

## APPENDIX B

### OIL AND GAS LEASING AND DEVELOPMENT

#### INTRODUCTION

This appendix describes the oil and gas leasing and development program in the planning area. In particular it contains the reasonable foreseeable development (RFD) for oil and gas and the stipulations that would be applied under each alternative. The first part of the appendix is the RFD followed by the stipulations that would apply under the alternatives.

#### STIPULATION SUMMARY

Alternative A would apply the standard oil and gas lease stipulations (Form MT-3109-1). Alternative B would only apply the standard terms and conditions which apply to all federal leases under all the alternatives (Federal Onshore Oil and Gas Leasing Reform Act of 1987, existing Notice to Lessees, Onshore Orders and regulations). Alternative C would apply the BLM Montana oil and gas stipulations (IM MT-90-220, Change 2). Alternative D would apply the BLM Montana oil and gas stipulations but would include a No Surface Occupancy (NSO) restriction for wildlife protection rather than a seasonal or distance stipulation. Alternative E, the Preferred Alternative, would apply the BLM Montana oil and gas stipulations with the following exceptions:

##### 1) Grouse Leks and Grouse Nesting Zone

A. Grouse Leks: No Surface Occupancy for the lek (1/4 acre) rather than No Surface Occupancy within 1/4 mile of the lek.

B. Grouse Nesting Zone: Seasonal restriction on exploration from March 15 to June 15, for a distance of 1/4 mile from lek rather than surface use prohibited from March 1 to June 15 within 2 miles of a lek.

This stipulation provides protection for the lek and surrounding habitat during the period when grouse activity is occurring. The use of this time and distance requirement has worked well in the past, allowing for short-duration drilling while protecting important grouse habitat. Use of this level of protection for ten years has demonstrated that stipulations that are more restrictive or cover larger areas are not necessary to protect the species.

2) Designated Black-footed Ferret Reintroduction Areas: Controlled surface use for prairie dog towns within designated black-footed ferret areas.

The purpose of this stipulation is to preserve the prairie dog towns where the black-footed ferret would be reintroduced. The revised stipulation is an acceptable level of protection. It is preferable to NSO stipulations for the entire 7km Complex rather than the prairie dog towns. The actual towns, while much smaller than the 7km Complex, are fully adequate for ferret populations.

3) Ferruginous Hawks: Surface use is prohibited from March 1 to August 1, within 1/2 mile of raptor nest sites which have been active within the last 2 years rather than surface occupancy and use prohibited all year.

The revised stipulation is consistent with the guidelines used in the West Hilline and Headwaters RMPs which border the planning area on the North and West making its use uniform throughout the Lewistown District. This stipulation can be implemented at the time of an onsite inspection for drilling permits and sundry notices which involve surface disturbance activity which would be disruptive to the nesting species. A stipulation which addresses occupied nests is more easily documented as to species and duration of use.

The historical activity in the planning area, associated with oil and gas exploration and development, involves shallow wells with small areas of surface disturbance and lasting for short duration. The proposed stipulation would afford adequate protection to the species.

4) VRM Class III and IV Areas: Standard terms and conditions would apply (200 meters or 60 days) rather than requirements for special design including location, painting and camouflage to blend with the natural surroundings. Painting

requirements are part of routine conditions of approval for drilling permits.

5) Cultural Resources (Notice): The guidance would follow NTL-MSO-85-1 rather than an additional Notice on inventory requirements.

This would be consistent with the present Montana guidance for cultural resource protection related to oil and gas operations (NTL-MSO-85-1).

The stipulations under each alternative are summarized in Table B.1.

Each stipulation also includes waivers, exceptions and modifications. The definitions for waivers, exceptions and modifications are as follows:

**Waiver** - The lifting of a stipulation from a lease which constitutes a permanent revocation of the stipulation from that time forward. This is usually a substantial change and requires a 30 day posting of the action for public involvement before the permitting activity associated with the process can be approved.

**Exception** - This is a one time lifting of the stipulation to allow a permitting activity for a specific proposal. It has no permanent effect on the lease stipulation and would not constitute a substantial change to the stipulation and requires no posting.

**Modification** - This is a change to a stipulation which either temporarily suspends the stipulation requirement or permanently lifts the application of the stipulation on a given portion of the lease. It may or may not require posting based on whether or not the change is determined to be substantial by the authorized officer.

**TABLE B.1  
SUMMARY OF OIL AND GAS STIPULATIONS**

	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Grouse Lek	500 feet NSO	200 Meters or 60 Days*	¼ Mile NSO Lek	¼ Mile NSO Lek	¼ Acre NSO Lek 3/15 to 6/15 for ¼ Mile around the lek for nesting
Grouse Nest	3/1 to 6/30 timing for nest	200 Meters or 60 Days	3/1 to 6/15 2 Mile timing	3/1 to 6/15 2 Mile NSO	See Grouse Lek
Raptor Nests	3/1 to 8/1 ¼ Mile timing	200 Meters or 60 Days	3/1 to 8/1 ¼ Mile timing Drilling	3/1 to 8/1 ¼ Mile timing Drilling	3/1 to 8/1 ¼ Mile NSO Drilling
Ferret	¼ Mile from T&E Habitat	200 Meters or 60 Days	NSO for Complex 1 & Complex 2	NSO for the 7km Complex	Controlled surface use for Prairie Dog Towns within the 7km Complex
Prairie Dog	T&E Species Consultation	200 Meters or 60 Days	Ferret Inventory	Ferret Inventory	200 Meter or 60 Days
Least Tern	¼ Mile from T&E Habitat	200 Meters or 60 Days	¼ Mile NSO	¼ Mile NSO	¼ Mile NSO
Piping Plover	¼ Mile from T&E Habitat	200 Meters or 60 Days	¼ Mile NSO	¼ Mile NSO	¼ Mile NSO
Peregrine Falcon	¼ Mile from T&E Habitat	200 Meters or 60 Days	1 Mile NSO	1 Mile NSO	1 Mile NSO
Ferruginous Hawk	¼ Mile from T&E Habitat	200 Meters or 60 Days	¼ Mile NSO	¼ Mile NSO	see Raptor Nests

**TABLE B.1 (continued)  
SUMMARY OF OIL AND GAS STIPULATIONS**

	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Crucial Winter Range	12/1 to 5/15 Timing Drilling**	200 Meters or 60 Days	12/1 to 3/31 Timing Drilling	NSO	12/1 to 3/31 Timing Drilling
Bald Eagle	¼ Mile from T&E Habitat	200 Meters or 60 Days	¼ Mile NSO	¼ Mile NSO	¼ Mile NSO
Fishing Reservoirs	500 feet NSO	200 Meters or 60 Days	¼ Mile NSO	¼ Mile NSO	¼ Mile NSO
Riparian/ Hydrology	200 Meters or 60 Days	200 Meters or 60 Days	NSO for sites	NSO for Sites	NSO for Sites
Soils	NSO Wet Periods	200 Meters or 60 Days	30% Slope Reclamation Plan	30% Slope Reclamation Plan	30% Slope Reclamation Plan
Land Uses (R&PP/leases)	200 Meters or 60 Days	200 Meters or 60 Days	NSO	NSO	NSO
Recreation	300 feet NSO	200 Meters or 60 Days	NSO for Sites	NSO for Sites	NSO for Sites
VRM Class I	Special Design	200 Meters or 60 Days	NSO	NSO	NSO
VRM Class II	Special Design	200 Meters or 60 Days	Special Design	Special Design	Special Design
VRM Class III-IV	Special Design	200 Meters or 60 Days	Special Design	Special Design	200 Meters or 60 Days
Cultural Resources	Inventory Required	200 Meters or 60 Days	NSO for Sites	NSO for Sites	NSO for Sites
Cultural Notice	Inventory Required	200 Meters or 60 Days	Inventory Required	Inventory Required	Inventory Required
Paleontology	Inventory Required	200 Meters or 60 Days	NSO for Site	NSO for Site	NSO for Site

\* 200 Meters is approximately 656 feet

\*\* NSO applies all year to one area of elk winter range in the Valley RA.

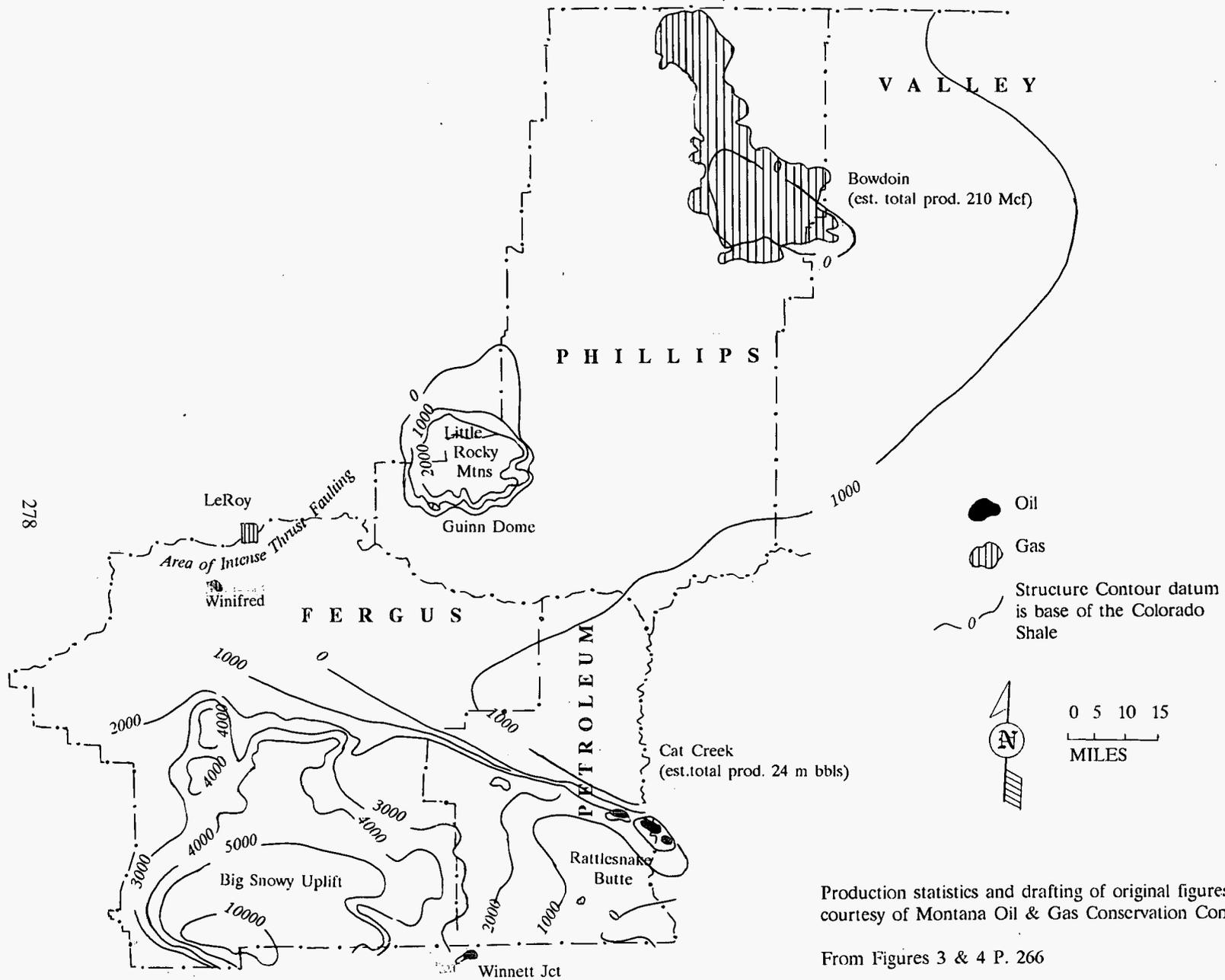
Source: BLM, 1990

## **REASONABLY FORESEEABLE DEVELOPMENT OF OIL AND GAS**

This section presents an in-depth description of oil and gas leasing and development within the planning area. The purpose is to describe past, current and future oil and gas activity. There are two separate regions of the planning area which have on-going oil and gas activity (see Figure B.1). One region is primarily shallow gas, and the other, has both shallow gas and oil production. In terms of both quantity produced, and number of wells, shallow gas is predominantly the resource developed to date. The area also has some history of exploration by isolated wildcat wells drilled to evaluate deeper zones, but as of yet, none of these efforts have been successful in the planning area.

