

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

<b>APPLICATION FOR PERMIT TO DRILL, DEEPEN</b>		5. LEASE DESIGNATION AND SERIAL NO. <b>ML-44305</b>	
1a. TYPE OF WORK <b>DRILL</b> <input type="checkbox"/> <b>DEEPEN</b> <input checked="" type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME <b>N/A</b>	
1b. TYPE OF WELL		7. UNIT AGREEMENT NAME <b>N/A</b>	
OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/> <input type="checkbox"/>		8. FARM OR LEASE NAME <b>N/A</b>	
2. NAME OF OPERATOR <b>Newfield Production Company</b>		9. WELL NO. <b>State 1-36T-8-17</b>	
3. ADDRESS AND TELEPHONE NUMBER: <b>Route #3 Box 3630, Myton, UT 84052      Phone: (435) 646-3721</b>		10. FIELD AND POOL OR WILDCAT <b>Monument Butte 105</b>	
4. LOCATION OF WELL (FOOTAGE) At Surface <b>NE/NE    695' FNL 911' FEL    589700X 40.079699</b> At proposed Producing Zone <b>44369237 - 109.947972</b>		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>NE/NE    Sec. 36, T8S, R17E</b>	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* <b>Approximately 16.6 miles southeast of Myton, UT</b>		12. County <b>Uintah</b>	13. STATE <b>UT</b>
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) <b>Approx. 695' f/lse line &amp; NA' f/unit line</b>	16. NO. OF ACRES IN LEASE <b>640.00</b>	17. NO. OF ACRES ASSIGNED TO THIS WELL <b>40</b>	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. <b>NA</b>	19. PROPOSED DEPTH <b>18,351</b>	20. ROTARY OR CABLE TOOLS <b>Rotary</b>	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) <b>5039 GL</b>		22. APPROX. DATE WORK WILL START* <b>4th Quarter 2008</b>	

23. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13.5	10 3/4"	40.5	1,000'	See attachment
9.875	7 5/8"	29.7	8,700	See attachment
6.5	4 1/2"	15.1	TD	See attachment

DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give date on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.  
**See Attached Drilling Program**

24. Name & Signature: *Mandie Crozier* Title: Regulatory Specialist Date: 8/12/2008  
**Mandie Crozier**

(This space for State use only)  
API Number Assigned: 43047-40316 APPROVAL: \_\_\_\_\_

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

**RECEIVED  
AUG 14 2008**

Date: 12-22-08  
By: *[Signature]*

DIV. OF OIL, GAS & MINING

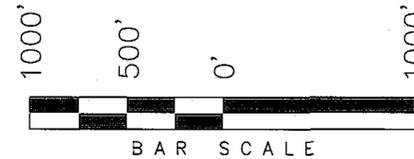
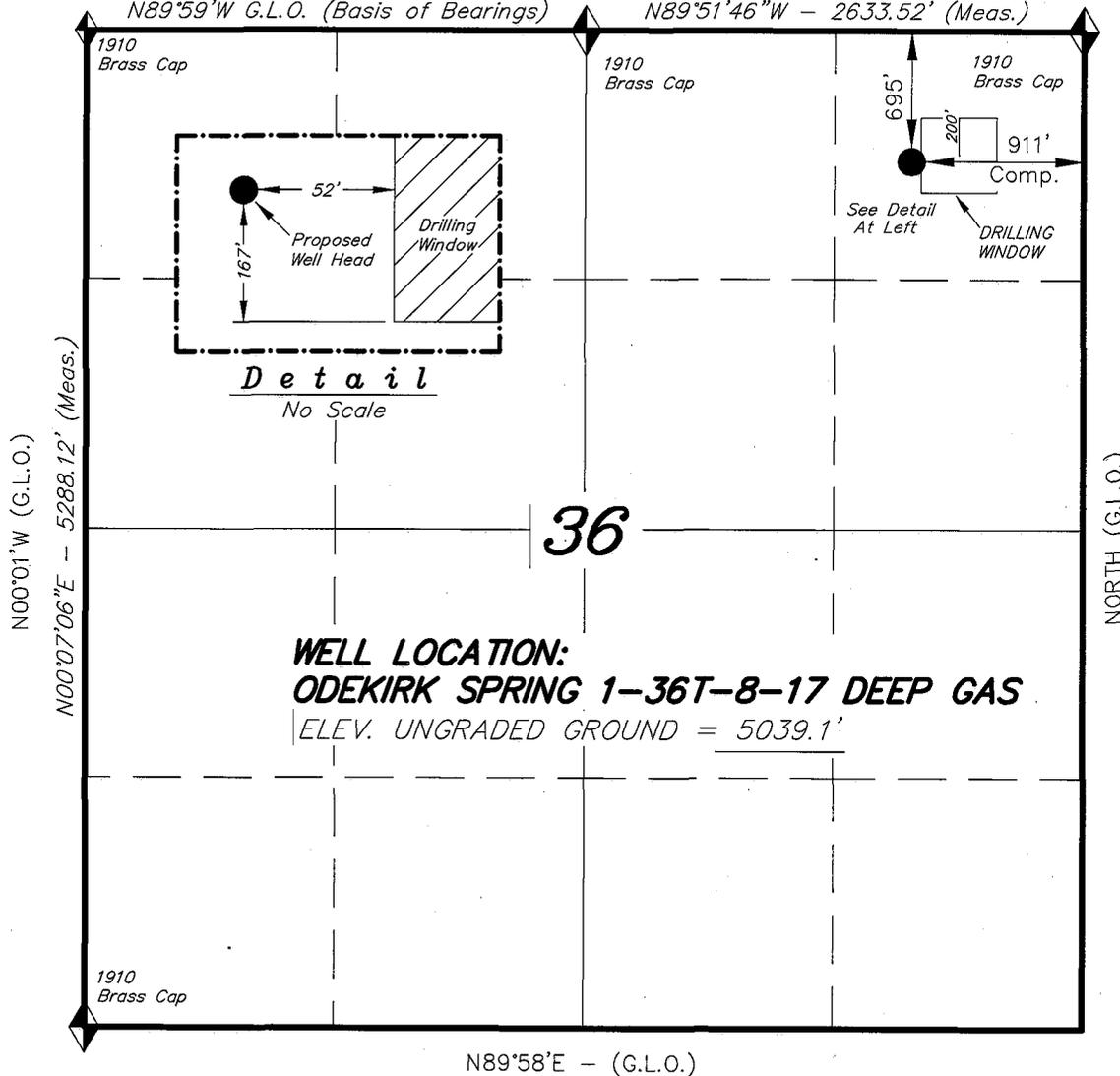
\*See Instructions On Reverse Side

# T8S, R17E, S.L.B.&M.

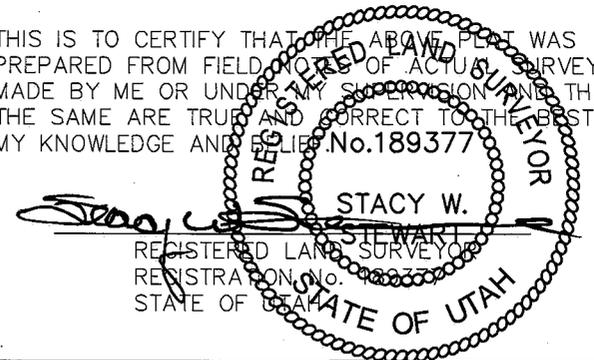
# NEWFIELD PRODUCTION COMPANY

2645.97' (Measured) N89°59'W - 79.92' (G.L.O.)  
 N89°59'W G.L.O. (Basis of Bearings) N89°51'46"W - 2633.52' (Meas.)

WELL LOCATION, ODEKIRK SPRING 1-36T-8-17  
 DEEP GAS, LOCATED AS SHOWN IN THE NE 1/4  
 NE 1/4 OF SECTION 36, T8S, R17E, S.L.B.&M.  
 UTAH COUNTY, UTAH.



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. No. 189377



◆ = SECTION CORNERS LOCATED

BASIS OF ELEV;  
 U.S.G.S. 7-1/2 min QUAD (MYTON SE)

**ODEKIRK SPRING 1-36T-8-17**  
 (Surface Location) NAD 83  
 LATITUDE = 40° 04' 47.22"  
 LONGITUDE = 109° 56' 55.46"

## TRI STATE LAND SURVEYING & CONSULTING

180 NORTH VERNAL AVE. - VERNAL, UTAH 84078  
 (435) 781-2501

DATE SURVEYED: 02-21-08	SURVEYED BY: C.M.
DATE DRAWN: 03-10-08	DRAWN BY: M.W.
REVISED:	SCALE: 1" = 1000'

**NEWFIELD PRODUCTION COMPANY  
STATE 1-36T-8-17  
NE/NE SECTION 36, T8S, R17E  
UINTAH COUNTY, UTAH**

**TEN POINT DRILLING PROGRAM**

1. **GEOLOGIC SURFACE FORMATION:**

Uinta formation of Upper Eocene Age

2. **ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS:**

Wasatch	6,308'
Mesaverde	10,936'
Blackhawk	13,629'
Mancos	14,487'
Dakota	18,201'
Proposed TD	18,351'

3. **ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERALS:**

Wasatch/Mesaverde/Blackhawk/Mancos/Dakota (Gas)                      6,308' - TD

4. **PROPOSED CASING AND CEMENT PROGRAM:**

Casing Design:

Description	Hole Size	Interval		Weight (lb/ft)	Grade	Coupling	Pore Press @ Shoe	MW @ Shoe	Frac Grad @ Shoe	Design Factors		
		Top	Btm							Burst	Collapse	Tension
Conductor 16"	20"	0'	40'	65.0	H-40	STC	--	--	--	--	--	--
Surface 10-3/4"	13.5"	0'	1,000'	40.5	J-55	STC	8.33	8.33	12.0	4.06	4.97	7.75
Interm 7-5/8"	9.875"	0'	8,700'	29.7	N-80	LTC	8.5	9.0	16.0	1.99	1.56	2.23
Prod 4-1/2"	6.5"	0'	18,351'	15.1	P-110	LTC	12.5	13.0	18.0	1.56	1.39	1.75

Cement Design:

Job	Fill	Description	Sacks FT <sup>3</sup>	Excess	Weight (ppg)	Yield (ft <sup>3</sup> /sk)
Conductor	40'	Class G w/ 2% CaCl <sub>2</sub> , 0.25 lbs/sk Cello Flake	40	50%	15.8	1.17
			47			
Surface Casing Lead	500'	Prem Lite II w/ 3% KCl, 2% Bentonite (or equivalent cement)	72	30%	11.0	3.26
			236			
Surface Casing Tail	500'	50/50 Poz Class G w/ 3% KCl, 2% Bentonite (or equivalent cement)	186	30%	14.3	1.27
			236			
Intern Casing Lead	5,200'	Prem Lite II w/ 3% KCl, 2% Bentonite (or equivalent cement)	445	30%	11.0	3.26
			1452			
Intern Casing Tail	1,000'	50/50 Poz Class G w/ 3% KCl, 2% Bentonite (or equivalent cement)	220	30%	14.3	1.27
			279			
Prod Casing	10,151'	50/50 Poz Class G w/ 3% KCl, 2% Bentonite (or equivalent cement)	1247	30%	14.3	1.27
			1584			

\*Actual cement volumes will be 15% over caliper volume.

\*Cement slurries will be equal to or greater in strength than the slurries listed above.

5. **MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:**

The operator's minimum specifications for pressure control equipment are as follows:

<u>Section</u>	<u>BOP equipment</u>
Surface	No control
Intermediate	11" 5M double ram, 11" 5M annular, rotating head
Production	11" 10M double ram, 11" 5M annular, rotating head

BOP equipment will be function tested daily. Choke manifold pressure rating will be equal to or greater than the pressure rating of the BOP rams. Refer to Exhibit C for a diagram of BOP equipment.

6. **TYPE AND CHARACTERISTICS OF THE PROPOSED CIRCULATION MUDS:**

A fresh water system will be utilized to drill the well. When necessary, to control formation fluids, the system will be weighted with the addition of bentonite gel and barite. This fresh water system typically will contain Total Dissolved Solids (TDS) of less than 3000 PPM. No chromates will be utilized in the fluid system.

In the event that the surface hole is to be drilled with air, Newfield requests a variance to regulations requiring a straight run blooie line. Newfield proposes that the flowline will contain two (2) 90-degree turns. Newfield also requests a variance to regulations requiring an automatic igniter or continuous pilot light on the blooie line. Newfield requests authorization to ignite as needed, and the flowline at 80'.

Newfield Production Company requests that the spark arrest, exhaust, or water cooled exhaust be waived under the Special Drilling Operations of Onshore Order #2.

<b>MUD PROGRAM</b>	<b>MUD TYPE</b>	<b>MAX MUD WEIGHT</b>
Surface -1,000'	air/fresh water system	8.33 ppg
1,000' - 8,700'	fresh water based system	9.0 ppg
8,700 - TD	fresh water based system	13.0 ppg

7. **AUXILIARY SAFETY EQUIPMENT TO BE USED:**

Auxiliary safety equipment will be a kelly cock, bit float, and a TIW valve with drill pipe threads.

8. **TESTING, LOGGING AND CORING PROGRAMS:**

The logging program will consist of a Compensated Neutron-Formation Density Log, Dual Induction, Gamma Ray and Caliper log from TD to base of the Green River @ 6,308' +/- . A cement bond log will be run from PBTD to cement top in the production casing. No drill stem testing or coring is planned for this well.

9. **ANTICIPATED ABNORMAL PRESSURE OR TEMPERATURE:**

The anticipated maximum pressure is equal to a 0.65 psi/ft gradient. It is not anticipated that abnormal temperatures will be encountered; or that any other abnormal hazards such as H<sub>2</sub>S will be encountered in this area.

10. **ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS:**

It is anticipated that the drilling operations will commence upon approval of the APD, and take approximately sixty (60) days from spud to rig release.

NEWFIELD PRODUCTION COMPANY  
STATE 1-36T-8-17  
NE/NE SECTION 36, T8S, R17E  
UINTAH COUNTY, UTAH

THIRTEEN POINT SURFACE PROGRAM

1. EXISTING ROADS

See attached **Topographic Map "A"**

To reach Newfield Production Company well location site State 1-36T-8-17 located in the NE¼ NE¼ Section 36, T8S, R17E, S.L.B. & M., Uintah County, Utah:

Proceed southwesterly out of Myton, Utah along Highway 40 - 1.4 miles ± to the junction of this highway and UT State Hwy 53; proceed southeasterly - 6.8 miles ± to its junction with an existing road to the east; proceed easterly - 3.7 miles ± to its junction with an existing road to the southeast; proceed in a southeasterly direction - 3.8 miles ± to its junction with an existing road to the east; proceed easterly - 0.9 miles ± to its junction with the beginning of the proposed access road to the north; proceed - 50' ± along the proposed access road to the proposed well location.

The highways mentioned in the foregoing paragraph are bituminous surfaced roads to the point where Highway 216 exists to the South, thereafter the roads are constructed with existing materials and gravel. The highways are maintained by Utah State road crews. All other roads are maintained by County crews.

The aforementioned dirt oil field service roads and other roads in the vicinity are constructed out of existing native materials that are prevalent to the existing area they are located in and range from clays to a sandy-clay shale material.

The roads for access during the drilling, completion and production phase will be maintained at the standards required by the State of Utah, or other controlling agencies. This maintenance will consist of some minor grader work for smoothing road surfaces and for snow removal.

2. PLANNED ACCESS ROAD

50' or access road is proposed for the State 1-36T-8-17. See attached **Topographic Map "B"**.

The proposed access road will be an 18' crown road (9' either side of the centerline) with drainage ditches along either side of the proposed road whether it is deemed necessary in order to handle any run-off from normal meteorological conditions that are prevalent to this area. The maximum grade will be less than 8%.

There will be no culverts required along this access road. There will be barrow ditches and turnouts as needed along this road.

There are no fences encountered along this proposed road. There will be no new gates or cattle guards required.

All construction material for this access road will be borrowed material accumulated during construction of the access road.

3. LOCATION OF EXISTING WELLS

Refer to **EXHIBIT B**.

4. **LOCATION OF EXISTING AND/OR PROPOSED FACILITIES**

There are no existing facilities that will be used by this well.

It is anticipated that this well will be a producing oil well.

Upon construction of a tank battery, the well pad will be surrounded by a dike of sufficient capacity to contain at minimum 110% of the largest tank volume within the facility battery.

Tank batteries will be built to State specifications.

All permanent (on site for six (6) months or longer) structures, constructed or installed (including pumping units), will be painted Desert Tan. All facilities will be painted within six months of installation.

5. **LOCATION AND TYPE OF WATER SUPPLY**

Fresh water purchased from the Johnson Water District will be used for drilling. A temporary poly pipeline may be used for water transportation from our existing supply line from Johnson Water District, or trucked from Newfield Production Company's injection facilities – **EXHIBIT A**.

There will be no water well drilled at this site.

6. **SOURCE OF CONSTRUCTION MATERIALS**

All construction material for this location shall be borrowed material accumulated during construction of the location site and access road.

A mineral material application is not required for this location.

7. **METHODS FOR HANDLING WASTE DISPOSAL**

A small reserve pit (90' x 40' x 8' deep, or less) will be constructed from native soil and clay materials. The reserve pit will receive the processed drill cutting (wet sand, shale & rock) removed from the wellbore. Any drilling fluids, which do accumulate in the pit as a result of shale-shaker carryover, cleaning of the sand trap, etc., will be promptly reclaimed. All drilling fluids will be fresh water based, typically containing Total Dissolved Solids of less than 3000 PPM. No potassium chloride, chromates, trash, debris, nor any other substance deemed hazardous will be placed in this pit. Therefore, it is proposed that no synthetic liner be required in the reserve pit. However, if upon constructing the pit there is insufficient fine clay and silt present, a liner will be used for the purpose of reducing water loss through percolation.

A flare pit will be constructed and utilized on this location.

A portable toilet will be provided for human waste.

A trash basket will be provided for garbage (trash) and hauled away to an approved disposal site at the completion of the drilling activities.

Immediately upon first production, all produced water will be confined to a steel storage tank. If the production water meets quality guidelines, it is transported to the Ashley, Monument Butte, Jonah, and Beluga water injection facilities by company or contract trucks. Subsequently, the produced water is injected into approved Class II wells to enhance Newfield's secondary recovery project.

Water not meeting quality criteria, is disposed at Newfield's Pariette #4 disposal well (Sec. 7, T9S R19E) or at State of Utah approved surface disposal facilities.

8. **ANCILLARY FACILITIES:**

There are no ancillary facilities planned for at the present time and none foreseen in the near future.

9. **WELL SITE LAYOUT:**

See attached Location Layout Sheet.

**Fencing Requirements**

All pits will be fenced according to the following minimum standards:

- a) A 39-inch net wire shall be used with at least one strand of barbed wire on top of the net.
- b) The net wire shall be no more than two (2) inches above the ground. The barbed wire shall be three (3) inches above the net wire. Total height of the fence shall be at least forty-two (42) inches.
- c) Corner posts shall be centered and/or braced in such a manner to keep tight at all times
- d) Standard steel, wood or pipe posts shall be used between the corner braces. Maximum distance between any two posts shall be no greater than sixteen (16) feet.
- e) All wire shall be stretched, by using a stretching device, before it is attached to the corner posts.

The reserve pit fencing will be on three (3) sides during drilling operations and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

10. **PLANS FOR RESTORATION OF SURFACE:**

a) **Producing Location**

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, material, trash and junk not required for production.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximated natural contours. Weather permitting, the reserve pit will be reclaimed within one hundred twenty (120) days from the date of well completion. Before any dirt work takes place, the reserve pit must have all fluids and hydrocarbons removed.

b) **Dry Hole Abandoned Location**

At such time as the well is plugged and abandoned, the operator shall submit a subsequent report of abandonment and the State of Utah will attach the appropriate surface rehabilitation conditions of approval.

11. **SURFACE OWNERSHIP:** State of Utah

12. **OTHER ADDITIONAL INFORMATION:**

- a) Newfield Production Company is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, Newfield is to immediately stop work that might further disturb such materials and contact the Authorized Officer.
- b) Newfield Production will control noxious weeds along rights-of-way for roads, pipelines, well sites or other applicable facilities. On State administered land it is required that a Pesticide Use Proposal shall be submitted and given approval prior to the application of herbicides or other possible hazardous chemicals.
- c) Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on State Lands after the conclusion of drilling operations or at any other time without State authorization. However, if State authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities.

The Archaeological Resource Survey and Paleontological Resource Survey for this area are attached. MOAC Report #08-105, 5/23/08. Paleontological Resource Survey prepared by, Wade Miller, 5/1/08. See attached report cover pages, Exhibit "D".

