



June 25, 2004

State of Utah
Division of Oil, Gas & Mining
Attn: Diana Whitney
1594 West North Temple - Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: Applications for Permit to Drill: Entire State Section 16, T9S R18E.

Dear Diana:

Enclosed find APD's on the above referenced wells. When these APD's are received, please contact Brad Mecham to set up a State On-Site. If you have any questions, feel free to give either Brad or myself a call.

Sincerely,

Mandie Crozier
Regulatory Specialist

mc
enclosures

RECEIVED
JUN 28 2004
DIV. OF OIL, GAS & MINING

From: Diana Whitney

PER ED BONNER 8/4

Westport O&G Co	43-047-35788	State 920-36O	HOLD	
Westport O&G Co	43-047-35789	State 1022-2O	HOLD	
Westport O&G Co	43-007-30966	N Bench St 24-18		OK TO GO
EOG Resources	43-047-35806	STATE 1-16	HOLD	
Westport O&G Co	43-047-35810	STATE 1022-36E		OK TO GO
Inland Production	43-047-35811	STATE 1-16-9-18		OK TO GO
Inland Production	43-047-35812	STATE 2-16-9-19		OK TO GO
Inland Production	43-047-35813	STATE 3-16-9-20		OK TO GO
Inland Production	43-047-35814	STATE 4-16-9-21		OK TO GO
Inland Production	43-047-35815	STATE 5-16-9-22		OK TO GO
Inland Production	43-047-35816	STATE 6-16-9-23		OK TO GO
Inland Production	43-047-35817	STATE 7-16-9-24		HOLD
Inland Production	43-047-35818	STATE 8-16-9-25		OK TO GO
Inland Production	43-047-35819	STATE 9-16-9-26		OK TO GO
Inland Production	43-047-35820	STATE 10-16-9-27		OK TO GO
Inland Production	43-047-35822	STATE 11-16-9-28		OK TO GO
Inland Production	43-047-35823	STATE 12-16-9-29		OK TO GO
Inland Production	43-047-35824	STATE 13-16-9-30		OK TO GO
Inland Production	43-047-35825	STATE 14-16-9-31		HOLD
Inland Production	43-047-35826	STATE 15-16-9-32		OK TO GO
Inland Production	43-047-35827	STATE 16-16-9-33		OK TO GO
CDX Rockies LLC	43-047-35828	St. Atchee 36-12-25 #1		OK TO GO
EOG Resources	43-013-32594	Pete's Wash 2-32	HOLD	
MSC Exploration	43-019-31402	Cactus Rise MSC 2-1	HOLD	
Merrion O&G Corp	43-015-30557	Fuzzball 1		OK TO GO
QEP Uinta Basin Inc	43-047-35684	CWU 4MU-32-8-24	HOLD	
Westport O&G Co	43-047-35657	NBU 922-31I		OK TO GO
Dominion Expl	43-047-35612	WHB 14-36E	HOLD	
Dominion Expl	43-047-35613	LCU 12-36F	HOLD	
EOG Resources	43-047-35203	CWU 853-32	HOLD	
EOG Resources	43-047-35200	NBU 535-17E		OK TO GO
Chevron Usa Inc.	43-015-30609	State of Utah HH 23-166	HOLD	

INLAND PRODUCTION COMPANY
STATE #1-16-9-18
NE/NE SECTION 16, T9S, R18E
UINTAH COUNTY, UTAH

TEN POINT DRILLING PROGRAM

1. **GEOLOGIC SURFACE FORMATION:**

Uinta formation of Upper Eocene Age

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

Uinta	0 – 1700'
Green River	1700'
Wasatch	6500'

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

Green River Formation 1700' – 6500' – Oil

4. **PROPOSED CASING PROGRAM:**

Surface Casing: 8-5/8" J-55 24# w/ST&C collars; set at 290' (New)

Production Casing: 5-1/2" J-55, 15.5# w/LT&C collars; set at TD (New or used, inspected).

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

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

An 8" Double Ram Hydraulic unit with a closing unit will be utilized. Function test of BOP's will be check daily.

Refer to **Exhibit C** for a diagram of BOP equipment that will be used on this well.

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

The well will be drilled with air mist system to 3200', then from 3200' +/- to TD a fresh water/polymer system will be utilized. If necessary, to control formation fluids, the system will be weighted with the addition of bentonite gel, and if conditions warrant, barite. This fresh water system typically will contain Total Dissolved Solids (TDS) of less than 3000 PPM. Neither potassium chloride nor chromates will be utilized in the fluid system. The anticipated mud weight is 8.4 ppg and weighted as necessary for gas control.

AIR DRILLING

In the event that the proposed location is to be "Air Drilled", Inland requests a variance to regulations requiring a straight run blooie line. Inland proposes that the flowline will contain two (2) 90-degree turns. Inland also requests a variance to regulations requiring an automatic igniter or continuous pilot light on the blooie line. Inland requests authorization to ignite as needed, and the flowline at 80'.

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

MUD PROGRAM

Surface – 3200’
3200’ – TD’

MUD TYPE

fresh water or air/mist system
fresh water system

From surface to ± 3200 feet will be drilled with either fresh water or an air/mist system, depending on the drilling contractor's preference. From about 3200 feet, or in the case of the air/mist system when hole conditions dictate, to TD, a fresh water system will be utilized. Clay inhibition and hole stability will be achieved with a KCL substitute additive. This fresh water system will typically contain Total Dissolved Solids (TDS) of less than 3000 PPM. Anticipated mud weight is 8.4 lbs/gal. If necessary to control formation fluids or pressure, the system will be weighted with the addition of bentonite gel, and if pressure conditions warrant, with barite. No chromate additives will be used in the mud system.

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 Dual Induction, Gamma Ray and Caliper log from TD to base of surface casing @ 290’ +/-, and a Compensated Neutron-Formation Density Log from TD to 3500’ +/- . A cement bond log will be run from PBTD to cement top. No drill stem testing or coring is planned for this well.

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

The anticipated maximum bottom hole pressure is 2000 psi. It is not anticipated that abnormal temperatures will be encountered; or that any other abnormal hazards such as H2S will be encountered in this area.

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

It is anticipated that the drilling operations will commence the fourth quarter of 2004, and take approximately seven (7) days from spud to rig release.

INLAND PRODUCTION COMPANY
STATE #1-16-9-18
NE/NE SECTION 16, T9S, R18E
UINTAH COUNTY, UTAH

THIRTEEN POINT SURFACE PROGRAM

1. **EXISTING ROADS**

See attached **Topographic Map "A"**

To reach Inland Production Company well location site State 1-16-9-18 located in the NE¼ NE¼ Section 16, T9S, R18E, S.L.B. & M., Uintah County, Utah:

Proceed southwesterly out of Myton, Utah along Highway 40 - 1.6 miles ± to the junction of this highway and UT State Hwy 53; proceed southeasterly along Hwy 53 - 11.7 miles ± to it's junction with an existing road to the southeast; proceed southeasterly - 3.6 miles ± to it's junction with an existing road to the east; proceed northeasterly and then easterly - 3.0 miles ± to it's junction with an existing road to the southeast; proceed southeasterly - 0.6 miles ± 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**

Approximately 0' of access road is proposed. 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**

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

The flow lines from the wells in Section 16, T9S R18E, will run along access roads leading to the Central Battery located at the proposed State 1-16-9-18 location. See attached **Topographic Map "D"**.

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 Inland 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.

Inland requests approval that a flare pit not be constructed or 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 Inland's secondary recovery project.

Water not meeting quality criteria, is disposed at Inland'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) Inland 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, Inland is to immediately stop work that might further disturb such materials and contact the Authorized Officer.
- b) Inland 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 Cultural Resource Survey for this area is attached.

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

Inland Production Company guarantees that during the drilling and completion of the State 1-16-9-18. Inland 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. Inland also guarantees that during the drilling and completion of the State 1-16-9-18 Inland 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.

Inland Production Company or a contractor employed by Inland 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: Brad Mecham
Address: Inland Production Company
Route 3, Box 3630
Myton, UT 84052
Telephone: (435) 646-3721

Certification

Please be advised that INLAND RESOURCES, INC. is considered to be the operator of well #1-16-9-18, NE/NE Section 16, T9S, R18E, LEASE #ML-48378, 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 Inland Resources, Inc. 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.

6/25/04
Date

Mandie Crozier
Mandie Crozier
Regulatory Specialist
Inland Production Company

CULTURAL RESOURCE INVENTORY FOR INLAND
RESOURCES OF SECTIONS 2 AND 16, T 9S, R 18E
ON EIGHT MILE FLAT, UINTAH COUNTY, UTAH

BY:

Angela Whitfield
and
Amanda Wilson

Prepared For:

State and Institutional
Trust Land Administration

Prepared Under Contract With:

Inland Resources
Route 3 Box 3630
Myton, UT 84052

Prepared By:

Montgomery Archaeological Consultants
P.O. Box 147
Moab, Utah 84532

MOAC Report No. 04-37

April 16, 2004

United States Department of Interior (FLPMA)
Permit No. 04-UT-60122

State of Utah Antiquities Project (Survey)
Permit No. U-04-MQ-0109s

ABSTRACT

A cultural resource inventory was conducted by Montgomery Archaeological Consultants (MOAC) of T 9S, R 18E, Sections 2 and 16 for Inland Resources. The project area is located on Eightmile Flat, Uintah County, Utah. Inland Resources, Inc. proposes to develop oil/gas well locations, access roads, and pipelines within these blocks. The inventory was implemented at the request of Ms. Mandie Crozier of Inland Resources. The project occurs entirely on land administered by the School and Institutional Trust Land Administration (SITLA).

The project area lies approximately 20 miles south of Roosevelt, Utah. The inventory resulted in the identification of thirteen new archaeological sites (42Un3669 through 42Un3681) and one isolated find of artifact. Five of the sites (42Un3674, 42Un3678, 42Un3679, 42Un3680, and 42Un3681) are recommended as eligible to the NRHP (see Table 1). These consist of three prehistoric temporary camps (42Un3674, 42Un3678, and 42Un3680), a lithic scatter (42Un3679), and a rock art site (42Un3681). The prehistoric camps and lithic scatter are deemed eligible to the NRHP under Criterion D due to their potential to yield additional information on the prehistory of the area. One of the sites (42Un3674) contains three single-hand manos and a core, all located near overhangs that are potential rock shelters. Colluvial deposits cover the site area, and could obscure the presence of additional cultural materials. Another prehistoric temporary camp (42Un3680) contains a core, several flakes, and a fire-cracked rock concentration. Aeolian soils covering the site area could obscure the presence of additional cultural materials. Site 42Un3678 contains lithic debitage and nine tools, including one diagnostic tool - the base of an Elko corner-notched projectile point. The lithic scatter (42Un3679) contains 15 pieces of lithic debitage of a variety of material types, a core, and a utilized flake. It is located near an ephemeral wash, and alluvial soils in the area suggest the potential for buried cultural materials. The rock art site (42Un3681) is evaluated as eligible to the NRHP under Criteria C and D. It possesses high artistic values as it is one of the few rock art sites that have been identified in the immediate area, and has potential to yield information important to the prehistory of the area.

Eight of the sites are evaluated as not eligible to the NRHP (Table 1). The prehistoric site types include two lithic scatters (42Un3675 and 42Un3677). These sites lack temporal indicators and spatial patterning and occur on sediments that are unlikely to yield buried cultural materials. The remainder of the sites evaluated as not eligible to the NRHP include five historic temporary camps (42Un3669 through 42Un3673) and a site containing two cairns (42Un3676). These sites all possess a limited class of artifacts and little depth potential. They are common site types to the area, and are unlikely to contribute to the historic research domains of the area.

It is recommended that the eligible sites be avoided by any future undertakings. Based on 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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2. Inventory Area of Section 2, Township 9S, Range 18E on Eight Mile Flat for Inland Resources, Uintah County, Utah showing cultural resources 4

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INTRODUCTION

A cultural resource inventory was conducted by Montgomery Archaeological Consultants (MOAC) of T 9S, R 18E, Sections 2 and 16. The project area is located on Eightmile Flat, Uintah County, Utah. Inland Resources, Inc. proposes to develop oil/gas well locations, access roads, and pipelines within these blocks. The inventory was implemented at the request of Ms. Mandie Crozier of Inland Resources. The project occurs entirely on land administered by the 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 was 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 conducted on March 8-13, 2004 under the direction of Keith R. Montgomery (Principal Investigator) and assisted by Mark Beeson, Mike Carlisle, and Greg Woodall. The inventory was conducted under the auspices of U.S.D.I. (FLPMA) Permit No. 04-UT-60122 and State of Utah Antiquities Project (Survey) No. U-04-MQ-0109s.

A file search for previous inventories was conducted by Marty Thomas on March 4, 2004 at the Utah State Historic Preservation Office in Salt Lake City. According to this consultation, a number of inventories have been conducted within the immediate project area. In 1979, Archeological-Environmental Research Corporation (AERC) conducted a cultural resource survey of three proposed drill locations for Mapco Corporation (Norman and Hauck 1979). The survey area included a portion of Section 16. No cultural resources were identified during the project. In 1981, Nickens and Associates performed a cultural resource inventory for the proposed Bonanza-Castle Peak-Upalco Transmission Line corridor and access roads for Deseret Generation and Transmission Co-operative (Christensen 1981). The transmission line was approximately 57 miles long, and a portion of it passed through Section 16, Township 9 South, Range 18 East. Thirty three archaeological sites and 56 isolated finds were identified during the project. One of the sites, 42Un1174, was deemed a possible NRHP eligible site. In 1984, AERC performed cultural resource inventories of two proposed well locations and access routes for Diamond Shamrock Exploration (Hauck 1984). A portion of the access route to well location 23-1 was located in Section 2, Township 9 South, Range 18 East. No sites were identified during the project, however several isolated tools and primary flakes were observed. In February 2004, MOAC performed a cultural resource inventory adjacent to the current project area that resulted in the documentation of four new archaeological sites (Wilson and Montgomery 2004a). The sites were all historic short-term camps or trash scatters evaluated as not eligible to the NRHP. In April 2004, MOAC conducted another cultural resource inventory in the area that included Sections 9, 10, 11, 14, 15, and 23, Township 9 South, Range 18 East (Wilson and Montgomery 2004b). The inventory resulted in documentation of seventy-one new archaeological sites. Twenty-eight of the sites were evaluated as eligible to the NRHP. These include one historic site, two multi-component sites, and twenty five prehistoric sites. The prehistoric sites consist of nineteen lithic scatters and six temporary camps.

DESCRIPTION OF PROJECT AREA

The project area lies approximately 20 miles south of Roosevelt, Utah on Eightmile Flat, Uintah County, Utah. The inventory area is located in Township 9 South, Range 18 East, Section 2 and Section 16 (Figures 1 and 2). A total of 1240 acres, including 640 acres in Section 16 and 600 acres in Section 2, was inventoried on lands administered by School and Institutional Trust Land Administration (SITLA).

Environmental Setting

The project area lies within the Uinta Basin physiographic unit, a distinctly bowl-shaped geologic structure (Stokes 1986:231). The entire Uinta Basin ecosystem is within the Green River drainage, considered to be the northernmost extension of the Colorado Plateau. Topographically, this area consists of highly dissected sandstone and mudstone rock formations and broad sandy silt ridges. 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 5100 to 5140 feet a.s.l. Named water sources north of the project area include Pariette Draw and Castle Peak Draw. In addition, there are numerous unnamed washes in the immediate project vicinity. The project area lies within the Upper Sonoran life zone, dominated by a mixed desert shrub zone. Vegetation in the area includes shadscale, low sagebrush, mat saltbush, greasewood, rabbitbrush, snakeweed, prickly pear cactus, pincushion cactus, and bunch grasses. Modern disturbances to the landscape include oil and gas development, 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.), 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 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.

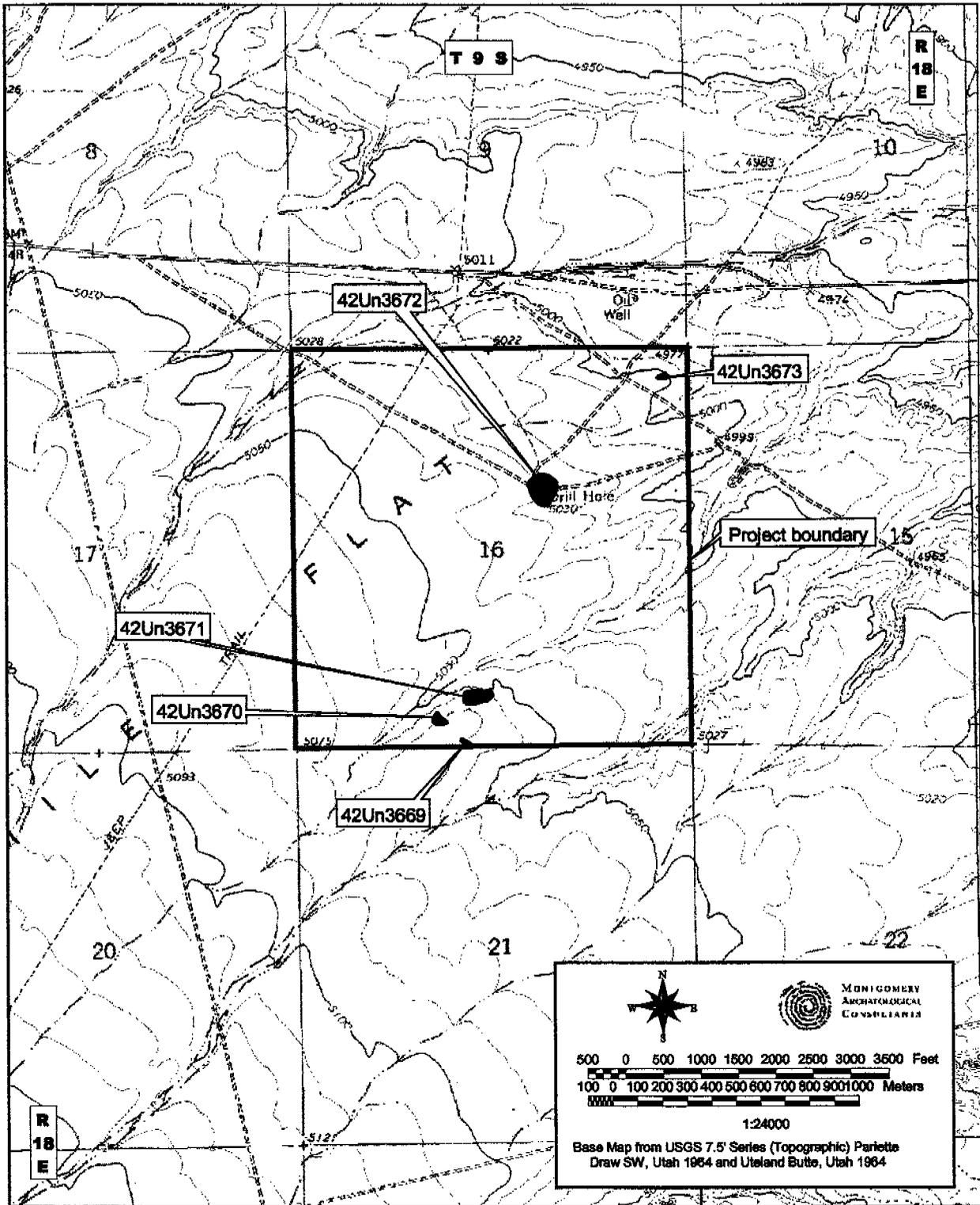


Figure 1. Inventory Area of Section 16, Township 9S, Range 18E on Eight Mile Flat for Inland Resources, Uintah County, Utah showing cultural resources.

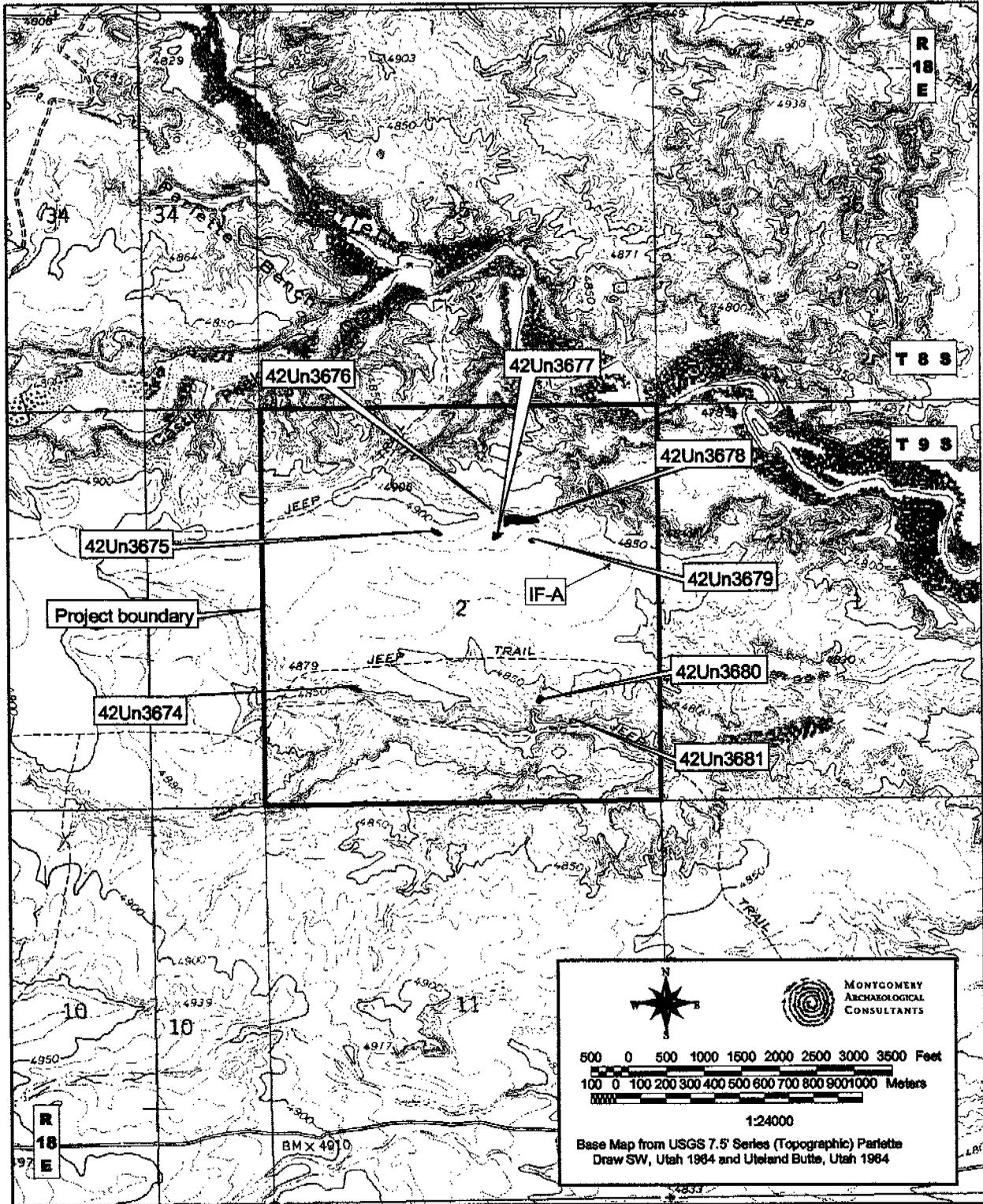


Figure 2. Inventory Area of Section 2, Township 9S, Range 18E on Eight Mile Flat for Inland Resources, Uintah County, Utah showing cultural resources.

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 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 two parcels were examined for cultural resources by the archaeologists walking parallel transects spaced no more than 10 m (30 ft) apart. Ground visibility was considered good. A total of 1240 acres, including 640 acres in Section 16 and 600 acres in Section 2, was inventoried on lands administered by School and Institutional Trust Land Administration (SITLA).

Cultural resources were recorded either 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 T 9S, R 18E, Sections 2 and 16 on Eight Mile Flat for Inland Resources resulted in the identification of thirteen new archaeological sites (42Un3669 through 42Un3681) and one isolated find of artifact.

Archaeological Sites

Smithsonian Site No.: 42Un3669
Temporary Site No.: 04-37-12
Legal Description: T 9S, R 18E, Sec. 16 and 21
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is a historic temporary camp located at the top edge of a flat, broad ridge. The cultural materials at the site include glass, tin cans, a cartridge with the headstamp "30-30 WIN SuperSpeed, one battery bank with 30 'D' cells stuck together, one large battery core, one hay bail wire tie, one cast iron wood stove burner lid with a 7" diameter and the markings "GW 7R", and one metal frying pan handle. The glass consists of 69 fragments of selenium glass all representing different jars with 2" diameter screw on metal lids. Two of the jars contain trademarks: one jar has a Latchford Marble trademark on the base (1939-1957) and a diameter of 4" and the other jar had

a Glass Container's Corporation trademark (since 1945). The tin cans at the site include three sanitary cut around medium food cans; seven hole-in-top milk cans with ice pick or knife cut openings; two shirt pocket, hinged lid tobacco tins; and one removable lid with 12 nail holes punched in it. There is one Feature at the site consisting of 30 juniper wood chips and splinters in an area with a diameter of 10 meters. The site was most likely a camp used by sheep herders between 1939-1955.

Smithsonian Site No.: 42Un3670
Temporary Site No.: 04-37-13
Legal Description: T 9S, R 18E, Sec. 16
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is a historic temporary camp located on top of a broad flat ridge. The cultural materials at the site include one selenium glass jar with a threaded neck and the Alexander Kerr trademark on the base (since 1944); one internal friction tobacco tin (1960s); four external friction wire hinge tobacco tins (1910-1960); ten medium cut around sanitary cans; one tall cut around sanitary can with "Canco" embossed on it (1912-1921); ten knife tip cut hole-in-top milk cans with "Punch Here" embossed on them (1935-1945); two, one pound round key strip coffee cans; one, one quart oil can; one screw cap fluid can with a spout and "Canco" on the bottom (1912-1921); one pry out can lid with "Walter Baker's Breakfast Cocoa" on it; two key strip coffee can lids with "Regular Grind" embossed on them; one metal screw cap; and one sanitary can lid with "RCCanco St. Louis" on it. There are two features at the site that consist of wood piles with over one hundred juniper chips and splinters in each. The site represents a camp used by sheep herders or other ranchers in the area on multiple occasions between 1920 and 1960.

