JAMES S. BRIGHT
MAUREEN J. BRIGHT
JOHN QUIRK
BRIGHT AND BROWN
550 North Brand Boulevard, Suite 2100
Glendale, CA 91203
Telephone: (818) 243-2121
Facsimile: (818) 243-3225

Attorneys for Petitioner
Macpherson Operating Company, L.P.

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of July 2, 2014 Order of the Central Valley Regional Water Quality Control Board Directing Macpherson Operating Company, L.P. To Submit Information and Take Other Action (Water Code Section 13267)

Petitioner Macpherson Operating Company, L.P. ("Macpherson Operating") hereby petitions for review by the State Water Resources Control Board (the "State Board") of a July 2, 2014 order (the "Order") of the Central Valley Regional Water Quality Control Board (the "Regional Board"), and a hearing on this Petition.

Macpherson Operating also requests a stay of the Regional Board's Order pending a hearing, or other action on this Petition by the State Board.
A. **Petition For Review**

1. **Name, Address, Telephone Number And E-Mail Address Of The Petitioner.**

   Macpherson Operating Company, L.P.
   2716 Ocean Park Boulevard, Suite 3080
   Santa Monica, CA 90405
   310.452.3880

   Please direct notices and other communications to:

   Macpherson Operating Company, L.P.
   c/o Bright and Brown
   550 North Brand Boulevard, Suite 2100
   Glendale, CA 91203
   818.243.2121
   mbright@brightandbrown.com

2. **The Action Or Inaction Of The Regional Water Board Being Petitioned, Including A Copy Of The Action Being Challenged.**

   The Regional Board’s Order directs Macpherson Operating to obtain and submit certain information and take other actions with respect to a previously permitted and operated water disposal well commonly known as the “Ring #20-3” well, and more formally identified by API number 02914064 (the “Well”) located within the Mount Poso Oil Field as designated by the Division of Oil, Gas and Geothermal Resources. The Order is based on the authority of the Regional Board pursuant to Water Code section 13267 (“Section 13267”). (A copy of the Regional Board’s Order is attached as Exhibit 1.)

   The Regional Board’s Order was issued concurrently with, and as an expressly intended compliment to, a self-proclaimed “emergency order” of same date by the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (the “DOGGR”) directing Macpherson Operating to “immediately cease injection operations” with respect to the Well and submit specified information concerning the operation of the Well to the DOGGR and the Regional Board within 30 days after the DOGGR Order, i.e., by Friday, August 1, 2014 (the “DOGGR Order”). (A copy of the DOGGR Order is attached as Exhibit 10.)
3. **The Date The Regional Board Acted.**

The date of the Regional Board’s Order is July 2, 2014.

4. **A Statement Of The Reasons The Action Was Inappropriate Or Improper.**

The Regional Board’s Order is based on its authority under Section 13267 to require specifically described persons to “furnish...technical or monitoring program reports which the regional board requires” in connection with its investigation of the quality of waters within its region.” (Wat. Code, § 13267(b)(1).) That authority is subject to the express mandatory limitation, however, that “the burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” (Wat. Code, § 13267(b)(1).)

First, contrary to the specific requirements of Section 13267, the burden, including costs, of the activity mandated by the Order bears no reasonable relationship either to the need for such activity or any benefit to be obtained by it. Any need for or benefit of this activity would have been greatly outweighed by the burden, including costs, occasioned by compliance with its requirements in any time frame. However, Macpherson Operating has suffered and continues to suffer an unnecessarily enhanced burden, including costs and business disruption, as a result of the unreasonably abbreviated schedule mandated for compliance with the Order on the basis of a completely contrived sense of urgency.

Second, the Order is based upon factual assumptions that are demonstrably incorrect. Therefore, there is no need for the demanded activity nor any appreciable benefit to be obtained.

Third, contrary to the specific requirements of Section 13267, the Regional Board’s Order is directed to Macpherson Operating which has never operated the Well, and does not propose to do so, either for water disposal or any other purpose.

Fourth, contrary to the statutory requirements no evidence was provided by the Regional Board to justify the need for the Order.
5. **How The Petitioner Is Aggrieved.**

As more fully explained in the statement of points and authorities below, the activity mandated by the Order serves no substantial purpose and is of no substantial benefit whatsoever. Once permitted, the Well was used to dispose of water produced in association with oil extracted from the Vedder formation until August, 2008. The Well has been idle, and unused for injection or any other purpose, for the past six (6) years. Contrary to the erroneous factual assumptions in the Regional Board's Order and the DOGGR Order, no water supply well—whether producing from the Olcese or any other formation—has been found to exist within a one (1)-mile radius of the Well. Documents in the Regional Board’s own files reflect the conclusion that, although oil field operators in the Mount Poso Oil Field currently inject wastewater into a zone that contains water that is beneficially useful, “the wastewater does not contain sufficient dissolved matter to degrade the Olcese beyond its current beneficial uses.” (Regional Board internal memorandum, 2-3-1982, attached as Exhibit 5.) Moreover, Macpherson Operating, to whom the Regional Board's Order is directed as the asserted “discharger,” has never operated the Well for injection or any other purpose and has never proposed to do so.

