Utah-Department of Natural Resources; USGS Open File Report 87-394.)

Geologic Setting (TABLE 2.1)

TABLE 2.1
GEOLOGIC SETTING
Southman Canyon 9-23-22-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Lithology
Uinta Formation	0	626	0 - 3,000	calcareous shale, some limestone, claystone, and sandstone
Green River Formation	626	4,115	0 - 3,000	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil shale, and trona (sodium carbonate)
Wasatch Formatin	4,115	5,803	3,000 - 35,000	shale and claystone with interbedded conglomerate and sandstone
Mesaverde Formation	5,803	8,552	10,000 - 35,000	interbedded sandstone, siltstone, and shale with minor coal beds

Proposed Injection Zone(s) (TABLE 2.2)

An injection zone is a geological formation, group of formations, or part of a formation that receives fluids through a well. The proposed injection zones are listed in TABLE 2.2.

Injection will occur into an injection zone that is separated from USDWs by a confining zone which is free of known open faults or fractures within the Area of Review.

The Wasatch is the proposed injection zone. EPA has evaluated the capacity of the proposed injection zone to accept fluids, using porosity data and the effective height from the Southman Canyon 9-23-22-36 (6D-36) production well. The portion of the Wasatch Formation proposed for injection was calculated to have a cumulative volume capacity of approximately 6,717,000 barrels within the quarter mile area of review.

An Injection Profile Survey, using either a spinner or tracer test, will be required prior to injection. Along with a profile of fluid loss versus depth, these data provide an indication of the absence of fluid channeling away from the well bore, and also can be used to determine an accurate volume that the formation can receive should an aquifer exemption be necessary.

Formation fluid sampling and analysis of the injection zone will be required during drilling and completion of the well. Swab testing will be conducted, with conductivity monitored for consistency before the sample is collected.

If the injection zone formation contains water with less than 10,000 mg/L total dissolved solids, then the operator will be required to apply for exemption for USDW status for the area within 1/4 mile radius of the wellbore. In the public notice, EPA will encourage comments on any concerns about the proposed injection zone or potential exemption. If no comments are received, EPA may approve the aquifer exemption without public notification.

Major Modification2:
As part of a permit modification, an additional Wasatch zone at 5603-5617 and a number of Mesaverde sands will be targeted for injection. In general, the Mesaverde sands are very-fine to fine-grained, moderately clean (i.e. shaly only in part), and have modestly developed porosity (10% to 14% density porosity). The proposed sand injection intervals exhibit a resistivity profile qualitatively indicating at least some permeability.

An Injection Profile Survey on the new injection zones, using either a spinner or tracer test, will be required prior to injection. Along with a profile of fluid loss versus depth, these data provide an indication of the absence of fluid channeling away from the well bore, and also can be used to determine an accurate volume that the formation can receive should an aquifer exemption be necessary.

Formation fluid sampling and analysis of the additional injection zones will be required after the well is reworked. Swab testing will be conducted, with conductivity monitored for consistency before the sample is collected.

Literature review implies that the additional injection zones are not USDWs. If the additional injection zones contain water with less than 10,000 mg/L total dissolved solids, then the operator will be required to apply for exemption for USDW status for the area within 1/4 mile radius of the wellbore. In the public notice, EPA will encourage comments on any concerns about the proposed injection zone or potential exemption. If no comments are received, EPA may approve the aquifer exemption without public notification.

TABLE 2.2
INJECTION ZONES
Southman Canyon 9-23-22-36 WD

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Fracture Gradient (psi/ft)	Porosity	Exempted?*
Wasatch Formation	4,535	4,710	3,000 - 35,000	0.730		N/A
Mesaverde Formation	5,803	7,808	10,000 - 35,000	0.760		N/A

* **C - Currently Exempted**
E - Previously Exempted
P - Proposed Exemption
N/A - Not Applicable

Confining Zone(s) (TABLE 2.3)

A confining zone is a geological formation, part of a formation, or a group of formations that limits fluid movement above the injection zone. The confining zone or zones are listed in TABLE 2.3.

Major Modification 1:
Impermeable intervals of the Wasatch are identified as the confining zones that will prevent migration of fluid outside of the injection zone. The following estimated depths are based on wireline logs of the Southman Canyon 9-23-22-36 (6D-36) production well.

1. The upper confining zone, a 285 foot section of shale and claystone, is estimated at between 4250-4535 feet below ground surface.

2. The lower confining zone, a 252 foot section that consists primarily of shale and claystone, is estimated at between 4710-4962 feet below ground surface.

Gilsonite veins in the Uinta Basin vary in width from fractions of an inch to almost 18 feet, and average about 3 to 6 feet. These veins can be vertically continuous for hundreds to approximately 2,000 feet and more. The closests gilsonite vein that has been mapped at the surface is located approximately 1 mile to the northeast of the wellbore's location.

Major Modification 2:
A lower confining zone is not required. The well is completed in the Mesaverde Formation, which is part of the requested injection zone. However, a relatively thick unit of dark shale with minor interbedded, tight siltstone should act as an excellent lower confining unit for sands that are being targeted in the Mesaverde (for water disposal). On the Southman Canyon 9-23-22-36 well, this lower confining unit can be found from 7964 to 8034 (70'). Based on the gamma ray curve on the 9-23-22-36 well, this lower confining unit consists of 82% shale and 18% siltstone. Analysis of the log curves indicates that the siltstones (approximately 5 beds) are very thin (1' to 5' in thickness) and exhibit a resistivity profile suggesting low permeability (i.e. curves track without significant separation---very similar to adjacent shale beds). This interval should serve as a very effective barrier to fluid movement as it can be traced on virtually all offsetting wells indicating significant lateral extent. This particular unit is present on a "regional" basis.

TABLE 2.3
CONFINING ZONES
Southman Canyon 9-23-22-36 WD

Formation Name	Formation Lithology	Top (ft)	Base (ft)
Wasatch Formation-Lower	primarily shale and claystone	4,710	4,962

Underground Sources of Drinking Water (USDWs) (TABLE 2.4)
Aquifers or the portions thereof which contain less than 10,000 mg/l total dissolved solids (TDS) and are being or could in the future be used as a source of drinking water are considered to be USDWs. The USDWs in the area of this facility are identified in TABLE 2.4.

Based on the Technical Publication No. 92, Utah Department of Natural Resources, the base of USDWs at the proposed well location is found at 3,168 feet below ground surface. However, according to published information, water in the Uinta, Green River, and Wasatch aquifers has been found to range from fresh to briny. Therefore, unless water samples are collected and prove otherwise, these will be considered to be USDWs.

The Douglas Creek-Renegade aquifer, consisting of the Douglas Creek Member of the Green River Formation and the Renegade Tongue of the Wasatch Formation, is a basin-wide aquifer underlying the Duchesne River-Uinta aquifer. The Douglas Creek-Renegade aquifer is thick, and has a hydraulic conductivity ranging from 0.05 to 0.25 ft/d in the southeastern part of the Uinta Basin (Holmes and Kimball, 1983).

TABLE 2.4
UNDERGROUND SOURCES OF DRINKING WATER (USDW)
Southman Canyon 9-23-22-36 WD

Formation Name	Formation Lithology	Top (ft)	Base (ft)	TDS (mg/l)
Uinta Formation	calcareous shale, some limestone, claystone, and sandstone	0	626	0 - 3,000
Green River	greenish-gray shales with interbedded sandstone, marlstone, limestone, oil shale, and trona (sodium carbonate); USGS Pub.92 places the base od USDW at 3168 ft bgs	626	4,115	0 - 3,000
Wasatch Formation	shale and claystone with interbedded conglomerate and sandstone	4,115	5,803	3,000 - 35,000
Mesaverde Formation	deposits of shale, sandstone, and coal beds.	5,803	8,552	10,000 - 35,000

PART III. Well Construction (40 CFR 146.22)

TABLE 3.1
WELL CONSTRUCTION REQUIREMENTS
Southman Canyon 9-23-22-36 WD

Casing Type	Hole Size (in)	Casing Size (in)	Cased Interval (ft)	Cemented Interval (ft)
surface	12.25	9.63	0 - 2,006	0 - 2,006
longstring	7.88	5.50	0 - 8,552	1,808 - 8,552

The approved well completion plan will be incorporated into the Permit as APPENDIX A and will be binding on the Permittee. Modification of the approved plan is allowed under 40 CFR 144.52(a)(1) provided written approval is obtained from the Director prior to actual modification.

Casing and Cementing (TABLE 3.1)
The well construction plan was evaluated and determined to be in conformance with standard practices and guidelines that ensure well injection does not result in the movement of fluids into USDWs. Well construction details for this "new" injection well is shown in TABLE 3.1.

Remedial cementing may be required if the casing cement is shown to be inadequate by cement bond log or other demonstration of Part II (External) mechanical integrity.

Tubing and Packer
Injection tubing is required to be installed from a packer up to the surface inside the well casing. The packer will be set above the uppermost perforation. The tubing and packer are designed to prevent injection fluid from coming into contact with the outermost casing.

Tubing-Casing Annulus (TCA)

The TCA allows the casing, tubing and packer to be pressure-tested periodically for mechanical integrity, and will allow for detection of leaks. The TCA will be filled with fresh water treated with a corrosion inhibitor or other fluid approved by the Director.

Monitoring Devices

The permittee will be required to install and maintain wellhead equipment that allows for monitoring pressures and providing access for sampling the injected fluid. Required equipment may include but is not limited to: 1) shut-off valves located at the wellhead on the injection tubing and on the TCA; 2) a flow meter that measures the cumulative volume of injected fluid; 3) fittings or pressure gauges attached to the injection tubing and the TCA for monitoring the injection and TCA pressure; and 4) a tap on the injection line, isolated by shut-off valves, for sampling the injected fluid.

All sampling and measurement taken for monitoring must be representative of the monitored activity.

PART IV. Area of Review, Corrective Action Plan (40 CFR 144.55)

The State of Utah, Division of Water Rights web page was reviewed and no water wells were found in the AOR.

Two production wells are located within ¼ mile of the proposed location for the Southman Canyon 9-23-22-36 WD well. The Southman Canyon 9-23-32-36 production well and Southman Canyon 9-23-23-36. The CBL's for both of the production wells showed that adequate cement is behind pipe through the injection zone.

Gilsonite veins in the Uinta Basin vary in width from fractions of an inch to almost 18 feet, and average about 3 to 6 feet. These veins can be veritcally continuous for hundreds to approximately 2,000 feet and more. The closest gilsonite vein that has been mapped at the surface is located approximately 1 mile to the northeast of the well's location.

Major Modification2:
There are no changes to the area of review.

TABLE 4.1
AOR AND CORRECTIVE ACTION

Well Name	Type	Status (Abandoned Y/N)	Total Depth (ft)	TOC Depth (ft)	CAP Required (Y/N)
Southman Canyon 9-23-23-36	Producer	No	8,050	2,300	No

TABLE 4.1 lists the wells in the Area of Review ("AOR") and shows the well type, operating status, depth, top of casing cement ("TOC") and whether a Corrective Action Plan ("CAP") is required for the well.

Area Of Review

Applicants for Class I, II (other than "existing" wells) or III injection well Permits are required to identify the location of all known wells within the injection well's Area of Review (AOR) which penetrate the injection zone, or in the case of Class II wells operating over the fracture pressure of the formation, all known wells within the area of review that penetrate formations which may be affected by increased pressure. Under 40 CFR 146.6 the AOR may be a fixed radius of not less than one quarter (1/4) mile or a calculated zone of endangering influence. For Area Permits, a fixed width of not less than one quarter (1/4) mile for the circumscribing area may be used.

Corrective Action Plan

For wells in the AOR which are improperly sealed, completed, or abandoned, the applicant shall develop a Corrective Action Plan (CAP) consisting of the steps or modifications that are necessary to prevent movement of fluid into USDWs.

The CAP will be incorporated into the Permit as APPENDIX F and become binding on the permittee.

No corrective acting is required.

PART V. Well Operation Requirements (40 CFR 146.23)

Enduring Resources will be the sole operator of the proposed Southman Canyon 9-23-22-36 WD injection well. To monitor and record injection pressures, each well head will be equipped with a pressure chart that will be read by an approved Enduring Resources employee (pumper) on a weekly basis. Electronic data from the pressure chart will be checked daily for accuracy and compliance with system requirements.

Enduring Resources is requiring truck drivers hauling disposable water to the wells to be pre-qualified and be identified with a truck number and driver number. No driver will be able to enter the site without pre-authorization. No water will be accepted from any industrial process or from fracture fluids, or from any source other than those pre-screened and pre-approved by Enduring Resources and approved by the EPA. Enduring Resource will be maintaining chain of custody documentation.

The Southman Canyon 9-23-22-36 WD injection well will be enclosed inside a chain link fence. All fence gates will be locked and keys or entrance codes will only be provided to authorized Enduring Resources employees or contractors.

TABLE 5.1
INJECTION ZONE PRESSURES
Southman Canyon 9-23-22-36 WD

Formation Name	Depth Used to Calculate MAIP (ft)	Fracture Gradient (psi/ft)	Initial MAIP (psi)
Wasatch Formation	4,560	0.730	1,310
Mesaverde Formation	5,803	0.760	1,845

Approved Injection Fluid

The approved injection fluid is limited to Class II injection well fluids pursuant to 40 CFR § 144.6(b). For disposal wells injecting water brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, the fluid may be commingled and the well used to inject other Class II wastes such as drilling fluids and spent well completion, treatment and stimulation fluid. Injection of non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes, and vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste, is prohibited.

Well Name	TDS (mg/L)
Southman Canyon 6D-37	30,428
Southman Canyon 10C-36	37,114
Southman Canyon 14C-36	36,037
Southman Canyon 16C-36	36,092
Southman Canyon 2D-30	33,783
Southman Canyon 2D-36	38,528
Southman Canyon 4D-36	50,404
Southman Canyon 6D-36	30,428
Southman Canyon 8C-36	49,335
Southman Canyon 12D-36	54,689
Red Wash 9-24-23-30	16,605

Injection Pressure Limitation

Injection pressure, measured at the wellhead, shall not exceed a maximum calculated to assure that the pressure used during injection does not initiate new fractures or propagate existing fractures in the confining zones adjacent to the USDWs.

Major Modification 1:
A step rate test will be required for the proposed injection zone to determine the fracture gradient for the zone. The initial Maximum Allowable Injection Pressure (MAIP) of 1,310 psig, based on an estimated fracture gradient of 0.73 psi/ft, will initially be approved until results of the step rate test are evaluated.

Major Modification 2:
A step rate test is required on each of the targeted formations. The formations should be isolated and tested separately. The lowest fracture gradient will be used to calculate the authorized maximum allowable injection pressure (MAIP).

Currently, the approved MAIP is 1310 psi. This MAIP is based off the fracture gradient for the Green River perforations. The fracture gradient for the Mesaverde Fromation is based on Southman Canyon 9-23-12-36 (located <1/2 mile). An average calculated over 5 stages gives a fracture gradient of 0.76 psi for the Mesaverde Formation.

The applicant submitted injection fluid density and injection zone data which was used to calculate a formation fracture pressure and to determine the maximum allowable injection pressure (MAIP), as measured at the surface, for this Permit.

TABLE 5.1 lists the fracture gradient for the injection zone and the approved MAIP, determined according to the following formula:

$$FP = [fg - (0.433 * sg)] * d$$

FP = formation fracture pressure (measured at surface)
fg = fracture gradient (from submitted data or tests)
sg = specific gravity (of injected fluid)
d = depth to top of injection zone (or top perforation)

Injection Volume Limitation

Cumulative injected fluid volume limits are set to assure that injected fluids remain within the boundary of the exempted area. Cumulative injected fluid volume is limited when injection occurs into an aquifer that has been exempted from protection as a USDW.

Mechanical Integrity (40 CFR 146.8)
An injection well has mechanical integrity if:

1. there is no significant leak in the casing, tubing, or packer (Part I); and
2. there is no significant fluid movement into a USDW through vertical channels adjacent to the injection well bore (Part II).

The Permit prohibits injection into a well which lacks mechanical integrity.

The Permit requires that the well demonstrate mechanical integrity prior to injection and periodically thereafter. A demonstration of mechanical integrity includes both internal (Part I) and external (Part II). The methods and frequency for demonstrating Part I and Part II mechanical integrity are dependent upon well-specific conditions as explained below.

PART VI. Monitoring, Recordkeeping and Reporting Requirements

Injection Well Monitoring Program
At least once a year the permittee must analyze a sample of the injected fluid for total dissolved solids (TDS), specific conductivity, pH, and specific gravity. This analysis shall be reported to EPA annually as part of the Annual Report to the Director. Any time a new source of injected fluid is added, a fluid analysis shall be made of the new source.

Instantaneous injection pressure, injection flow rate, cumulative fluid volume and TCA pressures must be observed on a weekly basis. A recording, at least once every thirty (30) days, must be made of the injection pressure, injection flow rate and cumulative fluid volume, and the maximum and average value for each must be determined for each month. This information is required to be reported annually as part of the Annual Report to the Director.

PART VII. Plugging and Abandonment Requirements (40 CFR 146.10)

Plugging and Abandonment Plan
Prior to abandonment, the well shall be plugged in a manner that isolates the injection zone and prevents movement of fluid into or between USDWs, and in accordance with any applicable Federal, State or local law or regulation. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. Within sixty (60) days after plugging the owner or operator shall submit Plugging Record (EPA Form 7520 13) to the Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. The plugging and abandonment plan is described in Appendix E of the Permit.

PART VIII. Financial Responsibility (40 CFR 144.52)

Demonstration of Financial Responsibility

The permittee is required to maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director. The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance such as financial statements or other materials acceptable to the Director. The Regional Administrator may, on a periodic basis, require the holder of a lifetime permit to submit a revised estimate of the resources needed to plug and abandon the well to reflect inflation of such costs, and a revised demonstration of financial responsibility if necessary. Initially, the operator has chosen to demonstrate financial responsibility with:

Surety Bond, received October 10, 2006

Evidence of continuing financial responsibility is required to be submitted to the Director annually.

EPA

UNDERGROUND INJECTION CONTROL PROGRAM

PERMIT

PREPARED: September 2008

Permit No. UT21061-07149

Class II Salt Water Disposal Well

Southman Canyon 9-23-22-36 WD
Uintah County, UT

Issued To

Enduring Resources LLC
475 17th Street, Suite 1500
Denver, CO 80202

Part I. AUTHORIZATION TO CONSTRUCT AND OPERATE

Under the authority of the Safe Drinking Water Act and Underground Injection Control (UIC) Program regulations of the U. S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (40 CFR) Parts 2, 124, 144, 146, and 147, and according to the terms of this Permit,

Enduring Resources LLC 475 17th Street, Suite 1500 Denver, CO 80202

is authorized to construct and to operate the following Class II injection well or wells:

Southman Canyon 9-23-22-36 WD 2446' FNL 2366' FWL, SENW S36, T9S, R23E Uintah County, UT

EPA regulates the injection of fluids into injection wells so that injection does not endanger underground sources of drinking water (USDWs). EPA UIC Permit conditions are based on authorities set forth at 40 CFR Parts 144 and 146, and address potential impacts to USDWs.

Under 40 CFR Part 144, Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference. General permit conditions for which the content is mandatory and not subject to site-specific differences are not discussed in this document. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize injury to persons or property or invasion of other private rights, or any infringement of other Federal, State or local laws or regulations. (40 CFR §144.35) An EPA UIC Permit may be issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR §§144.39, 144.40 and 144.41, and may be reviewed at least once every five (5) years to determine if action is required under 40 CFR §144.36(a).

This Permit is issued for the life of the well(s) unless modified, revoked and reissued, or terminated under 40 CFR 144.39 or 144.40. This EPA Permit may be adopted, modified, revoked and reissued, or terminated if primary enforcement authority for a UIC Program is delegated to an Indian Tribe or State. Upon the effective date of delegation, reports, notifications, questions and other correspondence should be directed to the Indian Tribe or State Director.

Issue Date: SEP 1 0 2008 Effective Date SEP 1 0 2008

Stephen S. Tuber
Assistant Regional Administrator*
Office of Partnerships and Regulatory Assistance

*NOTE: The person holding this title is referred to as the "Director" throughout this Permit.

PART II. SPECIFIC PERMIT CONDITIONS

Section A. WELL CONSTRUCTION REQUIREMENTS

These requirements represent the approved minimum construction standards for well casing and cement, injection tubing, and packer.

Details of the approved well construction plan are incorporated into this Permit as APPENDIX A. Changes to the approved plan that may occur during construction must be approved by the Director prior to being physically incorporated.

1. Casing and Cement.

The well or wells shall be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The well casing and cement shall be designed for the life expectancy of the well and of the grade and size shown in APPENDIX A. Remedial cementing may be required if shown to be inadequate by cement bond log or other attempted demonstration of Part II (External) mechanical integrity.

2. Injection Tubing and Packer.

Injection tubing is required, and shall be run and set with a packer at or below the depth indicated in APPENDIX A. The packer setting depth may be changed provided it remains below the depth indicated in APPENDIX A and the Permittee provides notice and obtains the Director's approval for the change.

3. Sampling and Monitoring Devices.

The Permittee shall install and maintain in good operating condition:

(a) a "tap" at a conveniently accessible location on the injection flow line between the pump house or storage tanks and the injection well, isolated by shut-off valves, for collection of representative samples of the injected fluid; and

(b) one-half (1/2) inch female iron pipe fitting, isolated by shut-off valves and located at the wellhead at a conveniently accessible location, for the attachment of a pressure gauge capable of monitoring pressures ranging from normal operating pressures up to the Maximum Allowable Injection Pressure specified in APPENDIX C:

  (i) on the injection tubing; and

  (ii) on the tubing-casing annulus (TCA); and

(c) a pressure actuated shut-off device attached to the injection flow line set to shut-off the injection pump when or before the Maximum Allowable Injection Pressure (MAIP) specified in APPENDIX C is reached at the wellhead; and

(d) a non-resettable cumulative volume recorder attached to the injection line.

4. Well Logging and Testing

Well logging and testing requirements are found in APPENDIX B. The Permittee shall ensure the log and test requirements are performed within the time frames specified in APPENDIX B. Well logs and tests shall be performed according to current EPA-approved procedures. Well log and test results shall be submitted to the Director within sixty (60) days of completion of the logging or testing activity, and shall include a report describing the methods used during logging or testing and an interpretation of the test or log results.

5. Postponement of Construction or Conversion

The Permittee shall complete well construction within one year of the Effective Date of the Permit, or in the case of an Area Permit within one year of Authorization of the additional well. Authorization to construct and operate shall expire if the well has not been constructed within one year of the Effective Date of the Permit or Authorization and the Permit may be terminated under 40 CFR 144.40, unless the Permittee has notified the Director and requested an extension prior to expiration. Notification shall be in writing, and shall state the reasons for the delay and provide an estimated completion date. Once Authorization has expired under this part, the complete permit process including opportunity for public comment may be required before Authorization to construct and operate may be reissued.

6. Workovers and Alterations

Workovers and alterations shall meet all conditions of the Permit. Prior to beginning any addition or physical alteration to an injection well that may significantly affect the tubing, packer or casing, the Permittee shall give advance notice to the Director and obtain the Director's approval. The Permittee shall record all changes to well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workover, logging, or test data to EPA within sixty (60) days of completion of the activity.

A successful demonstration of Part I MI is required following the completion of any well workover or alteration which affects the casing, tubing, or packer. Injection operations shall not be resumed until the well has successfully demonstrated mechanical integrity and the Director has provided written approval to resume injection.

Section B. MECHANICAL INTEGRITY

The Permittee is required to ensure each injection well maintains mechanical integrity at all times. The Director, by written notice, may require the Permittee to comply with a schedule describing when mechanical integrity demonstrations shall be made.

An injection well has mechanical integrity if:

(a) There is no significant leak in the casing, tubing, or packer (Part I); and

(b) There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore (Part II).

1. Demonstration of Mechanical Integrity (MI).

The operator shall demonstrate MI prior to commencing injection and periodically thereafter. Well-specific conditions dictate the methods and the frequency for demonstrating MI and are discussed in the Statement of Basis. The logs and tests are designed to demonstrate both internal (Part I) and external (Part II) MI as described above. The conditions present at this well site warrant the methods and frequency required in Appendix B of this Permit.

In addition to these regularly scheduled demonstrations of MI, the operator shall demonstrate internal (Part I) MI after any workover which affects the tubing, packer or casing.

The Director may require additional or alternative tests if the results presented by the operator are not satisfactory to the Director to demonstrate there is no movement of fluid into or between USDWs resulting from injection activity. Results of MI tests shall be submitted to the Director as soon as possible but no later than sixty (60) days after the test is complete.

2. Mechanical Integrity Test Methods and Criteria

EPA-approved methods shall be used to demonstrate mechanical integrity. Ground Water Section Guidance No. 34 "Cement Bond Logging Techniques and Interpretation", Ground Water Section Guidance No. 37, "Demonstrating Part II (External) Mechanical Integrity for a Class II injection well permit", and Ground Water Section Guidance No. 39, "Pressure Testing Injection Wells for Part I (Internal) Mechanical Integrity" are available from EPA and will be provided upon request.

The Director may stipulate specific test methods and criteria best suited for a specific well construction and injection operation.

3. Notification Prior to Testing.

The Permittee shall notify the Director at least 30 days prior to any scheduled mechanical integrity test. The Director may allow a shorter notification period if it would be sufficient to enable EPA to witness the mechanical integrity test. Notification may be in the form of a yearly or quarterly schedule of planned mechanical integrity tests, or it may be on an individual basis.

4. Loss of Mechanical Integrity.

If the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity becomes evident during operation (such as presence of pressure in the TCA, water flowing at the surface, etc.), the Permittee shall notify the Director within 24 hours (see Part III Section E Paragraph 11(e) of this Permit) and the well shall be shut-in within 48 hours unless the Director requires immediate shut-in.

Within five days, the Permittee shall submit a follow-up written report that documents test results, repairs undertaken or a proposed remedial action plan.

Injection operations shall not be resumed until after the well has successfully been repaired and demonstrated mechanical integrity, and the Director has provided approval to resume injection.

Section C. WELL OPERATION

INJECTION BETWEEN THE OUTERMOST CASING PROTECTING UNDERGROUND SOURCES OF DRINKING WATER AND THE WELL BORE IS PROHIBITED.

Injection is approved under the following conditions:

1. Requirements Prior to Commencing Injection.

Well injection, including for new wells authorized by an Area Permit under 40 CFR 144.33 (c), may commence only after all well construction and pre-injection requirements herein have been met and approved. The Permittee may not commence injection until construction is complete, and

(a) The Permittee has submitted to the Director a notice of completion of construction and a completed EPA Form 7520-10 or 7520-12; all applicable logging and testing requirements of this Permit (see APPENDIX B) have been fulfilled and the records submitted to the Director; mechanical integrity pursuant to 40 CFR 146.8 and Part II Section B of this Permit has been demonstrated; and

(i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the Permit; or

(ii) The Permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Paragraph 1a, in which case prior inspection or review is waived and the Permittee may commence injection.

2. Injection Interval.

Injection is permitted only within the approved injection interval, listed in APPENDIX C. Additional individual injection perforations may be added provided that they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6.

3. Injection Pressure Limitation

(a) The permitted Maximum Allowable Injection Pressure (MAIP), measured at the wellhead, is found in APPENDIX C. Injection pressure shall not exceed the amount the Director determines is appropriate to ensure that injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into a USDW.

(b) The Permittee may request a change of the MAIP, or the MAIP may be increased or decreased by the Director in order to ensure that the requirements in Paragraph (a) above are fulfilled. The Permitee may be required to conduct a step rate injection test or other suitable test to provide information for determining the fracture pressure of the injection zone. Change of the permitted MAIP by the Director shall be by modification of this Permit and APPENDIX C.

4. Injection Volume Limitation.

Injection volume is limited to the total volume specified in APPENDIX C.