Smithsonian Site No.: 42Un3671
Temporary Site No.: 04-37-11
Legal Description: T 9S, R 18E, Sec. 16
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is a historic temporary camp located at the top edge of a low, broad ridge. The cultural materials at the site were found in two distinct loci. Locus A contained Feature A which consists of three wood chips, one rifle cartridge with "REM-UMC 25-35" on the headstamp (1911-1960), 14 sanitary food cans, eight hole-in-top milk cans, one spice can lid, one coffee can lid, one grease can, and one selenium medicine bottle with "DR. NUNN's Black Oil Healing Compound" embossed on the side and a finish that required a stopper or cork. Locus B contained Feature B which consists of six wood chips, two hay bail wire ties, two sanitary food cans, and two "Punch Here" hole-in-top milk cans (1935-1945). The site was most likely used by sheep herders on multiple occasions from 1920-1950.

Smithsonian Site No.: 42Un3672
Temporary Site No.: 04-37-10
Legal Description: T 9S, R 18E, Sec. 16
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is a temporary camp mixed with modern trash located on the crest of a broad, slightly rounded ridge. The cultural materials at the site include five hole-in-top milk cans with "Punch Here" embossed on the lid (1935-1945), ten medium cut- around sanitary food cans, and

modern trash and debris. There are five features at the site: Feature A is a pen or corral, Feature B is a wood pile, Feature C is a drill hole, Feature D is a brick/slag pile, and Feature E is a trash pile. The site dates from 1935 to the present based on the hole-in-top cans and modern trash. The historic aspect of the site was most likely used by sheep herders or other ranchers in the 1940s.

Smithsonian Site No.: 42Un3673
Temporary Site No.: 04-37-09
Legal Description: T 9S, R 18E, Sec. 16
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is a historic temporary camp located on a low rounded ridgetop in the Uinta Basin. Cultural materials include three knife punched hole-in-top milk cans, one key strip meat can, one broken selenium glass jar with a Knox Glass Bottle Company of Parker trademark on the base (1930-1952) and a metal screw cap, and one wood pile remnant with coal chunks. The feature of wood and coal probably represents the remains of a wood pile while the coal is left over from a stove. The site dates around 1930-1950 based on the glass maker's mark and was most likely used on one occasion by sheep herders or other ranchers in the area.

Smithsonian Site No.: 42Un3674
Temporary Site No.: 04-37-01
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Eligible, Criterion D

Description: This site is a prehistoric temporary camp located on a sandstone shelf ledge that rises 1-2 meters with three rock alcoves/overhangs that could be possible shelters. There are four tools at the site. Tool 1 is a possible single-handed mano manufactured from coarse-grained brown quartzite measuring 15 cm long, 8 cm wide, and 5 cm thick. This mano exhibits 2-5% polish on the convex face and has five margins. Tool 2 is a single-handed mano with eight margins manufactured from reddish brown coarse-grained quartzite measuring 13 cm long, 9 cm wide, and 6 cm thick. The mano has one ground and polished surface measuring 8 x 6 cm and one lateral, natural fracture. The distal end of the cobble exhibits minimal to moderate wear on a 2 x 2 cm flat surface. Tool 3 is a single-handed mano with nine margins manufactured from brown, medium-grained quartzite. There is one grinding surface with minimal use wear that measures 6 x 6 cm on the convex side of the cobble. Tool 4 is a cobble core of light tan-brown opaque chert that measures 8 cm long, 5 cm wide, and 2 cm thick. Ten flakes have been removed from the core and use wear is exhibited on one small edge. The site was most likely used as a temporary camp that can not be dated since no diagnostic artifacts were present. A modern beer bottle was found on the site indicating the possibility of vandalism.

Smithsonian Site No.: 42Un3675
Temporary Site No.: 04-37-02
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is a prehistoric lithic scatter located on a gentle south slope of a low knoll. The cultural materials present at the site include ten pieces of debitage and one lithic tool. The

debitage includes mainly tertiary flakes with a few broken flakes, one primary flake, and one secondary flake. Material types include grey-pink opaque chert, mottled grey-tan-pink opaque chert, mottled tan-brown opaque chert, brown opaque chert, yellow-brown quartzite, and white quartzite. The lithic tool is a uniface manufactured from semi-translucent brown chert with pressure flaking on the dorsal side. There were no features present at the site.

Smithsonian Site No.: 42Un3676
Temporary Site No.: 04-37-03
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is composed of two cairns located on top of a low, long, flat ridge. A collapsed/tipped cairn is located on the east end and a standing cairn is visible at the west end of this same ridge approximately 1/8th of a mile away. The collapsed cairn appears to have been approximately 35 slabs high (4-5 feet) and constructed from local flat sandstone irregular slabs. The slabs measure between 1-2" thick, 6-18" wide, and 24-30" long. There is no discernible placement pattern and the cairn has collapsed to the west off the base location. The standing cairn is 4-5 feet tall and visible at the west end of the ridgeline. There are no associated artifacts at the site.

Smithsonian Site No.: 42Un3677
Temporary Site No.: 04-37-04
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Not Eligible

Description: This site is a lithic scatter located along the base of a low ridge or knoll. The cultural materials at the site include 15 pieces ofdebitage and two lithic tools. The tools consist of a Stage 1 biface manufactured from grey-pink opaque chert and a bifacial core of grey-pink opaque chert. Thedebitage at the site consists mainly of primary and secondary flakes with one tertiary flake and no shatter. Material types include grey-pink opaque chert, tan opaque chert, tan-brown mottled opaque chert, grey quartzite, and cream quartzite. There were no diagnostic artifacts or features at the site which was mostly likely used as a brief lithic reduction locality.

Smithsonian Site No.: 42Un3678
Temporary Site No.: 04-37-05
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Eligible, Criterion D

Description: This site is an Archaic temporary camp located on a slickrock and sand ridgetop. A bedrock natural water pocket in the slickrock is present, measuring 1.5 m long, 1 m wide, and 0.2 m deep. Cultural materials at the site include nine lithic tools, including two pieces of ground stone, and 20 pieces ofdebitage. Thedebitage includes mainly secondary and tertiary flakes with a few pieces of shatter and primary flakes. Material types include tan opaque chert, tan-brown mottled opaque chert, white-pink mottled opaque chert, cream opaque chert, yellow-orange quartzite, butterscotch quartzite, and cream quartzite. The tools at the site include three small cores of pink-grey opaque chert; one utilized flake with use wear on one bifacial edge; one slab grinding stone with a ground area on one side; one unknown hand stone with battering on one end and possible grinding on one face; one Elko Corner-notched projectile point base of salmon semi-translucent chert; one large side scraper with minimal use wear on one bifacial margin; and one early stage

biface of pink-grey opaque chert with a fracture on the distal end. There were no features present at the site. The Elko projectile point dates to the Archaic period and the site most likely represents a brief camp or lithic reduction locality. A modern beer can was found on the site indicating the possibility of vandalism.

Smithsonian Site No.: 42Un3679
Temporary Site No.: 04-37-06
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Eligible, Criterion D

Description: This site is a prehistoric lithic scatter located in a slight depression and ephemeral wash in the Uinta Basin. The cultural materials at the site include 15 pieces of debitage and two lithic tools. The debitage consists of mainly secondary flakes with a few tertiary and primary flakes. Material types include tan-brown mottled opaque chert, tan opaque chert, orange semi-translucent chert, cream opaque chert, salmon quartzite, white-pink mottled opaque chert, grey opaque chert, grey quartzite, and brown opaque chert. The tools at the site include a core manufactured from a cream quartzite cobble with four flake scars and a utilized flake manufactured from a grey opaque chert secondary flake with use wear exhibited on one margin. There are no features present at the site. The site can not be dated since no diagnostic materials were found.

Smithsonian Site No.: 42Un3680
Temporary Site No.: 04-37-07
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Eligible, Criterion D

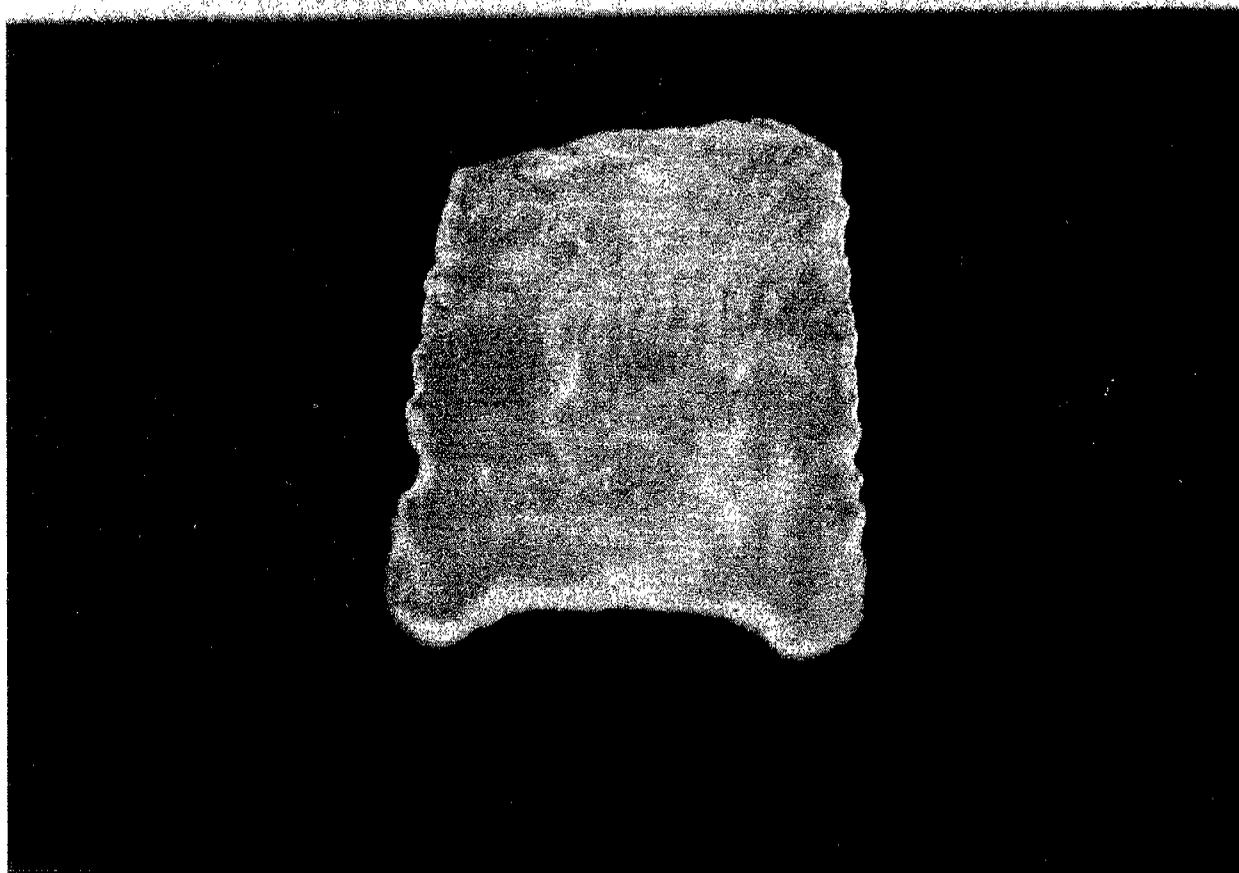
Description: This site is a prehistoric temporary camp located at the top edge of a ridge overlooking a large draw. Cultural materials at the site include one lithic tool, three pieces of debitage, and a fire-cracked rock concentration. The tool at the site is a butterscotch quartzite bifacial core with numerous flake scars and 5% cortex remaining. The debitage includes two secondary flakes and one tertiary flake. Material types are cream opaque chert and tan-brown mottled opaque chert. Feature A consists of 12 reddened quartzite cobbles in a circular area with a diameter of 2 meters. Another ten reddened and cracked quartzite cobbles and fragments are located within 5 meters down slope and across the slope of the concentration. No charcoal or soil staining was noted. The site was mostly likely used as a brief temporary camp and lithic reduction locality that can not be dated since no diagnostic artifacts were observed.

Smithsonian Site No.: 42Un3681
Temporary Site No.: 04-37-08
Legal Description: T 9S, R 18E, Sec. 2
Jurisdiction: SITLA
NRHP Eligibility: Eligible, Criterion C and D

Description: This site is a rock art site consisting of two petroglyph panels on large detached canyon wall bedrock boulders. Panel (Feature) A faces west on a sandstone boulder and consists of several anthropomorphic and zoomorphic figures as well as a few geometric designs. The panel is faded since it was subject to weathering. Panel (Feature) B consists of two of more figures on a boulder. One of the petroglyphs is a possible snake figure and the other an anthropomorph, but it is hard to distinguish the figures since the panel is faded due to weathering. There were no associated artifacts at the site.

Isolated Find of Artifact

Isolated Find A (IF-A) is located in the SW/SE/NE of Section 2, T9S, R18E; UTM 597807E/4434899N. It is situated on a gentle ridge slope southeast of Pariette Draw, a major semi-permanent drainage. The deposition environment is a stable residual soil with a veneer of small rocks. This isolated find appears to be the base of a plano-type projectile point. It exhibits a broad concave base with rounded tangs and parallel sides. It is broken near the midsection and exhibits diagonal flake removal as well as margin retouch. The point is very similar to lanceolate points classified as Angostura Points dating ca. 9,000 to 7,000 B.P. The artifact is manufactured from a semitranslucent white chert. Measurements: L=2.5 cm (IC), W=2.0 cm, T=0.25cm.



Isolated Find A. Late Paleoindian Angostura Type Point.

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 T 9S, R 18E, Sections 2 and 16 on Eight Mile Flat for Inland Resources resulted in the documentation of thirteen new archaeological sites (42Un3669 through 42Un3681). Five of the sites (42Un3674, 42Un3678, 42Un3679, 42Un3680, and 42Un3681) are recommended as eligible to the NRHP (see Table 1). These consist of three prehistoric temporary camps (42Un3674, 42Un3678, and 42Un3680), a lithic scatter (42Un3679), and a rock art site (42Un3681). The prehistoric camps and lithic scatter are deemed eligible to the NRHP under Criterion D due to their potential to yield additional information on the prehistory of the area. One of the sites (42Un3674) contains three single-hand manos and a core, all located near overhangs that are potential rock shelters. Colluvial deposits cover the site area, and could obscure the presence of additional cultural materials. Another prehistoric temporary camp (42Un3680) contains a core, several flakes, and a fire-cracked rock concentration. Aeolian soils covering the site area could obscure the presence of additional cultural materials. Site 42Un3678 contains lithic debitage and nine tools, including an Elko Corner-notched projectile point base. The lithic scatter (42Un3679) contains 15 pieces of lithic debitage of a variety of material types, a core, and a utilized flake. It is located near an ephemeral wash, and alluvial soils in the area suggest the potential for buried cultural materials. The rock art site (42Un3681) is evaluated as eligible to the NRHP under Criteria C and D. It possesses high artistic values as it is one of the few rock art sites that have been identified in the immediate area, and has potential to yield information important to the prehistory of the area.

Eight of the sites are evaluated as not eligible to the NRHP (Table 1). The prehistoric site types include two lithic scatters (42Un3675 and 42Un3677). These sites lack temporal indicators and spatial patterning and occur on sediments that are unlikely to yield buried cultural materials. The remainder of the sites evaluated as not eligible to the NRHP include five historic temporary camps (42Un3669 through 42Un3673) and a site containing two cairns (42Un3676). These sites all possess a limited class of artifacts and little depth potential. They are common site types to the area, and are unlikely to contribute to the historic research domains of the area.

Table 1. Cultural Resources and NRHP Assessment

Site Number	Legal Description	Site Type	NRHP Assessment
42Un3669	T9S, R18E, S. 16 and 21	Historic Temporary Camp	Not Eligible
42Un3670	T9S, R18E, S. 16	Historic Temporary Camp	Not Eligible
42Un3671	T9S, R18E, S. 16	Historic Temporary Camp	Not Eligible
42Un3672	T 9S, R 18E, S. 16	Historic Temporary Camp	Not Eligible
42Un3673	T 9S, R 18E, S. 16	Historic Temporary Camp	Not Eligible
42Un3674	T 9S, R 18E, S. 2	Prehistoric Temporary Camp	Eligible, Criterion D
42Un3675	T 9S, R 18E, S. 2	Lithic Scatter	Not Eligible
42Un3676	T 9S, R 18E, S. 2	Cairns	Not Eligible
42Un3677	T 9S, R 18E, S. 2	Lithic Scatter	Not Eligible
42Un3678	T 9S, R 18E, S. 2	Prehistoric Temporary Camp	Eligible, Criterion D
42Un3679	T 9S, R 18E, S. 2	Lithic Scatter	Eligible, Criterion D
42Un3680	T 9S, R 18E, S. 2	Prehistoric Temporary Camp	Eligible, Criterion D
42Un3681	T 9S, R 18E, S. 2	Rock Art	Eligible, Criteria C & D

MANAGEMENT RECOMMENDATIONS

The inventory of T 9S, R 18E, Sections 2 and 16 on Eight Mile Flat for Inland Resources resulted in the identification of thirteen new archaeological sites (42Un3669 through 42Un3681). Five of the prehistoric sites (42Un3674, 42Un3678, 42Un3679, 42Un3680, and 42Un3681) are recommended as eligible to the NRHP under Criteria C and D. It is recommended that these sites be avoided by any future undertakings. Based on adherence to this recommendation, a determination of "no historic properties affected" pursuant to Section 106, CFR 800 is proposed for this project.

REFERENCES CITED

- Christensen, D.
1981 Archaeological Survey of the Bonanza-Castle Peak-Upalco Transmission Line, Bonanza Power Plant Project 1981, Nickens and Associates, Montrose, Colorado. Report No. U-81-NH-429.
- Copeland, J.M and R.E. Fike
1998 Fluted Projectile Points in Utah. In *Utah Archaeology 1988*, Salt Lake City.
- Hauck, F.R.
1984 Cultural Resource Evaluation of Two Proposed Well Locations in the Pariette Bench Locality of Uintah County, Utah, Archeological-Environmental Research Corporation, Bountiful, Utah. Report No. U-84-AF-0205b.
- Holmer, R.
1986 Projectile Points of the Intermountain West. In *Anthropology of the Desert West: Essays in Honor of Jesse D. Jennings*, edited by Carol J. Condie and Don D. Fowler, pp. 89-116. *University of Utah Anthropological Papers* No. 110. Salt Lake City.
- Horn, J.C., A.D. Reed, and S.M. Chandler
1994 Grand Resource Area Class I Cultural Resource Inventory. Alpine Archaeological Consultants, Inc. Montrose. Bureau of Land Management, Moab, Utah.
- Marwitt, J.P.
1970 Median Village and Fremont Culture Regional Variation. *University of Utah Anthropological Papers* No. 95. Salt Lake City.
- Norman, V.G. and F.R. Hauck
1979 Archaeological Survey of Three Proposed Drill Locations and Access Roads in the Eightmile Flat Locality, Uintah County, Utah. Archeological-Environmental Research Corporation, Bountiful, Utah. Report No. U-79-AF-0328b.
- Reed A.D.
1994 The Numic Occupation of Western Colorado and Eastern Utah during the Prehistoric and Protohistoric Periods. In *Across the West: Human Population Movement and the Expansion of the Numa*, edited by D.B. Madsen and D. Rhode, pp. 188-199. University of Utah Press, Salt Lake City.
- Shields, W.F.
1970 The Fremont Culture in the Uinta Basin. Paper presented at the Fremont Culture Symposium, 35th Annual Meeting of the Society for American Archaeology, Mexico City.
- Spangler, J.D.
1995 Paradigms and Perspectives, A Class I Overview of Cultural Resources in the Uinta Basin and Tavaputs Plateau, Volume II. Uinta Research, Salt Lake City, Utah.

Stokes, W.L.

1986

Geology of Utah. Utah Museum of Natural History, University of Utah, Salt Lake City.

Tucker, G.C. Jr.

1986

Results of Archaeological Investigations Along the Chevron CO-2/PO-4 Pipelines in Northeastern Utah and Northwestern Colorado. Manuscript on file, Bureau of Land Management, Vernal, Utah.

Wilson, A. And K.R. Montgomery

2004a

Cultural Resource Inventory of Inland Resources Block Survey on Eightmile Flat, Township 9 South, Range 18 East, Sections 17, 20, 21, in Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. U-04-MQ-800b.

2004b

Cultural Resource Inventory of Inland Resources Block Survey on Eightmile Flat, Township 9 South, Range 18 East, Sections 9, 10, 11, 14, 15 and 23, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. U-04-MQ-801b.

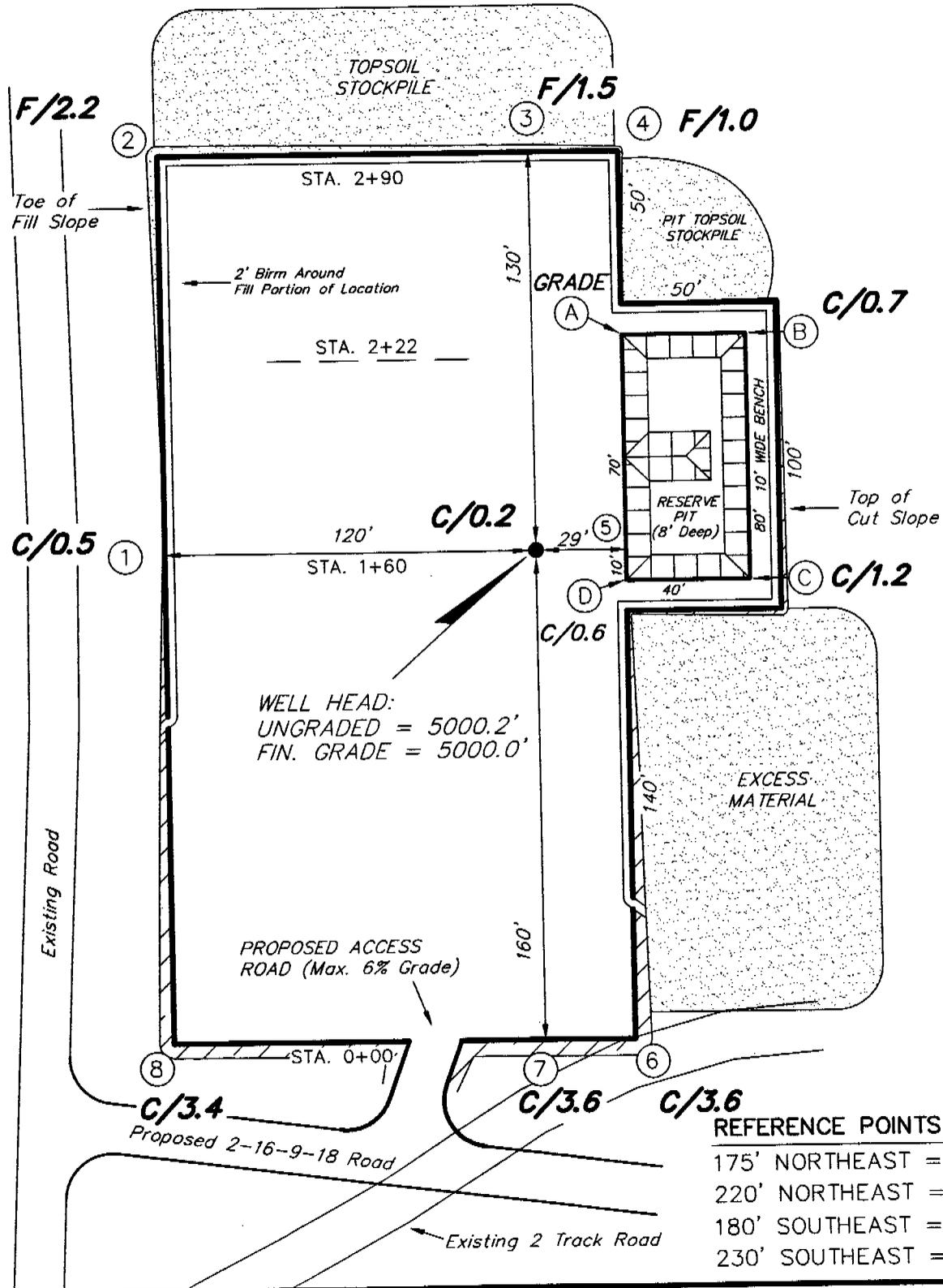
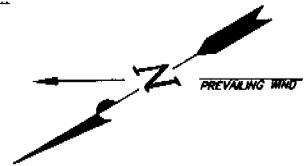
APPENDIX A:
INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM (IMACS)
SITE INVENTORY FORMS
42Un3669 through 42Un3681

On File At:

Utah Division of State History
Salt Lake City, Utah

INLAND PRODUCTION COMPANY

STATE 1-16-9-18
SECTION 16, T9S, R18E, S.L.B.&M.