Production in the Phillips and Valley RAs is exclusively gas from the Bowdoin Dome Area where the average depth of production is about 1,500 feet. The Judith RA production has both gas from the Leroy Field in Fergus County and oil from two fields in eastern Petroleum County. The depth of the production ranges from 1,800 feet for gas to a maximum of 3,400

Figure B.1. Oil and Gas Fields in the Judith Valley Phillips Planning Area.



Production statistics and drafting of original figures courtesy of Montana Oil & Gas Conservation Commission.

From Figures 3 & 4 P. 266

Source: Geologic Atlas of the Rocky Mountain Region  
United States of America. Rocky Mountain  
Association of Geologists Denver Colorado, 1972.

feet for oil.

## **Oil and Gas Leasing**

The Mineral Leasing Act of 1920 (as amended), provides that all public lands be open to oil and gas leasing unless a specific land order has been issued to close the area. Through the land use planning process, the availability of the public land for leasing is analyzed, taking into consideration development potential and surface resources. Constraints on oil and gas operations are identified and placed in the leases as stipulations. Oil and Gas leases are then issued from the Montana State Office in Billings.

The issuance of a lease conveys to the lessee authorization to actively explore and/or develop the lease, in accordance with the attached stipulations and the standard terms outlined in the Federal Onshore Oil and Gas Leasing Reform Act (FOOGLRA). Restrictions on oil and gas activities in the planning area will take the form of timing and/or distance restrictions or No Surface Occupancy stipulations used at the discretion of the authorized officer to protect identified surface resources of special concern.

There will be three sources of these restrictions. The first are those contained in the lease (see Attachment B.1). The second are those contained in FOOGLRA and Notice to Lessees (NTL) specific to Montana. The third are those developed through site specific NEPA analysis of proposed activity and attached as Conditions of Approval to the permit issued by the authorized officer (see Attachment B.2).

In addition to restrictions related to the protection of surface resources the various stipulations could contain requirements related to protection of mineral resources on the lease. These may involve drainage protection of hydrocarbon zones, protection of aquifers from contamination or assumption of responsibility for any unplugged wells on the lease.

Stipulations will be attached to each lease before it is offered for sale by the field office which reviews the lease tract. The review will be conducted by consulting the direction given in this resource management plan. In addition, certain areas may be subject to stipulations based on Montana State policy guidance derived from NTLs. Every attempt will be made to place stipulations in the lease and to minimize use of Standard Conditions of Approval attached to the site specific permit. Within the RMP area there are about 34,413 acres of land managed by the Bureau of Reclamation associated with various projects in Phillips and Valley Counties. Oil and Gas lease stipulations for these lands will be attached after that agency reviews the lease. (see Attachment B.3)

All federal lessees or operators are required to follow procedures set forth by: Onshore Oil and Gas Orders (1 through 8), NTL's, the Federal Oil and Gas Royalty Management Act (as amended), the Federal Onshore Oil and Gas Leasing Reform Act and Title 43 Code of Federal Regulations, Part 3100.

In addition to federal leasing, the BLM assists the Bureau of Indian Affairs (BIA) through a Memorandum of Understanding in issuance of oil and gas leases on allotted and tribal Indian lands. The Fort Belknap Indian Reservation is adjacent to the planning area in the western portion of Phillips County. There are no currently active leases within the boundaries of this reservation. However, there are active leases on some scattered allotted Indian tracts of the Turtle Mountain Tribe which are administered by the Fort Belknap Agency of the BIA. The leasing process for Indian lands in the planning area involves the BLM State Office and the BIA Area Office both located in Billings Montana. BIA conducts the lease sales and issues the leases under the provisions of Title 25 CFR. BLM input to leasing is limited to an economic evaluation which recommends a minimum bid. All lease stipulations concerning surface resource protection are handled by the BIA. Title 25 CFR defers post leasing regulation to Title 43 CFR which applies to Indian lands as well as federal lands. The same procedures, which apply to federal leases, apply to oil and gas operators and lessees conducting exploration and development of Indian leases.

## **Oil and Gas Operations**

### Geophysical Exploration

Within the planning area Notices to conduct geophysical operations on BLM surface are received by the appropriate resource area office. Administration and surface protection are accomplished through close cooperation of the operator and the BLM. The Notice of Intent to Conduct Geophysical Exploration (Form 3150-4) is filed for all geophysical activities on public lands

administered by BLM. The Notice includes maps showing the location of the activity and access routes, anticipated surface disturbance and time frames for operations. Before the activity is allowed to proceed the Resource Area Office insures that the Operator is bonded and that any necessary mitigation measures are conveyed to the Operator via Form 3150-4a (Terms and Conditions for Notice of Intent). The Authorized Officer may require an onsite prework conference and conduct periodic compliance inspections during the activity. When Geophysical operations have been completed, the operator files a Notice of Completion (NOC), on Form 3150-5. The operator must include a field map showing actual line locations and access routes and certify that all terms and conditions of the approved Notice of Intent have been complied with. The BLM has 30 days from the filing of the NOC to notify the operator whether rehabilitation is satisfactory, or additional rehabilitation is necessary. Bonding liability will automatically terminate unless the AO notifies the operator of the need for additional rehabilitation within 90 days of the filing of the NOC.

Notices have a sporadic history in the planning area. In the early 1980's the Judith RA averaged four per year, Valley RA six per year and Phillips RA 10 per year. It is anticipated that activity will return to this level during the life of this plan. Geophysical exploration activity is an indirect method used to find areas where oil and gas might occur. In areas where more direct methods such as well log analysis, drill core analysis and subsurface structural mapping are available Geophysical exploration is not as heavily used. The areas where drilling has resulted in discovery of oil and gas in the past are not likely to be as active as wildcat areas where discoveries have not been made. The areas covered by this plan which could see increased geophysical activity are the eastern portions of Valley and Judith RAs and the foothills of the Little Snowy Mountains.

#### Drilling Permit Process

The federal Lessee or operating company selects a drill site based on spacing requirements, subsurface and surface geology, geophysics, topography, and economic considerations. Statewide spacing regulations are established by the Montana State Board of Oil and Gas Conservation and are generally as follows:

Gas Wells: One well per 640 acres (Governmental Section)

Oil Wells: 1. 0 - 6,000 feet deep: One well per 40 acres

2. 6,001 - 11,000 feet: one well per 160 acres

3. deeper than 11,000 feet: One well per 320 acres

Field areas have established well spacing units based on the Limits and physical properties of the producing reservoir rather than the surface legal subdivisions. Written field spacing orders are issued for each field. Exceptions to spacing requirements involving federal lands may be granted after joint State and BLM review.

#### Notice of Staking

Once the company makes the decision to drill, they must decide whether to submit a Notice of Staking (NOS) or supply directly for a permit to drill. The NOS is an outline of what the company intends to do, including a location map and sketched site plan. The NOS is used to review any conflicts with known critical resource values. The BLM utilizes information contained in the NOS and obtained from the onsite inspection to develop stipulations to be incorporated into the application for permit to drill. Upon receipt of the NOS, the BLM posts the document and pertinent information about the well in the respective Approving Offices for a minimum of 30 days prior to approval for review and comment by the public.

#### Application for Permit to Drill (APD)

The operator may or may not choose to submit an NOS; in either case, an Application for Permit to Drill (APD) must be submitted. An APD consists of two main parts: a 12 point surface plan which describes any surface disturbances and is reviewed by resource specialists for adequacy with regard to lease stipulations designed to mitigate impacts to identified resource conflicts with the specific proposal, and an 8 point subsurface plan which details the drilling program and is reviewed by the staff petroleum engineer and geologist. For the ADP option the onsite inspection is used to assess possible impacts and develop stipulations to minimize these impacts. If the NOS option is not utilized the 30 day posting period begins with the filing of the APD.

## Drilling Phase

Once the APD is approved, the operator may begin construction activities in accordance with stipulations and conditions. When a site is chosen that necessitates the construction of an access road the length will vary, but usually the shortest feasible route is selected to reduce the haul distance and construction costs. Environmental factors or a landowner's wishes may dictate a longer route in some cases. The majority of drilling activity within the planning area is done with the use of truck mounted drilling rigs and use of existing trails or off road travel is the most common method of access to drilling locations.

During this first phase the operator moves construction equipment over existing maintained roads to the point where the access road begins. The equipment most commonly used includes bull dozers, graders and occasionally scrapers. Depending on the terrain, existing roads and trails may require improvement in places and occasionally culverts and cattle guards are installed.

The second phase is the construction of the drilling pad or platform. Because of the topography, and because most wells are only 1,500 to 2,200 feet deep they can be drilled with smaller drill rigs which limit surface disturbance to 1.5 to 2.5 acre locations. The average time to construct a location and drill a well is seven days. Again, in much of the planning area the relatively flat, grassland topography requires little work to prepare a drill pad. In some cases no disturbance other than mud pits and a level area on which to spud the well is needed. If surface disturbance is necessary, soil material suitable for plant growth is removed and stockpiled in a separate area, to be used later for rehabilitation and reseeding when the location is reclaimed and abandoned. Drilling sites on ridge tops and hillsides are constructed by cutting and filling portions of the location after the topsoil has been removed. the majority of the excess cut material is stockpiled in an area that will allow it to be easily recovered for rehabilitation. In the permit review process every attempt is made to insure that cut and fill areas of the pad balance so that stockpile areas, other than topsoil, are not needed.

The amount of level surface required for safely assembling and operating a drilling rig varies with the type of rig, but is usually no larger than 200 feet by 250 feet. Deeper wells will require larger pads because of the rig size and larger capacity of the mud (reserve) pit. When construction of a drilling location requires cut and fill, the foundation of the drilling derrick is usually placed on a cut surface ensuring that it rests on solid ground, thereby preventing it from leaning or toppling due to settling of uncompacted soil.

In addition to the drilling platform, a reserve pit is constructed. The reserve pit is used to contain the drilling fluids and drill hole cuttings. It is usually square or oblong, but is sometimes constructed in other shapes to accommodate topography. Generally, the reserve pit is 6 to 12 feet deep, but may be deeper to compensate for smaller length or width dimensions. In some instances steel mud tanks are utilized which reduces the need for large reserve pits. For air drilling, smaller pits (blooie pits) are used; usually less than 10 by 10 feet and approximately 6 to 10 feet in depth.

Depending on how the drill site is located relative to a natural drainage, it may be necessary to construct water bars or diversion ditches to control surface runoff and erosion. The area disturbed for construction and the potential for successful revegetation depends largely on topography, soil type, climate and the degree of disturbance.

Usually drilling activities begin as soon as possible after the location and access road have been constructed. The drilling rig and associated equipment are moved to the location and erected over the hole with a conductor pipe cemented in place.

