

Appendix A: Required Operating Procedures, Stipulations, and Standard Lease Terms

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Appendix A: Required Operating Procedures, Stipulations, and Standard Lease Terms

A. Introduction

The Alaska Statewide Land Health Standards (AK LHS) were developed by the BLM Resource Advisory Council and signed by the State Director on March 2, 2004 (I.M. AK 2004-023). These offer guidance in achieving plan objectives, meeting the standards, and fulfilling the fundamentals of land health. Guidelines are applied in accordance with the capabilities of the resource in consultation, cooperation, and coordination with permittees or lessees, public land users, and the interested public. Guidelines enable managers to adjust management on public lands to meet current and anticipated climatic and biological conditions, while considering cultural and local economic needs. The general guidelines under the AK LHS were used to develop the objectives in the following sections.

1. *Required Operating Procedures*

Required operating procedures (ROP) are requirements, procedures, management practices, or design features that BLM adopts as operational requirements. They will be common to all action alternatives. ROPs will apply to all permitted activities as appropriate, including FLPMA leases and permits, Special Recreation Permits, oil and gas operations, coal exploration, mining Plans of Operation, and Right-of-Way authorizations. Obviously, not all ROPs will apply to all permitted activities. Vegetation management practices will be conducted consistent with these guidelines. ROPs have been developed to ensure that the AK LHS are met in carrying out permitted activities and management practices.

2. *Oil and Gas Leasing Stipulations*

Stipulations are specific to oil and gas exploration, development, and production. They constitute significant restrictions on the conduct of operations under a lease. For example, a stipulation that does not allow permanent facilities within one-fourth mile of a bird nest could result in a well being located far enough from the (lessee's) optimum site to prevent an oil reservoir from being fully developed. Such restrictions must be attached to the lease. As part of a lease contract, lease stipulations are specific to the lessee. All oil and gas activity permits subsequently issued to a lessee would comply with the lease stipulations appropriate to the activity under review.

The Authorized Officer (AO) may add additional or more-restrictive stipulations as determined necessary through further NEPA analysis and as developed through consultation with other Federal and State regulatory and resource agencies. Laws or regulations may require other Federal, State, and local government permits for an oil

and gas project to proceed. Specific State permits are required when the State has authority, under federal or State law or regulation, to enforce the provisions in question. Specific permits issued by Federal agencies other than BLM may include permit conditions that are more stringent than those included in this appendix.

Surface stipulations could be excepted, modified, or waived by the AO. An *exception* exempts the holder of the land use authorization document from the stipulation on a one-time basis. A *modification* changes the language or provisions of a surface stipulation, either temporarily or for the term of the lease. A *waiver* permanently exempts the surface stipulation.

The environmental analysis document prepared for oil and gas development (e.g., Applications for Permit to Drill [APDs] or sundry notices) would address proposals to exempt, modify, or waive a surface stipulation. To exempt, modify, or waive a stipulation, the environmental analysis document would need to show that: 1) the circumstances or relative resource values in the area had changed following issuance of the lease; or 2) less restrictive requirements could be developed to protect the resource of concern; or 3) operations could be conducted without causing unacceptable impacts; or 4) the resource value of concern does not occur within the lease area.

3. Standard Lease Terms

The Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, U.S. Department of the Interior, BLM, October 1992 or later addition (BLM 1992). Form 3100-11 is standard nationwide and is applied to every lease issued by the BLM. The Standard Lease Terms provide the lessee the right to use the leased land as needed to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands. Operations must be conducted in a manner that minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Federal environmental protection laws such as the Clean Water Act, Endangered Species Act, and Historic Preservation Act will be applied to all lands and operations and are included in the Standard Lease Terms. If threatened or endangered species; objects of historic, cultural, or scientific value; or substantial unanticipated environmental effects are encountered during construction, all work affecting the resource will stop, and the land management agency will be contacted.

Standard Lease Terms provide for reasonable measures to minimize adverse impacts to surface resources. These include, but are not limited to, modifications to the siting or design of facilities, timing of operations, and specifications of interim and final reclamation measures. Standard Lease Terms may not require the lessee to relocate drilling rigs or supporting facilities by more than 200 meters, require that operations be sited off the leasehold, or prohibit new surface-disturbing operations for more than 60 days each year (43 CFR part 3101.1-2).

B. Required Operating Procedures

1. Soils

a) Objective Soils-1

Minimize soil erosion by stabilizing disturbed areas as soon as possible. Where permitted operations result in surface disturbance, return land to its pre-disturbance condition to the extent possible.

Required Operating Procedures

- | | |
|----------------------|--|
| ROP Soils-1a | All organic material will be saved in a separate area from overburden for future use. |
| ROP Soils-1b | All overburden will be stockpiled and saved for resspreading over tailings. |
| ROP Soils-1c | All overburden piles will be shaped and stabilized to prevent erosion. |
| ROP Soils-1d | Final shape of respread tailing and overburden will approximate the shape of the surrounding terrain. |
| ROP Soils-1e | Disturbed stream banks will be recontoured, revegetated, or other protective measures will be taken to prevent soil erosion into adjacent waters. |
| ROP Soils 1-f | Roads, well pads, and other disturbed areas shall be recontoured and revegetated as per an approved reclamation plan or Plan of Operations. Revegetation will occur through seeding of native seed or by providing for soil conditions that allow the site to revegetate naturally, whichever provides the most effective means of reestablishing ground cover and minimizing erosion. The final land surface will be scarified to provide seed traps and erosion control. |

b) Objective Soils-2

Engineer, construct, and maintain roads and trails in a manner that minimizes the effect on landscape hydrology; concentration of overland water flow, subsurface water flows; minimizes erosion, and minimizes sediment transport.

Required Operating Procedures

- ROP Soils-2a** Roadways will be ditched on uphill side and culverts or low water crossings installed at suitable intervals. Spacing of drainage devices and water bars will be dependent on road gradient and soil erodibility.
- ROP Soils-2b** Road shall be designed for minimal disruption of natural drainage patterns.
- ROP Soils-2c** Roads should avoid areas with unstable or fragile soils.
- ROP Soils-2d** Water bars will be placed across reclaimed roads. Spacing will be dependent on road gradient and soil erodibility as shown in the following table.