The Order has already imposed a significant burden upon the monetary and other resources of Macpherson Operating, and exposed Macpherson Operating to substantial legal penalties for any failure to comply. In addition, the Order leaves Macpherson Operating exposed to an open-ended threat of further potentially required, but as yet unspecified, “additional information or action,” and the continuing threat of substantial legal penalties for failure to comply with such further and as yet unspecified requirements.

In addition, and beyond the costs and other burdens associated with the requirements of the Regional Board’s Order (and the DOGGR Order), Macpherson Operating has suffered and continues to suffer further burdens associated with the increased costs and business disruption occasioned by the completely contrived sense of urgency associated with these orders and the abbreviated schedule imposed on Macpherson Operating for compliance with them. In fact, compliance was
ordered by August 1, 2014 — within the statutory period in which to file this Petition, which effectively forces compliance with the improper Order before this appeal could be heard.

6. The Action The Petitioner Requests The State Water Board To Take.

Macpherson Operating requests that the Regional Board's Order be set aside and that the Regional Board be directed to take no further action with respect to the subject matter of its Order unless and until it has first reviewed the information and material that has been provided by Macpherson Operating in response both to the DOGGR Order and the Regional Board's Order and reasonably determined from that review that further action is in fact required. Macpherson Operating further requests that the Regional Board be instructed, should it reasonably determine that further action concerning the subject matter of its Order is required, to direct any further order to an appropriate party in accordance with the provisions of Section 13267 and to provide evidence demonstrating that further action is warranted.

Macpherson Operating further requests both a hearing on this Petition and that the Regional Board's Order be stayed pending a hearing on this Petition or other action by the State Board.


a. The Regional Board's Order Fails To Comply With The Specific Requirements Of Section 13267.

Section 13267 authorizes the Regional Board to conduct an investigation into the quality of waters of the state for certain purposes, and in connection with such an investigation to “require...any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region..., [to] furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires.” Section 13267 expressly limits the Regional Board’s authority in that regard by requiring that “[t]he burden,
including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.”

Because the burden upon Macpherson Operating of complying with the Order greatly outweighs any need for the demanded report, and any benefit which might be obtained from it, the Order violates the specific mandatory limitation provided in Section 13267.

Further, Macpherson Operating has never operated the Well—for injection or any other purpose. Beyond that, Macpherson Operating has no intention of operating the Well for injection or any other purpose, and is foreclosed by action of the DOGGR (both in September 2010 and now, in addition, by the expressly “complimentary” DOGGR Order expressly forbidding Macpherson Operating to operate the Well for injection). Macpherson Operating is not a person to whom the Regional Board’s Order may properly be directed under the authority of Section 13267.

b. Summary Of Facts – History Prior To The Recent Orders.

In November 1974, Macpherson Operating’s remote predecessor, Thomas Oil Company, requested approval from the United States Geologic Survey (“USGS”) to put the Well into operation for the disposal into the Olcese sand formation of waste water produced in association with oil and gas. (Thomas Oil letter of 11-14-1974 attached as Exhibit 2.) In making that request, Thomas Oil noted that the Olcese had been “found to be Oil Productive in many areas of the San Joaquin Valley; and has been sidewall cored in the immediate area as spotty oil stained.” (Emphasis added.) In the same letter, Thomas Oil stated: “No known fresh water exists within the area.”

In December 1974, the USGS returned to Thomas Oil its written approval of the proposed conversion of the Well for use to inject produced water into the Olcese formation. (USGS letter of 12-27-1974, attached as Exhibit 3.) Among other things, that approval noted that “chemical analysis of the Olcese formation water is shown having an average boron content of 3.3 ppm and NaCl of 1713 ppm.” The USGS further noted in the same letter that “chemical analysis of the water to be injected
show it also greatly exceeds the desirable limits, therefore, the water to be injected will not degrade any possible future water source."

Periodic tests conducted under the auspices of the DOGGR have confirmed that fluid injected through the Well has been confined, as intended, to strata below 920 ft. (DOGGR Report On Operations, 9-25-1980, as an example, attached as Exhibit 4.)