5. Injection Fluid Limitation.

Injected fluids are limited to those which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, pursuant to 40 CFR 144.6(b). The well also may be used to inject approved Class II wastes brought to the surface such as drilling fluids and spent well completion, treatment and stimulation fluids. Non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, are NOT approved. This well is NOT approved for commercial brine or other fluid disposal operation.

Fluid sources are listed in Appendix C of the Permit No. UT 21061-07149.

6. Tubing-Casing Annulus (TCA)

The tubing-casing annulus (TCA) shall be filled with water treated with a corrosion inhibitor, or other fluid approved by the Director. The TCA valve shall remain closed during normal operating conditions and the TCA pressure shall be maintained at zero (0) psi.

If TCA pressure cannot be maintained at zero (0) psi, the Permittee shall follow the procedures in Ground Water Section Guidance No. 35 "Procedures to follow when excessive annular pressure is observed on a well."

Section D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

1. Monitoring Parameters, Frequency, Records and Reports.

Monitoring parameters are specified in APPENDIX D. Pressure monitoring recordings shall be taken at the wellhead. The listed parameters are to be monitored, recorded and reported at the frequency indicated in APPENDIX D even during periods when the well is not operating.

Monitoring records must include:

(a) the date, time, exact place and the results of the observation, sampling, measurement, or analysis, and;

(b) the name of the individual(s) who performed the observation, sampling, measurement, or analysis, and;

(c) the analytical techniques or methods used for analysis.

2. Monitoring Methods.

(a) Monitoring observations, measurements, samples, etc. taken for the purpose of complying with these requirements shall be representative of the activity or condition being monitored.

(b) Methods used to monitor the nature of the injected fluids must comply with analytical methods cited and described in Table 1 of 40 CFR 136.3 or Appendix III of 40 CFR 261, or by other methods that have been approved in writing by the Director.

(c) Injection pressure, annulus pressure, injection rate, and cumulative injected volumes shall be observed and recorded at the wellhead under normal operating conditions, and all parameters shall be observed simultaneously to provide a clear depiction of well operation.

(d) Pressures are to be measured in pounds per square inch (psi).

(e) Fluid volumes are to be measured in standard oil field barrels (bbl).

(f) Fluid rates are to be measured in barrels per day (bbl/day).

3. Records Retention.

(a) Records of calibration and maintenance, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a period of AT LEAST THREE (3) YEARS from the date of the sample, measurement, report, or application. This period may be extended anytime prior to its expiration by request of the Director.

(b) Records of the nature and composition of all injected fluids must be retained until three (3) years after the completion of any plugging and abandonment (P&A) procedures specified under 40 CFR 144.52(a)(6) or under Part 146 Subpart G, as appropriate. The Director may require the Permittee to deliver the records to the Director at the conclusion of the retention period. The Permittee shall continue to retain the records after the three (3) year retention period unless the Permittee delivers the records to the Director or obtains written approval from the Director to discard the records.

4. Annual Reports.

Whether the well is operating or not, the Permittee shall submit an Annual Report to the Director that summarizes the results of the monitoring required by Part II Section D and APPENDIX D. The report of fluids injected during the year must identify each new fluid source by well name and location, and the field name or facility name.

The first Annual Report shall cover the period from the effective date of the Permit through December 31 of that year. Subsequent Annual Reports shall cover the period from January 1 through December 31 of the reporting year. Annual Reports shall be submitted by February 15 of the year following data collection. EPA Form 7520-11 may be copied and shall be used to submit the Annual Report, however, the monitoring requirements specified in this Permit are mandatory even if EPA Form 7520-11 indicates otherwise.

Section E. PLUGGING AND ABANDONMENT

1. Notification of Well Abandonment, Conversion or Closure.

The Permittee shall notify the Director in writing at least forty-five (45) days prior to: 1) plugging and abandoning an injection well, 2) converting to a non-injection well, and 3) in the case of an Area Permit, before closure of the project.

2. Well Plugging Requirements

Prior to abandonment, the injection well shall be plugged with cement in a manner which isolates the injection zone and prevents the movement of fluids into or between underground sources of drinking water, and in accordance with 40 CFR 146.10 and other applicable Federal, State or local law or regulations. Tubing, packer and other downhole apparatus shall be removed. Cement with additives such as accelerators and retarders that control or enhance cement properties may be used for plugs; however, volume-extending additives and gel cements are not approved for plug use. Plug placement shall be verified by tagging. Plugging gel of at least 9.6 lb/gal shall be placed between all plugs. A minimum 50 ft surface plug shall be set inside and outside of the surface casing to seal pathways for fluid migration into the subsurface. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. Prior to placement of the cement plug(s) the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Director.

3. Approved Plugging and Abandonment Plan.

The approved plugging and abandonment plan is incorporated into this Permit as APPENDIX E. Changes to the approved plugging and abandonment plan must be approved by the Director prior to beginning plugging operations. The Director also may require revision of the approved plugging and abandonment plan at any time prior to plugging the well.

4. Forty Five (45) Day Notice of Plugging and Abandonment.

The Permittee shall notify the Director at least forty-five (45) days prior to plugging and abandoning a well and provide notice of any anticipated change to the approved plugging and abanonment plan.

5. Plugging and Abandonment Report.

Within sixty (60) days after plugging a well, the Permittee shall submit a report (EPA Form 7520-13) to the Director. The plugging report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:

(a) A statement that the well was plugged in accordance with the approved plugging and abandonment plan; or

(b) Where actual plugging differed from the approved plugging and abandonment plan, an updated version of the plan, on the form supplied by the Director, specifying the differences.

6. Inactive Wells.

After any period of two years during which there is no injection the Permittee shall plug and abandon the well in accordance with Part II Section E Paragraph 2 of this Permit unless the Permittee:

(a) Provides written notice to the Director;

(b) Describes the actions or procedures the Permittee will take to ensure that the well will not endanger USDWs during the period of inactivity. These actions and procedures shall include compliance with mechanical integrity demonstration, Financial Responsibility and all other permit requirements designed to protect USDWs; and

(c) Receives written notice by the Director temporarily waiving plugging and abandonment requirements.

PART III. CONDITIONS APPLICABLE TO ALL PERMITS

Section A. EFFECT OF PERMIT

The Permittee is allowed to engage in underground injection in accordance with the conditions of this Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any other activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR 142 or may otherwise adversely affect the health of persons. Any underground injection activity not authorized by this Permit or by rule is prohibited. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of any other Federal, State or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any enforcement action brought under the provisions of Section 1431 of the Safe Drinking Water Act (SDWA) or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health or the environment, nor does it serve as a shield to the Permittee's independent obligation to comply with all UIC regulations. Nothing in this Permit relieves the Permittee of any duties under applicable regulations.

Section B. CHANGES TO PERMIT CONDITIONS

1. Modification, Reissuance, or Termination.

The Director may, for cause or upon a request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR 124.5, 144.12, 144.39, and 144.40. Also, this Permit is subject to minor modification for causes as specified in 40 CFR 144.41. The filing of a request for modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit.

2. Conversions.

The Director may, for cause or upon a written request from the Permittee, allow conversion of the well from a Class II injection well to a non-Class II well. Conversion may not proceed until the Permittee receives written approval from the Director. Conditions of such conversion may include but are not limited to, approval of the proposed well rework, follow up demonstration of mechanical integrity, well-specific monitoring and reporting following the conversion, and demonstration of practical use of the converted configuration.

3. Transfer of Permit.

Under 40 CFR 144.38, this Permit is transferable provided the current Permittee notifies the Director at least thirty (30) days in advance of the proposed transfer date (EPA Form 7520-7) and provides a written agreement between the existing and new Permittees containing a specific date for transfer of Permit responsibility, coverage and liability between them. The notice shall adequately demonstrate that the financial responsibility requirements of 40 CFR 144.52(a)(7) will be met by the new Permittee. The Director may require modification or revocation and reissuance of the Permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act; in some cases, modification or revocation and reissuance is mandatory.

4. Permittee Change of Address.

Upon the Permittee's change of address, or whenever the operator changes the address where monitoring records are kept, the Permittee must provide written notice to the Director within 30 days.

5. Construction Changes, Workovers, Logging and Testing Data

The Permittee shall give advance notice to the Director, and shall obtain the Director's written approval prior to any physical alterations or additions to the permitted facility. Alterations or workovers shall meet all conditions as set forth in this permit. The Permittee shall record any changes to the well construction on a Well Rework Record (EPA Form 7520-12), and shall provide this and any other record of well workovers, logging , or test data to EPA within sixty (60) days of completion of the activity.

Following the completion of any well workovers or alterations which affect the casing, tubing, or packer, a successful demonstration of mechanical integrity (Part III, Section F of this Permit) shall be made, and written authorization from the Director received, prior to resuming injection activities.

Section C. SEVERABILITY

The Provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

Section D. CONFIDENTIALITY

In accordance with 40 CFR Part 2 and 40 CFR 144.5, information submitted to EPA pursuant to this Permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

- The name and address of the Permittee, and
- information which deals with the existence, absence or level of contaminants in drinking water.

Section E. GENERAL PERMIT REQUIREMENTS

1. Duty to Comply.

The Permittee must comply with all conditions of this Permit. Any noncompliance constitutes a violation of the Safe Drinking Water Act (SDWA) and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; except that the Permittee need not comply with the provisions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit under 40 CFR 144.34. All violations of the SDWA may subject the Permittee to penalties and/or criminal prosecution as specified in Section 1423 of the SDWA.

2. Duty to Reapply.

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, under 40 CFR 144.37 the Permittee must apply for a new permit prior to the expiration date.

3. Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

4. Duty to Mitigate.

The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Permit.

5. Proper Operation and Maintenance.

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

6. Permit Actions.

This Permit may be modified, revoked and reissued or teminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

7. Property Rights.

This Permit does not convey any property rights of any sort, or any exclusive privilege.

8. Duty to Provide Information.

The Permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit. The Permittee is required to submit any information required by this Permit or by the Director to the mailing address designated in writing by the Director.

9. Inspection and Entry.

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,

(d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

10. Signatory Requirements.

All applications, reports or other information submitted to the Director shall be signed and certified according to 40 CFR 144.32. This section explains the requirements for persons duly authorized to sign documents, and provides wording for required certification.

11. Reporting Requirements.

(a) Planned changes. The Permittee shall give notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility, and prior to commencing such changes.

(b) Anticipated noncompliance. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Monitoring Reports. Monitoring results shall be reported at the intervals specified in this Permit.

(d) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 30 days following each schedule date.

(e) Twenty-four hour reporting. The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:

(i) Any monitoring or other information which indicates that any contaminant may cause endangerment to a USDW; or

(ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

Information shall be provided, either directly or by leaving a message, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting EPA Region VIII UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region VIII Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

(f) Oil Spill and Chemical Release Reporting: The Permittee shall comply with all reporting requirements related to the occurence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website http://www.nrc.uscg.mil/index.htm.

(g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.

(h) Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.

Section F. FINANCIAL RESPONSIBILITY

1. Method of Providing Financial Responsibility.

The Permittee shall maintain continuous compliance with the requirement to maintain financial responsibility and resources to close, plug, and abandon the underground injection well(s). No substitution of a demonstration of financial responsibility shall become effective until the Permittee receives written notification from the Director that the alternative demonstration of financial responsibility is acceptable. The Director may, on a periodic basis, require the holder of a permit to revise the estimate of the resources needed to plug and abandon the well to reflect changes in such costs and may require the Permittee to provide a revised demonstration of financial responsibility.

2. Insolvency.

In the event of:

(a) the bankruptcy of the trustee or issuing institution of the financial mechanism; or

(b) suspension or revocation of the authority of the trustee institution to act as trustee; or

(c) the institution issuing the financial mechanism losing its authority to issue such an instrument

the Permittee must notify the Director in writing, within ten (10) business days, and the Permittee must establish other financial assurance or liability coverage acceptable to the Director within sixty (60) days after any event specified in (a), (b), or (c) above.

The Permittee must also notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U.S. Code naming the owner or operator as debtor, within ten (10) business days after the commencement of the proceeding. A guarantor, if named as debtor of a corporate guarantee, must make such a notification as required under the terms of the guarantee.

APPENDIX A

WELL CONSTRUCTION REQUIREMENTS

Major Modification 1:
The drilling operations described below may have minor changes due to field conditions. If the drilling procedure below is modified, then the operator will call EPA for approval prior to any variations to the procedure described below.

The well will be killed with produced formation water. The 2-3/8" tubing string will be pulled from the well and a bridge plug will be set 50' to 100' above the top existing perforation. Go in hole with tubing and pressure test the bridge plug and casing to 1000#. Pump a 50' cement plug on top of the bridge plug. The 50' plug will be 6 sacks of Class G cement with additives. The plug will be placed utilizing the balanced plug method. Pull 2-3/8" tubing from the well and lay down work string.

This will abandon the perforations at 7845-52', 7808'-28', 7618-22', 7570-74', 7528-36' & 7503-08' & 6942'-62'.

The proposed injection intervals in the upper Wasatch will be perforated from 4560-72', 4600-22' & 4681-4700' with 4 shots per foot, 120 degree phase, 22.7 gram charges casing gun.

An injection packer will be set within 100' of the top perf at 4560'. The 2-7/8 6.5# J-55 injection tubing will be run in the hole to the top of the packer. The hole will be displaced with fresh water annulas fluid containing corrosion inhibitors and oxygen scavengers. The tubing will be spaced out and latched onto the packer. The wellhead will be installed and the perfs will be broke down to insure communication with the injection intervals.

A mechanical integrity test will be conducted on the annular space between the 2-7/8" tubing string and the 5-1/2" casing.

If the injection zone formation contains water with less than 10,000 mg/L total dissolved solids, then the operator will be required to apply for exemption for USDW status for the area within 1/4 mile radius of the wellbore. In the public notice, EPA will encourage comments on any concerns about the proposed injection zone or potential exemption. If no comments are received, EPA may approve the aquifer exemption without public notification.

Major Modification 2:
The following procedure describes the activities to rework the well, some variations may occur with approval from EPA.

The well will be killed with produced formation water. The injection packer and the 2-7/8" injection tubing string will be pulled from the well. A bit and scraper will be run in

the hole to drill up the existing cement and bridge plugs at 4500'. Clean out hole to +/- 8000'. This will open up the old existing Mesaverde zones at 7845-52', 7808-28', 7618-22', 7570-74', 7503-08' & 6942-62'. Come out of the hole with the bit and tubing. Set a wire line bridge plug at +/- 7900'. Dump 50' cement plug on bridge plug. The 50' plug will be 6 sacks of Class G cement with additives. This plug is set over the top of the confining interval. Perforate an additional interval in the Wasatch from 5603-17'. Perforate additional intervals in the Mesaverde from 6138-45', 6270-78', 6306-21', 6381-94', 6677-96', 7101-09', 7230-39', 7314-22', 7314-22', 7364-71', 7500-08' & 7527-35'.

The proposed injection intervals in the Wasatch and Mesaverde will be broken down with acid or treated formation fluid to ensure that the wellbore has communication to the reservoir. If injectivity is low some or all of the intervals may be acid and/or fracture stimulated in order to open up more of the reservoir to injection fluids.

An injection packer will be set within 100' of the top perf at 4560'. The 2-7/8" 6.5# J-55 injection tubing will be run in the hole to the top of the packer. The hole will be displaced with fresh water annulas fluid containing corrosion inhibitors and oxygen scavengers. The tubing will be spaced out and latched onto the packer. The wellhead will be installed and the perfs will be broke down to insure communication with the injection intervals.

A mechanical integrity test will be conducted on the annular space between the 2-7/8" tubing string and the 5-1/2" casing.

PROPOSED SUBSURFACE MODIFICATIONS TO WATER DISPOSAL WELL

WELL NAME: SOUTHMAN CANYON 9-23-22-36 DATE: 12-Jun-08

LOCATION: SENW SECTION 36-T9S-R23E, 2466' FNL & 2271' FWL, UINTAH CTY, UTAH

Lat 39 59" 49.60", Long 109 16' 20.21"

API #: 43 047 35362

SPUD DATE: 2/13/2004

RIG RELEASED: 8/3/2004

KB ELEV: 5,374 Ft

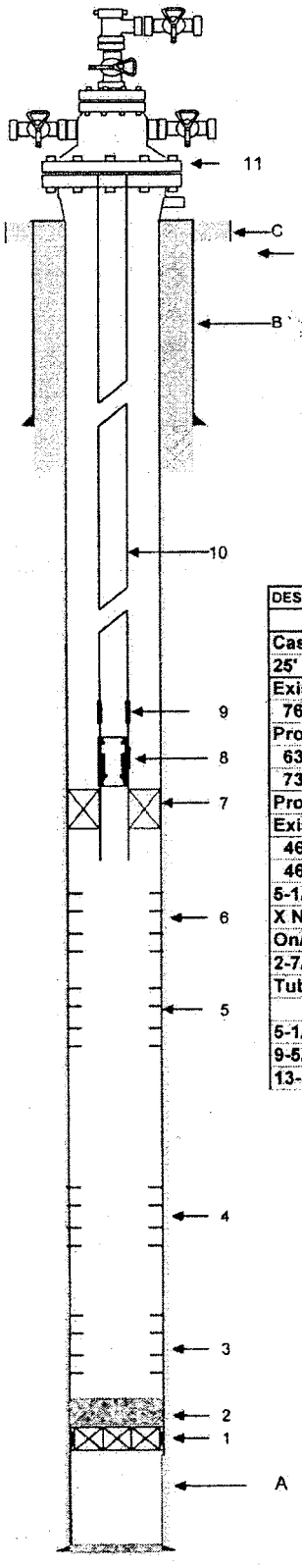
GL ELEV: 5,370 Ft

TD: 8,552 Ft PBTD: 7,925 Ft

TUBULARS:	SIZE Inch	WEIGHT #/ft	GRADE	THREAD	DEPTH	OTHER
Conductor:	13-3/8"	48	H-40	ST&C	99	
SURFACE:	9-5/8	36	J-55	ST&C	2,006	
PRODUCTION:	5-1/2	17	N-80	LT&C	8,552	
TUBING:	2-7/8	6.5	J-55	EUE	4,500	

PROPOSED ZONES: MESAVERDE PERFS 6942'-7852' GROSS INTERVAL

WASATCH INJECTION PERFS 4560'-4700' GROSS INTERVAL



DESCRIPTION (starting at the bottom)	LENGTH (ft)	DEPTH (ft)	#
BOTTOM OF TOOL STRING →		+/- 4500	
Cast iron bridge plug set at +/- 7975'			1
25' cement plug on top of bridge plug, PBTD 7925'			2
Existing Mesaverde Perforations 7845-52', 7808-28',			3
7618-22', 7570-74', 7528-36', 7503-08' & 6942-62'			
Proposed additional Mesaverde perfs 6138-45', 6270-78',			4
6306-21', 6381-94', 6677-96', 7101-09', 7230-39', 7314-22'			
7314-22', 7364-71', 7364-71', 7500-08' & 7527-35'			
Proposed additional Wasatch perfs 5603-17'			5
Existing Wasatch Perforations 4681-4700',			6
4600-22' & 4560-72' w/4 spf, .93" holes			
4600-22' & 4560-72' w/4 spf, .93" holes			
5-1/2" Arrowset Packer set at 4,499'			7
X Nipple			8
On/Off Tool			9
2-7/8" 6.5 #/ft J-55 EUE Lined tubing			10
Tubing Hanger & Wellhead			11
5-1/2" 17#/ft N-80 LT&C		8,552	A
9-5/8" 36# J-55 ST&C		2,006	B
13-3/8" 48# H-40 ST&C		99	C

DIAGRAM NOT TO SCALE

SC 9-23-22-36 WD Proposed well.GIF

APPENDIX B

LOGGING AND TESTING REQUIREMENTS

Logs.
Logs will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well logging required as a condition of this permit.

NO LOGGING REQUIREMENTS

Tests.
Tests will be conducted according to current UIC guidance. It is the responsibility of the Permittee to obtain and use guidance prior to conducting any well test required as a condition of this permit.

WELL NAME: Southman Canyon 9-23-22-36 WD

TYPE OF TEST	DATE DUE
Injection Zone Water Sample	Prior to injection into the Mesaverde the zone must be isolated and sampled; swab testing on formation; conductivity to be monitored for consistency prior to sample collection
Standard Annulus Pressure	Prior to injection and at least once every 5 years thereafter
Pore Pressure	Prior to injection
Step Rate Test	Within 30 days of injection operations; each injection formation must be isolated and tested separately. The lowest fracture gradient will be used to calculate the MAIP.

APPENDIX C

OPERATING REQUIREMENTS

MAXIMUM ALLOWABLE INJECTION PRESSURE:

Maximum Allowable Injection Pressure (MAIP) as measured at the surface shall not exceed the pressure(s) listed below.

WELL NAME	MAXIMUM ALLOWED INJECTION PRESSURE (psi) ZONE 1 (Upper)
Southman Canyon 9-23-22-36 WD	1,310

INJECTION INTERVAL(S):

Injection is permitted only within the approved injection interval listed below. Injection perforations may be altered provided they remain within the approved injection interval and the Permittee provides notice to the Director in accordance with Part II, Section A, Paragraph 6. Specific injection perforations can be found in Appendix A.

Fluid Sources include:

Well Name	TDS (mg/L)
Southman Canyon 6D-37	30,428
Southman Canyon 10C-36	37,114
Southman Canyon 14C-36	36,037
Southman Canyon 16C-36	36,092
Southman Canyon 2D-30	33,783
Southman Canyon 2D-36	38,528
Southman Canyon 4D-36	50,404
Southman Canyon 6D-36	30,428
Southman Canyon 8C-36	49,335
Southman Canyon 12D-36	54,689
Red Wash 9-24-23-30	16,605

WELL NAME: Southman Canyon 9-23-22-36 WD

FORMATION NAME	APPROVED INJECTION INTERVAL (KB, ft) TOP	BOTTOM	FRACTURE GRADIENT (psi/ft)
Wasatch Formation	4,535.00	4,710.00	0.730
Mesaverde Formation	5,803.00	7,808.00	0.760

ANNULUS PRESSURE:

The annulus pressure shall be maintained at zero (0) psi as measured at the wellhead. If this pressure cannot be maintained, the Permittee shall follow the procedures listed under Part II, Section C. 6. of this permit.

MAXIMUM INJECTION VOLUME:

There is no limitation on the number of barrels per day (bbls/day) of water that shall be injected into this well, provided further that in no case shall injection pressure exceed that limit shown in Appendix C.

APPENDIX D

MONITORING AND REPORTING PARAMETERS

This is a listing of the parameters required to be observed, recorded, and reported. Refer to the permit Part II, Section D, for detailed requirements for observing, recording, and reporting these parameters.

OBSERVE WEEKLY AND RECORD AT LEAST ONCE EVERY THIRTY DAYS	
OBSERVE AND RECORD	Injection pressure (psig)
	Annulus pressure(s) (psig)
	Injection rate (bbl/day)
	Fluid volume injected since the well began injecting (bbls)

ANNUALLY	
ANALYZE	Injected fluid total dissolved solids (mg/l)
	Injected fluid specific gravity
	Injected fluid specific conductivity
	Injected fluid pH

ANNUALLY	
REPORT	Each month's maximum and averaged injection pressures (psig)
	Each month's maximum and minimum annulus pressure(s) (psig)
	Each month's injected volume (bbl)
	Fluid volume injected since the well began injecting (bbl)
	Written results of annual injected fluid analysis
	Sources of all fluids injected during the year

In addition to these items, additional Logging and Testing results may be required periodically. For a list of those items and their due dates, please refer to APPENDIX B - LOGGING AND TESTING REQUIREMENTS.

Records of all monitoring activities must be retained and made available for inspection at the following location:

Enduring Resources
475 Seventeenth Street, Suite 1500
Denver, CO 80202

APPENDIX E

PLUGGING AND ABANDONMENT REQUIREMENTS

Major Modification 1:
The drilling operations described below may have minor changes due to field conditions. If the drilling procedure below is modified, then the operator will call EPA for approval prior to any variations to the procedure described below.

Operator will file and obtain approval for a detailed P&A plan for approval prior to initiating any P&A operations. Typical P&A operations may be as follows:

Set wireline bridge plug 50' to 100' above the top injection perforation. Pressure test the casing string and the bridge plug.

Go in hole with tubing and pump one 50' cement plug on top of the bridge plug and four 100 ft cement plugs from 4161' to 4061' across Wasatch top at 4111', from 3219' to 3119' across the USDW at 3169', from 2056' to 1956' across surface casing at 2006' and from 100' to surface. The cement will be Class G with additives. The 50' plug will be 6 sacks of cement and the 100' plugs will each be 12 sacks of cement. Water-based muds or brines containing a plugging gel with a density of at least 9.2 lb/gal will be used during plugging operations and will remain between plugs in the well after cement placement. All plugs will be placed with tubing utilizing the balanced plug method. Plug placement will be verified by tagging the top of the plug after the cement has had adequate time to set.

Remove wellhead. Install plug and abandon marker. Remove all equipment and reclaim location.

A plugging procedure will be submitted and approval obtained with the appropriate regulatory agencies before any plugging operations are conducted.

Major Modification 2:
Operator will file and obtain approval for a detailed P&A plan for approval prior to initiating any P&A operations. Typical P&A operations may be as follows:

Set wireline bridge plug 50' to 100' above the top Mesaverde injection perforation.

Go in hole with tubing and pump one 50' cement plug on top of the bridge plug and one 100 ft cement plug from 5853' to 5753' across Mesaverde top at 5803'. Trip out of hole with tubing.

Set wireline bridge plug 50' to 100' above top Wasatch injection perforation. Pressure test the casing string and the bridge plug.

Go in hole with tubing and pump one 50' cement plug on top of the bridge plugand four

100 ft cement plugs from 4161' to 4061' across Wasatch top at 4111', from 3219' to 3119' across the USDW at 3169', from 2056' to 1956' across surface casing at 2006' and from 100' to surface. The cement will be Class G with additives. The 50' plugs will be 6 sacks of cement and the 100' plugs will each be 12 sacks of cement. Water-based muds or brines containing a plugging gel with a density of at least 9.2 lb/gal will be used during plugging operations and will remain between plugs in the well after cement placement. All plugs will be placed with tubing utilizing the balanced plug method.

Remove wellhead. Install plug and abandon marker. Remove all equipment and reclaim location.

A plugging procedure will be submitted and approval obtained with the appropriate regulatory agencies before any plugging operations are conducted.