Table A-1. Recommended Water Bar Spacing

Water Bar Spacing (in feet)			
Gradients (%)	Erosion Class		
	High	Moderate	Low
3-5	200	300	400
6-10	150	200	300
11-15	100	150	200
16-20	75	100	150
21-35	50	75	100
36+	50	50	50

Spacing is determined by slope distance and is the maximum allowed for the grade.

2. Vegetation

a) Objective Veg-1

Treatments to alter the vegetative composition of a site, such as prescribed burning, seeding, or planting will be based on the potential of the site and will: retain or promote infiltration, permeability, and soil moisture storage; contribute to nutrient cycling and energy flow; protect water quality; help prevent the introduction and spread of noxious weeds; contribute to the diversity of plant communities, and plant community composition and structure; and support the conservation of threatened and endangered species, other special status species, and species of local importance.

Required Operating Procedures

- ROP Veg-1a:** Vegetation treatments will be designed to achieve desired conditions clearly described in individual burn, project, or activity

plans. Desired conditions will be based on the ecological capability of a given site and will be expressed as cover types or seral stages within cover types, based on management objectives.

- ROP Veg-1b** Vegetation treatments will be designed to prevent introduction of noxious weeds. Project, burn, or activity plans will contain a segment on known occurrence of noxious weeds within planned treatment area and strategy for post-burn monitoring or treatment.
- ROP Veg-1c** Seeding and planting non-native vegetation may be used in those cases where native species are not available in sufficient quantities; where native species are incapable of maintaining or achieving the objective; or where non-native species are essential to the functional integrity of the site, with specific approval from the AO.
- ROP Veg-1d** In order to eliminate, minimize, or limit the spread of noxious weeds, only certified feed and mulch (hay cubes, hay pellets, straw, etc.) will be permitted on BLM lands.
- ROP Veg-1e** Operators must prevent and control noxious weed infestations. Noxious weeds in Alaska are listed under Alaska Statute 11 AAC 34.020 or other statewide lists that may be developed in the future.

b) Objective Veg-2

Minimize disturbance to vegetative resources from permitted activities.

Required Operating Procedures

- ROP Veg-2a** Whenever possible, existing roads and trails will be utilized.
- ROP Veg-2b** Bull-dozing of tundra mat and vegetation is prohibited, unless there is no feasible alternative (lode mining), as approved by the AO. If trenching is required, use equipment that minimizes trench width. Clearing of drifted snow is allowed to the extent that the tundra mat is not disturbed
- ROP Veg-2c** Location of winter trails should be designed to minimize breakage or compaction of vegetation.
- ROP Veg-2d** The location of winter ice roads shall be designed and located to minimize compaction of soils and the breakage, abrasion, compaction, or displacement of vegetation. Offsets may be required to avoid using the same route or track in the subsequent year.
- ROP Veg-2e** Whenever possible ground operations shall be allowed only when frost and snow covers are at sufficient depths to protect the tundra.

Ground operations shall cease when the spring snowmelt begins. The exact dates will be determined by the AO. Whenever possible, overland moves that are a part of permitted operations will occur when frost and snow cover is sufficient to minimize soil disturbance and compaction.

- ROP Veg-2f** When ground operations are required in snow-free months, select routes that utilize naturally hardened sites and avoid the need for trail braiding. The permittee will work with the AO on specifying vehicle types and methods to minimize vegetation and soil disturbance, such as use of air or water craft, utilizing existing roads or trails, or use of low ground pressure vehicles.
- ROP Veg-2g** Permanent oil and gas facilities will be designed and located to minimize the development footprint.
- ROP Veg-2h** Off-highway Vehicle use associated with permitted activities will comply with OHV designations in the area. The use of OHVs associated with permitted activities will be allowed under appropriate stipulations as approved by the AO.
- ROP Veg-2i** Permitted livestock grazing will be conducted in a manner that maintains long term productivity of vegetation. Animals will not be picketed in riparian areas. In areas of low grass production, operators will pack in weed-free hay or concentrated feed.
- ROP Veg-2j** Require Special Recreation Permit holders, reindeer herders, dog mushers, and other BLM permit holders to use certified weed-free products on BLM lands.

3. Water, Riparian, and Wetlands

a) Objective Water-1

Manage human use to achieve and maintain water quality standards and avoid waste management problems and water quality impacts.

Required Operating Procedures

- ROP Water-1a** Projects will be designed to protect water quality and comply with Federal and State water quality standards.
- ROP Water-1b** Human use will be managed to achieve and maintain water quality standards and to avoid management problems and water quality impacts. Specific management practices will include public education and construction of toilet facilities where appropriate.

b) Objective Water-2

Land management practices will be directed to avoid or minimize adverse impacts upon the hydrological, habitat, subsistence, and recreational values of public wetlands.

Required Operating Procedures

- ROP Water-2a** Activities in wetlands will comply with Federal and State permit requirements for alteration of wetlands.
- ROP Water-2b** Utilize winter access whenever possible and avoid road or trail construction in wetlands.
- ROP Water-2c** In snow-free months, if wetlands cannot be avoided, low ground pressure vehicles should be used wherever possible.

c) Objective Water-3

Minimize disturbance to riparian areas and facilitate rehabilitation of riparian areas.