By memorandum of February 3, 1982, the Regional Board communicated to the DOGGR the conclusion that "it appears reasonable to allow continued injection of existing quality and quantity of Vedder Formation water into the Olcese Formation." (Attached as Exhibit 5.) That memorandum was accompanied by an internal Regional Board memorandum of same date (also included in Exhibit 5) identifying the watering of livestock as the only known beneficial use of either Vedder or Olcese formation water. That internal memorandum concludes that, although it is apparent that oil field operators in the Mount Poso Oil Field currently inject wastewater into a zone that contains water that is beneficially used, "the wastewater does not contain sufficient dissolved matter to degrade the Olcese beyond its current beneficial uses."

In March 1982, Macpherson Operating's immediate predecessor, Macpherson Oil Company, took over operation of the Well (DOGGR approved notice of change of operator, attached as Exhibit 6), and continued operation of the Well for injection through August 2008. (DOGGR on-line report of injection activity for the Well during the period May 1977 – April 2014, attached as Exhibit 7.) As reflected in Exhibit 7, any and all operation of the Well for water disposal was voluntarily halted in September 2008. The actual owner of the Well since 1986 has been Mt. Poso Cogeneration Company and Macpherson Oil Company operated the Well and other wells in the field as a contract operator for Mt. Poso Cogeneration Company under the provisions of an operating agreement from that point in time through November 30, 2010, though the Well itself was not returned to service or operated at any time subsequent to August, 2008. Two years later, in September 2010, specifically noting that inactivity, the DOGGR notified Macpherson Oil Company,
Macpherson Operating's predecessor, that "this project has been suspended and approval to inject is hereby rescinded." (DOGGR's letter of September 29, 2010, attached as Exhibit 8.)

Macpherson Operating was formed in October, 2010 and took over as operator for the Well and other wells in the surrounding area owned by Mt. Poso Cogeneration Company in November 2010 (DOGGR approved notice of change of operator, attached as Exhibit 9). Macpherson Operating has never operated the Well for injection or any other purpose (as confirmed by zero injection figures in Exhibit 7). Neither has Macpherson Operating ever requested permission to operate the Well, or in any other manner proposed to operate it, for injection or any other purpose.

c. DOGGR And Regional Board Orders And Petitioner's Responses.

The Regional Board's Order was explicitly issued concurrently with, and as an intended compliment to, the DOGGR Order of same date directing Macpherson to "immediately cease injection operations" with respect to the Well and submit specified information concerning the operation of the Well to the DOGGR and the Regional Board within 30 days after the DOGGR Order (i.e., by Friday, August 1, 2014). (Exhibit 10.)

Since, in fact, all operation of the Well— injection or otherwise—ceased six years ago, and in an effort to demonstrate good faith, Macpherson did not appeal or otherwise contest the DOGGR Order. Instead, Macpherson has assembled such of the information requested by the DOGGR Order as is available to it and has submitted that information to the DOGGR and the Regional Board. (That response is attached as Exhibit 11.)

The Regional Board's Order (Exhibit 1) describes 3 basic required actions, as follows:

(1) "By 11 July 2014, submit a work plan that adequately describes the procedures to collect a representative groundwater sample from the injection zone(s) for the injection well subject to this Order. By 1 August 2014, submit a technical report with the
analyses of each of the groundwater samples, in accordance with the water quality analysis and reporting requirements contained in Attachment A to this Order. ("Order Item 1.")

(2) "By 1 August 2014, submit all previously-obtained analytical data for fluid samples collected from any injection zones within one (1) mile of the injection well subject to this Order." ("Order Item 2.")

(3) "By 1 August 2014, submit a technical report containing...(A) a list and location map of all water supply wells within one mile of the injection well subject to this Order [and] (B) All available information for each identified water supply well, including the well owner name and contact information; type of well...; well construction; borehole geophysical logs; and all analytical results for any water sample(s) collected from each water supply well. Notify [Regional Board] staff within 24 hours upon determination that any water supply well information cannot be obtained from the California Department of Water Resources because it is confidential." ("Order Item 3.")

The Order further describes any failure to comply with these requirements as a misdemeanor subject to “additional enforcement actions,” including a potential fine of $1,000 for each day in which such a violation continues, and reserves the possibility that, based on the information submitted in compliance with Order Items 1, 2 & 3, “additional information or action may be required.”

