Dear Operator,

Recently, several domestic water wells within the Ignacio-Blanco Field have been tested positive for methane contamination. The source and degree of contamination is not absolutely known. Public concern over this phenomena has prompted Federal, State, local governments and industry groups to address this problem. During this review, the San Juan Resource Area required site specific bradhead testing on all wells directly offsetting active coal bed methane development. This type of selective testing has proven to be beneficial in assessing wellbore mechanical integrity. These procedures were developed through the efforts of the San Juan Basin Oil and Gas Coordination Committee. On December 31, 1990, the Colorado Oil and Gas Commission promulgated similar rules which require annual bradhead testing on all State and fee wells within the Ignacio-Blanco Field.

This NTL should prevent and mitigate potential impacts to groundwater resources within the Ignacio-Blanco Field, promote consistency of operations within the field and maintain consistency between Federal and State agencies. Inquiries related to this NTL should be directed to the San Juan Resource Area, 701 Camino del Rio, Durango, CO 81301 or telephone 303-247-4082.

Enclosure
cc: VCSO (CO-922)
    BIA - Ignacio
    Southern Ute Tribe
    San Juan National Forest
Notice to Lessees (NTL) and Operators of
Federal and Indian Oil and Gas Leases within
the Ignacio-Blanco Field
NTL MDO-91-1, Change 1

April 15, 1998

This change notice is issued pursuant to the authority delegated
to the Authorized Officer (AO) under 43 CFR 3161.2 and 43 CFR
3164.2 to implement oil and gas operating regulations pursuant to
43 CFR 3160 and the terms, conditions, and attached stipulations
of the Federal and Indian oil and gas leases. In accordance with
the regulatory guidelines referenced above, lessees and operators
shall conduct operations in a manner which protects the health,
safety, and welfare of the public in addition to protecting
natural resources and the environment. Operations shall also be
conducted in a manner which results in maximum economic recovery
of the oil and gas resources with a minimum amount of waste.

I. Background

On July 23, 1991, the Bureau of Land Management (BLM) issued NTL-
MDO-91-1 (Bradenheim Testing). That notice was issued in
response to evidence of methane contamination in groundwater as
documented in water quality analyses of domestic water wells.
Since 1991, the BLM has aggressively implemented the terms and
conditions of NTL MDO-91-1. The Colorado Oil and Gas
Conservation Commission (COGCC) has also implemented and enforced
similar requirements for gas wells on state and fee lands.

As a result, the extent and magnitude of gas wells exhibiting
mechanical integrity problems identifiable by this process has
been ascertained. Concurrent with the Bradenheim testing effort,
water well testing has been conducted to identify the presence of
entrained methane contamination. These combined efforts have
helped the BLM delineate “Critical Areas” where methane
contaminated water wells exist.

Bradenheim testing has helped the BLM and the COGCC identify gas
wells requiring remediation. Well remediation efforts have
reduced the potential for contamination of shallow groundwater
aquifers and losses of hydrocarbon resources associated with
natural gas production. The overall number of gas wells
exhibiting bradenhead pressure above the established threshold of 25 psig (2 psig in the Critical areas) have been significantly reduced.

Test data suggests that a less frequent level of monitoring can be implemented while providing an effective level of control to assess potential changes in wellbore integrity. On the basis of seven years of bradenhead testing, the BLM has determined that methane contamination and loss of the hydrocarbon resource is more likely to occur at older conventional gas wells than in newer Fruitland Formation coal gas wells. This fact is a function of improved primary cementing requirements including circulation of cement through well-bore annuli from the producing horizon to the surface, thereby maximizing the potential for zonal isolation between the gas producing horizon and shallow aquifers.

II. Definitions

As used in this notice, terms are defined as follows:

A. "Authorized officer" (AO) - shall mean the San Juan Resource Area Manager.

B. "Conventional Well" - A well completed in any sandstone reservoir namely the sands of the Dakota, Mesaverde, and Pictured Cliff Formations.

C. "Fruitland Formation Coal Gas Well" - A well completed in the coal seams of the Fruitland Formation.

D. "Critical Area" - Areas around domestic water wells which exhibit greater than 1 mg/L entrained methane (See attached map)

III. Requirements

This NTL modifies NTL MDO-91-1, by revising both the frequency of required bradenhead testing and adding new gas analysis requirements based on pressure, volume, and well location. Requirements are applicable only to the Ignacio-Blanco Field in Southwest Colorado and are as follows:

1) Annual bradenhead testing requirements, in accordance with NTL MDO-91-1, for all conventional gas wells and all conventional gas wells recompleted as Fruitland Formation coal gas wells.

2) Biennial bradenhead testing will now be required on Fruitland Formation Coal Gas Wells completed in the Fruitland Coal prior to 1998.
Biennial testing will be required on odd numbered years, beginning in 1999, (eg., gas wells meeting the above criteria for biennial testing will not need to be tested in 1998). Fruitland Formation Coal Gas wells drilled in 1998 and beyond will have no history of bradenhead testing. Therefore, these gas wells will be required to have an initial test conducted upon completion followed with biennial testing thereafter.

3) All gas wells having approved Notices of Intent to remediate excessive bradenhead pressure by implementing bradenhead venting and/or wellbore/well head repairs are governed by their attached Conditions of Approval which overrule items #1 and #2 above.

4) Bradenhead gas analysis is required only when gas volume is sufficient to allow a minimum of 10 purges of the collection cylinder, and when pressures exceed 2 psig in designated critical areas or 25 psig outside of designated critical areas.

In 1998, intermediate casing gas samples will be required only when specifically requested by the BLM.

IV. Conformance with NTL MDO-91-1

NTL MDO-91-1, remains in full force and effect except where modified by this NTL.

4/14/98

Date

[Signature]

Area Manager, San Juan Resource Area