Required Operating Procedures

- ROP Water-3a** Streams must be diverted around mining operations using an appropriately sized bypass channel.
- ROP Water-3b** All process waters and any ground waters seeping into the operating area must be diverted into the settling pond system for treatment prior to re-entering the natural water system.
- ROP Water-3c** Settling ponds will be cleaned out and maintained at appropriate intervals to comply with water quality standards. Fine sediment captured in the settling ponds will be protected from washout and left in a stable condition at the end of each mining season to prevent unnecessary and undue degradation to the environment during periods of non-operation.
- ROP Water-3d** Riparian areas between the mined ore deposit and the watercourse will be maintained in order to serve as a buffer strip between mining operations and watercourses: to protect integrity of stream banks, provide water temperature control, and for filtration of sediment from surface run-off. All roads, bunkhouses, offices, equipment storage, and maintenance facilities should be sited in upland areas. Overburden should be placed on the uplands or on the upland side of the mine pit. This is not intended to preclude activities which by nature must occur within riparian areas, such as placer mining.
- ROP Water-3e** Streams that have been altered by channeling, diversion, or damming shall be restored to a condition that will allow for proper functioning of the riparian zone and stream channels. Active

streams will be returned to the natural water course or a new channel shall be created at its lowest energy state (valley bottom) that approximates the old natural channel in shape, gradient, and meander frequency using a stable channel design. The new channel will be designed consistent with the capabilities of the reclaimed site.

ROP Water-3f Riparian vegetation, if removed during operations, will be re-established.

d) Objective Water-4

To the extent feasible and prudent, channeling, diversion, or damming that will alter the natural hydrological conditions and have a significant adverse impact upon riparian habitat will be avoided.

Required Operating Procedures

ROP Water-4a All permitted operations will be conducted in such a manner as not to block any stream, or drainage system and to comply with State (Alaska Dept. of Environmental Conservation) and Federal (Environmental Protection Agency) water quality standards. This is not intended to preclude activities which by nature must occur within riparian areas, such as hydropower dams or placer mining.

ROP Water-4b New road construction within floodplains will be avoided. Where necessary, roads will cross riparian areas perpendicular to the main channel.

e) Objective Water-5

Provide for maintenance of proper functioning condition in riparian areas and protection of water quality by minimizing impacts of other permitted activities and vegetation treatments.

Required Operating Procedures

ROP Water-5a Structural and vegetative treatment in riparian and wetland areas will be compatible with the capability of the site, including the system's hydrologic regime, and will contribute to maintenance or restoration of proper functioning condition.

ROP Water 5b Refueling of equipment will not be conducted in riparian areas or within 500 feet of the active floodplain of any fish-bearing waterbody or within 100 feet from non-fish bearing waterbodies. The AO may allow storage and operations at areas closer than the stated distance if properly designed to account for local hydrologic conditions.

- ROP Water 5c** Crossing of waterway courses will be made using a low-angle (perpendicular) approach. Snow and ice bridges will be removed, breached, or slotted before spring break-up. Ramps and bridges will be substantially free of soil and debris.
- ROP Water 5d** New structures will be located away from riparian or wetland areas if they conflict with achieving or maintaining riparian or wetland function. Existing structures will be used in a way that does not conflict with riparian or wetland functions or be relocated or modified when incompatible.

4. Special Status Species

a) Objective Special Status Species-1

Fish, wildlife, sensitive plants, and habitat will be managed to ensure compliance with the Endangered Species Act (ESA) and to ensure progress towards recovery of listed threatened or endangered species.

Required Operating Procedures

- ROP SS-1a** The planning area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status. BLM may recommend modifications to proposals to further its policy of avoiding BLM-approved activity that will contribute to a need to list such a species. BLM may either require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed, threatened, or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA as amended, 16 U.S.C. 1531 et seq., including completion of any required procedure for conference or consultation.
- ROP SS-1b** Within the breeding range of Spectacled eiders, habitat in the project area should be assessed to determine if eiders are likely to use the area for nesting or brood rearing. The following activities should be prohibited within 650 feet (200 meters) of spectacled eider nest sites.
- Ground level activity (by foot or vehicle) from May 20 through August 1.
 - Construction of permanent facilities, placement of fill, or alteration of habitat.
 - Introduction of high noise levels within 200 meters of nest sites (from activities at potentially greater distances), May 20

through August 1. These may include but are not limited to: airports, blasting, and compressor stations.

- ROP SS-1c** Within the breeding range of Kittlitz's murrelet, habitat in the project area should be assessed to determine if murrelet's are likely to use the area for nesting. If nests are found, minimize ground-level disturbance and activity within identified areas of suitable habitat during June–August.
- ROP SS-1d** Where practical, use will be redirected, as necessary, to protect Federal and State listed and candidate Threatened and Endangered species habitat, to enhance indigenous animal population, and to otherwise maintain public land health through avoidance of sensitive habitat.
- ROP SS-1e** Where populations or individual sensitive status plant species are located, take measures to protect these populations or individuals through site-specific buffers or management prescriptions.

b) Objective Special Status Species-2

Minimize the take of species listed under the ESA and minimize the disturbance of other species of interest from direct or indirect interaction with large mining facilities or oil and gas development.

Required Operating Procedures

- ROP SS-2a** In accordance with the guidance below, before the approval of facility construction, aerial surveys of breeding pairs of the following species shall be conducted within any area proposed for development within the breeding range of these species.

Spectacled and/or Steller's Eiders

- (a) Surveys shall be conducted by the lessee for at least three years before authorization of construction, if such construction is within the FWS North Slope Eider survey area (Map 62), and at least one year outside that area. Results of aerial surveys and habitat mapping may require additional ground nest surveys. Spectacled and/or Steller's eider surveys shall be conducted following accepted BLM-protocol during the second week of June.
- b) If spectacled and/or Steller's eiders are determined to be present within the proposed development area, the applicant shall consult with the FWS and BLM in the design and placement of roads and facilities in order to minimize impacts to nesting and brood-rearing eiders and their preferred habitats. Such consultation shall address timing restrictions and other temporary mitigating measures, construction of permanent facilities, placement

- of fill, alteration of eider habitat, aircraft operations, and introduction of high noise levels.
- c) To reduce the possibility of spectacled and/or Steller's eiders from striking above-ground utility lines (power and communication), such lines shall either be buried in access roads, or suspended on vertical support members, to the extent practical. Support wires associated with communication towers, radio antennas, and other similar facilities, shall be clearly marked along their entire length to improve visibility for low flying birds. Such markings shall be jointly developed through consultation with FWS.