Notwithstanding the difficulties inherent in the unnecessarily compressed compliance schedule mandated by the Order to avoid imposition of the threatened fines and penalties, Macpherson Operating has provided the demanded report/information both to the Regional Board’s Order (attached as Exhibit 11) and to the DOGGR Order (attached as Exhibit 12). In providing the response Macpherson Operating specifically observed that it was doing so reserving its right to pursue this appeal of the Order. As reflected in Macpherson Operating's
response to the Order, review of public records disclosed no water supply well anywhere within a one-mile radius of the Well. (Exhibit 11.)

d. The Burden For Macpherson Operating Of Complying With The Order, Particularly In Light Of The Unnecessarily Abbreviated Period Allowed For Compliance, Far Outweighs Any Need For The Demanded Report, And Any Resulting Benefit.

Even though the Regional Board’s Order declares an intent “to complement the [DOGGR]’s Emergency Order,” and expressly disclaims any intent “to require Macpherson...to submit any information that the [DOGGR]’s Emergency Order also requires Macpherson...to submit,” all of the action deadlines established by the Regional Board’s Order are within the period established for response to the DOGGR Order—not to mention being also within the 30-day period allowed Macpherson Operating to seek review by this Petition. Thus, among other things, no allowance was made in the Order for the possibility that a review of the information submitted in response to the DOGGR’s Order may demonstrate that no actual need exists for the report mandated by the Regional Board’ Order, and that no benefit at all is likely to be obtained from it.

The burden of this unnecessarily abbreviated response time has been imposed on Macpherson Operating due to the Regional Board’s inexplicable failure to acknowledge at least two plain facts. First, there is no credible basis for a concern that past injection of water through the Well into the Olcese formation has damaged the quality of water in that formation. The Well was used to dispose of produced water from the Vedder formation into the Olcese formation. The Regional Board’s own internal memorandum of February 3, 1982, in addition to identifying the watering of livestock as the only known beneficial use of either Vedder or Olcese formation water, also expressed the conclusion that, although “it is apparent that oil field operators in Mount Poso Oil Field currently inject wastewater into a zone that contains water that is beneficially used...[i]t is apparent that oil field operators in Mount Poso Oil Field currently inject wastewater into a zone that contains water that is beneficially used...[t]he wastewater does not contain sufficient dissolved matter to degrade the Olcese beyond its current beneficial uses.” (Exhibit 5, page 3.) Even earlier than that, indeed prior to approval of conversion of
the Well to injection, there is credible evidence that one or more well bores in immediate area of the Well have “been sidewall cored...as spotty oil stained.” (Thomas Oil letter, 11-14-1974, Exhibit 2, page 1.) And later in the same year, in approving conversion of the Well to disposal of produced water in the Olcese formation, the USGS stated, “The chemical analysis of the water to be injected show it also greatly exceeds the desirable limits, therefore, the water to be injected will not degrade any possible future water source.” (USGS letter, 12-27-1974, Exhibit 3, page 1.)

Moreover, notwithstanding the contrary implications in both the Regional Board’s Order and the DOGGR Order, no emergency exists here. The aura of an emergency which pervades these orders is entirely contrived. The appearance of an emergency has been fostered by ignoring the fact that the Well is not being operated for injection or otherwise and has not been operated for six years. In addition, despite a professed intent to complement, and avoid redundancy with, the DOGGR Order, the abbreviated compliance schedule mandated by the Regional Board’s Order completely ignores the very real possibility that information and materials submitted in compliance with the DOGGR Order would demonstrate the total absence of any need or justification for the further activity mandated by the Regional Board’s Order—at great and totally unjustified burden and expense for Macpherson Operating.

In order to provide the technical report/information sought by the July 2, 2014 Regional Board Order, Macpherson Operating prepared a work plan that was submitted to the Regional Board for approval within the time provided in the Order. Macpherson Operating installed all necessary piping and collection basins in anticipation of the fluid sample collection process. Macpherson Operating had scheduled to have a workover rig on site at the Well to undertake the necessary preliminary well work and collect a fluid sample from the Olcese Zone on July 17, 2014, but the Regional Board had not yet approved the work plan so the rig had to be sent to another location rather than sit idle waiting for Regional Board approval
of the work plan. (Declaration of Tim Lovley in Support of Request for Stay of Regional Board Order (“Lovley Declaration”).

The workover rig returned to the Well site and was able to collect a sample of Olcese Zone fluids on July 24, 2014. The final report concerning Order Item 1 will be submitted to the Regional Board and the DOGGR within one week after receipt of the laboratory analytic report. (Lovley Declaration.)

In all, Macpherson Operating has already spent or committed to spend approximately $30,000 or more in order to provide the technical report/information specified in the Regional Board’s Order. In addition to those out of pocket costs, Macpherson Operating has had to devote considerable time on the part of several of its professional staff members to review files, assemble information, research wells, monitor the sample collection process, and other activities necessary to identify, assemble and provide all this information. (Lovley Declaration.)