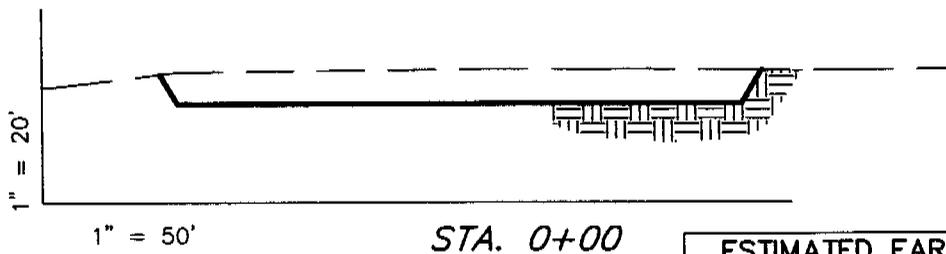
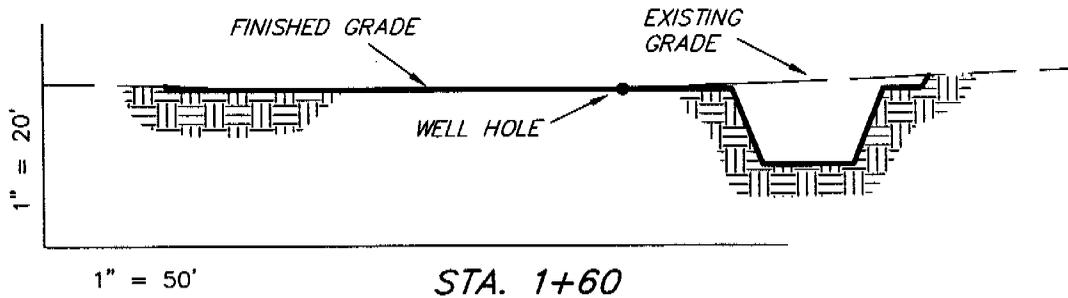
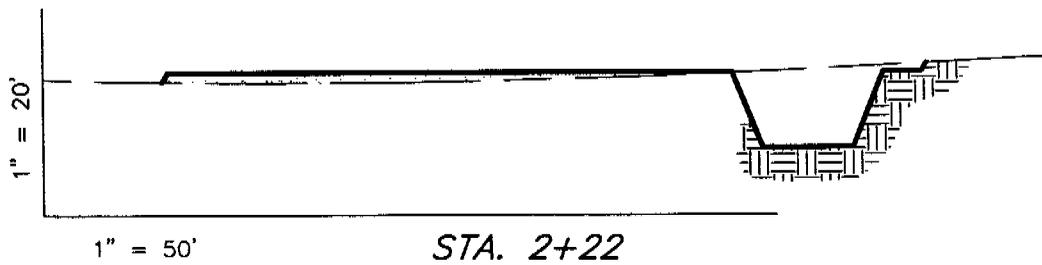
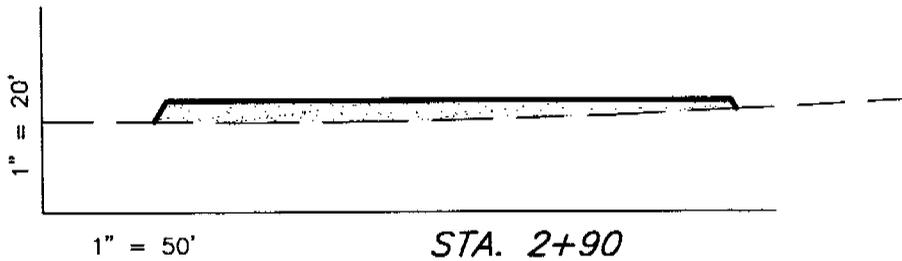
SURVEYED BY: K.G.S.	SCALE: 1" = 50'
DRAWN BY: R.V.C.	DATE: 4-19-04

Tri State
Land Surveying, Inc.
180 NORTH VERNAL AVE. VERNAL, UTAH 84078
(435) 781-2501

INLAND PRODUCTION COMPANY

CROSS SECTIONS

STATE 1-16-9-18



NOTE:
UNLESS OTHERWISE NOTED
ALL CUT/FILL SLOPES ARE
AT 1.5:1

ESTIMATED EARTHWORK QUANTITIES (No Shrink or swell adjustments have been used) (Expressed in Cubic Yards)

ITEM	CUT	FILL	6" TOPSOIL	EXCESS
PAD	1,410	1,060	Topsoil is not included in Pad Cut	350
PIT	640	0		640
TOTALS	2,050	1,060	890	990

SURVEYED BY: K.G.S.

SCALE: 1" = 50'

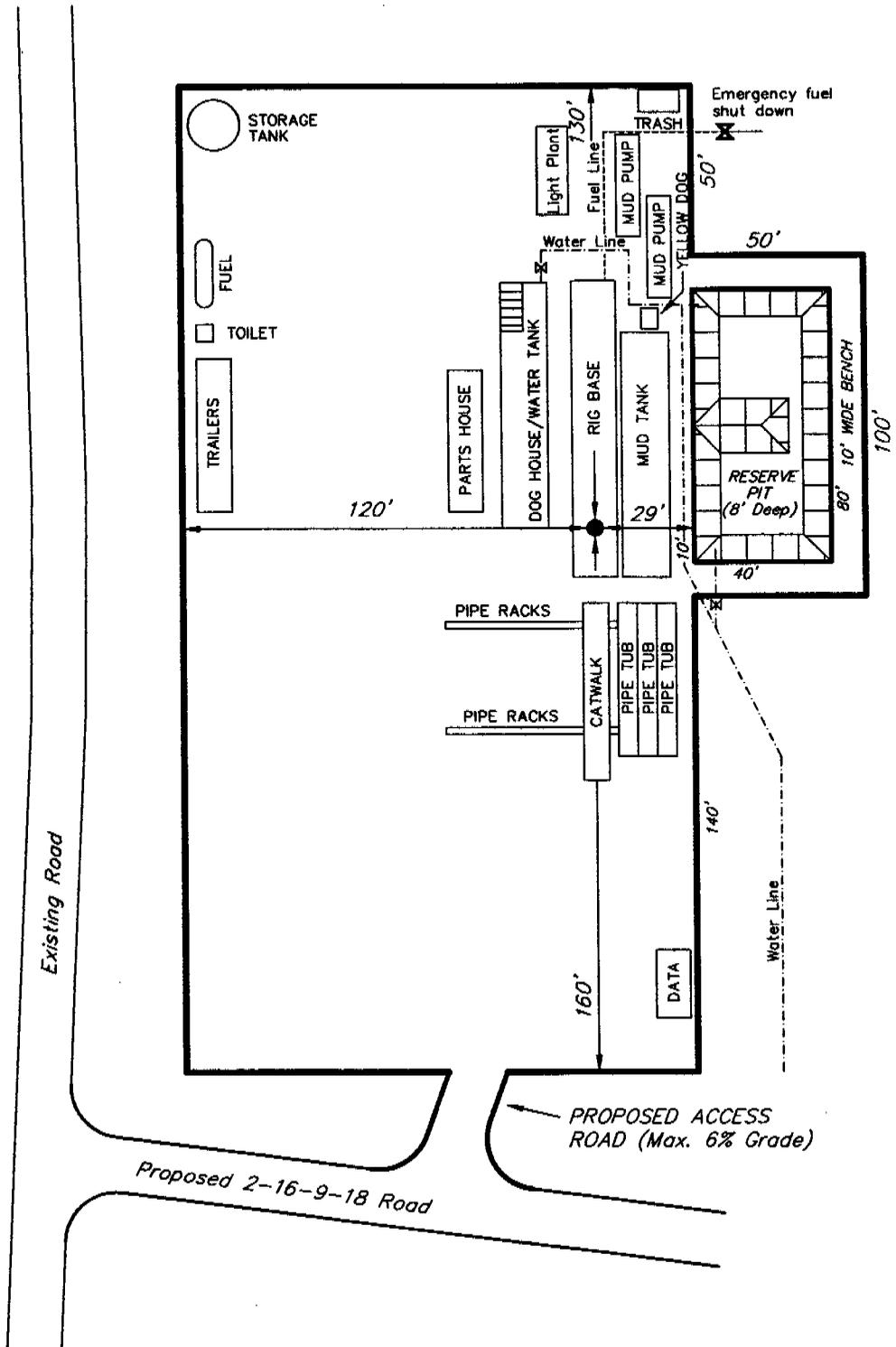
DRAWN BY: R.V.C.

DATE: 4-19-04

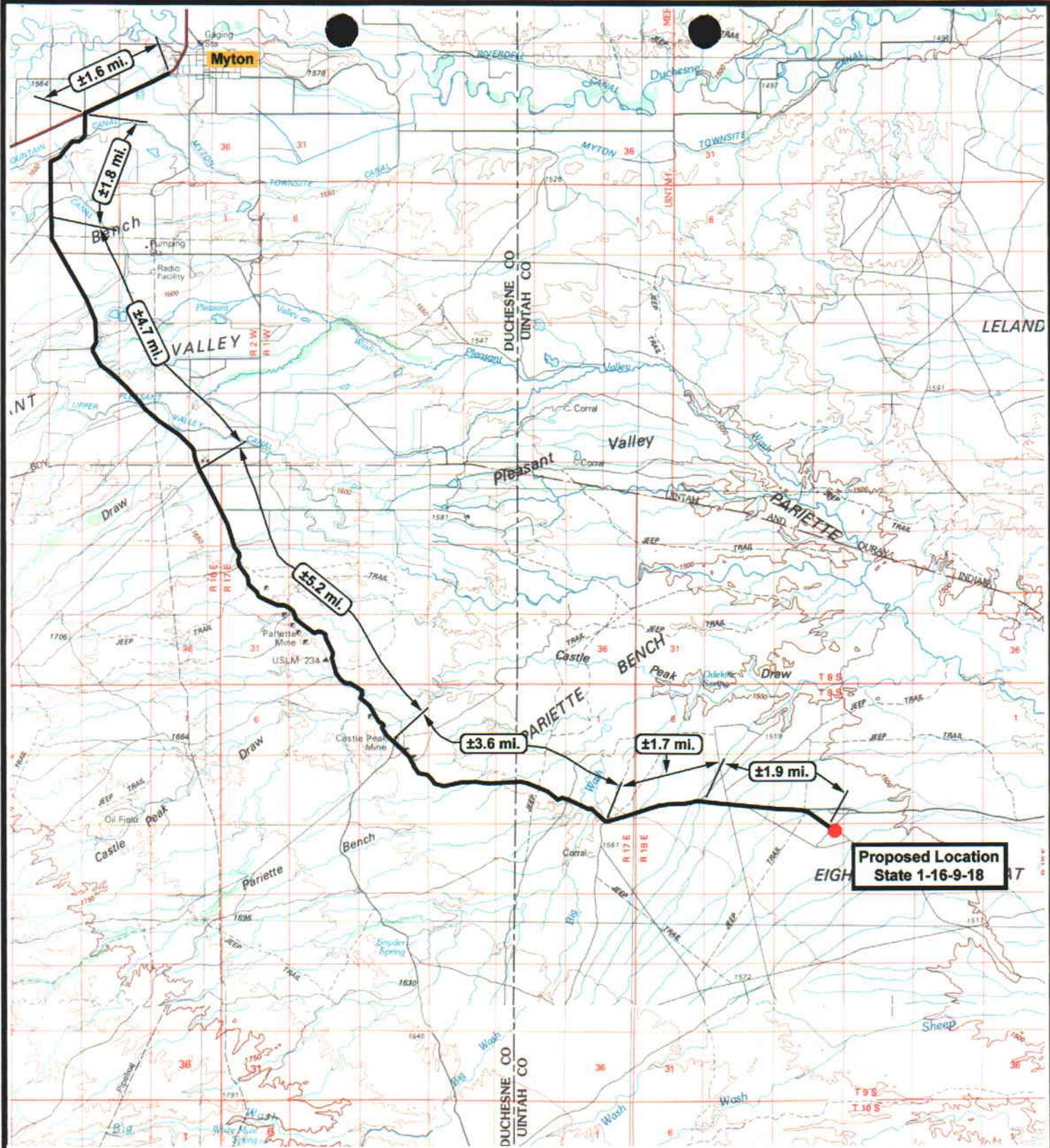
Tri State
Land Surveying, Inc.
180 NORTH VERNAL AVE. VERNAL, UTAH 84078

(435) 781-2501

INLAND PRODUCTION COMPANY
TYPICAL RIG LAYOUT
STATE 1-16-9-18



SURVEYED BY: K.G.S.	SCALE: 1" = 50'	 <p align="right">(435) 781-2501</p>
DRAWN BY: R.V.C.	DATE: 4-19-04	



Proposed Location
State 1-16-9-18



State 1-16-9-18
SEC. 16, T9S, R18E, S.L.B.&M.



Tri-State
Land Surveying Inc.
(435) 781-2501
180 North Vernal Ave. Vernal, Utah 84078

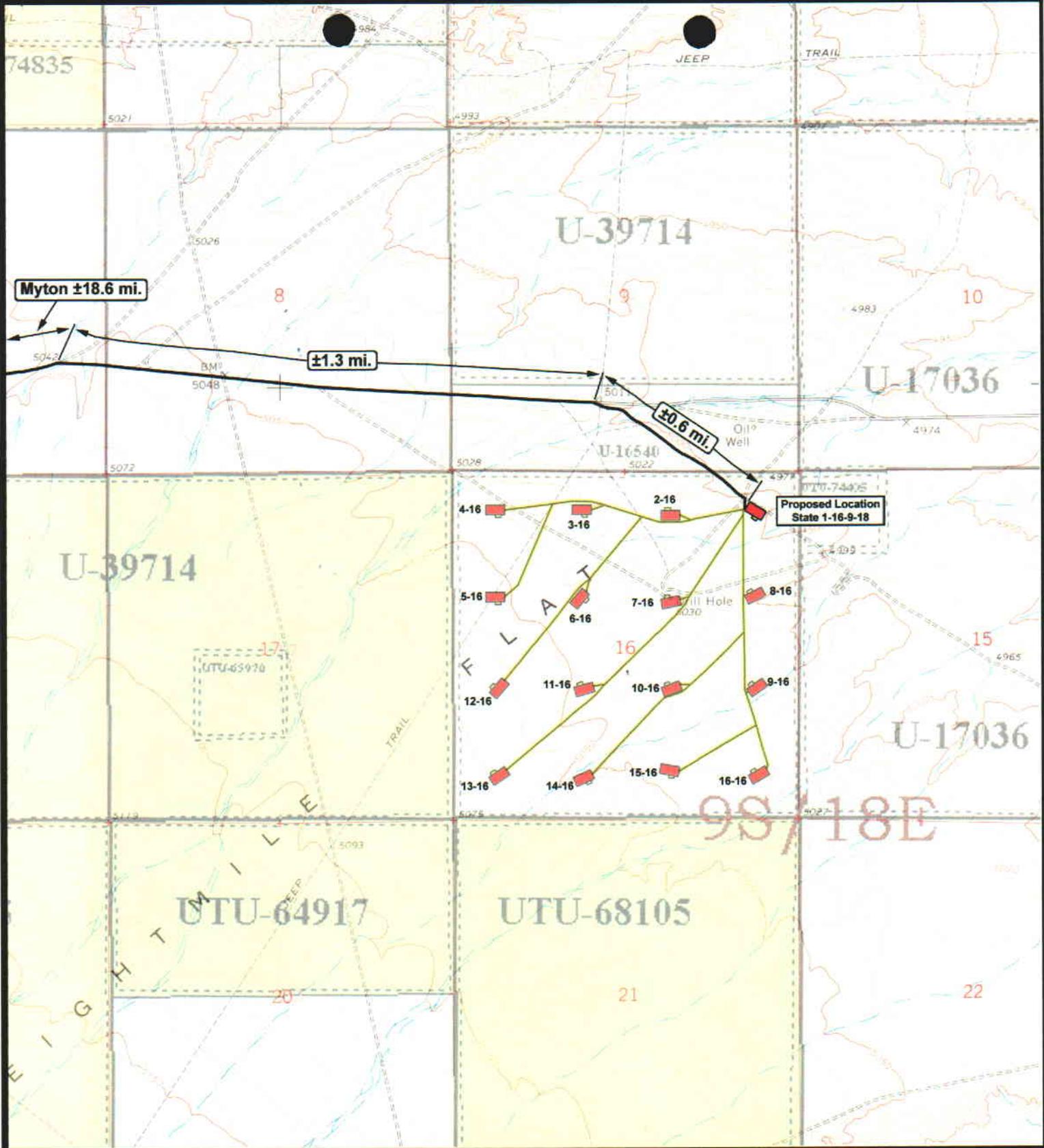
SCALE: 1 = 2,000
DRAWN BY: bgm
DATE: 06-18-2004

Legend

Existing Road

TOPOGRAPHIC MAP

"A"



Inland
RESOURCES INC.

State 1-16-9-18
SEC. 16, T9S, R18E, S.L.B.&M.

Tri-State
Land Surveying Inc.
(435) 781-2501
180 North Vernal Ave. Vernal, Utah 84078

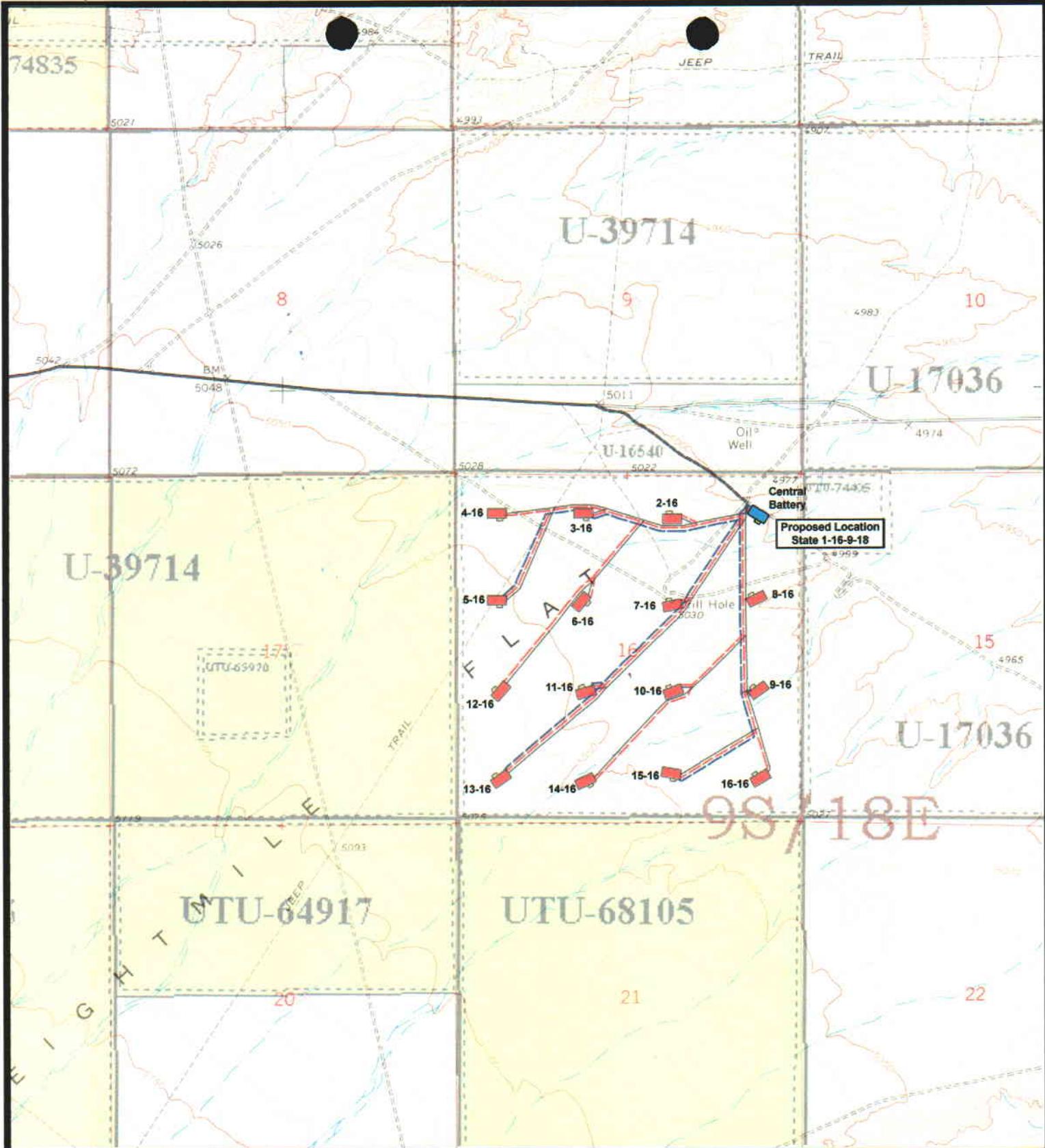
SCALE: 1" = 2,000'
DRAWN BY: bgm
DATE: 06-15-06

Legend

- Existing Road
- Proposed Access

TOPOGRAPHIC MAP

"B"



Central Battery - State 1-16-9-18
SEC. 16, T9S, R18E, S.L.B.&M.



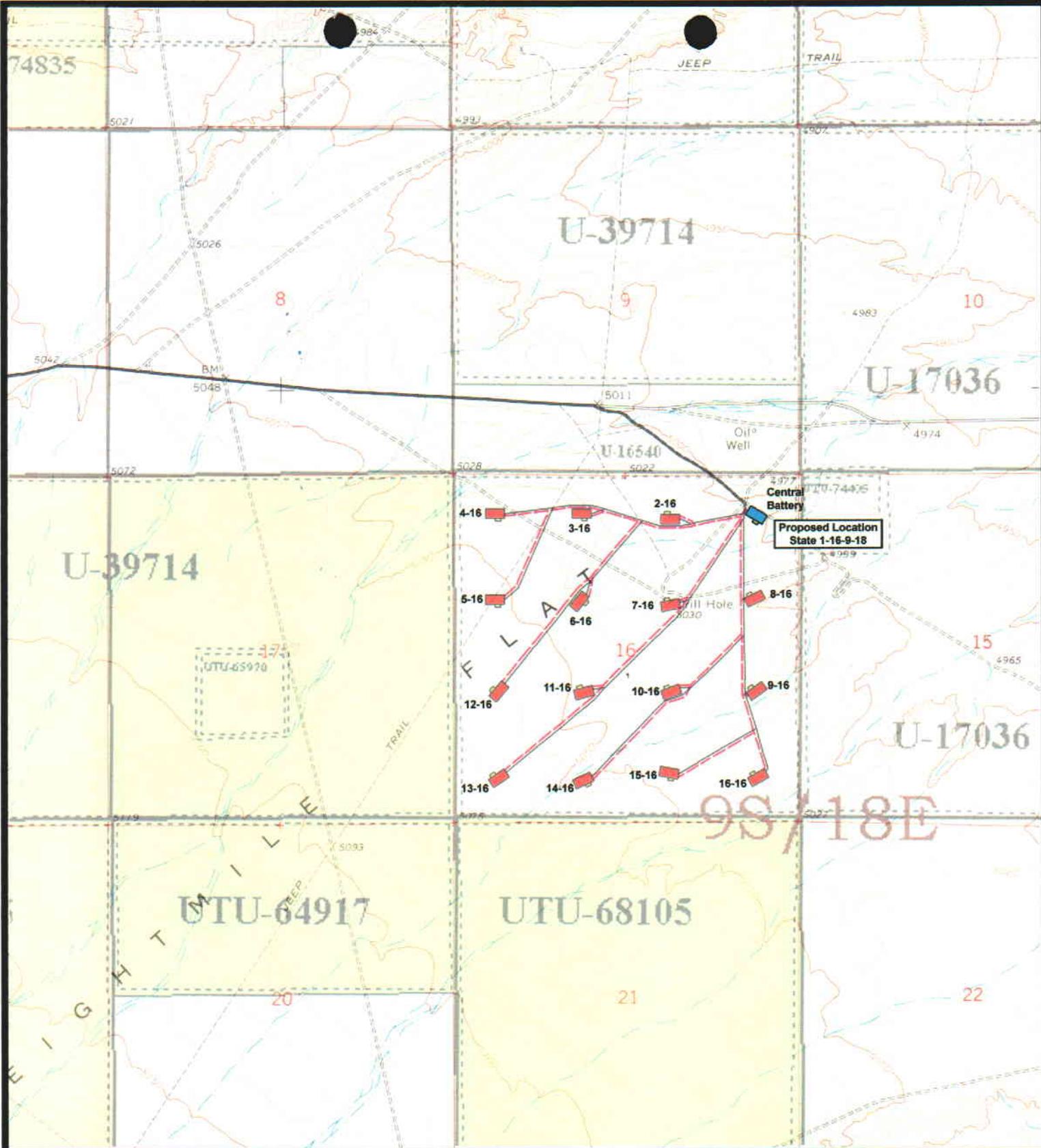
Tri-State
Land Surveying Inc.
(435) 781-2501
180 North Vernal Ave. Vernal, Utah 84078

SCALE: 1" = 2,000'
DRAWN BY: bgm
DATE: 06-15-06

Legend

- Roads
- Proposed Gas Line
- Proposed Water Line

TOPOGRAPHIC MAP
"C"



**Central Battery - State 1-16-9-18
SEC. 16, T9S, R18E, S.L.B.&M.**



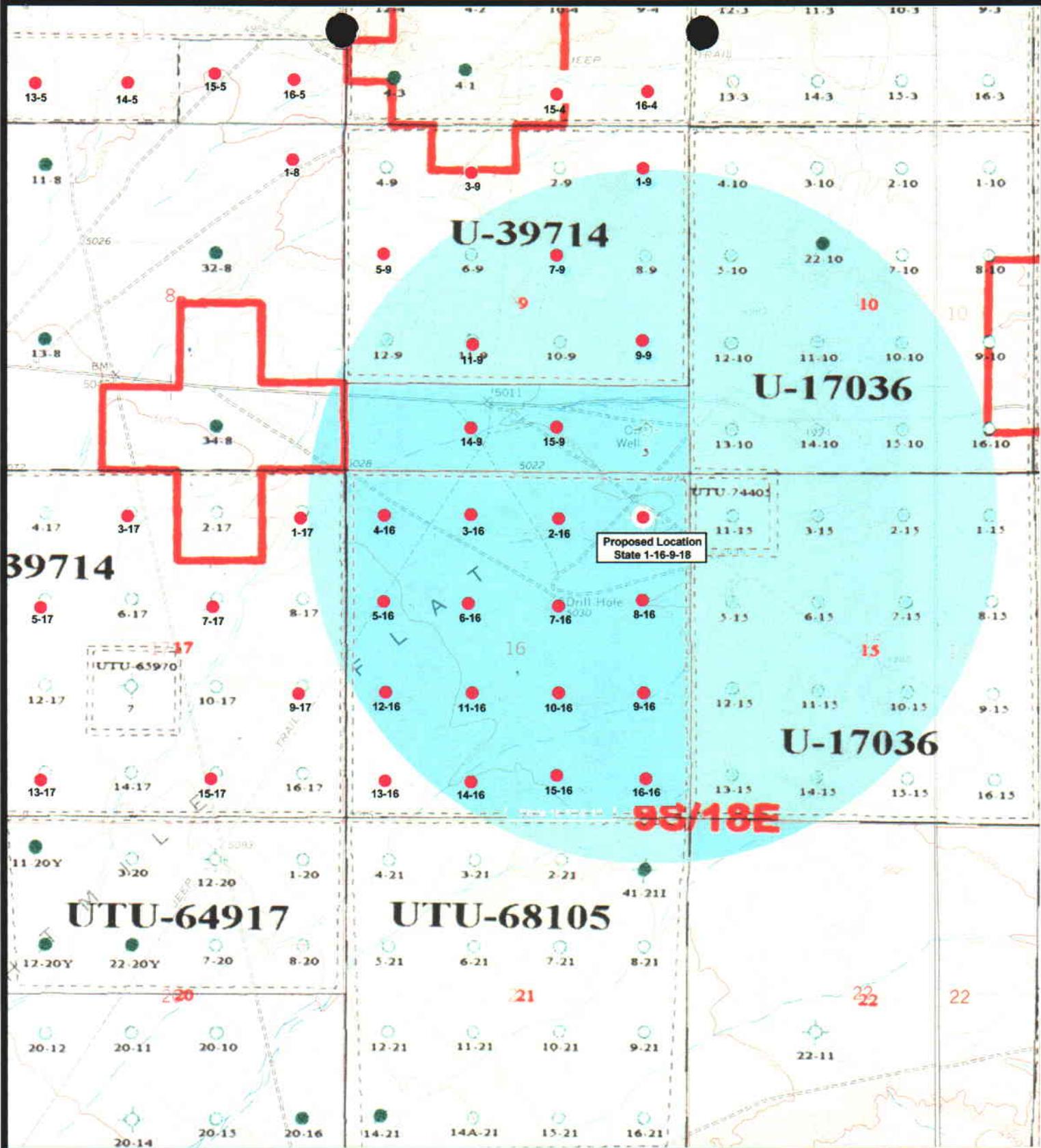
**Tri-State
Land Surveying Inc.**
(435) 781-2501
180 North Vernal Ave. Vernal, Utah 84078

SCALE: 1" = 2,000'
DRAWN BY: bgm
DATE: 06-15-06

Legend

- Roads
- Proposed Flow Line

TOPOGRAPHIC MAP
"D"



Proposed Location
State 1-16-9-18

98/18E



State 1-16-9-18
SEC. 16, T9S, R18E, S.L.B.&M.



