September 4, 1986

Case 9010

MEMORANDUM

TO: NEW MEXICO PRODUCERS AND OTHER INTERESTED PARTIES

FROM: R. L. STAMETS, DIRECTOR

SUBJECT: PROPOSED CHANGES IN DIVISION RULES

The following rule changes will be considered at a hearing to be scheduled in October, 1986. Other proposals, including those resulting from the work of the Gas Advisory Committee, will be considered at that time.

PROPOSED RULE RELATIVE TO HYDROGEN SULFIDE GAS (New material)

RULE 118. Hydrogen Sulfide

A. Wells drilled in known $H_2S$-producing areas or where there is a substantial probability of encountering $H_2S$ in dangerous concentrations should be planned, drilled and completed with due regard to, and guidance from, "Recommended Procedures (RP #49) for Drilling....." published by American Petroleum Institute, latest edition.

B. Within 90 days after promulgation of this rule or within 90 days after completion of the first well on a lease, each operator in Chaves, Eddy, Lea and Roosevelt Counties shall submit to the Division's district office having jurisdiction, for each lease in each pool in production at that time, a gas analysis of a representative sample of the gas stream showing the hydrogen sulfide concentration. The analysis shall be performed by an industry-recognized method and procedure. In the event it is impractical to furnish a gas stream analysis, the operator may submit a measurement of hydrogen sulfide in the tank vapors performed by an industry-recognized method and procedure. The measurement shall be reported in writing specifying the name of operator, lease, pool, tester, test method and the measured $H_2S$ concentration.

C. 1. Any lease producing or processing plant handling gas with $H_2S$ concentration of 500 parts per million (0.05%) or more shall have a plainly visible warning sign at the tank battery or plant entrance stating "Danger - Poisonous Gas" in black and yellow colors, legible from at least 50 feet.

2. Any lease producing or gas with $H_2S$ concentration of 1,000 parts per million (0.1%) or more shall have, in addition to the sign required in subparagraph 1, a second sign at the foot of the battery stairway stating "Fresh Air Breathing Equipment Required Beyond This Point." Also a sign as described in subparagraph 1 shall be posted at each road entrance to the lease.

3. Any lease producing or processing plant handling gas with $H_2S$ concentration of 1% (10,000 ppm) or more and producing or handling as much as 10 MCF per day of $H_2S$, and which is located within one-fourth mile of a dwelling, or public place or highway, shall install an automatic detection and warning device to warn the endangered people of dangerous concentration of $H_2S$. In addition, the operator shall prepare a contingency plan to be carried out should a substantial portion of the gas stream be released, or conditions exist which threaten control of the stream. The plan shall provide for notification of endangered parties as well as law enforcement personnel, and for evacuation of threatened parties and institution of measures for closing in the flow of gas.

D. The operator of a lease producing or gas processing plant handling hydrogen sulfide gas in dangerous concentrations shall take appropriate measures to protect persons having occasion to be on or near the property. Such measures may include, but are not limited to, training in the characteristics and dangers of $H_2S$, warning signs, fencing the more dangerous areas, provision of and requiring use of fresh air breathing equipment, monitoring and warning devices, wind direction indicators, and maintaining tanks, thief hatches and gaskets, valves and piping in condition so as to prevent avoidable loss of vapors. Where release of hydrogen sulfide is unavoidable, the operator, when feasible, shall burn the gas stream or vent from an elevated stack in such a manner as to avoid endangering human life.

PROPOSED RULE CHANGE

RULE 402. METHOD AND TIME OF SHUT-IN PRESSURE TESTS

(a) Shut-in pressure tests shall be taken on all natural gas wells annually. Such tests shall be taken by the operator of the well during the months of July, August, or September unless otherwise specified by special pool rules or special directive. Tests shall be reported ~~to the appropriate district office of the Division~~ on Form C-125 not later than October 15 of the same year.

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b) Shut-in pressures shall be taken with a dead-weight gauge after a minimum shut-in period of 24 hours. When the shut-in period exceeds 24 hours, the length of time the well was shut in shall be reported to the Division.

(c) The Division Director may prescribe special shut-in pressure test periods and procedures for pools when he deems the same necessary in order to obtain more accurate pressure data.

PROPOSED RULE CHANGE

RULE 701.D. SALT WATER DISPOSAL WELLS

1. The Division Director shall have authority to grant an exception to the requirements of Rule 701-A for water disposal wells only, without notice and hearing, when the waters to be disposed of are mineralized to such a degree as to be unfit for domestic, stock, irrigation, or other general use, and when said waters are to be disposed of into a formation older than Triassic (Lea County only) ~~which is nonproductive of oil or gas within a radius of two miles from the proposed injection well~~, and provided no objections are received pursuant to Rule 701-B(3).

PROPOSED RULE CHANGE

RULE 704. TESTING, MONITORING, STEP-RATE TESTS, NOTICE TO THE DIVISION, REQUESTS FOR PRESSURE INCREASES

A. Testing

Prior to commencement of injection and any time tubing is pulled or the packer is reseated, wells shall be tested to assure the integrity of the casing and the tubing and packer, if used, including pressure testing of the casing-tubing annulus to a minimum of 300 psi for 30 minutes or such other pressure and/or time as may be approved by the appropriate district supervisor. A pressure recorder shall be used and copies of the chart shall be submitted to the appropriate Division district office within 30 days following the test date.

At least once every five years thereafter, injection wells shall be tested to assure their continued mechanical integrity. Tests demonstrating continued mechanical integrity shall include the following:

(a) measurement of annular pressures in wells injecting at positive pressures under a packer or a balanced fluid seal;

(b) pressure testing of the casing-tubing annulus for wells injecting under vacuum conditions; and,

(c) such other tests which are demonstrably effective and which may be approved for use by the Division.