More significantly for purposes of the requested stay, Macpherson Operating representatives have already been told by Regional Board representatives that if the Regional Board concludes the technical report/information Macpherson Operating submits is not deemed to be sufficient for whatever purpose or purposes the Regional Board is collecting this information, Macpherson Operating will likely be ordered to drill a new well or wells to collect additional fluid samples and/or undertake additional work to provide further information to the Regional Board. Macpherson Operating estimates the cost to drill a new well to the Olcese formation to collect a fluid sample will cost approximately $100,000. (Lovley Declaration.)

e. The Regional Board’s Order May Not Properly Be Directed To Macpherson Operating Under The Authority Of Section 13267.

The Well has not been operated for injection (or otherwise for that matter) since 2008. (Exhibit 6.) Macpherson Operating became operator of the Well in November 2010. (Exhibit 9.) Shortly before that time, taking note of the fact that the Well had not been operated for injection for some time, the DOGGR suspended and/or rescinded prior approval for injection operation of the Well. (Exhibit 8.) Without doubt Macpherson Operating has not only never operated the Well for
injection (or otherwise), it could not do so now even if it wished to do so—and it has never proposed to do so. Accordingly, the Regional Board's Order may not properly be directed to Macpherson Operating under the authority of Section 13267.

8. A Statement That Copies Of The Petition Have Been Sent To The Regional Water Board And To The Discharger, If Different From The Petitioner.

A copy of this Petition has been sent to the Regional Water Board. Macpherson Operating is the asserted "discharger."


Macpherson Operating was unable to present the issues raised in this Petition to the Regional Board prior to issuance of the Order because the Regional Board did not provide Macpherson Operating advance notice or other opportunity to do so. Macpherson Operating had no advance notice either of the impending Order or of any other pending inquiry or action concerning the subject matter of the Order.

B. REQUEST FOR STAY PENDING HEARING OR OTHER ACTION

1. Facts Re Macpherson Operating Is Not A Person To Whom The Regional Board Order Can Properly Issue.

The July 2, 2014 Regional Board Order required Macpherson Operating to furnish technical or monitoring reports and information under the authority of California Water Code section 13267. As applicable here, said section 13267 only authorizes the issuance of such an order to a "person who has discharged, discharges or is suspected of having discharged or discharging, or who proposes to discharge waste within [the Regional Board] region." Macpherson Operating is not such a person predicated on the following facts:

- The Well has remained idle and has not been operated or used as an injection well since August, 2008.
- Macpherson Operating is not now, nor has it ever been, the owner of the Well or any other well in the vicinity of the Well. The Well is owned by Mt. Poso Cogeneration Company, LLC. Macpherson
Operating is a contract operator who conducts oil and gas operations in the area of the Well with respect to wells that are owned by Mt. Poso Cogeneration Company, LLC for the benefit of that company under the provisions of a November, 2010 Oil Field Operating Agreement between Mt. Poso Cogeneration Company, LLC and Macpherson Operating. Macpherson Operating was not even in existence prior to October 11, 2010. Macpherson Operating was first designated as the operator of the Well in the official records of the DOGGR as of November 1, 2010.

- By letter dated September 29, 2010, the DOGGR issued a Notice of Suspension of Injection into the Olceze Zone due to the fact that the injection project had been idle and there were no short term plans for reactivation. That DOGGR letter suspended the injection project and rescinded approval to inject.

- There are no current plans to submit a permit application and to attempt to reactivate the injection project and commence injection into the Well.

In light of these facts, Macpherson Operating is not a person who has discharged, discharges or is suspected of having discharged or discharging, or proposes to discharge waste within the region.

2. Facts Re The Burden And Costs Of Providing The Report/Information Demanded By The Regional Board Order Bears No Relationship To The Need For The Report And The Benefits To Be Obtained From The Report

Section 13267(b)(1) further requires that the burden, including costs, of providing the ordered technical reports “shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” As referenced above in these points and authorities, the Well was a permitted injection well since December, 1974 when it was permitted by Thomas Oil Company. Historical water samples contained in the files indicate that the produced water from the Vedder
Zone that was injected into the Well is very similar in terms of water quality and did not degrade the Olcese Zone aquifer, the zone into which the Well injected Vedder produced water. The Regional Board previously approved the injection of Vedder produced water in this well and noted that there were no other beneficial uses for this Olcese Zone aquifer water at this location other than supplying water to livestock. There are no other water wells within a mile of the Well. And once again, the Well has been idle since August, 2008.