Tri-State
Land Surveying Inc.
(435) 781-2501
180 North Vernal Ave. Vernal, Utah 84078

SCALE: 1" = 2,000'
DRAWN BY: bgm
DATE: 06-14-2004

Legend

- Proposed Location
- One-Mile Radius

Exhibit "B"

2-M SYSTEM

Blowout Prevention Equipment Systems

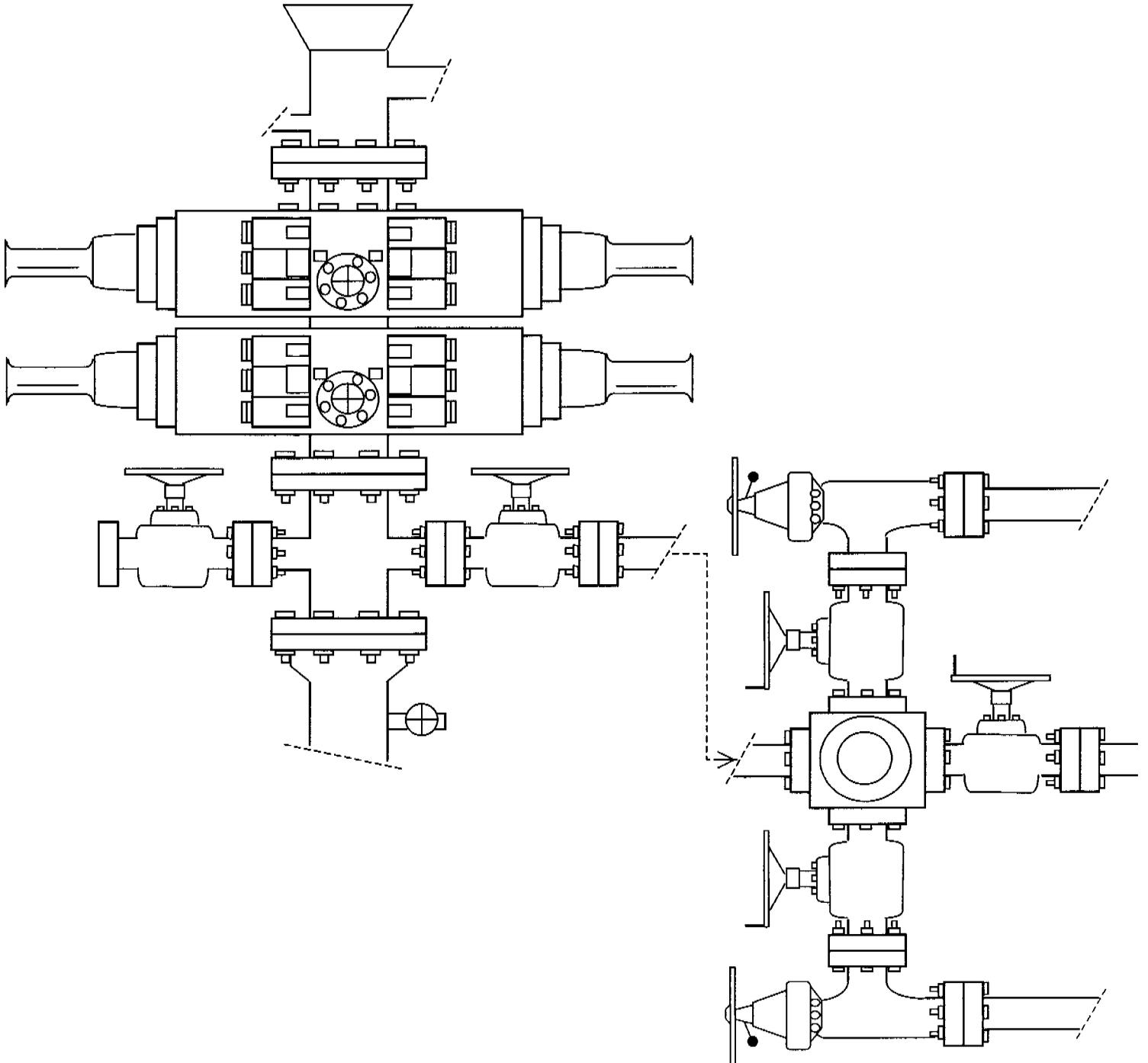


EXHIBIT C

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 06/28/2004

API NO. ASSIGNED: 43-047-35811

WELL NAME: STATE 1-16-9-18

OPERATOR: INLAND PRODUCTION (N5160)

CONTACT: MANDIE CROZIER

PHONE NUMBER: 435-646-3721

PROPOSED LOCATION:

NENE 16 090S 180E
SURFACE: 0692 FNL 0672 FEL
BOTTOM: 0692 FNL 0672 FEL
UINTAH
8 MILE FLAT NORTH (590)

LEASE TYPE: 3 - State
LEASE NUMBER: ML-48378
SURFACE OWNER: 3 - State
PROPOSED FORMATION: GRRV
COALBED METHANE WELL? NO

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering	DCR	8/3/04
Geology		
Surface		

LATITUDE: 40.03627

LONGITUDE: 109.89071

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[3] Fee[]
(No. 4471291 34BSB C04369 CR 8/23/04)
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit
(No. JOHNSON)
- RDCC Review (Y/N)
(Date: _____)
- Fee Surf Agreement (Y/N)

LOCATION AND SITING:

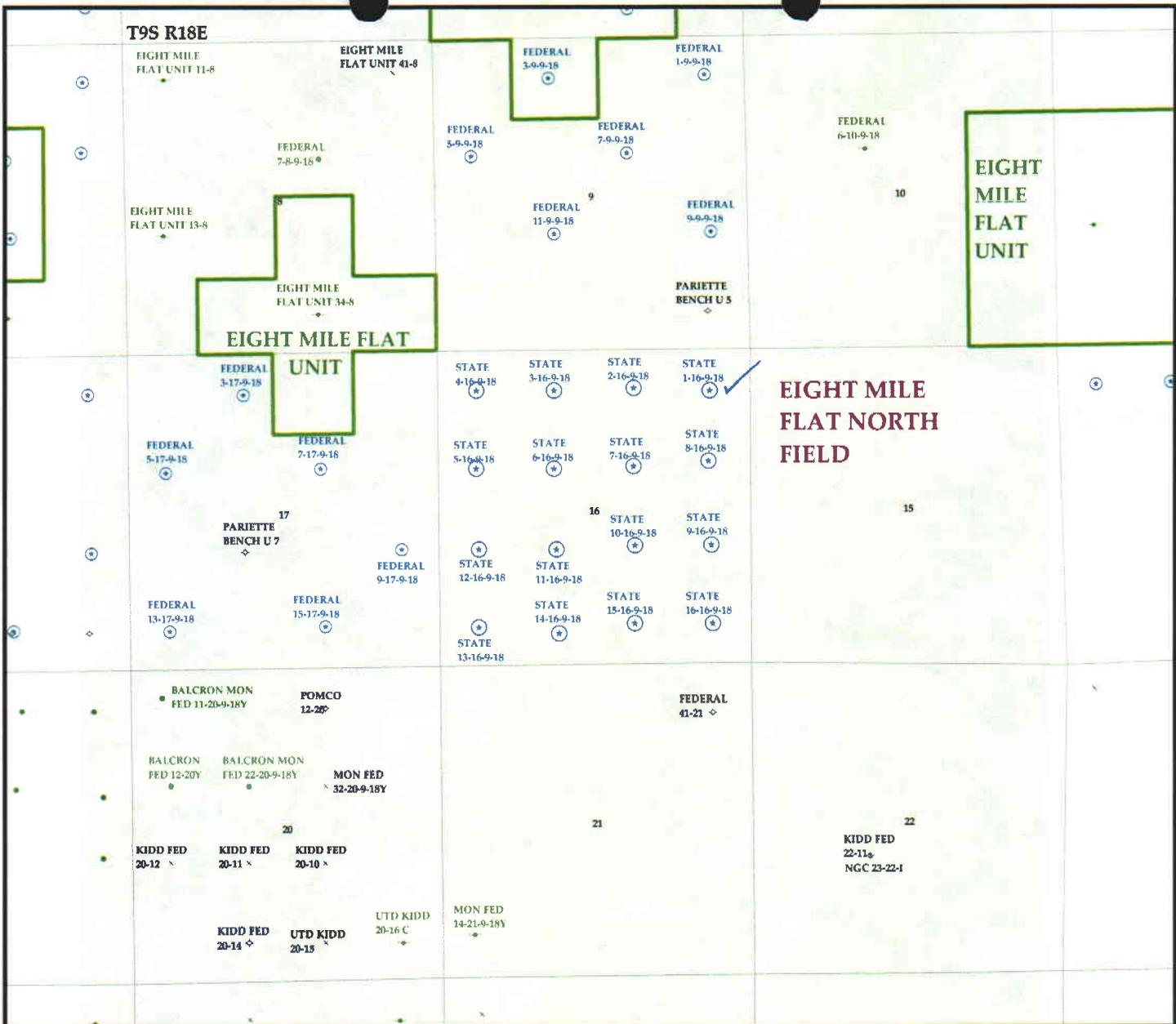
- R649-2-3.
- Unit _____
- R649-3-2. General
Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- Drilling Unit
Board Cause No: _____
Eff Date: _____
Siting: _____
- R649-3-11. Directional Drill

COMMENTS:

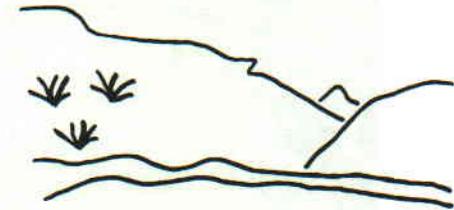
Needs Permit (07-15-04)

STIPULATIONS:

- 1-Spacing Strip
- 2-Surface Csg Cont Strip
- 3- STATEMENT OF BASIS



OPERATOR: INLAND PROD CO (N5160)
SEC. 16 T.9S R.18E
FIELD: EIGHT MILE FLAT NORTH (590)
COUNTY: UINTAH
SPACING: R649-3-2 / GENERAL SITING



Utah Oil Gas and Mining

Wells	Units.shp	Fields.shp
⊕ GAS INJECTION	□ EXPLORATORY	□ ABANDONED
⊙ GAS STORAGE	□ GAS STORAGE	□ ACTIVE
× LOCATION ABANDONED	□ NF PP OIL	□ COMBINED
⊕ NEW LOCATION	□ NF SECONDARY	□ INACTIVE
⊕ PLUGGED & ABANDONED	□ PENDING	□ PROPOSED
⊕ PRODUCING GAS	□ PI OIL	□ STORAGE
● PRODUCING OIL	□ PP GAS	□ TERMINATED
⊕ SHUT-IN GAS	□ PP GEOTHERML	
⊕ SHUT-IN OIL	□ PP OIL	
× TEMP. ABANDONED	□ SECONDARY	
⊕ TEST WELL	□ TERMINATED	
⊕ WATER INJECTION		
⊕ WATER SUPPLY		
⊕ WATER DISPOSAL		



PREPARED BY: DIANA WHITNEY
 DATE: 28-JUNE-2004

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

OPERATOR: INLAND PRODUCTION COMPANY
WELL NAME & NUMBER: STATE 1-16-9-18
API NUMBER: 43-047-35811
LOCATION: 1/4,1/4 NE/NE Sec:16 TWP: 9S RNG:18E 672' FEL 692' FNL

Geology/Ground Water:

Inland proposes to set 290' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 1,000'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of section 16. 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 and nearby wells.

Reviewer: Brad Hill **Date:** 07/20/04

Surface:

The predrill investigation of the surface was performed on 7/15/04. This site is on State surface with State minerals. Floyd Bartlett with DWR and Ed Bonner with SITLA were invited to this investigation of 6/30/04. Neither was present, but Mr. Bartlett inspected this site on 7/9/04. He told me over the telephone, and later by E-mail, that his only concern was for prairie dogs living in this area, and that this concern was not significant. He suggested that Inland avoid construction of well pads or access roads between April 1 and June 15 if possible. He also recommended that Inland reseed reserve pits following closure as well as the shoulders of the access roads. He sent Brad Mecham a DWR approved seed mix. This location will hold the central tank battery for all wells in this section.

Reviewer: David W. Hackford **Date:** 7/16/04

Conditions of Approval/Application for Permit to Drill:

None.

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

OPERATOR: INLAND PRODUCTION COMPANY
WELL NAME & NUMBER: STATE 1-16-9-18
API NUMBER: 43-047-35811
LEASE: ML-48378 FIELD/UNIT: EIGHT MILE FLAT
LOCATION: 1/4,1/4 NE/NE Sec: 16 TWP: 9S RNG: 18E 672' FEL 692' FNL
LEGAL WELL SITING: 460 F SEC. LINE; 460 F 1/4,1/4 LINE; 460 F ANOTHER WELL.
GPS COORD (UTM): 4432164N 12594632E SURFACE OWNER: STATE OF UTAH.

PARTICIPANTS

DAVID W. HACKFORD, BART KETTLE (DOGM). BRAD MECHAM, (INLAND).

REGIONAL/LOCAL SETTING & TOPOGRAPHY

SITE IS IN A RELATIVELY FLAT AREA ON EIGHT MILE FLAT, A HUGE BENCH STRETCHING OVER FOUR MILES IN ALL DIRECTIONS. MYTON, UTAH IS 20.5 MILES TO THE NORTHWEST. THE GREEN RIVER IS SIX MILES TO THE SOUTHEAST. DRAINAGE IS VERY SLIGHT AND TO THE EAST.

SURFACE USE PLAN

CURRENT SURFACE USE: WILDLIFE AND LIVESTOCK GRAZING, HUNTING.

PROPOSED SURFACE DISTURBANCE: LOCATION WILL BE 290' BY 199'. ACCESS ROAD WILL BE 200'.

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

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: THIS LOCATION WILL BE THE CENTRAL BATTERY FOR ALL WELLS IN SECTION 16.

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

ANCILLARY FACILITIES: NONE WILL BE REQUIRED.

WASTE MANAGEMENT PLAN:

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

ENVIRONMENTAL PARAMETERS

AFFECTED FLOODPLAINS AND/OR WETLANDS: NONE

FLORA/FAUNA: GLOBE MALLOW, SHADSCALE, RUSSIAL THISTLE, RABBIT BRUSH, HORSEBRUSH, PRICKLY PEAR: DEER, SONGBIRDS, RODENTS, RABBITS, PRONGHORN, RAPTORS, PRAIRIE DOG.

SOIL TYPE AND CHARACTERISTICS: LIGHT BROWN SANDY CLAY.

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

PALEONTOLOGICAL POTENTIAL: NONE OBSERVED.

RESERVE PIT

CHARACTERISTICS: 40' BY 70' AND EIGHT FEET DEEP.

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

SURFACE RESTORATION/RECLAMATION PLAN

AS PER SITLA.

SURFACE AGREEMENT: AS PER SITLA.

CULTURAL RESOURCES/ARCHAEOLOGY: SITE WAS INSPECTED BY MONTGOMERY ARCHAEOLOGICAL CONSULTANTS. A COPY OF THIS REPORT WILL BE SUBMITTED TO THE STATE OF UTAH.

OTHER OBSERVATIONS/COMMENTS

THIS PREDRILL INVESTIGATION WAS CONDUCTED ON A HOT, SUNNY DAY.

ATTACHMENTS

PHOTOS OF THIS SITE WERE TAKEN AND PLACED ON FILE.

DAVID W. HACKFORD
DOGM REPRESENTATIVE

7/15/04. 9:45 AM
DATE/TIME

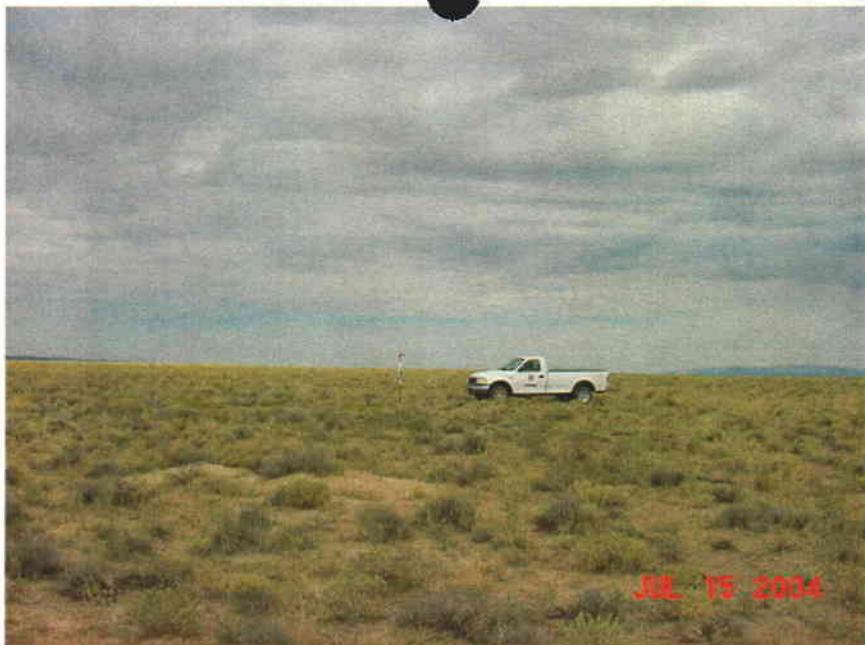
**Evaluation Ranking Criteria and Ranking Score
For Reserve and Onsite Pit Liner Requirements**

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

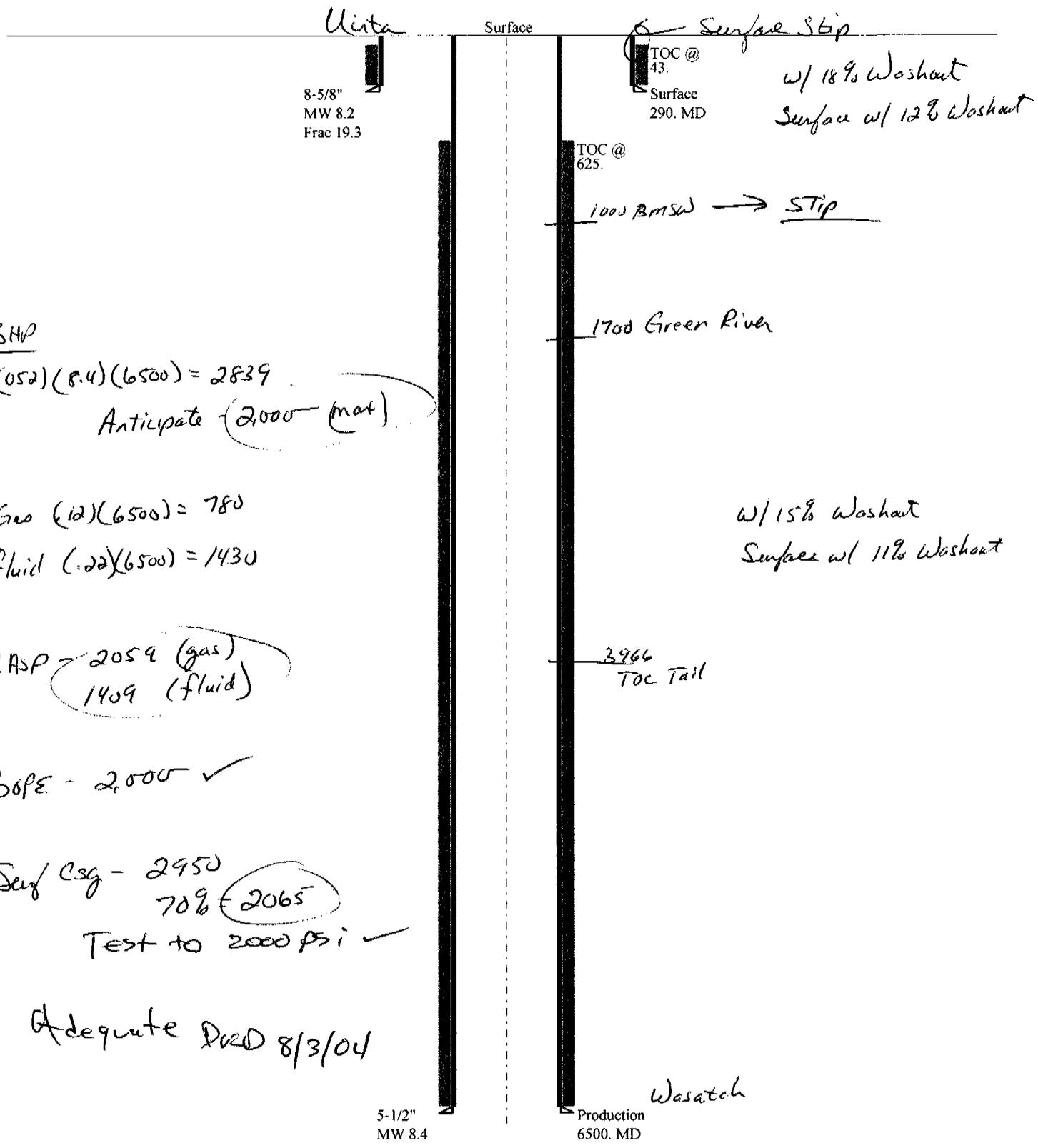
Final Score 15 (Level III Sensitivity)

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





Casing Schematic



BHP

$(0.52)(8.4)(6500) = 2839$

Anticipate (2000 max)

Gas $(.12)(6500) = 780$

fluid $(.22)(6500) = 1430$

MASP - 2059 (gas)
1409 (fluid)

BoPE - 2000 ✓

Surf CSG - 2950
70% (2065)

Test to 2000 psi ✓

Adequate DWD 8/3/04

Well name:

07-04 Inland St 1-16-9-18

Operator: Inland Production Company

String type: Surface

Project ID:
43-047-35811

Location: Uintah County

Design parameters:

Collapse

Mud weight: 8.200 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 65 °F
Bottom hole temperature: 69 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 290 ft

Cement top: 43 ft

Burst

Max anticipated surface pressure: 0 psi
Internal gradient: 0.436 psi/ft
Calculated BHP 127 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: 254 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 6,500 ft
Next mud weight: 8.400 ppg
Next setting BHP: 2,836 psi
Fracture mud wt: 19,250 ppg
Fracture depth: 290 ft
Injection pressure 290 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	290	8.625	24.00	J-55	ST&C	290	290	7.972	14

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	124	1370	11.090	127	2950	23.31	6	244	39.98 J

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

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

Date: July 30,2004
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 290 ft, a mud weight of 8.2 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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

Well name:

07-04 Inland St 1-16-9-18

Operator: Inland Production Company

String type: Production

Project ID:
43-047-35811

Location: Uintah County

Design parameters:

Collapse

Mud weight: 8.400 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 65 °F
Bottom hole temperature: 156 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 300 ft

Cement top: 625 ft

Burst

Max anticipated surface pressure: 0 psi
Internal gradient: 0.436 psi/ft
Calculated BHP 2,836 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)

Non-directional string.