PROPOSED SUBSURFACE ABANDONMENT OF MODIFIED WATER DISPOSAL WELL 6-12-08

WELL NAME: SOUTHMAN CANYON 9-23-22-36 DATE: 12-Jun-08

LOCATION: SENW SECTION 36-T9S-R23E, 2466' FNL & 2271' FWL, UINTAH CTY, UTAH

Lat 39 59" 49.60", Long 109 16' 20.21"

API #: 43 047 35362

SPUD DATE: 2/13/2004

RIG RELEASED: 8/3/2004

KB ELEV: 5,374 Ft

GL ELEV: 5,370 Ft

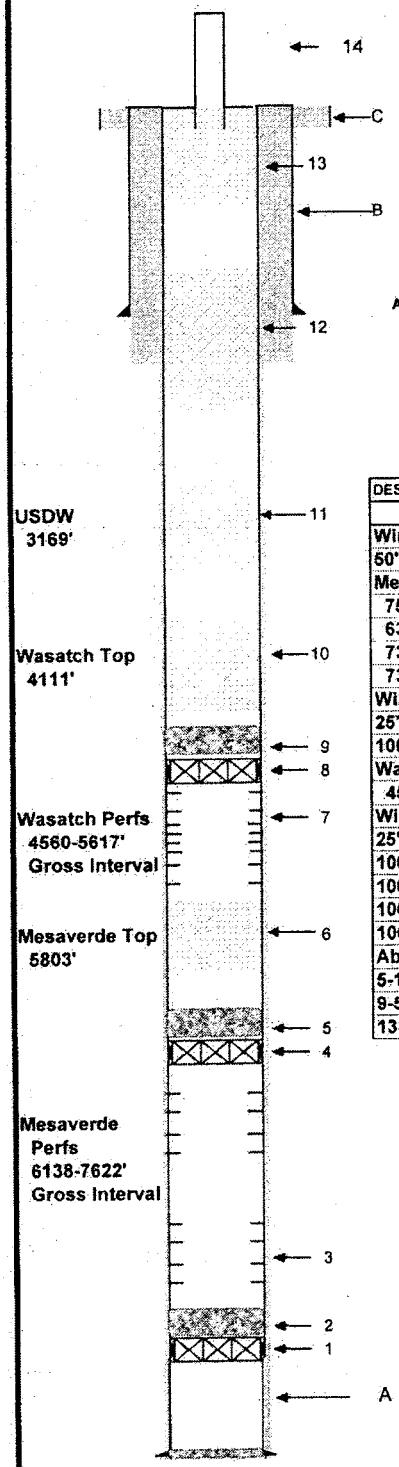
TD: 8,552 Ft

PBTD: Surface Ft

TUBULARS:	SIZE Inch	WEIGHT #/ft	GRADE	THREAD	DEPTH	OTHER
CONDUCTOR:	13-3/8"	48	H-40	ST&C	99	
SURFACE:	9-5/8	36	J-55	ST&C	2,006	
PRODUCTION:	5-1/2	17	N-80	LT&C	8,552	

ABANDONED ZONES: MESAVERDE PERFS 6138'-7852' GROSS INTERVAL

WASATCH INJECTION PERFS 4560'-5618' GROSS INTERVAL



DESCRIPTION (starting at the bottom)	LENGTH (ft)	DEPTH (ft)	#
Wire line set bridge plug set at +/- 7975'			1
50' cement plug on top of bridge plug, PBTD +/- 7925'			2
Mesaverde Perforations 7845-52', 7808-28', 7618-22',			3
7570-74', 7528-36', 7503-08' & 6942-62', 6138-45', 6270-78',			
6306-21', 6381-94', 6677-96', 7101-09', 7230-39', 7314-22'			
7314-22', 7364-71', 7364-71', 7500-08' & 7527-35'			
7314-22', 7364-71', 7364-71', 7500-08' & 7527-35'			
Wire line set bridge plug set at +/- 6075'			4
25' cement plug on top of bridge plug, TOC +/- 6050'			5
100' cement plug from 4753'-5853'			6
Wasatch Perforations 5603-17', 4681-4700', 4600-22'			
4560-72'			7
Wire line set bridge plug set at +/- 4500'			8
25' cement plug on top of bridge plug, TOC +/- 4475'			9
100' cement plug from 4161'-4061'			10
100' cement plug from 3219'-3119'			11
100' cement plug from 2056'-1956'			12
100' cement plug from 100' to surface			13
Abandoned well marker			14
5-1/2" 17#/ft N-80 LT&C		8,552	A
9-5/8" 36# J-55 ST&C		2,006	B
13-3/8" 48# H-40 ST&C		99	C

DIAGRAM NOT TO SCALE

SC 9-23-22-36 WD P&A revised.GIF

APPENDIX F

CORRECTIVE ACTION REQUIREMENTS

No corrective action is deemed necessary for this project.

FORM 9

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: ML-47782
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
7. UNIT or CA AGREEMENT NAME: N/A
8. WELL NAME and NUMBER: Southman Canyon 9-23-22-36
9. API NUMBER: 4304735362
10. FIELD AND POOL, OR WILDCAT: Wildcat

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Water Disposal

2. NAME OF OPERATOR: Enduring Resources, LLC

3. ADDRESS OF OPERATOR: 475 17th Street, STE 1500 CITY Denver STATE Co ZIP 80202 PHONE NUMBER: (303) 350-5114

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 2466' FNL-2271' FWL S.L.B.&M. COUNTY: Uintah
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E S STATE: UTAH

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

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

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

Enduring resources, LLC respectfully requests based on the attached data that this well's field be confirmed as "Wildcat".

NAME (PLEASE PRINT) Alvin R. (Al) Arlian TITLE Landman - Regulatory Specialist

SIGNATURE [signature] DATE 9/22/2008

(This space for State use only)

REQUEST DENIED
Utah Division of
Oil, Gas and Mining
Date: 10/15/08
By: [signature]
* See attached Statement of Basis
cc: Tax Commission (emailed)

RECEIVED
SEP 25 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

DIVISION OF OIL, GAS AND MINING

Wildcat Well Determination

STATEMENT OF BASIS

Applicant: Enduring Resources, LLC

Location: SENW Sec 36 T9S R23E Uintah County, Utah

WELL NAME: Southman Canyon 09-23-22-36 **API #:** 43-047-35362

FINDINGS

1. The subject well produces from the Mesa Verde formation according to Division records.
2. The subject well was < 1 mile from known production in the Mesa Verde formation at the time of first commercial production in January 2005. The well did reach TD (March 5, 2004) at about the same time or prior to other wells in the area. See Attachment A for summary of historical wells within the one (1) mile area of review.
3. According to sundry notice dated July 14, 2004, the well was still awaiting completion.
4. The subject well is approximately 4583' from the BONANZA 1023-2A well (API # 43-047-35347) that produced out of the Mesa Verde formation in commercial quantities on May 7, 2004.
5. Several other wells within the one (1) mile area of review were also put on production during January 2005 in the Mesa Verde formation (See Attachment A).
6. A common accumulation of gas is known to exist in the Wasatch and Mesa Verde formations in the Greater Natural Buttes Area. Although these are discontinuous lenticular sands, they are considered to be a common source of supply in this area. This is further supported by the current spacing order covering this land, Cause No. 179-15 approved in July of 2008 and the numerous spacing orders and productive wells in the Wasatch and Mesa Verde formations in the surrounding area.
7. The Wildcat Tax Credit application was received 3+ years after completion of the Southman Canyon 9-23-22-36 well and submittal of the Well Completion Report (see submittal requirements in R649-3-35-1).

CONCLUSIONS

Based on the findings above the Division has determined the Southman Canyon 9-23-22-36 well was drilled into a known producing area for the Mesa Verde formation in the Greater Natural Buttes region. The application was also received well after the Well Completion Report was submitted (R649-3-35-1) and after production had commenced in the area. Therefore, the Division finds that this well does not qualify for the severance tax exemption under Section 59-5-102(2)(d) for wildcat wells. This determination was made in accordance with Oil and Gas General Conservation Rule R649-3-35. If the operator disagrees with this determination, the decision may be appealed to the Board of Oil Gas and Mining.

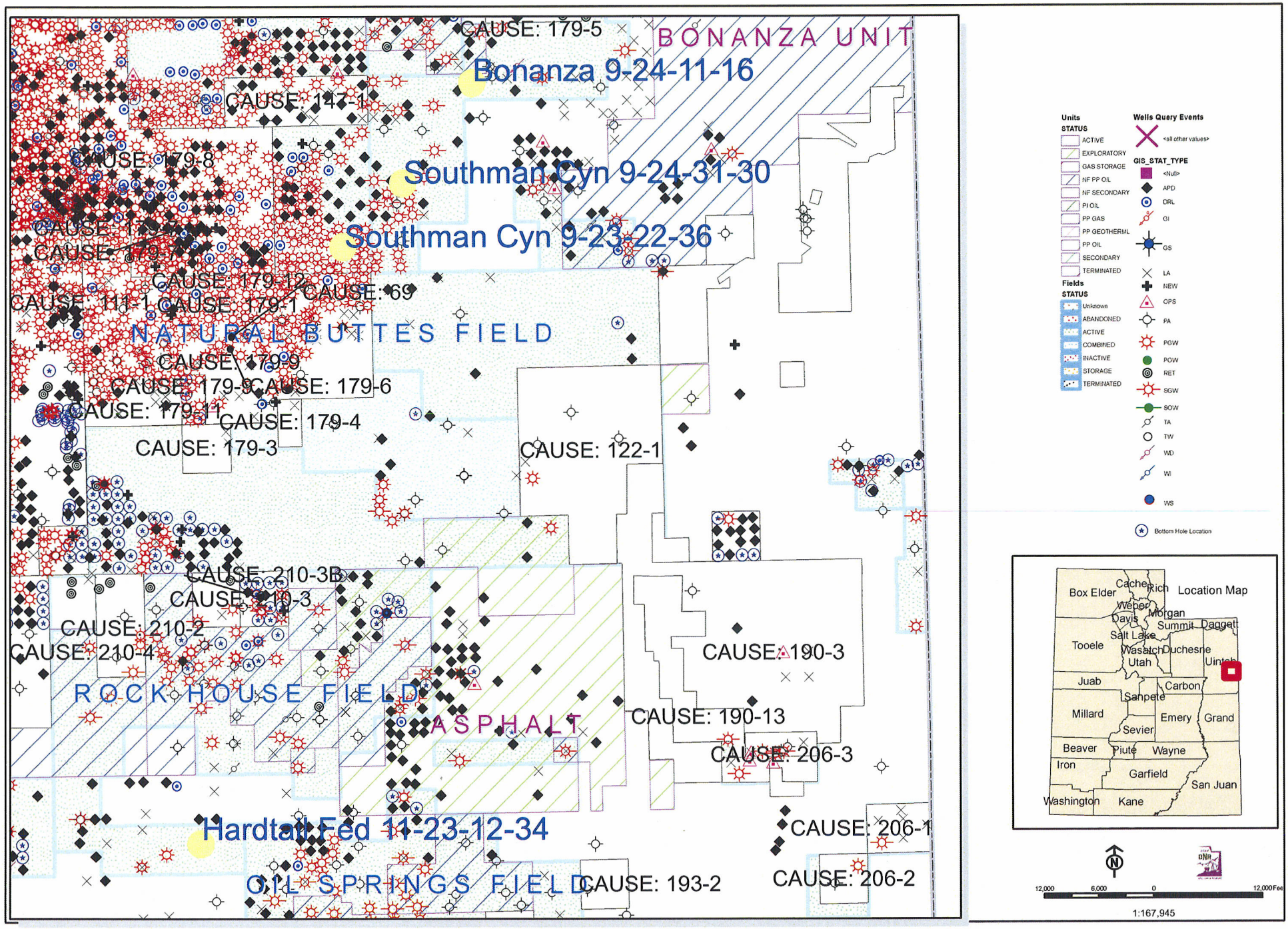
Reviewer(s): Dustin K. Doucet DKD Date: October 15, 2008

Joshua Payne Date: October 8, 2008

ATTACHMENT A

1 Mile Area of Review

API	WELL_NAME	Well Status	QTR	Sect	Town	Range	Cum Oil	Cum Gas	Field Type	Dx From Well (ft)	Rotary Spud	Date TD Reached	Date First Produced	Producing Formation
4304740124	HATCH 923-25K	APD	NESW	25	090S	230E	0	0	D	4730				Wasatch-Mesa Verde (Proposed)
4304740070	HATCH 923-25O	APD	SWSE	25	090S	230E	0	0	D	3440				Wasatch-Mesa Verde (Proposed)
4304740068	HATCH 923-25I	APD	NESE	25	090S	230E	0	0	D	4909				Wasatch-Mesa Verde (Proposed)
4304740067	HATCH 923-25M	APD	SWSW	25	090S	230E	0	0	D	3438				Wasatch-Mesa Verde (Proposed)
4304739359	NBE 9CD-26-9-23	APD	NESE	26	090S	230E	0	0	D	5228				Dakota (Proposed)
4304739207	E CHAPITA 62-35	PGW	SWNE	35	090S	230E	0	0	D	4167			7/1/2008	Wasatch-Mesa Verde
4304739205	E CHAPITA 63-35	PGW	SENE	35	090S	230E	251	4533	D	2907			6/26/2008	Wasatch-Mesa Verde
4304738983	SOUTHMAN CYN 9-23-22-36WD	APD	SENW	36	090S	230E	0	0	D	234				Wasatch (Proposed)
4304738881	S CHAPITA 22-35	PGW	NWSE	35	090S	230E	583	24606	D	4144			5/13/2008	Wasatch-Mesa Verde
4304738126	E CHAPITA 33-35	PGW	NWNE	35	090S	230E	688	13054	D	4406			6/13/2008	Wasatch-Mesa Verde
4304738125	E CHAPITA 34-35	PGW	NENE	35	090S	230E	954	16112	D	3302			5/14/2008	Wasatch-Mesa Verde
4304737860	S CHAPITA 24-35	PGW	SESE	35	090S	230E	1891	96473	D	3461			4/19/2007	Mesa Verde
4304737430	BONANZA 1023-1H	DRL	SENE	01	100S	230E	0	0	D	4943				Wasatch-Mesa Verde (Proposed)
4304737381	BONANZA 1023-1D	DRL	NWNW	01	100S	230E	0	0	D	3882				Wasatch-Mesa Verde (Proposed)
4304737380	BONANZA 1023-1B	PGW	NWNE	01	100S	230E	909	113158	D	3798			5/27/2008	Mesa Verde
4304737379	BONANZA 1023-1F	PGW	SENW	01	100S	230E	220	30794	D	4750			8/1/2008	Mesa Verde
4304736624	NBE 16ML-26-9-23	PGW	SESE	26	090S	230E	2544	111679	D	4092			11/6/2006	Wasatch-Mesa Verde
4304736619	NBE 9ML-26-9-23	PGW	NESE	26	090S	230E	3949	295136	D	5250			6/26/2006	Wasatch-Mesa Verde
4304736537	SOUTHMAN CYN 9-23-41-36	PGW	NENE	36	090S	230E	1248	65710	D	3166			9/11/2006	Mesa Verde
4304736536	SOUTHMAN CYN 9-23-32-36	PGW	SWNE	36	090S	230E	1493	108952	D	1125			11/21/2006	Mesa Verde
4304736535	SOUTHMAN CYN 9-23-23-36	SGW	NESW	36	090S	230E	595	85579	D	866			10/2/2006	Mesa Verde
4304736533	SOUTHMAN CYN 9-23-43-36	PGW	NESE	36	090S	230E	886	47769	D	2546			10/2/2006	Mesa Verde
4304736532	SOUTHMAN CYN 9-23-14-36	PGW	SWSW	36	090S	230E	1563	144282	D	2706			1/25/2006	Mesa Verde
4304736531	SOUTHMAN CYN 9-23-12-36	PGW	SWNW	36	090S	230E	4586	191232	D	1767			11/6/2006	Mesa Verde
4304736530	SOUTHMAN CYN 9-23-21-36	PGW	NENW	36	090S	230E	1572	53411	D	2080			12/10/2006	Mesa Verde
4304736529	SOUTHMAN CYN 9-23-34-36	PGW	SWSE	36	090S	230E	775	58285	D	2598			3/27/2007	Mesa Verde
4304736180	DIABLO 924-31M	PGW	SWSW	31	090S	240E	1296	237767	D	4216			3/22/2006	Mesa Verde
4304736175	DIABLO 924-31L	PGW	NWSW	31	090S	240E	1085	74723	D	3931			10/4/2006	Mesa Verde
4304736018	SOUTHMAN CYN 9-24-14-30	APD	SWSW	30	090S	240E	0	0	D	4711				Mancos (Proposed)
4304735772	SOUTHMAN CYN 9-23-44-36	PGW	SESE	36	090S	230E	2483	141186	D	3226	8/17/2004	8/20/2004	1/30/2005	Mesa Verde
4304735771	SOUTHMAN CYN 9-23-42-36	SGW	SENE	36	090S	230E	2128	109501	D	2370	8/26/2004	9/2/2004	2/1/2005	Mesa Verde
4304735770	SOUTHMAN CYN 9-23-24-36	PGW	SESW	36	090S	230E	1911	158616	D	2223	9/6/2004	9/12/2004	1/30/2005	Mesa Verde
4304735754	BONANZA 1023-1C	PGW	NENW	01	100S	230E	656	140868	D	3422			8/12/2005	Mesa Verde
4304735745	BONANZA 1023-1E	PGW	SWNW	01	100S	230E	1598	371420	D	5192			7/15/2005	Wasatch-Mesa Verde
4304735717	BONANZA 1023-1A	PGW	NENE	01	100S	230E	2429	241392	D	4091			4/8/2005	Mesa Verde
4304735705	S CHAPITA 12-35	PGW	NESE	35	090S	230E	3904	148732	D	2958			8/2/2006	Mesa Verde
4304735666	NBE 15ML-26-9-23	PGW	SWSE	26	090S	230E	5009	367039	D	5277		9/27/2004	10/14/2004	Wasatch-Mesa Verde
4304735598	S CHAPITA 11-35	PGW	SWSE	35	090S	230E	1868	156503	D	4775			5/2/2006	Mesa Verde
4304735512	BONANZA 1023-1G	PGW	SWNE	01	100S	230E	2084	253017	D	4697			4/18/2005	Wasatch-Mesa Verde
4304735365	SOUTHMAN CYN 9-23-31-36	PGW	NWNE	36	090S	230E	2833	94915	D	2068	4/23/2004	5/4/2004	1/1/2005	Mesa Verde
4304735364	SOUTHMAN CYN 9-23-13-36	PGW	NWSW	36	090S	230E	1716	78515	D	1721	2/11/2004	3/23/2004	1/1/2005	Mesa Verde
4304735363	SOUTHMAN CYN 9-23-33-36	PGW	NWSE	36	090S	230E	2661	123833	D	1754	3/31/2004	4/15/2004	1/1/2005	Mesa Verde
4304735362	SOUTHMAN CYN 9-23-22-36	WD	SENW	36	090S	230E	1449	41617	D	0	2/13/2004	3/5/2004	1/1/2005	Mesa Verde
4304735361	SOUTHMAN CYN 9-23-11-36	PGW	NWNW	36	090S	230E	4203	205329	D	1725	10/11/2004	5/19/2004	2/1/2005	Mesa Verde
4304735347	BONANZA 1023-2A	PGW	NENE	02	100S	230E	2072	143406	D	4583	2/25/2004	4/19/2004	5/7/2004	Mesa Verde


CAUSE: 179-5
BONANZA UNIT
Bonanza 9-24-11-16
CAUSE: 147-1
CAUSE: 179-8
Southman Cyn 9-24-31-30
Southman Cyn 9-23-22-36
CAUSE: 179-7
CAUSE: 179-12
CAUSE: 69
CAUSE: 111-1
CAUSE: 179-1
NATURAL BUTTES FIELD
CAUSE: 179-9
CAUSE: 179-5
CAUSE: 179-6
CAUSE: 179-11
CAUSE: 179-4
CAUSE: 179-3
CAUSE: 122-1
CAUSE: 210-3B
CAUSE: 210-3
CAUSE: 210-2
CAUSE: 210-4
CAUSE: 190-3
ROCK HOUSE FIELD
ASPHALT
CAUSE: 190-13
CAUSE: 206-3
Hardtail Fed 11-23-12-34
CAUSE: 206-1
OIL SPRINGS FIELD
CAUSE: 193-2
CAUSE: 206-2
Units
STATUS
ACTIVE
EXPLORATORY
GAS STORAGE
NF PP OIL
NF SECONDARY
PI OIL
PP GAS
PP GEOTHERML
PP OIL
SECONDARY
TERMINATED
Fields
STATUS
Unknown
ABANDONED
ACTIVE
COMBINED
INACTIVE
STORAGE
TERMINATED
Wells Query Events
<all other values>
GIS_STAT_TYPE
<Null>
APD
DRL
GI
GS
LA
NEW
OPS
PA
PGW
POW
RET
SGW
SOW
TA
TW
WD
WI
WS
Bottom Hole Location
Location Map
Box Elder
Cache
Rich
Weber
Morgan
Davis
Summit
Daggett
Salt Lake
Tooele
Wasatch
Duchesne
Utah
Uintah
Juab
Carbon
Sanpete
Millard
Emery
Grand
Sevier
Beaver
Piute
Wayne
Iron
Garfield
San Juan
Washington
Kane
N
12,000
6,000
0
12,000 Feet
1:167,945

Application for Wildcat Designation

Southman Canyon 9-23-22-36
9S-23E-SE-NW Section 36
API 4304735362
Completion Date: 4-15-2004
Conversion to Water Disposal Well: 11-2-2007

Plat Map Showing Wells Within a One-Mile Radius (See Attachment)

Statement Relative to Formations in the Subject Well and on Offsets:

The Southman Canyon 9-23-22-36 well was drilled as a Wasatch-Mesaverde prospect (completed as a Mesaverde well). These units (formations) are productive in the Greater Natural Buttes area---eastern Uinta Basin. In general, and with few exceptions, production from these units is from stratigraphic traps found in lenticular sandstones which have limited areal extent. As such, individual productive sand units cannot generally be traced from wellbore to wellbore (especially true when wells are located on 160 acre spacing). This is true even though units may be superficially similar and occur at the same position in the section.

The Southman Canyon 9-23-22-36 well was initially completed in the following intervals (Mesaverde only):

6942-6962	Mesaverde
7503-7622	Mesaverde
7808-7852	Mesaverde

The well was subsequently converted to water disposal (lower Wasatch intervals) with the (previously productive) Mesaverde perforations isolated by bridge plugging.

Completion Reports from [Completed] Wells in Area [n = 29] (See Attachments)

9S-23E

NBE 15ML-26-9-23 SW-SE Section 26
NBE 9ML-26-9-2 NE-SE Section 26
NBE 16ML-26-9 SE-SE Section 26

Chapita South 11-35 SW-SE Section 35
Chapita South 12-35 NE-SE Section 35
Chapita South 24-35 SE-SE Section 35

Southman Canyon 9-23-11-36 NW-NW Section 36
Southman Canyon 9-23-12-36 SW-NW Section 36
Southman Canyon 9-23-13-36 NW-SW Section 36
Southman Canyon 9-23-14-36 SW-SW Section 36
Southman Canyon 9-23-21-36 NE-NW Section 36

9S-23E (continued)

Southman Canyon 9-23-23-36 NE-SW Section 36
Southman Canyon 9-23-31-36 NW-NE Section 36
Southman Canyon 9-23-32-36 SW-NE Section 36
Southman Canyon 9-23-33-36 NW-SE Section 36
Southman Canyon 9-23-34-36 SW-SE Section 36
Southman Canyon 9-23-41-36 NE-NE Section 36
Southman Canyon 9-23-42-36 SE-NE Section 36
Southman Canyon 9-23-43-36 NE-SE Section 36
Southman Canyon 9-23-44-36 SE-SE Section 36

9S-24E

Diablo 924-31L NW-SW Section 31
Diablo 924-31M SW-SW Section 31
Diablo 924-31C NE-NW Section 31

10S-23E

Bonanza 1023-1E SW-NW Section 1
Bonanza 1023-1C NE-NW Section 1
Bonanza 1023-1G SW-NE Section 1
Bonanza 1023-1A NE-NE Section 1

Bonanza 1023-2A NE-NE Section 2

Bottom Hole Pressure Data on Subject Well and Productive Wells in Area:

No specific bottom hole pressure data exists on the subject well (Southman Canyon 9-23-22-36) and/or other productive wells in the area. In other words, no pressure bomb data or pressure test data is available on these wells at total depth. Mud weight (hydrostatic pressure of the drilling fluid at total depth) can sometimes be used as a barometer of bottom hole pressure. The following values are estimates of bottom hole pressure and pressure gradient based on mud weight at total depth less 0.2 lb/gallon (over-balance typical in this area at total depth/logging point):

Southman Canyon 9-23-22-36	5116 psi (gradient = 0.60 psi/ft)
Southman Canyon 9-23-12-36	4643 psi (gradient = 0.58 psi/ft)
Southman Canyon 9-23-23-36	4640 psi (gradient = 0.58 psi/ft)
Southman Canyon 9-23-32-36	4703 psi (gradient = 0.58 psi/ft)

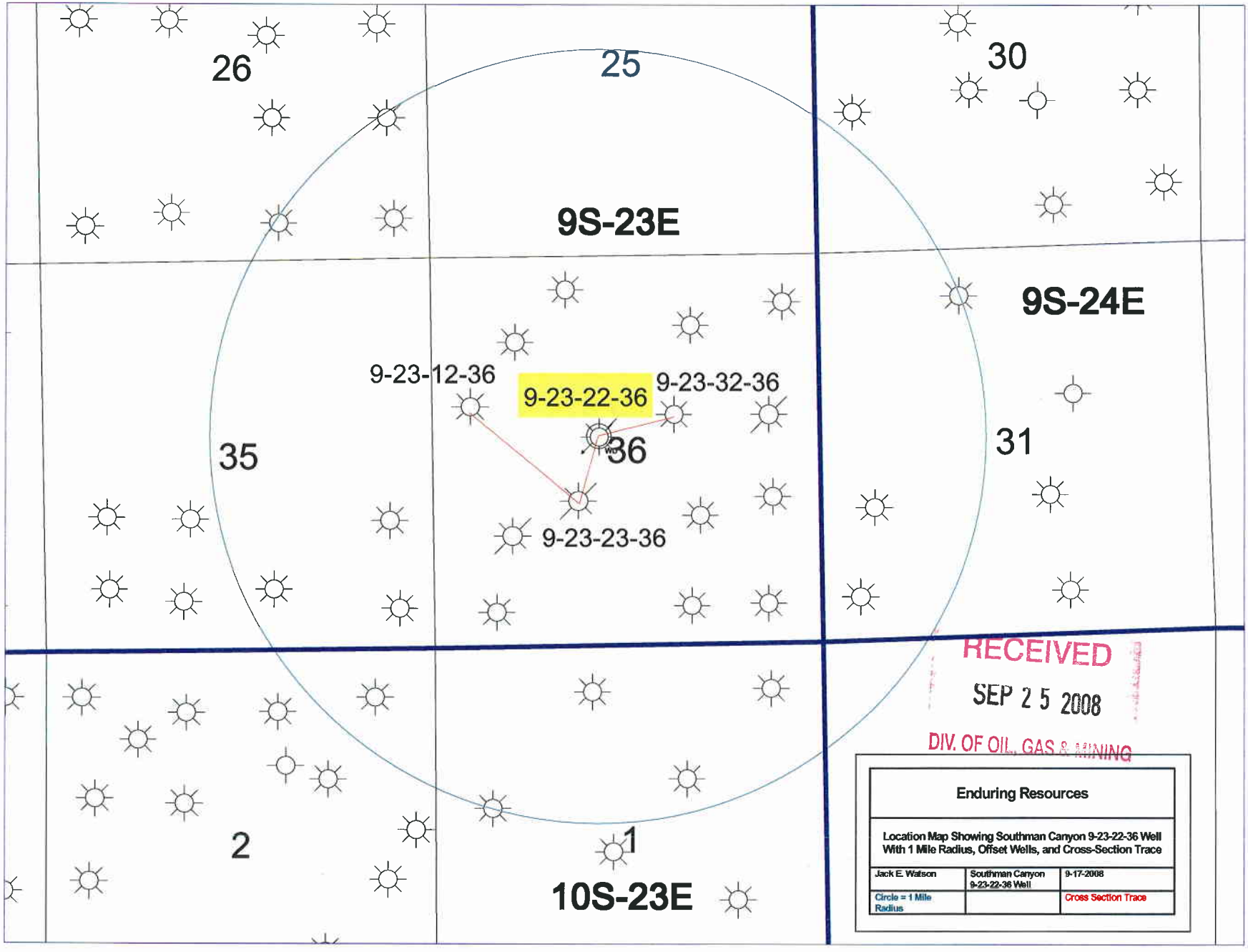
Stratigraphic Cross Sections Through the Subject Well and Adjacent Productive Wells (See Attachment)

Statement Relative to Whether or Not Subject Well is in a Known Geologic Structure:

As stated previously, most of the production in this specific area and in surrounding areas (Greater Natural Buttes) is from lenticular sands developed in the Wasatch and Mesaverde formations. As such, the traps are stratigraphic in nature. Based on mapping at the top of both of these units, there is no apparent relationship between structure and productivity: regional dip predominates at the top of both units in the area of the Southman Canyon 9-23-22-36 well (based on mapping).