3. **Macpherson Operating Has Already Suffered An Unreasonable Burden And Incurred Substantial Costs That Bear No Reasonable Relationship To The Need For Or Benefit To Be Obtained**

In order to provide the technical report/information sought by the July 2, 2014 Regional Board Order, Macpherson Operating prepared a work plan that was submitted to the Regional Board for approval within the time provided in the Order. Macpherson Operating had scheduled to have a workover rig on site at the Well to undertake the necessary preliminary well work and collect a fluid sample from the Olcese Zone on July 17, 2014, but the Regional Board had not yet approved the work plan so the rig had to be sent to another location rather than sit idle waiting for Regional Board approval of the work plan. Macpherson Operating installed all necessary piping and collection basins in anticipation of the fluid sample collection process. The workover rig returned to the Well site and was able to collect a sample of Olcese Zone fluids on July 24, 2014. In all, Macpherson Operating has already spent or committed to spend approximately $30,000 or more in order to provide the technical report/information specified in the Regional Board’s Order. In addition to those out of pocket costs, Macpherson Operating has had to devote considerable time on the part of several of its professional staff members to review files, assemble information, research wells, monitor the sample collection process, and other activities necessary to identify, assemble and provide all this information.
More significantly for purposes of the requested stay, Macpherson Operating representatives have already been told by Regional Board representatives that if the Regional Board concludes the technical report/information Macpherson Operating submits is not deemed to be sufficient for whatever purpose or purposes the Regional Board is collecting this information, Macpherson Operating will likely be ordered to drill a new well or wells to collect additional fluid samples and/or undertake additional work to provide further information to the Regional Board. Macpherson Operating estimates the cost to drill a new well to the Olcese formation to collect a fluid sample will cost approximately $100,000.

Macpherson Operating believes that it has already been unnecessarily burdened by having to incur substantial costs to collect and gather data and prepare the technical report/information demanded by the July 2, 2014 Regional Board Order because those costs bear a disproportionate and unreasonable relationship to the need for that technical report/information and the benefits to be obtained from the same. California Water Code section 13267(b)(1) requires the Regional Board to provide a written explanation with regard to the need for the report and identify the “evidence” that supports requiring Macpherson Operating to provide the demanded technical report/information. Despite the Regional Board’s previous finding relative to the fully permitted and authorized Well that the Vedder produced water being injected in the Olcese formation was not degrading the Olcese formation water aquifer, the only statement in the July 2, 2014 Regional Board’s Order purporting to explain the need for collecting, gathering and presenting the demanded data and information to the Regional Board is the unsupported statement that “these aquifers may be suitable for drinking water supply and other beneficial uses.” No evidence was included to support that assertion.
4. **There Will Be Substantial Harm To Macpherson Operating If The Stay Is Not Granted And No Substantial Harm To Any Interested Persons And To The Public Interest If The Stay Is Granted.**

For the foregoing reasons, substantial harm will be incurred by Petitioner Macpherson Operating if a stay is not granted because Macpherson Operating will be required to incur substantial additional costs. Conversely, no substantial harm will be suffered by any other interested persons or to the public interest if a stay is granted. In fact, there does not appear to be any interested persons other than Macpherson Operating and Mt. Poso Cogeneration Company, LLC as there are no water wells within a mile of the Well. And there are substantial questions of fact or law as to whether Macpherson Operating is a person to whom the July 2, 2014 Regional Board's Order may properly be issued, and whether the burden, including the cost of compliance, bears a reasonable relationship to the need for the data/information and the benefit to be obtained by the same. Therefore, the stay should be granted as requested by Macpherson Operating.

C. **CONCLUSION**

On the basis of the foregoing, Macpherson Operating respectfully requests the Regional Board's Order be set aside and that the Regional Board be directed to take no further action with respect to the subject matter of its Order unless and until it has first reviewed the information and material that has been provided by Macpherson Operating in response both to the DOGGR Order and the July 2, 2014 Regional Board Order and can demonstrate evidence showing that further action is required.

Macpherson Operating further requests that the Regional Board be instructed, should it reasonably determine that further action concerning the subject matter of its Order is required, to direct any further order to an appropriate party in accordance with the provisions of Section 13267 and to provide the evidence upon which such Order is based.
Macpherson Operating further requests both a hearing on this Petition and that the Regional Board's Order be stayed pending a hearing on this Petition or other action by the State Board.

Respectfully submitted,

BRIGHT AND BROWN

DATED: August 1, 2014.

By: [Signature]

Maureen J. Bright
Attorneys for Petitioner
Macpherson Operating Company, L.P.
DECLARATION OF TIM LOVLEY IN SUPPORT OF REQUEST FOR STAY OF REGIONAL BOARD ORDER

1. I, Tim Lovley, make this Declaration in Support of the Request of Macpherson Operating Company, L.P., for Stay of the July 2, 2014 Order of the Central Valley Regional Water Quality Control Board (the "Regional Board") directing Macpherson Operating Company, L.P. to submit information and take other action (the "Order") pending a hearing, or other action by the State Water Quality Control Board (the "State Board"), upon the foregoing Petition for Review of the Order.