**Additional Surface Stipulations**

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws and regulations, Onshore Oil and Gas Orders, the approved plan of operations and any applicable Notice to Lessees. A copy of these conditions will be furnished to the field representative to ensure compliance.

**Hazardous Material Declaration**

Newfield Production Company guarantees that during the drilling and completion of the State 1-36T-8-17, Newfield will not use, produce, store, transport or dispose 10,000# annually of any of the hazardous chemicals contained in the Environmental Protection Agency's consolidated list of chemicals subject to reporting under Title III Superfund Amendments and Reauthorization Act (SARA) of 1986. Newfield also guarantees that during the drilling and completion of the State 1-36T-8-17, Newfield will use, produce, store, transport or dispose less than the threshold planning quantity (T.P.Q.) of any extremely hazardous substances as defined in 40 CFR 355.

A complete copy of the approved APD, if applicable, shall be on location during the construction of the location and drilling activities.

Newfield Production Company or a contractor employed by Newfield Production shall contact the State office at (801) 722-3417, 48 hours prior to construction activities.

The State office shall be notified upon site completion prior to moving on the drilling rig.

13. **LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION:**

**Representative**

Name: Dave Allred  
Address: Newfield Production Company  
Route 3, Box 3630

Myton, UT 84052  
Telephone: (435) 646-3721

Certification

Please be advised that Newfield Production Company is considered to be the operator of well #1-36T-8-17, NE/NE Section 36, T8S, R17E, LEASE #ML-44305, Uintah County, Utah and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond coverage is provided by Hartford Accident #4471291.

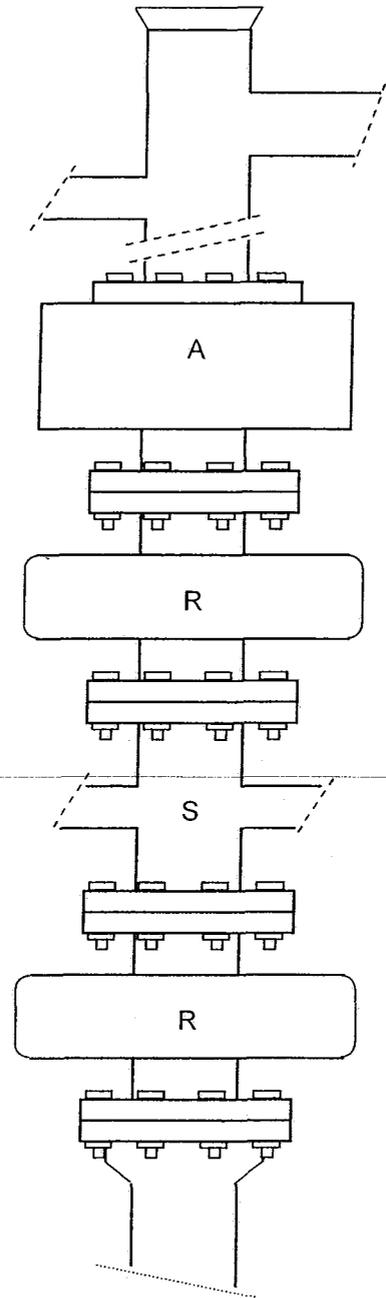
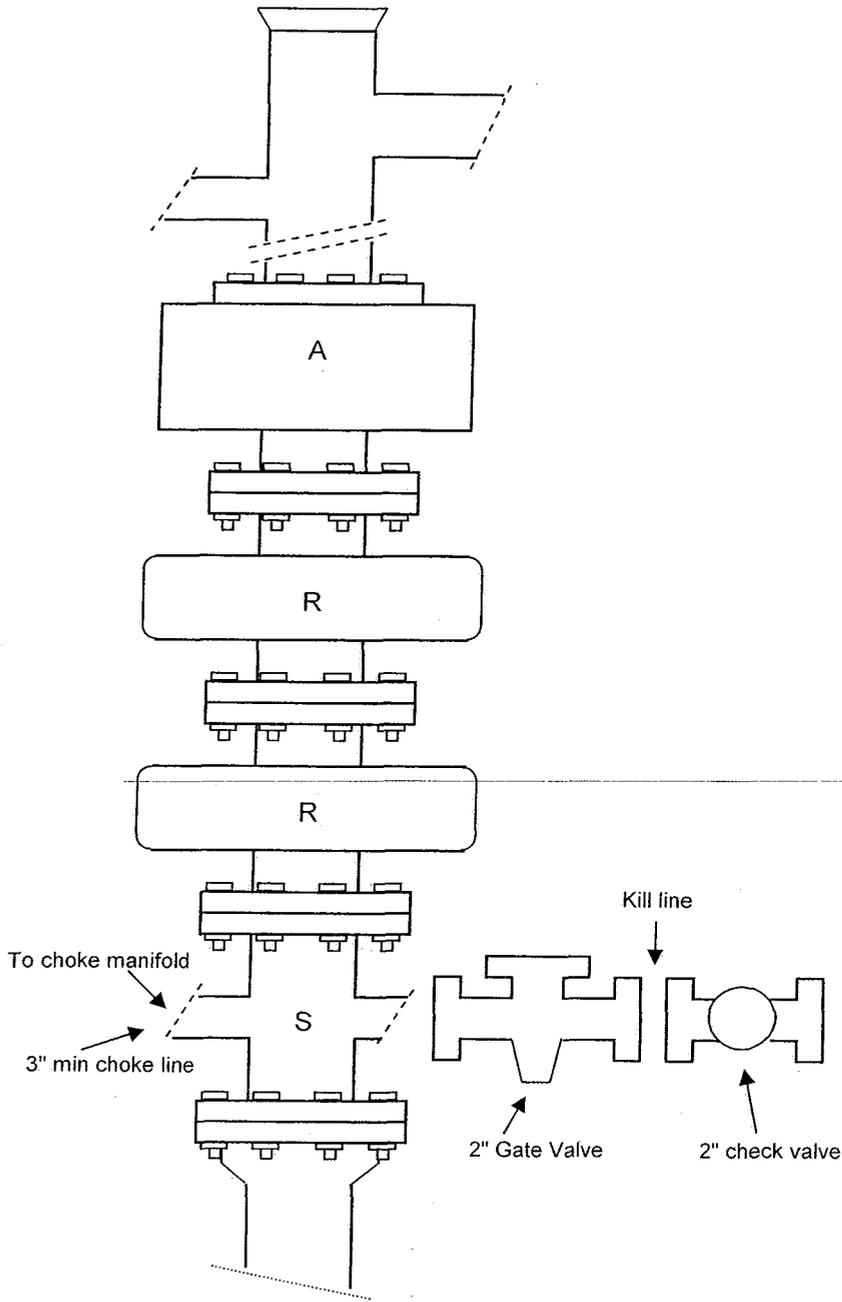
I hereby certify that the proposed drill site and access route have been inspected, and I am familiar with the conditions which currently exist; that the statements made in this plan are true and correct to the best of my knowledge; and that the work associated with the operations proposed here will be performed by Newfield Production Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of the 18 U.S.C. 1001 for the filing of a false statement.

8/12/08  
Date \_\_\_\_\_

  
Mandie Crozier  
Regulatory Specialist  
Newfield Production Company

# 11" 5 M stack

## Blowout Prevention Equipment Systems



### EXAMPLE BLOWOUT PREVENTER ARRANGEMENTS FOR 3M AND 5M RATED WORKING PRESSURE

\* Drilling spool and its location in the stack arrangement is optional- refer to Par 2.C.6

# TYPICAL BLOWOUT PREVENTER 11" 10M BOP STACK

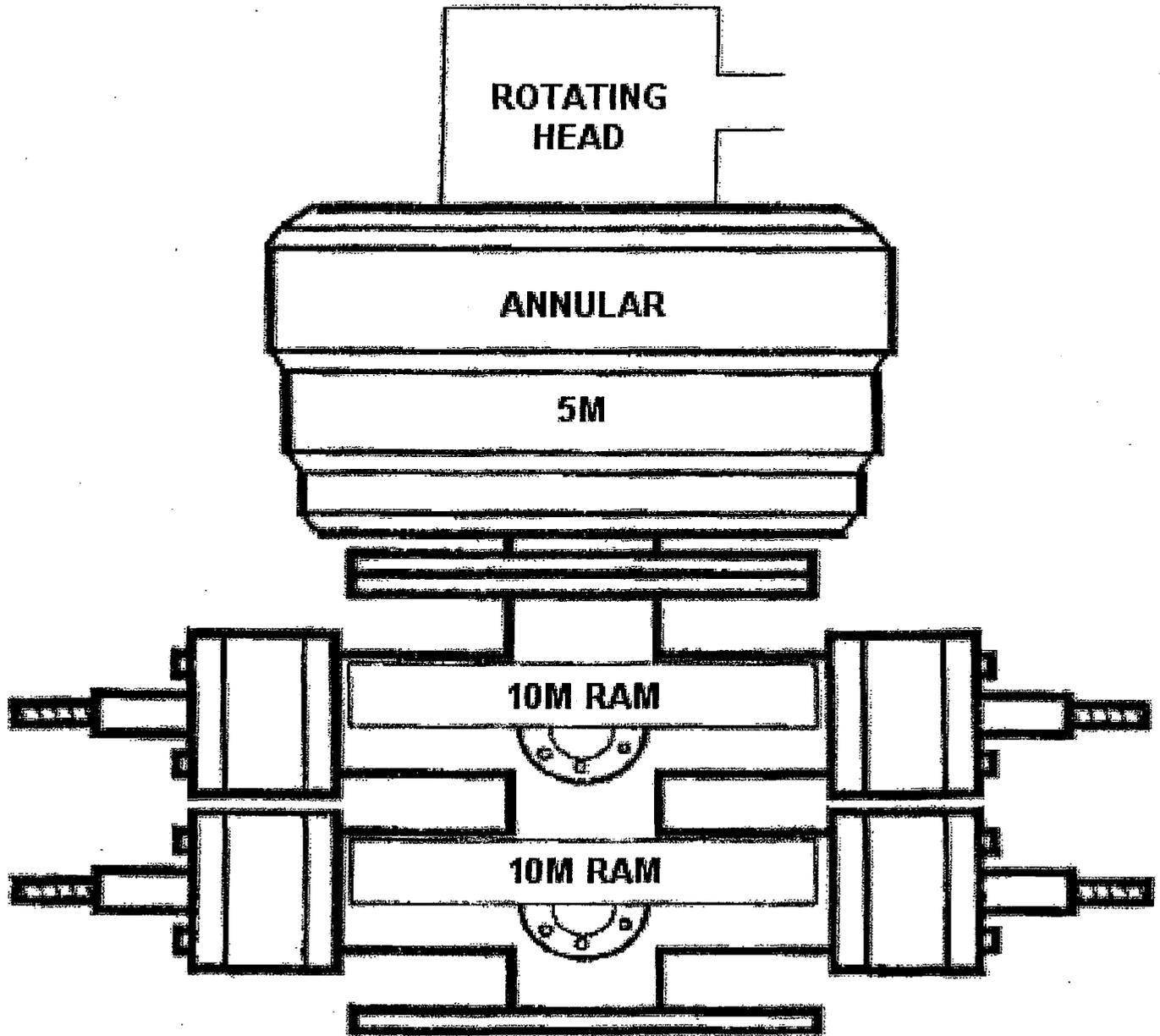


Exhibit "D"

1 of 2

CULTURAL RESOURCE INVENTORY OF  
NEWFIELD EXPLORATION'S 40 ACRE  
PARCEL #1-36 (T8S, R17E, SECTION 36)  
UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:

State of Utah School and  
Institutional Trust Lands Administration

Prepared Under Contract With:

Newfield Exploration Company  
Rt. 3 Box 3630  
Myton, UT 84052

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 08-105

May 23, 2008

State of Utah Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

State of Utah Antiquities Project (Survey)  
Permit No. U-08-MQ-0366s

**NEWFIELD EXPLORATION COMPANY**

**PALEONTOLOGICAL SURVEY OF PROPOSED  
PRODUCTION DEVELOPMENT AREAS,  
DUCHESNE & UINTAH COUNTIES, UTAH**

Section 21, T 8 S, R 16 E [Entire section excluding NE/NW (3-21) & NW/NW(4-21)];  
Section 20, T 8 S, R 16 E [SW/NE (7-20), SE/NE (8-20), NE/SE (9-20), NW/SE (10-20),  
NE/SW (11-20), NW/SW (12-20), SW/SW (13-20), SE/SW (14-20), & SW/SE (15-20);  
SE/SE, Section 32, T 8 S, R 18 E (16-32-8-18), NE/NE, Section 36, T 8 S, R 17 E (1-36-8-17),  
NE/NW & SW/NW, Section 18, T 9 S, R 19 E (3 & 5-18-9-19), and Proposed Water Injection  
Line at SE/SW, Section 1, T 9 S, R 15 E (14-1-9-15).

**REPORT OF SURVEY**

Prepared for:

**Newfield Exploration Company**

Prepared by:

Wade E. Miller  
Consulting Paleontologist  
April 30 & May 1, 2008

CULTURAL RESOURCE INVENTORY OF  
NEWFIELD EXPLORATION'S 40 ACRE  
PARCEL #1-36 (T8S, R17E, SECTION 36)  
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By:

Patricia Stavish

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Prepared By:

Montgomery Archaeological Consultants, Inc.  
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Moab, Utah 84532

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May 23, 2008

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Permit No. U-08-MQ-0366s

## ABSTRACT

In May 2008, Montgomery Archaeological Consultants, Inc. (MOAC) conducted an inventory of Newfield Exploration's 40 acre parcel designated #1-36 in Section 36, of Township 8 South, Range 17 East. The project area is situated on Pariette Bench, southwest of the town of Ouray, Uintah County, Utah. The survey was implemented at the request of Ms. Mandie Crozier, on behalf of Newfield Exploration, Myton, Utah. A total of 40 acres was inventoried, all of which occur on state land administered by the State of Utah School and Institutional Trust Lands Administration (SITLA).

The inventory resulted in the location of one previous site (42Un2453), the re-documentation of one previous site (42Un2532), and the documentation of two new archaeological sites (42Un6691 and 42Un6692). All four sites (42Un2453, 42Un2532, 42Un6691, and 42Un6692) are prehistoric surface quarries of unknown cultural and temporal affiliation that all exhibit little to no potential for subsurface material culture. These sites are recommended as not eligible to the NRHP. These sites are not associated with any significant historic event(s) or person(s) (Criteria A and B); nor do they represent the distinctive characteristics of a type, period, or method of construction or represent the work of a master (Criterion C); and the sites are unlikely to provide further information important to the prehistory of the area (Criterion D).

The inventory of Newfield Exploration's 40 acre parcel in Section 36, of Township 8 South, Range 17 East resulted in the location of one previous site (42Un2453), the re-documentation of one previous site (42Un2532), and the documentation of two new archaeological sites (42Un6691 and 42Un6692). All four sites (42Un2453, 42Un2532, 42Un6691, and 42Un6692) are recommended as not eligible to the NRHP. Based on the findings, a determination of "no historic properties affected" is recommended for the undertaking pursuant to Section 106, CFR 800.

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## INTRODUCTION

In May 2008, Montgomery Archaeological Consultants, Inc. (MOAC) conducted an inventory of Newfield Exploration's one 40 acre parcel designated 1-36 (NE/NE) in Section 36, of Township 8 South, Range 17 East. The project area is situated on Pariette Bench, southwest of the town of Ouray, Uintah County, Utah. The survey was implemented at the request of Ms. Mandie Crozier, on behalf of Newfield Exploration, Myton, Utah. A total of 40 acres was inventoried, all of which occur on state land administered by the State of Utah School and Institutional Trust Lands Administration (SITLA).

The objectives of the inventory were to locate, document, and evaluate any cultural resources within the project area in accordance with Section 106 of 36 CFR 800, the National Historic Preservation Act of 1966 (as amended). Also, the inventory was implemented to attain compliance with a number of federal and state mandates, including the National Historic Preservation Act (NHPA) of 1969 (as amended), the Archaeological and Historic Conservation Act of 1974, the Archaeological Resources Protection Act of 1979, and the American Indian Religious Freedom Act of 1978.

The fieldwork was performed on May 1, 2008 by William Welsh (Field Supervisor) under the direction of Keith R. Montgomery (Principal Investigator). All fieldwork was completed under the auspices of the State of Utah Public Lands Policy Coordination Office Permit No. 117 and the State of Utah Antiquities Permit (Survey) No. U-08-MQ-0367b issued to Montgomery Archaeological Consultants, Inc.

A file search for previous projects and documented cultural resources was conducted by Keith Montgomery at the BLM Vernal Field Office on April 22, 2008. This consultation indicated that three previous inventories had been completed within the current project area and two previous archaeological sites are located within the project area.

In 1996, Senco-Phenix conducted an intensive cultural resource inventory of the Pariette Ranch Prospect seismic line (Senulis 1996); resulting in the documentation of three archaeological sites. None of these sites are located in the current project area.

In 1997, Sagebrush Consultants completed a cultural and paleontological resource survey of Inland Resources' Sundance State Unit (Weymouth and Christensen 1997); resulting in the documentation of four prehistoric sites (42Un2453 to 42Un2456). One site, 42Un2453, is located in the current project area. 42Un2453 is a prehistoric cobble testing quarry consisting of 250 to 300 primary flakes and cobble cores that was recommended as not eligible to the NRHP. This site was relocated during the current inventory.

In 1998, Archeological-Environmental Research Corporation (AERC) conducted a cultural resource evaluation of various large tracts in the Wells Draw to Pariette Bench locality in Duchesne and Uintah Counties, Utah (Hauck 1998). The inventory resulted in the documentation of numerous prehistoric sites, of which only site 42Un2532 is located in the current project area. Site 42Un2532 is a large diffuse lithic scatter consisting of lithic debitage, cores, and chipped stone tools. As recorded by AERC, the site boundary of 42Un2532 encompasses the boundary of previously documented site 42Un2453. Site 42Un2532 was relocated and redocumented for the current inventory, resulting in two separate site boundaries for sites 42Un2453 and 42Un2532.

## DESCRIPTION OF PROJECT AREA

The project area is located on Pariette Bench, west of the Green River, southwest of the town of Ouray, Uintah County, Utah. The inventory area is located in the NE/NE of Section 36, Township 8 South, Range 17 East (Figure 1). A total of 40 acres was inventoried for cultural resources on state land administered by the State of Utah School and Institutional Trust Lands Administration (SITLA).

### Environmental Setting

The project area lies within the Uinta Basin physiographic unit, a distinctly bowl-shaped geologic structure (Stokes 1986:231). The Uinta Basin ecosystem is within the Green River drainage, considered to be the northernmost extension of the Colorado Plateau. The area is characterized by steep-sided narrow ridges and benches dissected by intermittent drainages. Outcrops of the Uinta formation are characterized by a dense dendritic drainage pattern and topographic relief. This Eocene-age formation occurs as fluvial deposited interbedded sandstone and mudstone and is well-known for its fossil vertebrate turtles, crocodilians, fish, and mammals. Named water sources nearby include Snyder Spring and Snyder Reservoir to the southwest. Elevation of the project area averages 5000 ft asl. The project area lies within the Upper Sonoran life zone, dominated by a shadscale community along with rabbitbrush, horsebrush, and pricklypear cactus. Modern disturbances to the landscape include well locations, access roads, pipelines, stock grazing, and vandalism.

### Cultural-Historical Overview

The cultural-chronological sequence represented in the area includes the Paleoindian, Archaic, Fremont, Protohistoric, and Euro-American stages. The earliest inhabitants of the region are representative of the Paleoindian stage (ca. 12,000-8000 B.P.), characterized by the adaptation to terminal Pleistocene environments and by the exploitation of big game fauna. The presence of Paleoindian hunters in the Uinta Basin region is implied by the discovery of Clovis and Folsom fluted points (ca. 12,000 B.P. - 10,000 B.P.), as well as the more recent Plano Complex lanceolate points (ca. 10,000 B.P. - 7000 B.P.). Near the project area, a variety of Plano Complex Paleoindian projectile points have been documented, including Goshen, Alberta, and Midland styles (Hauck 1998). No sites with evidence of Folsom lithic technology have previously been documented near the project area. Spangler (1995:332) reports that there are no sealed cultural deposits in association with extinct fauna or with chronologically distinct Paleoindian artifacts in Utah. Specifically in the Uinta Basin, few Paleoindian sites have been adequately documented, and most evidence of Paleoindian exploitation of the area is restricted to isolated projectile points recovered in nonstratigraphic contexts. Copeland and Fike (1998:21) argue that many areas in Utah are conducive to the herding behavior of megafauna, and that there is a high probability that many of the sites in Utah of unknown age are Paleoindian.