Water for drilling is hauled or piped to the rig storage tanks or reserve pit from rivers, wells or privately owned reservoirs. Occasionally, water supply wells are drilled on or close to the drill site. Bentonite, a clay mineral, which is commercially produced, is mixed with the water to form the main constituent of the drilling mud which has the texture of a gel. A wide variety of other chemical materials may be added to enhance the mud properties. Drilling mud performs several important functions; it cools and lubricates the bit, reduces the drag of the drill pipe on the sides of the bore hole, seals off any porous zones, aids in preventing an uncontrolled release of formation fluids, and carries the cuttings to the surface. High pressure air mist is sometimes used in place of mud. The use of mud or air is largely dependent upon the target formation, drilling depth and type of completion desired. A combination of the two mediums is often used in the planning area where mud is used to drill the upper part of the hole and the operation changed to air before drilling into the target zone. This offers all of the advantages of pressure control and cuttings recovery but reduces the risk of formation damage to the porosity of the hydrocarbon bearing zone.

Drilling mud or air is circulated through the drill pipe to the bottom of the hole, through the bit and up the annular space between the well bore and drill pipe. At the surface the mud and rock cuttings are returned to the reserve pit where gravity

separates the two or they are mechanically separated through a screen. The mud is recycled and returned to the system for further use. When drilling with air the cuttings are blown into the blowout pit.

The actual commencement of the drilling is referred to as "spudding in". Initially, the drilling usually proceeds rapidly due to the unconsolidated nature of shallow formations.

Drilling is accomplished by rotating special bits bearing a controlled portion of the drill string weight. The rig structure and associated hoisting equipment bear the remainder of the drill string weight. The weight on the bit is controlled to maintain as nearly vertical a hole as possible or to deviate from vertical when desired and to prevent rapid wearing of the drill bit.

The combination of rotary motion and weight on the bit causes rock to be chipped away at the bottom of the hole. These chips are then transported to the surface where they are disposed of into the blowout pit. Samples of the cuttings are collected at ten foot intervals to keep track of the lithology and hydrocarbon content of the rocks being penetrated.

The rotary motion is created by a square or hexagonal rod, called a kelly, which fits through a square or hexagonal hole in a large turntable, called a rotary table. The rotary table sits on the drilling rig floor and as the hole is deepened the kelly descends. When the kelly has gone as deep as it can, it is raised and another 25 to 30 foot piece of drill pipe is attached to the drill string in the hole. The entire drill string is then lowered, the kelly is attached to the top of it, and drilling recommences. By adding more and more drill pipe the hole is steadily deepened 25 to 30 feet at a time.

Eventually, the bit becomes worn and must be replaced. To change bits, the entire string of drill pipe must be pulled from the hole. Once the bit is replaced the drill string is reassembled, lowered into the hole and drilling is started again.

Drilling operations are continuous, 24 hours a day, 7 days a week. The crews usually work three 8-hour shifts or two 12-hour shifts a day. Most wells in the planning area require 3 to 4 days to reach total depth. At periodic intervals, BLM personnel, usually petroleum engineering technicians (PET's), will conduct inspections of the drilling rig and operations to ensure compliance with the approved plans in the APD. If at any time the operator wishes to change the approved plans in the APD, verbal approval may be obtained, but must be followed up in writing.

### Producing Phase

Upon completion of drilling, the well is tested to determine its capability to produce hydrocarbons (oil and gas). If oil or gas is found in commercial quantities the well is completed as a producer. Typically, oil producing wells in the planning area require a pump jack, stock tanks, heat treating facilities and usually a water disposal pit. Gas wells in this region are mostly "sweet gas" wells, that is, they contain no hydrogen sulfide gas. Sweet gas production requires a meter house and a gathering line or marketing line to transport the gas. In some cases a compressor station is required to compress the gas to a pressure necessary for entry into a pipeline.

If liquid hydrocarbons (condensates) are produced with the gas a separator and storage facility are necessary. Gas wells which produce water require a small (10 by 10 foot) water disposal pit. Sour gas wells (those which produce hydrogen sulfide gas) require special wellhead equipment due to the corrosive nature of the hydrogen sulfide. The sour gas may be treated to remove any hydrogen sulfide prior to entry into a sales pipeline, this is a complicated extraction process which requires installation of a gas treatment plant facility. There are currently no such facilities within the planning area.

Installation of production facilities generally requires little additional surface disturbance beyond that necessary for drilling. However, additional disturbance does result from pipeline and gathering line installation and upgrading of access roads to all weather standards. Gas meter houses are usually 10 by 10 foot skid mounted, steel sheds. Pump jacks in this area are usually 8-10 foot in height, and require a slightly larger surface area than a gas house. The gas house and pump jack are usually situated over the well head on the same area where the drill rig was set up. Water disposal pits needed for the evaporation of water produced in association with hydrocarbons generally fit within the boundaries of the drilling pad. After the production facilities are installed the remaining drilling disturbances are reclaimed.

During the production phase, BLM monitors and approves field activities needed for well and field operation and regulation. Many operations, e.g. completion in a different zone, deepening, plugging, etc., require prior approval. Others such as acidizing and fracturing do not require prior approval, but a subsequent report of operations describing the operation in detail must be filed.

## Plugging and Abandonment

Wells that are completed as dry holes, or depleted producing wells, are plugged according to a plan designed specifically for the down hole conditions of each well. Cement plugs are placed to isolate all porous formations, across the base (shoe) of the surface casing and at the surface. Drilling mud is used as a spacer between plugs. This is done to prevent communication between fluid bearing zones.

Plugging is accomplished by placing cement through the open ended drill pipe, or tubing, at the appropriate depths or as necessary to ensure at least one plug each 2500 feet. A dry hole marker is often placed at the surface to identify the well location. If the surface owner prefers, the casing is cut off at least 3 feet below ground level, and a plate is welded over the top. An abandoned well may be converted to a water well if the surface agency or owner wishes.

## **Oil and Gas Historical Background**

The planning area has a long history of oil and gas exploration and development. Production throughout the planning area is from shallow, low pressure reservoirs of Cretaceous and older age. The area's oil production is from two fields in Petroleum County whereas gas production occurs throughout the planning area. Table B.2 lists, by county, the producing oil and gas fields within the planning area. Table B.3 shows the active wells in the planning area.

**TABLE B.2  
OIL AND GAS FIELDS BY COUNTY**

<u>County</u>	<u>Field</u>	<u>Production</u>	<u>Discovery Date</u>
Petroleum	Cat Creek	Oil	1920
Petroleum	Rattlesnake Butte	Oil	1984
Fergus	Leroy	Gas	1968
Phillips/Valley	Swanson Creek	Gas	1975
Valley	Vandalia	Gas	1932
Phillips	Bowdoin & Area	Gas	1913
Phillips	Whitewater	Gas	1975
Phillips	Loring Unit	Gas	1968
Phillips	Loring, East	Gas	1972
Phillips	Loring, West	Gas	1972

Source: Montana Oil and Gas Annual Review

**TABLE B.3  
WELL DENSITY AND PROJECTIONS BY UNIT OR FIELD**

<u>Unit/Fields</u>	<u>Producing and Gas Shut-in Wells</u>	<u>Projected Wells Based On Spacing</u>	<u>Maximum Additional Wells Based on Spacing</u>	<u>10 year Industry Projection</u>
Loring*	111	344	228	196 (1)
E. Loring*	93	316	222	56 (3)
W. Loring*	2	8	6	3 (3)
Whitewater*	127	436	298	239 (1)
E. Whitewater*	25	60	39	15 (3)
Bowdoin**	343	756	356	0-10 (2)
Swanson Creek**	89	180	113	53 (3)
Ashfield**	79	114	83	95 (1)
Total	869	2,214	1,345	662

\* 437 Wells connected into Kansas-Nebraska Pipeline System

\*\* 432 Wells connected into Williston Basin Pipeline System

Source: (1) Darrel Kempf, FMP Operating Company

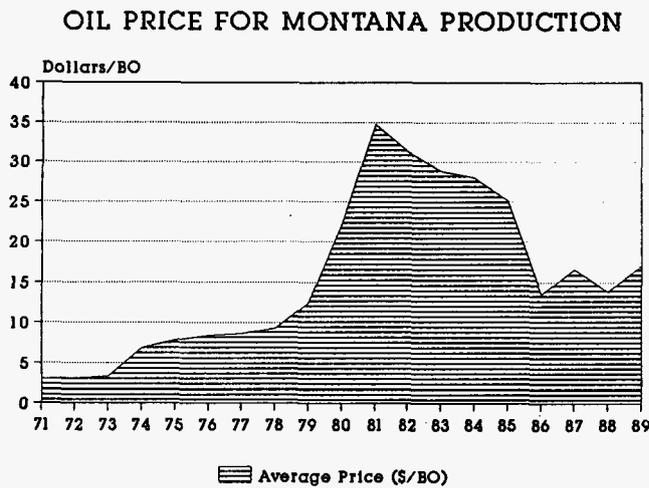
(2) Don Brutlag, WBI

(3) Mathematical calculation based on 60% of Producing and Gas Shut-in

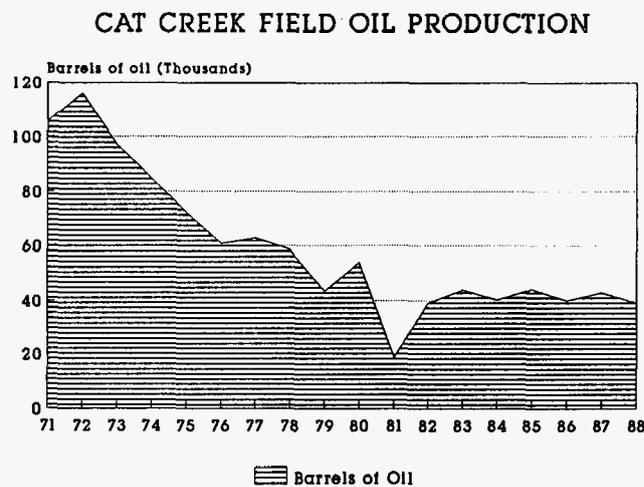
Cat Creek field is the oldest producing field in the State of Montana. It straddles the Musselshell River which is the dividing line between Garfield and Petroleum Counties. The East and West Domes of the field are within Petroleum County, which is within this planning area. The field discovery was made in 1920 and this portion of the field has produced a cumulative production of 21,270,000 barrels of oil from Cat Creek Formation sands of Cretaceous age.

The oil production at the Cat Creek Field is currently in a secondary recovery water flood status. This operation began in 1959. Average daily oil production from the field in 1967, when the current operator took over the field, was between 90 and 120 barrels. During 1989 the average daily production was between 15 and 19 barrels. As this points out the recovery of oil from this area is declining and will probably reach an economic limit during the life of this plan. When this happens the wells in the area will gradually be plugged and the well sites and facility locations reclaimed. Figure B.2 shows the production and oil price histories for Cat Creek Field.

FIGURE B-2



Source: Montana Historic Energy Statistics 1989



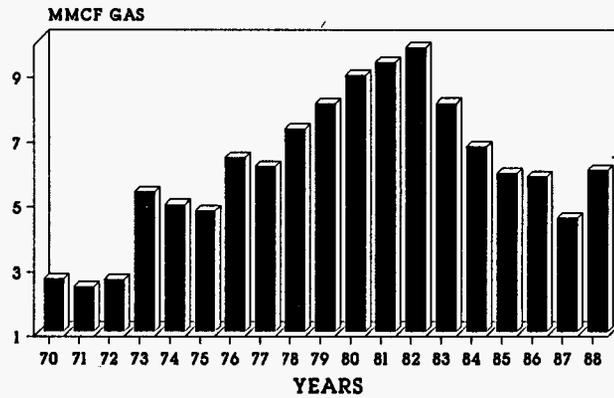
Source: Montana Oil & Gas Conservation Commission Annual Summary Statistics.

The only other producing oil field in the planning area is the Rattlesnake Butte field which was discovered in 1984 and has produced 377,000 barrels of oil from the deeper and older Amsden Formation of Pennsylvanian age. This field is located southwest of the Cat Creek Field. The recent Amsden production has spurred new interest in deeper drilling to explore the oil potential of the Amsden in the Cat Creek Field.