2. I am the Health, Safety and Environmental Manager for Macpherson Oil Company ("Macpherson"), which is the Managing General Partner of Macpherson Operating Company, L.P. ("Macpherson Operating"), to whom the Order was directed, and which is the Petitioner in this matter. Macpherson's business offices are located in Santa Monica, California. My office is in the Central Valley facilities of Macpherson, in the Round Mountain Field north of Bakersfield.

3. After being received in Macpherson's Santa Monica office, the Order, and an "emergency order" of same date by the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (the "DOGGR" and the "DOGGR Order"), were forwarded to me and others in the Round Mountain office for action on them. A copy of the Order is attached to the within Petition as Exhibit 1, and a copy of the DOGGR Order is attached to the Petition as Exhibit 10.

4. The Order and the DOGGR Order each address a previously permitted and operated water disposal well in the Round Mountain Oil Field commonly known as the "Ring #20-3" well, and more formally identified by API number 02914064 (the "Well"). The Regional Board's Order directed Macpherson Operating to obtain and submit certain information and take other actions with respect to the Well, and is based on the authority of the Regional Board pursuant to Water Code section 13267 ("Section 13267"). The DOGGR Order directed Macpherson Operating to "immediately cease injection operations" with respect to the Well and submit
specified information concerning the operation of the Well to the DOGGR and the Regional Board within 30 days after the DOGGR Order, i.e., by Friday, August 1, 2014.

5. Macpherson Operating is not now, nor has it ever been, the owner of the Well or any other well in the vicinity of the Well. I am informed and believe that the Well is owned by Mt. Poso Cogeneration Company and has been since 1986. Macpherson Operating is a contract operator who conducts oil and gas operations in the area of the Well with respect to wells that are owned by Mt. Poso Cogeneration Company for the benefit of that company under the provisions of a November 2010 Oil Field Operating Agreement between Mt. Poso Cogeneration Company and Macpherson Operating. I am informed and believe that Macpherson Operating was not even in existence prior to October 11, 2010, and that Macpherson Operating was first designated as the operator of the Well in the official records of the DOGGR as of November 1, 2010.

6. As of the July 2, 2014 date of the Order and the DOGGR Order, the Well was not being operated for injection or any other purpose. According to the books and records of Macpherson and of the DOGGR, the Well was taken out of operation for injection or any other purpose in 2008 and has not been operated for injection or any other purpose at any time since then. Accordingly, there was no issue of compliance or required activity concerning that aspect of the DOGGR Order. Macpherson Operating has otherwise complied with the DOGGR Order and timely satisfied its reporting requirements, as reflected in the response of Macpherson Operating submitted to the DOGGR and the Regional Board (and attached as Exhibit 11 to the Petition).

7. A true and correct copy of the Regional Board's Order is attached as Exhibit 1.

8. In order to provide the technical report/information sought by the Regional Board Order, Macpherson Operating prepared a work plan that was submitted to the Regional Board for approval within the time provided in the Order. Macpherson Operating installed all necessary piping and collection basins in
anticipation of the fluid sample collection process. Macpherson Operating had
scheduled to have a workover rig on site at the Well to undertake the necessary
preliminary well work and collect a fluid sample from the Olcese Zone on July 17,
2014, but the Regional Board had not yet approved the work plan so the rig had to
be sent to another location rather than sit idle waiting for Regional Board approval
of the work plan. The workover rig returned to the Well site and was able to collect
a sample of Olcese Zone fluids on July 24, 2014.

9. On July 17, 2014, Macpherson Operating requested an extension from
the Regional Board in which to provide the required test results from the mandated
water testing. To date, Macpherson Operating has received no response from the
Regional Board.

10. Macpherson Operating has submitted to the Regional Board and the
DOGGR a report responsive to the requirements of the Order, other than as to the
analysis of the sample of Olcese Zone fluids taken on July 24, 2014. A copy of that
report is attached as Exhibit 12 to the Petition. As stated in that report, review of
public records disclosed no water supply well within a one-mail radius of the Well.
A further, final report concerning analysis of the sample of Olcese Zone fluids taken
on July 24, 2014 will be submitted to the Regional Board within one week after
receipt of the laboratory analytical report of the sample of Olcese Zone fluids taken
on July 24, 2014.