The Archaic stage (ca. 8000 B.P.-1500 B.P.) is characterized by the dependence on a foraging subsistence, with peoples seasonally exploiting a wide spectrum of plant and animal species in different ecozones. The shift to an Archaic lifeway was marked by the appearance of new projectile point types, and the development of the atlatl, perhaps in response to a need to pursue smaller and faster game (Holmer 1986). In the Uinta Basin, evidence of Early Archaic presence is relatively sparse compared to the subsequent Middle and Late Archaic periods. Early

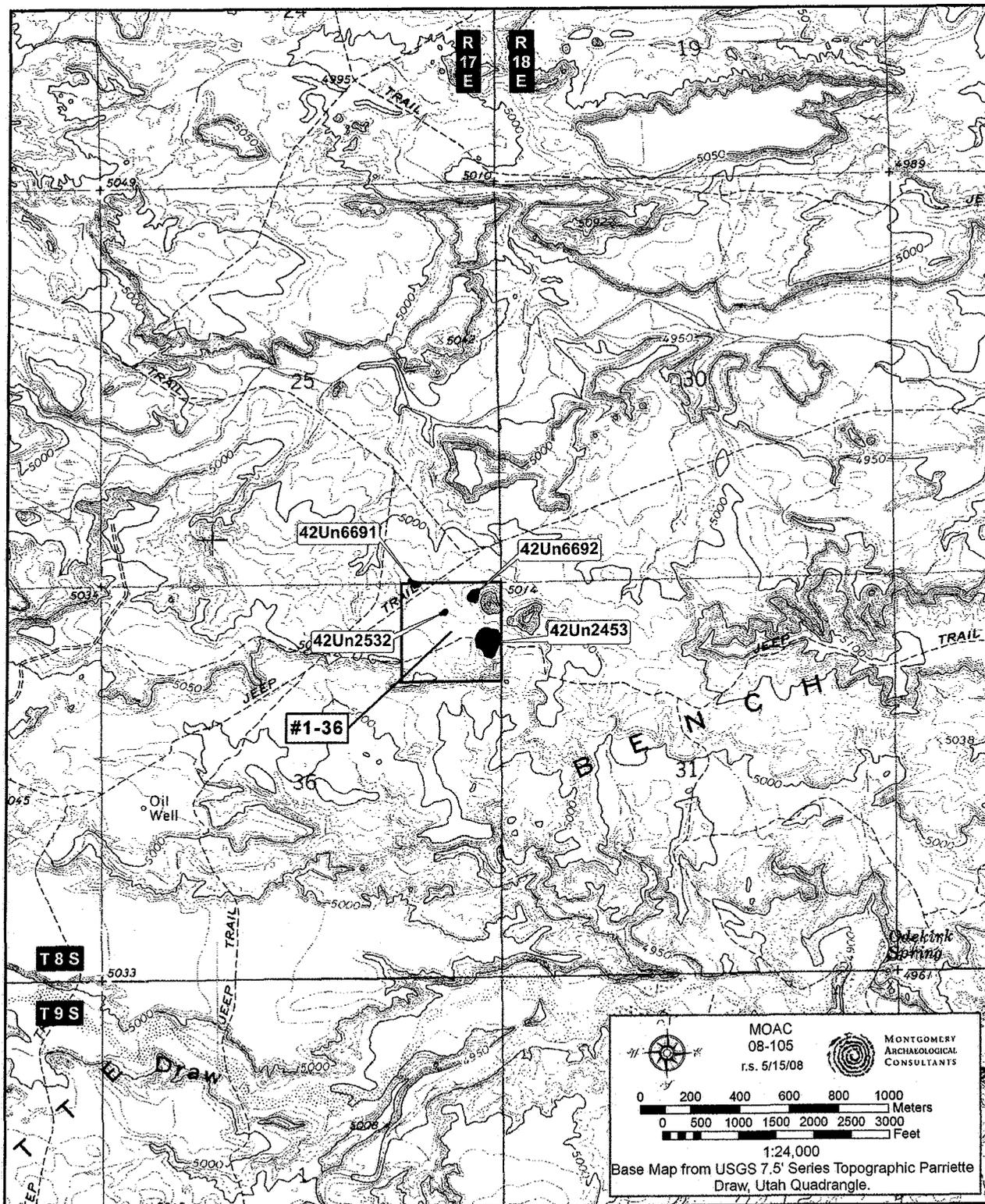


Figure 1. Inventory Area of Newfield Exploration's One 40 Acre Parcel in Uintah County, Utah; Showing Cultural Resources.

Archaic (ca. 6000-3000 B.C.) sites in the Basin include sand dune sites and rockshelters primarily clustered in the lower White River drainage (Spangler 1995:373). Early Archaic projectile points recovered from Uinta Basin contexts include; Pinto Series, Humboldt, Elko Series, Northern Side-notched, Hawken Side-notched, Sudden Side-notched, and Rocker Base Side-notched points. Excavated sites in the area with Early Archaic components include Deluge Shelter in Dinosaur National Monument, and open campsites along the Green River and on the Diamond Mountain Plateau (Spangler 1995:374). The Middle Archaic era (ca. 3000-500 B.C.) is characterized by improved climatic conditions and an increase in human population on the northern Colorado Plateau. Several stratified Middle Archaic sites have been excavated and dozens of sites have been documented in the Uinta Basin. Middle Archaic sites in the area reflect cultural influences from the Plains, although a Great Basin and/or northern Colorado Plateau influence is represented in the continuation of the Elko Series projectile points. Subsistence data from Middle Archaic components indicate gathering and processing of plants as well as faunal exploitation (e.g., mule deer, antelope, bighorn sheep, cottontail rabbit, muskrat, prairie dog, beaver, and birds). The Late Archaic period (ca. 500 B.C.-A.D. 550) in the Uinta Basin is distinguished by the continuation of Elko Series projectile points with the addition of semi-subterranean residential structures at base camps. By about A.D. 100, maize horticulture and Rose Springs arrow points had been added to the Archaic lifeway. In the Uinta Basin, the earliest evidence of Late Archaic architecture occurs at the Cockleburr Wash Site (42Un1476) where a temporary structure, probably a brush shelter, yielded a date of 316 B.C. (Tucker 1986). The structure was probably associated with seasonal procurement of wild floral resources gathered along Cliff Creek.

The Formative stage (A.D. 500-1300) is recognized in the area as the Uinta Fremont as first defined by Marwitt (1970). This stage is characterized by a reliance upon domesticated corn and squash, increasing sedentism, and in its later periods, substantial habitation structures, pottery, and bow and arrow weapon technology. Based on the evidence from Caldwell Village, Boundary Village, Deluge Shelter, Mantles Cave, and others, the temporal range of the Uinta Fremont appears to be from A.D. 650 to 950. This variant is characterized by shallow, saucer-shaped pithouse structures with randomly placed postholes and off-center firepits, some of which were adobe-rimmed. Traits considered unique or predominate to the Uinta Basin include calcite-tempered pottery, two-handled wide-mouth vessels, Utah type metates, the use of gilsonite for pottery repair, settlement on tops of buttes, and large-shouldered bifaces (Shields 1970).

Archaeological evidence suggests that Numic peoples appeared in east-central Utah at approximately A.D. 1100 or shortly before the disappearance of Formative-stage peoples (Reed 1994). The archaeological remains of Numic-speaking Utes consist primarily of lithic scatters with low quantities of brown ware ceramics, rock art, and occasional wickiups. The brown ware ceramics appear to be the most reliable indicator of cultural affiliation, as Desert Side-notched and Cottonwood Triangular points were manufactured by other cultural groups beside the Ute (Horn, Reed, and Chandler 1994:130). The Ute appear to have been hunters and gatherers who exploited various fauna and flora resources. According to macrobotanical and faunal data from dated components, deer, elk, pronghorn, bison, and small game were acquired (Reed 1994:191). Plant materials thought to have been exploited for food include: goosefoot, grass seeds, pinyon nuts, juniper berries, squawbush berries and leaves, hackberry seeds, possibly saltbush seeds, knotweed, chokecherry, and chickweed (Reed 1994:191).

On May 5, 1864 Congress passed a law confirming the 1861 executive order setting up the Uintah Reservation (Burton 1996:24). This treaty provided that the Ute people give up their land in central Utah and move within one year to the Uintah Reservation without compensation for loss

of land and independence. The Uinta-ats (later called Tavaputs), PahVant, Tumpanawach, and some Cumumba and Sheberetch of Utah were gathered together at the Uintah agency during the late 1860s and early 1870s to form the Uintah Band (Burton 1996:18-19). In the 1880 treaty council the White River Utes, who had participated in the Meeker Massacre, were forced to sell all their land in Colorado and were moved under armed escort to live on the Uintah Reservation (Callaway, Janetski, and Stewart 1986:339). Shortly thereafter, 361 Uncompahgre Utes were forced to sell their lands, and were relocated to the Ouray Reservation adjacent to the southern boundary of the Uintah Reservation. This area embraced a tract of land to the east and south of the Uintah Reservation below Ouray lying east of the Green River. A separate Indian Agency was established in 1881 with headquarters at Ouray which was located across the river from where the first military post, Fort Thornburgh was located. The Department of War established Fort Thornburgh along the Green River in 1881 to maintain peace between the settlers of Ashley Valley. The infantry who participated in the relocation of the Colorado Indians ensured that the Uncompahgre and White River Utes remained on the two reservations (Burton 1996:28). In the late 1880s, gilsonite was discovered in the Uinta Basin, and Congress was persuaded to apportion 7,040 acres from the reservation so the mineral could be mined.

The earliest recorded visit by Europeans to Utah was the Dominguez-Escalante expedition, of 1776. From the early 1820s to 1845, the Uinta Basin became an important part of the expanding western fur trade. Homesteading began in 1878 with Thomas Smart, one of the first white settlers to settle east of Ouray. In 1879, about forty cowboys and several large herds of cattle wintered on the White River. The winter of 1879-1880 saw the establishment of a settlement near the White River by several pioneers and their families including Ephraim Ellsworth, the Remingtons, and the Campbells. The person most responsible for organizing a permanent homesteading movement in Ouray Valley was William H. Smart, the brother of Thomas Smart, who became president of the Wasatch LDS Stake in 1901 (Burton 1998). When the Ute reservation was opened to white homesteaders in 1905, Smart organized several exploration trips into the area that later attracted many LDS families.

Initially, livestock was the main industry of white homesteaders in Uintah County. Two factors - free grass and the availability of water - influenced men to move their cattle into the county. Most of the land in the area was part of the public domain and no territory or state could tax it. Cattle were eventually brought up east as far as the Green River and then to the surrounding mountains. Large cattle herds had been coming to Brown's Park from Texas and other eastern areas since the early 1850s. The K Ranch, a large cattle operation owned by P.R. Keiser, brought many cowboys to the area. The ranch was located on the Utah-Colorado line with property in both states. Charley Hill, who came to Ashley Valley as a trapper for the Hudson Bay Company, started a cattle company on Hill Creek and Willow Creek in the Book Cliffs (Burton 1996:109). They later moved out when the government set this section aside for the Ouray Indian Agency. Other prominent men in the cattle industry included A.C. Hatch, Dan Mosby, and James McKee. Cattle rustling became an increasingly large problem as cattle herds grew, and conflict resulted between the small and large cattle companies. In 1912, the Uintah Cattle and Horse Growers Association was organized to protect the livestock industry from thieves and to issue an authorized brand book (ibid: 110).

The sheep industry later became part of Uintah County's economic backbone, and contributed to the decline of the cattle industry. Sheep were first introduced to the valley during the winter of 1879 when Robert Bodily brought in sixty head (Burton 1996:111). Sheep were able to survive the hard winters much better than cattle. By the mid-1890s, more than 50,000 head of

sheep were in the region; and the production of wool became very important. In 1897, C.S. Carter began building shearing corrals. In 1899, 500,000 pounds of wool were shipped from the county and sold for 12.5 cents per pound (Ibid:111). In 1906, the Uintah Railway Company built shearing pens on the Green River to encourage the shipping of wool by train; and in 1912, pens were built at Bonanza and Dragon. Beginning in the 1940s Mexican sheep-shearing crews and Greek sheepmen from the Price and Helper areas came into the area. The Taylor Grazing Act was passed in 1934, allotting specific areas or "districts" to stockmen for livestock grazing that required permits. This act was a forerunner of the Bureau of Land Management, which was established in 1946 and eventually assumed responsibility for the administration of grazing laws on public land (Burton 1996:115).

Until about 1910, the roads in Uintah County were overseen by county commissioners, the majority of which consisted of "little more than trails cut by wagon wheels" (Burton 1998:208). In about 1919 the "Victory Highway" was proposed to provide a route from St. Louis to San Francisco passing through Vernal and Roosevelt in Uintah County. The highway's name was chosen because of the recent end of WWI, it would also provide the shortest route between Washington D.C. and San Francisco. In 1921, money was provided to be used for improvements on the Vernal-Duchesne road via an act of congress with the intent of establishing a system of highways passing through several states. The Victory Highway later became known as US 40 and its length extended to Atlantic City in the east. Paving of the portion of the road between Myton and Vernal was completed between 1933 and 1938 (Ibid: 210). A portion of this road known as the "Hatch Dugway", located about 12 miles west of Vernal was re-aligned as it had been the site of numerous accidents due to its sharp curves (Ibid: 209).

Uintah County is also known for its natural resources. Coal, copper, iron, asphalt, shale, and especially gilsonite, were important to the mining industry. When gilsonite was discovered in the Uinta Basin in the 1880s, Congress was persuaded to apportion 7,040 acres from the Ute reservation so the mineral could be mined. This area became known as "The Strip" and later developed into the townsite of Moffat (later renamed Gusher). Gilsonite is a light-weight lustrous black hydrocarbon mineral that can easily be crushed into a black-brown powder. It can be found in commercial quantities only in the Uinta Basin. The earliest use of the mineral was in buggy paints and beer-vat linings. Today it is used in over a hundred products ranging from printing inks to explosives and automobile body sealer and radiator paint (Burton 1998:343). Mining camps also sprang up near the Colorado line in Bonanza, Dragon, and Watson starting in about 1903. Many immigrants, including Greeks and Chinese, worked in the mines. Bonanza became one of the largest and most modern functioning mining camps in the area beginning in 1921, reaching its peak in 1937. It was chosen as the Barber gilsonite company headquarters, because it was near the largest deposits of gilsonite in the area. Miners from Dragon, Rainbow, and other neighboring communities were relocated to Bonanza.

## SURVEY METHODOLOGY

An intensive pedestrian survey was performed for this project which is considered 100% coverage. The survey area was investigated for cultural resources by the archaeologists walking parallel transects spaced no more than 10 m (33 ft) apart. Ground visibility was considered to be good. A total of 40 acres was inventoried for cultural resources on state land administered by the State of Utah School and Institutional Trust Lands Administration (SITLA).

Cultural resources were recorded as either archaeological sites or isolated finds of artifacts. Archaeological sites were defined as spatially definable areas with features and/or ten or more artifacts. Sites were documented by the archaeologist walking transects across the site, spaced no more than 3 m (10 ft) apart, and marking the locations of cultural materials with pinflags. This procedure allowed clear definition of site boundaries and artifact concentrations. At the completion of the surface inspection, a Geo-Explorer Trimble was employed to map the sites, including diagnostic artifacts and other relevant features in reference to the site datum. Archaeological sites were photographed, with site data entered on an Intermountain Antiquities Computer System (IMACS, 1990 version) inventory form (Appendix C). A rebar with an aluminum cap stamped with the temporary site number was placed at each of the sites.

## INVENTORY RESULTS

The inventory of Newfield Exploration's 40 acre parcel in Section 36, of Township 8 South, Range 17 East resulted in the location of one previous site (42Un2453), the re-documentation of one previous site (42Un2532), and the documentation of two new archaeological sites (42Un6691 and 42Un6692).

Smithsonian Site No.: 42Un2453  
Site Type: Prehistoric Surface Quarry  
NRHP Eligibility: Not Eligible

Description: The site is a medium-sized cobble testing quarry bisected by a two-track road, that was originally documented by Sagebrush Archaeological Consultants in 1997. The site is located on a terraced ridge slope below two conical knolls. The site consists of approximately 250 to 300 primary flakes and cobble cores of grey chert, brown chert, grey fine-grained quartzite and orange fine-grained quartzite. These materials, heavily patinated by desert varnish, are eroding from the land form creating a desert pavement. The site measures 100 m east-west x 120 m north-south. The artifact assemblage is almost exclusively comprised of primary flakes and tested cobbles. One large bifacial flaked scraper or chopper and two hammerstones were observed. No concentrations of lithic material were observed and no diagnostic tools or features were identified at the site. The site exhibits limited to no potential for depth of cultural materials at the site.

Smithsonian Site No.: 42Un2532  
Site Type: Prehistoric Surface Quarry  
NRHP Eligibility: Not Eligible

Description: This is a small diffuse surface quarry occupying a low knoll adjacent to a small drainage. The site was originally documented by AERC in 1998 and was updated by MOAC for the current inventory. The original site dimension was documented as 600 x 300 m and completely encompassed the boundary of previously documented site 42Un2453. For the current inventory site 42Un2532 was re-documented and split back into two sites (42Un2532 Update and 42Un2453). Updated site 42Un2532 site dimensions now measure 23 x 37 m. Vegetation on-site includes shadscale, greasewood, halogeton, unidentified bunch grasses, rabbitbrush, and prickly pear. Artifacts documented at the site include chipped stone tools and lithic debitage. The chipped stone tools consist of four quartzite test cores. The lithic debitage (n=18) is dominated by primary flakes and lithic material types include chert, quartzite, and siltstone. No features were documented at the site. This site represents a surface quarry of unknown aboriginal cultural affiliation.

Smithsonian Site No.: 42Un6691  
Temporary Site No.: MOAC 08-105-WW1  
Site Type: Prehistoric Surface Quarry  
NRHP Eligibility: Not Eligible

Description: This is a small diffuse surface quarry of unknown cultural and temporal affiliation that is located on the top of a small knoll with drainages running outside the site boundary on three sides. Vegetation on-site includes shadscale, rabbitbrush, cheatgrass, prickly pear, and greasewood. The artifacts documented at the site consist of chipped stone tools and lithic debitage. The chipped stone tools include three test cores, one unprepared core, and one siltstone scraper. The lithic debitage (n=25) consists entirely of primary flakes and lithic material types include siltstone, chert, and quartzite. No features were documented at the site.

Smithsonian Site No.: 42Un6692  
Temporary Site No.: MOAC 08-105-WW2  
Site Type: Prehistoric Surface Quarry  
NRHP Eligibility: Not Eligible

Description: This is a small diffuse surface quarry of unknown cultural and temporal affiliation that is located on the northwest facing slope of a prominent rise of Pariette Bench. Vegetation is primarily barren with sparse low bunch grasses on-site and sparse shadscale off-site. Artifacts documented at the site include chipped stone tools and lithic debitage. The chipped stone tools consist of one unprepared core, a test core, and two siltstone Stage I bifaces. The lithic debitage (n=21) consists entirely of primary flakes and lithic material types include chert, quartzite, and siltstone. No features were documented at the site.

## NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

The National Register Criteria for Evaluation of Significance and procedures for nominating cultural resources to the National Register of Historic Places (NRHP) are outlined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, material, workmanship, feeling, and association, and that they:

- a)...are associated with events that have made a significant contribution to the broad patterns of our history; or
- b)...are associated with the lives of persons significant to our past; or
- c)...embody the distinctive characteristics of a type, period, or method of construction; or that represents the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d)...have yielded or may be likely to yield information important in prehistory or history.

The inventory resulted in the location of one previous site (42Un2453), the re-documentation of one previous site (42Un2532), and the documentation of two new archaeological sites (42Un6691 and 42Un6692). All four sites (42Un2453, 42Un2532, 42Un6691, and 42Un6692) are prehistoric surface quarries of unknown cultural and temporal affiliation that exhibit little to no

potential for subsurface material culture. These sites are not associated with any significant historic events or persons (Criteria A and B); nor do they represent the distinctive characteristics of a type, period, or method of construction or represent the work of a master (Criterion C); and the sites are unlikely to provide further information important to the prehistory of the area (Criterion D). Therefore, these sites are recommended as not eligible to the NRHP.

#### MANAGEMENT RECOMMENDATIONS

The inventory of Newfield Exploration's 40 acre parcel in Section 36, of Township 8 South, Range 17 East resulted in the location of one previous site (42Un2453), the re-documentation of one previous site (42Un2532), and the documentation of two new archaeological sites (42Un6691 and 42Un6692). All four sites (42Un2453, 42Un2532, 42Un6691, and 42Un6692) are recommended as not eligible to the NRHP. Based on the findings, a determination of "no historic properties affected" is recommended for the undertaking pursuant to Section 106, CFR 800.