Tension is based on air weight.
Neutral point: 5,674 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	6500	5.5	15.50	J-55	LT&C	6500	6500	4.825	203.8
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	2836	4040	1.424	2836	4810	1.70	101	217	2.15 J

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

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

Date: July 30, 2004
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 6500 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

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



State of Utah

Department of
Natural Resources

ROBERT L. MORGAN
Executive Director

Division of
Oil, Gas & Mining

LOWELL P. BRAXTON
Division Director

OLENE S. WALKER
Governor

GAYLE F. McKEACHNIE
Lieutenant Governor

August 4, 2004

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

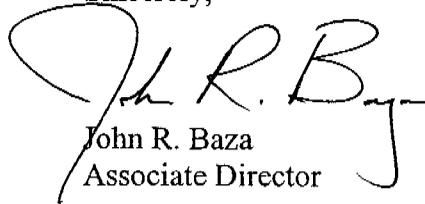
Re: State 1-16-9-18 Well, 692' FNL, 672' FEL, NE NE, Sec. 16, T. 9 South,
R. 18 East, Uintah County, Utah

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.

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 43-047-35811.

Sincerely,



John R. Baza
Associate Director

pab
Enclosures

cc: Uintah County Assessor
SITLA

Operator: Inland Production Company

Well Name & Number State 1-16-9-18

API Number: 43-047-35811

Lease: ML-38478

Location: NE NE **Sec.** 16 **T.** 9 South **R.** 18 East

Conditions of Approval

1. **General**

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

2. **Notification Requirements**

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

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

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

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

3. **Reporting Requirements**

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

4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.

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

Page 2

API #43-047-35811

August 4, 2004

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. Surface casing shall be cemented to the surface.



Office of the Secretary of State

The undersigned, as Secretary of State of Texas, does hereby certify that the attached is a true and correct copy of each document on file in this office as described below:

Newfield Production Company
Filing Number: 41530400

Articles of Amendment

September 02, 2004

In testimony whereof, I have hereunto signed my name officially and caused to be impressed hereon the Seal of State at my office in Austin, Texas on September 10, 2004.



A handwritten signature in black ink, appearing to read "G. Connor".

Secretary of State

ARTICLES OF AMENDMENT
TO THE
ARTICLES OF INCORPORATION
OF
INLAND PRODUCTION COMPANY

FILED
In the Office of the
Secretary of State of Texas
SEP 02 2004
Corporations Section

Pursuant to the provisions of Article 4.04 of the Texas Business Corporation Act (the "TBCA"), the undersigned corporation adopts the following articles of amendment to the articles of incorporation:

ARTICLE 1 – Name

The name of the corporation is Inland Production Company.

ARTICLE 2 – Amended Name

The following amendment to the Articles of Incorporation was approved by the Board of Directors and adopted by the shareholders of the corporation on August 27, 2004.

The amendment alters or changes Article One of the Articles of Incorporation to change the name of the corporation so that, as amended, Article One shall read in its entirety as follows:

"ARTICLE ONE – The name of the corporation is Newfield Production Company."

ARTICLE 3 – Effective Date of Filing

This document will become effective upon filing.

The holder of all of the shares outstanding and entitled to vote on said amendment has signed a consent in writing pursuant to Article 9.10 of the TBCA, adopting said amendment, and any written notice required has been given.

IN WITNESS WHEREOF, the undersigned corporation has executed these Articles of Amendment as of the 1st day of September, 2004.

INLAND RESOURCES INC.

By: Susan G. Riggs
Susan G. Riggs, Treasurer

DIVISION OF OIL, GAS AND MINING**SPUDDING INFORMATION**Name of Company: INLAND PRODUCTION COMPANYWell Name: STATE 1-16-9-18Api No: 43-047-35811 Lease Type: STATESection 16 Township 09S Range 18E County UINTAHDrilling Contractor NEWFIELDS RIG # 1**SPUDDED:**Date 11/08/2004Time 9:00 AMHow DRY**Drilling will commence:** _____Reported by FLOYD MITCHELLTelephone # 1-435-823-3610Date 11/08/2004 Signed CHD

006

RECEIVED

NOV 16 2004

DIV. OF OIL, GAS & MINING

OPERATOR: *Inland*
NEWFIELD PRODUCTION COMPANY
ADDRESS: RT. 3 BOX 3830
MYTON, UT 84052

OPERATOR ACCT. NO. 115160
N2695

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
ENTITY ACTION FORM - FORM 6

PAGE 02

INLAND

4356463031 11/15/2004 17:06

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
B	99999	12704	43-013-32554	BlackJack Federal 7-5-9-17	SW/NE	5	9S	17E	Duchesne	November 4, 2004	11/18/04
WELL 1 COMMENTS: <i>GRV</i>											
A	99999	14389	43-047-35777	State 5-2-9-18	SW/NW	2	9S	18E	Uintah	November 6, 2004	11/18/04
WELL 2 COMMENTS: <i>GRV</i>											
A	99999	14390	43-047-35811	State 1-16-9-18	NE/NE	16	9S	18E	Uintah	November 08, 2004	11/18/04
WELL 3 COMMENTS: <i>GRV</i>											
A	99999	14391	43-047-35166	Federal 9-12-9-17	NE/SE	12	9S	17E	Uintah	November 11, 2004	11/18/04
WELL 4 COMMENTS: <i>GRV</i>											
WELL 5 COMMENTS:											

K

K

K

K

- ACTION CODES (See Instructions on back of form)
- A - Establish new entity for new well (single well only)
 - B - Add new well to existing entity (group or unit well)
 - C - Re-assign well from one existing entity to another existing entity
 - D - Re-assign well from one existing entity to a new entity
 - E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(345)

Kebbie S. Jones
Signature

Kebbie S. Jones

Production Clerk
Title

November 15, 2004
Date

COPY

007

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

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML48378

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

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

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL GAS WELL OTHER

8. WELL NAME and NUMBER:
STATE 1-16-9-18

2. NAME OF OPERATOR:
Newfield Production Company

9. API NUMBER:
4304735811

3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Mvton STATE UT ZIP 84052 PHONE NUMBER 435.646.3721

10. FIELD AND POOL, OR WILDCAT:
Monument Butte

4. LOCATION OF WELL: FOOTAGES AT SURFACE: 692 FNL 672 FEL COUNTY: Uintah

OTR/OTR. SECTION. TOWNSHIP. RANGE. MERIDIAN: NE/NE, 16, T9S, R18E STATE: Utah

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

TYPE OF ACTION

TYPE OF SUBMISSION

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

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

On 11-08-04 MIRU NDSI NS # 1. Spud well @ 9:00 AM. Drill 335' of 12 1/4" hole with air mist. TIH W/ 8 Jt's 8 5/8" J-55 24 # csgn. Set @ 334' KB On 11-12-04 cement with 150 sks of class "G" w/ 3% CaCL2 + 1/4# sk Cello- Flake Mixed @ 15.8 ppg > 1.17 cf/ sk yeild. Returned 2 bbls cement to pit. WOC.

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NOV 11 66 2004

DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) Flovd Mitchell

TITLE Drilling Supervisor

SIGNATURE *Flovd Mitchell*

DATE November 13, 2004

NEWFIELD PRODUCTION COMPANY - CASING & CEMENT REPORT

8 5/8 CASING SET AT 334.15

LAST CASING 8 5/8" SET AT 334.15'
 DATUM 12' KB
 DATUM TO CUT OFF CASING _____
 DATUM TO BRADENHEAD FLANGE _____
 TD DRILLER 335' LOGGER _____
 HOLE SIZE 12 1/4

OPERATOR NEWFIELD Production Company
 WELL State 1-16-9-18
 FIELD/PROSPECT Monument Butte
 CONTRACTOR & RIG # NDSI NS#1

LOG OF CASING STRING:

PIECES	OD	ITEM - MAKE - DESCRIPTION	WT / FT	GRD	THREAD	CONDT	LENGTH
		40.39' sh jt' shjt					
		WHI - 92 csg head			8rd	A	0.95
8	8 5/8"	Maverick ST&C csg	24#	J-55	8rd	A	322.3
		GUIDE shoe			8rd	A	0.9
CASING INVENTORY BAL.		FEET	JTS	TOTAL LENGTH OF STRING			324.15
TOTAL LENGTH OF STRING		324.15	8	LESS CUT OFF PIECE			2
LESS NON CSG. ITEMS		1.85		PLUS DATUM TO T/CUT OFF CSG			12
PLUS FULL JTS. LEFT OUT		0		CASING SET DEPTH			334.15
TOTAL		322.3	8	} COMPARE			
TOTAL CSG. DEL. (W/O THRDS)		322.3	8				

TIMING	-1ST STAGE			
BEGIN RUN CSG.	Spud	11/8/2004	9:00 AM	GOOD CIRC THRU JOB <u>Yes</u>
CSG. IN HOLE		11/10/2004	12:00 PM	Bbls CMT CIRC TO SURFACE <u>2</u>
BEGIN CIRC		11/12/2004	4:18 PM	RECIPROCATED PIPE FOR _____ THRU _____ FT STROKE
BEGIN PUMP CMT		11/12/2004	4:30 PM	DID BACK PRES. VALVE HOLD ? <u>N/A</u>
BEGIN DSPL. CMT		11/12/2004	4:41 PM	BUMPED PLUG TO _____ 533 _____ PSI
PLUG DOWN		11/12/2004	4:47 PM	

CEMENT USED		CEMENT COMPANY- B. J.
STAGE	# SX	CEMENT TYPE & ADDITIVES
1	150	Class "G" w/ 2% CaCL2 + 1/4#/sk Cello-Flake mixed @ 15.8 ppg 1.17 cf/sk yield
CENTRALIZER & SCRATCHER PLACEMENT		SHOW MAKE & SPACING
Centralizers - Middle first, top second & third for 3		

COMPANY REPRESENTATIVE Floyd Mitchell DATE 11/13/2004

009

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

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DEC 21 2004

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML48378

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. TYPE OF WELL: OIL WELL GAS WELL OTHER

8. WELL NAME and NUMBER:
STATE 1-16-9-18

2. NAME OF OPERATOR:
Newfield Production Company

9. API NUMBER:
4304735811

3. ADDRESS OF OPERATOR:
Route 3 Box 3630 CITY Myton STATE UT ZIP 84052

PHONE NUMBER
435.646.3721

10. FIELD AND POOL, OR WILDCAT:
Monument Butte

4. LOCATION OF WELL:
FOOTAGES AT SURFACE: 692 FNL 672 FEL

COUNTY: Uintah

STATE: Utah

QTR/OTR. SECTION, TOWNSHIP, RANGE, MERIDIAN: NE/NE, 16, T9S, R18E

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

TYPE OF SUBMISSION	TYPE OF ACTION			
	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON	
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of Work Completion: 12/17/2004	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: - Weekly Status Report	
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION		

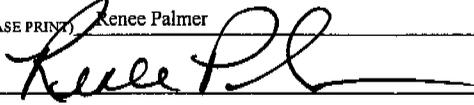
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Status report for time period 12/08/04 – 12/17/04

Subject well had completion procedures initiated in the Green River formation on 12/08/04 without the use of a service rig over the well. A cement bond log was run and a total of four Green River intervals were perforated and hydraulically fracture treated w/ 20/40 mesh sand. Perf intervals were #1 (5508-5513'), (5535-5539') (ALL 4 JSPF); #2 (5408-5426'), (55378-5387') (ALL 4 JSPF); #3 (4996-5004') (4 JSPF); #4 (4055-4062') (4 JSPF). Composite flow-through frac plugs were used between stages. Fracs were flowed back through chokes. A service rig was moved on well on 12/14/04. Bridge plugs were drilled out. Well was cleaned out to PBTD @ 5709'. Zones were swab tested for sand cleanup. A BHA & production tbg string were run in and anchored in well. End of tubing string @ 5615.65'. A new 1 1/2" bore rod pump was run in well on sucker rods. Well was placed on production via rod pump on 12/17/04.

NAME (PLEASE PRINT) Renee Palmer

TITLE Production Clerk

SIGNATURE 

DATE December 20, 2004

(This space for State use only)

NEWFIELD



January 19, 2005

State of Utah, Division of Oil, Gas and Mining
Attn: Ms. Carol Daniels
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Attn: Ms. Carol Daniels

State 1-16-9-18 (43-047-35811)
State 5-2-9-18 (43-047-35777)
Blackjack Fed. 7-5-9-19 (43-013-32554)
Blackjack Fed. 1-5-9-19 (43-013-32555)
Federal 7-12-9-17 (43-047-35165)

Dear Ms. Carol Daniels

Enclosed is a Well Completion or Recompletion Report and Log form (Form 3160-4). We are no longer sending Log copies since Pat Grissom of Phoenix Surveys is already doing so.

If you should have any questions, please contact me at (303) 382-4449.

Sincerely,

Brian Harris
Engineering Tech

Enclosures

cc: Bureau of Land Management
Vernal District Office, Division of Minerals
Attn: Edwin I. Forsman
170 South 500 East
Vernal, Utah 84078

Well File – Denver
Well File – Roosevelt
Patsy Barreau/Denver
Bob Jewett/Denver
Renee Palmer/Roosevelt

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JAN 21 2005

DIVISION OF OIL & MINING

(See other instructions on reverse side)

OMB NO. 1004-0137
Expires: February 28, 1995

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

011

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WORK
 OIL WELL GAS WELL DRY Other _____
 1b. TYPE OF WELL
 NEW WELL WORK OVER DEEPEN PLUG BACK DIFF RESVR. Other _____

2. NAME OF OPERATOR
 Newfield Exploration Company
 9. WELL NO.
 43-047-35811

3. ADDRESS AND TELEPHONE NO.
 1401 17th St. Suite 1000 Denver, CO 80202
 10. FIELD AND POOL OR WILDCAT
 Monument Butte

4. LOCATION OF WELL (Report locations clearly and in accordance with any State requirements.)*
 At Surface 692' FNL & 672' FEL (NE NE) Sec. 16, Twp 9S, Rng 18E
 At top prod. Interval reported below
 11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
 Sec. 16, T9S, R18E

At total depth
 14. API NO. 43-047-35811 DATE ISSUED August 4, 2004
 12. COUNTY OR PARISH Uintah 13. STATE UT

15. DATE SPUNDED 11/8/04 16. DATE T.D. REACHED 11/24/04 17. DATE COMPL. (Ready to prod.) 12/17/04
 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* GL 5000' KB 5012' 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 5800' 21. PLUG BACK T.D., MD & TVD 5709'
 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY -----> ROTARY TOOLS X CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION--TOP, BOTTOM, NAME (MD AND TVD)*
 Green River 4055-5539'
 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN
 Dual Induction Guard, SP, Compensated Density, Compensated Neutron, GR, Caliper, Cement Bond Log
 27. WAS WELL CORED No

23. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
8-5/8" - J-55	24#	334'	12-1/4"	To surface with 150 sx Class "G" cmt	
5-1/2" - J-55	15.5#	5753'	7-7/8"	310 sx Premlite II and 375 sx 50/50 Poz	

29. LINER RECORD				30. TUBING RECORD			
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2-7/8"	EOT @ 5615'	TA @ 5481

31. PERFORATION RECORD (Interval, size and number)				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
INTERVAL	SIZE	SPF/NUMBER	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED	
(CP3) 5508-13', 5535-39'	.41"	4/36	5508-5539'	Frac w/ 34,229# 20/40 sand in 357 bbls fluid.	
(CP2) 5378-87', 5408-26'	.41"	4/108	5378-5426'	Frac w/ 99,199# 20/40 sand in 723 bbls fluid.	
(A1) 4996'-5004'	.41"	4/32	4996'-5004'	Frac w/ 39,214# 20/40 sand in 365 bbls fluid.	
(GB 4) 4055'-4062'	.41"	4/28	4055'-4062'	Frac w/ 11,727# 20/40 sand in 182 bbls fluid.	

33.* PRODUCTION

DATE FIRST PRODUCTION 12/17/04 PRODUCTION METHOD (Flowing, gas lift, pumping--size and type of pump) 2-1/2" x 1-1/2" x 14' RHAC Pump WELL STATUS (Producing or shut-in) PRODUCING

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL--BBL.	GAS--MCF.	WATER--BBL.	GAS-OIL RATIO
10 day ave			→	42	0	7	0

FLOW. TUBING PRESS. CASING PRESSURE CALCULATED 24-HOUR RATE OIL--BBL. GAS--MCF WATER--BBL. OIL GRAVITY-API (CORR.)

34 DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold & Used for Fuel
 TEST WITNESSED BY JAN 21 2005

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records
 SIGNED Brian Harris TITLE Engineering Technician DATE 1/18/2005
 Brian Harris

*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals, and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries);

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	GEOLOGIC MARKERS	
				NAME	TRUE VERT. DEPTH
			Well Name State 1-16-9-18	Garden Gulch Mkr	3588'
				Garden Gulch 1	3772'
				Garden Gulch 2	3867'
				Point 3 Mkr	4156'
				X Mkr	4350'
				Y-Mkr	4378'
				Douglas Creek Mkr	4500'
				BiCarbonate Mkr	4751'
				B Limestone Mkr	4881'
				Castle Peak	5280'
				Basal Carbonate	5691'
			Total Depth (LOGGERS)	5802'	

010

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

5. LEASE DESIGNATION AND SERIAL NUMBER:
ML48378

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

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7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL GAS WELL OTHER

8. WELL NAME and NUMBER:
STATE 1-16-9-18

2. NAME OF OPERATOR:
Newfield Production Company

9. API NUMBER:
4304735811

3. ADDRESS OF OPERATOR:
Route 3 Box 3630 CITY Myton STATE UT ZIP 84052

PHONE NUMBER
435.646.3721

10. FIELD AND POOL, OR WILDCAT:
Monument Butte

4. LOCATION OF WELL:
FOOTAGES AT SURFACE: 692 FNL 672 FEL

COUNTY: Uintah

OTR/OTR. SECTION, TOWNSHIP, RANGE, MERIDIAN: NE/NE, 16, T9S, R18E

STATE: Utah

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

TYPE OF SUBMISSION	TYPE OF ACTION		
	TYPE OF ACTION	TYPE OF ACTION	TYPE OF ACTION
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will <u>12/17/2004</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of Work Completion:	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARITLY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input checked="" type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: -
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

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

Formation water is produced 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.

Accepted by the
Utah Division of
Oil, Gas and Mining

Date: 01-25-05

By: *[Signature]*

NAME (PLEASE PRINT) Martie Crozier

TITLE Regulatory Specialist

SIGNATURE *Martie Crozier*

DATE January 20, 2005

JAN 25 2005

(This space for State use only)

OPERATOR CHANGE WORKSHEET

ROUTING

1. GLH
2. CDW
3. FILE

012 Change of Operator (Well Sold) Designation of Agent/Operator

X Operator Name Change **Merger**

The operator of the well(s) listed below has changed, effective:		9/1/2004
FROM: (Old Operator): N5160-Inland Production Company Route 3 Box 3630 Myton, UT 84052 Phone: 1-(435) 646-3721	TO: (New Operator): N2695-Newfield Production Company Route 3 Box 3630 Myton, UT 84052 Phone: 1-(435) 646-3721	

CA No. **Unit:**

WELL(S)

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS	
FEDERAL 15-31-8-18	31	080S	180E	4304735831		Federal	OW	NEW	K
STATE 7-2-9-18	02	090S	180E	4304735787		State	OW	APD	K
FEDERAL 13-9-9-18	09	090S	180E	4304735840		Federal	OW	APD	K
FEDERAL 14-9-9-18	09	090S	180E	4304735841		Federal	OW	APD	K
STATE 1-16-9-18	16	090S	180E	4304735811	14390	State	OW	P	K
STATE 2-16-9-18	16	090S	180E	4304735812		State	OW	APD	K
STATE 3-16-9-18	16	090S	180E	4304735813	99999	State	OW	DRL	K
STATE 4-16-9-18	16	090S	180E	4304735814		State	OW	APD	K
STATE 5-16-9-18	16	090S	180E	4304735815		State	OW	APD	K
STATE 6-16-9-18	16	090S	180E	4304735816		State	OW	APD	K
STATE 7-16-9-18	16	090S	180E	4304735817		State	OW	NEW	K
STATE 8-16-9-18	16	090S	180E	4304735818		State	OW	APD	K
STATE 9-16-9-18	16	090S	180E	4304735819		State	OW	DRL	K
STATE 10-16-9-18	16	090S	180E	4304735820		State	OW	APD	K
STATE 11-16-9-18	16	090S	180E	4304735822		State	OW	DRL	K
STATE 12-16-9-18	16	090S	180E	4304735823		State	OW	APD	K
STATE 13-16-9-18	16	090S	180E	4304735824		State	OW	APD	K
STATE 14-16-9-18	16	090S	180E	4304735825		State	OW	NEW	K
STATE 15-16-9-18	16	090S	180E	4304735826		State	OW	APD	K
STATE 16-16-9-18	16	090S	180E	4304735827		State	OW	APD	K

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 9/15/2004
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 9/15/2004
3. The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 2/23/2005
4. Is the new operator registered in the State of Utah: YES Business Number: 755627-0143
5. If **NO**, the operator was contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: IN PLACE
6b. Inspections of LA PA state/fee well sites complete on: waived

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM BIA

8. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

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

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 2/23/2005

DATA ENTRY:

- 1. Changes entered in the **Oil and Gas Database** on: 2/28/2005
- 2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 2/28/2005
- 3. Bond information entered in RBDMS on: 2/28/2005
- 4. Fee/State wells attached to bond in RBDMS on: 2/28/2005
- 5. Injection Projects to new operator in RBDMS on: 2/28/2005
- 6. Receipt of Acceptance of Drilling Procedures for APD/New on: waived

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: UT 0056

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: 61BSBDH2912

FEE & STATE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 61BSBDH2919

2. The **FORMER** operator has requested a release of liability from their bond on: n/a*
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

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

COMMENTS:

*Bond rider changed operator name from Inland Production Company to Newfield Production Company - received 2/23/05



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155



IN REPLY REFER TO
3180
UT-922

June 30, 2005

Newfield Production Company
Attn: Kelly L. Donohoue
1401 Seventeenth Street, Suite 1000
Denver, Colorado 80202

Gentlemen:

The Sundance (Green River) Unit Agreement, Uintah County, Utah, was approved June 30, 2005. This agreement has been designated No. UTU82472X, and is effective July 1, 2005. The unit area embraces 11,143.86 acres, more or less.

Pursuant to regulations issued and effective June 17, 1988, all operations within the Sundance (Green River) Unit will be covered by your nationwide (Utah) oil and gas bond No. 0056.

The following leases embrace lands included within the unit area:

UTU0075174	UTU39713	UTU65970*	UTU79013*
UTU16539*	UTU39714	UTU74404	UTU79014*
UTU16540	UTU44429	UTU74835	UTU80915
UTU17424*	UTU64806*	UTU74872*	UTU82205
UTU18043	UTU65969	UTU75234	

* Indicates lease to be considered for segregation by the Bureau of Land Management pursuant to Section 18 (g) of the unit agreement and Public Law 86-705.

All lands and interests by State of Utah, Cause No. 228-08 are fully committed.

Approval of this agreement does not warrant or certify that the operator thereof and other holders of operating rights hold legal or equitable title to those rights in the subject leases which are committed hereto.

RECEIVED

JUL 07 2005

DIV. OF OIL, GAS & MINING

*Docket No
2005-009*

We are of the opinion that the agreement is necessary and advisable in the public interest and for the purpose of more properly conserving natural resources. Certification-Determination, signed by the School and Institutional Trust Land Administration for the State of Utah, is attached to the enclosed agreement. We request that you furnish the State of Utah and all other interested principals with appropriate evidence of this approval.