Other Relevant Information:

The Southman Canyon 9-23-22-36 well produces from Mesaverde sands which are limited in terms of areal extent. The immediate offset wells (wells shown in the cross section) are Mesaverde completions.



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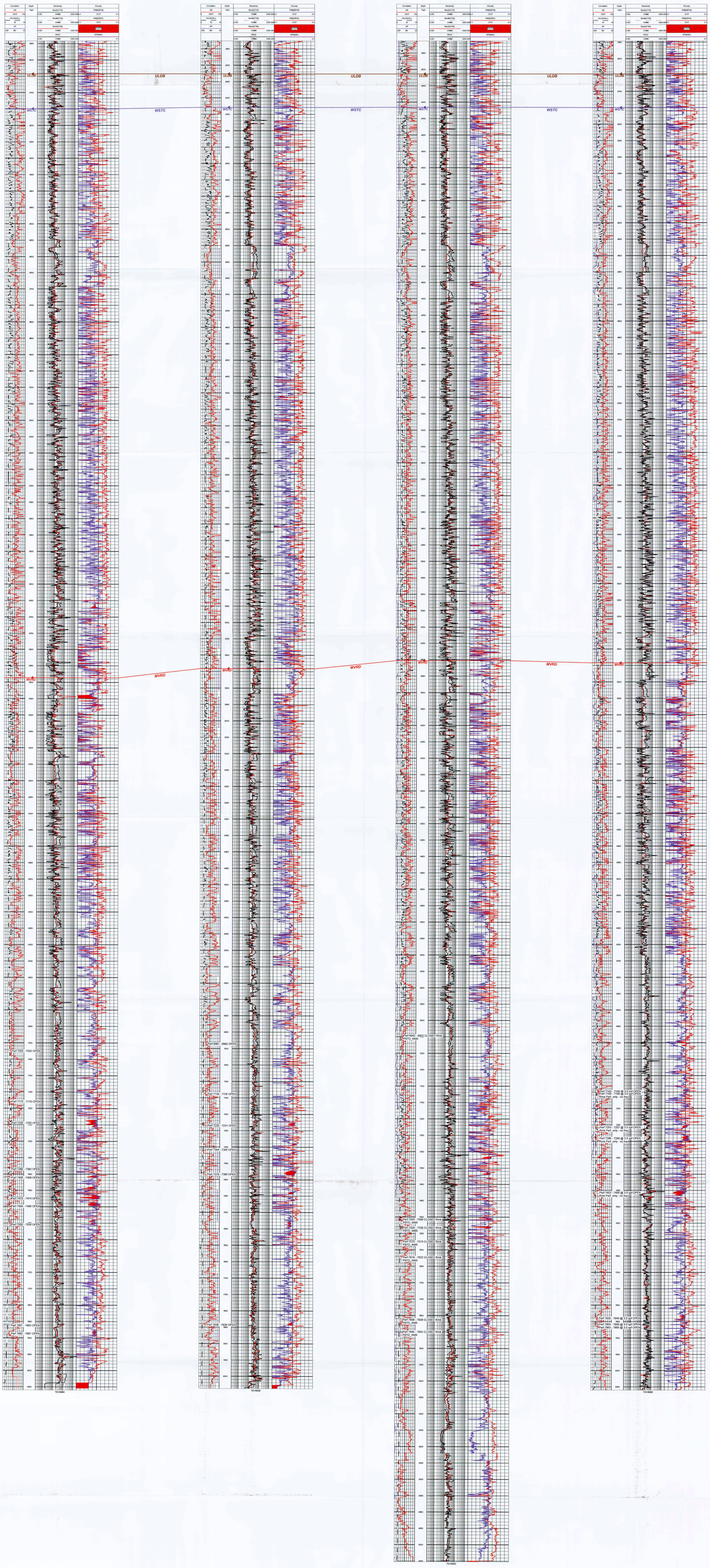
Enduring Resources		
Location Map Showing Southman Canyon 9-23-22-36 Well With 1 Mile Radius, Offset Wells, and Cross-Section Trace		
Jack E. Watson	Southman Canyon 9-23-22-36 Well	9-17-2008
Circle = 1 Mile Radius		Cross Section Trace

Stratigraphic Cross Section "XSection1" : Equally Spaced Logs
Datum = Uteland Butte
Vertical Scale = 2 in per 100 ft
XSection1.xsd; 09/17/08



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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

1023-2A BONANZA

State: UTAH
County: UINTAH
Operator: WESTPORT O&G CO LP
API: 43047353470000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on DEC 10, 2003
First Report Date: NOV 24, 2003
Projected TD: 8200 Formation: WASATCH
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
0 BPD	536 MCFD	180 BBL	MESAVERDE

Location

Section, Twp., Range: 2 10 S 23 E
Spot Code: NW NE NE
Footage NS EW Origin: 625 FNL 831 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9833428 / -109.2872033 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
IRREG_SECT	N
DST_FIELD	1 MI N SOUTHMAN CANYON FLD(WASATCH)
DST_TOWN	26.3 MI SW DINOSAUR, CO
SCALED_FOOT	REGULATORY

Dates and Depths

Spud: APR 12, 2004 Spud Date Code: A
TD: 8170 on APR 20, 2004
LTD:
TVD:
PlugBack Depth: 8123
Completed: MAY 13, 2004
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5385 GR
Contractor: CAZA DRILLING
Rig Release Date: APR 21, 2004 Rig # 82

IP # 002

Top Formation: MESAVERDE
Base Formation: MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

Oil: 0 BPD
Condst:
Gas: 536 MCFD
Water: 180 BBL
Interval: 6540 - 7825
Method: FLOWING
Duration of Test: Hours
Choke: 27/64
Oil: Gravity:
GOR:
Prod Method: PERF
Pressures: FTP: 213 SITP:
FCP: 573 SICP:

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
	6540 - 7825			604MVRD	MESAVERDE

PT # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil:
Condst:
Gas: 1200 MCFD
Water: 240 BBL
Interval: 6540 - 7825 GROSS
Method: FLOWING
Duration of Test: Hours
Choke: 26/64
Oil: Gravity:
GOR:
Prod Method: PERF
Pressures: FTP: 600 SITP:
FCP: SICP: 1000

Perforations:	604MVRD	MESAVERDE		
Perf Interval:	6540 - 6550	Shots/Ft:		
	Type of Perfs:		Interval Perf Count:	20
Perforations:	604MVRD	MESAVERDE		
Perf Interval:	7100 - 7110	Shots/Ft:		
	Type of Perfs:		Interval Perf Count:	20
Perforations:	604MVRD	MESAVERDE		
Perf Interval:	7248 - 7342	Shots/Ft:		
	Type of Perfs:		Interval Perf Count:	18
Perforations:	604MVRD	MESAVERDE		
Perf Interval:	7482 - 7622	Shots/Ft:		
	Type of Perfs:		Interval Perf Count:	32
Perforations:	604MVRD	MESAVERDE		
Perf Interval:	7718 - 7825	Shots/Ft:		
	Type of Perfs:		Interval Perf Count:	24

Treatments: 1
Interval: 6540 - 6550
Fluid: 37 BBL ACID Type: A
Additive:
Prop Agent:
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 6540 - 6550
Fluid: 729 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 87592 LB
Formation Break Down Pressure:
Average Injection Rate20.6

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PI/Dwights PLUS on CD Scout Ticket

Stages: Remarks: LIGHTNING 16

Treatments: 3
Interval: 7482 - 7622
Fluid: 58 BBL ACID Type: A
Additive:
Prop Agent:
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 4
Interval: 7482 - 7622
Fluid: 2125 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 285329 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: LIGHTNING 18

Treatments: 5
Interval: 7718 - 7825
Fluid: 41790 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 95515 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: LIGHTNING 18

Casing, Liner, Tubing

Casing 9 5/8 IN @ 1800 w/ 1285 sx
Casing 4 1/2 IN @ 8170 w/ 1920 sx
Tubing 2 3/8 IN @ 7211 TUBING

Drilling Journal

Narrative: APR 14, 2004 DRILLING @ 3641
Narrative: APR 20, 2004 DRLG @ 8170
Narrative: APR 27, 2004 WOCT
Narrative: JUN 14, 2004 HOLDING FOR DRLG DETAILS
Lease Acres: 642

Formations and Logs

Log # 1 GR @ -
Log # 2 CBND @ -
Log # 3 CZDN @ -
Log # 4 CNL @ -
Log # 5 CALP @ -
Log # 6 AISF @ -

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4073				LOG		652
MESAVERDE	6284				LOG		604

Operator Address

Street or PO Box: PO BOX 1148

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Operator Address

City:	VERNAL		
State, Zip:	UT , 84078		
Country:	USA		
Phone:	4357817023	Fax:	
E-Mail:			
Agent Name:		Agent Code:	
Agent Remark:	UPCHEGO SHEILA;REG ANALYST;;;;;435;781;7024		

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

9-23-14-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047365320000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on MAY 10, 2005
First Report Date: MAY 17, 2005
Projected TD: 8180 Formation: CASTLEGATE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		925 MCFD	40 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE SW SW
Footage NS EW Origin: 467 FSL 823 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9863324 / -109.2812892 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	50.2 MI S VERNAL, UT

Dates and Depths

Spud: NOV 11, 2005 Spud Date Code: A
TD: 8170 on NOV 23, 2005
LTD: 8151
TVD:
PlugBack Depth: 8128
Completed: MAR 01, 2006
Formation @ TD: 604BKTG Name: BUCK TONGUE
Ref. Elevation: 5388 KB
KB. Elevation: 5388
Ground Elevation: 5363.3 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst: 22 BPD

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Date: 9/17/2008
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PI/Dwights PLUS on CD Scout Ticket

Gas:	925 MCFD	Water:	40 BBL
Interval:	6718 - 7906 GROSS	Method:	FLOWING
Duration of Test:	Hours	Choke:	20/64
Oil:	Gravity:	GOR:	175
Prod Method:	PERF		
Pressures:	FTP: 470 SITP:		
	FCP: 407 SICP:		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
6718 -	7190	6			604MVRD	MESAVERDE
7292 -	7906	129			604MVRD	MESAVERDE

Treatments: 1
Interval: 6718 - 7190
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 306100 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7292 - 7906
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 345000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Remarks on IP Test # 001 1ST SALES 1/25/06

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	3	sx
Casing	8 5/8 IN	@	1951	w/	1570	sx
Casing	4 1/2 IN	@	8124	w/	1550	sx

Drilling Journal

Mud Records	Depth	Weight	Unit
	2114	8.4	PPG
	3170	9	PPG
	3480	9.2	PPG
	3720	9.4	PPG
	4150	9.6	PPG
	7595	9.9	PPG
	7740	10.3	PPG
	7980	10.6	PPG
	8140	10.8	PPG
	8170	11.2	PPG

Bit Records	Src	#	CO	Type	Size	FTG	Min-Max Wt.	RPM	Rmk.
	PI	001	216458	HC5062	7.875	6195	11 - 14	60	BIT NBR: 1

Wellsite Geologist 1 CURFMAN BOB, BURKE KENNY
Lease Acres: 640

Formations and Logs

Log # 1 MUD @ 1975 - 8170

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PI/Dwights PLUS on CD Scout Ticket

Formations and Logs

Logging Co. 211524
Log # 2 AIL @ 1970 - 8143
Logging Co. 153789
BHT 175 degrees @ 8140 since circ.
Log # 3 CNL @ 1700 - 8097
Logging Co. 153789
Log # 4 TLD @ 1970 - 8112
Logging Co. 153789
Log # 5 MICL @ 1970 - 8108
Logging Co. 153789
Log # 6 GR @ 170 - 8120
Logging Co. 153789
Log # 7 SP @ 1970 - 8056
Logging Co. 153789
Log # 8 CALP @ 1970 - 8112
Logging Co. 153789

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4063				LOG		652
WASATCH	4110				SPL		652
MESAVERDE	5799				LOG		604
MESAVERDE	5810				SPL		604
SEGO	7946				LOG		604
BUCK TONGUE	8094				LOG		604

Dwights Energydata Narrative

Accumulated through 1997
Dwights number:

Old Information

Prior Well Number: 13-36-9-23
Spud Date: NOV 11, 2005
Old TD:

Operator Address

Street or PO Box: 1100 LOUISIANA STREET
STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306938 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM;AGENT;;;;;713;830;6800

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PI/Dwights PLUS on CD Scout Ticket

16ML-26-9-23 NBE

State: UTAH
County: UINTAH
Operator: QEP UINTA BASIN INC
API: 43047366240000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on APR 28, 2005
First Report Date: MAY 05, 2005
Projected TD: 8523 Formation: MESAVERDE
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
20 BPD	941 MCFD	164 BBL	WASATCH

Location

Section, Twp., Range: 26 9 S 23 E
Spot Code: SE SE SE
Footage NS EW Origin: 607 FSL 461 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 40.0012480 / -109.2858779 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	25 MI E OURAY, UT

Dates and Depths

Spud: SEP 13, 2006 Spud Date Code: A
TD: 8325 on OCT 04, 2006
LTD:
TVD:
PlugBack Depth: 8281
Completed: NOV 09, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5304 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: WASATCH
Base Formation: MESAVERDE LOWER
Oil: 20 BPD Condst:

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PI/Dwights PLUS on CD Scout Ticket

Gas:	941 MCFD	Water:	164 BBL
Interval:	5210 - 8118 GROSS	Method:	FLOWING
Duration of Test:	Hours	Choke:	18/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP: 1057 SITP:		
	FCP: SICP: 1759		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
5210 -	5218				652WSTC	WASATCH
5916 -	5926				652WSTC	WASATCH
6761 -	6947				604MVRDL	MESAVERDE LOWER
7254 -	7409				604MVRDL	MESAVERDE LOWER
7676 -	7688				604MVRDL	MESAVERDE LOWER
7920 -	8118				604MVRDL	MESAVERDE LOWER

Treatments: 1
Interval: 5210 - 5218
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 31000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Treatments: 2
Interval: 5916 - 5926
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 23700 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Treatments: 3
Interval: 6761 - 6947
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 180600 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Treatments: 4
Interval: 7254 - 7409
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 74400 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Treatments: 5
Interval: 7676 - 7688
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 20000 LB
Formation Break Down Pressure:

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PI/Dwights PLUS on CD Scout Ticket

Average Injection Rate:
Stages: Remarks: OTTAWA SD

Treatments: 6 Interval: 7920 - 8118
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 32300 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Casing, Liner, Tubing

Casing	9 5/8 IN	@	2057	w/	735	sx		
Casing	4 1/2 IN	@	8325	w/	1685	sx		
Tubing	2 3/8 IN						@	7861 TUBING

Drilling Journal

Narrative: MAR 16, 2007 COMPLETED GAS WELL; HOLDING FOR DATA
Lease Acres: 1760
Drilling Remark: MAY 10, 2006 REPERMITTED 4/13/06

Formations and Logs

Log # 1	CBND	@	-
Log # 2	GR	@	-
Log # 3	SPDL	@	-
Log # 4	DSN	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UINTA	0				LOG		652
GREEN RIVER	1413				LOG		652
WASATCH	4313				LOG		652
MESAVERDE	6073				LOG		604

Operator Address

Street or PO Box: 1571 E 1700 S

City: VERNAL
State, Zip: UT , 84078
Country: USA
Phone: 4357814032 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: NELSON JAN;;;;;;435;781;4331

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PI/Dwights PLUS on CD Scout Ticket

9ML-26-9-23 NBE

State: UTAH
County: UINTAH
Operator: QEP UINTA BASIN INC
API: 43047366190000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on APR 28, 2005
First Report Date: MAY 05, 2005
Projected TD: 8575 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		1446 MCFD	179 BBL	WASATCH

Location

Section, Twp., Range: 26 9 S 23 E
Spot Code: NE NE SE
Footage NS EW Origin: 1982 FSL 536 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 40.0050220 / -109.2861258 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: MAY 22, 2006 Spud Date Code: A
TD: 8400 on MAY 30, 2006
LTD:
TVD:
PlugBack Depth: 8350
Completed: JUN 28, 2006
Formation @ TD: 604SEGO Name: SEGO
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5285 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: JUN 02, 2006 Rig # 57

IP # 001

Top Formation: WASATCH
Base Formation: MESAVERDE
Oil: Condst:
Gas: 1446 MCFD Water: 179 BBL

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PI/Dwights PLUS on CD Scout Ticket

Interval:	5286 - 8058	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	13/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP:	SITP:			
	FCP: 1455	SICP:			

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
5286 -	5304				652WSTC	WASATCH
5970 -	5976				652WSTC	WASATCH
7191 -	7195				604MVRD	MESAVERDE
7416 -	7420				604MVRD	MESAVERDE
7445 -	7452				604MVRD	MESAVERDE
7688 -	7694				604MVRD	MESAVERDE
8048 -	8058				604MVRD	MESAVERDE

Treatments: 1
Interval: 5286 - 5304
Fluid: 21966 GAL FRAC Type: FLUD
Additive:
Prop Agent: SAND 50000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 5970 - 5976
Fluid: 11424 GAL FRAC Type: FLUD
Additive:
Prop Agent: SAND 20000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7191 - 7452
Fluid: 47544 GAL FRAC Type: FLUD
Additive:
Prop Agent: SAND 100000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 4
Interval: 7688 - 8058
Fluid: 70098 GAL FRAC Type: FLUD
Additive:
Prop Agent: SAND 150000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	9 5/8 IN	@	1965	w/	2025	sx		
Casing	4 1/2 IN	@	8400	w/	1410	sx		
Tubing	2 3/8 IN						@	7627 TUBING

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PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

Narrative: MAY 24, 2006 DRLG @ 6210
Narrative: JUN 01, 2006 DRLG @ 8400
Narrative: JUN 06, 2006 WOCT
Narrative: SEP 14, 2006 COMPLETED GAS WELL; HOLDING FOR DATA
Lease Acres: 1760

Formations and Logs

Log # 1 SDL @ -
Log # 2 DSN @ -
Log # 3 HRIL @ -
Log # 4 GR @ -
Log # 5 CBND @ -

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	1377				LOG		652
WASATCH	4311				LOG		652
MESAVERDE	6047				LOG		604
SEGO	8272				LOG		604

Operator Address

Street or PO Box: 11002 E 17500 S

City: VERNAL
State, Zip: UT , 840788526
Country: USA
Phone: 4357814342 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: NELSON JAN;;;;;;435;781;4331

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PI/Dwights PLUS on CD Scout Ticket

1023-1E BONANZA

State: UTAH
County: UINTAH
Operator: WESTPORT O&G CO LP
API: 43047357450000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on MAY 19, 2004
First Report Date: MAY 21, 2004
Projected TD: 8050 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		1358 MCFD	130 BBL	WASATCH

Location

Section, Twp., Range: 1 10 S 23 E
Spot Code: SE SW NW
Footage NS EW Origin: 2167 FNL 744 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9790980 / -109.2816151 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:	Type	Remark
	SCALED_FOOT	REGULATORY
	IRREG_SECT	N

Dates and Depths

Spud: MAR 22, 2005 Spud Date Code: A
TD: 7940 on MAR 31, 2005
LTD:
TVD:
PlugBack Depth: 7888
Completed: JUL 15, 2005
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5426 GR
Contractor: CAZA DRILLING
Rig Release Date: APR 02, 2005 Rig # 82

IP # 001

Top Formation: WASATCH
Base Formation: MESAVERDE
Oil: Condst:
Gas: 1358 MCFD Water: 130 BBL

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PI/Dwights PLUS on CD Scout Ticket

Interval: 5677 - 7834 GROSS Method: FLOWING
Duration of Test: Hours Choke: 20/64
Oil: Gravity: GOR:
Prod Method: PERF
Pressures: FTP: 849 SITP:
FCP: SICP: 1218

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
5677 -	5681	72			652WSTC	WASATCH
6520 -	7834	344			604MVRD	MESAVERDE

Treatments: 1
Interval: 5677 - 5681
Fluid: 344 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 59660 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: LIGHTNING 18

Treatments: 2
Interval: 6520 - 7834
Fluid: 5323 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 639871 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: LIGHTNING 20

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	28	sx
Casing	9 5/8 IN	@	1860	w/	795	sx
Casing	4 1/2 IN	@	7940	w/	1921	sx
Tubing	2 3/8 IN				@	6992 TUBING

Type of Rmk, Remark: CASING : LOCATED CSG LEAK @ 3790.6, SET CMT RETAINER @ 3560. SQZ W/290 SX

Drilling Journal

Narrative: MAR 29, 2005 DRLG @ 6700
Narrative: APR 05, 2005 WOCT
Narrative: SEP 01, 2005 STATE PAPERWORKWO COMP DETAILS|
Lease Acres: 642.36
Drilling Remark: MAR 29, 2005 API CHGD FROM 43-047-85745-0000

Formations and Logs

Log # 1	PLEX	@	-
Log # 2	TD	@	-
Log # 3	LDT	@	-
Log # 4	CNL	@	-
Log # 5	CBND	@	-
Log # 6	CCL	@	-
Log # 7	GR	@	-
Log # 8	MICL	@	-
Log # 9	IL	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code

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PI/Dwights PLUS on CD Scout Ticket

Formations and Logs

WASATCH	4030	LOG	652
MESAVERDE	6107	LOG	604

Operator Address

Street or PO Box:	PO BOX 1148		
City:	VERNAL		
State, Zip:	UT , 84078		
Country:	USA		
Phone:	4357817023	Fax:	
E-Mail:			
Agent Name:		Agent Code:	
Agent Remark:	SEARLE RALEEN;;;;;;435;781;7044		

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PI/Dwights PLUS on CD Scout Ticket

24-35 SOUTH CHAPITA

State: UTAH
County: UINTAH
Operator: EOG RESOURCES INC
API: 43047378600000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on MAR 02, 2006
First Report Date: MAR 06, 2006
Projected TD: 5356 Formation: PRICE RIVER
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		479 MCFD	197 BBL	MESAVERDE

Location

Section, Twp., Range: 35 9 S 23 E
Spot Code: SE SE SE
Footage NS EW Origin: 586 FSL 461 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9866561 / -109.2858720 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:	Type	Remark
	SCALED_FOOT	REGULATORY
	IRREG_SECT	N

Dates and Depths

Spud: FEB 05, 2007 Spud Date Code: A
TD: 8210 on MAR 12, 2007
LTD:
TVD:
PlugBack Depth: 8167
Completed: APR 26, 2007
Formation @ TD: 604SEGO Name: SEGO
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5360 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: Rig # 72

IP # 002

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst: 18 BPD
Gas: 479 MCFD Water: 197 BBL

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PI/Dwights PLUS on CD Scout Ticket

Interval:	6113 - 7925	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP:		SITP: 1950		
	FCP: 2375		SICP:		
Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
6113 -	7925			604MVRD	MESAVERDE

PT # 001

Top Formation:	MESAVERDE				
Base Formation:	PRICE RIVER LOWER				
Oil:				Condst:	
Gas:				Water:	
Interval:	6113 - 7925	GROSS		Method:	
Duration of Test:	Hours			Choke:	
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6113 - 6114		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6120 - 6121		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6136 - 6137		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6189 - 6190		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6222 - 6223		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6232 - 6233		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6239 - 6240		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6258 - 6259		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6282 - 6284		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6327 - 6328		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6333 - 6334		Shots/Ft: 3 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6388 - 6389		Shots/Ft: 2 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6398 - 6399		Shots/Ft: 2 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6465 - 6466		Shots/Ft: 2 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6473 - 6474		Shots/Ft: 2 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6507 - 6508		Shots/Ft: 2 FT		
Perforations:	604MVRD		MESAVERDE		
Perf Interval:	6534 - 6535		Shots/Ft: 2 FT		

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PI/Dwights PLUS on CD Scout Ticket

Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6544 - 6545	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6551 - 6552	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6576 - 6577	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6595 - 6596	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6616 - 6617	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6624 - 6625	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6639 - 6640	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6646 - 6647	Shots/Ft: 2 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6693 - 6694	Shots/Ft: 3 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6705 - 6706	Shots/Ft: 3 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6753 - 6754	Shots/Ft: 3 FT	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6775 - 6776	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6806 - 6807	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6823 - 6824	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6833 - 6834	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6844 - 6845	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6877 - 6878	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6894 - 6895	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6903 - 6904	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6912 - 6913	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6961 - 6962	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	6985 - 6986	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	7015 - 7016	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	7083 - 7084	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	7124 - 7125	Shots/Ft: 3 FT	
Perforations:	604PCRVM	PRICE RIVER MIDDLE	
Perf Interval:	7139 - 7140	Shots/Ft: 3 FT	

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PI/Dwights PLUS on CD Scout Ticket

Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7165 - 7166	Shots/Ft: 3 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7176 - 7177	Shots/Ft: 3 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7181 - 7182	Shots/Ft: 3 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7199 - 7200	Shots/Ft: 3 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7212 - 7213	Shots/Ft: 3 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7234 - 7235	Shots/Ft: 3 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7301 - 7302	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7318 - 7319	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7336 - 7337	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7344 - 7345	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7373 - 7374	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7386 - 7387	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7421 - 7422	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7472 - 7473	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7484 - 7485	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7502 - 7503	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7513 - 7514	Shots/Ft: 2 FT
Perforations:	604PCRVM	PRICE RIVER MIDDLE
Perf Interval:	7537 - 7538	Shots/Ft: 2 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7572 - 7573	Shots/Ft: 2 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7583 - 7584	Shots/Ft: 2 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7651 - 7652	Shots/Ft: 3 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7665 - 7666	Shots/Ft: 3 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7671 - 7672	Shots/Ft: 3 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7683 - 7684	Shots/Ft: 3 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7704 - 7705	Shots/Ft: 3 FT
Perforations:	604PCRVL	PRICE RIVER LOWER
Perf Interval:	7754 - 7755	Shots/Ft: 3 FT

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Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7762 - 7763	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7792 - 7793	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7801 - 7802	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7820 - 7821	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7831 - 7832	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7839 - 7840	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7848 - 7849	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7894 - 7895	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7899 - 7900	Shots/Ft: 3 FT	
Perforations:	604PCRVL	PRICE RIVER LOWER	
Perf Interval:	7924 - 7925	Shots/Ft: 3 FT	

Treatments: 1
Interval: 6113 - 6334
Fluid: 66441 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 173600 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 6388 - 6647
Fluid: 65223 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 165400 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 6693 - 6913
Fluid: 58041 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 148000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 4
Interval: 6961 - 7235
Fluid: 66525 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 169500 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

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PI/Dwights PLUS on CD Scout Ticket

Treatments: 5 Interval: 7301 - 7584
Fluid: 55101 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 132500 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 6 Interval: 7651 - 7925
Fluid: 64173 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 158700 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	9 5/8 IN	@	2224	w/	1825	sx		
Casing	4 1/2 IN	@	8210	w/	1925	sx		
Tubing	2 3/8 IN						@	6592 TUBING

Drilling Journal

Narrative: FEB 13, 2007	STATE PAPERWORKDRY HOLE SPUD BY ROCKY MO UNTAIN DRILLING 2/5/07; WORT|
Narrative: MAR 06, 2007	DRLG @ 3300
Narrative: MAR 12, 2007	DRLG @ 7620
Narrative: MAR 20, 2007	WOCT
Narrative: JUN 21, 2007	COMPLETED GAS WELL; HOLDING FOR DATA

Formations and Logs

Log # 1	RST	@	-
Log # 2	CBND	@	-
Log # 3	CCL	@	-
Log # 4	VD	@	-
Log # 5	GR	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4089				LOG		652
CHAPITA WELLS	4621				LOG		652
BUCK CANYON	5259				LOG		651
NORTH HORN	5708				LOG		619
MESAVERDE	5954				LOG		604
PRICE RIVER MIDDLE	6786				LOG		604
PRICE RIVER LOWER	7552				LOG		604
SEGO	8019				LOG		604