The Bowdoin Area is currently the largest gas producing region in the planning area. The area covers nearly 530,000 acres of land, mostly located in Phillips County. The large dome structure produces gas from Upper Cretaceous Colorado Group Sand Members locally referred to as the Bowdoin and Phillips sands. The average depth of the producing interval is 1,500 feet. The southern most portion of the area has been developed through federally approved unit agreements. The Ashfield and Bowdoin Units contain the majority of the producing wells in the area. The central portion of the area is made up of Whitewater Unit, East Whitewater Field and Swanson Creek Field. The Loring Unit and East Loring Field make up the northern portion of the area. Figure B.3 shows the production history of the Bowdoin Area. Gas production has been constant from the existing wells in the area but drilling activity is related to market conditions, which include demand and price.

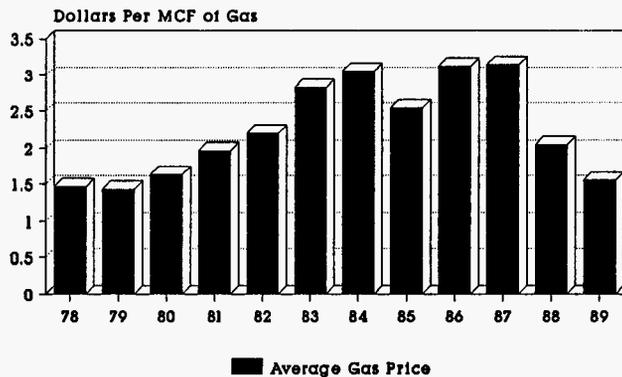
FIGURE - B.3

BOWDOIN DOME GAS PRODUCTION



Source: Montana Oil & Gas Conservation Commission Annual Summary Statistics.

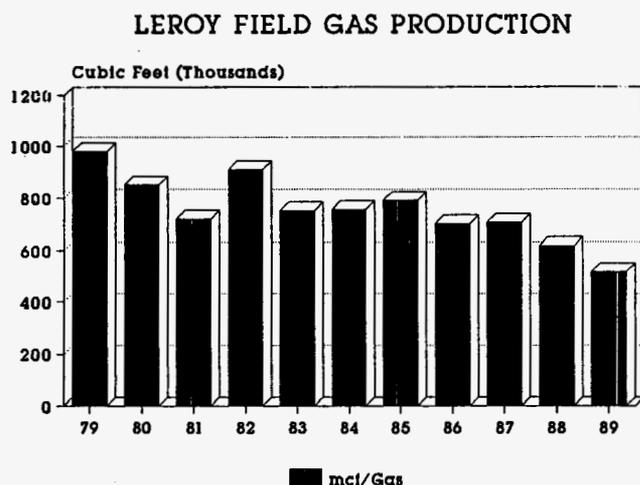
GAS PRICE FOR MONTANA PRODUCTION



Source: Montana Historic Energy Statistics 1989

Leroy Field, located in the northern Fergus County is the only other gas producing field in the planning area. The Upper Cretaceous Eagle Sandstone is the productive zone in the field. Only twenty five percent of the producing wells in Leroy field are located in the planning area. The majority of the production is north of the Upper Missouri Wild and Scenic River and all of the gas produced is sold to pipelines which supply the northern network. Figure B.4 shows the production history of the Leroy Field.

FIGURE - B.4



Source: Montana Oil & Gas Conservation Commission  
Annual Summary Statistics.

In addition to these existing producing fields the planning area contains two areas which are considered high potential for exploration. The first is located in south Valley County. This area is underlain by an accumulation of sediments which produce both oil and gas in prolific amounts in eastern Montana and western North Dakota. The area is called the Williston Basin and the portion located in the planning area has been drilled at various times in the past without success. However, the continued leasing interest and geophysical work indicate that this area will continue to be of interest to the industry for future exploration. Another area is the foothills surrounding the Big and Little Snowy Mountains. It is likely that both of these areas will be subjected to wildcat drilling of at least one well over the life of the plan.

**Present Activity**

Presently there are two producing oil fields in the planning area. Both of the oil fields are located in Petroleum County. Portions of Cat Creek field have been in a secondary recovery water flood status since 1959 and the production is declining at a rate which will result in the field being abandoned sometime in the near future. This field produced 51,405 barrels of oil in 1988 from the Cat Creek Formation. This is one of the oldest producing oil fields in the state. There are two producing federal leases which account for 90% of the oil produced in the field. It is not anticipated that any new development drilling will be initiated over the life of this plan within the Cat Creek field.

Rattlesnake Butte field is the only other oil producing field in the planning area. It produced 51,042 barrels of oil and 5,289 MCF of gas from 6 active wells in 1988. None of the production is from federal land. The oil is produced from Amsden formation which is a deeper zone than the Cat Creek sands which produce gas, rather than oil, in this area.

There are two currently active gas producing areas in the planning area. The most prolific of these is the Bowdoin Area. In 1989 this area was one of the few areas in the state where there was a substantial increase in drilling activity. This was primarily due to a spacing change, in part of the area, which increased the number of wells to 4 per section instead of 2 which

had been the field spacing since 1981. There are currently 829 producing gas wells and 40 shut in gas wells in the area. The spacing change will make it possible to add an additional 1,345 wells to this number if all of the available tracts are drilled successfully. Approximately 70% of the lands involved in this area are federal with the remaining lands being either private or state.

The other producing gas field in the planning area is the portion of Leroy field located in northern Fergus County. This portion of the field has a total of 8 producing gas wells, accounting for about 25% of the gas produced in the field. 1988 production from the field was 618,620 MCF of gas. There are no current planned expansions of spacing in the field and the field is considered fully developed with the current well pattern. Approximately 60% of the southern portion of the field which is open to development is federally owned.

### **Reasonably Foreseeable Development Activity**

Based on the preceding analysis of past and current oil and gas activities and trends, the following is a description of the reasonably foreseeable oil and gas exploration and development activity anticipated in the planning area.

### Oil Production

Most of the oil exploration and development wells in the planning area are limited to the Judith and Valley RAs. The producing fields are in declining stages of development and as the average daily production declines to a level where it is no longer possible to produce oil and gas at a profit, the number of well pluggings is expected to increase. In the Cat Creek field some of these existing wells are likely to be re-entered and deepened with expectations of encountering hydrocarbons in deeper sedimentary horizons. Exploration of these deeper horizons has been successful on the same anticlinal structure east of the field in Garfield County in 1989. The extent to which the deeper zones will add to new production in this area is unknown.

In addition to potential for deeper exploration in the area of existing oil production, there is the likelihood of exploratory drilling in at least two areas of this plan. One is southern Valley County and the other is the Little Snowy Mountains in Fergus County. Past exploration in southern Valley County has involved drilling on exploratory units which range in size from 6 to 25 thousand acres in size.

Unitization involves the joining together of lands that may be logically explored as a single area. It allows a company to explore and develop a prospect under a cost-sharing arrangement with other mineral owners and/or lessees. To receive the benefits of unitization, an operator must drill at least one well to the target formation within 6 months of approval. Generally, there is no requirement to drill more than one well. If the initial well is dry, the operator must commence a second well within six months or the unit will automatically terminate.

If commercial production is obtained, interest owners participate in production on the basis of their percentages of ownership of the participating area. The prospect must be defined within a five year period (which can be extended as long as the operator continues to diligently drill new wells outside of the proven area, with each new well commencing within 90 days of the completion of the previous well). If no new wells are drilled, the unit contracts to the configuration of the participating area, and all other lands are eliminated from the unit. Separate participating areas are established for each producing horizon.

A unit well will extend the term of all leases committed within the participating area. A unit will terminate when production ceases from all producing areas. When a unit terminates, federal leases committed to the unit receive a two-year extension from the date of termination.

It is anticipated that at least one of these such units will be formed and drilled within the life of this plan. As previously described, the State of Montana has established an oil field spacing pattern of one well per 40 acres for oil wells shallower than 6,000 feet in depth. However, in this area some wells may be deeper. The spacing for oil wells between 6 and 11 thousand feet deep is one well per 80 acres. This means that there could be as many as 8 wells in a fully developed section of land. A unit containing 10 sections of land when initially approved could end up with 3 to 5 of those sections being fully developed. This would include a maximum of 40 well sites. These locations when fully equipped with pump jacks, storage tanks, flow lines, access roads and power lines would involve a total of 120 acres of disturbance. It would take 2 to 8 years to drill the wells. The field would produce for 20 to 30 years. If secondary recovery techniques were employed, additional

wells might be drilled for water injection purposes, this would extend the life of the field and lead to additional surface disturbance.

The Williston Basin in this part of the planning area contains structural deformation features in the form of anticlinal and synclinal folds which act as structural traps to the migration of hydrocarbons. It is these features that are of interest to the oil and gas industry for possible exploration and development. Crystalline basement rock (non-sedimentary rock very unlikely to contain hydrocarbons) underlies the sedimentary rock at a relatively shallow depth (7,000 - 9,000 feet) in the area. This means that deeper drilling which involves longer drilling time and more extensive surface disturbance than the anticipated impacts is not likely to occur.

In the Judith RA oil exploration in the Little Snowy Mountain uplift could also involve unitization. However, this has not been the case in the past. Single wildcat well drilling is a more likely scenario. The exploration targets in this area are primarily structural traps or sedimentary features which are less extensive than those in other portions of the planning area. The closest oil production to this area is from a 3 well field which produces from the Tyler Formation. The field size is a total of 240 acres. Cumulative production since discovery in 1973 is 867 thousand barrels. The Winnet Junction field is one of several such fields adjacent to the planning area producing from the Tyler channel sands. It is likely that exploration for oil production of this type will occur at some time over the life of this plan. If a discovery is made it would involve 3 to 4 well locations with a centrally located tank battery. This would disturb a total of about 10 acres of land. Surface disturbance for production facilities will be less than that necessary for drilling. The life of a field is anticipated to be between 20 and 30 years with secondary recovery in the latter stages of production. Drilling of an exploratory well in this area would take from 3 to 5 weeks. Subsequent development wells would take 10 to 20 days to drill. Testing, logging and completion would involve an additional 3 to 5 days.

Although no large oil field discoveries are expected within the planning area, continued exploration is anticipated. The majority of the planning area is rated moderate to high for oil and gas development potential and there are large areas of public land which have not been tested in the past. The rate of exploration should be in direct response to the price of oil. With domestic consumption rising and the increasing dependency on foreign oil, we can expect oil prices to rise to a point where further exploration activity will occur at some time over the next decade.

All of the anticipated activity discussed is based on traditional drilling and completion techniques using either rotary drilling with fluid base mud or air mist to drill a vertical hole from the ground surface to the prospective hydrocarbon zone. Horizontal drilling and completion technology which is currently being used in adjacent areas could be used in this area in the future. The degree to which this technology might increase production potential in the non-producing areas of the district is unknown. In the Williston Basin this technology has enhanced production in some reservoirs and made it possible to produce oil from reservoirs which can not be produced using traditional methods. There are formations which may have potential for future application of this technology within the planning area.

### Gas Production

The State of Montana sets spacing unit sizes for all lands producing gas. Although the federal government is not bound by these spacing unit sizes, they are generally recognized. Until recently, most gas fields in the planning region were spaced to allow one well per section. Within the past several years many operators have requested a decrease in the size of the spacing unit, or for permission to drill an additional well per spacing unit. These requests resulted from reservoir data indicating that one well per 640 acres is not effectively draining the gas from the producing formations in the fields; 320 acre spacing or 2 wells per section is the most common spacing for gas producing fields in the planning area.