Sincerely,

/s/ Terry Catlin

Terry Catlin
Acting Chief, Branch of Fluid Minerals

Enclosure

bcc: Mary Higgins w/enclosure
MMS - Data Management Division (Attn: James Sykes)
Trust Lands Administration
Division of Oil, Gas and Mining
Field Manager - Vernal w/enclosure
File - Sundance (Green River) Unit w/enclosure
Agr. Sec. Chron
Fluid Chron
Central Files

UT922:TAThompson:tt:06/30/2005

Entity Form 6

"C" Change from one existing entity to another existing entity

API	Well	Sec	Twsp	Rng	Entity	Entity Eff Date
4304734937	FEDERAL 14-6-9-18	06	090S	180E	14064 to 14844	9/20/2005
4304735183	FEDERAL 9-6-9-18	06	090S	180E	14153 to 14844	9/20/2005
4304735184	FEDERAL 11-6-9-18	06	090S	180E	14127 to 14844	9/20/2005
4304735185	FEDERAL 15-6-9-18	06	090S	180E	14120 to 14844	9/20/2005
4304735751	FEDERAL 16-6-9-18	06	090S	180E	14623 to 14844	9/20/2005
4304735752	FEDERAL 12-6-9-18	06	090S	180E	14649 to 14844	9/20/2005
4304735753	FEDERAL 10-6-9-18	06	090S	180E	14622 to 14844	9/20/2005
4304731126	FEDERAL 6-7-9-18	07	090S	180E	14599 to 14844	9/20/2005
4304731202	FEDERAL 15-7-9-18	07	090S	180E	564 to 14844	9/20/2005
4304735448	FEDERAL 3-7-9-18	07	090S	180E	14661 to 14844	9/20/2005
4304735449	FEDERAL 5-7-9-18	07	090S	180E	14662 to 14844	9/20/2005
4304735451	FEDERAL 11-7-9-18	07	090S	180E	14768 to 14844	9/20/2005
4304735452	FEDERAL 13-7-9-18	07	090S	180E	14755 to 14844	9/20/2005
4304735454	FEDERAL 14-7-9-18	07	090S	180E	14767 to 14844	9/20/2005
4304735503	FEDERAL 12-7-9-18	07	090S	180E	14663 to 14844	9/20/2005
4304731274	FEDERAL 7-8-9-18	08	090S	180E	554 to 14844	9/20/2005
4304731545	FEDERAL 4-8-9-18	08	090S	180E	10275 to 14844	9/20/2005
4304731546	FEDERAL 12-8-9-18	08	090S	180E	10975 to 14844	9/20/2005
4304731547	FEDERAL 15-8-9-18	08	090S	180E	10972 to 14844	9/20/2005
4304735811	STATE 1-16-9-18	16	090S	180E	14390 to 14844	9/20/2005
4304735813	STATE 3-16-9-18	16	090S	180E	14565 to 14844	9/20/2005
4304735819	STATE 9-16-9-18	16	090S	180E	14566 to 14844	9/20/2005
4304735822	STATE 11-16-9-18	16	090S	180E	14577 to 14844	9/20/2005
4304731142	FEDERAL 4-18-9-18	18	090S	180E	14600 to 14844	9/20/2005



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18th STREET - SUITE 300
DENVER, CO 80202-2466
<http://www.epa.gov/region08>

NOV 17 2006

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

David Gerbig
Newfield Production Company
1401 Seventeenth Street
Suite 1000
Denver, CO 80202

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

RECEIVED

NOV 24 2006

DIV. OF OIL, GAS & MINING

43-047-35811

Re: Underground Injection Control Program
Final Permit: State 1-16-9-18
Uintah County, Utah
EPA Permit No. UT21036-07042

Dear Mr. Gerbig:

Enclosed is your copy of the FINAL Underground Injection Control (UIC) Permit for the proposed State 1-16-9-18 injection well. A Statement of Basis, which discusses development of the conditions and requirements of the Permit, also is included.

The Public Comment period ended on OCT 19 2006. There were no comments on the Draft Permit received during the Public Notice period, and therefore the Final Permit becomes effective on the date of issuance. All conditions set forth herein refer to Title 40 Parts 124, 144, 146, and 147 of the Code of Federal Regulations (CFR) and are regulations that are in effect on the date that this Permit becomes effective.

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

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



Printed on Recycled Paper

If you have any questions on the enclosed Final Permit or Statement of Basis, please call Emmett Schmitz of my staff at (303) 312-6174, or toll-free at (800) 227-8917, ext. 6174.

Sincerely,

Carl L. Campbell for

Y. J. C. CO. 11001
Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

enclosure: Final UIC Permit
Statement of Basis
Form 7520-7 Application to Transfer Permit
Form 7520-10 Completion Report
Form 7520-11 Monitoring Report
Form 7520-12 Well Rework Record
Form 7520-13 Plugging Record
Groundwater Section Guidance 35
Groundwater Section Guidance 39

cc: Letter Only:
Maxine Natchees
Acting Chairperson
Uintah & Ouray Business Committee
Ute Indian Tribe

Chester Mills
Superintendent
U.S. Bureau of Indian Affairs
Uintah & Ouray Indian Agency

All enclosures:
Lynn Becker
Director
Energy & Minerals Dept.
Ute Indian Tribe

Shaun Chapoose
Director
Land Use Dept.
Ute Indian Tribe

Michael Guinn
Vice President - Operations
Newfield Production Company
Myton, Utah

Gilbert Hunt
Assistant Director
State of Utah - Natural Resources

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

RECEIVED

NOV 24 2006

DIV. OF OIL, GAS & MINING



**UNDERGROUND INJECTION CONTROL PROGRAM
PERMIT**

PREPARED: October 2006

Permit No. UT21036-07042

Class II Enhanced Oil Recovery Injection Well

**State 1-16-9-18
Uintah County, UT**

Issued To

Newfield Production Company

1401 Seventeenth Street

Suite 1000

Denver, CO 80202

Part I. AUTHORIZATION TO CONSTRUCT AND OPERATE

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

Newfield Production Company
1401 Seventeenth Street
Suite 1000
Denver, CO 80202

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

State 1-16-9-18
692' FNL& 672' FEL, NENE S16, T9S, R18E
Uintah County, UT

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water. EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 CFR Parts 144 and 146, and address potential impacts to underground sources of drinking water.

Under 40 CFR Part 144, Subpart D, certain conditions apply to all UIC permits and may be incorporated either expressly or by reference. General permit conditions for which the content is mandatory and not subject to site-specific differences (40 CFR Parts 124, 144, 146 and 147) are not discussed in this document. Under 40 CFR §144.35, issuance of this permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize injury to persons or property or invasion of other private rights, or any infringement of other federal, state or local laws or regulations. EPA UIC permits may be issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 CFR §§144.39, 144.40 and 144.41, and are subject to EPA review at least once every five (5) years to determine if action is required under 40 CFR §144.36(a).

This Permit is issued for the life of the well or wells unless modified, revoked and reissued, or terminated under 40 CFR 144.39 or 144.40. This Permit may be adopted, modified, revoked and reissued, or terminated if primary enforcement authority for this program is delegated to an Indian Tribe or a State. Upon the effective date of delegation, all reports, notifications, questions and other compliance actions shall be directed to the Indian tribe or State Program Director or designee.

Issue Date: NOV 20 2006

Effective Date NOV 20 2006



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

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

PART II. SPECIFIC PERMIT CONDITIONS

Section A. WELL CONSTRUCTION REQUIREMENTS

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

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

1. Casing and Cement.

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

2. Injection Tubing and Packer.

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

3. Sampling and Monitoring Devices.

The Permittee shall install and maintain in good operating condition:

- (a) a "tap" at a conveniently accessible location on the injection flow line between the pump house or storage tanks and the injection well, isolated by shut-off valves, for collection of representative samples of the injected fluid; and
- (b) one-half (1/2) inch female iron pipe fitting, isolated by shut-off valves and located at the wellhead at a conveniently accessible location, for the attachment of a pressure gauge capable of monitoring pressures ranging from normal operating pressures up to the Maximum Allowable Injection Pressure specified in APPENDIX C:
 - (i) on the injection tubing; and
 - (ii) on the tubing-casing annulus (TCA); and
- (c) a pressure actuated shut-off device attached to the injection flow line set to shut-off the injection pump when or before the Maximum Allowable Injection Pressure specified in APPENDIX C is reached at the wellhead; and
- (d) a non-resettable cumulative volume recorder attached to the injection line.

4. Well Logging and Testing

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

5. Postponement of Construction or Conversion

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

6. Workovers and Alterations

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

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

Section B. MECHANICAL INTEGRITY

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

An injection well has mechanical integrity if:

- (a) There is no significant leak in the casing, tubing, or packer (Part I); and
- (b) There is no significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore (Part II).

1. Demonstration of Mechanical Integrity (MI).

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

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

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

2. Mechanical Integrity Test Methods and Criteria

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

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

3. Notification Prior to Testing.

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

4. Loss of Mechanical Integrity.

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

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

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

Section C. WELL OPERATION

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

Injection is approved under the following conditions:

1. Requirements Prior to Commencing Injection.

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

- (a) The Permittee has submitted to the Director a notice of completion of construction and a completed EPA Form 7520-10 or 7520-12; all applicable logging and testing requirements of this Permit (see APPENDIX B) have been fulfilled and the records submitted to the Director; mechanical integrity pursuant to 40 CFR 146.8 and Part II Section B of this Permit has been demonstrated; and
 - (i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the Permit; or
 - (ii) The Permittee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Paragraph 1a, in which case prior inspection or review is waived and the Permittee may commence injection.

2. Injection Interval.

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

3. Injection Pressure Limitation

- (a) The permitted Maximum Allowable Injection Pressure (MAIP), measured at the wellhead, is found in APPENDIX C. Injection pressure shall not exceed the amount the Director determines is appropriate to ensure that injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to USDWs. In no case shall injection pressure cause the movement of injection or formation fluids into a USDW.
- (b) The Permittee may request a change of the MAIP, or the MAIP may be increased or decreased by the Director in order to ensure that the requirements in Paragraph (a) above are fulfilled. The Permittee may be required to conduct a step rate injection test or other suitable test to provide information for determining the fracture pressure of the injection zone. Change of the permitted MAIP by the Director shall be by modification of this Permit and APPENDIX C.

4. Injection Volume Limitation.

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

5. Injection Fluid Limitation.

Injected fluids are limited to those identified in 40 CFR 144.6(b)(2) as fluids used for enhanced recovery of oil or natural gas, including those which are brought to the surface in connection with conventional oil or natural gas production that may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, pursuant to 40 CFR 144.6(b). Non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, are NOT approved for injection. This well is NOT approved for commercial brine injection, industrial waste fluid disposal or injection of hazardous waste as defined by CFR 40 Part 261. The Permittee shall provide a listing of the sources of injected fluids in accordance with the reporting requirements in Part II Section D Paragraph 4 and APPENDIX D of this Permit.

6. Tubing-Casing Annulus (TCA)

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

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

Section D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS

1. Monitoring Parameters, Frequency, Records and Reports.

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

Monitoring records must include:

- (a) the date, time, exact place and the results of the observation, sampling, measurement, or analysis, and;
- (b) the name of the individual(s) who performed the observation, sampling, measurement, or analysis, and;
- (c) the analytical techniques or methods used for analysis.

2. Monitoring Methods.

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

- (b) Methods used to monitor the nature of the injected fluids must comply with analytical methods cited and described in Table 1 of 40 CFR 136.3 or Appendix III of 40 CFR 261, or by other methods that have been approved in writing by the Director.
- (c) Injection pressure, annulus pressure, injection rate, and cumulative injected volumes shall be observed and recorded at the wellhead under normal operating conditions, and all parameters shall be observed simultaneously to provide a clear depiction of well operation.
- (d) Pressures are to be measured in pounds per square inch (psi).
- (e) Fluid volumes are to be measured in standard oil field barrels (bbl).
- (f) Fluid rates are to be measured in barrels per day (bbl/day).

3. Records Retention.

- (a) Records of calibration and maintenance, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a period of AT LEAST THREE (3) YEARS from the date of the sample, measurement, report, or application. This period may be extended anytime prior to its expiration by request of the Director.
- (b) Records of the nature and composition of all injected fluids must be retained until three (3) years after the completion of any plugging and abandonment (P&A) procedures specified under 40 CFR 144.52(a)(6) or under Part 146 Subpart G, as appropriate. The Director may require the Permittee to deliver the records to the Director at the conclusion of the retention period. The Permittee shall continue to retain the records after the three (3) year retention period unless the Permittee delivers the records to the Director or obtains written approval from the Director to discard the records.
- (c) The Permittee shall retain records at the location designated in APPENDIX D.

4. Annual Reports.

Whether the well is operating or not, the Permittee shall submit an Annual Report to the Director that summarizes the results of the monitoring required by Part II Section D and APPENDIX D.

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

Section E. PLUGGING AND ABANDONMENT

1. Notification of Well Abandonment, Conversion or Closure.

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

2. Well Plugging Requirements

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

3. Approved Plugging and Abandonment Plan.

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

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

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

5. Plugging and Abandonment Report.

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

- (a) A statement that the well was plugged in accordance with the approved plugging and abandonment plan; or
- (b) Where actual plugging differed from the approved plugging and abandonment plan, an updated version of the plan, on the form supplied by the Director, specifying the differences.

6. Inactive Wells.

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

- (a) Provides written notice to the Director;
- (b) Describes the actions or procedures the Permittee will take to ensure that the well will not endanger USDWs during the period of inactivity. These actions and procedures shall include compliance with mechanical integrity demonstration, Financial Responsibility and all other permit requirements designed to protect USDWs; and
- (c) Receives written notice by the Director temporarily waiving plugging and abandonment requirements.

PART III. CONDITIONS APPLICABLE TO ALL PERMITS

Section A. EFFECT OF PERMIT

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

Section B. CHANGES TO PERMIT CONDITIONS

1. Modification, Reissuance, or Termination.

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

2. Conversions.

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

3. Transfer of Permit.

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

4. Permittee Change of Address.

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

5. Construction Changes, Workovers, Logging and Testing Data

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

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

Section C. SEVERABILITY

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

Section D. CONFIDENTIALITY

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

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

Section E. GENERAL PERMIT REQUIREMENTS

1. Duty to Comply.

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

2. Duty to Reapply.

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

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

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

4. Duty to Mitigate.

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

5. Proper Operation and Maintenance.

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

6. Permit Actions.

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

7. Property Rights.

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

8. Duty to Provide Information.

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

9. Inspection and Entry.

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

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

- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,
- (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

10. Signatory Requirements.

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

11. Reporting Requirements.

- (a) **Planned changes.** The Permittee shall give notice to the Director as soon as possible of any planned changes, physical alterations or additions to the permitted facility, and prior to commencing such changes.
- (b) **Anticipated noncompliance.** The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) **Monitoring Reports.** Monitoring results shall be reported at the intervals specified in this Permit.
- (d) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than 30 days following each schedule date.
- (e) **Twenty-four hour reporting.** The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:
 - (i) Any monitoring or other information which indicates that any contaminant may cause endangerment to a USDW; or
 - (ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

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

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

- (f) Oil Spill and Chemical Release Reporting: The Permittee shall comply with all reporting requirements related to the occurrence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website <http://www.nrc.uscg.mil/index.htm>.
- (g) Other Noncompliance. The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.
- (h) Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.

Section F. FINANCIAL RESPONSIBILITY

1. Method of Providing Financial Responsibility.

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

2. Insolvency.

In the event of:

- (a) the bankruptcy of the trustee or issuing institution of the financial mechanism; or
- (b) suspension or revocation of the authority of the trustee institution to act as trustee; or

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

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

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

APPENDIX A

WELL CONSTRUCTION REQUIREMENTS

See diagram.

The State No. 1-16-9-18 was drilled to a total depth of 5800 (KB) feet in the Basal Carbonate Member of the Green River Formation.

Surface casing (8-5/8 inch) was set at a depth of 334.15 feet in a 12-1/4 inch hole using 150 sacks of Class "G" cement which was circulated to the surface.

Production casing (5-1/2 inch) was set at a depth of 5733.45 feet (KB) in a 7-7/8 inch hole with 310 sacks of Premium Lite II and 375 sacks of 50/50 poz mix. This well construction is considered adequate to protect USDW's.

The EPA calculates the top of cement as 500 feet from the surface.

The schematic diagram shows the proposed current injection perforations in the Garden Gulch and Douglas Creek Members of the Green River Formation. Additional perforations may be added at a later time between the depths of 3588 feet and the top of the Wasatch Formation (Estimated to be 5816 feet) provided the operator first notifies the Director and later submits an updated well completion report (EPA Form 7520-12) and schematic diagram.

The packer will be required to be set no higher than 100 feet above the top perforation.

STATE 1-16-9-18

Spud Date: 8/11/04
 Put on Production: 12/17/04
 GL: 5000' KB: 5012'

Initial Production: BOPD,
 MCFD, BWPD

Proposed Injection Wellbore Diagram

SURFACE CASING

CSG SIZE: 8 5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 8 jts. (324.15')
 DEPTH LANDED: 334.15' KB
 HOLE SIZE: 12 1/4"
 CEMENT DATA: 150sxs Class "G" mixed cmt, est 2 bbls cmt to surf.
 Cement Top @ 250'

PRODUCTION CASING

Base USOW's TOC/EPA *<500' - 1360' -*
 CSG SIZE: 5 1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: 135 jts. (5755.45')
 DEPTH LANDED: 5753.45' KB
 HOLE SIZE: 7 7/8"
 CEMENT DATA: 310 sxs Prem. Lite II mixed & 375 sxs 50/50 POZ mix.
 CEMENT TOP AT: 250'

TUBING

SIZE/GRADE/WT.: 2 7/8" / J-55 / 6.5#
 NO. OF JOINTS: 169 jts (5468.97')
 TUBING ANCHOR: 5480.97' KB *60% bond 3478-3597'*
 NO. OF JOINTS: 2 jts (65.16')
 SEATING NIPPLE: 2 7/8" (1.10')
 SN LANDED AT: 5548.93' KB
 NO. OF JOINTS: 2 jts (65.17')
 TOTAL STRING LENGTH: EOT @ 5615.65' w/ 12' KB

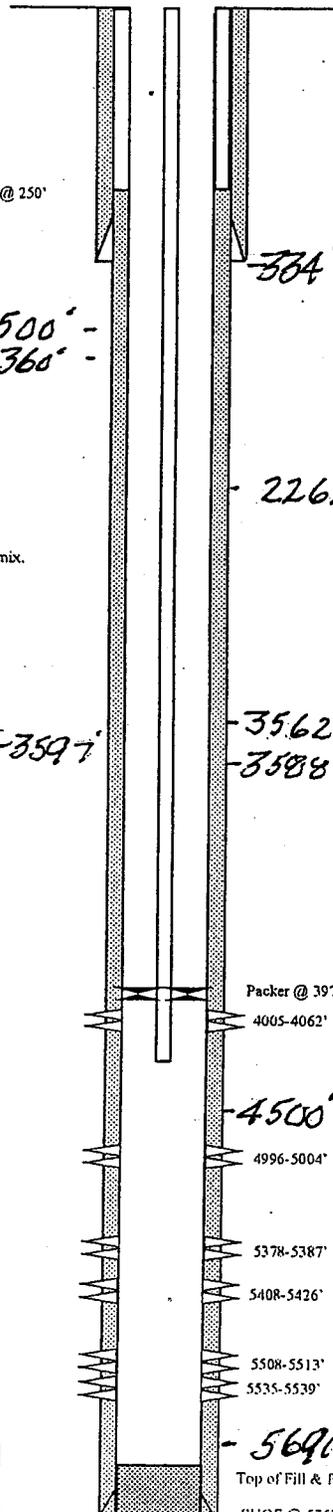
FRAC JOB

12/13/04 5508-5539' **Frac CP3 sands as follows:**
 34,229#'s 20/40 sand in 357 bbls Lightning-Frac 17 fluid. Treated @ avg press of 1805 psi w/avg rate of 24.8 BPM. ISIP 1925 psi. Calc flush: 5506 gals. Actual flush: 5544 gals.

12/13/04 5378-5426' **Frac CP2 sands as follows:**
 99,199#'s 20/40 sand in 723 bbls Lightning-Frac 17 fluid. Treated @ avg press of 1350 psi w/avg rate of 24.9 BPM. ISIP 1350 psi. Calc flush: 5376 gal. Actual flush: 5544 gal.

12/14/04 4996-5004' **Frac A1 sands as follows:**
 39,214#'s 20/40 sand in 365 bbls lightning Frac 17 fluid. Treated @ avg press of 1456 psi w/avg rate of 24.7 BPM. ISIP 1685 psi. Calc flush: 4994 gal. Actual flush: 5292 gal.

12/14/04 4055-4062' **Frac GB4 sands as follows:**
 11,727#'s 20/40 sand in 182 bbls lightning Frac 17 fluid. Treated @ avg press of 1987 psi w/avg rate of 24.6 BPM. ISIP 1760 psi. Calc flush: 4053 gal. Actual flush: 3990 gal.



PERFORATION RECORD

Date	Depth Range	Perforation Type	Number of Holes
12/08/04	5535-5539'	4 JSPP	20 holes
12/08/04	5508-5513'	4 JSPP	20 holes
12/13/04	5408-5426'	4 JSPP	72 holes
12/13/04	5378-5387'	4 JSPP	36 holes
12/14/04	4996-5004'	4 JSPP	32 holes
12/14/04	4055-4062'	4 JSPP	28 holes

NEWFIELD

State 1-16-9-18
 692' FNL & 672' FEL.
 NE/NE Section 16-T9S-R18E
 Uintah Co. Utah
 API #43-047-35811; Lease #M1-48378

- 5816 Est. Wasatch

APPENDIX B

LOGGING AND TESTING REQUIREMENTS

Logs.

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

NO LOGGING REQUIREMENTS

Tests.

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

WELL NAME: State 1-16-9-18	
TYPE OF TEST	DATE DUE
Step Rate Test	Within a 180-day period following commencement of injection.
Standard Annulus Pressure	Prior to authorization to commence injection, and at least once every five (5) years thereafter.
Pore Pressure	Prior to authorization to commence injection.

APPENDIX C

OPERATING REQUIREMENTS

MAXIMUM ALLOWABLE INJECTION PRESSURE:

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

WELL NAME	MAXIMUM ALLOWED INJECTION PRESSURE (psi)
	ZONE 1 (Upper)
State 1-16-9-18	980

INJECTION INTERVAL(S):

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

WELL NAME: State 1-16-9-18	APPROVED INJECTION INTERVAL (KB, ft)		FRACTURE GRADIENT (psi/ft)
	TOP	BOTTOM	
	FORMATION NAME		
Green River	3,588.00 - 5,816.00		0.680

ANNULUS PRESSURE:

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

MAXIMUM INJECTION VOLUME:

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

APPENDIX D

MONITORING AND REPORTING PARAMETERS

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

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

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

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

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

Newfield Production Company
1401 Seventeenth Street - Suite 1000
Denver, CO 80202

APPENDIX E

PLUGGING AND ABANDONMENT REQUIREMENTS

See diagram.

All cement plugs will be set with tubing.

9.2 ppg plugging gel, or fresh water weighted with bentonite or treated brine will be placed between all cement plugs.

The following Plugging and Abandonment Plan is predicated on the permittee not revising the injection perforations cited on the schematic diagram during construction/conversion. Should the uppermost perforations (4005 feet to 4062 feet) be modified in construction, the EPA will modify the P&A Plan accordingly.

The EPA has modified the P&A Plan submitted by the applicant. Please note that the EPA has modified PLUG NO.2 to include the top of the Green River Formation, and PLUG NO. 3 to protect the base of the Uinta Formation USDW.

PLUG NO. 1: A Cast Iron Bridge Plug (CIBP) at 3910 feet with 100 feet of Class "G" cement on CIBP.

PLUG NO. 2: A Class "G" cement plug from 2000 feet to 2300 feet which will cover both the top of the Green River Formation (2262 feet) as well as over a water zone from 2000 feet to 2200 feet.

PLUG NO. 3: Perforate at 550 feet with 4 JSPF. Circulate Class "G" cement from 550 feet within the 5-1/2 inch casing and up the 5-1/2 inch X 8-5/8 inch annulus. PLUG NO. 3 has been modified to protect the base of USDWs located at 500 feet.

STATE 1-16-9-18

Spud Date: 8/11/04
 Put on Production: 12/17/04
 GL: 5000' KB: 5012'

Initial Production: BOPD,
 MCFD, BWPD

Proposed P & A
 Wellbore Diagram

SURFACE CASING

CSG SIZE: 8 5/8"
 GRADE: J-55
 WEIGHT: 24#
 LENGTH: 8 jts. (324.15')
 DEPTH LANDED: 334.15' KB
 HOLE SIZE: 12 1/4"
 CEMENT DATA: 150sxs Class "G" mixed cmt, est 2 bbls cmt to surf.
 Cement Top @ 250'
 Casing Shoe @ 334'

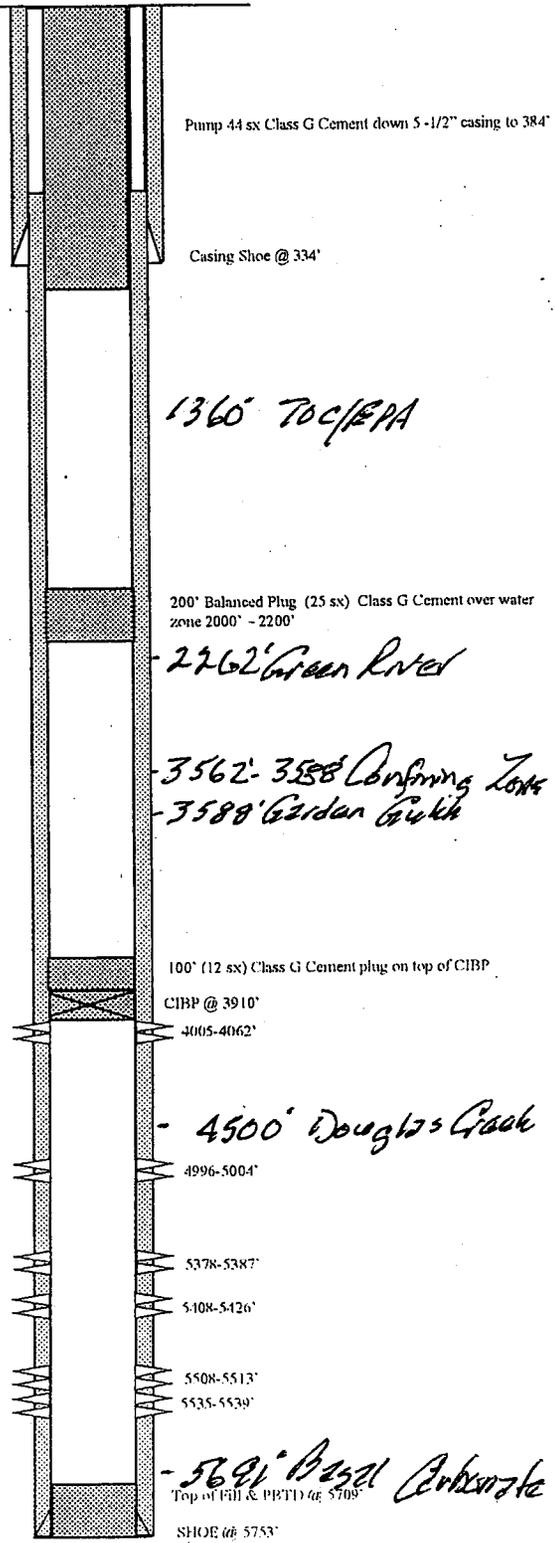
Base USDW @ 500'

PRODUCTION CASING

CSG SIZE: 5 1/2"
 GRADE: J-55
 WEIGHT: 15.5#
 LENGTH: 135 jts. (5755.45')
 DEPTH LANDED: 5753.45' KB
 HOLE SIZE: 7 7/8"
 CEMENT DATA: 310 sxs Prem. Lite II mixed & 375 sxs 50/50 POZ mix.
 CEMENT TOP AT: 250'

Class G balanced Class G cement plug 2000 - 2300'

80% sand @ 3478 - 3597'



<p>State 1-16-9-18 692' FNL & 672' FEI. NE/NE Section 16-T9S-R18E Uintah Co, Utah API #43-047-35811; Lease #MIL-48378</p>

APPENDIX F

CORRECTIVE ACTION REQUIREMENTS

No corrective action is deemed necessary for this project.