Operator Address

Street or PO Box: P O BOX 1815

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Operator Address

City:	VERNAL		
State, Zip:	UT , 84078		
Country:	USA		
Phone:	4357890790	Fax:	
E-Mail:			
Agent Name:		Agent Code:	
Agent Remark:	TROTTER ED;;;;;;435;789;0790		

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

9-23-41-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: ENDURING RES LLC
API: 43047365370000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 19, 2005
First Report Date: JUL 27, 2005
Projected TD: 8320 Formation: CASTLEGATE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		352 MCFD		MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE NE NE
Footage NS EW Origin: 681 FNL 496 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9959008 / -109.2671098 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:	Type	Remark
	SCALED_FOOT	REGULATORY
	IRREG_SECT	N

Dates and Depths

Spud: MAR 17, 2006 Spud Date Code: A
TD: 8169 on JUL 18, 2006
LTD:
TVD:
PlugBack Depth: 8133
Completed: SEP 11, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation: 5512 KB
KB. Elevation: 5512
Ground Elevation: 5495.5 GR
Contractor: NOT REPORTED
Rig Release Date: JUL 19, 2006 Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 352 MCFD Water:

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Interval: 7045 - 7631 Method: FLOWING
Duration of Test: Hours Choke: 13/64
Oil: Gravity: GOR:
Prod Method: PERF
Pressures: FTP: 1437 SITP:
FCP: SICP:

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
7045 -	7631	6		604MVRD	MESAVERDE	

Treatments: 1 Interval: 7045 - 7631
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 214047 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD
Remarks on IP Test # 001 1ST PROD 9/11/06

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	3	sx
Casing	8 5/8 IN	@	2096	w/	1125	sx
Casing	4 1/2 IN	@	8151	w/	1305	sx

Drilling Journal

Narrative: MAR 29, 2006 DRY HOLE SPUD 3/17/06, WORT
Lease Acres: 640

Formations and Logs

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	2607				LOG		652
WASATCH	4254				LOG		652
MESAVERDE	5868				LOG		604

Old Information

Prior Well Number: 1-36-9-23
Spud Date: MAR 17, 2006
Old TD:

Operator Address

Street or PO Box: 475 17TH STREET
STE 1500

City: DENVER
State, Zip: CO , 80202
Country: USA
Phone: 3033505114 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM;;;;;;713;830;6800

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

9-23-32-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: ENDURING RES LLC
API: 43047365360000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 19, 2005
First Report Date: JUL 27, 2005
Projected TD: 8230 Formation: CASTLEGATE
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
5 BPD	378 MCFD	6 BBL	CASTLEGATE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SW SW NE
Footage NS EW Origin: 2184 FNL 1994 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9881423 / -109.2795649 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: OCT 23, 2006 Spud Date Code: A
TD: 8060 on NOV 02, 2006
LTD:
TVD:
PlugBack Depth: 8013
Completed: DEC 21, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation: 5424 KB
KB. Elevation: 5424
Ground Elevation: 5407.5 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: NOV 06, 2006Rig # 79

IP # 001

Top Formation: CASTLEGATE
Base Formation: CASTLEGATE
Oil: 5 BPD Condst:
Gas: 378 MCFD Water: 6 BBL

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Interval:	7030 - 7865		Method: FLOWING
Duration of Test:	Hours		Choke: 64/64
Oil:	Gravity:		GOR:
Prod Method:	PERF		
Pressures:	FTP: 450	SITP:	
	FCP:	SICP: 700	

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
7030 -	7865	102			604CSLG	CASTLEGATE

Treatments: 1

Interval: 7030 - 7865
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 166809 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	28	sx	
Casing	8 5/8 IN	@	1936	w/	1230	sx	
Casing	4 1/2 IN	@	8056	w/	1435	sx	
Tubing	2 3/8 IN					@	6863 TUBING

Drilling Journal

Narrative:	APR 05, 2006	DRY HOLE SPUD 3/25/06, WORT
Narrative:	OCT 23, 2006	RURT
Narrative:	OCT 27, 2006	DRLG @ 5741
Narrative:	OCT 30, 2006	DRLG @ 7468
Narrative:	NOV 03, 2006	RNG LOGS @ TD
Narrative:	NOV 07, 2006	RDRT
Narrative:	NOV 14, 2006	WOCT

Lease Acres: 640

Formations and Logs

Log # 1	PLEX	@	-
Log # 2	LDT	@	-
Log # 3	CNL	@	-
Log # 4	AIL	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	850				LOG		652
WASATCH	4150				LOG		652
MESAVERDE	5805				LOG		604

Old Information

Prior Well Number: 7-36-9-23
Spud Date: OCT 23, 2006
Old TD:

Operator Address

Street or PO Box: 475 17TH STREET
STE 1500

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Operator Address

City:	DENVER		
State, Zip:	CO , 80202		
Country:	USA		
Phone:	3033505114	Fax:	
E-Mail:			
Agent Name:		Agent Code:	
Agent Remark:	RYAN WILLIAM;;;;;;713;830;6800		

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

9-23-43-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: ENDURING RES LLC
API: 43047365330000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 19, 2005
First Report Date: JUL 27, 2005
Projected TD: 8200 Formation: CASTLEGATE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		212 MCFD	53 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE NE SE
Footage NS EW Origin: 1979 FSL 657 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9905713 / -109.2677123 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: JUL 23, 2006 Spud Date Code: A
TD: 7996 on AUG 02, 2006
LTD:
TVD:
PlugBack Depth: 7973
Completed: OCT 08, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation: 5479.9 KB
KB. Elevation: 5479.9
Ground Elevation: 5464.3 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: AUG 20, 2006Rig # 79

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 212 MCFD Water: 53 BBL

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Interval: 7078 - 7756 Method: UNDESIGNATED
Duration of Test: Hours Choke: 20/64
Oil: Gravity: GOR:
Prod Method: PERF
Pressures: FTP: SITP:
FCP: 885 SICP:

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
7078 -	7756			6 FT 604MVRD	MESAVERDE

Treatments: 1 Interval: 7078 - 7756
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 108411 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	3	sx
Casing	8 5/8 IN	@	2028	w/	1275	sx
Casing	4 1/2 IN	@	7992	w/	1230	sx

Drilling Journal

Narrative:	MAR 29, 2006	DRY HOLE SPUD 3/17/06, WORT
Narrative:	AUG 11, 2006	DRLG @ 5462
Narrative:	AUG 14, 2006	DRLG
Narrative:	AUG 18, 2006	DRLG @ 7211
Narrative:	SEP 05, 2006	WOCT

Lease Acres: 640

Formations and Logs

Log # 1 REST @ -

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	1905				LOG		652
WASATCH	4111				LOG		652
MESAVERDE	5767				LOG		604

Old Information

Prior Well Number: 9-36-9-23
Spud Date: JUL 23, 2006
Old TD:

Operator Address

Street or PO Box: 475 17TH STREET
STE 1500

City: DENVER
State, Zip: CO , 80202
Country: USA
Phone: 3033505114 Fax:
E-Mail:
Agent Name: Agent Code:

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Operator Address

Agent Remark: RYAN WILLIAM;;;;;;713;830;6800

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

9-23-12-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: ENDURING RES LLC
API: 43047365310000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 19, 2005
First Report Date: JUL 27, 2005
Projected TD: 8270 Formation: CASTLEGATE
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
16 BPD	722 MCFD	35 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SW SW NW
Footage NS EW Origin: 2028 FNL 499 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9885648 / -109.2824479 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: APR 14, 2006 Spud Date Code: A
TD: 8060 on SEP 04, 2006
LTD:
TVD:
PlugBack Depth: 7982
Completed: NOV 30, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation: 5357 KB
KB. Elevation: 5357
Ground Elevation: 5340.8 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: SEP 08, 2006 Rig # 79

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: 16 BPD Condst:
Gas: 722 MCFD Water: 35 BBL

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Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Interval: 7175 - 7887 Method: FLOWING
Duration of Test: Hours Choke: 12/64
Oil: Gravity: GOR:
Prod Method: PERF
Pressures: FTP: 700 SITP:
FCP: SICP: 850

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
7175 -	7887	115			604MVRD	MESAVERDE

Treatments: 1 Interval: 7175 - 7887
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 279791 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	3	sx	
Casing	8 5/8 IN	@	1948	w/	1180	sx	
Casing	4 1/2 IN	@	8047	w/	1505	sx	
Tubing	2 3/8 IN					@	6996 TUBING

Drilling Journal

Narrative: APR 24, 2006 DRY HOLE SPUD 4/14/06, WORT
Narrative: AUG 28, 2006 DRLG @ 3344
Narrative: SEP 01, 2006 DRLG @ 7046
Narrative: SEP 26, 2006 WOCT
Lease Acres: 640

Formations and Logs

Log # 1 PLEX @ -
Log # 2 TRPL @ -
Log # 3 GR @ -

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	855				LOG		652
WASATCH	4155				LOG		652
MESAVERDE	5916				LOG		604

Old Information

Prior Well Number: 5-36-9-23
Spud Date: APR 14, 2006
Old TD:

Operator Address

Street or PO Box: 475 17TH STREET
STE 1500

City: DENVER
State, Zip: CO , 80202
Country: USA
Phone: 3033505114 Fax:

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Operator Address

E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM;;;;;;713;830;6800

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

11-35 CHAPITA SOUTH

State: UTAH
County: UINTAH
Operator: EOG RESOURCES INC
API: 43047355980000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: CHAPITA WELLS
Permit: on MAR 29, 2004
First Report Date: APR 01, 2004
Projected TD: 8300 Formation: WASATCH
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		489 MCFD	305 BBL	MESAVERDE

Location

Section, Twp., Range: 35 9 S 23 E
Spot Code: NW SW SE
Footage NS EW Origin: 855 FSL 2161 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9874522 / -109.2919393 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_FIELD	1.3 MI N SOUTHMAN CANYON FLD(WASATCH)
DST_TOWN	26.3 MI SW DINOSAUR, CO

Dates and Depths

Spud: MAR 20, 2006 Spud Date Code: A
TD: 8300 on APR 01, 2006
LTD:
TVD:
PlugBack Depth: 8237
Completed: MAY 07, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5391 GR
Contractor: PIONEER DRILLING
Rig Release Date: APR 03, 2006 Rig # 59

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE

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Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Oil:				Condst:	33 BPD
Gas:	489 MCFD			Water:	305 BBL
Interval:	6210 - 8070	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	16/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP:	SITP:	1850		
	FCP:	SICP:	2650		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
6210 -	6211			2 FT	604MVRD	MESAVERDE
6217 -	6218			2 FT	604MVRD	MESAVERDE
6228 -	6229			2 FT	604MVRD	MESAVERDE
6235 -	6236			2 FT	604MVRD	MESAVERDE
6244 -	6245			2 FT	604MVRD	MESAVERDE
6255 -	6256			2 FT	604MVRD	MESAVERDE
6275 -	6276			2 FT	604MVRD	MESAVERDE
6281 -	6282			2 FT	604MVRD	MESAVERDE
6294 -	6295			2 FT	604MVRD	MESAVERDE
6298 -	6299			2 FT	604MVRD	MESAVERDE
6314 -	6315			2 FT	604MVRD	MESAVERDE
6325 -	6326			2 FT	604MVRD	MESAVERDE
6332 -	6333			2 FT	604MVRD	MESAVERDE
6339 -	6340			2 FT	604MVRD	MESAVERDE
6383 -	6384			2 FT	604MVRD	MESAVERDE
6390 -	6391			2 FT	604MVRD	MESAVERDE
6409 -	6410			2 FT	604MVRD	MESAVERDE
6423 -	6424			2 FT	604MVRD	MESAVERDE
6456 -	6457			2 FT	604MVRD	MESAVERDE
6480 -	6481			2 FT	604MVRD	MESAVERDE
6522 -	6523			2 FT	604MVRD	MESAVERDE
6531 -	6532			2 FT	604MVRD	MESAVERDE
6538 -	6539			2 FT	604MVRD	MESAVERDE
6572 -	6573			2 FT	604MVRD	MESAVERDE
6581 -	6582			2 FT	604MVRD	MESAVERDE
6597 -	6598			2 FT	604MVRD	MESAVERDE
6622 -	6624			2 FT	604MVRD	MESAVERDE
6695 -	6696			3 FT	604MVRD	MESAVERDE
6700 -	6701			3 FT	604MVRD	MESAVERDE
6730 -	6731			3 FT	604MVRD	MESAVERDE
6761 -	6762			3 FT	604MVRD	MESAVERDE
6770 -	6771			3 FT	604MVRD	MESAVERDE
6775 -	6776			3 FT	604MVRD	MESAVERDE
6795 -	6796			3 FT	604MVRD	MESAVERDE
6810 -	6811			3 FT	604MVRD	MESAVERDE
6822 -	6823			3 FT	604MVRD	MESAVERDE
6829 -	6830			3 FT	604MVRD	MESAVERDE
6839 -	6840			3 FT	604MVRD	MESAVERDE
6889 -	6890			2 FT	604MVRD	MESAVERDE
6894 -	6895			2 FT	604MVRD	MESAVERDE
6916 -	6917			2 FT	604MVRD	MESAVERDE
6936 -	6937			2 FT	604MVRD	MESAVERDE
6943 -	6944			2 FT	604MVRD	MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

6964 -	6965	2	FT	604MVRD	MESAVERDE
6994 -	6995	2	FT	604MVRD	MESAVERDE
7019 -	7020	2	FT	604MVRD	MESAVERDE
7028 -	7029	2	FT	604MVRD	MESAVERDE
7075 -	7076	2	FT	604MVRD	MESAVERDE
7090 -	7091	2	FT	604MVRD	MESAVERDE
7121 -	7122	2	FT	604MVRD	MESAVERDE
7148 -	7149	2	FT	604MVRD	MESAVERDE
7190 -	7191	2	FT	604MVRD	MESAVERDE
7203 -	7204	2	FT	604MVRD	MESAVERDE
7230 -	7231	2	FT	604MVRD	MESAVERDE
7237 -	7238	2	FT	604MVRD	MESAVERDE
7252 -	7253	2	FT	604MVRD	MESAVERDE
7258 -	7259	2	FT	604MVRD	MESAVERDE
7265 -	7266	2	FT	604MVRD	MESAVERDE
7270 -	7271	2	FT	604MVRD	MESAVERDE
7284 -	7285	2	FT	604MVRD	MESAVERDE
7300 -	7301	2	FT	604MVRD	MESAVERDE
7311 -	7312	2	FT	604MVRD	MESAVERDE
7324 -	7325	2	FT	604MVRD	MESAVERDE
7363 -	7364	3	FT	604MVRD	MESAVERDE
7389 -	7390	3	FT	604MVRD	MESAVERDE
7400 -	7401	3	FT	604MVRD	MESAVERDE
7417 -	7418	3	FT	604MVRD	MESAVERDE
7422 -	7423	3	FT	604MVRD	MESAVERDE
7432 -	7433	3	FT	604MVRD	MESAVERDE
7457 -	7458	3	FT	604MVRD	MESAVERDE
7468 -	7470	3	FT	604MVRD	MESAVERDE
7476 -	7477	3	FT	604MVRD	MESAVERDE
7481 -	7482	3	FT	604MVRD	MESAVERDE
7493 -	7494	3	FT	604MVRD	MESAVERDE
7550 -	7551	2	FT	604MVRD	MESAVERDE
7576 -	7577	2	FT	604MVRD	MESAVERDE
7591 -	7592	2	FT	604MVRD	MESAVERDE
7624 -	7625	2	FT	604MVRD	MESAVERDE
7628 -	7629	2	FT	604MVRD	MESAVERDE
7646 -	7647	2	FT	604MVRD	MESAVERDE
7666 -	7667	2	FT	604MVRD	MESAVERDE
7684 -	7685	2	FT	604MVRD	MESAVERDE
7700 -	7701	2	FT	604MVRD	MESAVERDE
7723 -	7724	2	FT	604MVRD	MESAVERDE
7731 -	7732	2	FT	604MVRD	MESAVERDE
7744 -	7745	2	FT	604MVRD	MESAVERDE
7773 -	7774	2	FT	604MVRD	MESAVERDE
7796 -	7797	2	FT	604MVRD	MESAVERDE
7845 -	7846	2	FT	604MVRD	MESAVERDE
7862 -	7863	2	FT	604MVRD	MESAVERDE
7870 -	7871	2	FT	604MVRD	MESAVERDE
7880 -	7881	2	FT	604MVRD	MESAVERDE
7914 -	7916	2	FT	604MVRD	MESAVERDE
7958 -	7960	2	FT	604MVRD	MESAVERDE
7997 -	7998	2	FT	604MVRD	MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

8051 -	8052	2	FT	604MVRD	MESAVERDE
8059 -	8060	2	FT	604MVRD	MESAVERDE
8069 -	8070	2	FT	604MVRD	MESAVERDE

Treatments: 1
Interval: 7845 - 8070
Fluid: 49087 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 133600 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7550 - 7797
Fluid: 55773 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 170600 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7363 - 7494
Fluid: 47457 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 134200 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 4
Interval: 7190 - 7325
Fluid: 56025 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 171000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 5
Interval: 6889 - 7149
Fluid: 60141 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 195800 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 6
Interval: 6695 - 6840
Fluid: 46617 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 131200 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

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PI/Dwights PLUS on CD Scout Ticket

Treatments: 7 Interval: 6383 - 6624
Fluid: 55521 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 172400 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 8 Interval: 6210 - 6340
Fluid: 57117 GAL FRAC Type: W
Additive: GELA
Prop Agent: SAND 146200 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing 9 5/8 IN @ 1919 w/ 1700 sx
Casing 4 1/2 IN @ 8284 w/ 1810 sx
Tubing 2 3/8 IN @ 6191 TUBING

Drilling Journal

Narrative: MAR 20, 2006 MIRT
Narrative: APR 11, 2006 SI
Narrative: AUG 15, 2006 COMPLETED GAS WELL; HOLDING FOR LOGS, PE RF AND FRAC DETAILS
Lease Acres: 640

Formations and Logs

Log # 1 RST @ -
Log # 2 CBND @ -
Log # 3 VD @ -
Log # 4 CCL @ -
Log # 5 GR @ -

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4171				LOG		652
CHAPITA WELLS	4721				LOG		652
BUCK CANYON	5423				LOG		651
NORTH HORN	5826				LOG		619
ISLAND	5998				LOG		619
PRICE RIVER	6042				LOG		604
PRICE RIVER MIDDLE	7075				LOG		604
PRICE RIVER LOWER	7712				LOG		604

Operator Address

Street or PO Box: P O BOX 1815

City: VERNAL

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Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Operator Address

State, Zip:	UT , 84078		
Country:	USA		
Phone:	4357890790	Fax:	
E-Mail:			
Agent Name:		Agent Code:	
Agent Remark:	TROTTER ED;AGENT;;;;;435;789;0790		

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PI/Dwights PLUS on CD Scout Ticket

15-36-9-23 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047365290000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 19, 2005
First Report Date: JUL 27, 2005
Projected TD: 8165 Formation: CASTLEGATE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		268 MCFD		MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE SW SE
Footage NS EW Origin: 529 FSL 1784 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9865340 / -109.2764648 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: MAR 20, 2006 Spud Date Code: A
TD: 7928 on NOV 17, 2006
LTD:
TVD:
PlugBack Depth: 7818
Completed: APR 20, 2007
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5413.8 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 268 MCFD Water:

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PI/Dwights PLUS on CD Scout Ticket

Interval: 6399 - 7698 Method: FLOWING
Duration of Test: Hours Choke: 23/64
Oil: Gravity: GOR:
Prod Method: PERF
Pressures: FTP: 160 SITP:
FCP: SICP: 300

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
6399 -	7698	81			604MVRD	MESAVERDE

Treatments: 1 Interval: 6399 - 7698
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 130057 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Remarks on IP Test # 001 WELL CUM PROD 548 BO 42566 MCFG 1493 BW THRU JAN 08

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	3	sx
Casing	8 5/8 IN	@	1851	w/	2105	sx
Casing	4 1/2 IN	@	7860	w/	1270	sx

Drilling Journal

Narrative: MAR 29, 2006 DRY HOLE SPUD 3/20/06, WORT
Lease Acres: 640

Formations and Logs

Log # 1	CNL	@	-
Log # 2	LDT	@	-
Log # 3	PERF	@	-
Log # 4	AIL	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	752				LOG		652
WASATCH	4052				LOG		652
MESAVERDE	5720				LOG		604

Operator Address

Street or PO Box: 1100 LOUISIANA STREET
STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306938 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM;;;;;;713;830;6800

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PI/Dwights PLUS on CD Scout Ticket

924-31L DIABLO

State: UTAH
County: UINTAH
Operator: KERR-MCGEE O&G ON LP
API: 43047361750000 IC:
Initial Class: WO
Target Objective: GAS
Final Well Class: WOE
Status: GAS
Field: UNNAMED
Permit: on DEC 27, 2004
First Report Date: JAN 06, 2005
Projected TD: 8050 Formation: WASATCH
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
	1099 MCFD	200 BBL	MESAVERDE

Location

Section, Twp., Range: 31 9 S 24 E
Spot Code: SE NW SW
Footage NS EW Origin: 1798 FSL 735 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9901023 / -109.2627467 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_PRODUCER	0.7 MI E UNNAMED FLD(WASATCH)
DST_TOWN	24.7 MI SW DINOSAUR, CO

Dates and Depths

Spud: AUG 04, 2006 Spud Date Code: A
TD: 7960 on SEP 16, 2006
LTD:
TVD:
PlugBack Depth: 7902
Completed: OCT 07, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5496 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: SEP 19, 2006 Rig # 82

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

Oil:		Condst:	
Gas:	1099 MCFD	Water:	200 BBL
Interval:	6876 - 7839	Method:	FLOWING
Duration of Test:	Hours	Choke:	20/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP:	SITP:	466
	FCP:	SICP:	838

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
6876 -	7839	124		604MVRD	MESAVERDE

Treatments: 1

Interval: 6876 - 7839
Fluid: 5017 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 590763 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: DETAILS: YF118ST & 120 ST

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	28	sx
Casing	9 5/8 IN	@	2040	w/	580	sx
Casing	4 1/2 IN	@	7960	w/	1461	sx
Tubing	2 3/8 IN				@	6711 TUBING

Drilling Journal

Narrative: AUG 15, 2006	STATE PAPERWORKDRY HOLE SPUD 8/4/06, WOR T|
Narrative: AUG 25, 2006	RURT
Narrative: SEP 01, 2006	WO RIG REPAIR
Narrative: SEP 08, 2006	WO RIG REPAIR
Narrative: SEP 11, 2006	DRLG @ 5215
Narrative: SEP 15, 2006	DRLG @ 5804
Narrative: SEP 18, 2006	RDRT
Narrative: SEP 22, 2006	WOCT
Lease Acres:	875

Formations and Logs

Log # 1	CBND	@	-
Log # 2	CCL	@	-
Log # 3	GR	@	-

Operator Address

Street or PO Box: 1368 SOUTH 1200 EAST

City: VERNAL
State, Zip: UT , 84078
Country: USA
Phone: 4357817024 Fax:
E-Mail:
Agent Name: Agent Code:

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PI/Dwights PLUS on CD Scout Ticket

Operator Address

Agent Remark: UPCHEGO SHEILA;;;;;;435;781;7024

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PI/Dwights PLUS on CD Scout Ticket

10D-36 SOUTHMAN CANYON

State:	UTAH
County:	UINTAH
Operator:	HOUSTON EXP CO THE
API:	43047353630000 IC:
Initial Class:	WF
Target Objective:	GAS
Final Well Class:	WFD
Status:	GAS
Field:	NATURAL BUTTES
Permit:	on JAN 12, 2004
First Report Date:	JAN 16, 2004
Projected TD:	8300 Formation: MESAVERDE
Hole Direction:	VERTICAL

IP Summary:

Oil	Gas	Water	Top Form
	2585 MCFD	528 BBL	MESAVERDE

Location

Section, Twp., Range:	36 9 S 23 E
Spot Code:	SE NW SE
Footage NS EW Origin:	1757 FSL 1650 FEL CONGRESS SECTION
Surface Remark:	
Principal Meridian:	SALT LAKE
Lat/Long:	39.9899366 / -109.2712594 IH
PBHL Footage NS EW Origin:	
PBHL Section:	
PBHL Remark:	
ABHL Footage NS EW Origin:	
ABHL Section:	
ABHL Remark:	

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_FIELD	1.1 MI N SOUTHMAN CANYON FLD(MESAVERDE)
DST_TOWN	25.2 MI SW DINOSAUR, CO

Dates and Depths

Spud:	APR 01, 2004 Spud Date Code: A
TD:	8123 on APR 17, 2004
LTD:	
TVD:	
PlugBack Depth:	8105
Completed:	JUN 24, 2004
Formation @ TD:	604BKTG Name: BUCK TONGUE
Ref. Elevation:	
KB. Elevation:	
Ground Elevation:	5393 GR
Contractor:	TRUE DRILLING COMPANY
Rig Release Date:	APR 19, 2004 Rig # 27

IP # 001

Top Formation:	MESAVERDE
Base Formation:	MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

Oil:				Condst:	
Gas:	2585	MCFD		Water:	528 BBL
Interval:	6969	- 7914	GROSS	Method:	FLOWING
Duration of Test:		Hours		Choke:	18/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP:		SITP:		
	FCP:		SICP:	1500	

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
6969 -	7030	183			604MVRD	MESAVERDE
7179 -	7193	42			604MVRD	MESAVERDE
7210 -	7220	30			604MVRD	MESAVERDE
7550 -	7557	21			604MVRD	MESAVERDE
7643 -	7655	36			604MVRD	MESAVERDE
7754 -	7762	24			604MVRD	MESAVERDE
7836 -	7839	9			604MVRD	MESAVERDE
7902 -	7914	9			604MVRD	MESAVERDE

Treatments: 1
Interval: 6969 - 7030
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 145400 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7179 - 7220
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 42000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7550 - 7914
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 200000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	13 3/8 IN	@	90	w/		sx
Casing	9 5/8 IN	@	1977	w/	329	sx
Casing	5 1/2 IN	@	8105	w/	1085	sx
Tubing	2 3/8 IN				@	6904 TUBING

Drilling Journal

Narrative: MAR 01, 2004 DRY HOLE SPUD BY STUBBS & STUBBS #111 FE B 12, WORT TO COMPLETE DRLG

Narrative: APR 06, 2004 DRLG @ 2830

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PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

Narrative:	APR 12, 2004	DRLG @ 7349
Narrative:	APR 20, 2004	DRLD, NO FURTHER DETAILS
Narrative:	JUL 13, 2004	DRLD, NO FURTHER DETAILS
Narrative:	OCT 05, 2004	DRLD, NO FURTHER DETAILS
Narrative:	NOV 16, 2004	SI WOPL
Lease Acres:	640	

Formations and Logs

Log # 1	AISF @	-
Logging Co.	153789	
Log # 2	LDT @	-
Logging Co.	153789	
Log # 3	CNL @	-
Logging Co.	153789	
Log # 4	CALP @	-
Logging Co.	153789	
Log # 5	SP @	-
Logging Co.	153789	
Log # 6	GR @	-
Logging Co.	153789	

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UTELAND BUTTES	3966				LOG		652
WASATCH	4070				LOG		652
MESAVERDE	5766				LOG		604
SEGO	7941				LOG		604
BUCK TONGUE	8066				LOG		604

Operator Address

Street or PO Box:	1100 LOUISIANA STREET STE 2000
City:	HOUSTON
State, Zip:	TX , 770025219
Country:	USA
Phone:	7138306938 Fax:
E-Mail:	
Agent Name:	Agent Code:
Agent Remark:	ANDERSON ROBERT M;AGENT;;;;;713;830;6973