Notwithstanding the test procedures outlined above, the Division may require more comprehensive testing of the injection wells when deemed advisable, including the use of tracer surveys, noise logs, temperature logs, or other test procedures or devices.

In addition, the Division may order special tests to be conducted prior to the expiration of five years if conditions are believed to so warrant. Any such special test which demonstrates continued mechanical integrity of a well shall be considered the equivalent of an initial test for test scheduling purposes, and the regular five-year testing schedule shall be applicable thereafter.

The injection well operator shall advise the Division of the date and time any initial, five-year, or special tests are to be commenced in order that such tests may be witnessed.

B. Monitoring

Injection wells shall be so equipped that the injection pressure and annular pressure may be determined at the wellhead and the injected volume may be determined at least monthly.

Injection wells used for storage shall be so equipped that both injected and produced volumes may be determined at any time.

(New Material)

C. Step-Rate Tests, Notice to the Division, Requests for Injection Pressure Limit Increases

Whenever an operator shall conduct a step-rate test for the purpose of increasing an authorized injection or disposal well pressure limit, notice of the date and time of such test shall be given to the appropriate Division district office.

Copies of all injection or disposal well pressure limit increase applications and supporting documentation shall be submitted to the Division Director and to the appropriate district office.

PROPOSED RULE RELATIVE TO UNOPPOSED COMPULSORY POOLING

PROPOSED RULE 1207 (a)1.(ii) (New Material)

(ii) When an application for compulsory pooling is known to be unopposed, the applicant may file under the following alternate procedure:

Actual notice shall be given as required in (i) above. The application for hearing shall state that no opposition for hearing is expected and shall include the following:

(1) A map outlining the spacing unit(s) to be pooled showing the nature and percentage of the ownership interests therein and the location of the proposed well.

(2) a listing showing the name and last known address of all parties to be pooled and the nature and percent of their interest;

(3) the name of the formations and/or pools to be pooled. (Note: The Division cannot pool a spacing unit larger in size than provided in the General Rules or appropriate special pool rules);

(4) a statement as to whether the pooled unit is for gas and/or oil production as appropriate (See note under (3) above);

(5) written evidence of attempts made to gain voluntary agreement including but not limited to copies of appropriate correspondence;

(6) appropriate geological map(s) of the formation(s) to be tested and a geological and/or engineering assessment of the risk involved in the drilling of the well and a proposed risk penalty to be assessed against any owner who chooses not to pay his share of estimated well costs;

(7) proposed overhead charges (combined fixed rates) to be applied during drilling and production operations along with a demonstration that such changes are reasonable;

(8) the location and proposed depth of the well to be drilled on the pooled unit(s); and,

(9) a copy of the AFE (Authorization for Expenditure) to be submitted to the interest owners in the well.

All submittals required under this paragraph shall be accompanied by statements (sworn and notarized) by those persons who prepared the same attesting to the truth and accuracy thereof.

All unopposed pooling applications will be set for hearing. If the Division review of such application finds them acceptable, the information submitted above will be incorporated as the record in the case and an order will be written thereon. At the request of any interested party or upon the Division's own initiative, any pooling application submitted under this rule shall be set for full hearing with oral testimony by the applicant.

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OUTLINE OF THE OIL CONSERVATION DIVISION PROPOSAL FOR A COOPERATIVE GEOCHEMICAL STUDY OF THE NON-PRODUCING BASINS AND DEEP SAN JUAN BASIN OF NEW MEXICO.

R. L. Stamets
Director

Early in 1986, the Division's chief geologist, Roy Johnson, approached me with a plan to increase the potential for oil and gas discoveries in the currently non-producing geologic basins in New Mexico as well as the deeper portions of the San Juan Basin. This plan consisted of acquiring and making available geochemical data for such basins.

Simply stated, geochemical data can help the knowledgeable explorationist by telling him whether oil and/or gas have been formed from potential source rocks in a basin. This knowledge, combined with a knowledge of potential traps (reservoirs), can allow the explorationist to focus his efforts in those areas with the greatest potential for production. The exact number of samples to be analyzed is not completely known at this time. Estimates are that from 800 to 1000 sample analyses will be required. Estimates of total cost for the project are $80,000 to $100,000. This office currently envisions pursuing a cooperative State/industry program to support the study with both money and expertise. The OCD plans to seek $10,000 in "seed money" for this project. We are contacting other potentially interested State agencies including the Research and Development Institute, the State Land Office and the Bureau of Mines and Minerals Resources. Further, we anticipate the Bureau will be the contracting agency for the study as well as acting as the repository and access center for the completed analyses.

Contacts have been made with the N.M. Independent Petroleum Association and the N.M. Oil and Gas Association seeking, initially, their response to this project and ultimately their help in soliciting funds and available geochemical analyses from the industry. It is hoped that industry contributions can be funnelled through these two organizations in order to expedite the State/industry contracting process.

It is our intention to involve all interested persons in this project in order that, should it be completed, the work will be to the maximum benefit of the State and those who explore for oil and gas in it. Active participation is being sought from the New Mexico, Roswell, and Four Corners Geological Societies. Each is being asked to name three to five members to an advisory committee which would be appointed to give direction to and monitor the results of the study. Such participation would also be invited from IPANM and NMOGA.

While the need for this program may not be clear at first blush, given the current state of oil and gas exploration in the country, few "experts" believe that today's depressed conditions will go on forever. It follows then that, with the proposed geochemical data base, New Mexico should be in an advantageous position to capture future exploration funds. Further, today, geochemical analyses can be obtained from service companies at bargain basement prices.