STATEMENT OF BASIS

RECEIVED

NOV 24 2006

DIV. OF OIL, GAS & MINING

NEWFIELD PRODUCTION COMPANY

**STATE 1-16-9-18
UINTAH COUNTY, UT**

EPA PERMIT NO. UT21036-07042

CONTACT: Emmett Schmitz
U. S. Environmental Protection Agency
Ground Water Program, 8P-W-GW
999 18th Street, Suite 300
Denver, Colorado 80202-2466
Telephone: 1-800-227-8917 ext. 6174

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

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

PART I. General Information and Description of Facility

Newfield Production Company
1401 Seventeenth Street
Suite 1000
Denver, CO 80202

on

November 3, 2005

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

State 1-16-9-18
692' FNL& 672' FEL, NENE S16, T9S, R18E
Uintah County, UT

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

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

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

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

The State No. 1-16-9-18 is currently an active Green River Formation oil well. The applicant intends to convert the State No. 1-16-9-18 to an enhanced recovery injection well utilizing existing production perforations in the Garden Gulch and Douglas Creek Members.

TABLE 1.1		
WELL STATUS / DATE OF OPERATION		
CONVERSION WELLS		
Well Name	Well Status	Date of Operation
State 1-16-9-18	Conversion	N/A

Hydrogeologic Setting

The proposed injection well is located in the Newfield Production Company Greater Monument Butte area near the center of the broad, gently northward dipping south flank of the Uinta Basin. The beds dip at about 200'/mile, and there are no known surface folds or faults in the field. The lower 600' to 800' of the Uinta Formation, generally consisting of 5' to 20' thick brown lenticular fluvial sandstone and interbedded varicolored shales, outcrops at the surface in this area. The Uinta is underlain by the Green River Formation which consists of lake (lacustrine) margin sandstones, limestone and shale beds that were deposited along the edges and on the broad level floor of Lake Uinta as it expanded and contracted through time. Underlying the Green River Formation is the Wasatch Formation, which is approximately 2400' thick in this area and consists of red alluvial shales and siltstone with scattered lenticular sandstones usually 10' to 50' thick. Below the Wasatch Formation is the Mesaverde Formation; a series of interbedded continental deposits of shale, sandstone, and coal. Water samples from Mesaverde sands in the nearby Natural Buttes Unit yield highly saline water.

The Uinta Basin is a topographic and structural trough encompassing an area of more than 9300 square mi (14,900 km²) in northeast Utah. The basin is sharply asymmetrical, with a steep north flank bounded by the east-west-trending Uinta Mountains, and a gently dipping south flank. The Uinta Basin formed in Paleocene to Eocene time, creating a large area of internal drainage which was filled by ancestral Lake Uinta. Deposition in and around Lake Uinta consisted of open- to marginal-lacustrine sediments that make up the Green River Formation. Alluvial red-bed deposits that are laterally equivalent to and intertongue with the Green River make up the Colton Formation (Wasatch). More than 450 million barrels of oil (63 MT) have been produced from the Green River and Wasatch Formations in the Uinta Basin. The southern shore of Lake Uinta was very broad and flat, which allowed large transgressive and regressive shifts in the shoreline in response to climatic and tectonic-induced rise and fall of the lake. The cyclic nature of Green River deposition in the southern shore area resulted in numerous stacked deltaic deposits. Distributary-mouth bars, distributary channels, and near-shore bars are the primary producing sandstone reservoirs in the area (Ref: "Reservoir Characterization of the Lower Green River Formation, Southwest Uinta Basin, Utah Biannual Technical Progress Report 4/1/99 - 9/30/99", by C. D. Morgan, Program Manager, November 1999, Contract DE-AC26-98BC15103). The Tertiary Duchesne River Formation alluvium generally is present at the surface in this area.

Throughout the current Newfield Production Company area of enhanced recovery injection activity, i.e., T8-9S - R15-19E, Green River Formation water analyses generally exhibit total dissolved (TDS) content well in excess of 10,000 mg/l. A few recent applications for well conversion to enhanced recovery injection contain Green River water analyses with TDS approximating 10,000 mg/l. The State of Utah-Natural Resources ascribes low TDS values to several possibilities involving dilution of Green River water with high TDS values, e.g., recharge of the Green River Formation via Green River Formation outcrop on the Book Cliffs/Roan Cliffs; injection of very low TDS Johnson Water District Reservoir source water; and percolation of surface water via deep-seated Gilsonite veins penetrating lower Green River Members.

Geologic Setting (TABLE 2.1)

**TABLE 2.1
GEOLOGIC SETTING
State 1-16-9-18**

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Lithology
Uinta	0.00	2,262.00	< 10,000.00	Predominantly fluvial sand and shale with interbedded lacustrine carbonate, sand and shale.
Green River	2,262.00	5,816.00	54,656.00	Predominantly lacustrine carbonate, sand and shale with interbedded fluvial sand and shale.

Proposed Injection Zone(s) (TABLE 2.2)

An injection zone is a geological formation, group of formations, or part of a formation that receives fluids through a well. The proposed injection zones are listed in TABLE 2.2.

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

The approved injection interval for enhanced recovery injection is identified as the gross interval between the top of the Garden Gulch Member at 3588 feet and the top of the Wasatch Formation that has been estimated at 5816 feet.

**TABLE 2.2
INJECTION ZONES
State 1-16-9-18**

Formation Name	Top (ft)	Base (ft)	TDS (mg/l)	Fracture Gradient (psi/ft)	Porosity	Exempted?*
Green River	3,588.00	5,816.00	54,656.00	0.680		N/A

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

Confining Zone(s) (TABLE 2.3)

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

The Confining Zone is shale between the depths of 3562 feet and 3588 feet. The Confining Zone overlies the top of the Garden Gulch Member.

**TABLE 2.3
CONFINING ZONES
State 1-16-9-18**

Formation Name	Formation Lithology	Top (ft)	Base (ft)
Green River	Shale	3,562.00	3,588.00

Underground Sources of Drinking Water (USDWs) (TABLE 2.4)

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

The State of Utah "Water Wells and Springs", <http://NRWRT1.STATE.UT.US>, identifies no public water supply wells within the one-quarter (1/4) mile Area-of-Review (AOR) around the State No. 1-16-9-18.

Technical Publication No. 92: State of Utah, Department of Natural Resources, cites the base of Underground Sources of Drinking Water (USDW) in the Uinta Formation, approximately 500 feet from the surface.

**TABLE 2.4
UNDERGROUND SOURCES OF DRINKING WATER (USDW)
State 1-16-9-18**

Formation Name	Formation Lithology	Top (ft)	Base (ft)	TDS (mg/l)
Uinta	Fluvial sand and shale	0.00	500.00	< 10,000.00

PART III. Well Construction (40 CFR 146.22)

The State No. 1-16-9-18 was drilled to a total depth of 5800 (KB) feet in the Basal Carbonate Member of the Green River Formation.

Surface casing (8-5/8 inch) was set at a depth of 334.15 feet in a 12-1/4 inch hole using 150 sacks of Class "G" cement which was circulated to the surface.

Production casing (5-1/2 inch) was set at a depth of 5733.45 feet (KB) in a 7-7/8 inch hole with 310 sacks of Premium Lite II and 375 sacks of 50/50 poz mix. This well construction is considered adequate to protect USDW's.

The EPA calculates the top of cement as 500 feet from the surface.

The schematic diagram shows the proposed current injection perforations in the Garden Gulch and Douglas Creek Members of the Green River Formation. Additional perforations may be added at a later time between the depths of 3588 feet and the top of the Wasatch Formation (Estimated to be 5816 feet) provided the operator first notifies the Director and later submits an updated well completion report (EPA Form 7520-12) and schematic diagram.

The packer will be required to be set no higher than 100 feet above the top perforation.

TABLE 3.1
WELL CONSTRUCTION REQUIREMENTS
State 1-16-9-18

Casing Type	Hole Size (in)	Casing Size (in)	Cased Interval (ft)	Cemented Interval (ft)
Production	7.88	5.50	0.00 - 5,753.45	1,360.00 - 5,800.00
Surface	12.25	8.63	0.00 - 334.00	0.00 - 334.00

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

Casing and Cementing (TABLE 3.1)

The construction plan for the well or wells proposed for conversion to an injection well was evaluated and determined to be in conformance with standard practices and guidelines that ensure well injection does not result in the movement of fluids into USDWs. Well construction and conversion details for the well or wells are shown in TABLE 3.1.

Tubing and Packer

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

Tubing-Casing Annulus (TCA)

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

The tubing/casing annulus must be kept closed at all times so that it can be monitored as required under the conditions of the Permit.

Monitoring Devices

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

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

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

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

Area Of Review

Applicants for Class I, II (other than "existing" wells) or III injection well Permits are required to identify the location of all known wells within the injection well's Area of Review (AOR) which penetrate the injection zone, or in the case of Class II wells operating over the fracture pressure of the formation, all known wells within the area of review that penetrate formations which may be affected by increased pressure. Under 40 CFR 146.6 the AOR may be a fixed radius of not less than one quarter (1/4) mile or a calculated zone of endangering influence. For Area Permits, a fixed width of not less than one quarter (1/4) mile for the circumscribing area may be used.

Corrective Action Plan

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

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

TABLE 4.1 lists the wells in the AOR, and shows the well type, operating status, depth, top of casing cement and whether a CAP is required for this well.

PART V. Well Operation Requirements (40 CFR 146.23)

TABLE 5.1
INJECTION ZONE PRESSURES
State 1-16-9-18

Formation Name	Depth Used to Calculate MAIP (ft)	Fracture Gradient (psi/ft)	Initial MAIP (psi)
Green River	4,005.00	0.680	980

Approved Injection Fluid

The approved injection fluid is limited to Class II injection well fluids pursuant to 40 CFR § 144.6(b). For disposal wells injecting water brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production, the fluid may be commingled and the well used to inject other Class II wastes such as drilling fluids and spent well completion, treatment and stimulation fluid. Injection of non-exempt wastes, including unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes, is prohibited.

The proposed injectate (TDS 27,999 mg/l) is a blend of Johnson Water District reservoir source water (674 mg/l) and area produced water with TDS of 54,656 mg/l.

Injection Pressure Limitation

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

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

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

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

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

Injection Volume Limitation

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

There will be no restrictions on the cumulative volume of authorized fluid to be injected into the gross authorized interval of 3588 feet to the top of the Wasatch Formation which has been

estimated as 5816 feet.

Mechanical Integrity (40 CFR 146.8)

An injection well has mechanical integrity if:

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

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

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

PART VI. Monitoring, Recordkeeping and Reporting Requirements

Injection Well Monitoring Program

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

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

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

Plugging and Abandonment Plan

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

All cement plugs will be set with tubing.

9.2 ppg plugging gel, or fresh water weighted with bentonite or treated brine will be placed between all cement plugs.

The following Plugging and Abandonment Plan is predicated on the permittee not revising the injection perforations cited on the schematic diagram during construction/conversion. Should the uppermost perforations (4005 feet to 4062 feet) be modified in construction, the EPA will modify the P&A Plan accordingly.

The EPA has modified the P&A Plan submitted by the applicant. Please note that the EPA has modified PLUG NO.2 to include the top of the Green River Formation, and PLUG NO. 3 to protect the base of the Uinta Formation USDW.

PLUG NO. 1: A Cast Iron Bridge Plug (CIBP) at 3910 feet with 100 feet of Class "G" cement on CIBP.

PLUG NO. 2: A Class "G" cement plug from 2000 feet to 2300 feet which will cover both the top of the Green River Formation (2262 feet) as well as over a water zone from 2000 feet to 2200 feet.

PLUG NO. 3: Perforate at 550 feet with 4 JSPF. Circulate Class "G" cement from 550 feet within the 5-1/2 inch casing and up the 5-1/2 inch X 8-5/8 inch annulus. PLUG NO. 3 has been modified to protect the base of USDWs located at 500 feet.

PART VIII. Financial Responsibility (40 CFR 144.52)

Demonstration of Financial Responsibility

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

Financial Statement approved by the EPA on August 2, 2006. The EPA has also approved the estimate of \$33,500 to Plug and Abandon the State No. 1-16-9-18.

Financial Statement, received April 22, 2005

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



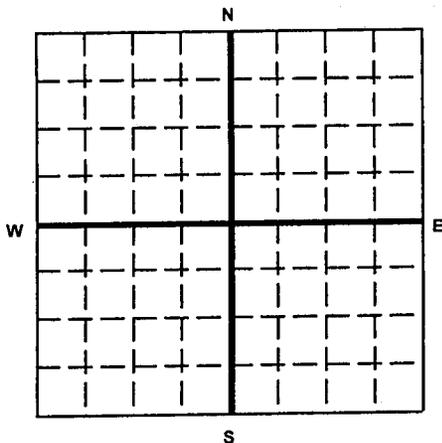
United States Environmental Protection Agency
Washington, DC 20460

Application To Transfer Permit

Name and Address of Existing Permittee

Name and Address of Surface Owner

Locate Well and Outline Unit on
Section Plat - 640 Acres



State _____ County _____ Permit Number _____

Surface Location Description
____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4 of Section ____ Township ____ Range ____

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface
Location ____ ft. frm (N/S) ____ Line of quarter section
and ____ ft. from (E/W) ____ Line of quarter section.

Well Activity	Well Status	Type of Permit
<input type="checkbox"/> Class I	<input type="checkbox"/> Operating	<input type="checkbox"/> Individual
<input type="checkbox"/> Class II	<input type="checkbox"/> Modification/Conversion	<input type="checkbox"/> Area
<input type="checkbox"/> Brine Disposal	<input type="checkbox"/> Proposed	Number of Wells ____
<input type="checkbox"/> Enhanced Recovery		
<input type="checkbox"/> Hydrocarbon Storage		
<input type="checkbox"/> Class III		
<input type="checkbox"/> Other		

Lease Number _____ Well Number _____

Name(s) and Address(es) of New Owner(s)

Name and Address of New Operator

Attach to this application a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.

The new permittee must show evidence of financial responsibility by the submission of a surety bond, or other adequate assurance, such as financial statements or other materials acceptable to the Director.

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Signature

Date Signed

PAPERWORK REDUCTION ACT

The public reporting and record keeping burden for this collection of information is estimated to average 5 hours per response. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

Well Class and Type Code

Class I Wells used to inject waste below the deepest underground source of drinking water.

Type "I" Nonhazardous industrial disposal well
"M" Nonhazardous municipal disposal well
"W" Hazardous waste disposal well injecting below USDWs
"X" Other Class I wells (not included in Type "I," "M," or "W")

Class II Oil and gas production and storage related injection wells.

Type "D" Produced fluid disposal well
"R" Enhanced recovery well
"H" Hydrocarbon storage well (excluding natural gas)
"X" Other Class II wells (not included in Type "D," "R," or "H")

Class III Special process injection wells.

Type "G" Solution mining well
"S" Sulfur mining well by Frasch process
"U" Uranium mining well
"X" Other Class III wells (not included in Type "G," "S," or "U")

Other Classes Wells not included in classes above.
Class V wells which may be permitted under § 144.12
Wells not currently classified as Class I, II, III, or V

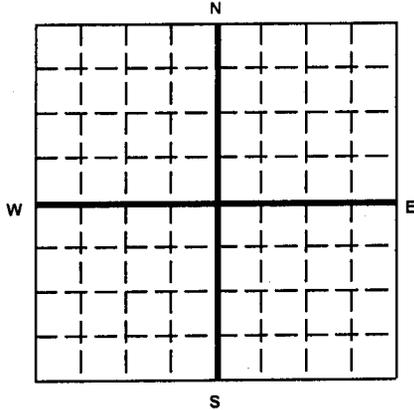


United States Environmental Protection Agency
Washington, DC 20460

**COMPLETION REPORT FOR BRINE DISPOSAL,
HYDROCARBON STORAGE, OR ENHANCED RECOVERY**

Name and Address of Existing Permittee	Name and Address of Surface Owner
--	-----------------------------------

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Surface Location Description ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4 of Section ____ Township ____ Range ____		
Locate well in two directions from nearest lines of quarter section and drilling unit Surface Location ____ ft. frm (N/S) ____ Line of quarter section and ____ ft. from (E/W) ____ Line of quarter section.		
WELL ACTIVITY <input type="checkbox"/> Brine Disposal <input type="checkbox"/> Enhanced Recovery <input type="checkbox"/> Hydrocarbon Storage	TYPE OF PERMIT <input type="checkbox"/> Individual <input type="checkbox"/> Area Number of Wells ____	Estimated Fracture Pressure of Injection Zone
Anticipated Daily Injection Volume (Bbls)		Injection Interval
Average	Maximum	Feet to Feet
Anticipated Daily Injection Pressure (PSI)		Depth to Bottom of Lowest Freshwater Formation (Feet)
Average	Maximum	

Type of Injection Fluid (Check the appropriate block(s)) <input type="checkbox"/> Salt Water <input type="checkbox"/> Brackish Water <input type="checkbox"/> Fresh Water <input type="checkbox"/> Liquid Hydrocarbon <input type="checkbox"/> Other	Lease Name	Well Number
Name of Injection Zone		

Date Drilling Began	Date Well Completed	Permeability of Injection Zone
---------------------	---------------------	--------------------------------

Date Drilling Completed	Porosity of Injection Zone
-------------------------	----------------------------

CASING AND TUBING			CEMENT		HOLE	
OD Size	Wt/Ft - Grade - New or Used	Depth	Sacks	Class	Depth	Bit Diameter

INJECTION ZONE STIMULATION		WIRE LINE LOGS, LIST EACH TYPE	
Interval Treated	Materials and Amount Used	Log Types	Logged Intervals

Complete Attachments A - E listed on the reverse.

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)	Signature	Date Signed
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United States Environmental Protection Agency
Washington, DC 20460

WELL REWORK RECORD

Name and Address of Permittee	Name and Address of Contractor
-------------------------------	--------------------------------

<p>Locate Well and Outline Unit on Section Plat - 640 Acres</p>	State	County	Permit Number
	Surface Location Description ___ 1/4 of ___ 1/4 of ___ 1/4 of ___ 1/4 of Section ___ Township ___ Range ___		
	Locate well in two directions from nearest lines of quarter section and drilling unit Surface Location ___ ft. frm (N/S) ___ Line of quarter section and ___ ft. from (E/W) ___ Line of quarter section.		
	WELL ACTIVITY <input type="checkbox"/> Brine Disposal <input type="checkbox"/> Enhanced Recovery <input type="checkbox"/> Hydrocarbon Storage Lease Name	Total Depth Before Rework Total Depth After Rework Date Rework Commenced Date Rework Completed	TYPE OF PERMIT <input type="checkbox"/> Individual <input type="checkbox"/> Area Number of Wells ___ Well Number

WELL CASING RECORD -- BEFORE REWORK						
Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

WELL CASING RECORD -- AFTER REWORK <i>(Indicate Additions and Changes Only)</i>						
Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

DESCRIBE REWORK OPERATIONS IN DETAIL USE ADDITIONAL SHEETS IF NECESSARY	WIRE LINE LOGS, LIST EACH TYPE	
	Log Types	Logged Intervals

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title <i>(Please type or print)</i>	Signature	Date Signed
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

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NOV 24 2006

DIV. OF OIL, GAS & MINING

SUBJECT: GROUND WATER SECTION GUIDANCE NO. 39

Pressure testing injection wells for Part I (internal) Mechanical Integrity

FROM: Tom Pike, Chief
UIC Direct Implementation Section

TO: All Section Staff
Montana Operations Office

Introduction

The Underground Injection Control (UIC) regulations require that an injection well have mechanical integrity at all times (40 CFR 144.28 (f)(2) and 40 CFR 144.51 (q)(1)). A well has mechanical integrity (40 CFR 146.8) if:

- (1) There is no significant leak in the tubing, casing or packer; and
- (2) There is no significant fluid movement into an underground source of drinking water (USDW) through vertical channels adjacent to the injection wellbore.

Definition: Mechanical Integrity Pressure Test for Part I. A pressure test used to determine the integrity of all the down hole components of an injection well, usually tubing, casing and packer. It is also used to test tubing cemented in the hole by using a tubing plug or retrievable packer. Pressure tests must be run at least once every five years. **If for any reason the tubing/packer is pulled, the injection well is required to pass another mechanical integrity test of the tubing casing and packer prior to recommencing injection regardless of when the last test was conducted. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on either the attached form or an equivalent form containing the necessary information. A pressure recording chart documenting the actual annulus test pressures must be attached to the form.**

This guidance addresses making a determination of Part I of Mechanical Integrity (no leaks in the tubing, casing or packer). The Region's policy is: 1) to determine if there are significant leaks in the tubing, casing or packer; 2) to assure that the casing can withstand pressure similar to that which would be applied if the tubing or packer fails; 3) to make the Region's test procedure consistent with the procedures utilized by other Region VIII Primacy programs; and 4) to provide a procedure which can be easily administered and is applicable to all class I and II wells. Although there are several methods allowed for determining mechanical integrity, the principal method involves running a pressure test of the tubing/casing annulus. Region VIII's procedure for running a pressure test is intended to aid UIC field inspectors who witness pressure tests for the purpose of demonstrating that a well has Part I of Mechanical Integrity. The guidance is also intended as a means of informing operators of the procedures required for conducting the test in the absence of an EPA inspector.

Pressure Test Description

Test Frequency

The mechanical integrity of an injection well must be maintained at all times. Mechanical integrity pressure tests are required at least every five (5) years. If for any reason the tubing/packer is pulled, however, the injection well is required to pass another mechanical integrity test prior to recommencing injection regardless of when the last test was conducted. The Regional UIC program must be notified of the workover and the proposed date of the pressure test. The well's test cycle would then start from the date of the new test if the well passes the test and documentation is adequate. Tests may be required on a more frequent basis depending on the nature of the injectate and the construction of the well (see Section guidance on MITs for wells with cemented tubing and regulations for Class I wells).

Region VIII's criteria for well testing frequency is as follows:

1. Class I hazardous waste injection wells; initially [40 CFR 146.68(d)(1)] and annually thereafter;
2. Class I non-hazardous waste injection wells; initially and every two (2) years thereafter, except for old permits (such as the disposal wells at carbon dioxide extraction plants which require a test at least every five years);
3. Class II wells with tubing, casing and packer; initially and at least every five (5) years thereafter;
4. Class II wells with tubing cemented in the hole; initially and every one (1) or two (2) years thereafter depending on well specific conditions (See Region VIII UIC Section Guidance #36);
5. Class II wells which have been temporarily abandoned (TAd) must be pressure tested after being shut-in for two years; and
6. Class III uranium extraction wells; initially.

Test Pressure

To assure that the test pressure will detect significant leaks and that the casing is subjected to pressure similar to that which would be applied if the tubing or packer fails, the tubing/casing annulus should be tested at a pressure equal to the maximum allowed injection pressure or 1000 psig whichever is less. The annular test pressure must, however, have a difference of at least 200 psig either greater or less than the injection tubing pressure. Wells which inject at pressures of less than 300 psig must test at a minimum pressure of 300 psig, and the pressure difference between the annulus and the injection tubing must be at least 200 psi.

Test Criteria

1. The duration of the pressure test is 30 minutes.
2. Both the annulus and tubing pressures should be monitored and recorded every five (5) minutes.
3. If there is a pressure change of 10 percent or more from the initial test pressure during the 30 minute duration, the well has failed to demonstrate mechanical integrity and should be shut-in until it is repaired or plugged.
4. A pressure change of 10 percent or more is considered significant. If there is no significant pressure change in 30 minutes from the time that the pressure source is disconnected from the annulus, the test may be completed as passed.

Recordkeeping and Reporting

The test results must be recorded on the attached form. The annulus pressure should be recorded at five (5) minute intervals. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on the attached form or an equivalent form and a pressure recording chart documenting the actual annulus test pressures must be attached to the submittal. The tubing pressure at the beginning and end of each test must be recorded. The volume of the annulus fluid bled back at the surface after the test should be measured and recorded on the form. This can be done by bleeding the annulus pressure off and discharging the associated fluid into a five gallon container. The volume information can be used to verify the approximate location of the packer.

Procedures for Pressure Test

1. Scheduling the test should be done at least two (2) weeks in advance.
2. Information on the well completion (location of the packer, location of perforations, previous cement work on the casing, size of casing and tubing, etc.) and the results of the previous MIT test should be reviewed by the field inspector in advance of the test. Regional UIC Guidance #35 should also be reviewed. Information relating to the previous MIT and any well workovers should be reviewed and taken into the field for verification purposes.
3. All Class I wells and Class II SWD wells should be shut-in prior to the test. A 12 to 24-hour shut-in is preferable to assure that the temperature of the fluid in the wellbore is stable.
4. Class II enhanced recovery wells may be operating during the test, but it is recommended that the well be shut-in if possible.
5. The operator should fill the casing/tubing annulus with inhibited fluid at least 24 hours in advance, if possible. Filling the annulus should be undertaken through one valve with the second valve open to allow air to escape. After the operator has filled the annulus, a check should be made to assure that the annulus will remain full. If the annulus can not maintain a full column of fluid, the operator should notify the Director and begin a rework. The operator should measure and report the volume of fluid added to the annulus. If not already the case, the casing/tubing valves should be closed, at least, 24 hours prior to the pressure test.