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APPENDIX A:  
INTERMOUNTAIN ANTIQUITY COMPUTER SYSTEM (IMACS)  
SITE INVENTORY FORMS  
(42Un2532, 42Un6691, 42Un6692)

On File At:

Division of State History  
Salt Lake City, UT

CULTURAL RESOURCE INVENTORY OF  
INLAND RESOURCES' ODEKIRK UNIT, TOWNSHIP 8S,  
RANGE 18E, SECTION 32, UINTAH COUNTY, UTAH

by

Keith R. Montgomery  
and  
Sarah Ball

Prepared For:

State of Utah  
School and Institutional Trust  
Land Administration

Prepared Under Contract With:

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MOAC Report No. 01-177

November 14, 2001

United States Department of Interior (FLPMA)  
Permit No. 01-UT-60122

State of Utah Antiquities Project (Survey)  
Permit No. U-01-MQ-00739s

## ABSTRACT

A cultural resource inventory was conducted by Montgomery Archaeological Consultants (MOAC) of Inland Resources' Odekirk Unit in Township 8S, Range 18E, Section 32, Uintah County, Utah. Inland Resources proposes to develop oil/gas well locations, access roads, and pipelines in this 480-acre block. The project area occurs on land administered by the State of Utah, School and Institutional Trust Land Administration (SITLA).

The inventory of the project area resulted in the documentation of eleven new prehistoric sites (42Un2947 to 42Un2957) and the recordation of six isolated finds of artifacts (IF-A through IF-F). Nine of the eleven sites are lithic procurement localities (42Un2947, 42Un2948, 42Un2950, 42Un2951, 42Un2952, 42Un2953, 42Un2954, 42Un2955, and 42Un2956). These sites include lithic debitage and cores of local material, as well as bifaces, utilized flakes, scrapers, and hammerstones. One of the sites, 42Un2948 also includes a single-handed sandstone mano. Two lithic scatters were documented (42Un2949 and 42Un2957), consisting of lithic debitage and a few lithic tools. The isolated finds (IF-A through IF-F) include an aqua-colored glass whiskey bottle, lithic flakes, cores, a hammerstone, and a Stage III biface.

Three of the lithic procurement sites (42Un2948, 42Un2950 and 42Un2954) are recommended eligible to the NRHP under criterion D. These sites, although surficial, exhibit a variety of tools (cores, bifaces, hammerstones, and a mano) as well as the spatial patterning of artifacts. Additional investigations at these sites is likely to contribute to the prehistoric research domains of the area. Eight of the prehistoric sites (42Un2947, 42Un2949, 42Un2951, 42Un2952, 42Un2953, 42Un2955, 42Un2956, and 42Un2957) are evaluated as not eligible for inclusion to the NRHP. They are limited activity sites lacking temporal indicators, spatial patterning, and features; hence they fail to possess additional information relevant to the prehistoric research domains of the area.

The inventory of Inland Resources' Odekirk Unit resulted in the documentation of three prehistoric sites (42Un2948, 42Un2950 and 42Un2954) that are considered eligible to the NRHP. It is recommended that these sites be avoided by the undertaking. Based on the adherence to this recommendation, a determination of "no historic properties affected" pursuant to Section 106, CFR 800 is proposed for this project.

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FIGURE

1. Inventory Area of Inland Resources' Odekirk Unit in T 8S, R 18E,  
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## INTRODUCTION

In November 2001, a cultural resource inventory was conducted by Montgomery Archaeological Consultants (MOAC) of Inland Resources' Odekirk Unit, in Township 8S, Range 18E, Section 32. The project area occurs approximately 19 miles southeast of Myton, Uintah County, Utah. Inland Resources, Inc. proposes to develop oil/gas well locations, access roads, and pipelines in this 480-acre block. The inventory was implemented at the request of Mr. Jon Holst, permitting agent for Inland Resources. The project area occurs on land administered by the State of Utah, School and Institutional Trust Land Administration (SITLA).

The objective of the inventory was to locate, document and evaluate any cultural resources within the project area. This project is carried out in compliance with Federal and State legislation including the Antiquities Act of 1906, the National Historic Preservation Act (NHPA) of 1966 (as amended), the National Environmental and Historic Preservation Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979, and the American Indian Religious Freedom Act of 1978.

The fieldwork was directed by Keith R. Montgomery (Principal Investigator) and assisted by Sarah Ball, Mark Beeson, Sharyl Kinnear-Ferris, Kathy Lamm, Greg Nunn, Anne Raney, and Roger Stash. The inventory was conducted under the auspices of U.S.D.I. (FLPMA) Permit No. 01-UT-60122 and State of Utah Antiquities Project (Survey) No. U-01-MQ-0739s.

A file search for previous projects and documented cultural resources was conducted by Keith Montgomery at the BLM Vernal Field Office (November 2, 2001) and by Sarah Ball at the Division of State History (November 13, 2001). This consultation indicated that a number of archaeological projects have been conducted in the area surrounding the project area. In 1981, Utah Archaeological Research Corporation conducted an inventory for Natural Gas Corporation, documenting a lithic scatter (42Un1237) (Cook 1982). Metcalf Archaeological Consultants, Inc. completed a survey of a well location and access road for PG&E Resources in 1994, finding two prehistoric isolated finds of artifacts (Scott 1994). In 1995, Sagebrush Archaeological Consultants inventoried five PG&E well pads near the project area and documented one archaeological site (no site number given) (Weymouth and Simmons 1994). In the following year Sagebrush Archaeological Consultants inventoried a well location and access road for Lomax Exploration Company finding no cultural resources (Murray 1995). No previously recorded cultural resources are situated in the immediate project area.

## DESCRIPTION OF PROJECT AREA

The project area lies on Pariette Bench along the north side of Castle Peak Draw in the Uinta Basin. A 480-acre parcel was surveyed for proposed oil and gas development by Inland Resources. The legal description is Township 8S, Range 18E, Section 32 (Figure 1).

Topographically, this area consists of highly dissected sandstone and mudstone rock formations and broad sandy silt ridges (Stokes 1986). Recent alluvial deposits, older alluvial terrace deposits, and rock outcrops of the Upper Eocene Uinta Formation constitute the surface geology of the area. The Uinta Formation is seen as eroded outcrops formed by fluvial deposited stream laid interbedded sandstone and mudstone. This formation is known for its fossil vertebrates, including turtles, crocodilians, fish, and mammals. The elevation ranges from 4850 to 5100 feet a.s.l. Named water sources nearby include Pariette Draw, Castle Peak Draw, and Odekirk Spring. The project area lies within the Upper Sonoran life zone, dominated by a shadscale community intermixed with low sagebrush, mat saltbush, greasewood, rabbitbrush, snakeweed, prickly pear cactus, pincushion cactus, and grasses. A riparian zone exists along the washes, and includes cottonwood, Russian olive, and tamarisk. Modern disturbances to the landscape include well locations, access roads, pipelines, and livestock grazing.

### Cultural Overview

The cultural-chronological sequence represented in the area includes the Paleoindian, Archaic, Fremont, Protohistoric, and Euro-American stages. The earliest inhabitants of the region are representative of the Paleoindian stage (ca. 12,000-8,000 B.P.). This stage is characterized by the adaptation to terminal Pleistocene environments and by the exploitation of big game fauna. The presence of Paleoindian hunters in the Uinta Basin region is implied by the discovery of Clovis and Folsom fluted points (ca. 12,000 B.P. - 10,000 B.P.), as well as the more recent Plano Complex lanceolate points (ca. 10,000 B.P. - 7,000 B.P.). Near the project area, a variety of Paleoindian projectile points have been documented, including Goshen, Alberta, and Midland styles (Hauck 1998).

The Archaic stage (ca. 8,000 B.P.-1,500 B.P.) is characterized by the dependence on a foraging subsistence, with peoples seasonally exploiting a wide spectrum of plant and animal species in different ecozones. The shift to an Archaic lifeway was marked by the appearance of new projectile point types, and the development of the atlatl, perhaps in response to a need to pursue smaller and faster game (Holmer 1986). In the Uinta Basin, evidence of Early Archaic presence is relatively sparse compared to the subsequent Middle and Late Archaic periods. Early Archaic (ca. 6000-3000 B.C.) sites in the Basin

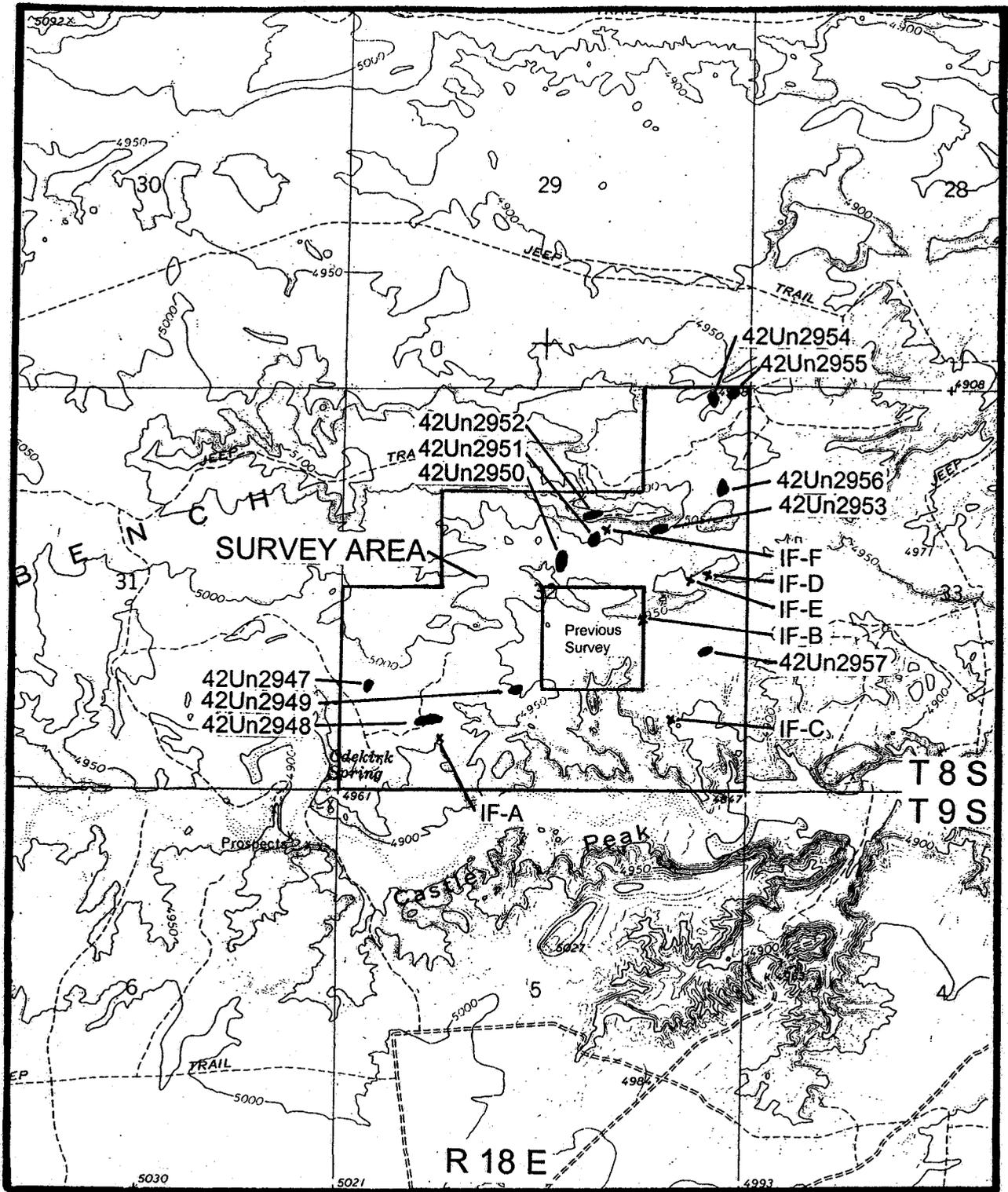


Figure 1. Inventory Area of Inland Resources Odekirk Unit in T 8S, R18E, Sec. 32 showing Cultural Resources. USGS 7.5' Pariette Draw SW, UT 1964. Scale 1:24000.

include sand dune sites and rockshelters primarily clustered in the lower White River drainage (Spangler 1995:373). Early Archaic projectile points recovered from Uinta Basin contexts include Pinto Series, Humboldt, Elko Series, Northern Side-notched, Hawken Side-notched, Sudden Side-notched and Rocker Base Side-notched points. Excavated sites in the area with Early Archaic components include Deluge Shelter in Dinosaur National Monument, and open campsites along the Green River and on the Diamond Mountain Plateau (Spangler 1995:374). The Middle Archaic (ca. 3000-500 B.C.) is characterized by improved climatic conditions and an increase in human population on the northern Colorado Plateau. Several stratified Middle Archaic sites have been excavated and dozens of sites have been documented in the Uinta Basin. Middle Archaic sites in the area reflect cultural influences from the Plains, although a Great Basin and/or northern Colorado Plateau influence is represented in the continuation of the Elko Series projectile points. Subsistence data from Middle Archaic components indicate gathering and processing of plants as well as faunal exploitation (e.g., mule deer, antelope, bighorn sheep, cottontail rabbit, muskrat, prairie dog, beaver and birds). The Late Archaic period (ca. 500 B.C.-A.D. 550) in the Uinta Basin is distinguished by the continuation of Elko Series projectile points with the addition of semi-subterranean residential structures at base camps. By about A.D. 100, maize horticulture and Rose Springs arrow points had been added to the Archaic lifeway. In the Uinta Basin, the earliest evidence of Late Archaic architecture occurs at the Cockleburr Wash Site (42Un1476) where a temporary structure, probably a brush shelter, yielded a date of 316 B.C. (Tucker 1986). The structure was probably associated with seasonal procurement of wild floral resources gathered along Cliff Creek.

The Formative stage (A.D. 500-1300) is recognized in the area as the Uinta Fremont as first defined by Marwitt (1970). This stage is characterized by a reliance upon domesticated corn and squash, increasing sedentism, and in its later periods, substantial habitation structures, pottery, and bow and arrow weapon technology. Based on the evidence from Caldwell Village, Boundary Village, Deluge Shelter, Mantles Cave and others, the temporal range of the Uinta Fremont appears to be from A.D. 650 to 950. This variant is characterized by shallow, saucer-shaped pithouse structures with randomly placed postholes and off-center firepits, some of which were adobe-rimmed. Traits considered unique or predominate to the Uinta Basin include calcite-tempered pottery, two-handled wide-mouth vessels, Utah type metates, the use of gilsonite for pottery repair, settlement on tops of buttes and large-shouldered bifaces (Shields 1970).

Archaeological evidence suggests that Numic peoples appeared in east-central Utah at approximately A.D. 1100 or shortly before the disappearance of Formative-stage peoples (Reed 1994). The archaeological remains of Numic-speaking Utes consist primarily of lithic scatters with low quantities of brown ware ceramics, rock art, and occasional wickiups. The brown ware ceramics appear to be the most reliable indicator of cultural affiliation, as Desert Side-notched and Cottonwood Triangular points were manufactured by other cultural groups beside the Ute (Horn, Reed, and Chandler 1994:130). The Ute appear to have been hunters and gatherers who exploited various fauna and flora resources. According to macrobotanical and faunal data from dated

components, deer, elk, pronghorn, bison, and small game were acquired (Reed 1994:191). Plant materials thought to have been exploited for food include goosefoot, grass seeds, pinyon nuts, juniper berries, squawbush berries and leaves, hackberry seeds and possibly saltbush seeds, knotweed, chokecherry, and chickweed (Reed 1994:191).

## SURVEY METHODOLOGY

An intensive pedestrian survey was performed for this project which is considered 100% coverage. The parcel was examined for cultural resources by the archaeologists walking parallel transects spaced no more than 10 m (30 ft) apart. Ground visibility was considered good. Acreage for the project area totals 480 acres, all of which occurs on land administered by the State of Utah, School and Institutional Trust Land Administration (SITLA).

Cultural resources were recorded as archaeological sites or isolated finds of artifacts. Archaeological sites are defined as spatially definable areas with ten or more artifacts and/or features. Sites were documented by the archaeologists walking transects across the site, spaced no more than 3 m (10 ft) apart and marking the locations of cultural materials with pinflags. This procedure allowed clear definition of site boundaries and artifact concentrations. At the completion of the surface inspection, a Brunton compass was employed to point-provenience diagnostic artifacts and other relevant features in reference to the site datum, a steel rebar stamped with a temporary site number. Archaeological sites were plotted on a 7.5' USGS quadrangle, photographed, and documented with site data entered on an Intermountain Antiquities Computer System (IMACS, 1990 version) inventory form (Appendix A). Isolated finds were defined as individual artifacts or light scatters of items lacking sufficient material culture to warrant IMACS forms or to derive interpretation of human behavior in a cultural and temporal context. All isolated artifacts were plotted on a 7.5' USGS map and are described in this report.

## INVENTORY RESULTS

The inventory of Inland Resources' Odekirk Unit resulted in the documentation of 11 prehistoric sites (42Un2947 to 42Un2957) and six isolated finds of artifacts (IF-A through IF-F).

### Archaeological Sites

Smithsonian Site No.: 42Un2947  
Temporary Site No.: MOAC 177-1  
Legal Description: SW/NW/SW of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Not Eligible  
Description: This is a small lithic procurement locality of unknown cultural affiliation, located on a rocky slope above a wash in a small canyon. The site is surficial and measures 54 m by 26 m. Artifacts consist of lithic debitage and five lithic tools. The

source material is derived from the Uinta Formation and includes gray and white mottled semitranslucent chert, and tan, white, gray, and orange mottled opaque chert. Lithic debitage (n=7) is limited to primary and secondary decortication flakes. Tools consist of three test cores, an unprepared core, a utilized flake, and a hammerstone. No cultural features are visible.

Smithsonian Site No.: 42Un2948  
Temporary Site No.: MOAC 177-2  
Legal Description: NE/SW/SW of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Eligible

Description: This is a lithic procurement locality of unknown cultural affiliation, situated on a low-angled slope near a wash in a small canyon. The site extends 100 m east-west by 26 m north-south. Two concentrations of cultural materials occur along the east edge of the site. Artifacts consist of lithic debitage of various chert, quartzite, and siltstone materials (n=46), and 17 lithic tools. The source material is derived from the Uinta Formation. Debitage is dominated by primary decortication flakes; secondary decortication flakes are common. A small quantity of percussion biface thinning flakes and flake fragments are also present. Tools consist of eight unprepared cores, five test cores, two Stage II bifaces, a Stage I biface, and a single-handed mano. No cultural features are observed.

Smithsonian Site No.: 42Un2949  
Temporary Site No.: MOAC 177-3  
Legal Description: SE/NE/SW of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Not Eligible

Description: This is a small lithic scatter of unknown cultural affiliation, located on rocky, residual sediments on a low-angled slope of a ridge. The site measures 36 m by 40 m and contains debitage (n=19) and a single unprepared core. Debitage is dominated by tan opaque chert decortication flakes, and includes white and yellow quartzite decortication flakes, and flake fragments of all three materials. No cultural features are observed.

Smithsonian Site No.: 42Un2950  
Temporary Site No.: MOAC 177-4  
Legal Description: SW/SW/NE of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Eligible

Description: This is a lithic procurement locality of unknown cultural affiliation, situated on a low-angled slope above a wash near the edge of a canyon. The source material is derived from the Uinta Formation. Artifacts consist of lithic debitage (n=42) and chipped stone tools (n=28). Debitage includes equal numbers of secondary decortication flakes and percussion biface thinning flakes. Primary decortication flakes are common, and a few flake fragments are also present. Tools consist of 27 cores and a Stage II biface. No cultural features are visible.

Smithsonian Site No.: 42Un2951  
Temporary Site No.: MOAC 177-5  
Legal Description: NW/SW/NE of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Not Eligible

Description: This is a small, dispersed lithic procurement locality of unknown cultural affiliation, situated at the edge of a bench mid-way up a ridge. The source material is derived from the Uinta Formation. Artifacts consist of two tan and gray mottled opaque chert primary decortication flakes, and eight cores. The cores are of tan and gray mottled opaque chert, and tan opaque chert, and include four unprepared cores and four test cores. No cultural features are visible.

Smithsonian Site No.: 42Un2952  
Temporary Site No.: MOAC 177-6  
Legal Description: NW/SW/NE of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Not Eligible

Description: This is a small, dispersed lithic procurement locality of unknown cultural affiliation located on a narrow, rocky ridge top. Cultural materials are limited to six primary decortication flakes, two test cores, and three unprepared cores. The source material is derived from the Uinta Formation and includes tan, white, gray, and orange mottled opaque chert. No cultural features are observed.