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

6D-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047353620000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JAN 12, 2004
First Report Date: JAN 16, 2004
Projected TD: 8300 Formation: MESAVERDE
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
	1200 MCFD	120 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE SE NW
Footage NS EW Origin: 2466 FNL 2271 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9928112 / -109.2761297 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	25.3 MI SW DINOSAUR, CO

Dates and Depths

Spud: FEB 18, 2004 Spud Date Code: A
TD: 8552 on MAR 09, 2004
LTD:
TVD:
PlugBack Depth:
Completed: APR 15, 2004
Formation @ TD: 603MNCS Name: MANCOS
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5370 GR
Contractor: TRUE DRILLING COMPANY
Rig Release Date: MAR 11, 2004Rig # 27

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:

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PI/Dwights PLUS on CD Scout Ticket

Gas:	1200 MCFD			Water:	120 BBL
Interval:	6942 - 7852	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	18/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP: 800	SITP:			
	FCP:	SICP:	1140		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
6942 -	6962	60		604MVRD	MESAVERDE
7503 -	7622	72		604MVRD	MESAVERDE
7808 -	7852	81		604MVRD	MESAVERDE

Treatments: 1
Interval: 6942 - 6962
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 63400 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7503 - 7622
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 60000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7808 - 7852
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 127560 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	9 5/8 IN	@	2006	w/	829	sx	
Casing	5 1/2 IN	@	8552	w/	1415	sx	
Tubing	2 3/8 IN					@	6902 TUBING

Drilling Journal

Narrative:	FEB 11, 2004	DRY HOLE SPUD 2/6/04 BY STUBBS & STUBBS #111, WORT
Narrative:	FEB 17, 2004	RURT
Narrative:	FEB 23, 2004	DRLG @ 2670
Narrative:	MAR 02, 2004	DRLG AHEAD
Narrative:	MAR 04, 2004	DRILLING @ 7500
Narrative:	MAR 11, 2004	RIGGING DOWN ROTARY TOOLS / LAYING DOWN DRILL PIPE @ 8552
Narrative:	JUL 13, 2004	DRLD, NO FURTHER DETAILS
Narrative:	OCT 05, 2004	DRLD, NO FURTHER DETAILS

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PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

Narrative: NOV 16, 2004 SI WOPL
Lease Acres: 640

Formations and Logs

Log # 1 AISF @ -
Logging Co. 153789
Log # 2 LDT @ -
Logging Co. 153789
Log # 3 CNL @ -
Logging Co. 153789
Log # 4 CALP @ -
Logging Co. 153789
Log # 5 SP @ -
Logging Co. 153789
Log # 6 GR @ -
Logging Co. 153789

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UTELAND BUTTES	4013				LOG		652
WASATCH	4116				LOG		652
MESAVERDE	5850				LOG		604
SEGO	8034				LOG		604
BUCK TONGUE	8149				LOG		604
CASTLEGATE	8220				LOG		604
MANCOS	8517				LOG		603

Operator Address

Street or PO Box: 1100 LOUISIANA STREET
STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306913 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: ANDERSON ROBERT M;AGENT;;;;;713;830;6973

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Date: 9/17/2008
Time: 9:36 AM

PI/Dwights PLUS on CD Scout Ticket

14C-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047357700000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 28, 2004
First Report Date: JUL 30, 2004
Projected TD: 8140 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		4100 MCFD	26 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SW SE SW
Footage NS EW Origin: 648 FSL 1717 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9868481 / -109.2781005 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:	Type	Remark
	SCALED_FOOT	REGULATORY
	IRREG_SECT	N

Dates and Depths

Spud: SEP 06, 2004 Spud Date Code: A
TD: 8077 on SEP 12, 2004
LTD:
TVD:
PlugBack Depth: 8013
Completed: OCT 05, 2004
Formation @ TD: 604SEGO Name: SEGO
Ref. Elevation: 5396 KB
KB. Elevation: 5396
Ground Elevation: 5384 GR
Contractor: TRUE DRILLING COMPANY
Rig Release Date: SEP 13, 2004 Rig # 27

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 4100 MCFD Water: 26 BBL

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Date: 9/17/2008
Time: 9:36 AM

PI/Dwights PLUS on CD Scout Ticket

Interval:	6849 - 7817	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	20/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP:	SITP:			
	FCP:	SICP:	1725		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
6849 -	7030	26			604MVRD	MESAVERDE
7142 -	7356	49			604MVRD	MESAVERDE
7580 -	7817	86			604MVRD	MESAVERDE

Treatments: 1
Interval: 6849 - 7030
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 146000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7142 - 7356
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 163299 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7580 - 7817
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 182200 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	13 3/8 IN	@	40	w/	3	sx	
Casing	8 5/8 IN	@	1877	w/	845	sx	
Casing	4 1/2 IN	@	8058	w/	1215	sx	
Tubing	2 3/8 IN					@	7795 TUBING

Drilling Journal

Narrative:	SEP 07, 2004	DRLG @ 4250
Narrative:	SEP 13, 2004	DRLG @ 8077
Narrative:	SEP 20, 2004	DRLD - NO FURTHER DETAIL
Narrative:	OCT 05, 2004	COMPLETING
Narrative:	NOV 16, 2004	SI WOPL
Lease Acres:	640	

Formations and Logs

Log # 1 AISF @ 1877 - 8071
Logging Co. 153789

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Date: 9/17/2008
Time: 9:36 AM

PI/Dwights PLUS on CD Scout Ticket

Formations and Logs

Log # 2	LDT	@	-		
Logging Co.	153789				
Log # 3	CNL	@	-		
Logging Co.	153789				
Log # 4	CALP	@	1877	-	8071
Logging Co.	153789				
Log # 5	SP	@	-		
Logging Co.	153789				
Log # 6	GR	@	1877	-	8071
Logging Co.	153789				
Log # 7	PDS	@	1877	-	8071
Logging Co.	153789				
Log # 8	CVL	@	1877	-	8071
Logging Co.	153789				

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UTELAND BUTTES	3964				LOG		652
WASATCH	4068				LOG		652
MESAVERDE	5754				LOG		604
SEGO	7973				LOG		604

Operator Address

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STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306913 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM A;AGENT;;;;;713;830;6800

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Date: 9/17/2008
Time: 9:36 AM

PI/Dwights PLUS on CD Scout Ticket

15-36-9-23 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047365290000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 19, 2005
First Report Date: JUL 27, 2005
Projected TD: 8165 Formation: CASTLEGATE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		268 MCFD		MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE SW SE
Footage NS EW Origin: 529 FSL 1784 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9865340 / -109.2764648 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: MAR 20, 2006 Spud Date Code: A
TD: 7928 on NOV 17, 2006
LTD:
TVD:
PlugBack Depth: 7818
Completed: APR 20, 2007
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5413.8 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 268 MCFD Water:

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Date: 9/17/2008
Time: 9:36 AM

PI/Dwights PLUS on CD Scout Ticket

Interval: 6399 - 7698 Method: FLOWING
Duration of Test: Hours Choke: 23/64
Oil: Gravity: GOR:
Prod Method: PERF
Pressures: FTP: 160 SITP:
FCP: SICP: 300

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
6399 -	7698	81			604MVRD	MESAVERDE

Treatments: 1 Interval: 6399 - 7698
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 130057 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Remarks on IP Test # 001 WELL CUM PROD 548 BO 42566 MCFG 1493 BW THRU JAN 08

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	3	sx
Casing	8 5/8 IN	@	1851	w/	2105	sx
Casing	4 1/2 IN	@	7860	w/	1270	sx

Drilling Journal

Narrative: MAR 29, 2006 DRY HOLE SPUD 3/20/06, WORT
Lease Acres: 640

Formations and Logs

Log # 1	CNL	@	-
Log # 2	LDT	@	-
Log # 3	PERF	@	-
Log # 4	AIL	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	752				LOG		652
WASATCH	4052				LOG		652
MESAVERDE	5720				LOG		604

Operator Address

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STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306938 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM;;;;;;713;830;6800

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

12D-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047353640000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JAN 12, 2004
First Report Date: JAN 16, 2004
Projected TD: 8300 Formation: MESAVERDE
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
0 BPD	880 MCFD	1 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE NW SW
Footage NS EW Origin: 1518 FSL 1069 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9892213 / -109.2804156 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	25.7 MI SW DINOSAUR, CO

Dates and Depths

Spud: MAR 10, 2004 Spud Date Code: A
TD: 8194 on MAR 26, 2004
LTD:
TVD:
PlugBack Depth: 8149
Completed: MAY 12, 2004
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5420 GR
Contractor: TRUE DRILLING COMPANY
Rig Release Date: MAR 28, 2004Rig # 27

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: 0 BPD Condst:

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Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Gas:	880 MCFD	Water:	1 BBL
Interval:	7110 - 8039 GROSS	Method:	FLOWING
Duration of Test:	Hours	Choke:	10/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP: SITP:		
	FCP: 1675 SICP:		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
7110 -	7114	12			604MVRD	MESAVERDE
7120 -	7132	36			604MVRD	MESAVERDE
7250 -	7256	36			604MVRD	MESAVERDE
7330 -	7336	36			604MVRD	MESAVERDE
7387 -	7393	18			604MVRD	MESAVERDE
7414 -	7429	45			604MVRD	MESAVERDE
7483 -	7487	12			604MVRD	MESAVERDE
7860 -	7878	36			604MVRD	MESAVERDE
8034 -	8039	15			604MVRD	MESAVERDE

Treatments: 1
Interval: 7110 - 7132
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 90000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7250 - 7429
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 86400 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7860 - 7878
Fluid: FRAC Type: FLUD
Additive:
Prop Agent: SAND 50000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	9 5/8 IN	@	2011	w/	879	sx	
Casing	5 1/2 IN	@	8194	w/	1025	sx	
Tubing	2 3/8 IN					@	7842 TUBING

Drilling Journal

Narrative: MAR 01, 2004	DRY HOLE SPUD BY STUBBS & STUBBS #111, W ORT TO COMPLETE DRLG
Narrative: MAR 22, 2004	DRLG @ 7636
Narrative: MAR 30, 2004	RDRT

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

Narrative: JUN 11, 2004 LAST RPTD WOCT
Narrative: JUL 13, 2004 COMPLETING
Narrative: OCT 05, 2004 SI WOPL
Lease Acres: 640

Formations and Logs

Log # 1 AISF @ -
Logging Co. 153789
Log # 2 LDT @ -
Logging Co. 153789
Log # 3 CNL @ -
Logging Co. 153789
Log # 4 CALP @ -
Logging Co. 153789
Log # 5 SP @ -
Logging Co. 153789
Log # 6 GR @ -
Logging Co. 153789

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UTELAND BUTTES	4041				LOG		652
WASATCH	4144				LOG		652
MESAVERDE	5853				LOG		604
SEGO	8069				LOG		604
BUCK TONGUE	8191				LOG		604

Operator Address

Street or PO Box: 1100 LOUISIANA STREET
STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306913 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: ANDERSON ROBERT M;AGENT;;;;;713;830;6973

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

4D-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047353610000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JAN 12, 2004
First Report Date: JAN 16, 2004
Projected TD: 8300 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		2300 MCFD	7 BBL	WASATCH

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE NW NW
Footage NS EW Origin: 1163 FNL 1137 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9963909 / -109.2801808 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	25.3 MI SW DINOSAUR, CO

Dates and Depths

Spud: MAY 11, 2004 Spud Date Code: A
TD: 8035 on MAY 19, 2004
LTD:
TVD:
PlugBack Depth: 7988
Completed: NOV 01, 2004
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5363 GR
Contractor: TRUE DRILLING COMPANY
Rig Release Date: MAY 22, 2004Rig # 27

IP # 004

Top Formation: WASATCH
Base Formation: MESAVERDE
Oil: Condst:

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Gas: 2300 MCFD
Water: 7 BBL
Interval: 5568 - 7606 GROSS
Method: FLOWING
Duration of Test: 4 Hours
Choke: 18/64
Oil: Gravity:
GOR:
Prod Method: PERF
Pressures: FTP: SITP:
FCP: 1300 SICP:

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
	5568 - 7606				652WSTC	WASATCH
	6990 - 7606				604MVRD	MESAVERDE

Remarks on IP Test # 004 WOPL

PT # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil:
Condst:
Gas:
Water:
Interval: 7457 - 7606 GROSS
Method:
Duration of Test: Hours
Choke:
Oil: Gravity:
GOR:
Prod Method: PERF
Perforations: 604MVRD MESAVERDE
Perf Interval: 7457 - 7473 Shots/Ft:
Perforations: 604MVRD MESAVERDE
Perf Interval: 7554 - 7568 Shots/Ft:
Perforations: 604MVRD MESAVERDE
Perf Interval: 7600 - 7606 Shots/Ft:

Treatments: 1
Interval: 7457 - 7473
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 4000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 5
Interval: 7554 - 7606
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 91000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

PT # 002

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil:
Condst:
Gas: 2200 MCFD
Water: 30 BBL
Interval: 6990 - 7221 GROSS
Method: FLOWING
Duration of Test: Hours
Choke: 18/64
Oil: Gravity:
GOR:
Prod Method: PERF

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PI/Dwights PLUS on CD Scout Ticket

Perforations:	604MVRD	MESAVERDE	
Perf Interval:	6990 - 7007	Shots/Ft:	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	7042 - 7059	Shots/Ft:	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	7069 - 7079	Shots/Ft:	
Perforations:	604MVRD	MESAVERDE	
Perf Interval:	7193 - 7221	Shots/Ft:	

Treatments: 2

Interval: 7193 - 7221
Fluid: 32500 GAL FRAC Type: GEL
Additive: GELA
Prop Agent: SAND 72400 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3

Interval: 6990 - 7079
Fluid: 53000 GAL FRAC Type: GEL
Additive: GELA
Prop Agent: SAND 115750 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

PT # 003

Top Formation:	WASATCH		
Base Formation:	WASATCH		
Oil:		Condst:	
Gas:	500 MCFD	Water:	
Interval:	5568 - 5600	Method:	FLOWING
Duration of Test:	Hours	Choke:	20/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Perforations:	652WSTC WASATCH		
Perf Interval:	5568 - 5600 Shots/Ft:		

Treatments: 4

Interval: -
Fluid: FRAC Type:
Additive:
Prop Agent:
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	13 3/8 IN	@	87	w/	9	sx
Casing	9 5/8 IN	@	2106	w/	780	sx
Casing	4 1/2 IN	@	8032	w/	1335	sx

Drilling Journal

Narrative: APR 28, 2004 DRY HOLE SPUDDED 4/19/04 BY STUBBS DRLG

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

		#111, WORT
Narrative:	MAY 11, 2004	PREP TO SPUD
Narrative:	MAY 18, 2004	DRILLING @ 6162
Narrative:	MAY 24, 2004	DRLD, NO FURTHER DETAILS
Narrative:	JUL 13, 2004	DRLD, NO FURTHER DETAILS
Narrative:	SEP 27, 2004	TSTG
Narrative:	OCT 05, 2004	TSTD, WO DATA
Narrative:	NOV 16, 2004	SI WOPL
Lease Acres:	640	

Formations and Logs

Log # 1	AISF @	-
Logging Co.	153789	
Log # 2	LDT @	-
Logging Co.	153789	
Log # 3	CNL @	-
Logging Co.	153789	
Log # 4	CALP @	-
Logging Co.	153789	
Log # 5	SP @	-
Logging Co.	153789	
Log # 6	GR @	-
Logging Co.	153789	

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UTELAND BUTTES	4092				LOG		652
WASATCH	4196				LOG		652
MESAVERDE	5929				LOG		604

Operator Address

Street or PO Box:	1100 LOUISIANA STREET STE 2000
City:	HOUSTON
State, Zip:	TX , 770025219
Country:	USA
Phone:	7138306913 Fax:
E-Mail:	
Agent Name:	Agent Code:
Agent Remark:	ANDERSON ROBERT M;AGENT;;;;;713;830;6973

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

2D-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047353650000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JAN 12, 2004
First Report Date: JAN 16, 2004
Projected TD: 8300 Formation: MESAVERDE
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
	1500 MCFD	4 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SE NW NE
Footage NS EW Origin: 960 FNL 1751 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9969422 / -109.2715848 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	24.9 MI SW DINOSAUR, CO

Dates and Depths

Spud: APR 21, 2004 Spud Date Code: A
TD: 8255 on MAY 08, 2004
LTD:
TVD:
PlugBack Depth: 8206
Completed: AUG 22, 2004
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5430 GR
Contractor: TRUE DRILLING COMPANY
Rig Release Date: MAY 10, 2004Rig # 27

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Gas:	1500 MCFD			Water:	4 BBL
Interval:	7024 - 7628	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	20/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP: 600	SITP:			
	FCP:	SICP:	1100		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
7024 -	7071	141			604MVRD	MESAVERDE
7180 -	7190	30			604MVRD	MESAVERDE
7306 -	7317	33			604MVRD	MESAVERDE
7507 -	7519	36			604MVRD	MESAVERDE
7582 -	7592	30			604MVRD	MESAVERDE
7606 -	7628	66			604MVRD	MESAVERDE

Treatments: 1
Interval: 7024 - 7071
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 77500 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7180 - 7317
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 169000 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7507 - 7628
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 93600 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	13 3/8 IN	@	87	w/		sx	
Casing	9 5/8 IN	@	2092	w/	1289	sx	
Casing	4 1/2 IN	@	8250	w/	1685	sx	
Tubing	2 3/8 IN					@	7499 TUBING

Drilling Journal

Narrative:	MAR 17, 2004	DRY HOLE SPUDDED BY STUBBS DRLG #111 3/3 /04, WORT
Narrative:	APR 29, 2004	DRILLING @ 2112
Narrative:	MAY 03, 2004	DRILLING @ 7345
Narrative:	MAY 11, 2004	DRLD, NO FURTHER DETAILS
Narrative:	JUL 13, 2004	DRLD, NO FURTHER DETAILS

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

Narrative: OCT 05, 2004 DRLD, NO FURTHER DETAILS
Narrative: NOV 16, 2004 SI WOPL
Lease Acres: 640

Formations and Logs

Log # 1 AISF @ -
Logging Co. 153789
Log # 2 LDT @ -
Logging Co. 153789
Log # 3 CNL @ -
Logging Co. 153789
Log # 4 CALP @ -
Logging Co. 153789
Log # 5 SP @ -
Logging Co. 153789
Log # 6 GR @ -
Logging Co. 153789
Log # 7 PLEX @ -
Logging Co. 153789

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UTELAND BUTTES	4106				LOG		652
WASATCH	4210				LOG		652
MESAVERDE	5843				LOG		604
SEGO	8108				LOG		604
BUCK TONGUE	8218				LOG		604

Operator Address

Street or PO Box: 1100 LOUISIANA STREET
STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306913 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: ANDERSON ROBERT M;AGENT;;;;;713;830;6973

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

924-31M DIABLO

State: UTAH
County: UINTAH
Operator: WESTPORT O&G CO LP
API: 43047361800000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: DEVILS PLAYGROUND
Permit: on DEC 27, 2004
First Report Date: JAN 06, 2005
Projected TD: 8050 Formation: WASATCH
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
	1718 MCFD	300 BBL	MESAVERDE

Location

Section, Twp., Range: 31 9 S 24 E
Spot Code: SW SW SW
Footage NS EW Origin: 589 FSL 532 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9867794 / -109.2634888 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: FEB 16, 2006 Spud Date Code: A
TD: 7930 on FEB 24, 2006
LTD:
TVD:
PlugBack Depth: 7872
Completed: MAR 22, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation: 5471 KB
KB. Elevation: 5471
Ground Elevation: 5457 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: FEB 25, 2006 Rig # 82

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 1718 MCFD Water: 300 BBL

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PI/Dwights PLUS on CD Scout Ticket

Interval:	6344 - 7670	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	20/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP:	SITP:	1500		
	FCP:	SICP:	2200		

Perforations:	Interval	Cnt	Type	Shots/Ft		Top Formation	
6344 -	6348			4	FT	604MVRD	MESAVERDE
6690 -	6692			4	FT	604MVRD	MESAVERDE
6823 -	6826			4	FT	604MVRD	MESAVERDE
6914 -	6918			4	FT	604MVRD	MESAVERDE
7132 -	7136			4	FT	604MVRD	MESAVERDE
7214 -	7219			4	FT	604MVRD	MESAVERDE
7280 -	7284			4	FT	604MVRD	MESAVERDE
7665 -	7670			4	FT	604MVRD	MESAVERDE

Treatments: 1

Interval: 6344 - 7670
Fluid: 7122 BBL FRAC Type: FLUD
Additive:
Prop Agent: SAND 921289 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: LIGHTNING 18#, 20#

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	28	sx	
Casing	9 5/8 IN	@	1950	w/	1425	sx	
Casing	4 1/2 IN	@	7930	w/	1264	sx	
Tubing	2 3/8 IN					@	6184 TUBING

Drilling Journal

Narrative: FEB 21, 2006 DRLG @ 5500
Narrative: FEB 27, 2006 WOCT
Narrative: MAY 12, 2006 COMPLETED GAS WELL; HOLDING FOR CSG, LOG S, PERF AND FRAC DETAILS

Lease Acres: 875

Formations and Logs

Log # 1	PLEX	@	1917	-	7928
Logging Co.	153789				
Log # 2	TRPL	@	1917	-	7928
Logging Co.	153789				
Log # 3	GR	@	1917	-	7928
Logging Co.	153789				
Log # 4	GR	@	500	-	7856
Logging Co.	224917				
Log # 5	CBND	@	500	-	7856
Logging Co.	224917				
Log # 6	DENL	@	1917	-	7928
Logging Co.	153789				
Log # 7	POR	@	1917	-	7928
Logging Co.	153789				

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PI/Dwights PLUS on CD Scout Ticket

Formations and Logs

Log # 8	MICL @	1917 -	7928	
Logging Co.	153789			
Log # 9	DSI @	1917 -	7928	
Logging Co.	153789			
Log # 10	SONL @	1917 -	7928	
Logging Co.	153789			
Log # 11	POR @	1917 -	7928	
Logging Co.	153789			
Log # 12	AISF @	1917 -	7928	
Logging Co.	153789			

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4044				LOG		652
MESAVERDE	6029				LOG		604

Operator Address

Street or PO Box:	1368 S 1200 E
City:	VERNAL
State, Zip:	UT , 84078
Country:	USA
Phone:	4357817024
Fax:	
E-Mail:	
Agent Name:	
Agent Code:	
Agent Remark:	UPCHEGO SHEILA;;;;;;435;781;7024

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PI/Dwights PLUS on CD Scout Ticket

924-31C DIABLO

State: UTAH
County: UINTAH
Operator: KERR-MCGEE O&G ON LP
API: 43047362910000 IC:
Initial Class: WF
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: DEVILS PLAYGROUND
Permit: on FEB 08, 2005
First Report Date: FEB 14, 2005
Projected TD: 8050 Formation: WASATCH
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		1679 MCFD	400 BBL	WASATCH

Location

Section, Twp., Range: 31 9 S 24 E
Spot Code: NW NE NW
Footage NS EW Origin: 596 FNL 1914 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9979592 / -109.2584965 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_FIELD	0.3 MI WSW DEVILS PLAYGROUND FLD(MESAVERDE)
DST_TOWN	24.2 MI SW DINOSAUR, CO

Dates and Depths

Spud: JUL 17, 2006 Spud Date Code: A
TD: 7958 on AUG 18, 2006
LTD:
TVD:
PlugBack Depth: 7909
Completed: SEP 04, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5425 GR
Contractor: ENSIGN DRILLING COMPANY
Rig Release Date: AUG 21, 2006Rig # 82

IP # 001

Top Formation: WASATCH
Base Formation: MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

Oil:		Condst:	
Gas:	1679 MCFD	Water:	400 BBL
Interval:	5738 - 7752 GROSS	Method:	FLOWING
Duration of Test:	Hours	Choke:	20/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP: 1043 SITP:		
	FCP: SICP: 1668		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
5738 -	5742			4 FT	652WSTC	WASATCH
5844 -	5850			4 FT	652WSTC	WASATCH
6666 -	6669			3 FT	604MVRD	MESAVERDE
6685 -	6688			3 FT	604MVRD	MESAVERDE
6729 -	6735			4 FT	604MVRD	MESAVERDE
6866 -	6871			4 FT	604MVRD	MESAVERDE
6999 -	7003			3 FT	604MVRD	MESAVERDE
7023 -	7026			3 FT	604MVRD	MESAVERDE
7168 -	7171			3 FT	604MVRD	MESAVERDE
7210 -	7214			3 FT	604MVRD	MESAVERDE
7284 -	7287			4 FT	604MVRD	MESAVERDE
7425 -	7428			4 FT	604MVRD	MESAVERDE
7584 -	7588			4 FT	604MVRD	MESAVERDE
7735 -	7740			4 FT	604MVRD	MESAVERDE
7749 -	7752			3 FT	604MVRD	MESAVERDE

Treatments: 1
Interval: 5738 - 5850
Fluid: 75 BBL BKDN Type: FLUD
Additive:
Prop Agent:
Formation Break Down Pressure: 2373
Average Injection Rate: 50
Stages: Remarks:

Treatments: 2
Interval: 5738 - 5850
Fluid: 1302 BBL FRAC Type: W
Additive: SFAC
Prop Agent: SAND 47491 LB
Formation Break Down Pressure:
Average Injection Rate: 51
Stages: Remarks: SLICK WTR

Treatments: 3
Interval: 6666 - 6735
Fluid: 68 BBL BKDN Type: FLUD
Additive:
Prop Agent:
Formation Break Down Pressure: 1230
Average Injection Rate: 52
Stages: Remarks:

Treatments: 4
Interval: 6666 - 6735
Fluid: 1024 BBL FRAC Type: W
Additive: SFAC

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PI/Dwights PLUS on CD Scout Ticket

Prop Agent: SAND 35509 LB
Formation Break Down Pressure:
Average Injection Rate: 51
Stages: Remarks: SLICK WTR

Treatments: 5
Interval: 6866 - 7026
Fluid: 124 BBL BKDN Type: FLUD
Additive:
Prop Agent:
Formation Break Down Pressure: 3360
Average Injection Rate: 51
Stages: Remarks:

Treatments: 6
Interval: 6866 - 7026
Fluid: 1892 BBL FRAC Type: W
Additive: SFAC
Prop Agent: SAND 70663 LB
Formation Break Down Pressure:
Average Injection Rate: 50
Stages: Remarks: SLICK WTR

Treatments: 7
Interval: 7168 - 7428
Fluid: 114 BBL BKDN Type: FLUD
Additive:
Prop Agent:
Formation Break Down Pressure: 3011
Average Injection Rate: 51
Stages: Remarks:

Treatments: 8
Interval: 7168 - 7428
Fluid: 848 BBL FRAC Type: W
Additive: SFAC
Prop Agent: SAND 14336 LB
Formation Break Down Pressure:
Average Injection Rate: 50
Stages: Remarks: SLICK WTR

Treatments: 9
Interval: 7584 - 7752
Fluid: 144 BBL BKDN Type: FLUD
Additive:
Prop Agent:
Formation Break Down Pressure: 3407
Average Injection Rate: 52.8
Stages: Remarks:

Treatments: 10
Interval: 7584 - 7752
Fluid: 1155 BBL FRAC Type: W
Additive: SFAC
Prop Agent: SAND 34694 LB
Formation Break Down Pressure:
Average Injection Rate: 51.1
Stages: Remarks: SLICK WTR

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PI/Dwights PLUS on CD Scout Ticket

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	28	sx			
Casing	9 5/8 IN	@	2080	w/	750	sx			
Casing	4 1/2 IN	@	7958	w/	1520	sx			
Tubing	2 3/8 IN						@	6613	TUBING

Drilling Journal

Narrative:	JUL 25, 2006	DRY HOLE SPUD 7/17/06, WORT
Narrative:	AUG 18, 2006	DRLG @ 7579
Narrative:	AUG 21, 2006	RDRT
Narrative:	AUG 28, 2006	WOCT
Lease Acres:	875	