Following steps are at the well:
6. Read tubing pressure and record on the form. If the well is shut-in, the reported information on the actual maximum operating pressure should be used to determine test pressures.
7. Read pressure on the casing/tubing annulus and record value on the form. If there is pressure on the annulus, it should be bled off prior to the test. If the pressure will not bleed-off, the guidance on well failures (Region VIII UIC Section Guidance #35) should be followed.
8. Ask the operator for the date of the last workover and the volume of fluid added to the annulus prior to this test and record information on the form.
9. Hook-up well to pressure source and apply pressure until test value is reached.
10. Immediately disconnect pressure source and start test time (If there has been a significant drop in pressure during the process of disconnection, the test may have to be restarted). The pressure gages used to monitor injection tubing pressure and annulus pressure should have a pressure range which will allow the

test pressure to be near the mid-range of the gage. Additionally, the gage must be of sufficient accuracy and scale to allow an accurate reading of a 10 percent change to be read. For instance, a test pressure of 600 psi should be monitored with a 0 to 1000 psi gage. The scale should be incremented in 20 psi increments.

11. Record tubing and annulus pressure values every five (5) minutes.
12. At the end of the test, record the final tubing pressure.
13. If the test fails, check the valves, bull plugs and casing head close up for possible leaks. The well should be retested.
14. If the second test indicates a well failure, the Region should be informed of the failure within 24 hours by the operator, and the well should be shut-in within 48 hours per Headquarters guidance #76. A follow-up letter should be prepared by the operator which outlines the cause of the MIT failure and proposes a potential course of action. This report should be submitted to EPA within five days.
15. Bleed off well into a bucket, if possible, to obtain a volume estimate. This should be compared to the calculated value obtained using the casing/tubing annulus volume and fluid compressibility values.
16. Return to office and prepare follow-up.

Alternative Test Option

While it is expected that the test procedure outlined above will be applicable to most wells, the potential does exist that unique circumstances may exist for a given well that precludes or makes unsafe the application of this test procedure. In the event that these exceptional or extraordinary conditions are encountered, the operator has the option to propose an alternative test or monitoring procedures. The request must be submitted by the operator in writing and must be approved in writing by the UIC-Implementation Section Chief or equivalent level of management.

Attachment

FCD:September 27,1995/p.s.osborne/hms/k:\guidance.39

Mechanical Integrity Test
 Casing or Annulus Pressure Mechanical Integrity Test
 U.S. Environmental Protection Agency
 Underground Injection Control Program
 999 18th Street, Suite 500 Denver, CO 80202-2466

EPA Witness:

Date: _____ / _____ / _____

Test conducted by: _____

Others present:

Well Name: _____	Type: ER	SWD Status: AC	TA	UC
Field: _____	Location: _____	Sec: _____	T _____	N / S R _____ E / W
County: _____	State: _____			
Operator: _____				
Last MIT: _____ / _____ / _____	Maximum Allowable Pressure: _____			PSIG

Is this a regularly scheduled test? Yes No

Initial test for permit? Yes No

Test after well rework? Yes No

Well injecting during test? Yes No If Yes, rate: _____ bpd

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING PRESSURE			
Initial Pressure	psig		
End of test	psig	psig	psig
CASING / TUBING ANNULUS PRESSURE			
0 minutes	psig	psig	psig
5 minutes	psig	psig	psig
10 minutes	psig	psig	psig
15 minutes	psig	psig	psig
20 minutes	psig	psig	psig
25 minutes	psig	psig	psig
30 minutes	psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? Yes No



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

999 18TH STREET- SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
<http://www.epa.gov/region08>

RECEIVED

NOV 24 2006

DIV. OF OIL, GAS & MINING

SUBJECT: GROUND WATER SECTION GUIDANCE NO. 35
Procedures to follow when excessive annular pressure is observed on a well.

FROM: Tom Pike, Chief
UIC Direct Implementation Section

TO: All Section Staff
Montana Operations Office

The following procedure is intended as an aid to UIC field inspectors when they encounter excessive annular pressure on a well. Excessive annular pressure is defined as 100 psi or 10% of the tubing pressure, whichever is less.

Usually, annular pressure is a direct indication of a loss of mechanical integrity. In some instances, recurring annular pressure may be caused by fluctuations in the temperature of the injected fluid. These temperature fluctuations may cause the annular pressure to increase when a hot fluid is being injected and decrease as the temperature of the injected fluid cools. The presence of temperature-induced pressure on the annulus does not indicate a malfunction in the casing/tubing/packer system and is not considered a loss of mechanical integrity. Wells exhibiting recurring temperature-induced annular pressure may be allowed to continue injecting if a temperature monitoring program is approved and followed.

This guidance was written to help determine the cause of annular pressure. When the procedures in this guidance are followed, any major mechanical integrity problems (a breach in the casing/tubing/packer system) will become apparent quickly. A quick determination will allow the operator to begin follow-up procedures immediately to prevent contamination to USDWs.

Use Section Guidance No. 35 to determine if the well has experienced a loss of mechanical integrity. If you find that there is a loss of mechanical integrity, use *Headquarters Guidance No. 76. - Follow-up to loss of Mechanical Integrity for Class II Wells* to bring the well back into compliance. The use of Section Guidance No. 35 is not to be confused with, nor does it supersede any provision of Headquarters Guidance No. 76. Instead, the two guidance documents are meant to work together to identify and to remedy any potential mechanical integrity failure.

A flowchart for Section Guidance No. 35 is included for quick reference in the field.

PROCEDURES TO FOLLOW WHEN EXCESSIVE ANNULAR PRESSURE IS OBSERVED

During field inspections, the following procedures should be followed when excessive annular pressure is observed. Excessive annular pressure is defined as 100 psi or 10% of the tubing pressure, whichever is less.

<p><u>See If Pressure Returns Within 15 Minutes</u></p>	<p>Continue to monitor the well for annulus pressure return for at least 15 minutes after the annulus valve is closed.</p>	
<p><u>Does Pressure Return to the Annulus after 15 Minutes?</u></p>	<p align="center"><u>YES</u></p> <p>On your inspection form, note the annulus and tubing pressures recorded after 15 minutes.</p> <p>Have the operator shut the well in for 2 hours, and if possible, bleed pressure from the injection tubing. Record the tubing and annulus pressure after two hours.</p> <p>Bleed off the annulus for 60 seconds. Record the tubing and annulus pressures after bleed-off, and estimate the volume bled off.</p> <p>INFORM THE OPERATOR THAT THE WELL HAS AN APPARENT MECHANICAL INTEGRITY FAILURE and provide the operator with the guidance that discusses OPERATOR RESPONSIBILITIES FOLLOWING MECHANICAL INTEGRITY FAILURES.</p> <p>END PROCEDURE.</p>	<p align="center"><u>NO</u></p> <p>Require the operator to monitor and report to EPA with the annulus and tubing pressures for at least 14 days to see if pressure returns to the annulus.</p> <p>Instruct the operator to contact EPA as soon as any pressure returns to the annulus.</p>
<p><u>DOES PRESSURE RETURN TO THE ANNULUS WITHIN 14 DAYS?</u></p>	<p align="center"><u>YES</u></p> <p>EPA Technical Expert will design a proper Mechanical Integrity test.</p> <p>Compliance officer will require the operator to conduct the test within 14 days.</p>	<p align="center"><u>NO</u></p> <p>The well is considered to have mechanical integrity.</p> <p>END PROCEDURE.</p>

<u>Note Conditions at the Well</u>	Note tubing and annular pressure readings, and the operating status of the well (injecting, shut-in, etc.) on the UIC inspection form.	
<u>See If Annulus Pressure Will Bleed-off</u>	Attempt to bleed the pressure from the annulus by having the operator open the annulus (for a maximum of sixty seconds). It is the operator's responsibility to collect and dispose of any fluids bled from the annulus.	
<u>Did the Annular Pressure Bleed to 0 Psi Within Sixty Seconds?</u>	<p style="text-align: center;"><u>YES</u></p> <p>Have the operator close the annulus.</p> <p>On your inspection form note the volume of fluid (or gas) bled from the annulus during the sixty seconds, and the tubing and annulus pressures.</p>	<p style="text-align: center;"><u>NO</u></p> <p>Have the operator close the annulus.</p> <p>On your inspection form note the volume of fluid (or gas) bled from the annulus during the sixty seconds, and the tubing and annulus pressures.</p> <p>Have the operator shut the well in for 2 hours, and if possible, bleed pressure from the injection tubing. Record the tubing and annulus pressure after two hours.</p> <p>Bleed off the annulus for 60 seconds. Record the tubing and annulus pressures after bleed-off, and estimate the volume bled off.</p> <p>INFORM THE OPERATOR THAT THE WELL HAS AN APPARENT MECHANICAL INTEGRITY FAILURE and provide the operator with the guidance that discusses OPERATOR RESPONSIBILITIES FOLLOWING MECHANICAL INTEGRITY FAILURES.</p> <p>END PROCEDURE.</p>

14-DAY PRESSURE MONITORING

Please use this form to report data for a 14-day period after pressure is bled from the tubing-casing annulus. Please telephone EPA in Denver as soon as possible when/if pressure returns to the annulus. This data will be used to determine the cause(s) of recurrent annular pressure.

NOTE: DO NOT BLEED PRESSURE FROM ANNULUS DURING THE 14-DAY MONITORING PERIOD.

	DATE	TIME	ANNULUS PRESSURE (psi)	TUBING PRESSURE (psi)	WELL INJECTING (YES/NO)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

WELL NAME: _____

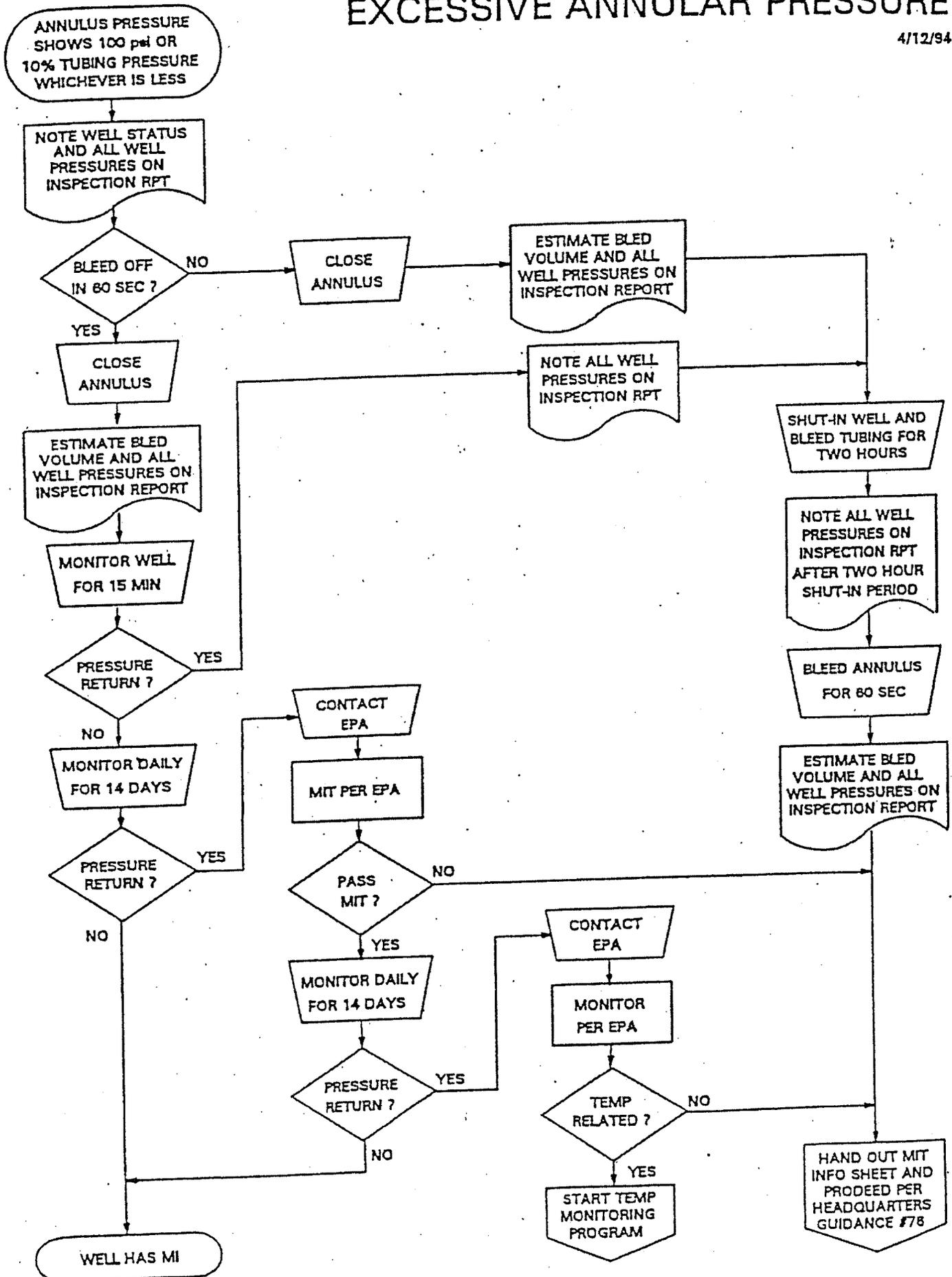
OPERATOR: _____

SIGNATURE: _____

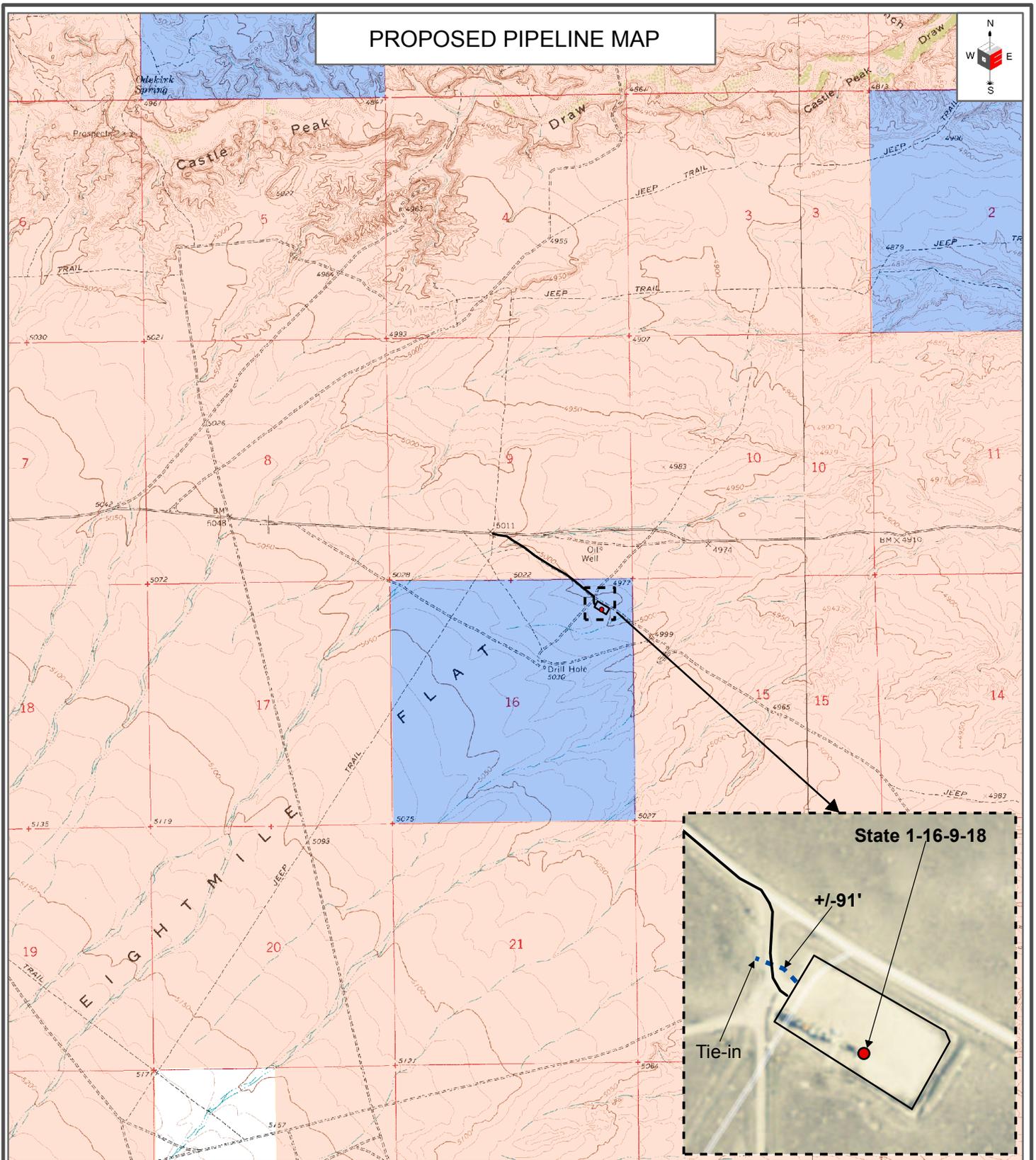
DATE: _____

EXCESSIVE ANNULAR PRESSURE

4/12/94



STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-48378
1. TYPE OF WELL Oil Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: NEWFIELD PRODUCTION COMPANY		7. UNIT or CA AGREEMENT NAME: GMBU (GRRV)
3. ADDRESS OF OPERATOR: 1001 17th Street, Suite 2000 , Denver, CO, 80202		8. WELL NAME and NUMBER: STATE 1-16-9-18
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0692 FNL 0672 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENE Section: 16 Township: 09.0S Range: 18.0E Meridian: S		9. API NUMBER: 43047358110000
PHONE NUMBER: 303 382-4443 Ext		9. FIELD and POOL or WILDCAT: 8 MILE FLAT NORTH
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 10/15/2014 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
		<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input type="text" value="Pipeline Installation"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Newfield would like to install a buried 3" Flex-steel Pipe for purposes of water injection to the 1-16-9-18 totaling 91 feet in length. Reclamation activities would commence after construction activities were complete.		
		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 18, 2014
NAME (PLEASE PRINT) Jill L Loyle	PHONE NUMBER 303 383-4135	TITLE Regulatory Technician
SIGNATURE N/A		DATE 8/6/2014



<p>LEGEND</p> <ul style="list-style-type: none"> ● Well Head Location — — — Proposed Approx. Waterline Existing Access Road Existing Well Pad 	<p>Ownership</p> <ul style="list-style-type: none"> Federal Private State Tribal 		<p>STATE 1-16-9-18 ON STATE GROUND SEC. 16, T9S, R18E, S.L.B.&M. UINTAH COUNTY, UT.</p>					
<p>NO BOUNDARY SURVEY HAS BEEN PERFORMED BY OUTLAW ENGINEERING ON THE ABOVE PARCELS OF GROUND. OUTLAW DOES NOT WARRANT ANY PROPERTY PARCEL DATA OR ANY ASSOCIATED INFORMATION.</p>	<p>OUTLAW ENGINEERING INC. P.O. BOX 1800 ROOSEVELT, UTAH 84066 (435) 232-4321</p>	<p>TOPOGRAPHIC MAP</p> <table border="1"> <tr><td>DATE SURVEYED: OCT 30, 2013</td></tr> <tr><td>SURVEYED BY: CW</td></tr> <tr><td>SCALE: N.T.S.</td></tr> <tr><td>DRAWN: NOVEMBER 13, 2013</td></tr> <tr><td>DRAWN BY: BWH</td></tr> </table>	DATE SURVEYED: OCT 30, 2013	SURVEYED BY: CW	SCALE: N.T.S.	DRAWN: NOVEMBER 13, 2013	DRAWN BY: BWH	<p>SHEET D</p>
DATE SURVEYED: OCT 30, 2013								
SURVEYED BY: CW								
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DRAWN: NOVEMBER 13, 2013								
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GARY R. HERBERT
Governor

SPENCER J. COX
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

November 28, 2016

CERTIFIED MAIL NO.: 7015 0640 0003 5276 0440

43 047 35811
State 1-16-9-18
16 95 18E

Mr. Kirby Carroll
Newfield Production Company
1001 17th Street, STE 2000
Denver, CO 80202

Subject: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases

Dear Mr. Carroll:

As of August 2016, Newfield has thirty-two (32) State and Fee Lease Wells (see attachment A) that are currently in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status.

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

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

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

Page 2
Newfield Production Company
November 28, 2016

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

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

All Submittals should be sent via ePermit

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

Sincerely,



Dustin K. Doucet
Petroleum Engineer

DKD/DD/js

cc: Compliance File
Well File
LaVonne Garrison, SITLA

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

ATTACHMENT A

	Well Name	API	LEASE	Years.Months Inactive
1	GMBU 2-16-9-18H	43-047-52013	ML-48378	4.4
2	Gulf State 36-13	43-047-31345	ML-22057	9.2
3	Moon 3-20-4-2	43-013-50007	Fee	3.5
4	S Mon Butte ST P-2-9-16	43-013-50118	ML-21839	3.6
5	State 3-16-9-18	43-047-35813	ML-48378	3.5
6	Wells Draw ST 7-36	43-013-30934	ML-21835	3.4
7	Prewitt 10-24	43-013-31865	Fee	3.2
8	W Draw ST N-32-8-16	43-013-34146	ML-45555	2.4
9	Wells Draw 2-32-8-16	43-013-32220	ML-21836	2.3
10	GMBU N-2-9-15	43-013-50910	ML-43538	2.2
11	GMBU M-2-9-15	43-013-50909	ML-43538	2.1
12	Moon 1-29-4-2	43-013-50006	Fee	2.0
13	Moon 1-20-4-2	43-013-50008	Fee	2.0
14	State 1-36-8-15	43-013-34234	ML-21835	2.5
15	Ashley ST 6-2-9-15	43-013-32584	ML-43538	1.10
16	Allen Trust 2-24	43-013-31944	Fee	1.9
17	Lamb 4-34-4-1E	43-047-40272	Fee	1.5
18	Wells Draw 4-32-8-16	43-013-32222	ML-21836	1.8
19	Greater Mon Butte T-36-8-16	43-013-50211	ML-22061	1.8
20	Williams #14-8-4-2	43-013-50617	Fee	1.8
21	Hancock 11-21-4-1	43-013-33242	Fee	1.5
22	Malnar 9-19-4-1	43-013-33913	Fee	1.2
23	Hancock 16-20-4-1	43-013-33914	Fee	1.0
24	State 12-36-8-15	43-013-34224	ML-21835	2.1
25	State 4-36-8-15	43-013-34231	ML-21835	1.4
26	Roberts 4-19-4-1	43-013-50072	Fee	1.1
27	Mon Butte East K-36-8-16	43-013-50112	ML-22061	1.1
28	S Mon Butte ST N-2-9-16	43-013-50117	ML-21839	1.4
29	Wilcken 16-23-4-2	43-013-50304	Fee	1.0
30	Hancock 12-7-4-1W	43-013-50422	Fee	1.3
→ 31	State 1-16-9-18	43-047-35811	ML-48378	1.6
32	Lamb 1-34-4-1E	43-047-40275	Fee	1.1



GARY R. HERBERT
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SPENCER J. COX
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 14, 2016

CERTIFIED MAIL NO.: 7015 0640 0003 5276 0525

Ms. Assiya Bekniyazova
Newfield Production Company
4 Waterway Square PL, STE 100
The Woodlands, TX 77380

43 047 35811
State 1-16-9-18
16 95 18E

Subject: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases

Dear Ms. Bekniyazova:

As of August 2016, Newfield has thirty-two (32) State and Fee Lease Wells (see attachment A) that are currently in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status.

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

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

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



Page 2
Newfield
December 14, 2016

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

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
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Sincerely,



Dustin K. Doucet
Petroleum Engineer

DKD/DD/js

cc: Compliance File
Well File
LaVonne Garrison, SITLA

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

ATTACHMENT A

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10	GMBU N-2-9-15	43-013-50910	ML-43538	2.2
11	GMBU M-2-9-15	43-013-50909	ML-43538	2.1
12	Moon 1-29-4-2	43-013-50006	Fee	2.0
13	Moon 1-20-4-2	43-013-50008	Fee	2.0
14	State 1-36-8-15	43-013-34234	ML-21835	2.5
15	Ashley ST 6-2-9-15	43-013-32584	ML-43538	1.10
16	Allen Trust 2-24	43-013-31944	Fee	1.9
17	Lamb 4-34-4-1E	43-047-40272	Fee	1.5
18	Wells Draw 4-32-8-16	43-013-32222	ML-21836	1.8
19	Greater Mon Butte T-36-8-16	43-013-50211	ML-22061	1.8
20	Williams #14-8-4-2	43-013-50617	Fee	1.8
21	Hancock 11-21-4-1	43-013-33242	Fee	1.5
22	Malnar 9-19-4-1	43-013-33913	Fee	1.2
23	Hancock 16-20-4-1	43-013-33914	Fee	1.0
24	State 12-36-8-15	43-013-34224	ML-21835	2.1
25	State 4-36-8-15	43-013-34231	ML-21835	1.4
26	Roberts 4-19-4-1	43-013-50072	Fee	1.1
27	Mon Butte East K-36-8-16	43-013-50112	ML-22061	1.1
28	S Mon Butte ST N-2-9-16	43-013-50117	ML-21839	1.4
29	Wilcken 16-23-4-2	43-013-50304	Fee	1.0
30	Hancock 12-7-4-1W	43-013-50422	Fee	1.3
→ 31	State 1-16-9-18	43-047-35811	ML-48378	1.6
32	Lamb 1-34-4-1E	43-047-40275	Fee	1.1