

MERIDIAN OIL

July 18, 1988

New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Frank:

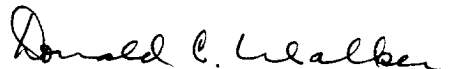
As per your conversation with Jim Falconi on June 30th, attached is an interoffice memorandum concerning repair on the 9 5/8" liner on the Cedar Hill SWD #1.

The well reached a total depth of 8775' on July 5, 1988, and a 7" long string was run and cemented. The cement volume used was annular volume + 40% excess based on a gauge hole from TD to the base of the 9 5/8" liner. A CBL was run which showed a cement top at 7300'.

Repairs were undertaken to bring cement to the base of the 9 5/8" liner and a CBL showed a cement top at 4300'.

Enclosed is a wellbore diagram showing cement tops and pertinent information. Should you require additional information, please contact me.

Very truly yours,


D. C. Walker

JDF/adw

RECEIVED
JUL 20 1988
OIL CON. DIV.
DIST. 3

To: D. C. Walker
From: J. D. Falconi

Date: July 5, 1988
Location: Farmington, NM

Subject: Cedar Hill SWD #1
9 5/8" Liner Repair

The 9 5/8" liner on the subject well was run and cemented on June 10, 1988. No cement was reversed out and a bond log showed the cement top at \pm 5200' in the Point Lookout. (Liner 2954-5770')

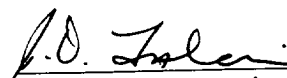
New Mexico Oil Conservation Division Rule #702, "Casing and Cementing Injection Wells", indicates that all strings shall be cemented so as to prevent formation and injected fluids from migrating from zone to zone or to surface. In order to comply with Rule #702, remedial action should be performed on the 9 5/8" liner.

On June 30, 1988, I met with Frank Chaves of the N.M.O.C.D. to discuss remedial repair options. Frank and I agreed that the best solution to the aforementioned problem is to leave the 9 5/8" liner in its present state. To insure integrity, Meridian will comply with the following:

1. The 7" injection string will be cemented with a minimum of 20% excess volume based on Electric Log caliper volume from T.D. to the base of the 9 5/8" liner.
2. A cement bond log will be run from T.D. to the cement top to insure cement back to the 9 5/8" liner base.
 - a. If cement does not reach the 9 5/8" liner base, remedial action will be performed to cement back to the 9 5/8" liner base.
3. The 13 3/8" / 9 5/8" x 7" annulus (Bradenhead outlet) will be monitored to insure the 13 3/8" or 9 5/8" casing has not failed. Should a failure be indicated, remedial action will be undertaken to repair the failure.

Drilling Engineering will turn operations on this well over to the Production Department after the 7" is cemented and the bond log is run. Production Operations will be responsible for monitoring the annulus for pressure build up or flow when the well is put in service.

Should you have any questions, please advise.


J. D. Falconi

RECEIVED
JUL 20 1988
OIL CON.
DIST.

(I-SECONDARY OR OTHER ENHANCED RECOVERY,
PRESSURE MAINTENANCE, SALT WATER DIS-
POSAL, AND UNDERGROUND STORAGE - Cont'd.)

2. Disposal will not be permitted into zones containing waters having total dissolved solids concentrations of 10,000 mg/1 or less except after notice and hearing, provided however, that the Division may establish exempted aquifers for such zones wherein such injection may be approved administratively.

3. Notwithstanding the provisions of paragraph 2. above, the Division Director may authorize disposal into such zones if the waters to be disposed of are of higher quality than the native water in the disposal zone.

E. PRESSURE MAINTENANCE PROJECTS

1. Pressure maintenance projects are defined as those projects in which fluids are injected into the producing horizon in an effort to build up and/or maintain the reservoir pressure in an area which has not reached the advanced or "stripper" state of depletion.

2. All applications for establishment of pressure maintenance projects shall be set for hearing.

The project area and the allowable formula for any pressure maintenance project shall be fixed by the Division on an individual basis after notice and hearing.

3. Pressure maintenance projects may be expanded and additional wells placed on injection only upon authority from the Division after notice and hearing or by administrative approval.

The Division Director shall have authority to grant an exception to the hearing requirements of Rule 701-A for the conversion to injection of additional wells within a project area provided that any such well is necessary to develop or maintain efficient pressure maintenance within such project and provided that no objections are received pursuant to Rule 701-B(3).

