

APPENDIX P

OIL AND GAS OPERATIONS

Geophysical Management (Permitting Process)

Geophysical operations on and off an oil and gas lease are reviewed by the federal surface management agency.

The responsibilities of the geophysical operator and the BLM District Manager during geophysical operations are described in USDI 1978:

1. Geophysical Operator - The operator is required to file, in person or by mail, a "Notice of Intent to Conduct Oil and Gas Exploration Operations" for all operations on public lands administered by BLM. Form WY-04-3045-6 is available in all BLM District Offices. The notice includes maps showing the location of the line, and all access routes, and must be filed in the BLM Resource Area Office before operations begin.

The operator is also required to be bonded. A copy of the bond or other evidence of satisfactory bonding shall accompany the "Notice of Intent." Proper bonding can include a nationwide or statewide oil and gas bond with a rider for geophysical exploration or a \$5,000 individual surety bond filed with the District Manager.

Once the Notice of Intent has been filed, a prework conference or field inspection (if required) is conducted. Any special written instructions, orders, or approvals that may be given by the area manager at this prework conference must be complied with by the operator.

Surface-disturbing activities, such as bulldozing, require written approval by the area manager. Operators may be required to submit an archeological survey if dirt work is contemplated. The operator is required to comply with all applicable federal, state, and local laws such as the Federal Land Policy and Management Act of 1976, Historic Preservation Act of 1966, Threatened and Endangered Species Act, etc.

Any changes in the original Notice of Intent must be submitted in writing to the area manager. Written approval must be secured before activities proceed.

When operations are completed, the operator is required to file a Notice of Completion of Geophysical Exploration, after any required rehabilitation work is completed.

2. BLM Area Manager - The area manager is required to contact the operator immediately after the Notice of Intent is filed and explain the terms of the Notice, including the operating procedures to be followed, all current laws, and all BLM administrative requirements. A prework conference or field inspection is conducted and written instructions or orders given to the operator. The area manager is responsible for the examination of resource values and the development of appropriate surface protection and reclamation measures.

Final inspection following filing of the Notice of Completion is also required of the area manager.

State Standards

In Wyoming, the operator is required to register with the State. State standards for plugging shot holes, personnel safety, etc., will be followed.

Mitigation

Standard surface disturbance mitigations are applied as necessary (Appendix A-1) in accordance with the RMP decisions.

The most critical management practice is compliance monitoring during and after seismic activity. Compliance inspections during the operation ensure that

stipulations are being followed. Compliance inspections upon completion of work ensure that the lines are clean and the drill holes are properly plugged.

Oil and Gas Leasing

The Mineral Leasing Act provides that all public lands are open to oil and gas leasing unless a specific order has been issued to close an area. Based on the Federal

Onshore Oil and Gas Leasing Reform Act of 1987, all leases must be exposed to competitive interest.

Lands which do not receive competitive interest will be available for noncompetitive leasing for a period not to exceed two years. Competitive sales will be held at least quarterly and by oral auction.

Competitive leases are issued for a term of 5 years or for as long as oil and(or) gas is produced. Noncompetitive leases are issued for a term of 10 years, or as long as production continues.

The federal government receives yearly rental fees on nonproducing leases. Royalty on production is received on producing leases, one half of which is returned to the state of Wyoming.

Drilling Permit Process

A federal lessee or operator is governed by procedures set forth by the Onshore Oil and Gas Order No. 1, "Approval of Operations on Onshore Federal and Indian Oil and Gas Leases," issued under 43 CFR 3164. Operating Order No. 1 lists the following as pertinent points to be followed by the lessee or operator: notice of staking (NOS); application for permit to drill (APD), which includes a multi-point surface use and operations plan; approval of subsequent operations; well abandonment; water well conversion; responsibilities on privately owned surface; and reports and activities required after well completion.

1. Notice of Staking (NOS) - After the company makes the decision to drill a well, they must decide whether to submit an NOS or application for permit to drill (APD). The NOS consists of 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, and also used at the on-site inspection to provide the preliminary data to assess what additional items are necessary to complete the APD.

2. Application for Permit to Drill (APD) - The operator or lessee may submit a completed APD in lieu of notice of staking, but in either case no surface activity is conducted in conjunction with the drilling until the APD is approved by the BLM.

If the APD option is used, an APD is submitted to the BLM and a field inspection is held with the operator and any other interested party. The purpose of the presite field inspection is to evaluate the operator's plan, to assess the situation for possible impacts (surface and subsurface), and to formulate resource protection stipulations. To lessen environmental impacts, a site may be moved, reoriented, or redimensioned, within certain limits, at the presite inspection. The proposed access road may also be rerouted (USDI 1981a). If necessary, site-specific mitigations are added to the APD for protection of surface and(or) subsurface resource values in the vicinity of the proposed activity.

The BLM is responsible for preparing environmental documentation necessary to satisfy the National Environmental Policy Act requirements and provide any mitigation measures needed to protect the affected resource values.

Consideration is also given to the protection of ground water resources. Plugging and abandonment procedures include measures to protect good quality ground water from contamination by hydrocarbons or poorer quality water. Drilling procedures for new wells also address ground water protection. Such protection is described in Appendix A-5.

When final approval is given by the BLM, the operator may commence construction and drilling operations. Approval of an APD is valid for one year. If construction does not begin within one year, the stipulations must be reviewed prior to approving another APD (USDI 1981a).

Issuance of Rights-of-Way

Rights-of-way are required for all facilities, tank batteries, pipelines, truck depots, powerlines, and access roads that occupy federally owned land outside the lease or unit boundary. When a third party (someone other than the oil or gas company and the federal government) constructs a facility or installation on or off the lease, a right-of-way is also required.

Plugging and Abandonment of Wells

The purpose of plugging and abandoning (P&A) a well is to prevent fluid migration between zones, to protect minerals from damage, and to restore the surface area. Each well has to be handled individually due to a combination of factors, including geology, well design limitations, and specific rehabilitation concerns.

Therefore, only minimum requirements can be established initially, then modified for the individual well.

The first step in the P&A process is the filing of the Notice of Intent to Abandon (NIA). This will be reviewed by both the Surface Management Agency (SMA) and the BLM District Office. The NIA must be filed and approved prior to plugging a past producing well. Verbal plugging instructions can be given for plugging current drilling operations, but an NIA must be filed after the work is completed. If usable fresh water was encountered while the well was being drilled, the SMA will be allowed, if interested, to assume future responsibility for the well and the operator will be reimbursed for the attendant costs.

The operator's plan for plugging the hole is reviewed. The minimum requirements are as follows: In open hole situations, cement plugs must extend at least 50 feet above and below zones with fluid which has the potential to migrate, zones of lost circulation (this type of zone may require an alternate method to isolate), and zones of potentially valuable minerals. Thick zones may be isolated using 100-foot plugs across the top and bottom of the zone. In the absence of productive zones and minerals, long sections of open hole may be plugged with 150-foot plugs placed every 2,500 feet. In cased holes, cement plugs must be placed opposite perforations and extending 50 feet above and below except where limited by plug back depth.

A permanent abandonment marker is required on all wells unless otherwise requested by the SMA. This marker pipe is usually at least 4 inches in diameter, 10 feet long, 4 feet above the ground, and embedded in cement. The pipe must be capped with the well identity and location permanently inscribed.

The SMA is responsible for establishing and approving methods for surface rehabilitation and determining when this rehabilitation has been satisfactorily accomplished. At this point, a Subsequent Report of Abandonment can be approved.