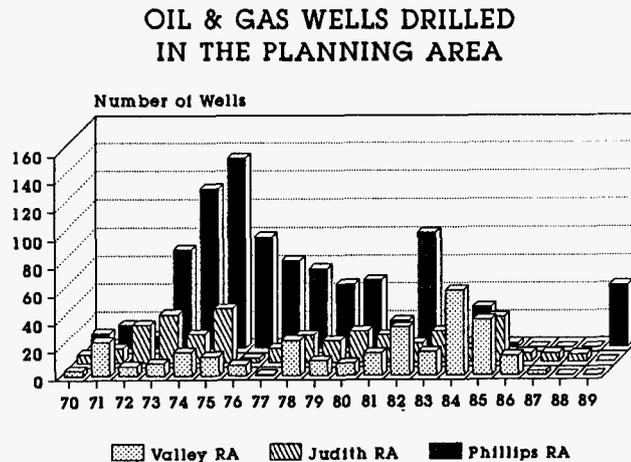
Much of the planning area has potential for additional gas production. A field consisting of 3,200 acres could be expected to have 10 completed wells to be fully developed. A newly discovered field would have to be at least this extensive to justify the cost of installing a field collection system and hooking this up to a commercial transportation pipeline. Assuming diligent development, these wells would be drilled over a 1 to 5 year period and the field should produce for 20 to 25 years. Larger fields will of course require a longer time to develop, thus extending the life of the field. Because 80% to 95% of the original gas in place can be recovered from a typical gas reservoir, no secondary recovery techniques are used.

Future exploration will most probably occur, as in the past, along the margins of existing fields as stepout wells. These exploratory wells will better delineate the boundaries of existing fields and will probably result in the discovery of several new fields over the next decade. These new discoveries should be comparable in depth, size, reserves and areal extent to existing

fields in the planning area. No new large field discoveries, such as the Bowdoin Dome, would be anticipated within the life of the plan.

Given a sudden increase in the demand for natural gas, or a sharp increase in price, a large exploration or development program throughout the planning area could develop very rapidly. This is primarily due to the relatively shallow existing reservoirs and the accessibility of land in the area. However, one of the major problems with developing and exploring for natural gas in Montana is the inability to transport produced gas to eastern and western markets. The Montana Power Company, Williston Basin Pipeline and Kansas Nebraska Pipeline Companies are the purchasers in the planning area (see Table B.4). They expand their pipeline systems at a rate that allows their current quotas to be maintained. As existing wells deplete new wells are added to the pipeline but the supply remains relatively unchanged. Demand for gas has not increased in this area for several years and this has kept the purchase price for gas at a stable level. Figure B.5 shows the drilling activity in the planning area by Resource Area. The Phillips Resource Area drilling statistics directly reflect gas well drilling, because this is the only hydrocarbon resource produced in the County. It shows a pattern of stability followed by a rapid increase in drilling, for a short period of time, and then a return to stability. It is likely that at least one such cycle will take place during the life of this plan.

FIGURE B.5



Source: Montana Oil & Gas Conservation Commission  
Annual Summary Statistics.

TABLE B.4  
PIPELINE DENSITY AND PROJECTION BY SYSTEM OPERATOR

System Operator	Total Miles	Miles on Federal Surface	Total Acreage	Federal Acreage	Average Acres/Well or GSI	Projected Disturbed Acreage For Each Additional Well
Kansas-Nebraska	458	203	2,776	1,230	6.1	2.3 (2)
Williston Basin	308	34	1,867	206	4.3	1.2 (3)
Totals	766	237	4,643	1,436	5.2	5.2

- (1) Includes 11.2 miles of Lessee owned 3" polyethylene pipeline
- (2) Estimate Average 50' wide x 2,000' in length to tie-in
- (3) Estimate Average 50' wide x 1,000' in length to tie-in

Source: Darrel Kemp, FMP Operating Company  
Don Brutlag, WBI

### **Summary of Future Oil and Gas Drilling Activity**

Based on the history of past drilling and foreseeable development potential in the planning area, activity over the next decade will include the drilling of at least 50 federal wells a year. The majority of this drilling will take place as additional wells are added to the existing gas producing fields. Some exploration for new oil fields will also be involved but it is not anticipated that new discoveries will be made. In addition to the drilling of gas field development wells and some wildcat oil wells, there will be activity from the plugging of abandoned wells. It is anticipated that producing wells will be depleted and subsequently plugged and abandoned during life of this plan in both the gas producing and oil producing areas. It is not possible to predict the exact number of the wells which will be abandoned at this time. There are numerous factors which determine when and how many wells could be abandoned. Recent economic conditions within the oil industry resulted in a decline in the number of active exploratory wells and the number of developmental wells. A turn around in the oil industry or an increase in the price of oil purchased from abroad, would spur an increase in the demand for domestic production. This would result in an increase in the number of wells drilled and could lead to renewed efforts to recover additional reserves from existing fields in the planning area. On the contrary side, low oil prices and depressed economic conditions would result in an increase in the number of abandonments and a decrease in domestic exploration and development.

### **STIPULATIONS - ALTERNATIVE A (see - Form MT-3109-1)**

### **STIPULATIONS - ALTERNATIVE B**

All BLM-administered land would be open to oil and gas leasing without restriction beyond those in the Federal Onshore Oil and Gas Leasing Reform Act of 1987, existing Notice to Lessees, Onshore Orders and regulations.

UNITED STATES DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
222 North 32nd Street  
P.O. Box 36800  
Billings, Montana 59107

(Serial Number)

## OIL AND GAS LEASE STIPULATIONS

**ESTHETICS**—To maintain esthetic values, all surface-disturbing activities, semipermanent and permanent facilities may require special design including location, painting and camouflage to blend with the natural surroundings and meet the intent of the visual quality objectives of the SMA.

**EROSION CONTROL**—Surface disturbing activities may be prohibited during muddy and/or wet soil periods. This limitation does not apply to operation and maintenance of producing wells using authorized roads.

**CONTROLLED OR LIMITED SURFACE USE STIPULATION**—This stipulation may be modified by special stipulations which are hereto attached or when specifically approved in writing by the Bureau of Land Management with concurrence of the SMA. Distances and/or time periods may be made less restrictive depending on the actual onground conditions. The prospective lessee should contact the SMA for more specific locations and information regarding the restrictive nature of this stipulation.

The lessee/operator is given notice that the lands within this lease may include special areas and that such areas may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Possible special areas are identified below. Any surface use or occupancy within such special areas will be strictly controlled, or if **absolutely necessary**, excluded. Use or occupancy will be restricted only when the Bureau of Land Management and/or the surface management agency demonstrates the restriction necessary for the protection of such special areas and existing or planned uses. Appropriate modifications to imposed restrictions will be made for the maintenance and operations of producing oil and gas wells.

After the SMA has been advised of specific proposed surface use or occupancy on the leased lands, and on request of the lessee/operator, the Agency will furnish further data on any special areas which may include:

100 feet from the edge of the rights-of-way from highways, designated county roads and appropriate federally-owned or controlled roads and recreation trails.

500 feet, or when necessary, within the 25-year flood plain from reservoirs, lakes, and ponds and intermittent, ephemeral or small perennial streams; 1,000 feet, or when necessary, within the 100-year flood plain from larger perennial streams, rivers, and domestic water supplies.

500 feet from grouse strutting grounds. Special care to avoid nesting areas associated with strutting grounds will be necessary during the period from March 1 to June 30. One-fourth mile from identified essential habitat of state and federal sensitive species. Crucial wildlife winter ranges during the period from December 1 to May 15, and in elk calving areas, during the period from May 1 to June 30.

300 feet from occupied buildings, developed recreational areas, undeveloped recreational areas receiving concentrated public use and sites eligible for or designated as National Register sites.

Seasonal road closures, roads for special uses, specified roads during heavy traffic periods and on areas having restrictive off-road vehicle designations.

On slopes over 30 percent, or 20 percent on extremely erodable or slumping soils.

(Date)

(Signature)

See Notice On Back

MT-3109-1 (July 1984)

## NOTICE

**CULTURAL AND PALEONTOLOGICAL RESOURCES**—The Federal Surface Management Agency (SMA) is responsible for assuring that the leased lands are examined to determine if cultural resources are present and to specify mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator, unless notified to the contrary by the SMA, shall:

1. Contact the appropriate SMA to determine if a site specific cultural resource inventory is required. If an inventory is required, then;
2. Engage the services of a cultural resource specialist acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the area of proposed disturbance to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface disturbing operation is submitted.
3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as testing salvage and recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited.

The lessee or operator shall immediately bring to the attention of the SMA any cultural or paleontological resources discovered as a result of approved operations under this lease, and not disturb such discoveries until directed to proceed by the SMA.

**ENDANGERED OR THREATENED SPECIES**—The SMA is responsible for assuring that the leased land is examined prior to undertaking any surface-disturbing activities to determine effects upon any plant or animal species, listed or proposed for listing as endangered or threatened, or their habitats. The findings of this examination may result in some restrictions to the operator's plans or even disallow use and occupancy that would be in violation of the Endangered Species Act of 1973 by detrimentally affecting endangered or threatened species or their habitats.

The lessee/operator may, unless notified by the authorized officer of the SMA that the examination is not necessary, conduct the examination on the leased lands at his discretion and cost. This examination must be done by or under the supervision of a qualified resources specialist approved by the SMA. An acceptable report must be provided to the SMA identifying the anticipated effects of a proposed action on endangered or threatened species or their habitats.

**STIPULATIONS - ALTERNATIVES C and D (Alternative D would include a NSO restriction for wildlife protection rather than a seasonal or distance stipulation)**

**CONTROLLED SURFACE USE**

**Resource:** Soils

**Stipulation:** Prior to surface disturbance on slopes over 30 percent, an engineering/reclamation plan must be approved by the authorized officer. Such plan must demonstrate how the following will be accomplished:

- Site productivity will be restored.
- Surface runoff will be adequately controlled.
- Off-site areas will be protected from accelerated erosion, such as rilling, gulying, piping, and mass wasting.
- Water quality and quantity will be in conformance with state and federal water quality laws.
- Surface-disturbing activities will not be conducted during extended wet periods.
- Construction will not be allowed when soils are frozen.

**Objective:** To maintain soil productivity, provide necessary protection to prevent excessive soil erosion on steep slopes, and to avoid areas subject to slope failure, mass wasting, piping, or having excessive reclamation problems.

**Exception:** None.

**Modification:** The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area do not include slopes over 30 percent.

**Waiver:** This stipulation may be waived by the authorized officer if it is determined that the entire leasehold does not include slopes over 30 percent.

**NO SURFACE OCCUPANCY**

**Resource:** Riparian/Hydrology

**Stipulation:** Surface occupancy and use is prohibited within riparian areas, 100-year flood plains of major rivers, and on water bodies and streams.

**Objective:** To protect the unique biological and hydrological features associated with riparian areas, 100-year flood plains of major rivers, and water bodies and streams.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area do not include riparian areas, flood plains, or water bodies.

**Waiver:** This stipulation may be waived by the authorized officer if it is determined that the entire leasehold does not include riparian areas, flood plains, or water bodies.

**NO SURFACE OCCUPANCY**

**Resource:** Land Use Authorizations

**Stipulation:** Surface occupancy and use is prohibited on FLPMA leases, permits, easements, and Rights-of-Way (ROWs).

**Objective:** To protect uses under existing FLPMA leases, permits, easements, and ROWs.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The area affected by this stipulation may be modified by the authorized officer if the land use authorization boundaries are modified.

**Waiver:** This stipulation may be waived by the authorized officer if all land use authorizations within the leasehold have been terminated, canceled, or relinquished.

#### **NO SURFACE OCCUPANCY**

**Resource:** Recreation

**Stipulation:** Surface occupancy and use is prohibited within developed recreation areas and undeveloped recreation areas receiving concentrated public use.