F. WATER FLOOD PROJECTS (As Amended by Order No. R-2764, September 8, 1964; Order No. R-3092, July 18, 1966; Order No. R-3375, March 1, 1968; Order No. R-3933, June 1, 1970; Order No. R-4348, September 1, 1972; Order No. R-4381, September 1, 1972; and Order No. R-6702, July 1, 1981.)

1. Water flood projects are defined as those projects in which water is injected into a producing horizon in sufficient quantities and under sufficient pressure to stimulate the production of oil from other wells in the area, and shall be limited to those areas in which the wells have reached an advanced state of depletion and are regarded as what is commonly referred to as "stripper" wells.

2. All applications for establishment of water flood projects shall be set for hearing.

The project area of a water flood project shall comprise the proration units owned or operated by a given operator upon which injection wells are located plus all proration units owned or operated by the same operator which directly or diagonally offset the injection tracts and have producing wells completed on them in the same formation; provided however, that additional proration units not directly nor diagonally offsetting an injection tract may be included in the project area if, after notice and hearing, it has been established that such additional units have wells completed thereon which have experienced a substantial response to water injection.

3. The allowable assigned to wells in a water flood project area shall be equal to the ability of the wells to produce and shall not be subject to the depth bracket allowable for the pool nor to the market demand percentage factor.

Nothing herein contained shall be construed as prohibiting the assignment of special allowables to wells in buffer zones after notice and hearing. Special allowables may also be assigned in

the limited instances where it is established at a hearing that it is imperative for the protection of correlative rights to do so.

4. Water flood projects may be expanded and additional wells placed on injection only upon authority from the Division after notice and hearing or by administrative approval.

The Division Director shall have authority to grant an exception to the hearing requirements of Rule 701-A for conversion to injection of additional wells provided that any such well is necessary to develop or maintain thorough and efficient waterflood injection for any authorized project and provided that no objections are received pursuant to Rule 701-B(3).

G. STORAGE WELLS (As Added by Order No. R-313, April 10, 1953; and Amended by Order No. R-2761, January 1, 1965; Order No. R-5636, February 1, 1978; and Order No. R-6702, July 1, 1981.)

The Division Director shall have authority to grant an exception to the hearing requirements of Rule 701-A for the underground storage of liquefied petroleum gas or liquid hydrocarbons in secure caverns within massive salt beds, and provided no objections are received pursuant to Rule 701-B(3).

In addition to the filing requirements of Rule 701-B, the applicant for approval of a storage well under this rule shall file the following:

1. With the Division Director:
 - (a) A plugging bond in accordance with the provisions of Rule 101;
 2. With the appropriate district office of the Division in TRIPPLICATE:
 - (a) Form C-101, Application for Permit to Drill, Deepen, or Plug Back;
 - (b) Form C-102, Well Location and Acreage Dedication Plat; and
 - (c) Form C-105, Well Completion or Recompletion Report and Log.

RULE 702. CASING AND CEMENTING OF INJECTION WELLS

Wells used for injection of gas, air, water, or any other medium into any formation shall be cased with safe and adequate casing or tubing so as to prevent leakage, and such casing or tubing shall be so set and cemented as to prevent the movement of formation or injected fluid from the injection zone into any other zone or to the surface around the outside of any casing string.

RULE 703. OPERATION AND MAINTENANCE

Injection wells shall be equipped, operated, monitored, and maintained to facilitate periodic testing and to assure continued mechanical integrity which will result in no significant leak in the tubular goods and packing materials used and no significant fluid movement through vertical channels adjacent to the well bore.

Injection projects, including injection wells and producing wells and all related surface facilities shall be operated and maintained at all times in such a manner as will confine the injected fluids to the interval or intervals approved and prevent surface damage or pollution resulting from leaks, breaks, or spills.

Failure of any injection well, producing well, or surface facility, which failure may endanger underground sources of drinking water, shall be reported under the "Immediate Notification" procedures of Rule 116.

Injection well or producing well failures requiring casing repair or cementing are to be reported to the Division prior to commencement of workover operations.

Injection wells or projects which have exhibited failure to confine injected fluids to the authorized injection zone or zones may be subject to restriction of injection volume and pressure, or shut-in, until the failure has been identified and corrected.

MERIDIAN OIL CO.
ENGINEERING CALCULATION

Sheet: 1 of 1
Date: 7/17/88
By: JDZ
File: CHSW01

CEDAR HILL SWD #1
WELLBORE DIAGRAM