Formations and Logs

Log # 1	CBND	@	-
Log # 2	CCL	@	-
Log # 3	GR	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4121				LOG		652
MESAVERDE	5936				LOG		604

Operator Address

Street or PO Box:	1368 SOUTH 1200 EAST
City:	VERNAL
State, Zip:	UT , 84078
Country:	USA
Phone:	4357817024
Fax:	
E-Mail:	
Agent Name:	
Agent Code:	
Agent Remark:	UPCHEGO SHEILA;;;;;;435;781;7024

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PI/Dwights PLUS on CD Scout Ticket

1023-1A BONANZA

State: UTAH
County: UINTAH
Operator: WESTPORT O&G CO LP
API: 43047357170000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on MAY 13, 2004
First Report Date: MAY 17, 2004
Projected TD: 8050 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		2097 MCFD	260 BBL	MESAVERDE

Location

Section, Twp., Range: 1 10 S 23 E
Spot Code: NW NE NE
Footage NS EW Origin: 592 FNL 724 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9835096 / -109.2679694 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
CONG_LOT	1

Dates and Depths

Spud: DEC 16, 2004 Spud Date Code: A
TD: 7873 on MAR 01, 2005
LTD:
TVD:
PlugBack Depth: 7815
Completed: APR 16, 2005
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5454 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:

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PI/Dwights PLUS on CD Scout Ticket

Gas:	2097 MCFD	Water:	260 BBL
Interval:	6390 - 7651	Method:	FLOWING
Duration of Test:	Hours	Choke:	20/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP: 917 SITP:		
	FCP: SICP: 1246		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
6390 -	7651	144		604MVRD	MESAVERDE

Treatments: 1

Interval: 6390 - 7651
Fluid: 7044 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 951189 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: DETAILS: LIGHTNING 18 GEL

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	28	sx
Casing	9 5/8 IN	@	1890	w/	840	sx
Casing	4 1/2 IN	@	7873	w/	1645	sx
Tubing	2 3/8 IN				@	7000 TUBING

Drilling Journal

Lease Acres: 642

Formations and Logs

Log # 1	CBND	@	-
Log # 2	GR	@	-
Log # 3	REST	@	-
Log # 4	PDS	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4030				LOG		652
MESAVERDE	6040				LOG		604

Operator Address

Street or PO Box: 1368 S 1200 E

City: VERNAL
State, Zip: UT , 84078
Country: USA
Phone: 4357817060 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: SEARLE RALEEN;;;;;;435;781;7044

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PI/Dwights PLUS on CD Scout Ticket

12-35 CHAPITA SOUTH

State: UTAH
County: UINTAH
Operator: EOG RESOURCES INC
API: 43047357050000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on MAY 10, 2004
First Report Date: MAY 14, 2004
Projected TD: 8200 Formation: SEGO
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		403 MCFD	198 BBL	MESAVERDE

Location

Section, Twp., Range: 35 9 S 23 E
Spot Code: SE NE SE
Footage NS EW Origin: 1787 FSL 577 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9899551 / -109.2862902 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	25.9 MI SW DINOSAUR, CO

Dates and Depths

Spud: JUN 04, 2006 Spud Date Code: A
TD: 8200 on JUN 25, 2006
LTD:
TVD:
PlugBack Depth: 8144
Completed: AUG 08, 2006
Formation @ TD: 604SEGO Name: SEGO
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5338 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst: 20 BPD

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PI/Dwights PLUS on CD Scout Ticket

Gas:	403 MCFD			Water:	198 BBL
Interval:	6071 - 8017	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	10/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Completed:					
Pressures:	FTP: 1875		SITP:		
	FCP:		SICP:	2600	

Perforations: Interval		Cnt	Type	Shots/Ft		Top Formation	
6071 -	6072			2	FT	604MVRD	MESAVERDE
6099 -	6100			2	FT	604MVRD	MESAVERDE
6155 -	6156			2	FT	604MVRD	MESAVERDE
6164 -	6165			2	FT	604MVRD	MESAVERDE
6174 -	6176			2	FT	604MVRD	MESAVERDE
6185 -	6187			2	FT	604MVRD	MESAVERDE
6204 -	6206			2	FT	604MVRD	MESAVERDE
6253 -	6255			2	FT	604MVRD	MESAVERDE
6272 -	6274			2	FT	604MVRD	MESAVERDE
6327 -	6328			3	FT	604MVRD	MESAVERDE
6373 -	6375			3	FT	604MVRD	MESAVERDE
6387 -	6388			3	FT	604MVRD	MESAVERDE
6490 -	6492			3	FT	604MVRD	MESAVERDE
6507 -	6509			3	FT	604MVRD	MESAVERDE
6527 -	6529			3	FT	604MVRD	MESAVERDE
6683 -	6684			3	FT	604MVRD	MESAVERDE
6689 -	6690			3	FT	604MVRD	MESAVERDE
6797 -	6798			3	FT	604MVRD	MESAVERDE
6812 -	6814			3	FT	604MVRD	MESAVERDE
6822 -	6824			3	FT	604MVRD	MESAVERDE
6841 -	6843			3	FT	604MVRD	MESAVERDE
6849 -	6851			3	FT	604MVRD	MESAVERDE
6911 -	6912			2	FT	604MVRD	MESAVERDE
6917 -	6918			2	FT	604MVRD	MESAVERDE
6931 -	6932			2	FT	604MVRD	MESAVERDE
6942 -	6943			2	FT	604MVRD	MESAVERDE
6957 -	6958			2	FT	604MVRD	MESAVERDE
6991 -	6993			2	FT	604MVRD	MESAVERDE
7012 -	7013			2	FT	604MVRD	MESAVERDE
7021 -	7023			2	FT	604MVRD	MESAVERDE
7034 -	7036			2	FT	604MVRD	MESAVERDE
7045 -	7047			2	FT	604MVRD	MESAVERDE
7118 -	7119			2	FT	604MVRD	MESAVERDE
7137 -	7138			2	FT	604MVRD	MESAVERDE
7152 -	7154			2	FT	604MVRD	MESAVERDE
7161 -	7163			2	FT	604MVRD	MESAVERDE
7170 -	7171			2	FT	604MVRD	MESAVERDE
7195 -	7196			2	FT	604MVRD	MESAVERDE
7227 -	7229			2	FT	604MVRD	MESAVERDE
7261 -	7263			2	FT	604MVRD	MESAVERDE
7295 -	7297			2	FT	604MVRD	MESAVERDE
7338 -	7339			2	FT	604MVRD	MESAVERDE
7357 -	7358			2	FT	604MVRD	MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

7375 -	7376	2	FT	604MVRD	MESAVERDE
7392 -	7393	2	FT	604MVRD	MESAVERDE
7424 -	7425	2	FT	604MVRD	MESAVERDE
7446 -	7447	2	FT	604MVRD	MESAVERDE
7473 -	7474	2	FT	604MVRD	MESAVERDE
7485 -	7487	2	FT	604MVRD	MESAVERDE
7494 -	7495	2	FT	604MVRD	MESAVERDE
7550 -	7552	2	FT	604MVRD	MESAVERDE
7570 -	7572	2	FT	604MVRD	MESAVERDE
7634 -	7635	3	FT	604MVRD	MESAVERDE
7645 -	7646	3	FT	604MVRD	MESAVERDE
7666 -	7667	3	FT	604MVRD	MESAVERDE
7680 -	7681	3	FT	604MVRD	MESAVERDE
7694 -	7695	3	FT	604MVRD	MESAVERDE
7708 -	7709	3	FT	604MVRD	MESAVERDE
7718 -	7720	3	FT	604MVRD	MESAVERDE
7734 -	7735	3	FT	604MVRD	MESAVERDE
7792 -	7793	3	FT	604MVRD	MESAVERDE
7798 -	7800	3	FT	604MVRD	MESAVERDE
7850 -	7851	2	FT	604MVRD	MESAVERDE
7874 -	7875	2	FT	604MVRD	MESAVERDE
7884 -	7885	2	FT	604MVRD	MESAVERDE
7926 -	7927	2	FT	604MVRD	MESAVERDE
7959 -	7961	2	FT	604MVRD	MESAVERDE
7972 -	7974	2	FT	604MVRD	MESAVERDE
7986 -	7987	2	FT	604MVRD	MESAVERDE
8001 -	8003	2	FT	604MVRD	MESAVERDE
8015 -	8017	2	FT	604MVRD	MESAVERDE

Treatments: 1
Interval: 6071 - 6274
Fluid: 50139 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 183919 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 6327 - 6529
Fluid: 48618 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 160731 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 6683 - 6851
Fluid: 49377 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 167934 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

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PI/Dwights PLUS on CD Scout Ticket

Treatments: 4 Interval: 6911 - 7047
Fluid: 52469 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 189977 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 5 Interval: 7118 - 7297
Fluid: 53864 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 190744 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 6 Interval: 7338 - 7572
Fluid: 52857 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 189928 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 7 Interval: 7634 - 7800
Fluid: 50087 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 170708 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 8 Interval: 7850 - 8017
Fluid: 48641 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 171463 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	9 5/8 IN	@	1943	w/	850	sx		
Casing	4 1/2 IN	@	8191	w/	1780	sx		
Tubing	2 3/8 IN						@	6051 TUBING

Drilling Journal

Narrative:	MAY 18, 2005	STATE PAPERWORKPERMIT EXTENDED|
Narrative:	JUN 01, 2006	REPERMITTED 4/27/06
Narrative:	JUN 13, 2006	DRY HOLE SPUD BY ROCKY MNTN DRLG #1 6/4/

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PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

06, WORT

Narrative: DEC 26, 2006 COMPLETED GAS WELL; HOLDING FOR DATA

Lease Acres: 640

Drilling Remark: JUN 01, 2006 REPERMITTED 4/27/06

Formations and Logs

Log # 1 RST @ -
Log # 2 CBVD @ -
Log # 3 CCL @ -
Log # 4 GR @ -

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4123				LOG		652
CHAPITA WELLS	4675				LOG		652
BUCK CANYON	5304				LOG		651
NORTH HORN	5786				LOG		619
ISLAND	5899				LOG		619
PRICE RIVER UPPER	6005				LOG		604
PRICE RIVER MIDDLE	6964				LOG		604
PRICE RIVER LOWER	7593				LOG		604
SEGO	8064				LOG		604

Operator Address

Street or PO Box: P O BOX 1815

City: VERNAL
State, Zip: UT , 84078
Country: USA
Phone: 4357890790 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: TROTTER ED;AGENT;;;;;435;789;0790

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PI/Dwights PLUS on CD Scout Ticket

15ML-26-9-23 NBE

State:	UTAH
County:	UINTAH
Operator:	QEP UINTA BASIN INC
API:	43047356660000 IC:
Initial Class:	D
Target Objective:	GAS
Final Well Class:	DG
Status:	GAS
Field:	NATURAL BUTTES
Permit:	on MAY 03, 2004
First Report Date:	MAY 12, 2004
Projected TD:	8575 Formation: WASATCH
Hole Direction:	VERTICAL

IP Summary:

Oil	Gas	Water	Top Form
	511 MCFD	111 BBL	WASATCH

Location

Section, Twp., Range:	26 9 S 23 E
Spot Code:	SW SW SE
Footage NS EW Origin:	556 FSL 2057 FEL CONGRESS SECTION
Surface Remark:	
Principal Meridian:	SALT LAKE
Lat/Long:	40.0010837 / -109.2915764 IH
PBHL Footage NS EW Origin:	
PBHL Section:	
PBHL Remark:	
ABHL Footage NS EW Origin:	
ABHL Section:	
ABHL Remark:	

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_FIELD	1.6 MI SW NATURAL BUTTES FLD(WASATCH)
DST_TOWN	25.7 I SW DINOSAUR, CO

Dates and Depths

Spud:	SEP 13, 2004 Spud Date Code: A
TD:	8500 on SEP 27, 2004
LTD:	
TVD:	
PlugBack Depth:	8438
Completed:	OCT 16, 2004
Formation @ TD:	604BKTG Name: BUCK TONGUE
Ref. Elevation:	5329 KB
KB. Elevation:	5329
Ground Elevation:	5306 GR
Contractor:	TRUE DRILLING COMPANY
Rig Release Date:	SEP 28, 2004 Rig # 26

IP # 001

Top Formation:	WASATCH
Base Formation:	MESAVERDE

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PI/Dwights PLUS on CD Scout Ticket

Oil:		Condst:	21 BPD
Gas:	511 MCFD	Water:	111 BBL
Interval:	5240 - 8270 GROSS	Method:	FLOWING
Duration of Test:	Hours	Choke:	48/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP:	SITP:	
	FCP: 211	SICP:	

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
5240 -	5254				652WSTC	WASATCH
6835 -	6840				604MVRD	MESAVERDE
6861 -	6866				604MVRD	MESAVERDE
6898 -	6903				604MVRD	MESAVERDE
7287 -	7292				604MVRD	MESAVERDE
7330 -	7340				604MVRD	MESAVERDE
7441 -	7443				604MVRD	MESAVERDE
7501 -	7503				604MVRD	MESAVERDE
7556 -	7558				604MVRD	MESAVERDE
7615 -	7617				604MVRD	MESAVERDE
7665 -	7669				604MVRD	MESAVERDE
7692 -	7693				604MVRD	MESAVERDE
7782 -	7783				604MVRD	MESAVERDE
7906 -	7909				604MVRD	MESAVERDE
7972 -	7974				604MVRD	MESAVERDE
7990 -	7992				604MVRD	MESAVERDE
8003 -	8004				604MVRD	MESAVERDE
8037 -	8039				604MVRD	MESAVERDE
8066 -	8067				604MVRD	MESAVERDE
8087 -	8088				604MVRD	MESAVERDE
8200 -	8202				604MVRD	MESAVERDE
8266 -	8270				604MVRD	MESAVERDE

Treatments: 1
Interval: 5240 - 5254
Fluid: 39690 GAL FRAC Type: FLUD
Additive:
Prop Agent: SAND 96200 LB
Formation Break Down Pressure:
Average Injection Rate: 36.7
Stages: Remarks:

Treatments: 2
Interval: 6835 - 6903
Fluid: 62916 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 51000 LB
Formation Break Down Pressure:
Average Injection Rate: 53
Stages: Remarks: 16# LINEAR GEL, DETAILS: 5000# 100 MESH & 46000# 20/40 MES

Treatments: 3
Interval: 7287 - 7340
Fluid: 52080 GAL FRAC Type: GEL
Additive:
Prop Agent: SAND 45000 LB

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PI/Dwights PLUS on CD Scout Ticket

Formation Break Down Pressure:
Average Injection Rate: 46.7
Stages: Remarks: 16# LINEAR GEL, DETAILS: 5000# 100 MESH & 40000# 20/40 MES

Treatments: 4
Interval: 7441 - 7783
Fluid: 115794 GAL FRAC Type: X-LINKGEL
Additive: WGEL
Prop Agent: SAND 296000 LB
Formation Break Down Pressure:
Average Injection Rate: 49
Stages: Remarks: 18# 2% KCL, DETAILS: 5000# 100 MESH & 291000# 20/40 MESH S

Treatments: 5
Interval: 7906 - 8202
Fluid: 74088 GAL FRAC Type: X-LINKGEL
Additive: WGEL
Prop Agent: SAND 61000 LB
Formation Break Down Pressure:
Average Injection Rate: 55
Stages: Remarks: 2% KCL, DETAILS: 5000# 100 MESH & 56000# 20/40 MESH SD

Treatments: 6
Interval: 8266 - 8270
Fluid: 400 GAL ACID Type: A
Additive: HCL
Prop Agent:
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: 28%

Treatments: 7
Interval: 8266 - 8270
Fluid: 5880 GAL FRAC Type: FLUD
Additive:
Prop Agent:
Formation Break Down Pressure:
Average Injection Rate: 14.3
Stages: Remarks:

Remarks on IP Test # 001 LEASE PRODUCED 556 BC, 5591 MCFG, 2250 BW/ 30 DAYS - NOVEMBER 2004

Casing, Liner, Tubing

Casing	9 5/8 IN	@	2046	w/	2125	sx	
Casing	5 1/2 IN	@	8500	w/	1835	sx	
Tubing	2 3/8 IN					@	7889 TUBING

Drilling Journal

Narrative:	SEP 20, 2004	RIGGING UP ROTARY TOOLS
Narrative:	SEP 24, 2004	DRLG @ 6910
Narrative:	SEP 28, 2004	WOCT
Narrative:	MAR 17, 2005	COMPLETED GAS WELL; HOLDING FOR DRLG/COMP DETAILS
Narrative:	APR 27, 2005	COMPLETED GAS WELL; WILL BE REISSUED IF ADDITIONAL DATA BECOMES AVAILABLE

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PI/Dwights PLUS on CD Scout Ticket

Drilling Journal

Lease Acres: 1780

Formations and Logs

Log # 1	GR	@	-
Log # 2	CBND	@	-
Log # 3	CNL	@	-
Log # 4	LDT	@	-
Log # 5	AISF	@	-
Log # 6	SONL	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UINTA	0				LOG		652
GREEN RIVER	1410				LOG		652
MAHOGANY MARKER	2365				LOG		652
WASATCH	4310				LOG		652
MESAVERDE	6110				LOG		604
BUCK TONGUE	8500				LOG		604

Operator Address

Street or PO Box: 11002 E 17500 S

City: VERNAL
State, Zip: UT , 84078
Country: USA
Phone: 4357814341 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: BUSCH JOHN;OPERATIONS;;;;;435;781;4341

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PI/Dwights PLUS on CD Scout Ticket

1023-1G BONANZA

State: UTAH
County: UINTAH
Operator: WESTPORT O&G CO LP
API: 43047355120000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on FEB 23, 2004
First Report Date: MAR 04, 2004
Projected TD: 8175 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		1829 MCFD	320 BBL	WASATCH

Location

Section, Twp., Range: 1 10 S 23 E
Spot Code: NE SW NE
Footage NS EW Origin: 1805 FNL 1898 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9801528 / -109.2721375 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:	Type	Remark
	SCALED_FOOT	REGULATORY
	IRREG_SECT	N
	DST_TOWN	32.3 MI SE OURAY, UT

Dates and Depths

Spud: JAN 20, 2005 Spud Date Code: A
TD: 7870 on MAR 10, 2005
LTD:
TVD:
PlugBack Depth: 7817
Completed: APR 22, 2005
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5455 GR
Contractor: CAZA DRILLING
Rig Release Date: Rig # 82

IP # 001

Top Formation: WASATCH
Base Formation: MESAVERDE
Oil: Condst:

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PI/Dwights PLUS on CD Scout Ticket

Gas:	1829 MCFD	Water:	320 BBL
Interval:	5682 - 7676 GROSS	Method:	FLOWING
Duration of Test:	Hours	Choke:	20/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP: 924 SITP:		
	FCP: SICP: 1289		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
5682 -	5686	16			652WSTC	WASATCH
6401 -	7676	116			604MVRD	MESAVERDE

Treatments: 1
Interval: 5682 - 5686
Fluid: 1175 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 186478 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: DETAILS: LIGHTNING 18 GEL

Treatments: 2
Interval: 6401 - 7676
Fluid: 6257 BBL FRAC Type: GEL
Additive:
Prop Agent: SAND 780194 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: DETAILS: LIGHTNING 18 GEL

Casing, Liner, Tubing

Casing	14 IN	@	22	w/	30	sx	
Casing	9 5/8 IN	@	1850	w/	1540	sx	
Casing	4 1/2 IN	@	7870	w/	1382	sx	
Tubing	2 3/8 IN					@	5513 TUBING

Drilling Journal

Narrative:	FEB 22, 2005	DRLG @ 2000
Narrative:	FEB 25, 2005	DRLG @ 6288
Narrative:	MAR 01, 2005	DRILLING @ 7845
Narrative:	MAR 15, 2005	COH
Narrative:	MAR 29, 2005	WOCT
Narrative:	JUN 07, 2005	COMPLETED GAS WELL; HOLDING FOR LOGS, PERF, FRAC DETAILS

Lease Acres: 642

Formations and Logs

Log # 1	MICL	@	-
Log # 2	GR	@	-
Log # 3	CBND	@	-
Log # 4	PDS	@	-
Log # 5	AISF	@	-
Log # 6	CNL	@	-
Log # 7	CDL	@	-

Top Formation	Measured	Top	Base	Base	Source	Lith-	Age

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PI/Dwights PLUS on CD Scout Ticket

Formations and Logs

	Depth	TVD	Depth	TVD		ology	code
WASATCH	4000		6072		LOG		652
MESAVERDE	6072				LOG		604

Operator Address

Street or PO Box: 1368 S 1200 E

City: VERNAL
State, Zip: UT , 84078
Country: USA
Phone: 4357817060 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: UPCHEGO SHEILA;REGULATORY ANALYST;;;;;435;781;7024

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PI/Dwights PLUS on CD Scout Ticket

09-23-21-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: ENDURING RES LLC
API: 43047365300000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 19, 2005
First Report Date: JUL 27, 2005
Projected TD: 8290 Formation: CASTLEGATE
Hole Direction: VERTICAL
IP Summary:

Oil	Gas	Water	Top Form
13 BPD	189 MCFD	20 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: NW NE NW
Footage NS EW Origin: 464 FNL 1815 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9983056 / -109.2730324 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:
Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: APR 14, 2006 Spud Date Code: A
TD: 8085 on OCT 15, 2006
LTD:
TVD:
PlugBack Depth: 8005
Completed: JAN 03, 2007
Formation @ TD: 503WNGT Name: WINGATE
Ref. Elevation: 5346 KB
KB. Elevation: 5346
Ground Elevation: 5330.5 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: 13 BPD Condst:
Gas: 189 MCFD Water: 20 BBL

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PI/Dwights PLUS on CD Scout Ticket

Interval: 7029 - 7808 Method: UNDESIGNATED
Duration of Test: Hours Choke: 64/64
Oil: Gravity: GOR:
Prod Method: PERF
Pressures: FTP: 400 SITP:
FCP: SICP: 600

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
7029 -	7808				604MVRD	MESAVERDE

Treatments: 1 Interval: 7029 - 7808
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 164395 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	14 IN	@	3	w/	3	sx		
Casing	8 5/8 IN	@	1962	w/	1115	sx		
Casing	4 1/2 IN	@	8049	w/	1295	sx		
Tubing	2 3/8 IN						@	6926 TUBING

Drilling Journal

Narrative: APR 24, 2006 DRY HOLE SPUD 4/14/06, WORT
Lease Acres: 640

Formations and Logs

Log # 1	GR	@	-
Log # 2	AIL	@	-
Log # 3	CCL	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	883				LOG		652
WASATCH	4183				LOG		652
MESAVERDE	5899				LOG		604

Old Information

Prior Well Number: 3-36-9-23
Spud Date: APR 14, 2006
Old TD:

Operator Address

Street or PO Box: 475 17TH STREET
STE 1500

City: DENVER
State, Zip: CO , 80202
Country: USA
Phone: 3033505114 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM;;;;;;713;830;6800

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PI/Dwights PLUS on CD Scout Ticket

1023-1C BONANZA

State: UTAH
County: UINTAH
Operator: WESTPORT O&G CO LP
API: 43047357540000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on MAY 27, 2004
First Report Date: JUN 02, 2004
Projected TD: 8050 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		741 MCFD	520 BBL	WASATCH

Location

Section, Twp., Range: 1 10 S 23 E
Spot Code: NE NE NW
Footage NS EW Origin: 602 FNL 2118 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9834260 / -109.2766802 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	32.3 MI SE OURAY,UTAH

Dates and Depths

Spud: JUN 28, 2005 Spud Date Code: A
TD: 7840 on JUL 04, 2005
LTD:
TVD:
PlugBack Depth: 7776
Completed: AUG 11, 2005
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5401 GR
Contractor: CAZA DRILLING
Rig Release Date: Rig # 82

IP # 001

Top Formation: WASATCH
Base Formation: MESAVERDE
Oil: Condst:

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PI/Dwights PLUS on CD Scout Ticket

Gas:	741 MCFD			Water:	520 BBL
Interval:	-	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	20/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP: 658	SITP:			
	FCP: 1277	SICP:			

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
	-				652WSTC	WASATCH
	-				604MVRD	MESAVERDE

Casing, Liner, Tubing

Casing	9 5/8 IN	@	2100	w/	sx
Casing	4 1/2 IN	@	7810	w/	sx

Drilling Journal

Narrative: JUL 01, 2005	DRLG @ 6200
Narrative: JUL 13, 2005	WOCT
Narrative: NOV 23, 2005	COMPLETED GAS WELL; HOLDING FOR CSG, LOGS, PERF, FRAC AND IP DETAILS

Lease Acres: 642.36

Formations and Logs

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
WASATCH	4025				LOG		652
MESAVERDE	6079				LOG		604

Operator Address

Street or PO Box:	1368 S 1200 E
City:	VERNAL
State, Zip:	UT , 84078
Country:	USA
Phone:	4357817060
Fax:	
E-Mail:	
Agent Name:	
Agent Code:	
Agent Remark:	UPCHEGO SHEILA;;;;;;435;781;7024

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PI/Dwights PLUS on CD Scout Ticket

8C-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047357710000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 28, 2004
First Report Date: AUG 03, 2004
Projected TD: 8140 Formation: WASATCH
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		3000 MCFD	30 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SW SE NE
Footage NS EW Origin: 2185 FNL 694 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9935766 / -109.2678295 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N

Dates and Depths

Spud: AUG 26, 2004 Spud Date Code: A
TD: 8160 on SEP 01, 2004
LTD:
TVD:
PlugBack Depth:
Completed: JAN 30, 2005
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation:
KB. Elevation:
Ground Elevation: 5423 GR
Contractor: TRUE DRILLING COMPANY
Rig Release Date: SEP 02, 2004 Rig # 27

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 3000 MCFD Water: 30 BBL

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PI/Dwights PLUS on CD Scout Ticket

Interval: 7031 - 7889 Method: FLOWING
Duration of Test: Hours Choke:
Oil: Gravity: GOR:
Prod Method: PERF

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
7031 -	7889			604MVRD	MESAVERDE

Treatments: 1 Interval: -
Fluid: FRAC Type:
Additive:
Prop Agent:
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

Casing	8 5/8 IN	@	1899	w/	sx
Casing	4 1/2 IN	@	8122	w/	sx

Drilling Journal

Narrative: SEP 07, 2004 WOCT
Narrative: OCT 05, 2004 COMPLETING
Narrative: NOV 16, 2004 SI WOPL
Lease Acres: 640

Formations and Logs

Log # 1 AISF @ -
Logging Co. 153789
Log # 2 LDT @ -
Logging Co. 153789
Log # 3 CNL @ -
Logging Co. 153789
Log # 4 CALP @ -
Logging Co. 153789
Log # 5 SP @ -
Logging Co. 153789
Log # 6 GR @ -
Logging Co. 153789

Operator Address

Street or PO Box:

City:
State, Zip: ,
Country:
Phone: Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM A;AGAENT;;;;;713;830;6800

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PI/Dwights PLUS on CD Scout Ticket

16C-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047357720000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on JUL 07, 2004
First Report Date: JUL 14, 2004
Projected TD: 8140 Formation: MESAVERDE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		2300 MCFD	120 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SW SE SE
Footage NS EW Origin: 542 FSL 736 FEL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9866223 / -109.2680148 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:	Type	Remark
	SCALED_FOOT	REGULATORY
	IRREG_SECT	N

Dates and Depths

Spud: AUG 17, 2004 Spud Date Code: A
TD: 8003 on AUG 20, 2004
LTD:
TVD:
PlugBack Depth: 7916
Completed: OCT 05, 2004
Formation @ TD: 604SEGO Name: SEGO
Ref. Elevation: 5444 KB
KB. Elevation: 5444
Ground Elevation: 5432 GR
Contractor: TRUE DRILLING COMPANY
Rig Release Date: AUG 21, 2004Rig # 27