Yellow-billed Loon

- a) Aerial surveys shall be conducted by before authorization of construction of facilities proposed for development that are within 1 mile of a lake 25 acres or larger in size. These surveys along shorelines of large lakes shall be conducted following accepted BLM protocol during nesting in late June and during brood rearing in late August.
- b) Should yellow-billed loons be present, the design and location of facilities must be such that disturbance is minimized. The default, standard mitigation is a 1-mile buffer around all recorded nest sites and a minimum 1,625-foot buffer around the remainder of the shoreline. Development would be prohibited within buffers.

c) Objective Special Status Species-3

Use ecological mapping as a tool to assess wildlife habitat before development of permanent facilities associated with oil and gas, coal, coal-bed methane or other large mineral developments, to conserve important habitat types, including wetlands, during development.

Required Operating Procedures

- ROP SS-3a** An ecological land classification map of the development area shall be developed before approval of facility construction. The map will integrate geomorphology, surface form, and vegetation at a scale, level of resolution, and level of positional accuracy adequate for detailed analyses of development alternatives. The map shall be prepared in time to plan one season of ground-based wildlife surveys, if deemed necessary by the AO, before approval of exact facility location and facility construction.

5. Fish and Wildlife

a) Objective Fish and Wildlife-1

Avoid human-caused increases in populations of predators of ground nesting birds.

Required Operating Procedures

ROP FW-1a The best available technology shall be used to prevent permanent facilities from providing nesting, denning, or shelter sites for ravens, raptors, and foxes in areas where ground nesting populations are sensitive to increased predation.

b) Objective Fish and Wildlife-2

Maintain and protect fish and wildlife habitat on public lands and provide for the habitat needs of fish and wildlife resources necessary to maintain or enhance such populations.

Required Operating Procedures

ROP FW-2a No road crossings shall be permitted in crucial spawning habitat, unless no feasible alternative exists and it can be demonstrated that no adverse effects will occur. State designated stream crossings should be used whenever possible.

ROP FW-2b Travel up and down streambeds is prohibited.

ROP FW-2c Rivers and streams shall be crossed at shallow riffles from point bar to point bar whenever possible.

ROP FW-2d Avoid stream crossings. When a stream must be crossed, the crossing should be as close to possible to a 90-degree angle to the stream. Stream crossings will be made at stable sections in the stream channel.

ROP FW-2e Stream and marsh crossings shall be designed and constructed to ensure free passage of fish, maintain natural drainage, and minimal adverse effects to natural stream flow. Note: Bridges, rather than culverts, are the preferred method for crossing rivers. When necessary, culverts can be constructed on smaller streams, if they are large enough to avoid restricting fish passage or adversely affecting natural stream flow.

ROP FW-2f All Water intakes will be screened and designed to prevent fish intake.

ROP FW-2g Exploratory drilling (oil and gas or coal) is prohibited in fish-bearing rivers and streams, as determined by the active

floodplain, and fish-bearing lakes, except where the lessee can demonstrate on a site-specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative.

- ROP FW-2h** Water withdrawal from lakes may be authorized on a site-specific basis depending on size, water volume, depth, and fish population and species diversification.

c) Objective Fish and Wildlife-3

Avoid heavy concentration of activities in sensitive fish, wildlife, and plant habitats.

Required Operating Procedures

- ROP FW-3a** Within the WAH caribou calving and insect relief areas (Map 3-12), coal exploration activities shall not be authorized from May 20-August 15.
- ROP FW-3b** Whenever possible, operations that require vegetation removal will avoid the migratory bird-nesting period of May 1 to July 15 (Area specific dates: May 20-July 20 for Seward Pen; June 1-July 31 for Northern region; and May 1-July 15 for interior). If no feasible alternatives exist, assessment will be conducted to determine bird species present, significance of potential impacts, and possible mitigation measures.
- ROP FW-3c** Within defined WAH caribou calving areas, the following uses would not be permitted during peak calving (May 20-June 20): 1) surface disturbing activities; 2) FLPMA leases or permits that exceed 14 days of activity; and 3) mining exploration. Aircraft associated with permitted activities will maintain an altitude of at least 2,000 feet above ground level (AGL) (except for takeoffs and landings), unless doing so would endanger human life or violate safe flying practices.
- ROP FW-3d** Within defined WAH insect relief areas, aircraft shall maintain an altitude of at least 2,000 feet AGL (except for takeoffs and landings) from June 20-August 15, unless doing so would endanger human life or violate safe flying practices.

d) Objective Fish and Wildlife-4

Minimize disruption of wildlife movement and subsistence use.

Required Operating Procedures

- ROP FW-4a** Bridges and culverts shall be large enough to accommodate or positioned to avoid altering the direction and velocity of stream

flow or interfering with migrating, rearing, or spawning activities of fish and wildlife. Bridges and culverts should span the entire non-vegetated stream channel.

- ROP FW-4b** Pipelines and roads shall be designed to allow the free movement of wildlife and the safe, unimpeded passage of the public while participating in traditional subsistence activities. Listed below are the currently accepted design practices: 1) Above ground pipelines shall be elevated a minimum of seven feet as measured from the ground to the bottom of the pipeline at vertical support members; 2) In areas where facilities or terrain may funnel caribou movement, ramps over pipelines, buried pipelines, or pipelines buried under roads may be required by the AO after consultation with Federal, State, and Borough regulatory and resource agencies as appropriate, based on agency legal authority and jurisdictional responsibility; and 3) A minimum distance of 500 feet between pipelines and roads should be maintained when feasible.

e) Objective Fish and Wildlife-5

Minimize the potential for disease transmission from livestock to wildlife.

Required Operating Procedures

- ROP FW-6a** Do not allow the use of domestic goats, alpacas, llamas, and other similar species as pack animals in conjunction with special recreation use permits.

f) Objective Fish and Wildlife-6

Minimize the potential for electrocution of raptors.