Smithsonian Site No.: 42Un2953  
Temporary Site No.: MOAC 177-7  
Legal Description: NW/SE/NE of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Not Eligible

Description: This site is a small, low-density lithic procurement locality of unknown cultural affiliation located on a bench mid-way up a ridge. Artifacts include lithic debitage, along with an unprepared core, a test core, and a Stage II biface. Debitage includes primary decortication flakes (n=11), and secondary decortication flakes (n=3), all of tan, gray, white, and orange mottled opaque chert. The source material is derived from the Uinta Formation. No cultural features are visible.

Smithsonian Site No.: 42Un2954  
Temporary Site No.: MOAC 177-9  
Legal Description: NE/NE/NE of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Eligible

Description: This is a lithic procurement locality of unknown cultural affiliation located on a series of low hills divided by small drainages. The site extends 74 m north-south by 34 m east-west. Artifacts consist of debitage (n=25), five unprepared cores, four test cores, and two scrapers. Debitage is primarily dominated by decortication flakes; secondary decortication flakes are also present. Material is primarily tan, white, gray, and orange mottled opaque chert, along with a small quantity of tan chert, white quartzite, and white and yellow quartzite. The source material is derived from the Uinta Formation. No cultural features are visible.

Smithsonian Site No.: 42Un2955  
Temporary Site No.: MOAC 177-10  
Legal Description: NE/NE/NE of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Not Eligible

Description: This is a small lithic procurement locality of unknown cultural affiliation situated on a low-angled, rocky slope below a ridge. Cultural materials consist of lithic debitage (n=14) and four lithic tools. Debitage is dominated by secondary decortication flakes, with primary decortication flakes also present. Lithic tools include three unprepared cores, and one test core. Materials include tan, gray, white, and orange mottled opaque chert, gray opaque chert, and tan opaque chert. The source material is derived from the Uinta formation. No cultural features are visible.

Smithsonian Site No.: 42Un2956  
Temporary Site No.: MOAC 177-11  
Legal Description: NE/SE/NE of Sec. 32, T 8S, R 18E  
NRHP Eligibility: Not Eligible

Description: This is a small lithic procurement locality of unknown cultural affiliation situated on a rocky slope below a ridge. The site measures 59 m north-south by 37 m east-west. Cultural materials consist of lithic debitage (n=18), and three lithic tools. Debitage is dominated by decortication flakes of tan, white, gray, and orange mottled opaque chert, with a lesser quantity of decortication flakes of other chert and quartzite materials. Lithic tools include two unprepared cores and a test core, all of tan, white, gray, and orange mottled opaque chert. The source material is derived from the Uinta Formation. No cultural features are observed.

Smithsonian Site No.: 42Un2957  
Temporary Site No.: MOAC 177-8  
Legal Description: SE/NE/SE of Sec. 32, T 8S, R 18E  
Jurisdiction: State of Utah, SITLA  
NRHP Eligibility: Not Eligible

Description: This is a lithic scatter of unknown cultural affiliation located on a low-angled rocky slope. Artifacts consist of lithic debitage and one lithic tool, found mainly in a concentration (Concentration 1). The concentration contains yellow quartzite primary decortication flakes (n=11), and secondary decortication flakes of the same material (n=8). Outside of the concentration is a dark red quartzite unprepared core associated with three primary decortication flakes of the same material. No cultural features are visible.

### Isolated Finds of Artifacts

Isolated Find A (IF-A) is located in the NE/SW/SW of Sec. 32, T 8S, R 18E; UTM 591983E/4435758N. It is an aqua-colored glass whiskey bottle.

Isolated Find B (IF-B) is located in the NE/NW/SE of Sec. 32, T 8S, R 18E; UTM 592750E/4436254N. It is a white semitranslucent chert Stage III biface that exhibits slight edge-wear, and a retouched tip (5.3x2.7x1cm).

Isolated Find C (IF-C) is located in the NW/SE/SE of Sec. 32, T 8S, R 18E; UTM 592885E/4435839N. It consists of a tan opaque chert test core with one flake detached from a narrow margin (7.6x6.8x2.2cm), a white opaque chert secondary decortication flake, and a tan, white, gray, and orange mottled opaque chert primary decortication flake.

Isolated Find D (IF-D) is located in the SE/SE/NE of Sec. 32, T 8S, R 18E; UTM 593002E/4436433N. It includes a white semitranslucent chert hammerstone with battering on two poles and along one margin (6.5x5x5cm), and a tan opaque chert secondary decortication flake.

Isolated Find E (IF-E) is located in the SW/SE/NE of Sec. 32, T 8S, R 18E; UTM 592920E/4436408N. It includes a tan, white, gray, and orange mottled opaque chert core with 9+ flakes removed from narrow margins (6.5x4.3x2cm), three tan, white, gray, and orange mottled opaque chert primary decortication flakes, a pink quartzite secondary decortication flake, and a white semitranslucent chert primary decortication flake.

Isolated Find F (IF-F) is located in the NE/SW/NE of Sec. 32, T 8S, R 18E; UTM 592614E/4436603N. It consists of a tan opaque chert unprepared core with 7 flakes removed from narrow margins (6.2x4x2.8cm), a tan opaque chert cobble test core with 5 flakes detached from wide margins (10x6x3.4cm), two tan opaque chert secondary decortication flakes, and a tan opaque chert primary decortication flake.

## NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

The National Register Criteria for Evaluation of Significance and procedures for nominating cultural resources to the National Register of Historic Places (NRHP) are outlined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, material, workmanship, feeling, and association, and that they:

- a)...are associated with events that have made a significant contribution to the broad patterns of our history; or
- b)...are associated with the lives of persons significant to our past; or
- c)...embody the distinctive characteristics of a type, period, or method of construction; or that represents the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d)...have yielded or may be likely to yield information important in prehistory or history.

The inventory of Inland Resources' Odekirk Unit resulted in the documentation of 11 prehistoric sites (42Un2947 to 42Un2957), all of unknown temporal affiliation. The majority of these sites (n=9) are lithic procurement localities at which raw materials from the Uinta Formation were exploited. Two of the sites are classified as lithic scatters containing a low number of debitage and chipped stone tools. Three of the lithic procurement sites (42Un2948, 42Un2950 and 42Un2954) are recommended eligible to the NRHP under criterion D. These sites, although surficial, exhibit a variety of tools (cores, bifaces, hammerstones, and a mano) as well as spatial patterning of artifacts. Additional investigations at these sites is likely to contribute to the prehistoric research domains of the area.

Eight of the prehistoric sites (42Un2947, 42Un2949, 42Un2951, 42Un2952, 42Un2953, 42Un2955, 42Un2956, and 42Un2957) are evaluated as not eligible for inclusion to the NRHP. They are limited activity sites lacking temporal indicators, spatial patterning and features, and hence fail to possess additional information relevant to the prehistoric research domains of the area.

### MANAGEMENT RECOMMENDATIONS

The inventory of Inland Resources' Odekirk Unit resulted in the documentation of three prehistoric sites (42Un2948, 42Un2950 and 42Un2954) that are considered eligible to the NRHP. It is recommended that these sites be avoided by the undertaking. Based on the adherence to this recommendation, a determination of "no historic properties affected" pursuant to Section 106, CFR 800 is proposed for this project.

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**NEWFIELD EXPLORATION COMPANY**

**PALEONTOLOGICAL SURVEY OF PROPOSED  
PRODUCTION DEVELOPMENT AREAS,  
DUCHESNE & UINTAH COUNTIES, UTAH**

Section 21, T 8 S, R 16 E [Entire section excluding NE/NW (3-21) & NW/NW(4-21)];  
Section 20, T 8 S, R 16 E [SW/NE (7-20), SE/NE (8-20), NE/SE (9-20), NW/SE (10-20),  
NE/SW (11-20), NW/SW (12-20), SW/SW (13-20), SE/SW (14-20), & SW/SE (15-20);  
SE/SE, Section 32, T 8 S, R 18 E (16-32-8-18), NE/NE, Section 36, T 8 S, R 17 E (1-36-8-17),  
NE/NW & SW/NW, Section 18, T 9 S, R 19 E (3 & 5-18-9-19), and Proposed Water Injection  
Line at SE/SW, Section 1, T 9 S, R 15 E (14-1-9-15).

**REPORT OF SURVEY**

Prepared for:

**Newfield Exploration Company**

Prepared by:

Wade E. Miller  
Consulting Paleontologist  
April 30 & May 1, 2008

## INTRODUCTION

This report covers parts of several sections that were designated for a paleontological field survey, and one proposed water injection pipeline tie-in. These were given on April 18, 2008, to Wade Miller via e-mail by Mandie Crozier of the Newfield Exploration Company's Myton office. Included areas given on these dates are: Section 21, T 8 S, R 16 E [Entire section excluding NE/NW (3-21) & NW/NW(4-21)]; Section 20, T 8 S, R 16 E [SW/NE (7-20), SE/NE (8-20), NE/SE (9-20), NW/SE (10-20), NE/SW (11-20), NW/SW (12-20), SW/SW (13-20), SE/SW (14-20), & SW/SE (15-20)]; SE/SE, Section 32, T 8 S, R 18 E (16-32-8-18), NE/NE, Section 36, T 8 S, R 17 E (1-36-8-17), NE/NW & SW/NW, Section 18, T 9 S, R 19 E (3 & 5-18-9-19), and Proposed Water Injection Line at SE/SW, Section 1, T 9 S, R 15 E (14-1-9-15). All the above parcels have now received a paleontological field survey. In total this constitutes 28 quarter, quarter sections. The field survey for this work took place on the dates of April 30 and May 1, 2008. It is here once more pointed out that previous reports have recorded the paleontological procedures used, dating back to 1999. Thus, only a summary of these procedures is included here. The more detailed procedures and information relating to paleontology of the Uinta Basin can be found in reports submitted by Wade Miller during the period of 1999 through 2003. These reports are on file with the Newfield Exploration Company (including this company's predecessor, the Inland Production Company) as well as in the Salt Lake City and Vernal, Utah, Bureau of Land Management offices.

The Uinta Formation, the geologic formation that represents almost all sediment exposures in the Uinta Basin, is regarded as one of the top few most paleontologically sensitive formations in Utah. It has provided much scientifically valuable information on past life in eastern Utah during the late Eocene period (roughly 40 to 45 million years ago). A Mammalian Age for all North America is based on the fauna that has been recovered from the Uinta Basin. While many types of diverse

animals and plants have been discovered, new discoveries are certain with additional field work. (There are paleontologists currently doing paleontological work in the Uinta Basin.) Some of the specific types of plants and animals found on Newfield's oil and gas leased lands have been cited in earlier reports by the present author. The importance of protecting scientifically significant fossils, and the Federal and State laws regarding their protection, has also been given in earlier reports. The Bureau of Land Management (BLM) Paleontological Resources Use Permit number under which the present field work was done is: #UT06-003C. All the significant fossils that have been found during the paleontological field surveys, have been collected and brought to Brigham Young University (BYU). There, they have been (or are being) prepared and curated, and integrated into the paleontological collections. BLM Paleontological Report forms have also been completed and submitted to the above BLM offices regarding these fossils. BYU has been a Federally recognized repository for fossils for many years. That is, fossils discovered and collected by Federal permit can legally be stored and studied here.

### PALEONTOLOGICAL FIELD SURVEY

The present paleontological field survey followed the same procedures as were done in all earlier ones. That is, each of the designated quarter, quarter sections s carefully walked over looking for evidence of fossils. Specifically this covers any area where the Uinta Formation is exposed. Notes are kept as the survey proceeds over each of the quarter, quarter sections covered in the present survey. Important fossils when found are photographed *in situ*, bagged, or plaster jacketed, and marked. A GPS reading is also taken at the exact location of each. The site is then marked on a USGS Topographic map, with a field locality number given. Although the present survey covered a very widespread area, fossil finds were not especially abundant. And the fossils that were found are not considered of significant paleontological importance. The most abundant fossils found were ichnites of various types. Turtle shell fragments in various stages of weathering and sizes are present at only three of the sites investigated. A few isolated gar pike (fish) scales and a partial gastropod cast were seen at one site. Since no specimens warranted, photos were not taken, nor were GPS readings made.

In situations where surveyed quarter, quarter sections are essentially the same in terms of their physical features, and units of exposed Uinta Formation basically alike when present, with few if any fossils existing, then two or more of these 40 acre units are combined for reporting purposes. This proved to be the case in the current paleontological field survey for most of the sites covered. It is noted here that exposures in Newfield's oil and gas leased lands in the western region are less fossiliferous than is the case in the eastern area. In the present paleontological field survey, it was observed that most (but not all) of Newfield's proposed well pad sites as well as proposed access roads and water and gas line routes were marked by stakes. Many had been knocked over by animals or wind, however. When sites are marked, though, it greatly facilitates the field survey work. The various proposed access roads and pipelines were walked out during the present paleontological survey. Where stakes were not present, the entire area was surveyed, not just that in and adjacent to proposed well pad sites. As usual, both USGS Topographic maps and Newfield's planimetric map of the roads and wells were used in the survey. The former type of maps used in the present survey were the Pariette Draw SW, Myton SE and Myton SW 7.5' quadrangles, all published in 1964. Wade Miller performed the paleontological field survey for this report alone.

## **REPORT OF AREAS SURVEYED**

### **Section 21, T 8 S, R 16 E**

#### **SW 1/4, Section 21, T 8 S, R 16 E (11, 12, 13 & 14-21-8-16)**

This entire quarter section is situated on fairly flat terrain. Soil varies from very rocky to rocky and sandy. The vegetative cover is sparse to moderate in growth, and low to medium in height. Only a small area over this entire quarter section shows and Uinta Formation outcropping. The exposed rocks are some sandstones which barely show at the surface. Their fragments clasts,

though, are locally abundant. The *in situ* rock exposures are present along and east - west trending ridge in the NE 1/4, SW 1/4. No fossils were observed within the exposed sandstones or in the clasts derived from them.

**SE 1/4, Section 21, T 8 S, R 16 E (9, 10, 15 & 16-21-8-16)**

Mostly this quarter section occupies a flatland surface, with the exception of the east - west trending low ridge, mentioned in the SW 1/4 of Section 21 above, that exists in it. However, here it extends across the entire quarter section. An existing well is present in the SE 1/4, SE 1/4 of this section. In addition there is a plugged and abandoned well in the NE 1/4, SE 1/4. The soil and vegetation remain the same as that described in the SW quarter of this section. Several small, shallow arroyos dissect the present quarter section. None, though, are sufficiently deep to cut down to Uinta Formation strata. Nevertheless, this formation does have some exposures on the above-named ridge. These consist of discontinuous, low profile sandstones and siltstones. Additionally, some small patches of mudstone also occur on the ridge beneath the more resistant sandstone and siltstone. These mudstones are largely covered by rock debris from the overlying better indurated rocks. No fossils (body or trace types) were found anywhere in this quarter section.

**NE 1/4, Section 21, T 8 S, R 16 E (1, 2, 7 & 8-21-8-16)**

The northern tier of this the northeast quarter is truncated because of the "Old Indian Treaty Boundary" line. The flat terrain here is interrupted by a broad and low ridge that runs through the middle of the area. A plugged and abandoned well is present as a metal pipe in the SW 1/4, NE 1/4. Although mostly rocky, the soil has a sandy component. The vegetation is mostly low-growing, and varies from sparse to moderate in coverage. The only exposed Uinta Formation rocks are a discontinuous sandstone and siltstone layer with low outcroppings. The few fossils seen were some well-weathered, isolated turtle shell fragments.

**SW 1/4, & SE 1/4, NW 1/4, Section 21, T 8 S, R 16 E (5 & 6-21-8-16)**

The two northern quarter, quarter sections of the NW 1/4 are greatly truncated by the "Old Indian Treaty Boundary" line, and were not designated for a paleontological survey. Both of the two southern tier quarter, quarter reported here are complete. They lie on flat ground, with a moderate-sized arroyo running through these two parcels. Soil continues to be rocky to rocky and sandy. Vegetation is sparse to moderate, mostly of low growth. However, tall brush grows within the arroyo itself. This same arroyo contains the only Uinta Formation outcrops within the surveyed area. There are, however, sandstone outcrops immediately north of the SE 1/4, NW 1/4. Only a few scattered sandstone rocks displayed some mollusc boring and fill features, as are prevalent in sandstones throughout the Uinta Basin. No other fossils were found.

**Section 20, T 8 S, R 16 E**

**SW 1/4 & SE 1/4, NE 1/4, Section 20, T 8 S, R 16 E (7 & 8-20-8-16)**

These two quarter, quarter sections are bounded on the north by the "Old Indian Treaty Boundary" line. The land surface here is flat to slightly irregular. Soil conditions over the whole area is silty with areas of some scattered rocks which are composed of siltstone. This soil appears to be relatively deep over most of the area. The vegetation is low-growing and moderate in its coverage. No Uinta Formation exposures are present in either of the two quarter, quarter sections. Fossils are not in evidence.

**NE 1/4, NW 1/4 & SW 1/4, SE 1/4, Section 20, T 8 S, R 16 E (9, 10 & 15-20-8-16)**

All three quarter, quarter sections reported here lie on essentially flat land, but with a couple of moderate-sized arroyos running essentially SW - NE through them. The fairly deep soil (as judged

from exposures in the arroyos) ranges from rocky to sandy to silty. Vegetation is sparse to moderate in its coverage, and of low height. In surveying these three quarter, quarter sections, the only exposures of Uinta Formation occur in the arroyo that runs through the NE 1/4, SE 1/4. Here a sandstone bed and a siltstone bed are exposed discontinuously. Some probable invertebrate burrowing structures were seen in the sandstone bed. Other than these, no fossils occur in the area.

**SW 1/4, Section 20, T 8 S, R 16 E (11, 12, 13 & 14-20-8-16)**

This quarter section has a flat surface, just as the surrounding terrain. The soil cover varies from sandy to pebbly. The vegetation is sparse throughout the entire area, and is low-growing. There are no exposures of Uinta Formation, even in the W - E trending arroyos that drain this area. No indications of fossils were found, as would be expected.

**Section 36, T 8 S, R 17 E**

**NE 1/4, NE 1/4, Section 36, T 8 S, R 17 E (1-36-8-17)**

This quarter, quarter section already has a water injection well and 6 large water storage tanks located on it. The proposed well site is staked immediately west of the water injection well. Both are located on a gently sloping land surface. Soil here is very rocky. The vegetational cover is exceptionally low and sparse. Although exposed Uinta Formation sandstones and mudstones lie adjacent to the water storage tanks at this site, no exposures lie on or adjacent to the proposed well site. Fossils are not in evidence in the immediate area of the proposed well site.

**Section 32, T 8 S, R 18 E**

**SE 1/4, SE 1/4, Section 32, T 8 S, R 18 E (16-32-8-18)**

The proposed well site for this quarter, quarter section is located in a small depression within an irregular topography of hills. Very little soil is present. That which occurs is thin and patchy in coverage. It is almost all of a sandy matrix. The vegetation as expected is quite sparse and low. This particular proposed well site rests on, and is surrounded by, Uinta Formation strata. These beds are mostly sandstones and mudstones. Some of the thicker sandstone units show locally common trace fossils of various sorts. The most prominent of these are the mollusc boring and fill structures. Small scatters of fossils turtle shell are present. One is of a partial shell weathering in place.

**Section 18, T 9 S, R 19 E**

**NE 1/4 & SW 1/4, NW 1/4, Section 18, T 9 S, R 19 E (3 & 5-18-9-19)**

Both of the quarter, quarter sections listed here lie in shallow basinal depressions. Soil in both areas varies from rocky to sandy, and supports a sparse to moderate vegetational cover. While the staked well pad sites are basically mostly on flat-lying ground, there are adjacent low ridges. In the case of the SW 1/4, NW 1/4, (5-18-9-19) part of the site rests on Uinta Formation mudstones. Adjacent sandstone units contain some trace fossils. Some turtle shell pieces are present in the mudstones at the site. One partial medium-sized shell outside the site is weathering *in situ*.

**Proposed Water Injection Line**

**Section 1, T 9 S, R 15 E**

**SE 1/4, SW 1/4, Section 1, T 9 S, R 15 E (14-1-9-15/W-1-9-15)**

The well site on this quarter, quarter section is situated on a hill within a rolling hill terrain. Soil in the area tends to be sandy to rocky. The vegetational cover around the existing well site is moderate in growth, but all of low height. The 190 feet of proposed water line runs east from an

existing road along the short access road to the well. This proposed water line lies adjoining to a ledge of thin-bedded Uinta Formation strata. These consist of sandstones, mudstones and claystones. All have been disturbed by previous activities relating to the earlier development of the well site access road by bulldozing. Therefore, much of what is exposed of the Uinta beds was done at this time. Inspection of the rocks revealed isolated gar pike (fish) scales and a partial cast of an aquatic gastropod of moderated size. All fossils noted were in the disturbed rocks.