**Objective:** To protect developed recreation areas and undeveloped recreation areas receiving concentrated public use.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified by the authorized officer if the recreation area boundaries are changed.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains developed recreation areas or undeveloped recreation areas receiving concentrated public use.

#### **NO SURFACE OCCUPANCY**

**Resource:** Visual Resource Management (VRM) Class I

**Stipulation:** Surface occupancy and use is prohibited in VRM Class I areas (i.e., Wilderness, Wild and Scenic Rivers, etc.).

**Objective:** To preserve the existing character of the landscape.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified by the authorized officer if the boundaries of the VRM Class I area are changed.

**Waiver:** This stipulation may be waived by the authorized officer if all VRM Class I areas within the leasehold are reduced to a lower VRM class. Areas reduced to a lower VRM class will be subject to the Controlled Surface Use stipulation for visual resources.

#### **CONTROLLED SURFACE USE**

**Resource:** Visual Resource Management (VRM) Classes II, III, and IV

**Stipulation:** All surface-disturbing activities, semipermanent and permanent facilities in VRM Class II, III, and IV areas may require special design including location, painting and camouflage to blend with the natural surroundings and meet the visual quality objectives for the area.

**Objective:** To control the visual impacts of activities and facilities within acceptable levels.

**Exception:** None.

**Modification:** None.

**Waiver:** None.

#### **NO SURFACE OCCUPANCY**

**Resource:** Designated black-footed ferret reintroduction areas that have been determined to be essential for black-footed ferret recovery.

**Stipulation:** Surface occupancy and use is prohibited within designated black-footed ferret reintroduction areas.

**Objective:** To protect designated black-footed ferret reintroduction areas.

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan demonstrating that the proposed action will not affect the black-footed ferret or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by the authorized officer in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with the FWS, determines that portions of the area are no longer essential for black-footed ferret reintroduction.

**Waiver:** This stipulation may be waived if the authorized officer, in consultation with the FWS, determines that the entire leasehold no longer contains habitat essential for black-footed ferret reintroduction, or if the black-footed ferret is declared recovered and is no longer protected under the Endangered Species Act (ESA).

**Note:** If this stipulation is to be modified or waived, the authorized officer, in consultation with the FWS, will also determine if the Controlled Surface Use stipulation for potential black-footed ferret habitat should be applied in its place.

#### **CONTROLLED SURFACE USE**

**Resource:** Potential black-footed ferret habitat (prairie dog colonies and complexes 80 acres or more in size that are not designated as black-footed ferret reintroduction sites).

**Stipulation:** Prior to surface disturbance, prairie dog colonies and complexes 80 acres or more in size will be examined to determine the absence or presence of black-footed ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy that would be in violation of the Endangered Species Act (ESA) of 1973.

The lessee or operator may, at their own option, conduct an examination on the leased lands to determine if black-footed ferrets are present, or if the proposed activity would have an adverse effect, or if the area can be cleared. This examination must be done by or under the supervision of a qualified resource specialist approved by the Surface Management Agency (SMA). An acceptable report must be provided to the SMA documenting the presence or absence of black-footed ferrets and identifying the anticipated effects of the proposed action on the black-footed ferret and its habitat. This stipulation does not apply to the operation and maintenance of production facilities.

**Objective:** To assure compliance with the Endangered Species Act (ESA) by locating and protecting black-footed ferrets and their habitat.

**Exception:** An exception may be granted by the authorized officer for surface-disturbing activities determined to have no adverse effect on black-footed ferrets and ferret habitat.

**Modification:** The boundaries of the stipulated area may be modified by the authorized officer if portions of the leasehold are cleared from Section 7 of the ESA or permanently cleared based on past ferret surveys.

**Waiver:** This stipulation may be waived if the entire leasehold is block cleared from Section 7 of the ESA, or permanently cleared based on past ferret surveys, or if the ferret is declared recovered and no longer subject to the ESA.

#### NO SURFACE OCCUPANCY

**Resource:** Wildlife - Interior Least Tern

**Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of wetlands identified as interior least tern habitat.

**Objective:** To protect the habitat of the interior least tern, an endangered species under the Endangered Species Act (ESA).

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the interior least tern or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area are no longer critical to the interior least tern.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire leasehold no longer contains habitat critical to the interior least tern, or if the interior least tern is declared recovered and is no longer protected under the ESA.

#### NO SURFACE OCCUPANCY

**Resource:** Wildlife - Piping Plover

**Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of wetlands identified as piping plover habitat.

**Objective:** To protect the habitat of the piping plover, an endangered species under the Endangered Species Act (ESA).

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the piping plover or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area are no longer critical to the piping plover.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire leasehold no longer contains habitat critical to the piping plover, or if the piping plover is declared recovered and is no longer protected under the ESA.

#### NO SURFACE OCCUPANCY

**Resource:** Wildlife - Peregrine Falcon

**Stipulation:** Surface occupancy and use is prohibited within 1 mile of identified peregrine falcon nesting sites.

**Objective:** To protect the habitat of the peregrine falcon, an endangered species under the Endangered Species Act (ESA).

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the peregrine falcon or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area no longer are critical to the peregrine falcon.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire

leasehold no longer contains habitat critical to the peregrine falcon, or if the peregrine falcon is declared recovered and is no longer protected under the ESA.

#### **NO SURFACE OCCUPANCY**

**Resource:** Wildlife - Bald Eagle Nest Sites and Nesting Habitat

**Stipulation:** Surface occupancy and use is prohibited within 1/2 mile of known bald eagle nest sites which have been active within the past 7 years and within bald eagle nesting habitat in riparian areas.

**Objective:** To protect bald eagle nesting sites and/or nesting habitat in accordance with the Endangered Species Act (ESA) and the Montana Bald Eagle Management Plan.

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

**Waiver:** This stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest sites or nesting habitat, or if the bald eagle is declared recovered and is no longer protected under the ESA.

#### **NO SURFACE OCCUPANCY**

**Resource:** Wildlife - Ferruginous Hawk

**Stipulation:** Surface occupancy and use is prohibited within 1/2 mile of known ferruginous hawk nest sites which have been active within the past 2 years.

**Objective:** To maintain the production potential of ferruginous hawk nest sites, which are very sensitive to disturbance and have been identified as Category 2 species under the Endangered Species Act (ESA).

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated. Seasonal exceptions may be allowed from August 1 through March 1 (the nonbreeding season) if the authorized officer determines that the proposed activity will not disturb the production potential of ferruginous hawk nest sites.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the production potential of ferruginous hawk nest sites.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the production potential of ferruginous hawk nest sites.

#### **TIMING**

**Resource:** Wildlife - Raptor Nests

**Stipulation:** Surface use is prohibited from March 1 to August 1, within 1/2 mile of raptor nest sites which have been active within the past 2 years. This stipulation does not apply to the operation and maintenance of production facilities.

**Objective:** To protect nest sites of raptors which have been identified as species of special concern in Montana, North or South Dakota.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within 1/2 mile of raptor nest sites which have been active within the past 2 years. The dates for the timing restriction may be modified if new information indicates that the March 1 to August 1 dates are not valid for the leasehold.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within 1/2 mile of raptor nest sites which have been active within the past 2 years.

#### NO SURFACE OCCUPANCY

**Resource:** Wildlife - Grouse Leks

**Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of grouse leks.

**Objective:** To protect sharptail and sage grouse lek sites necessary for the long-term maintenance of grouse populations in the area.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting grouse lek sites.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting grouse lek sites, or if all lek sites within 1/4 mile of the leasehold have not been used for 5 consecutive years.

#### TIMING

**Resource:** Wildlife - Grouse Nesting Zone

**Stipulation:** Surface use is prohibited from March 1 to June 15 in grouse nesting habitat within 2 miles of a lek. This stipulation does not apply to the operation and maintenance of production facilities.

**Objective:** To protect sharptail and sage grouse nesting habitat from disturbance during spring and early summer in order to maximize annual production of young, and to protect nesting activities adjacent to nesting sites for the long-term maintenance of grouse populations in the area.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain grouse nesting habitat within 2 miles of a lek. The dates for the timing restriction may be modified if new information indicates that the March 1 to June 15 dates are not valid for the leasehold.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains grouse nesting habitat within 2 miles of a lek.

#### TIMING

**Resource:** Wildlife - Crucial Winter Range

**Stipulation:** Surface use is prohibited from December 1 to March 31 within crucial winter range for wildlife. This stipulation

does not apply to the operation and maintenance of production facilities.

**Objective:** To protect crucial white-tailed deer, mule deer, elk, antelope, moose, bighorn sheep, and sage grouse winter range from disturbance during the winter use season, and to facilitate long-term maintenance of wildlife populations.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain crucial winter range for wildlife. The dates for the timing restriction may be modified if new wildlife use information indicates that the December 1 to March 31 dates are not valid for the leasehold.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains crucial winter range for wildlife.

#### **NO SURFACE OCCUPANCY**

**Resource:** Reservoirs with Fisheries

**Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of designated reservoirs with fisheries.

**Objective:** This stipulation is intended to protect the fisheries and recreational values of reservoirs.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the fisheries and recreational values of the reservoir.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the fisheries and recreational values of the reservoir.

#### **NO SURFACE OCCUPANCY**

**Resource:** Cultural Resources

**Stipulation:** Surface occupancy and use is prohibited within sites or areas designated for conservation use, public use, or sociocultural use.

**Objective:** To protect those cultural properties identified for conservation use, public use, and sociocultural use (see definitions for use categories within BLM Manual 8111).

**Exception:** An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the cultural resource values which formed the basis for designation are not affected, or if adverse impacts are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated site or area can be occupied without adversely affecting the cultural resource values for which the site or area was designated.

**Waiver:** This stipulation may be waived if the authorized officer determines that all designated sites or areas within the leasehold can be occupied without adversely affecting the cultural resource values for which such sites or areas were designated, or if all designated sites or areas within the leasehold are allocated for other uses.

**Note:** Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places.

### NOTICE

**Cultural Resources:** An inventory of the leased lands may be required prior to surface disturbance to determine if cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Surface Management Agency (SMA) to determine if a cultural resource inventory is required. If an inventory is required, then;
2. The SMA will complete the required inventory; or the lessee or operator, at their option, may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.
3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

**Authorities:** Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places. Section 6 of the Oil and Gas Lease Terms (Form 3100-11) requires that operations be conducted in a manner that minimizes adverse impacts to cultural and other resources.

### NO SURFACE OCCUPANCY

**Resource:** Paleontological Resources

**Stipulation:** Surface occupancy and use is prohibited within designated paleontological sites.

**Objective:** To protect significant paleontological sites.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the paleontological resource values which formed the basis for designation are not affected, or if adverse impacts are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated site can be occupied without adversely affecting the paleontological resource values for which the site was designated, or if the boundaries of the designated site are changed.

**Waiver:** This stipulation may be waived if the authorized officer determines that all designated sites within the leasehold can be occupied without adversely affecting the paleontological resource values for which the sites were designated, or if all designated sites within the leasehold are allocated for other uses.

## STIPULATIONS - ALTERNATIVE E (Preferred Alternative)

### CONTROLLED SURFACE USE

**Resource:** Soils

**Stipulation:** Prior to surface disturbance on slopes over 30 percent, an engineering/reclamation plan must be approved by the authorized officer. Such plan must demonstrate how the following will be accomplished:

- Site productivity will be restored.
- Surface runoff will be adequately controlled.
- Off-site areas will be protected from accelerated erosion, such as rilling, gulying, piping, and mass wasting.
- Water quality and quantity will be in conformance with state and federal water quality laws.
- Surface-disturbing activities will not be conducted during extended wet periods.
- Construction will not be allowed when soils are frozen.