Required Operating Procedures

- ROP FW-6a** Unless otherwise agreed to in writing by the AO, power lines shall be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 1996" (APLIC 1996). The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the AO. BLM reserves the right to require modifications or additions to all power line structures, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

6. *Subsistence*

a) **Objective Subsistence-1**

Prevent unreasonable conflicts between subsistence use and permitted activities on BLM managed lands.

Required Operating Procedures

- ROP Sub-1a** In order to eliminate, minimize, or limit the effects of permitted activities on subsistence use, BLM may recommend modifications to proposed activity to further its policy of effective subsistence management.
- ROP Sub-1b** Permittees may be required to provide information to potentially affected subsistence communities regarding the timing, siting, and scope of the proposed activity.
- ROP Sub-1c** Permittees may be required to consult with potentially affected subsistence communities to receive input regarding way to minimize impacts to subsistence, and the permittee will be required to provide documentation of their consultation efforts to the BLM.

Also see *FW-4b*.

7. *Cultural and Paleontological*

a) **Objective Cultural and Paleontological-1**

Management practices will consider protection and conservation of known cultural resources, including historical sites and prehistoric sites.

Required Operating Procedures

- ROP C-1a** For oil and gas activities, cultural resource protection is covered under the standard lease terms.
- ROP C-1b** For permitted activities, cultural resource protection and conservation will be consistent with 1) Sections 106, 110, and 101d of the Historic Preservation Act, 2) procedures under BLM's 1997 Programmatic Agreement for Section 106 compliance, and 3) the BLM's 1998 implementing Protocol in Alaska between BLM and the Alaska State Historic Preservation Officer.
- ROP C-1c** If necessary, mitigation measures shall be implemented according to a mitigation plan approved by the AO. Mitigation plans will be reviewed as part of Section 106 consultation for National Register

eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of the damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic.

b) Objective Cultural and Paleontological-2

Avoid damage to significant paleontological resources where possible, and mitigate unavoidable damage.

Required Operating Procedures

- ROP C-2a** For all actions, evaluate the impacts of proposed actions to known resources and avoid damage to already-identified significant paleontological resources by avoidance.
- ROP C-2b** If avoidance is not possible, then perform scientific examination of the to-be-impacted significant resources followed by appropriate mitigation. That may include the professional collection and analysis of significant specimens by scientists.

8. Visual Resource Management

a) Objective Visual Resource Management-1

Manage permitted activities to meet Visual Resource Management Class Objectives described below.

- Class I:** Natural ecological changes and very limited management activity are allowed. The level of change to the characteristic landscape should be very low and must not attract attention.
- Class II:** The level of change to the characteristic landscape should be low. Management activities may be seen, but should not dominate the view of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
- Class III:** The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
- Class IV:** The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Required Operating Procedures

- ROP VRM-1a** To the extent practicable, all permanent facilities will be located away from roadsides, rivers, or trails, thereby using distance to reduce the facility's visual impact.
- ROP VRM-1b** Access roads and permanent facilities will be designed to meet the visual resource objective using such methods as minimizing vegetation clearing, and using landforms to screen roads and facilities.
- ROP VRM-1c** Permanent facilities will be designed to be screened behind trees or landforms if feasible so they will blend with the natural surroundings.
- ROP VRM-1d** The modification or disturbance of landforms and vegetative cover will be minimized.
- ROP VRM-1e** Permanent facilities will be designed so their shapes, sizes, and colors harmonize with the scale and character of the surrounding landscape.
- ROP VRM-1f** In open, exposed landscapes, development will be located in the opposite direction from the primary scenic views, if feasible.

9. Fire Management

a) Objective Fire Management-1

Reduce impacts to water quality, riparian habitat, vegetation, soils, and fish habitat from fire suppression activities.

Required Operating Procedures

- ROP FM-1a** Permittees and casual users will be held financially responsible for any actions or activity that results in a wildland fire. Costs associated with wildland fires include but are not limited to damage to natural or cultural resources and costs associated with any suppression action taken on the fire.
- ROP FM-1b** The Federal government shall not be held responsible for protection of permittees structures or their personal property. It is the responsibility of permittees and leasees to mitigate and minimize risk to their personal property and structures from wildland fire, if allowed by their permit.
- ROP FM-1c** Gas powered equipment shall be equipped with manufacturer approved and functional spark arrestors.

- ROP FM-1d** To avoid the potential impacts to aquatic life the use of fire retardant is prohibited except when necessary to protect:
- Human life,
 - Permanent year-around residences,
 - National Historic land marks,
 - Structures on or eligible for the National Register of Historic Places
 - Government Facilities, and
 - Other designated sites or structures or if necessary to protect high value resources on adjacent lands under other than BLM administration or ownership.

Even if one of the above listed resources is being threatened, water should be used instead of fire retardant whenever possible or appropriate. The use of fire suppressant foams is prohibited.

- ROP FM-1e** Use of tracked or off-road vehicles in fire suppression or management activities will be conducted in a manner that does not cause erosion, damage to riparian areas, degradation of water quality or fish habitat, or contribution to stream channel sedimentation.

- ROP FM-1f** Use of heavy equipment and other motorized vehicles off road requires approval of AO or designee.

- ROP FM-1g** Rehabilitate fires as needed, guided by the fire specific rehabilitation plan provided by the resource area to the suppression agency.

- ROP FM-1h** Helicopters used for any activity during snow free conditions, which requires landing in wildland fuels, should have the exhaust/cooling system located high on the fuselage. Helicopters, which have exhaust/cooling systems that are located low on the fuselage and expels the exhaust straight back or downward, should only be landed in areas with no fuel such as areas of bare soil, gravel bars, or other areas of low combustability.

10. Forestry

a) Objective Forest-1

Forest resources will be managed to ensure biodiversity, long-term productivity, and a wide spectrum of multiple uses, including scenic values, recreation, fish and wildlife habitat, watershed protection, and where feasible, harvest of forest products.

Required Operating Procedures

- ROP Forest-1a** Timber sales will rely to the extent possible, on natural regeneration through proper site preparation.
- ROP Forest-1b** Timber sales will include buffers to prevent disturbance of fish habitat and possible sedimentation into streams. Buffer widths will be dependant on harvest method, season of harvest, equipment used, slope, vegetation, and soil type. Winter operations will be encouraged in order to minimize impacts to riparian areas.