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst:
Gas: 2300 MCFD Water: 120 BBL

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Interval:	6634 - 7763	GROSS		Method:	FLOWING
Duration of Test:	Hours			Choke:	20/64
Oil:	Gravity:			GOR:	
Prod Method:	PERF				
Pressures:	FTP: 950	SITP:			
	FCP: 1350	SICP:			

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation	
6634 -	6647	39			604MVRD	MESAVERDE
6684 -	6708	72			604MVRD	MESAVERDE
6826 -	6842	48			604MVRD	MESAVERDE
7011 -	7015	18			604MVRD	MESAVERDE
7069 -	7101	96			604MVRD	MESAVERDE
7128 -	7132	12			604MVRD	MESAVERDE
7147 -	7153	18			604MVRD	MESAVERDE
7162 -	7165	9			604MVRD	MESAVERDE
7178 -	7184	18			604MVRD	MESAVERDE
7526 -	7534	24			604MVRD	MESAVERDE
7582 -	7588	18			604MVRD	MESAVERDE
7622 -	7627	15			604MVRD	MESAVERDE
7641 -	7648	21			604MVRD	MESAVERDE
7655 -	7662	21			604MVRD	MESAVERDE
7674 -	7682	24			604MVRD	MESAVERDE
7689 -	7698	27			604MVRD	MESAVERDE
7723 -	7726	9			604MVRD	MESAVERDE
7754 -	7763	27			604MVRD	MESAVERDE

Treatments: 1
Interval: 6634 - 6842
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 159500 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 2
Interval: 7011 - 7184
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 4200 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Treatments: 3
Interval: 7526 - 7763
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 172800 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks:

Casing, Liner, Tubing

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Casing, Liner, Tubing

Casing	13 3/8 IN	@	40	w/		sx		
Casing	9 5/8 IN	@	1925	w/	1300	sx		
Casing	4 1/2 IN	@	8003	w/	1460	sx		
Tubing	2 3/8 IN						@	7744 TUBING

Drilling Journal

Narrative:	AUG 17, 2004	RIGGING UP ROTARY TOOLS
Narrative:	AUG 18, 2004	DRY HOLE SPUD 8/10/04 BY PETE MARTIN BUC KET RIG, RURT
Narrative:	AUG 23, 2004	DRILLING @ 8003
Narrative:	AUG 30, 2004	DRLD - NO FURTHER DETAIL
Narrative:	SEP 07, 2004	WOCT
Narrative:	OCT 05, 2004	COMPLETING
Narrative:	NOV 16, 2004	SI WOPL
Lease Acres:	640	

Formations and Logs

Log # 1	AISF	@	1924	-	7996
Logging Co.	153789				
Log # 2	PLEX	@	1924	-	7996
Logging Co.	153789				
Log # 3	REST	@	1924	-	7996
Logging Co.	153789				
Log # 4	CALP	@	1924	-	7996
Logging Co.	153789				
Log # 5	PDS	@	1924	-	7996
Logging Co.	153789				
Log # 7	CVL	@	1924	-	7996
Logging Co.	153789				

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
UTELAND BUTTES	3943				LOG		652
WASATCH	4043				LOG		652
MESAVERDE	5836				LOG		604
SEGO	7903				LOG		604

Operator Address

Street or PO Box:	1100 LOUISIANA STREET STE 2000		
City:	HOUSTON		
State, Zip:	TX , 770025219		
Country:	USA		
Phone:	7138306913	Fax:	
E-Mail:			
Agent Name:		Agent Code:	
Agent Remark:	RYAN WILLIAM A;AGENT;;;;;713;830;6800		

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

9-23-23-36 SOUTHMAN CANYON

State: UTAH
County: UINTAH
Operator: HOUSTON EXP CO THE
API: 43047365350000 IC:
Initial Class: D
Target Objective: GAS
Final Well Class: DG
Status: GAS
Field: NATURAL BUTTES
Permit: on MAY 10, 2005
First Report Date: MAY 17, 2005
Projected TD: 8235 Formation: CASTLEGATE
Hole Direction: VERTICAL

IP Summary:	Oil	Gas	Water	Top Form
		538 MCFD	33 BBL	MESAVERDE

Location

Section, Twp., Range: 36 9 S 23 E
Spot Code: SW NE SW
Footage NS EW Origin: 1965 FSL 1953 FWL CONGRESS SECTION
Surface Remark:
Principal Meridian: SALT LAKE

Lat/Long: 39.9904715 / -109.2772605 IH
PBHL Footage NS EW Origin:
PBHL Section:
PBHL Remark:
ABHL Footage NS EW Origin:
ABHL Section:
ABHL Remark:

Location Narrative:

Type	Remark
SCALED_FOOT	REGULATORY
IRREG_SECT	N
DST_TOWN	50.4 MI S VERNAL, UT

Dates and Depths

Spud: AUG 07, 2006 Spud Date Code: A
TD: 8050 on AUG 16, 2006
LTD:
TVD:
PlugBack Depth: 7997
Completed: OCT 09, 2006
Formation @ TD: 604MVRD Name: MESAVERDE
Ref. Elevation: 5421 KB
KB. Elevation: 5421
Ground Elevation: 5404.5 GR
Contractor: NOT REPORTED
Rig Release Date: Rig #

IP # 001

Top Formation: MESAVERDE
Base Formation: MESAVERDE
Oil: Condst: UC

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Date: 9/17/2008
Time: 9:57 AM

PI/Dwights PLUS on CD Scout Ticket

Gas:	538 MCFD	Water:	33 BBL
Interval:	6982 - 7840	Method:	FLOWING
Duration of Test:	Hours	Choke:	17/64
Oil:	Gravity:	GOR:	
Prod Method:	PERF		
Pressures:	FTP: SITP:		
	FCP: 1031 SICP:		

Perforations:	Interval	Cnt	Type	Shots/Ft	Top Formation
6982 -	7840	6		604MVRD	MESAVERDE

Treatments: 1

Interval: 6982 - 7840
Fluid: FRAC Type:
Additive:
Prop Agent: SAND 259193 LB
Formation Break Down Pressure:
Average Injection Rate:
Stages: Remarks: OTTAWA SD

Casing, Liner, Tubing

Casing	14 IN	@	40	w/	3	sx
Casing	8 5/8 IN	@	1943	w/	1050	sx
Casing	4 1/2 IN	@	8042	w/	1357	sx

Drilling Journal

Lease Acres: 640

Formations and Logs

Log # 1	AISF	@	-
Log # 2	GR	@	-
Log # 3	REST	@	-
Log # 4	POR	@	-

Top Formation	Measured Depth	Top TVD	Base Depth	Base TVD	Source	Lith-ology	Age code
GREEN RIVER	2481				LOG		652
WASATCH	4128				LOG		652
MESAVERDE	5890				LOG		604

Old Information

Prior Well Number: 11-36-9-23
Spud Date: AUG 07, 2006
Old TD:

Operator Address

Street or PO Box: 1100 LOUISIANA STREET
STE 2000

City: HOUSTON
State, Zip: TX , 770025219
Country: USA
Phone: 7138306938 Fax:
E-Mail:
Agent Name: Agent Code:
Agent Remark: RYAN WILLIAM;AGENT;;;;;713;830;6800

FORM 9

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

5. LEASE DESIGNATION AND SERIAL NUMBER: ML-47782

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

7. UNIT or CA AGREEMENT NAME: N/A

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Water Disposal

8. WELL NAME and NUMBER: Southman Cyn 9-23-22-36 WDW

2. NAME OF OPERATOR: Enduring Resources, LLC

9. API NUMBER: 4304735362

3. ADDRESS OF OPERATOR: 475 17th Street, Suite 1500 CITY Denver STATE CO ZIP 80202

PHONE NUMBER: (303) 350-5114

10. FIELD AND POOL, OR WILDCAT: Natural Buttes

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 2466' FNL - 2271' FWL S.L.B.& M.

COUNTY: Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 36 9S 23E S

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
11/3/2008	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☑ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☑ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Repair to Water Disposal
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

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

1. Have requested and received approval to conduct the attached operations from the EPA via email.
2. EPA Water Disposal Permit #UT2106-07149 (as amended).
3. Have a water disposal agreement with SITLA ~~pending.~~
4. Enduring Resources owns all the contiguous, leasehold interest, off-set, well locations in all directions.

Request approval to conduct operations set forth in attachment.

a. Subject to the conditions set forth in the attached EPA Water Disposal Permit #UT2106-07149, and
b. Subject to an agreement with SITLA to dispose water on SITLA lands.

COPY SENT TO OPERATOR
Date: 11.25.2008
Initials: KS

NAME (PLEASE PRINT) Alvin R. (Al) Arlian

TITLE Landman - Regulatory Specialist

SIGNATURE [signature]

DATE 11/3/2008

(This space for State use only)

REQUEST DENIED
Utah Division of Oil, Gas and Mining
Date: 11/20/08
By: [signature]

RECEIVED
NOV 04 2008
DIV. OF OIL, GAS & MINING

(5/2000)

(See Instructions on Reverse Side)

* proposed injection interval within producing gas reservoir

Southman Canyon 9-23-22-36 WD
Workover-Recompletion
Convert to Water Disposal Well
Uintah County, UT

Well Data:

Location:	2,466' FNL & 2,271' FWL Section 36 T9S R23E SENE	
API Number:	43 047 35362	
Spud Date:	2/18/04	
Elevation (graded):	5,370' GL	5,382' KB
Depths:	8,552' TD	8,506' PBTD Float Collar 6890' to 6800' balance cmt plug, 25 sx
Surface Casing:	9-5/8" 36# J-55 @ 2,006' Cmt w/ 329 sx G, bump plug, float held, six 1" jobs from surface w/500sx, tag @ 60'	
Production Casing:	5-1/2" 17# N-80 @ 8,552', cmt w/ 200 sx Lite & 1215 sx G, bumped plug, good returns, set slips w/134K	
Tubing:	146 jnt 2-7/8 internally coated tbg	
Packer:	5-1/2" nickel plated Arrowset w/1.85" nipple, set at 4499' w/8000# compression	
Perfs & fracs:	7808'-28' & 7845'-52', w/ 3spf, frac w/ 127,560# 20/40, 685 bbl 30# gel & 142 tons CO2, BD 3088#, ATP 3300#, AIR 14 BPM, ISIP 2460# 7503'-05', 7528'-36', 7570'-74' & 7618'-22' w/ 3spf, frac w/60540# 20/40, 80 ton CO2, BD @ 4620#, ATP 3100#, AIR 9 bpm, ISIP 3000# 6944'-64' w/ 3 spf, frac w/ 64460# 20/40, 100 ton CO2, BD @ 3702#, ATP 2200#, AIR 14 BPM, ISIP 1860# 4681-4700', 4600-22' & 4560-72' w/ 4 SPF, 32 gram, .93" hole 8-29-07	
Breakdown:	4681-4700', 4200# BD, 2.5 BPM @ 1600#, 1.5 BPM @ 1000#, 2.5 BPM @ 1400#, 2 BPM @ 1500#, ISIP 950#, 15 min 850# 4560-72' & 4600-22', 2400# BD, 3.5 BPM @ 1400#, 2.5 BPM @ 1200#, 3 BPM @ 1100#, 2.5 BPM @ 1050#, 2 BPM @ 1000#, ISIP 950# 4560-4572', 2 BPM @ 1800#, 3.5 BPM # 1600#, ISIP 800#	
Acid:	4681-4700', 500 gal 15% HCl, 3.5 BPM @ 1700#, 100# break w/acid on perfs, ISIP 990#, 15 min 700# 4600-22', 500 gal 15% HCl, 3.5 BPM @ 1850#, 50# drop w/ acid on perfs, ISIP 970#, 15 min 600# 4560-72', 500 gal 15% HCl, 3.5 BPM @ 1600#, no pressure break, ISIP 980#, 15 min 615#	
Note:	Production casing is 5-1/2". Ran scraper in well to 7912' on 12/9/05. Keep accurate talley on amount and types of fluids used.	

General Procedure:

1. Check anchors, wellhead for x-over to BOP and record SITP and SICP. Backflow well to

tanks. Remove wellhead cover.

2. MIRU pulling unit, tank, power swievel, work string and pump. If necessary kill well w/weighted brine.

3. ND WH, NU BOP. Upseat pkr and TOOH. Catch scale sample if any seen and have analyzed.

4. GIH w/bit & scraper and work string and drill up cmt and CIBP at 3450', 6000' & 6140'. Clean out to +/- 6550'. Cir until returns clean and TOOH.

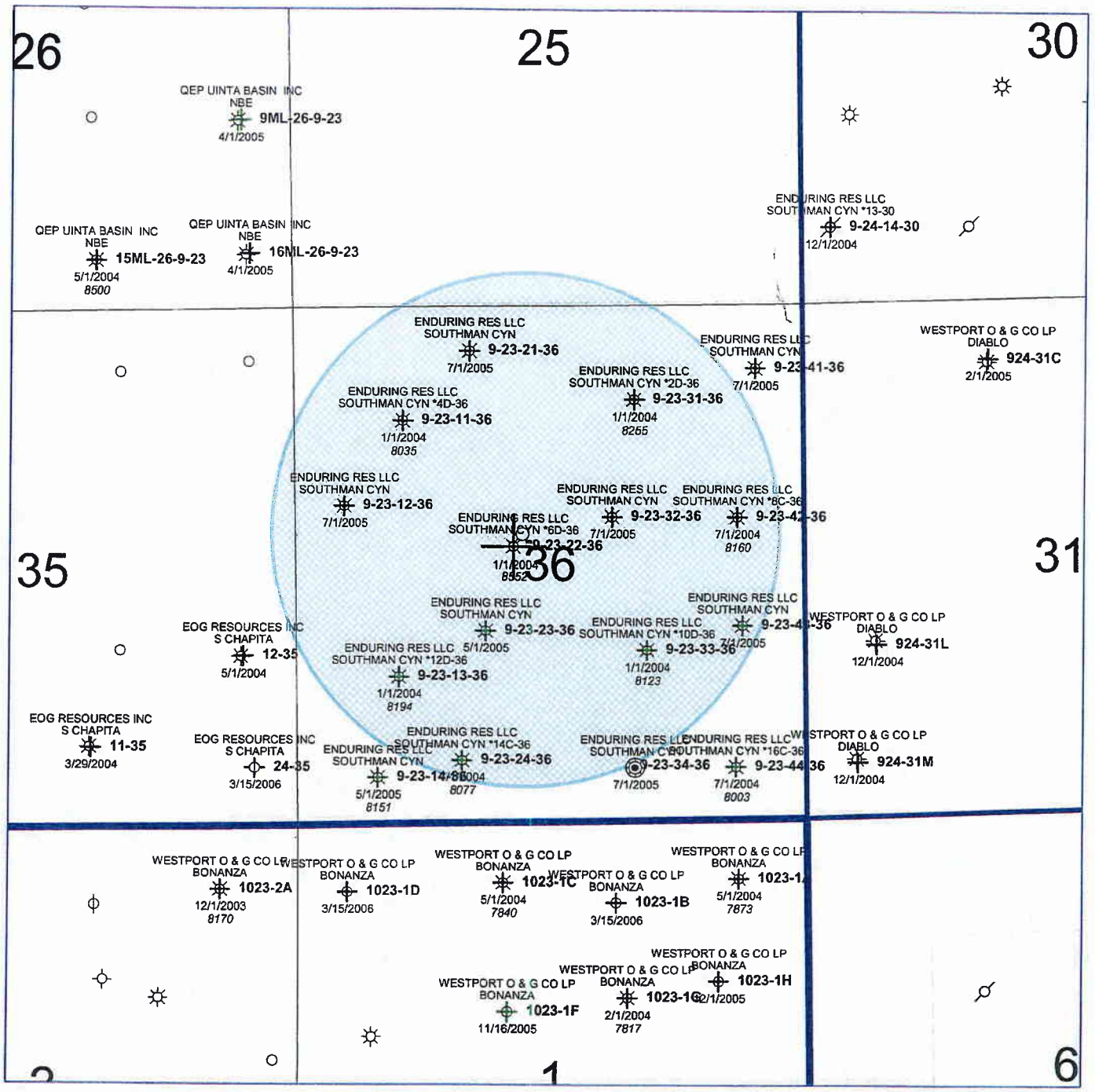
5. WU WL and set CIBP at +/- 6525'. Dump bail 50' cmt plug on top of CIBP. RU & perf the Mesaverde at 6410-17', 6276-82', 6194-6202', 6125-33', 6043-79', 5529-38', 5370-92', 5070-92', 5001-18', 4909-23', 4803-40' & 4733-50' and the Wasatch at 4603-12', 4066-79 & 3700-07' using casing guns with 2 SPF.

6. GIH w/ RBP and pkr to isolated and breakdown each new set of perfs. Over flush each interval with 5 bbl 3% KCL wtr. Record injection rate, pressure and ISIP for each set of perfs. Set RBP +/- 6425' and pkr at +/- 4700' to isolate Mesaverde intervals. Run and swb back load. Catch fluid sample when load is recovered. After a representative formation fluid sample is obtained unset prk, rec RBP and set RBP at 4650' and pkr at 2975' and swb test Wasatch intervals. Catch fluid sample when load is recovered.

7. Unset prk, retrieve RBP and TOOH laying down work string.

8. GIH w/pkr and injection string. Set pkr at +/- 2950'. ND BOP and NU WH. Test annulas to 300# to ensure no leaks.

9. RDMO PU.



1 inch = 1500 feet

0.2500 0 0.2500 mi

Proposed W-INJ Locations

1/4 Mile Radius

1/2 ~~One~~ Mile Radius

Enduring Resources

Uintah County, Utah

T9S-R23E-36 Proposed Disposal Well

Author: K. Donze		Date: 29 March, 2006
	SC 9-23-36_Topo_W-Inj.gmp	

API Well No: 43047353620000

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML47782

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: Water Disposal Well

8. WELL NAME and NUMBER: SOUTHMAN CYN 9-23-22-36

2. NAME OF OPERATOR: Enduring Resources, LLC

9. API NUMBER: 43047353620000

3. ADDRESS OF OPERATOR: 475 17th Street, Suite 1500 , Denver, CO, 80202
PHONE NUMBER: 303 350-5114 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 2466 FNL 2271 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 36 Township: 09.0S Range: 23.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 12/9/2009	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	✓ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

This well was re-completed as a water disposal well. EPA has approved reperforation within original approved perforation interval. Re-perf: 4 holes per foot... 4568' - 4572' 4601' - 4606' 4684' - 4694' 5608' - 5615'

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
December 14, 2009

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Alvin Arlian	303 350-5114	Landman-Regulatory
SIGNATURE: N/A		DATE: 12/9/2009

RECEIVED December 09, 2009

API Well No: 43047353620000

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML47782

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
SOUTHMAN CYN 9-23-22-36

2. NAME OF OPERATOR:
Enduring Resources, LLC

9. API NUMBER:
43047353620000

3. ADDRESS OF OPERATOR:
475 17th Street, Suite 1500 , Denver, CO, 80202

PHONE NUMBER:
303 350-5114 Ext

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
2466 FNL 2271 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 36 Township: 09.0S Range: 23.0E Meridian: S

COUNTY:
UINTAH

STATE:
UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ SUBSEQUENT REPORT Date of Work Completion: 12/11/2009	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	✓ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

With prior approval of EPA. MIRU JW Wireline. Lift off WH house with JW boom truck. Disassemble WH. RU JW Wireline to 2-7/8" WH flange. Make dummy run to 5800'. Perforate the following Wasatch intervals with 1-11/16 strip guns, 4 jspf, 60 degree phasing. .24" diameter holes, 19.31" penetration. 1519 psi pumping pressure when well shut in to perf. Perf Pressure 5608-5615 1481 4684-4694 1483 4601-4606 1481 4568-4572 1481 A total of 26' and 104 holes were perforated Put WH house back on with JW boom truck. Release rig and crew. Return well back to injection.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
December 17, 2009

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Alvin Arlian	303 350-5114	Landman-Regulatory
SIGNATURE		**DATE**
N/A		12/17/2009

RECEIVED December 17, 2009

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

RECEIVED
NOV 0 4 2010
DIV. OF OIL, GAS & MINING

Ref: 8ENF-UFO

OCT 2 9 2010

CERTIFIED MAIL 7005-0390-0000-4846-7326
RETURN RECEIPT REQUESTED

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY

J.T. Conley, Operations Manager
Enduring Resources
475 17th Street, Suite 1500
Denver, Colorado 80202

43 047 35362
9S 22E 36

Re: Underground Injection Control (UIC)
Conditional Approval: Temporary MAIP Increase
Buck Camp #11-22-14-36 Well
EPA Permit No. UT21062-07150; and
Southman Canyon #9-23-22-36 Well
EPA Permit No. UT21061-07149
Rock House Gas Field
Uintah County, Utah

Dear Mr. Conley:

On October 21, 2010, Nathan Wiser of our UIC program received an e-mail from you regarding the two above-referenced Class II salt water disposal wells operating under EPA-issued permits. You requested authorization to temporarily inject chlorine dioxide fluid into the perforations of each well, described as clogged, at a wellhead pressure up to approximately 3,000 pounds per square inch (psi). Inasmuch as the two wells have maximum allowable injection pressures (MAIPs) below this value (well #11-22-14-36 MAIP is 1400 psi and well #9-23-22-36 well MAIP is 1310 psi), this surface pressure will exceed each well's pressure limit established at Part II(C)(3) in each above-referenced UIC permit.

The stated goal of this work is to improve each well's injectivity. The procedure described in your e-mail request will involve injecting about 234 barrels of fluid into the #11-22-14-36 well and about 419 barrels of fluid into the #9-23-22-36 well. Your proposal is hereby conditionally approved and Enduring Resources may proceed with the stimulation work.

The condition for approval is that Enduring Resources agrees to monitor pressure both on the injection string and the annulus between the surface and production casing during the stimulation event. If more than 10% of the injection pressure is observed on the monitored annulus, the stimulation must shut down to allow on-site personnel to evaluate whether uncontrolled loss of injected fluid took place. This temporary MAIP increase is limited to the proposed stimulation work at each well.

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Pursuant to Part III(E)(8) of each UIC permit, you are required to submit to EPA's UIC compliance staff the information listed below within 30 calendar days after completion of the stimulation work at each well:

a. The cumulative fluid volume injected into the well for the entire stimulation event;
b. The trade name with chemical description and volume, of all fluid types injected during the stimulation;
c. The volume of the fluid flowed back after the stimulation event (if any);
d. The final disposition of the volume of fluid flowed back (if any); and
e. A recorded pressure vs. time graph showing the entire stimulation event. The graph must display the monitored wellhead injection pressure and the wellhead production/surface casing annulus pressure.

If either well's tubing is removed or packer unseated, the tubing and packer must be reset in the well within 100 feet of the uppermost perforations, and the results of an internal MIT (annulus pressure test) must be submitted for evaluation prior to EPA authorizing normal injection to resume. If the tubing and packer remain unchanged during the stimulation, then this step is not applicable and normal injection may resume without separate EPA approval.

Failure to comply with a UIC permit or the UIC regulations found at 40 C.F.R. Parts 144 and 146 constitutes one or more violations of the Safe Drinking Water Act, 42 U.S.C. §300h. Such non-compliance may subject you to formal enforcement by EPA, as codified at 40 C.F.R. Part 22.

If you have any questions concerning this letter, you may contact Nathan Wiser at (303) 312-6211. Please direct correspondence about this matter to the attention of **Nathan Wiser at Mail Code 8ENF-UFO.**

Sincerely,

Sandra A. Stavnes, Director
UIC/FIFRA/OPA Technical Enforcement Programs

cc: Frances Poowegup, Vice Chairwoman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Phillip Chimburas, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Curtis Cesspooch, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
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Stewart Pike, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
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Irene Cuch, Councilwoman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Richard Jenks, Jr., Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Mike Natchees, Environmental Coordinator
Ute Indian Tribe
P.O. Box 460
Fort Duchesne, Utah 84026

Manuel Myore, Energy, Minerals and Air Director
Ute Indian Tribe
P.O. Box 70
Fort Duchesne, Utah 84026

Dan Jarvis
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 WYNKOOP STREET
DENVER, CO 80202-1129
http://www.epa.gov/region8

SEP 03 2015

Ref: 8P-W-UIC

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Alex Campbell
Enduring Resources, LLC
511 Sixteenth Street
Suite 700
Denver, Colorado 80202

Re: FINAL Major Modification 3
EPA UIC Permit UT21061-07149
Well: Southman Canyon 9-23-22-36 WD
SENW Sec. 36-T9S-R23E
Uintah County, Utah
API No.: 43-047-35362

Dear Mr. Campbell:

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Program Permit for the proposed Southman Canyon 9-23-22-36 WD injection well. A Statement of Basis that discusses the conditions and requirements of this Environmental Protection Agency (EPA) UIC Permit, is also included.

The public comment period for this permit ended on July 9, 2015. No comments on the draft permit were received during the public notice period; therefore the effective date for this EPA UIC Permit is the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect as of the Effective Date of this Permit.

Please note that under the terms and conditions of this final permit you are authorized only to construct the proposed injection well. Prior to commencing injection, you first must fulfill all "Prior to Commencing Injection" requirements of the final permit, Part II Section C.1, and obtain written Authorization to Inject from EPA. It is your responsibility to be familiar with and to comply with all provisions of your final permit. The EPA forms referenced in the permit are available at http://www.epa.gov/safewater/uic/reportingforms.html. Guidance documents for Cement Bond Logging, Radioactive Tracer Testing, Step Rate Testing, Mechanical Integrity Demonstration, Procedure in the Event of a Mechanical Integrity Loss, and other UIC guidances, are available at http://www.epa.gov/region8/water/uic/deep_injection.html.

Upon request, hard copies of the EPA forms and guidances can be provided.

This EPA UIC permit is issued for the operating life of the well unless terminated (Part III, Section B). The EPA may review this permit at least every five (5) years to determine whether any action is warranted pursuant to 40 CFR § 144.36(a).

If you have any questions on the enclosed final permit or Statement of Basis, please call Bruce Suchomel of my staff at (303) 312-6001, or toll-free at (800) 227-8917, extension 312-6001.

Sincerely,

Darcy O'Connor
Acting Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

enclosure: Final UIC Permit
Statement of Basis

cc letter only:

Uintah & Ouray Business Committee
Honorable Shaun Chapoose, Chairman
Edred Secakuku, Vice-Chairman
Reannin Tapoof, Executive Assistant

Bartholomew Stevens, Superintendent
BIA - Uintah & Ouray Indian Agency

cc with enclosures:

Bart Powaukee
Environmental Director
Ute Indian Tribe

Minnie Grant
Air Quality Coordinator
Ute Indian Tribe

Manual Myore
Director of Energy & Minerals Dept.
Ute Indian Tribe

Brad Hill
Utah Division of Oil, Gas, and Mining

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Robin Hansen
Fluid Minerals Engineering Office
BLM - Vernal Office

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML47782

SUNDRY NOTICES AND REPORTS ON WELLS

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Disposal Well

8. WELL NAME and NUMBER:
SOUTHMAN CYN 9-23-22-36

2. NAME OF OPERATOR:
Enduring Resources, LLC

9. API NUMBER:
43047353620000

3. ADDRESS OF OPERATOR:
511-16th Street, Suite 700 , Denver, CO, 80202

PHONE NUMBER:
303 350-5114 Ext

9. FIELD and POOL or WILDCAT:
NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
2466 FNL 2271 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 36 Township: 09.0S Range: 23.0E Meridian: S

COUNTY:
UINTAH

STATE:
UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
✓ SUBSEQUENT REPORT Date of Work Completion: 1/1/2011	✓ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

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

Please change well status to "Inactive" water disposal well. EPA Permit is current and we will submit notice when we begin operations again. Thank you

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
February 22, 2016

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Travis Whitham	303 350-5716	Landman
SIGNATURE		**DATE**
N/A		2/19/2016

RECEIVED: Feb. 19, 2016