**Objective:** To maintain soil productivity, provide necessary protection to prevent excessive soil erosion on steep slopes, and to avoid areas subject to slope failure, mass wasting, piping, or having excessive reclamation problems.

**Exception:** None.

**Modification:** The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area do not include slopes over 30 percent.

**Waiver:** This stipulation may be waived by the authorized officer if it is determined that the entire leasehold does not include slopes over 30 percent.

### NO SURFACE OCCUPANCY

**Resource:** Riparian/Hydrology

**Stipulation:** Surface occupancy and use is prohibited within riparian areas, 100-year flood plains of major rivers, and on water bodies and streams.

**Objective:** To protect riparian vegetation and reduce erosion adjacent to water courses and protect reservoirs greater than 10 surface acres in size.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area do not include riparian areas, flood plains, or water bodies.

**Waiver:** This stipulation may be waived by the authorized officer if it is determined that the entire leasehold does not include riparian areas, flood plains, or water bodies.

### NO SURFACE OCCUPANCY

**Resource:** Land Use Authorizations

**Stipulation:** Surface occupancy and use is prohibited on FLPMA leases, permits, easements, and Rights-of-Way (ROWs).

**Objective:** To protect uses under existing FLPMA leases, permits, easements, and ROWs.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The area affected by this stipulation may be modified by the authorized officer if the land use authorization boundaries are modified.

**Waiver:** This stipulation may be waived by the authorized officer if all land use authorizations within the leasehold have been terminated, canceled, or relinquished.

#### **NO SURFACE OCCUPANCY**

**Resource:** Recreation

**Stipulation:** Surface occupancy and use is prohibited within developed recreation areas and undeveloped recreation areas receiving concentrated public use.

**Objective:** To protect developed recreation areas and undeveloped recreation areas receiving concentrated public use.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified by the authorized officer if the recreation area boundaries are changed.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains developed recreation areas or undeveloped recreation areas receiving concentrated public use.

#### **NO SURFACE OCCUPANCY**

**Resource:** Visual Resource Management (VRM) Class I

**Stipulation:** Surface occupancy and use is prohibited in VRM Class I areas (i.e., Wilderness, Wild and Scenic Rivers, etc.).

**Objective:** To preserve the existing character of the landscape.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified by the authorized officer if the boundaries of the VRM Class I area are changed.

**Waiver:** This stipulation may be waived by the authorized officer if all VRM Class I areas within the leasehold are reduced to a lower VRM class. Areas reduced to a lower VRM class will be subject to the Controlled Surface Use stipulation for visual resources.

#### **CONTROLLED SURFACE USE**

**Resource:** Visual Resource Management (VRM) Class II

**Stipulation:** All surface-disturbing activities, semipermanent and permanent facilities in VRM Class II areas may require special design including location, painting and camouflage to blend with the natural surroundings and meet the visual quality objectives for the area.

**Objectives:** To control the visual impacts of activities and facilities within acceptable levels.

**Exception:** None.

**Modification:** None.

**Waiver:** None.

#### **CONTROLLED SURFACE USE**

**Resource:** Prairie dog towns within potential black-footed ferret reintroduction areas that have been determined to be essential for black-footed ferret recovery.

**Stipulation:** The "Draft Guidelines for Oil and Gas Activities in Prairie Dog Ecosystems Managed for Black-Footed Ferret Recovery," FWS, 1990, will be used as appropriate to develop site-specific conditions of approval to protect black-footed ferret reintroduction and recovery. Specific conditions of approval will depend on type and duration of proposed activity, proximity to occupied ferret habitat, and other site-specific conditions.

**Objective:** To maintain the integrity of designated black-footed ferret reintroduction area habitat for reintroduction and recovery of black-footed ferrets.

**Exception:** May be granted by the authorized officer for activities that are determined, through coordination with the MBFCC to have no adverse impacts on reintroduction and recovery of ferrets.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in coordination with the MBFCC, determines that portions of the area are no longer essential for ferret reintroduction and recovery.

**Waiver:** The stipulation may be waived if the authorized officer, in coordination with the MBFCC, determines that the entire leasehold no longer contains habitat essential for the reintroduction and recovery of the ferret or if the ferret is removed from protection under the Endangered Species Act.

#### **NO SURFACE OCCUPANCY**

**Resource:** Wildlife - Interior Least Tern

**Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of wetlands identified as interior least tern habitat.

**Objective:** To protect the habitat of the interior least tern, an endangered species under the Endangered Species Act (ESA).

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the interior least tern or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area are no longer critical to the interior least tern.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire leasehold no longer contains habitat critical to the interior least tern, or if the interior least tern is declared recovered and is no longer protected under the ESA.

#### **NO SURFACE OCCUPANCY**

**Resource:** Wildlife - Piping Plover

**Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of wetlands identified as piping plover habitat.

**Objective:** This stipulation is to be applied to the area around Nelson Reservoir which is the only known nesting site for the species at the current time.

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the piping plover or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated.

This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area are no longer critical to the piping plover.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire leasehold no longer contains habitat critical to the piping plover, or if the piping plover is declared recovered and is no longer protected under the ESA.

#### NO SURFACE OCCUPANCY

**Resource:** Wildlife - Peregrine Falcon

**Stipulation:** Surface occupancy and use is prohibited within 1 mile of identified peregrine falcon nesting sites.

**Objective:** To protect the habitat of the peregrine falcon, an endangered species under the Endangered Species Act (ESA).

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the peregrine falcon or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area no longer are critical to the peregrine falcon.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire leasehold no longer contains habitat critical to the peregrine falcon, or if the peregrine falcon is declared recovered and is no longer protected under the ESA.

#### NO SURFACE OCCUPANCY

**Resource:** Wildlife - Bald Eagle Nest Sites and Nesting Habitat

**Stipulation:** Surface occupancy and use is prohibited within 1/2 mile of known bald eagle nest sites which have been active within the past 7 years and within bald eagle nesting habitat in riparian areas.

**Objective:** To protect bald eagle nesting sites and/or nesting habitat in accordance with the Endangered Species Act (ESA) and the Montana Bald Eagle Management Plan.

**Exception:** An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may or will have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the U.S. Fish and Wildlife Service (FWS).

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with FWS, determines that portions of the area can be occupied without adversely affecting bald eagle nest sites or nesting habitat.

**Waiver:** This stipulation may be waived if the authorized officer, in consultation with FWS, determines that the entire leasehold can be occupied without adversely affecting bald eagle nest sites or nesting habitat, or if the bald eagle is declared recovered and is no longer protected under the ESA.

#### TIMING

**Resource:** Wildlife - Raptor Nests

**Stipulation:** Surface use is prohibited from March 1 to August 1, within 1/2 mile of raptor nest sites which have been active

within the past 2 years. This stipulation does not apply to the operation and maintenance of production facilities. Raptor species of concern: Golden Eagle, Northern Goshawk, Ferruginous Hawk, Merlin, Prairie Falcon, Red Tail Hawk, Great Horned Owl, Northern Saw-whet Owl, Coopers Hawk, Burrowing Owl, and Swainson's Hawk.

**Objective:** This stipulation is consistent with the guidelines used in the West Hiline and Headwaters RMPs which border the planning area on the North and West making its use uniform throughout the Lewistown District. This stipulation can be implemented at the time of an onsite inspection for drilling permits and sundry notices which involve surface disturbance activity which would be disruptive to the nesting species. A stipulation which addresses occupied nests is more easily documented as to species and duration of use.

The historical activity in the planning area, associated with oil and gas exploration and development, involving shallow wells with small areas of surface disturbance and lasting for short duration are not considered incompatible with nesting raptor species covered by this stipulation.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within 1/2 mile of raptor nest sites which have been active within the past 2 years. The dates for the timing restriction may be modified if new information indicates that the March 1 to August 1 dates are not valid for the leasehold.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within 1/2 mile of raptor nest sites which have been active within the past 2 years.

#### **NO SURFACE OCCUPANCY - TIMING**

**Resource:** Wildlife - Grouse Leks

**Stipulation:** No surface occupancy for lek. Seasonal restriction on exploration from March 15 to June 15, for a distance of 1/4 mile from lek to protect nesting habitat.

**Objective:** The actual lek defines the area where winter and spring use of the surrounding habitat is concentrated. The integrity of the actual lek must be protected to insure use (this is assigned an average of 1/4 acre). This stipulation will allow flexibility to restrict activity at the time surface disturbance is proposed on the lease. It will involve less delay in the permitting process and provide the appropriate level of protection for the species. The use of the time and distance combination to stipulate protection for associated nest habitat around the lek is a restriction that has worked well in the past in this area and it is a procedure that local oil and gas operators are familiar with. Because of the heavy concentration of grouse habitat on BLM land, use of a larger NSO stipulation would not be practical in the planning area. Much of the area, that is currently open, would be closed to drilling and producing if a 1/4 mile NSO restriction is adopted for the grouse lek. Directional drilling for shallow gas wells is not technically or economically feasible. The drastic change from past mitigation measures, that this stipulation represents is not needed to insure adequate protection for grouse populations in the area. This has been documented by monitoring the species over the last ten years while the stipulation with seasonal protection has been in effect.

**Exception:** The authorized officer can grant an exception to a specific activity if it is determined by the biologist that the area of disturbance will not constitute a loss of habitat.

**Modification:** A portion of the leased lands can be open to activity if field inspection shows that species using the lek or nesting habitat is not in the area.

**Waiver:** This stipulation can be waived when the available data shows that the portion of the lease under the restriction is no longer occupied by the species for a lek or nest habitat.

#### **TIMING**

**Resource:** Wildlife - Crucial Winter Range

**Stipulation:** Surface use is prohibited from December 1 to March 31 within crucial winter range for wildlife. This stipulation does not apply to the operation and maintenance of production facilities.

**Objective:** To protect crucial white-tailed deer, mule deer, elk, antelope, moose, bighorn sheep, and sage grouse winter range from disturbance during the winter use season, and to facilitate long-term maintenance of wildlife populations.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain crucial winter range for wildlife. The dates for the timing restriction may be modified if new wildlife use information indicates that the December 1 to March 31 dates are not valid for the leasehold.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains crucial winter range for wildlife.

### **NO SURFACE OCCUPANCY**

**Resource:** Reservoirs with Fisheries

**Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of designated reservoirs with fisheries.

**Objective:** This stipulation is intended to protect the fisheries and recreational values of reservoirs.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the fisheries and recreational values of the reservoir.

**Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the fisheries and recreational values of the reservoir.

### **NO SURFACE OCCUPANCY**

**Resource:** Cultural Resources.

**Stipulation:** Surface occupancy and use is prohibited within sites or areas designated for conservation use, public use, or sociocultural use.

**Objective:** To protect those cultural properties identified for conservation use, public use, and sociocultural use (see definitions for use categories within BLM Manual 8111).

**Exception:** An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the cultural resource values which formed the basis for designation are not affected, or if adverse impacts are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated site or area can be occupied without adversely affecting the cultural resource values for which the site or area was designated.

**Waiver:** This stipulation may be waived if the authorized officer determines that all designated sites or areas within the leasehold can be occupied without adversely affecting the cultural resource values for which such sites or areas were designated, or if all designated sites or areas within the leasehold are allocated for other uses.

**Note:** Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect

cultural properties eligible to the National Register of Historic Places.

#### **NOTICE**

**Cultural Resources:** The Surface Management Agency is responsible for assuring that the leased lands are examined to determine if cultural resources are present and to specify mitigation measures. Guidance for application of this requirement can be found in NTL-MSO-85-1.

**Objective:** This Notice would be consistent with the present Montana guidance for cultural resource protection related to oil and gas operations (NTL-MSO-85-1).