11. Mineral Materials

a) Objective Mineral Materials-1

Minimize the impact of mineral materials mining activities on air, land, water, fish, and wildlife resources.

Required Operating Procedures

- ROP MM-1a** When responding to a request for a material sale or identifying a source for materials on public lands, the highest priority shall be given to using existing upland material sources that meet suitability and economic needs. Using material from wetlands, lakes, and active or inactive floodplains should be avoided unless no feasible public upland alternative exists. Sales or permits for gravel extraction will not be permitted in known fish spawning or rearing areas.
- ROP MM-1b** Avoid habitats limiting local fish or wildlife populations (i.e. Fish spawning and over wintering, calving areas, raptor nesting sites). Sites directly affecting these habitats should not be considered unless alternative sites are not available.
- ROP MM-1c** Avoid key geomorphic features such as the beach barrier dune, river cut banks and associated riparian zones, root zones of spits, tombolos and barrier islands, springs, active channels of small, single channel rivers, wetlands and other Federal, State and private lands with specific use and regulation.
- ROP MM-1d** When possible, avoid vegetated habitats. If mining in vegetated areas, all overburden, vegetative slash, and debris shall be saved for use during site reclamation to facilitate vegetative recovery. This material should be piled or broadcast so that it will not be washed away.

- ROP MM-1e** When scraping gravel in active or inactive floodplains, maintain buffers that will constrain active channels to their original locations and configurations.

b) Objective Mineral Materials-2

Consider the technical character of the preferred site and available alternate site(s).

- ROP MM-2a** The site can provide mineral material meeting the technical and volumetric requirements of the project and still maintain space for any required buffers.

- ROP MM-2b** Amount of site preparation and rehabilitation required should be considered to minimize the following: haul distance, vegetation and overburden removal, river training structures bank and other erosion protection devices, length of access route, crossing of active drainage or channels and wet working conditions in the pit.

12. Mining Law Administration

a) Objective Mining Law Administration-1

All mining operations and access to these sites shall be conducted and reclaimed in a manner that prevents undue and unnecessary degradation of the environment and its natural resources.

Required Operating Procedures

- ROP MLA-1a** Existing access routes will be used as available and used in accordance with season of use for which the access was developed. New access or upgrading existing access shall be planned in consultation with the Authorized Officer for minimum widths needed for passage and shall follow natural contours where practicable to minimize cut and fill.
- ROP MLA-1b** All tailings, dumps, mining improvements, deleterious materials and substances, solid waste including scrap steel derelict mining machinery and parts shall be disposed of so as to prevent undue and unnecessary degradation in accordance with applicable Federal and State Laws and in consultation with the Authorized Officer.
- ROP MLA-1c** Hazardous substances and used petroleum products shall be converted by onsite use or contained and backhauled for disposal at a proper facility for that material. Storage of fuels and petroleum products shall be in accordance with State of Alaska Department of Environmental Conservation.

ROP MLA-1d Sanitation efforts including gray water and kitchen wastes shall be directed in accordance with the State of Alaska Department of Environmental Conservation General Mine Permit or plan specifically developed in consultation with that Agency.

ROP MLA-1e Water quality of both surface and underground waters shall be regulated by terms and conditions of The U.S. Environmental Protection Agency's National Pollution Discharge Elimination Permit (NPDES).

b) Objective Mining Law Administration-2

Occupancy of unpatented mining claims on the public land by those involved in prospecting or exploration, mining or processing operations are limited by level of that activity deemed reasonably incident to mining and approved by the Authorized Officer.

Required Operating Procedures

ROP MLA-2a Activities (prospecting, mining or processing operations) on the mining claim in order to be reasonably incident includes those actions or expenditure of labor and resources by a person of ordinary prudence to prospect, explore define, develop, mine, or beneficiates a valuable mineral deposit using methods, structures and equipment appropriate to the geological terrain, mineral deposit and stage of development.

ROP MLA-2b These on the ground activities must be "substantially regular" meaning that save for seasonal shutdown, climatic extremes or equipment maintenance, repair or replacement, or the isolated nature of the site, the work directly benefits the mineral property.

13. Hazardous Materials and Waste Management

a) Objective Hazardous Materials and Waste Management-1

Protect the health and safety of permittees, lessees, and the general public by avoiding the disposal of solid waste and garbage near areas of human activity.

Required Operating Procedures

ROP Hazmat-1a Areas of operation shall be left clean of all debris.

b) Objective Hazardous Materials and Waste Management-2

Minimize impacts on the environment from non-hazardous waste generation.

Required Operating Procedures

- ROP Hazmat-2a** All feasible precautions shall be taken to avoid attracting wildlife to food and garbage.
- ROP Hazmat-2b** Current requirements prohibit the burial of garbage. All putrescible waste shall be incinerated, backhauled, or composted in a manner approved by the AO. All unburnable solid waste shall be backhauled and disposed of in an approved waste-disposal facility in accordance with U.S. Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC) regulations and procedures.
- ROP Hazmat-2c** No disposal of domestic wastewater is allowed into bodies of fresh, estuarine, and marine water, including wetlands, unless authorized by the National Pollution Discharge Elimination System (NPDES) or State permit.
- ROP Hazmat-2d** Wastewater must be managed in accordance with Title 18 Alaska Administrative Code, Chapter 72, (18 AAC 72) Wastewater Disposal. Wastewater is defined as Human Waste (sewage), and Gray Water (water which has been used for personal hygiene, washing clothing or equipment, or sanitizing cooking and eating materials). If the standards for Pit Privies found at 18 AAC 72.030 cannot be met, all wastewater must be collected and transported to a state approved disposal facility. Upon closure of the campsite the Pit Privy must be completely back-filled with the surface area covered and re-graded to approximate original appearance.
- ROP Hazmat-2e** Pit privies will be located a minimum of at least 100 feet from the high-water mark of streams, rivers, or lakes. Pit privies will be sprinkled with lime and then backfilled with a minimum of two feet of over-material when the pit has reached capacity or the operation is terminated. All Pit privies must comply with ADEC Standards.
- ROP Hazmat-2f** For oil and gas operations, all pumpable solid, liquid, and sludge waste shall be disposed by injection in accordance with EPA, ADEC, and the Alaska Oil and Gas Conservation Commission regulations and procedures. The AO may permit alternate disposal if the lessee demonstrates that subsurface disposal is

not feasible or prudent and the alternative method will not result in adverse environmental effects.