### **RESULTS OF PALEONTOLOGICAL SURVEY**

Although a fairly extensive land area was covered for this report (28 quarter, quarter sections), very few fossils of note were found. The ones seen were trace fossils, a partial gastropod cast, isolated gar pike scales, and fragments of turtle shells. The most abundant and least weathered of the turtle shell material were found in the SW 1/4, NW 1/4, Section 18, T 9 S, R 19 E (5-18-9-18). Paucity of fossils in part was largely due to fairly limited exposures of the Uinta Formation. Also, continued field surveys have shown that the western part of the Uinta Basin tends to be less fossiliferous than in the eastern part of the Basin. This most likely is, at least in part, due to lesser exposures of the finer-grained sediments such as mudstones. Typically, sandstones and coarser sedimentary deposits in the area have presumably destroyed potential fossil material in transit, especially the smaller organisms. Since there were some fairly large animals present at the time (e.g., brontotheres, large turtles, crocodilians, etc.) this cannot be the only reason for a paucity of fossils in the western part of the Basin. Environmental conditions at the time (late Eocene) undoubtedly were a factor. It will take further research to help solve the dilemma of so few fossils here.

### **RECOMMENDED MITIGATION**

As noted above, there were no fossils of significant scientific value found in any of the areas

covered for this report. However, there is a possibility of more complete fossil turtle material in the SW 1/4, NW 1/4, Section 18, T 9 S, R 19 E. As reported, pieces of a few individuals were found here, with one partial shell weathering in place. Since it was noted that stakes for a proposed pit are present in the Uinta Formation near where the turtle shell material is located, that this proposed pit be moved from the slope where it's now designated, off the slope and on to an adjacent flat area.



Wade E. Miller  
May 2, 2008

1-36F8-17

**NEWFIELD EXPLORATION COMPANY**

**PALEONTOLOGICAL SURVEY OF PROPOSED  
PRODUCTION DEVELOPMENT AREAS,  
DUCHESNE & UTAH COUNTIES, UTAH**

Section 21, T 8 S, R 16 E [Entire section excluding NE/NW (3-21) & NW/NW(4-21)];  
Section 20, T 8 S, R 16 E [SW/NE (7-20), SE/NE (8-20), NE/SE (9-20), NW/SE (10-20),  
NE/SW (11-20), NW/SW (12-20), SW/SW (13-20), SE/SW (14-20), & SW/SE (15-20);  
SE/SE, Section 32, T 8 S, R 18 E (16-32-8-18), NE/NE, Section 36, T 8 S, R 17 E (1-36-8-17),  
NE/NW & SW/NW, Section 18, T 9 S, R 19 E (3 & 5-18-9-19), and Proposed Water Injection  
Line at SE/SW, Section 1, T 9 S, R 15 E (14-1-9-15).

**REPORT OF SURVEY**

Prepared for:

**Newfield Exploration Company**

Prepared by:

Wade E. Miller  
Consulting Paleontologist  
April 30 & May 1, 2008

## INTRODUCTION

This report covers parts of several sections that were designated for a paleontological field survey, and one proposed water injection pipeline tie-in. These were given on April 18, 2008, to Wade Miller via e-mail by Mandie Crozier of the Newfield Exploration Company's Myton office. Included areas given on these dates are: Section 21, T 8 S, R 16 E [Entire section excluding NE/NW (3-21) & NW/NW(4-21)]; Section 20, T 8 S, R 16 E [SW/NE (7-20), SE/NE (8-20), NE/SE (9-20), NW/SE (10-20), NE/SW (11-20), NW/SW (12-20), SW/SW (13-20), SE/SW (14-20), & SW/SE (15-20); SE/SE, Section 32, T 8 S, R 18 E (16-32-8-18), NE/NE, Section 36, T 8 S, R 17 E (1-36-8-17), NE/NW & SW/NW, Section 18, T 9 S, R 19 E (3 & 5-18-9-19), and Proposed Water Injection Line at SE/SW, Section 1, T 9 S, R 15 E (14-1-9-15). All the above parcels have now received a paleontological field survey. In total this constitutes 28 quarter, quarter sections. The field survey for this work took place on the dates of April 30 and May 1, 2008. It is here once more pointed out that previous reports have recorded the paleontological procedures used, dating back to 1999. Thus, only a summary of these procedures is included here. The more detailed procedures and information relating to paleontology of the Uinta Basin can be found in reports submitted by Wade Miller during the period of 1999 through 2003. These reports are on file with the Newfield Exploration Company (including this company's predecessor, the Inland Production Company) as well as in the Salt Lake City and Vernal, Utah, Bureau of Land Management offices.

The Uinta Formation, the geologic formation that represents almost all sediment exposures in the Uinta Basin, is regarded as one of the top few most paleontologically sensitive formations in Utah. It has provided much scientifically valuable information on past life in eastern Utah during the late Eocene period (roughly 40 to 45 million years ago). A Mammalian Age for all North America is based on the fauna that has been recovered from the Uinta Basin. While many types of diverse

animals and plants have been discovered, new discoveries are certain with additional field work. (There are paleontologists currently doing paleontological work in the Uinta Basin.) Some of the specific types of plants and animals found on Newfield's oil and gas leased lands have been cited in earlier reports by the present author. The importance of protecting scientifically significant fossils, and the Federal and State laws regarding their protection, has also been given in earlier reports. The Bureau of Land Management (BLM) Paleontological Resources Use Permit number under which the present field work was done is: #UT06-003C. All the significant fossils that have been found during the paleontological field surveys, have been collected and brought to Brigham Young University (BYU). There, they have been (or are being) prepared and curated, and integrated into the paleontological collections. BLM Paleontological Report forms have also been completed and submitted to the above BLM offices regarding these fossils. BYU has been a Federally recognized repository for fossils for many years. That is, fossils discovered and collected by Federal permit can legally be stored and studied here.

#### PALEONTOLOGICAL FIELD SURVEY

The present paleontological field survey followed the same procedures as were done in all earlier ones. That is, each of the designated quarter, quarter sections s carefully walked over looking for evidence of fossils. Specifically this covers any area where the Uinta Formation is exposed. Notes are kept as the survey proceeds over each of the quarter, quarter sections covered in the present survey. Important fossils when found are photographed *in situ*, bagged, or plaster jacketed, and marked. A GPS reading is also taken at the exact location of each. The site is then marked on a USGS Topographic map, with a field locality number given. Although the present survey covered a very widespread area, fossil finds were not especially abundant. And the fossils that were found are not considered of significant paleontological importance. The most abundant fossils found were ichnites of various types. Turtle shell fragments in various stages of weathering and sizes are present at only three of the sites investigated. A few isolated gar pike (fish) scales and a partial gastropod cast were seen at one site. Since no specimens warranted, photos were not taken, nor were GPS readings made.

In situations where surveyed quarter, quarter sections are essentially the same in terms of their physical features, and units of exposed Uinta Formation basically alike when present, with few if any fossils existing, then two or more of these 40 acre units are combined for reporting purposes. This proved to be the case in the current paleontological field survey for most of the sites covered. It is noted here that exposures in Newfield's oil and gas leased lands in the western region are less fossiliferous than is the case in the eastern area. In the present paleontological field survey, it was observed that most (but not all) of Newfield's proposed well pad sites as well as proposed access roads and water and gas line routes were marked by stakes. Many had been knocked over by animals or wind, however. When sites are marked, though, it greatly facilitates the field survey work. The various proposed access roads and pipelines were walked out during the present paleontological survey. Where stakes were not present, the entire area was surveyed, not just that in and adjacent to proposed well pad sites. As usual, both USGS Topographic maps and Newfield's planimetric map of the roads and wells were used in the survey. The former type of maps used in the present survey were the Pariette Draw SW, Myton SE and Myton SW 7.5' quadrangles, all published in 1964. Wade Miller performed the paleontological field survey for this report alone.

## **REPORT OF AREAS SURVEYED**

### **Section 21, T 8 S, R 16 E**

#### **SW 1/4, Section 21, T 8 S, R 16 E (11, 12, 13 & 14-21-8-16)**

This entire quarter section is situated on fairly flat terrain. Soil varies from very rocky to rocky and sandy. The vegetative cover is sparse to moderate in growth, and low to medium in height. Only a small area over this entire quarter section shows and Uinta Formation outcropping. The exposed rocks are some sandstones which barely show at the surface. Their fragments clasts,

though, are locally abundant. The *in situ* rock exposures are present along and east - west trending ridge in the NE 1/4, SW 1/4. No fossils were observed within the exposed sandstones or in the clasts derived from them.

**SE 1/4, Section 21, T 8 S, R 16 E (9, 10, 15 & 16-21-8-16)**

Mostly this quarter section occupies a flatland surface, with the exception of the east - west trending low ridge, mentioned in the SW 1/4 of Section 21 above, that exists in it. However, here it extends across the entire quarter section. An existing well is present in the SE 1/4, SE 1/4 of this section. In addition there is a plugged and abandoned well in the NE 1/4, SE 1/4. The soil and vegetation remain the same as that described in the SW quarter of this section. Several small, shallow arroyos dissect the present quarter section. None, though, are sufficiently deep to cut down to Uinta Formation strata. Nevertheless, this formation does have some exposures on the above-named ridge. These consist of discontinuous, low profile sandstones and siltstones. Additionally, some small patches of mudstone also occur on the ridge beneath the more resistant sandstone and siltstone. These mudstones are largely covered by rock debris from the overlying better indurated rocks. No fossils (body or trace types) were found anywhere in this quarter section.

**NE 1/4, Section 21, T 8 S, R 16 E (1, 2, 7 & 8-21-8-16)**

The northern tier of this the northeast quarter is truncated because of the "Old Indian Treaty Boundary" line. The flat terrain here is interrupted by a broad and low ridge that runs through the middle of the area. A plugged and abandoned well is present as a metal pipe in the SW 1/4, NE 1/4. Although mostly rocky, the soil has a sandy component. The vegetation is mostly low-growing, and varies from sparse to moderate in coverage. The only exposed Uinta Formation rocks are a discontinuous sandstone and siltstone layer with low outcroppings. The few fossils seen were some well-weathered, isolated turtle shell fragments.

**SW 1/4, & SE 1/4, NW 1/4, Section 21, T 8 S, R 16 E (5 & 6-21-8-16)**

The two northern quarter, quarter sections of the NW 1/4 are greatly truncated by the "Old Indian Treaty Boundary" line, and were not designated for a paleontological survey. Both of the two southern tier quarter, quarter reported here are complete. They lie on flat ground, with a moderate-sized arroyo running through these two parcels. Soil continues to be rocky to rocky and sandy. Vegetation is sparse to moderate, mostly of low growth. However, tall brush grows within the arroyo itself. This same arroyo contains the only Uinta Formation outcrops within the surveyed area. There are, however, sandstone outcrops immediately north of the SE 1/4, NW 1/4. Only a few scattered sandstone rocks displayed some mollusc boring and fill features, as are prevalent in sandstones throughout the Uinta Basin. No other fossils were found.

**Section 20, T 8 S, R 16 E**

**SW 1/4 & SE 1/4, NE 1/4, Section 20, T 8 S, R 16 E (7 & 8-20-8-16)**

These two quarter, quarter sections are bounded on the north by the "Old Indian Treaty Boundary" line. The land surface here is flat to slightly irregular. Soil conditions over the whole area is silty with areas of some scattered rocks which are composed of siltstone. This soil appears to be relatively deep over most of the area. The vegetation is low-growing and moderate in its coverage. No Uinta Formation exposures are present in either of the two quarter, quarter sections. Fossils are not in evidence.

**NE 1/4, NW 1/4 & SW 1/4, SE 1/4, Section 20, T 8 S, R 16 E (9, 10 & 15-20-8-16)**

All three quarter, quarter sections reported here lie on essentially flat land, but with a couple of moderate-sized arroyos running essentially SW - NE through them. The fairly deep soil (as judged

from exposures in the arroyos) ranges from rocky to sandy to silty. Vegetation is sparse to moderate in its coverage, and of low height. In surveying these three quarter, quarter sections, the only exposures of Uinta Formation occur in the arroyo that runs through the NE 1/4, SE 1/4. Here a sandstone bed and a siltstone bed are exposed discontinuously. Some probable invertebrate burrowing structures were seen in the sandstone bed. Other than these, no fossils occur in the area.

**SW 1/4, Section 20, T 8 S, R 16 E (11, 12, 13 & 14-20-8-16)**

This quarter section has a flat surface, just as the surrounding terrain. The soil cover varies from sandy to pebbly. The vegetation is sparse throughout the entire area, and is low-growing. There are no exposures of Uinta Formation, even in the W - E trending arroyos that drain this area. No indications of fossils were found, as would be expected.

**Section 36, T 8 S, R 17 E**

**NE 1/4, NE 1/4, Section 36, T 8 S, R 17 E (1-36-8-17)**

This quarter, quarter section already has a water injection well and 6 large water storage tanks located on it. The proposed well site is staked immediately west of the water injection well. Both are located on a gently sloping land surface. Soil here is very rocky. The vegetational cover is exceptionally low and sparse. Although exposed Uinta Formation sandstones and mudstones lie adjacent to the water storage tanks at this site, no exposures lie on or adjacent to the proposed well site. Fossils are not in evidence in the immediate area of the proposed well site.

**Section 32, T 8 S, R 18 E**

**SE 1/4, SE 1/4, Section 32, T 8 S, R 18 E (16-32-8-18)**

The proposed well site for this quarter, quarter section is located in a small depression within an irregular topography of hills. Very little soil is present. That which occurs is thin and patchy in coverage. It is almost all of a sandy matrix. The vegetation as expected is quite sparse and low. This particular proposed well site rests on, and is surrounded by, Uinta Formation strata. These beds are mostly sandstones and mudstones. Some of the thicker sandstone units show locally common trace fossils of various sorts. The most prominent of these are the mollusc boring and fill structures. Small scatters of fossils turtle shell are present. One is of a partial shell weathering in place.

**Section 18, T 9 S, R 19 E**

**NE 1/4 & SW 1/4, NW 1/4, Section 18, T 9 S, R 19 E (3 & 5-18-9-19)**

Both of the quarter, quarter sections listed here lie in shallow basinal depressions. Soil in both areas varies from rocky to sandy, and supports a sparse to moderate vegetational cover. While the staked well pad sites are basically mostly on flat-lying ground, there are adjacent low ridges. In the case of the SW 1/4, NW 1/4, (5-18-9-19) part of the site rests on Uinta Formation mudstones. Adjacent sandstone units contain some trace fossils. Some turtle shell pieces are present in the mudstones at the site. One partial medium-sized shell outside the site is weathering *in situ*.

**Proposed Water Injection Line**

**Section 1, T 9 S, R 15 E**

**SE 1/4, SW 1/4, Section 1, T 9 S, R 15 E (14-1-9-15/W-1-9-15)**

The well site on this quarter, quarter section is situated on a hill within a rolling hill terrain. Soil in the area tends to be sandy to rocky. The vegetational cover around the existing well site is moderate in growth, but all of low height. The 190 feet of proposed water line runs east from an

existing road along the short access road to the well. This proposed water line lies adjoining to a ledge of thin-bedded Uinta Formation strata. These consist of sandstones, mudstones and claystones. All have been disturbed by previous activities relating to the earlier development of the well site access road by bulldozing. Therefore, much of what is exposed of the Uinta beds was done at this time. Inspection of the rocks revealed isolated gar pike (fish) scales and a partial cast of an aquatic gastropod of moderated size. All fossils noted were in the disturbed rocks.

### **RESULTS OF PALEONTOLOGICAL SURVEY**

Although a fairly extensive land area was covered for this report (28 quarter, quarter sections), very few fossils of note were found. The ones seen were trace fossils, a partial gastropod cast, isolated gar pike scales, and fragments of turtle shells. The most abundant and least weathered of the turtle shell material were found in the SW 1/4, NW 1/4, Section 18, T 9 S, R 19 E (5-18-9-18). Paucity of fossils in part was largely due to fairly limited exposures of the Uinta Formation. Also, continued field surveys have shown that the western part of the Uinta Basin tends to be less fossiliferous than in the eastern part of the Basin. This most likely is, at least in part, due to lesser exposures of the finer-grained sediments such as mudstones. Typically, sandstones and coarser sedimentary deposits in the area have presumably destroyed potential fossil material in transit, especially the smaller organisms. Since there were some fairly large animals present at the time (e.g., brontotheres, large turtles, crocodilians, etc.) this cannot be the only reason for a paucity of fossils in the western part of the Basin. Environmental conditions at the time (late Eocene) undoubtedly were a factor. It will take further research to help solve the dilemma of so few fossils here.

### **RECOMMENDED MITIGATION**

As noted above, there were no fossils of significant scientific value found in any of the areas

covered for this report. However, there is a possibility of more complete fossil turtle material in the SW 1/4, NW 1/4, Section 18, T 9 S, R 19 E. As reported, pieces of a few individuals were found here, with one partial shell weathering in place. Since it was noted that stakes for a proposed pit are present in the Uinta Formation near where the turtle shell material is located, that this proposed pit be moved from the slope where it's now designated, off the slope and on to an adjacent flat area.

*Wade E. Miller*

Wade E. Miller  
May 2, 2008

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 08/14/2008

API NO. ASSIGNED: 43-047-40316

WELL NAME: STATE 1-36T-8-17  
 OPERATOR: NEWFIELD PRODUCTION ( N2695 )  
 CONTACT: MANDIE CROZIER

PHONE NUMBER: 435-646-3721

PROPOSED LOCATION:

NENE 36 080S 170E  
 SURFACE: 0695 FNL 0911 FEL  
 BOTTOM: 0695 FNL 0911 FEL  
 COUNTY: UINTAH  
 LATITUDE: 40.07970 LONGITUDE: -109.9480  
 UTM SURF EASTINGS: 589700 NORTHINGS: 4436923  
 FIELD NAME: MONUMENT BUTTE ( 105 )

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering	DKO	10/13/08
Geology		
Surface		

LEASE TYPE: 3 - State  
 LEASE NUMBER: ML-44305  
 SURFACE OWNER: 3 - State

PROPOSED FORMATION: DKTA  
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]  
(No. B001834 )
- N Potash (Y/N)
- N Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit  
(No. MUNICIPAL )
- N RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )
- NA Fee Surf Agreement (Y/N)
- NA Intent to Commingle (Y/N)

LOCATION AND SITING:

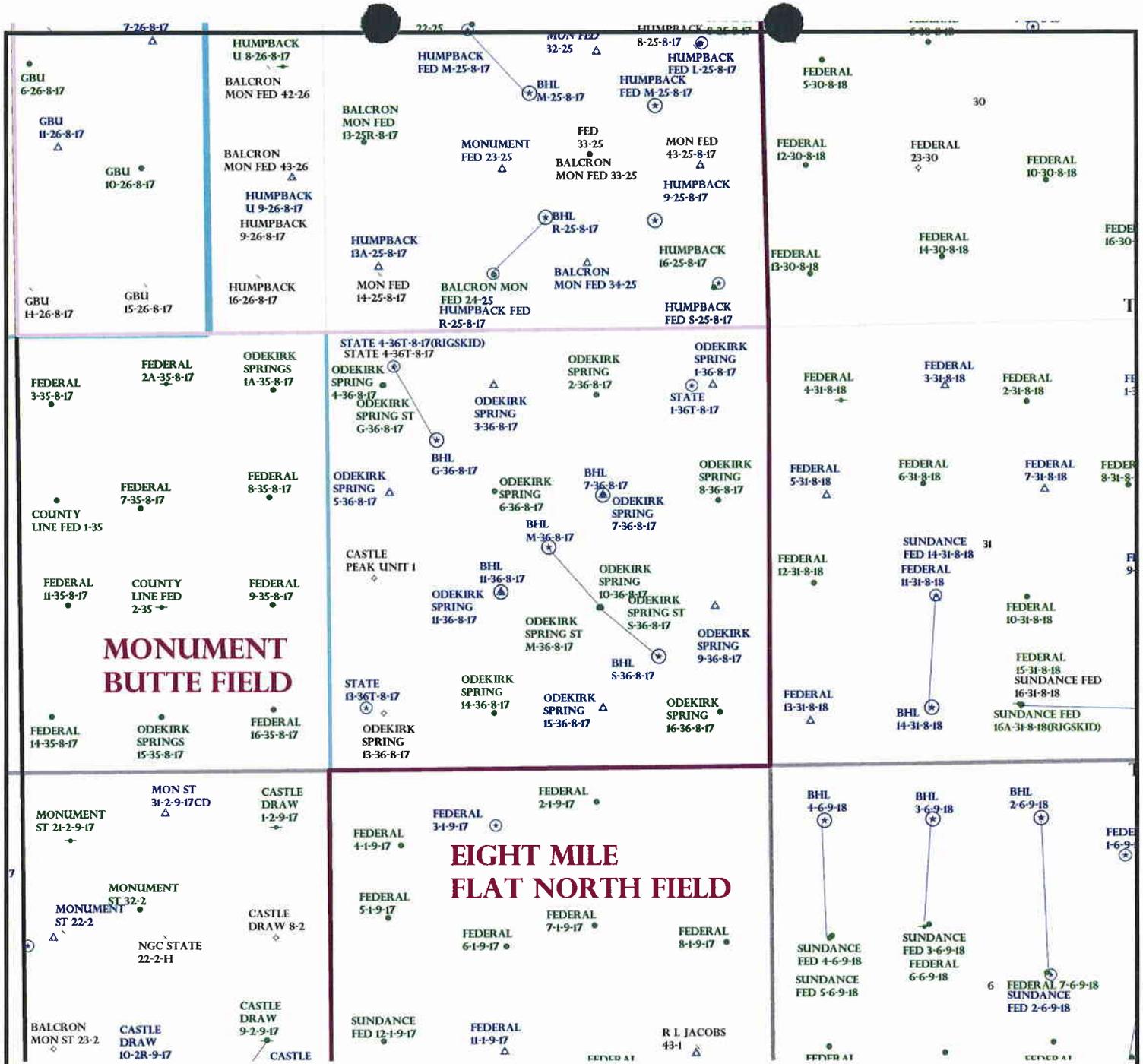
- \_\_\_ R649-2-3.
- Unit: \_\_\_\_\_
- \_\_\_ R649-3-2. General
- Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- \_\_\_ Drilling Unit
- Board Cause No: \_\_\_\_\_
- Eff Date: \_\_\_\_\_
- Siting: \_\_\_\_\_
- \_\_\_ R649-3-11. Directional Drill