**Exception:** None.

**Modification:** None.

**Waiver:** None.

#### **NO SURFACE OCCUPANCY**

**Resource:** Paleontological Resources

**Stipulation:** Surface occupancy and use is prohibited within designated paleontological sites.

**Objective:** To protect significant paleontological sites. There is only one 40 acre site within the district to which this applies. It is located in an area with moderate oil and gas potential. There are several quarry sites which should not be disturbed.

**Exception:** An exception to this stipulation may be granted by the authorized officer if the lessee or operator submits a plan which demonstrates that the paleontological resource values which formed the basis for designation are not affected, or if adverse impacts are acceptable or can be adequately mitigated.

**Modification:** The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated site can be occupied without adversely affecting the paleontological resource values for which the site was designated, or if the boundaries of the designated site are changed.

**Waiver:** This stipulation may be waived if the authorized officer determines that all designated sites within the leasehold can be occupied without adversely affecting the paleontological resource values for which the sites were designated, or if all designated sites within the leasehold are allocated for other uses.

**APPENDIX ATTACHMENT B.1**

United States Department of the Interior  
Bureau of Land Management  
Montana State Office

**NO SURFACE OCCUPANCY STIPULATION**

Serial No. \_\_\_\_\_

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

For the purpose of:

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

MT-3109-2 (July 1989)

United States Department of the Interior  
Bureau of Land Management  
Montana State Office

**TIMING LIMITATION STIPULATION**

Serial No. \_\_\_\_\_

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

On the lands described below:

For the purpose of (reasons):

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

MT-3109-3 (July 1989)

United States Department of the Interior  
Bureau of Land Management  
Montana State Office

## CONTROLLED SURFACE USE STIPULATION

Serial No. \_\_\_\_\_

Surface occupancy or use is subject to the following special operating constraints.

On the lands described below:

For the purpose of:

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

MT-3109-4 (July 1989)

**APPENDIX ATTACHMENT B.2  
STANDARD CONDITIONS OF APPROVAL**

The Application for Permit to Drill is approved, subject to the following conditions:

Conditions for Approval

1. Site Specific Stipulations:

a. Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

2. Notification Requirements:

a. Notify this office verbally at least \_\_\_ hours before the well is spudded.

b. Notify this office verbally at least \_\_\_ hours prior to running/cementing casing.

c. For verbal plugging orders, notify this office at least \_\_\_ hours prior to plugging.

3. A complete copy of the approved Application for Permit to Drill (APD), including the H2S contingency plan (if required) must be on the well site and available for reference during the construction and drilling phase.

4. The drilling permit is valid for either one (1) year from the approval date or until lease expiration, whichever occurs first.

5. Dikes must be constructed to API standards around storage and treatment facilities for liquids. The dike must be sufficient size to contain the contents of the largest tank plus one day's production.

6. Dry Hole Marker

Upon abandonment, the following marker is required. It must contain the same information as the well sign (see Information Notice, Item No. 6). Weep holes will be placed in all plates welded over the annulus(es) and in the dry hole marker.

A 4" diameter, 4' high pipe, welded to casing or set in cement.

A steel plate welded to surface casing at ground level.

A steel plate welded to surface casing 4' below ground level.

7. Hazardous wastes, as defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), will not be utilized in the drilling, testing, and completion operation.

Informational Notice

The following items are from the Federal Oil and Gas regulations (43 CFR Part 3160) and from other public notices (Onshore Order No. 1, Notices to Lessees).

This is not a complete list, but is an abstract of some major requirements.

1. General Requirements (3162.1(a))

The lessee shall comply with applicable laws and regulations; with the lease terms, Onshore Oil and Gas Orders; NTLs; and with other orders and instructions of the authorized officer.

2. Substantial deviation for the terms of this APD require prior approval:

a Subsequent well operations (3162.3-2, Onshore Order No. 1, Sec. IV).

Prior written approval on Form 3160-5, followed by subsequent report on 3160-5 is required for the following additional operations: redrill, deepen, perform casing repairs, plug-back alter casing, perform non-routine fracturing jobs, recomplete in a different interval, perform water shutoff, conversion to injection or disposal. Reports are to be in triplicate.

b. Other lease operations (3162.3-3), Onshore Order No. 1, Sec. IV).

Any operation causing surface disturbance beyond the approved APD submitted for prior approval on Form 3160-5, in triplicate.

### 3. Well Abandonment (3162.3-4, Onshore Order No. 1, Sec. V).

Prior approval for abandonment must be granted. Initial approval may be verbal; subsequent notifications are to be on Form 3160-5 in triplicate.

### 4. Reports and Notifications (3162.4-1, 3162.4-3, Operating Form chart at beginning of 43 CFR Part 3160).

a. Form 3160-4, Well Completion or Recompletion Report (in duplicate) and 2 copies of logs, due 30 days after well completion.

b. One copy MMS Form 3160, Monthly Report of Operations, for each calendar month, beginning with the month in which drilling operations are initiated. This report is due to Minerals Management Service on or before the 15th day of the second month following the month of production (e.g., the report for May is due on July 15).

c. Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or Sundry Notice, Form 3160-5, orally to be followed by a letter or Sundry Notice, of the date on which such production has begun or resumed."

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank and for which a run ticket is required to be generated, or the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3163.2(E)(2).

### 5. Environmental Obligations (3162.5-1, Notices to Lessees 2B, 3A, 4A)

a. With BLM approval, water produced from newly completed wells may be temporarily disposed of into unlined pits for up to 90 days. During this initial period, application for the permanent disposal method must be made in accordance with NTL-2B.

b. Spills, accidents, fires, injuries, blowout and other undesirable events, as described in Notice to Lessees 3A, must be reported to this office within the time frames in NTL-3A.

c. Gas may be vented or flared during emergencies, well evaluation, or initial production tests for a time period of up to 30 days or the production of 50 MMCF of gas, whichever occurs first. After this period, you must obtain approval from the authorized officer to flare or vent in accordance with NTL-4A.

### 6. Well Identification (3162.6).

Each drilling, producing or abandoned well shall be identified with the operator's name, the lease serial number, the well number and the surveyed description of the well (either footages or the quarter section, the section, township and range). The Indian allottee lessor's name may also be required. All markings must be legible and in a conspicuous place.

7. Site Security on Federal and Indian Oil and Gas Leases (3162.7-4).

a. Oil storage facilities must be clearly identified with a sign and tanks must be individually identified (3162.7-4(b)(6)).

b. Site security plans must be completed within 30 days of construction or first production (3162.7-4(c)).

c. Site facility diagrams must be filed within 30 days after facilities are installed or modified (3162.7-4(d)).

8. Confidentiality (3162.8)

All submitted information not marked "CONFIDENTIAL INFORMATION" will be available for public inspection upon request. The exception is Indian lease information which is always considered confidential.

9. APD and Surface Use SN Authorization.

If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.

10. The operator 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, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

-whether the materials appear eligible for the National Register of Historic Places;

-the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,

-a timeframe for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the contact of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

## APPENDIX ATTACHMENT B3

### SPECIAL STIPULATION - BUREAU OF RECLAMATION

To avoid interference with recreation development and/or impacts to fish and wildlife habitat and to assist in preventing damage to any Bureau of Reclamation dams, reservoirs, canals, ditches, laterals, tunnels, and related facilities, and contamination of the water supply therein, the lessee agrees that the following conditions shall apply to all exploration and developmental activities and other operation of the works thereafter on lands covered by this lease:

1. Prior to commencement of any surface-disturbing work including drilling, access road work, and well location construction, a surface use and operations plan will be filed with the appropriate officials. A copy of this plan will be furnished to the Regional Director, Great Plains Region, Bureau of Reclamation, P.O. Box 36900, Billings, MT 59107-6900, for review and consent prior to approval of the plan. Such approval will be conditioned on reasonable requirements needed to prevent soil erosion, water pollution, and unnecessary damages to the surface vegetation and other resources, including cultural resources, of the United States, its lessees, permittees, or licensees, and to provide for the restoration of the land surface and vegetation. The plan shall contain provisions as the Bureau of Reclamation may deem necessary to maintain proper management of the water, recreation, lands, structures, and resources, including cultural resources, within the prospecting, drilling, or construction area.

Drilling sites for all wells and associated investigations such as seismograph work shall be included in the above-mentioned surface use and operation plan.

If later explorations require departure from or additions to the approved plan, these revisions or amendments, together with a justification statement for proposed revisions, will be submitted for approval to the Regional Director, Great Plains Region, Bureau of Reclamation, or his authorized representative.

Any operations conducted in advance of approval of an original, revised, or amended prospecting plan, or which are not in accordance with an approved plan constitute a violation of the terms of this lease. The Bureau of Reclamation reserves the right to close down operations until such corrective action, as is deemed necessary, is taken by the lessee.

2. No occupancy of the surface of the following excluded areas is authorized by this lease. It is understood and agreed that the use of these areas for Bureau of Reclamation purposes is superior to any other use. The excluded areas are:

- a. Within 500 feet on either side of the centerline of any and all roads or highways within the leased area.
- b. Within 200 feet on either side of the centerline of any and all trails within the leased area.
- c. Within 500 feet of the normal high-water line of any and all live streams in the leased area.
- d. Within 400 feet of any and all recreation developments within the leased area.
- e. Within 400 feet of any improvements either owned, permitted, leased, or otherwise authorized by the Bureau of Reclamation within the leased area.
- f. Within 200 feet of established crop fields, food plots, and tree/shrub plantings within the leased area.
- g. Within 200 feet of slopes steeper than a 2:1 gradient within the leased area.
- h. Within established rights-of-way of canals, laterals, and drainage ditches within the leased area.
- i. Within a minimum of 500 feet horizontal from the centerline of the facility or 50 feet from the outside toe of the canal, lateral, or drain embankment, whichever distance is greater, for irrigation facilities without clearly marked rights-of-way within the leased area.

3. No occupancy of the surface or surface drilling will be allowed in the following areas. In addition, no directional drilling will be allowed in the following areas. In addition, no directional drilling will be allowed that would intersect the subsurface

zones delineated by a vertical plane in these areas.

a. Within 1,000 feet of the maximum water surface, as defined in the Standing Operating Procedures (SOP), of any reservoirs and related facilities located within the leased area.

b. Within 2,000 feet of dam embankments and appurtenance structures such as spillway structures, outlet works, etc.

c. Within one-half (1/2) mile horizontal from the centerline of any tunnel within the leased area.

4. The distances stated in items 2 and 3 above are intended to be general indicators only. The Bureau of Reclamation reserves the right to revise these distances as needed to protect Bureau of Reclamation facilities.

5. The use of explosives in any manner shall be so controlled that the works and facilities of the United States, its successors and assigns will in no way be endangered or damaged. In this connection, an explosives use plan shall be submitted to and approved by the Regional Director, Great Plains Region, BUreau of Reclamation, or his authorized representative.

6. The lessee shall be liable for all damage to the property of the United States, its successors and assigns, resulting from the exploration, development, or operation of the works contemplated by this lease, and shall further hold the United States, its successors and assigns, and its officers, agents, and employees, harmless from all claims of third parties for injury or damage sustained or in any way resulting from the exercise of the rights and privileges conferred by this lease.

7. The lessee shall be liable for all damage to crops or improvements any entryman, nonmineral splicant, or patentee, their successors and assigns, caused by or resulting from the drilling or other operations of the lessee, including reimbursement of any entryman or patentee, their successors and assigns, for all construction, operation, and maintenance charges becoming due on any portion of their said lands damaged as a result of the drilling or other operations of the lessee.

8. In addition to any other bond required under the provisions of this lease, the lessee shall provide such bond as the United States may at any time require for damages which may arise under the liability provisions of sections six (6) and seven (7) above.

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Date

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Signature of Lessee