- ROP Hazmat-2g** For oil and gas operations, produced water shall be disposed of into injection wells as approved by the AOGCC under EPA regulations and the UICC program. The AO may permit alternate disposal methods if the lessee demonstrates that subsurface disposal is not feasible or prudent and the alternative method will not result in adverse environmental effects.

c) Objective Hazardous Materials and Waste Management-3

Minimize the impacts to fish, wildlife, and the environment, from hazardous materials, oil spills, and other chemical spills.

Required Operating Procedures

- ROP Hazmat-3a** For oil and gas operations and mining Plans of Operation, a Hazardous Materials Emergency Contingency Plan shall be prepared and implemented before transportation, storage, or use of fuel or hazardous substances. The plan shall include a set of procedures to ensure prompt response, notification, and cleanup in the event of a hazardous substance spill or threat of a release. The plan shall include a list of resources available for response (e.g., heavy-equipment operators, spill-cleanup materials or companies), and names and phone numbers of Federal and State contacts.
- ROP Hazmat-3b** Plans of Operations will include a disclosure of the components in any hydraulic fracturing materials to be used, the volume and depths at which such materials are expected to be used, and the volume capacity of the vessels to be used to store such materials.
- ROP Hazmat-3c** For oil and gas operations and mining Plans of Operation, the operator will maintain Material Safety Data Sheet (MSDS) information on all hazardous substances used by the operator.
- ROP Hazmat-3d** Before initiating any oil and gas or related activity or operation, including field research/surveys and/or seismic operations, lessees/permittees shall develop a comprehensive spill prevention and response contingency plan per 40 CFR 112 .
- ROP Hazmat-3e** For oil and gas operations, mining operations, and other leases and permits, sufficient oil-spill cleanup materials (absorbents, containment devices, etc.) shall be stored at all fueling points and vehicle-maintenance areas and shall be carried by field

crews on all overland moves, seismic work trains, and similar overland moves by heavy equipment.

- ROP Hazmat-3f** Fuel and other petroleum products shall be stored at a location approved by the AO and within an impermeable lined and diked area capable of containing 110 percent of the stored volume or within approved alternate storage containers.
- ROP Hazmat-3g** Fuel storage will not occur closer than 100 feet from any river, lake, stream, or wetland unless approved by the AO.
- ROP Hazmat-3h** Liner material shall be compatible with the stored product and capable of remaining impermeable during typical weather extremes expected throughout the storage period.
- ROP Hazmat-3i** Fuel and other petroleum products and hazardous materials shall be stored in containers designed to hold that product. All fuel containers, including barrels and propane tanks, shall be marked with the responsible party's name, product type, and year filled and purchased.
- ROP Hazmat-3j** Hazardous materials/toxic substances, as defined by EPA (i.e., used oils/petroleum products, batteries), will be handled and disposed of in accordance with EPA and ADEC guidelines.
- ROP Hazmat-3k** All fuel spills will be cleaned up immediately, taking precedence over all other matters, except the health and safety of personnel. Spills will be cleaned up utilizing absorbent pads or other ADEC approved methods.
- ROP Hazmat-3l** Notice of any reportable spill (as required by 40 CFR 300.125 and 18 AAC 75.300) shall be given to the AO as soon as possible, but no later than 24 hours after occurrence and such other Federal and State officials as are required by law to be given such notice including ADEC at (907) 478-9300.
- ROP Hazmat-3m** Surface discharge of reserve-pit fluids and produced water is prohibited unless authorized by applicable NPDES, ADEC, and Borough permits and is approved by the AO.

C. Oil and Gas Leasing Stipulations

Table A-2. Oil and Gas Leasing Stipulations

Objective	Stipulation	Areas Where Stipulations Apply	Exception, Modification, Waiver
Protect fish-bearing rivers, streams and lakes from blowouts, and minimize alteration of riparian habitat.	Stip-1: Exploratory drilling is prohibited in rivers and streams, as determined by the active floodplain, and fish-bearing lakes, except where the lessee can demonstrate on a site specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative.	Fish bearing rivers, streams, and lakes	Exception: AO may grant exception if lessee can demonstrate that impacts would be minimal or there is no feasible or prudent alternative Modification: None Waiver: None
Protect fish-bearing water bodies, water quality and aquatic habitats.	Stip-2: The design and location of permanent oil and gas facilities within 500 feet of fish-bearing or 100 feet of non-fish-bearing water bodies will only be approved on a case-by-case basis if the lessee can demonstrate that impacts to fish, water quality, and aquatic and riparian habitats are minimal.	Areas open to oil and gas leasing	Exception: AO may grant exception if the lessee can demonstrate that impacts to fish, water quality, and aquatic and riparian habitats are minimal. Modification: None Waiver: None
Protect threatened, endangered, or other special status species and their habitats.	Stip-3: The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened or endangered species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed TES species or result in the destruction or adverse modification of a designated or proposed critical habitat.	All BLM-managed lands	Exception: None. Modification: None. Waiver: None.