COMMENTS:

Needs Quest (09-10-06)

STIPULATIONS:

- 1- Spacing Step
- 2- STATEMENT OF BASIS
- 3- Surface Ge. Cont Step
- 4- Cont Step #3 (7 5/8" intermediate, 2500' md)



OPERATOR: NEWFIELD PROD CO (N2695)

SEC: 36 T.8S R. 17E

FIELD: MONUMENT BUTTE (105)

COUNTY: UINTAH

SPACING: R649-3-3 / EXCEPTION LOCATION

**Wells Status**

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

**Field Status**

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

**Unit Status**

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



OIL, GAS & MINING



PREPARED BY: DIANA MASON  
DATE: 25-AUGUST-2008

# Application for Permit to Drill

## Statement of Basis

10/1/2008

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM
975	43-047-40316-00-00		GW	S	No
<b>Operator</b>	NEWFIELD PRODUCTION COMPANY	<b>Surface Owner-APD</b>			
<b>Well Name</b>	STATE 1-36T-8-17	<b>Unit</b>			
<b>Field</b>	UNDESIGNATED	<b>Type of Work</b>			
<b>Location</b>	NENE 36 8S 17E S 695 FNL 911 FEL	<b>GPS Coord (UTM)</b>	589700E	4436923N	

### Geologic Statement of Basis

Newfield proposes to set 1,000' of surface casing at this location. The base of the moderately saline water at this location is estimated to be near the ground surface. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of section 36. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement program should adequately protect any useable ground water.

Brad Hill  
APD Evaluator

10/1/2008  
Date / Time

### Surface Statement of Basis

The general area is approximately 17 miles southeast of Myton, Utah in the Monument Butte field of Castle Peak Draw area. Castle Peak Draw runs in a northeasterly direction and joins Pariette Draw. Pariette Draw continues in a southeasterly direction about 6 miles and joins the Green River about 6 miles below Ouray Utah. Pariette Draw contains a perennial stream somewhat consisting of irrigation runoff and seepage. No streams springs or seeps occur in the immediate area. An occasional pond constructed to store runoff for livestock or wildlife exists. Drainages are ephemeral only flowing during spring snowmelt or following intense summer rainstorms. Broad flats or rolling topography intersected by drainages with gentle to sometimes steep side-slopes characterize the area. Access from Myton, Utah is following State of Utah Hwy. 40 and Duchesne and Uintah County and oilfield development roads a distance of 16.6 miles. A new road 50 feet in length will be required to reach the location.

The proposed State 1-36T-8-17 is a deep gas well. The pad will be located near the east end of a gentle east sloping broad flat. The flat continues east approximately 1/8 mile then breaks-off sharply into a deep rugged wash which joins Castle Peak Draw. Immediately east of the proposed pad is an active water-flood injection well. Slight overland flow occurs across the area. No diversion ditches are planned or warranted, as the flow will be interrupted by the planned berm around the pad. The selected site has no apparent concerns and appears to be a good location for constructing a pad, drilling and operating a well.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site evaluation. He had no concerns regarding the proposed site. SITLA is to be contacted for reclamation standards including a seed mix to be used when re-seeding the disturbed areas.

Ben Williams of the Utah Division of Wildlife Resources was invited to the pre-site. He did not attend.

Floyd Bartlett  
Onsite Evaluator

9/10/2008  
Date / Time

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# Application for Permit to Drill

## Statement of Basis

10/1/2008

Utah Division of Oil, Gas and Mining

Page 2

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

<b>Category</b>	<b>Condition</b>
Pits	A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The well site shall be bermed to prevent fluids from leaving or running onto the pad.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

Operator NEWFIELD PRODUCTION COMPANY

Well Name STATE 1-36T-8-17

API Number 43-047-40316-0

APD No 975

Field/Unit UNDESIGNATED

Location: 1/4,1/4 NENE Sec 36 Tw 8S Rng 17E 695 FNL 911 FEL

GPS Coord (UTM)

Surface Owner

### Participants

Floyd Bartlett (DOGM), David Allred and Jeff Henderson (Newfield Production Company), Jim Davis (SITLA).

### Regional/Local Setting & Topography

The general area is approximately 17 miles southeast of Myton, Utah in the Monument Butte field of Castle Peak Draw area. Castle Peak Draw runs in a northeasterly direction and joins Pariette Draw. Pariette Draw continues in a southeasterly direction about 6 miles and joins the Green River about 6 miles below Ouray Utah. Pariette Draw contains a perennial stream somewhat consisting of irrigation runoff and seepage. No streams springs or seeps occur in the immediate area. An occasional pond constructed to store runoff for livestock or wildlife exists. Drainages are ephemeral only flowing during spring snowmelt or following intense summer rainstorms. Broad flats or rolling topography intersected by drainages with gentle to sometimes steep side-slopes characterize the area. Access from Myton, Utah is following State of Utah Hwy. 40 and Duchesne and Uintah County and oilfield development roads a distance of 16.6 miles. A new road 50 feet in length will be required to reach the location.

The proposed State 1-36T-8-17 is a deep gas well. The pad will be located near the east end of a gentle east sloping broad flat. The flat continues east approximately 1/8 mile then breaks-off sharply into a deep rugged wash which joins Castle Peak Draw. Immediately east of the proposed pad is an active water-flood injection well. Slight overland flow occurs across the area. No diversion ditches are planned or warranted, as the flow will be interrupted by the planned berm around the pad. The selected site has no apparent concerns and appears to be a good location for constructing a pad, drilling and operating a well.

Both the surface and minerals are owned by SITLA.

### Surface Use Plan

#### Current Surface Use

Grazing

Recreational

Wildlife Habitat

#### New Road

Miles	Well Pad	Src Const Material	Surface Formation
0.01	Width 310	Length 400	Onsite
			UNTA

Ancillary Facilities N

### Waste Management Plan Adequate?

### Environmental Parameters

Affected Floodplains and/or Wetland N

#### Flora / Fauna

The site is spatially vegetated. Vegetation is a desert shrub type which includes Gardner saltbrush, shadscale, curly mesquite, halogeton, mustard weed, rabbit brush, horsebrush, broom snakeweed and spring annuals exist.

Cattle, prairie dogs, antelope, small mammals and birds.

**Soil Type and Characteristics**

Moderately deep sandy loam with some surface rock.

**Erosion Issues** N

**Sedimentation Issues** Y

Slight overland flow occurs across the area. No diversion ditches are planned or warranted, as the flow will be interrupted by the planned berm around the pad.

**Site Stability Issues** N

**Drainage Diversion Required** N

**Berm Required?** Y

**Erosion Sedimentation Control Required?** Y

Slight overland flow occurs across the area. No diversion ditches are planned or warranted, as the flow will be interrupted by the planned berm around the pad.

**Paleo Survey Run?**

**Paleo Potential Observed?**

**Cultural Survey Run?**

**Cultural Resources?**

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

**Distance to Groundwater (feet)** >200

0

**Distance to Surface Water (feet)** >1000

0

**Dist. Nearest Municipal Well (ft)** >5280

0

**Distance to Other Wells (feet)** 300 to 1320

10

**Native Soil Type** Mod permeability

10

**Fluid Type** Fresh Water

5

**Drill Cuttings** Normal Rock

0

**Annual Precipitation (inches)** <10

0

**Affected Populations** <10

0

**Presence Nearby Utility Conduits** Not Present

0

**Final Score**

25

1

**Sensitivity Level**

**Characteristics / Requirements**

A 100' x 165' x 8' deep reserve pit is planned in an area of cut on the southwest side of the location. A pit liner is required. Newfield commonly uses a 16-mil liner.

**Closed Loop Mud Required?** N

**Liner Required?** Y

**Liner Thickness** 16

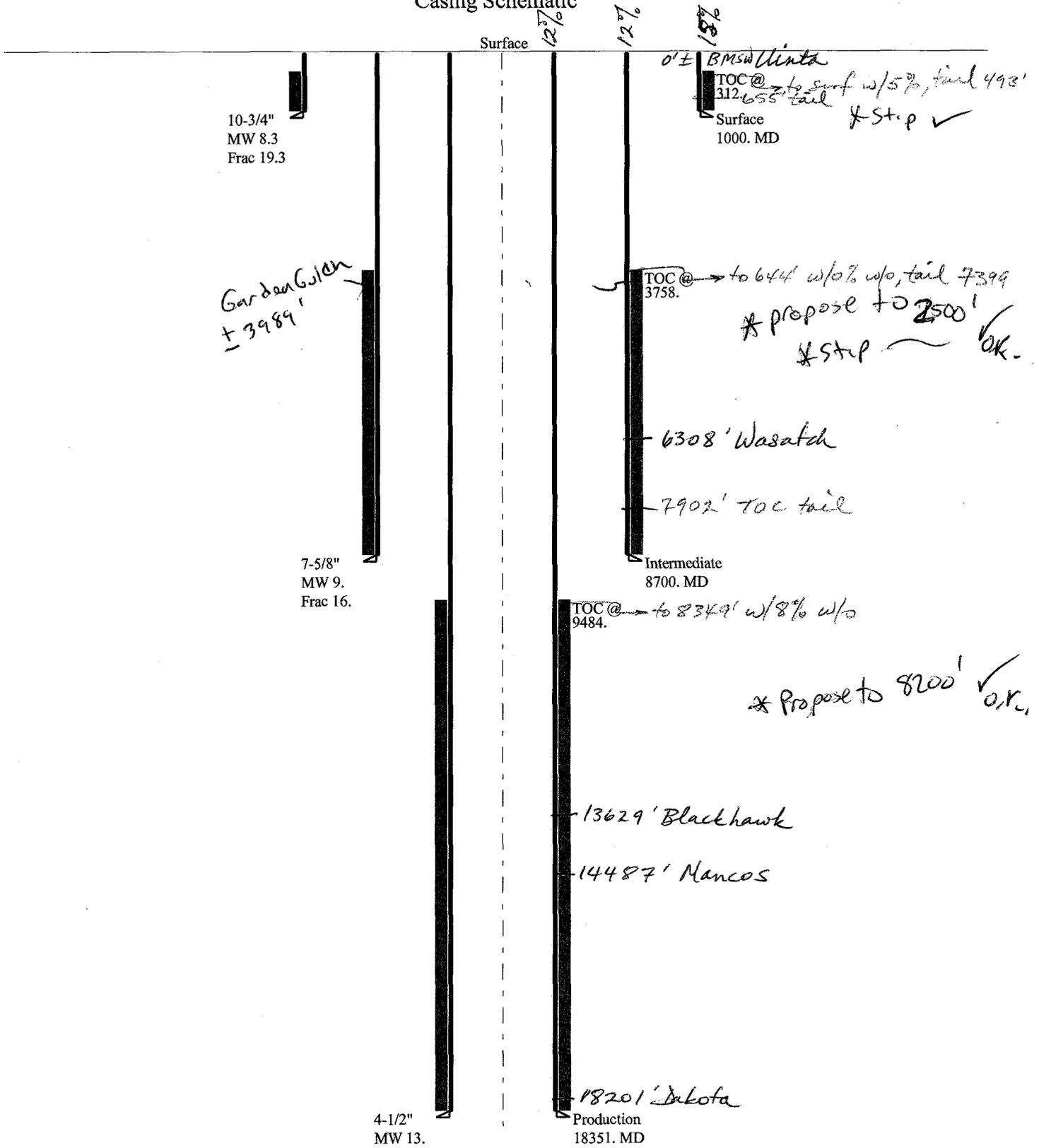
**Pit Underlayment Required?** Y

**Other Observations / Comments**

Floyd Bartlett  
Evaluator

9/10/2008  
Date / Time

Casing Schematic



Well name:

43047403160000 State 1-36T-8-17

Operator:

Newfield Production Company

String type:

Surface

Project ID:

43-047-40316-0000

Location:

Uintah County, Utah

**Design parameters:**

**Collapse**

Mud weight: 8.330 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 89 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

**Burst:**

Design factor 1.00

Cement top: 312 ft

**Burst**

Max anticipated surface pressure: 780 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 1,000 psi

No backup mud specified.

**Tension:**

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

Tension is based on buoyed weight.  
Neutral point: 878 ft

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

**Re subsequent strings:**

Next setting depth: 8,700 ft  
Next mud weight: 9.000 ppg  
Next setting BHP: 4,068 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 1,000 ft  
Injection pressure: 1,000 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	1000	10.75	40.50	J-55	ST&C	1000	1000	9.925	550.9
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	433	1580	3.651	1000	3130	3.13	36	420	11.81 J

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

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

Date: October 9, 2008  
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1000 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>43047403160000 State 1-36T-8-17</b>	
Operator:	<b>Newfield Production Company</b>	
String type:	Intermediate	Project ID: 43-047-40316-0000
Location:	Uintah County, Utah	

**Design parameters:**

**Collapse**

Mud weight: 9.000 ppg  
Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 5,317 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP: 7,231 psi  
  
Annular backup: 2.33 ppg

**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: 7,530 ft

**Environment:**

H2S considered? No  
Surface temperature: 75 °F  
Bottom hole temperature: 197 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

Cement top: 3,758 ft

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

**Re subsequent strings:**

Next setting depth: 18,351 ft  
Next mud weight: 13.000 ppg  
Next setting BHP: 12,393 psi  
Fracture mud wt: 16.000 ppg  
Fracture depth: 8,700 ft  
Injection pressure: 7,231 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	8700	7.625	29.70	N-80	LT&C	8700	8700	6.75	2242.8
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	4068	4790	1.178	6178	6890	1.12	224	575	2.57 J

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

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

Date: October 9, 2008  
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 8700 ft, a mud weight of 9 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>43047403160000 State 1-36T-8-17</b>		Project ID:
Operator:	<b>Newfield Production Company</b>		43-047-40316-0000
String type:	Production		
Location:	Uintah County, Utah		

**Design parameters:**

**Collapse**

Mud weight: 13.000 ppg  
 Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 8,356 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 12,393 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: 14,734 ft

**Environment:**

H2S considered? No  
 Surface temperature: 75 °F  
 Bottom hole temperature: 332 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,500 ft

Cement top: 9,484 ft

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

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	18351	4.5	15.10	P-110	LT&C	18351	18351	3.701	1465.1

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	12393	14350	1.158	12393	14420	1.16	222	406	1.82 J

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

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

Date: October 9, 2008  
 Salt Lake City, Utah

Remarks:  
 Collapse is based on a vertical depth of 18351 ft, a mud weight of 13 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.

# BOPE REVIEW

Newfield State1-36T-8-17

API 43-047-40316-0000

Well Name	Newfield State1-36T-8-17			API 43-047-40316-0000		
	String 1	String 2	String 3			
Casing Size (")	10 3/4	7 5/8	4 1/2			
Setting Depth (TVD)	1000	8700	18351			
Previous Shoe Setting Depth (TVD)	40	1000	8700			
Max Mud Weight (ppg)	8.33	9	13			✓
BOPE Proposed (psi)	500	5000	10000			
Casing Internal Yield (psi)	3130	6890	14420			
Operators Max Anticipated Pressure (psi)	11928		12.5 ppg			✓

Calculations	String 1	10 3/4 "	
Max BHP [psi]	.052*Setting Depth*MW =	433	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	313	YES ✓ Diverter head
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	213	YES
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	222	← NO Reasonable depth
Required Casing/BOPE Test Pressure		1000 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		40 psi	*Assumes 1psi/ft frac gradient

Calculations	String 2	7 5/8 "	
Max BHP [psi]	.052*Setting Depth*MW =	4072	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	3028	YES ✓ 5M double ram, 5M annular rotating head.
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	2158	YES
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	2378	← NO Reasonable
Required Casing/BOPE Test Pressure		4823 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		1000 psi	*Assumes 1psi/ft frac gradient

Calculations	String 3	4 1/2 "	
Max BHP [psi]	.052*Setting Depth*MW =	12405	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	10203	NO 10M double ram, 5M annular rotating head.
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	8368	YES ✓
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	10282	← NO Reasonable (frac gradient more than likely < 1 → 0.9 psi/ft = 7890 psi max gradient)
Required Casing/BOPE Test Pressure		10000 psi	Operator states 0.83 psi/ft max gradient
*Max Pressure Allowed @ Previous Casing Shoe =		6890 psi	*Assumes 1psi/ft frac gradient

0.9 psi/ft = 7890 psi max gradient  
Operator states 0.83 psi/ft max gradient



September 19, 2008

State of Utah, Division of Oil, Gas & Mining  
ATTN: Diana Mason  
PO Box 145801  
Salt Lake City, UT 84114-5801

RE: Exception Location  
**State 1-36T-8-17**  
ML-44305  
T8S R17E, Section 36: NENE  
695' FNL 911' FEL  
Uintah County, Utah

Dear Ms. Mason;

Pursuant to Rule 649-3-3 of the Oil & Gas Rules and Regulations of the State of Utah, Newfield Production Company ("NPC") hereby requests an exception location for the drilling of the captioned well. The proposed drillsite for this well is located 53' west of the drilling window required by Rule R649-3-2, which requires a well to be located in the center of a forty (40) acre quarter-quarter section, or a substantially equivalent lot or tract, with a tolerance of two hundred (200) feet in any direction from the center.

The attached plat depicts the proposed location and illustrates the deviation from the drilling window. This location has been chosen so it will not interfere with the wellbore of the Odekirk 1-36-8-17, a Green River injection well. The State 1-36T-8-17 is being proposed as a deep gas well.

Please note the drillsite and all surrounding acreage within a four hundred sixty (460) foot radius is completely within ML-44305, which is owned, as to rights below the base of the Green River formation, as follows: Newfield Production Company 24.5%, Newfield RMI LLC 24.5%, Yates Petroleum Corporation 40%, Yates Drilling Company 3.34%, Abo Petroleum Corporation 3.33% and Myco Industries Inc. 3.33%. Attached you will find letters executed by Yates Petroleum, Yates Drilling, Abo and Myco, giving their consent to the referenced location.

If you have any questions or require further information, please do not hesitate to contact the undersigned at 303-382-4444 or by email at [reveland@newfield.com](mailto:reveland@newfield.com). Your consideration of this matter is greatly appreciated.

Sincerely,  
NEWFIELD PRODUCTION COMPANY

A handwritten signature in cursive script that reads "Roxann Eveland".

Roxann Eveland  
Land Associate

Attachment

**RECEIVED**

**SEP 25 2008**

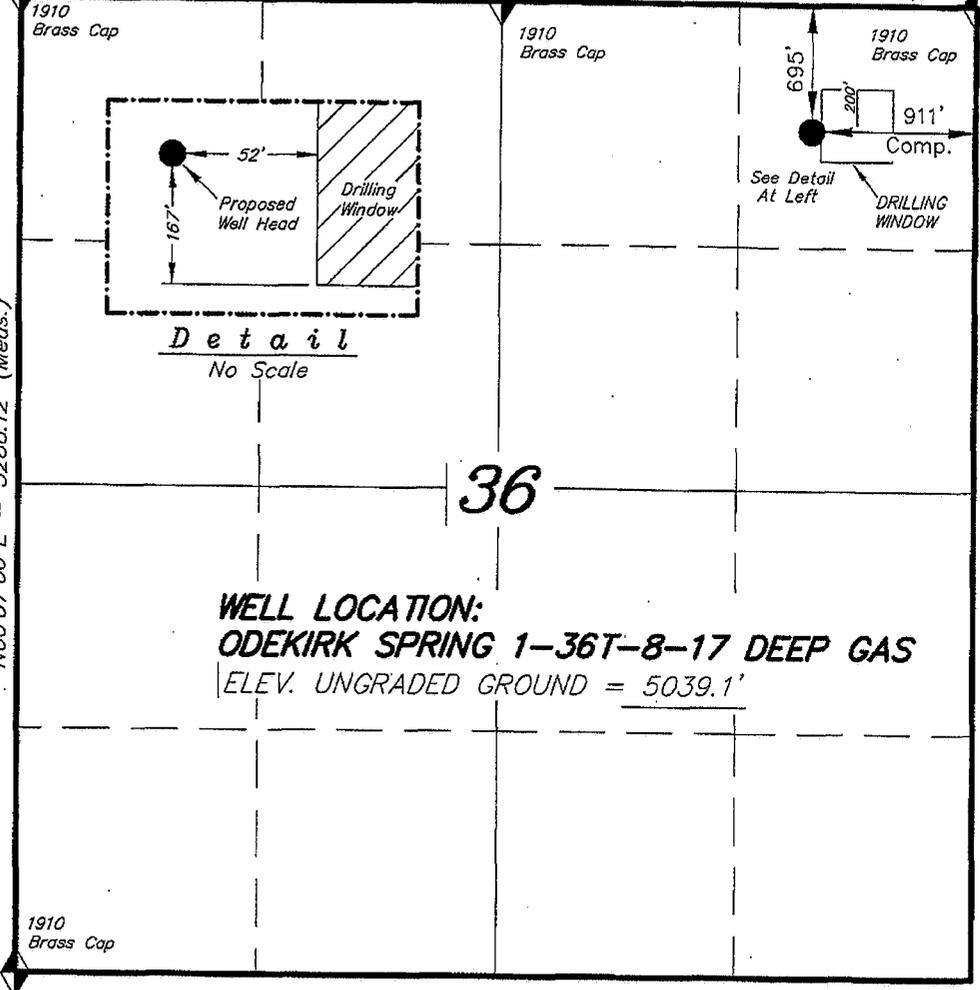
**DIV. OF OIL, GAS & MINING**

# T8S, R17E, S.L.B.&M.

# NEWFIELD PRODUCTION COMPANY

2645.97' (Measured) N89°59'W - 79.92 (G.L.O.)  
 N89°59'W G.L.O. (Basis of Bearings) N89°51'46"W - 2633.52' (Meas.)

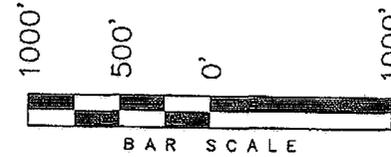
WELL LOCATION, ODEKIRK SPRING 1-36T-8-17  
 DEEP GAS, LOCATED AS SHOWN IN THE NE 1/4  
 NE 1/4 OF SECTION 36, T8S, R17E, S.L.B.&M.  
 UTAH COUNTY, UTAH.



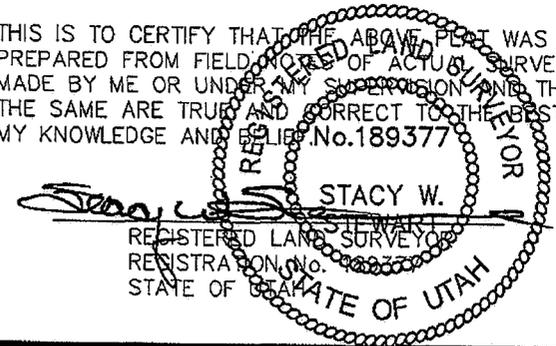
*Detail*  
 No Scale

36

**WELL LOCATION:**  
**ODEKIRK SPRING 1-36T-8-17 DEEP GAS**  
 ELEV. UNGRADED GROUND = 5039.1'



THIS IS TO CERTIFY THAT THE ABOVE PLAN 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. No. 189377



## TRI STATE LAND SURVEYING & CONSULTING

180 NORTH VERNAL AVE. - VERNAL, UTAH 84078  
 (435) 781-2501

DATE SURVEYED: 02-21-08	SURVEYED BY: C.M.
DATE DRAWN: 03-10-08	DRAWN BY: M.W.
REVISED:	SCALE: 1" = 1000'

◆ = SECTION CORNERS LOCATED

BASIS OF ELEV;  
 U.S.G.S. 7-1/2 min QUAD (MYTON SE)

ODEKIRK SPRING 1-36T-8-17  
 (Surface Location) NAD 83  
 LATITUDE = 40° 04' 47.22"  
 LONGITUDE = 109° 56' 55.46"

STATE OF **UT**  
 DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NO.  
**ML-44305**

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

7. UNIT AGREEMENT NAME  
**N/A**

8. FARM OR LEASE NAME  
**N/A**

9. WELL NO.  
**State 1-36T-8-17**

10. FIELD AND POOL OR WILDCAT  
**Monument Butte**

11. QTR/QTR. SECTION, TOWNSHIP, RANGE, MERIDIAN:  
**NE/NE  
 Sec. 36, T8S, R17E**

12. County  
**Uintah**

13. STATE  
**UT**

**APPLICATION FOR PERMIT TO DRILL, DEEPEN**

1a. TYPE OF WORK DRILL  **DEEPEN**

1b. TYPE OF WELL

OIL  GAS  OTHER

SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
**Newfield Production Company**

3. ADDRESS AND TELEPHONE NUMBER:  
**Route #3 Box 3630, Myton, UT 84052 Phone: (435) 646-3721**

4. LOCATION OF WELL (FOOTAGE)  
 At Surface **NE/NE 695' FNL 911' FEL.**  
 At proposed Producing Zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
**Approximately 16.6 miles southeast of Myton, UT**

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) <b>Approx. 695' f/lse line &amp; NA' f/unit line</b>	16. NO. OF ACRES IN LEASE <b>640.00</b>	17. NO. OF ACRES ASSIGNED TO THIS WELL <b>40</b>
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. <b>NA</b>	19. PROPOSED DEPTH <b>18,351</b>	20. ROTARY OR CABLE TOOLS <b>Rotary</b>

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**5039 GL**

22. APPROX. DATE WORK WILL START\*  
**4th Quarter 2008**

**23. PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13.5	10 3/4"	40.5	1,000'	See attachment
9.875	7 5/8"	29.7	8,700	See attachment
6.5	4 1/2"	15.1	TD	See attachment

DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give date on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.  
**See Attached Drilling Program**

24. Name & Signature *Mandie Crozier* Title: Regulatory Specialist Date: 8/12/2008  
**Mandie Crozier**

(This space for State use only)

API Number Assigned: \_\_\_\_\_ APPROVAL: \_\_\_\_\_

\*See Instructions On Reverse Side

**RECEIVED**  
**SEP 25 2008**  
 DIV. OF OIL, GAS & MINING



August 21, 2008

Yates Petroleum Corporation  
ATTN: Cody Moore  
105 S. 4<sup>th</sup> St.  
Artesia, NM 88210

RE: Exception Location  
State 1-36T-8-17  
Uintah County, Utah

Dear Mr. Moore;

Please be advised Newfield Production Company has submitted an application for permit to drill for the following well:

**State 1-36T-8-17**  
ML-44305  
T8S R17E, Section 36: NENE  
695' FNL 911' FEL  
Uintah County, Utah

This well is located 53' west of the drilling window as required by State of Utah R649-3-2. This location has been chosen so it will not interfere with the wellbore of the Odekirk 1-36-8-17, which is a Green River injection well. The State 1-36T-8-17 is proposed as a deep gas well. It is necessary to obtain your written concurrence with this exception location as a leasehold owner of ML-44305.

Enclosed you will find a plat showing the location of the above referenced well. If you are in agreement to this location, please verify your consent by signing and dating where indicated on page 2 of this letter and returning to my attention **as soon as possible** by email to [reveland@newfield.com](mailto:reveland@newfield.com) or by fax to 303-893-0103.

If you have any questions or need further information, please do not hesitate to contact me at 303-382-4444 or by email at [reveland@newfield.com](mailto:reveland@newfield.com). I appreciate your prompt attention to this matter.

Sincerely,

A handwritten signature in cursive script that reads "Roxann Eveland".

Roxann Eveland  
Land Associate

Enclosure

RECEIVED  
SEP 25 2008  
DIV. OF OIL, GAS & MINING



TO: Newfield Production Company  
 ATTN: Roxann Eveland  
[reveland@newfield.com](mailto:reveland@newfield.com) email  
 303-893-0103 fax  
 RE: Exception Location  
 State 1-36T-8-17  
 ML-44305  
 T8S R17E, Section 36: NENE  
 695' FNL 911' FEL  
 Uintah County, Utah

Please be advised Yates Petroleum Corporation. does not have an objection to the proposed location of the  
 aforementioned well.

YATES PETROLEUM CORPORATION

By: *[Signature]*  
*Cady Morse, Associate Landman*  
 Print Name and Title

Date: 9/19/08



August 21, 2008

Yates Drilling Company  
Attn: Cody Moore  
105 S. 4<sup>th</sup> St.  
Artesia, NM 88210

RE: Exception Location  
State 1-36T-8-17  
Uintah County, Utah

Dear Mr. Moore;

Please be advised Newfield Production Company has submitted an application for permit to drill for the following well:

**State 1-36T-8-17**  
ML-44305  
T8S R17E, Section 36: NENE  
695' FNL 911' FEL  
Uintah County, Utah

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Enclosed you will find a plat showing the location of the above referenced well. If you are in agreement to this location, please verify your consent by signing and dating where indicated on page 2 of this letter and returning to my attention **as soon as possible** by email to [reveland@newfield.com](mailto:reveland@newfield.com) or by fax to 303-893-0103.

If you have any questions or need further information, please do not hesitate to contact me at 303-382-4444 or by email at [reveland@newfield.com](mailto:reveland@newfield.com). I appreciate your prompt attention to this matter.

Sincerely,

A handwritten signature in cursive script that reads "Roxann Eveland".

Roxann Eveland  
Land Associate

Enclosure



TO: Newfield Production Company  
 ATTN: Roxann Eveland  
revcland@newfield.com email  
 303-893-0103 fax  
 RE: Exception Location  
 State 1-36T-8-17  
 ML-44305  
 T8S R17E, Section 36: NENE  
 695' FNL 911' FEL  
 Uintah County, Utah

Please be advised Yates Drilling Company does not have an objection to the proposed location of the  
 aforementioned well.

YATES DRILLING COMPANY

By: [Signature]  
Cody Moore, Associate Landman  
 Print Name and Title

Date: 9/19/08



August 21, 2008

Abo Petroleum Corporation  
PO Box 900  
Artesia, NM 88211

RE: Exception Location  
State 1-36T-8-17  
Uintah County, Utah

Ladies and/or Gentlemen;

Please be advised Newfield Production Company has submitted an application for permit to drill for the following well:

**State 1-36T-8-17**  
ML-44305  
T8S R17E, Section 36: NENE  
695' FNL 911' FEL  
Uintah County, Utah

This well is located 53' west of the drilling window as required by State of Utah R649-3-2. This location has been chosen so it will not interfere with the wellbore of the Odekirk 1-36-8-17, which is a Green River injection well. The State 1-36T-8-17 is proposed as a deep gas well. It is necessary to obtain your written concurrence with this exception location as a leasehold owner of ML-44305.

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If you have any questions or need further information, please do not hesitate to contact me at 303-382-4444 or by email at [reveland@newfield.com](mailto:reveland@newfield.com). I appreciate your prompt attention to this matter.

Sincerely,

A handwritten signature in cursive script that reads "Roxann Eveland".

Roxann Eveland  
Land Associate

Enclosure



TO: Newfield Production Company  
 ATTN: Roxann Eveland  
reveland@newfield.com email  
 303-893-0103 fax  
 RE: Exception Location  
 State 1-36T-8-17  
 ML-44305  
 T8S R17E, Section 36: NENE  
 695' FNL 911' FEL  
 Uintah County, Utah

Please be advised Abo Petroleum Corporation does not have an objection to the proposed location of the  
 aforementioned well.

ABO PETROLEUM CORPORATION

By: *[Signature]*  
*Cady Moore Associate Landman*  
 Print Name and Title

Date: 9/19/08



August 21, 2008

Myco Industries Inc.  
PO Box 840  
Artesia, NM 88211

RE: Exception Location  
State 1-36T-8-17  
Uintah County, Utah

Ladies and/or Gentlemen;

Please be advised Newfield Production Company has submitted an application for permit to drill for the following well:

**State 1-36T-8-17**  
ML-44305  
T8S R17E, Section 36: NENE  
695' FNL 911' FEL  
Uintah County, Utah

This well is located 53' west of the drilling window as required by State of Utah R649-3-2. This location has been chosen so it will not interfere with the wellbore of the Odekirk 1-36-8-17, which is a Green River injection well. The State 1-36T-8-17 is proposed as a deep gas well. It is necessary to obtain your written concurrence with this exception location as a leasehold owner of ML-44305.

Enclosed you will find a plat showing the location of the above referenced well. If you are in agreement to this location, please verify your consent by signing and dating where indicated on page 2 of this letter and returning to my attention **as soon as possible** by email to [reveland@newfield.com](mailto:reveland@newfield.com) or by fax to 303-893-0103.

If you have any questions or need further information, please do not hesitate to contact me at 303-382-4444 or by email at [reveland@newfield.com](mailto:reveland@newfield.com) . I appreciate your prompt attention to this matter.

Sincerely,

A handwritten signature in cursive script that reads "Roxann Eveland".

Roxann Eveland  
Land Associate

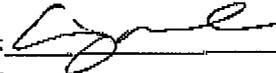
Enclosure



TO: Newfield Production Company  
ATTN: Roxann Eveland  
[reveland@newfield.com](mailto:reveland@newfield.com) email  
303-893-0103 fax  
RE: Exception Location  
State 1-36T-8-17  
ML-44305  
T8S R17E, Section 36: NENE  
695' FNL 911' FEL  
Uintah County, Utah

Please be advised Myco Industries Inc. does not have an objection to the proposed location of the  
aforementioned well.

MYCO INDUSTRIES INC.

By:   
*Cole Mare, Associate Landman*  
Print Name and Title

Date: 9/19/08

**From:** Jim Davis  
**To:** Bonner, Ed; Mason, Diana  
**Date:** 12/15/2008 3:20 PM  
**Subject:** Well approvals. 1 KMG and 1 Newfield

**CC:** Garrison, LaVonne

The following well have been approved by SITLA including arch and paleo clearance.

4304740316 170E	STATE 1-36T-8-17 Newfield Production Co. S	105	Monument Butte	NENE	36	080S
4304750219 220E	NBU 1022-2J1T S	Kerr-McGee Oil & Gas 630	Natural Buttes	NWSE	2	100S

-Jim

Jim Davis  
Utah Trust Lands Administration  
jimdavis1@utah.gov  
Phone: (801) 538-5156



JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

December 22, 2008

Newfield Production Company  
Rt. #3, Box 3630  
Myton, UT 84052

Re: State 1-36T-8-17 Well, 695' FNL, 911' FEL, NE NE, Sec. 36, T. 8 South, R. 17 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 43-047-40316.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Uintah County Assessor  
SITLA

Operator: Newfield Production Company  
Well Name & Number State 1-36T-8-17  
API Number: 43-047-40316  
Lease: ML-44305

Location: NE NE                      Sec. 36                      T. 8 South                      R. 17 East

### Conditions of Approval

#### 1. General

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

#### 2. Notification Requirements

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

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

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

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

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

- Dan Jarvis at:                      (801) 538-5338 office                      (801) 942-0871 home
- Carol Daniels at:                      (801) 538-5284 office
- Dustin Doucet at:                      (801) 538-5281 office                      (801) 733-0983 home

#### 3. Reporting Requirements

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

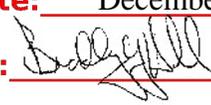
4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
5. Cement volume for the 7 5/8" intermediate production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to 2500' MD as indicated in the submitted drilling plan.
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. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
8. Surface casing shall be cemented to the surface.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-44305
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b>
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> STATE 1-36T-8-17
<b>2. NAME OF OPERATOR:</b> NEWFIELD PRODUCTION COMPANY	<b>9. API NUMBER:</b> 43047403160000
<b>3. ADDRESS OF OPERATOR:</b> Rt 3 Box 3630 , Myton, UT, 84052	<b>PHONE NUMBER:</b> 435 646-4825 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0695 FNL 0911 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 36 Township: 08.0S Range: 17.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> MONUMENT BUTTE  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 12/18/2009	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**  
 Newfield requests to extend the permit to drill this well for one more year.

**Approved by the Utah Division of Oil, Gas and Mining**  
  
**Date:** December 21, 2009  
**By:** 

<b>NAME (PLEASE PRINT)</b> Mandie Crozier	<b>PHONE NUMBER</b> 435 646-4825	<b>TITLE</b> Regulatory Tech
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/17/2009	



**The Utah Division of Oil, Gas, and Mining**

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047403160000**

**API:** 43047403160000

**Well Name:** STATE 1-36T-8-17

**Location:** 0695 FNL 0911 FEL QTR NENE SEC 36 TWNP 080S RNG 170E MER S

**Company Permit Issued to:** NEWFIELD PRODUCTION COMPANY

**Date Original Permit Issued:** 12/22/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes  No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes  No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes  No
- Has the approved source of water for drilling changed?  Yes  No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?  Yes  No
- Is bonding still in place, which covers this proposed well?  Yes  No

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

**Signature:** Mandie Crozier

**Date:** 12/17/2009

**Title:** Regulatory Tech **Representing:** NEWFIELD PRODUCTION COMPANY

**Date:** December 21, 2009

**By:** 

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-44305
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b>
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> STATE 1-36T-8-17
<b>2. NAME OF OPERATOR:</b> NEWFIELD PRODUCTION COMPANY	<b>9. API NUMBER:</b> 43047403160000
<b>3. ADDRESS OF OPERATOR:</b> Rt 3 Box 3630 , Myton, UT, 84052	<b>PHONE NUMBER:</b> 435 646-4825 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0695 FNL 0911 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 36 Township: 08.0S Range: 17.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> MONUMENT BUTTE  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 12/22/2010	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
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<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Newfield proposes to extend the Application for Permit to Drill for one year.

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

Date: 12/23/2010  
By: 

<b>NAME (PLEASE PRINT)</b> Mandie Crozier	<b>PHONE NUMBER</b> 435 646-4825	<b>TITLE</b> Regulatory Tech
<b>SIGNATURE</b> N/A		<b>DATE</b> 12/16/2010



**The Utah Division of Oil, Gas, and Mining**

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047403160000**

**API:** 43047403160000

**Well Name:** STATE 1-36T-8-17

**Location:** 0695 FNL 0911 FEL QTR NENE SEC 36 TWNP 080S RNG 170E MER S

**Company Permit Issued to:** NEWFIELD PRODUCTION COMPANY

**Date Original Permit Issued:** 12/22/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes  No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes  No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes  No
- Has the approved source of water for drilling changed?  Yes  No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?  Yes  No
- Is bonding still in place, which covers this proposed well?  Yes  No

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

**Signature:** Mandie Crozier

**Date:** 12/16/2010

**Title:** Regulatory Tech **Representing:** NEWFIELD PRODUCTION COMPANY

**Date:** 12/23/2010

**By:** 



GARY R. HERBERT  
Governor

GREG BELL  
Lieutenant Governor

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

September 15, 2011

Mandie Crozier  
Newfield Production Co  
Route 3 Box 3630  
Myton, UT 84052

43 047 40316  
state 1-36T-8-17  
85 17E 36

Re: APDs Rescinded for Newfield Production Company  
Uintah County & Duchesne County

Dear Ms. Crozier:

Enclosed find the list of APDs that you requested to be rescinded. No drilling activity at these locations has been reported to the division. Therefore, approval to drill these wells is hereby rescinded, effective September 13, 2011.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason  
Environmental Scientist

cc: Well File  
SITLA, Ed Bonner



Ashley State 3-2-9-15 SWD

State 1-16A-9-17

→ State 1-36T-8-17

43-013-32581

43-013-34007

43-047-40316