Objective	Stipulation	Areas Where Stipulations Apply	Exception, Modification, Waiver
Ensure the final disposition of the land meets the current and future needs of the public.	Stip 4: Upon abandonment or expiration of the lease, all oil- and gas-related facilities shall be removed and sites rehabilitated to as near the original condition as practicable, subject to the review of the AO. The AO may determine that it is in the best interest of the public to retain some or all facilities.	Areas open to oil and gas leasing	Exception: The AO determines that it is in the best interest of the public to retain some or all facilities. Modification: None. Waiver: None
Minimize surface impacts from exploratory drilling.	Stip 5: Exploratory drilling shall be limited to temporary facilities such as ice pads, ice roads, ice airstrips, temporary platforms, etc., unless the lessee demonstrates that construction of permanent facilities such as gravel airstrips, storage pads, and connecting roads is environmentally preferable or necessary to carry out exploration more economically.	Areas open to oil and gas leasing	Exception: The lessee demonstrates that construction of permanent facilities such as gravel airstrips, storage pads, and connecting roads is environmentally preferable or that exploring from temporary facilities is not practical or economically feasible. Modification: None. Waiver: None
Minimize disturbance to calving caribou.	Stip-6: No exploration or development activities May 20-June 20. Production activities may occur (no workover rigs). This stipulation would not apply under Alternative B.	Western Arctic caribou calving area (Map 3-12)	Exception: AO may grant exception if review indicates that calving caribou no longer occupy site-specific area. Modification: Season may be extended based on actual occupancy of the area. Monitoring provided by ADF&G aerial counts. Waiver: This stipulation may be waived if caribou migratory patterns change and the areas are no longer used for calving.

Objective	Stipulation	Areas Where Stipulations Apply	Exception, Modification, Waiver
Minimize disturbance to caribou during the insect season.	Stip-7: No exploration activities May 20-August 15. Construction of production facilities and production activities may occur (no workover rigs). This stipulation would not apply under Alternative B.	Western Arctic caribou crucial insect relief area (Map 3-12)	Exception: AO may grant exception if review indicates that caribou no longer occupy site-specific area. Exceptions may be granted for work-over rigs on a case-by-case basis depending on duration of activity and actual caribou occupancy of area. Modification: Season may be shortened or extended based on actual occupancy of the area. Monitoring provided by ADF&G aerial counts. Waiver: This stipulation may be waived if caribou migratory patterns change and the areas are no longer used for insect relief. Exceptions may be granted for work-over rigs on a case-by-case basis depending on duration of activity and actual caribou occupancy of area.
Minimize soil erosion.	Stip-8: Surface disturbing proposals involving construction on slopes greater than 25 percent would include an approved erosion control strategy, topsoil segregation/restoration plan, be properly surveyed and designed by a certified engineer and approved by the BLM prior to construction and maintenance.	All slopes greater than 25 percent within the planning area.	Exception: If after an environmental analysis the AO determines that it would cause undue or unnecessary degradation to pursue other placement alternatives, occupancy area may be authorized. Modification: May be granted if a more detailed analysis (Order I soil survey) finds that surface disturbance could occur without accelerated erosion. Waivers: None.
Minimize impact on the human environment.	Stip-9: The operator will construct drill pads at least 500 feet and compressor stations at least 1,500 feet from occupied structures.	Areas open to oil and gas leasing	Exception: The AO may grant an exception if the operator obtains the consent of the owner of the structure. Modification: None. Waivers: None.

D. Standard Lease Terms for Oil and Gas (BLM Form 3100-11)

Section 1. Rentals

Rentals shall be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:

- (a) Noncompetitive lease, \$1.50 for the first 5 years; thereafter \$2.00;
- (b) Competitive lease, \$1.50, for the first 5 years; thereafter \$2.00;
- (c) Other, see attachment,

or as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due at the rate specified in (a), (b), or (c) for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

Section 2. Royalties

Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations on production removed or sold. Royalty rates are:

- (a) Noncompetitive lease, 12 ½ percent;
- (b) Competitive lease, 12 ½ percent;
- (c) Other, see attachment; or

as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties shall be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production shall be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee shall not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor shall lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year shall be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions

of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge shall be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee shall be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

Section 3. Bonds

A bond shall be filed and maintained for lease operations as required under regulations.

Section 4. Diligence, rate of development, unitization, and drainage

Lessee shall exercise reasonable diligence in developing and producing, and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if seemed necessary for proper development and operation of area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Section 5. Documents, evidence, and inspection

Lessee shall file with proper office of lessor, not later than 30 days after effective date thereof, any contract or evidence of other arrangement for sale or disposal of production. At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements and reports with respect to parties in interest, expenditures, and depreciation costs. In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, information on well surveys and tests, and a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that supports costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for six years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Section 6. Conduct of operations

Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

Section 7. Mining operations

To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessor reserves the right to deny approval of such operations.

Section 8. Extraction of helium

Lessor reserves the option of extracting or having extracted helium from gas production in a manner specified and by means provided by lessor at no expense or loss to lessee or owner of the gas. Lessee shall include in any contract of sale of gas the provisions of this section.

Section 9. Damages to property

Lessee shall pay lessor for damage to lessor's improvements, and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Section 10. Protection of diverse interests and equal opportunity

Lessee shall: pay when due all taxes legally assessed and levied under laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public.

Lessor reserves the right to ensure that production is sold at reasonable prices; and to prevent monopoly. If lessee operates a pipeline, or owns controlling interest in a pipeline or a company operating a pipeline, which may be operated accessible to oil derived from these leased lands, lessee shall comply with section 28 of the Mineral Leasing Act of 1920.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee, nor lessee's subcontractors shall maintain segregated facilities.

Section 11. Transfer of lease interests and relinquishment of lease

As required by regulations, lessee shall file with lessor any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Section 12. Delivery of premises

At such time as all or portions of this lease are returned to lessor, lessee shall place affected wells in condition for suspension or abandonment, reclaim the land as specified by lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells.

Section 13. Proceedings in case of default

If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation unless or until the leasehold contains a well capable of production of oil or gas in paying quantities, or the lease is committed to an approved cooperative or unit plan or communitization agreement which contains a well capable of production of unitized substances in paying quantities. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time. Lessee shall be subject to applicable provisions and penalties of FOGPMA (30 U.S.C. 1701).

Section 14. Heirs and successors-in-interest

Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to the heirs, executors, administrators, successors, beneficiaries, or assignees of the respective parties hereto.