11. In all, Macpherson Operating has already spent or committed to spend
approximately $30,000 or more in order to provide the technical report/information
specified in the Regional Board’s Order. In addition to those out of pocket costs,
Macpherson Operating has had to devote considerable time on the part of several of
its professional staff members to review files, assemble information, research wells,
monitor the sample collection process, and other activities necessary to identify,
assemble and provide all this information.

12. Moreover, in addition to amounts already paid or committed to be paid,
I have been informed that Regional Board staff has alerted Macpherson Operating
representatives that Macpherson Operating may also be ordered to drill a new well
or wells to collect additional fluid samples and/or undertake additional work to provide further information to the Regional Board. More specifically, Jane McNaboe of EnviroTech, Macpherson Operating’s environmental consultants on this project, has informed me that Dane Johnson of Regional Board staff reported to her a statement by Clay Rogers, Regional Board Assistant Executive Officer, that if the Regional Board concludes the technical report/information Macpherson Operating submits is not deemed to be sufficient for whatever purpose or purposes the Regional Board is collecting this information, Macpherson Operating will likely be ordered to drill a new well or wells to collect additional fluid samples and/or undertake additional work to provide further information to the Regional Board. Macpherson Operating estimates the cost to drill a single new well to the Olcese formation to collect a fluid sample will cost approximately $100,000. Multiple wells would obviously cost multiples of that amount.

All of the statements in this Declaration are known to me of my own personal knowledge to be true and correct (except as to matters stated on information and belief, and as to those I believe them to be true).

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed by me on August 1, 2014, at Bakersfield, California.

[Signature]

Tim Lovley
EXHIBIT 1
Central Valley Regional Water Quality Control Board

July 2, 2014

Scott Macpherson, Agent
Macpherson Operating Company, L.P.
2716 Ocean Park Boulevard, #3080
Santa Monica, CA 90405

ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION 13267. You are legally obligated to respond to this Order. Read this Order carefully.

Macpherson Operating Company, L.P., is the operator of the injection well identified as API number 02914064 (hereinafter "injection well subject to this Order"). The California Division of Oil, Gas, and Geothermal Resources (Division) has determined that the injection well subject to this Order have been injecting fluids produced by oil or gas extraction activities into aquifers that may not have been properly designated as exempt aquifers under the federal Safe Drinking Water Act (42 U.S.C. § 300f et seq.). These aquifers may be suitable for drinking water supply and other beneficial uses. The Division is issuing an Emergency Order to Immediately Cease Injection Operations (Emergency Order) to Macpherson Operating Company, L.P., for the injection well subject to this Order concurrently with the issuance of this Order by the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

This Order is intended to complement the Division's Emergency Order. As described further below, this Order requires Macpherson Operating Company, L.P., to submit information about the quality of groundwater within the zone(s) where fluids have been injected using the injection well subject to this Order. In addition, this Order requires Macpherson Operating Company, L.P., to submit the location and contact information for all water supply wells within one (1) mile of each of the injection well subject to this Order. The Division's Emergency Order requires Macpherson Operating Company, L.P., to submit other information that is also needed to assess the threat to groundwater quality posed by the operation of the injection well subject to this Order. The Division's Emergency Order requires Macpherson Operating Company, L.P., to submit that information to the Division and to the Central Valley Water Board. This Order is not intended to require Macpherson Operating Company, L.P., to submit any information that the Division's Emergency Order also requires Macpherson Operating Company, L.P., to submit.

The Central Valley Water Board's authority to require technical reports derives from Section 13267 of the California Water Code, which specifies, in part, that:

(a) A regional board ... in connection with any action relating to any plan or requirement authorized by this division, may investigate the quality of any waters of the state within its region.

KARL E. LONGLEY ScD, P. E., chair | PAMELA O. CREEDON P.E., BCEE, executive officer

9686 E Street, Fresno, CA 93728 | www.waterboards.ca.govcentralvalley

0 RECYCLED PAPER
(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region... that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The Central Valley Water Board is concerned about the potential threat to human health and potential impacts to water quality posed by the discharge of waste associated with the injection of fluids into aquifers that were not properly designated as exempt aquifers under the federal Safe Drinking Water Act and that may be suitable for drinking water supply and other beneficial uses. The technical information and reports required by this Order are necessary to assess the potential threat to human health and potential impacts to water quality. The need to understand the potential threat to human health and potential impacts to water quality justifies the need for the information and reports required by this Order. Based on the nature and possible consequences of the discharges of waste, the burden of providing the required information, including reporting costs, bears a reasonable relationship to the need for the report, and the benefits to be obtained. Macpherson Operating Company, L.P., is required to submit this information and reports because it is the operator of the injection well subject to this Order.

Under the authority of California Water Code section 13267, the Central Valley Water Board hereby orders Macpherson Operating Company, L.P., to:

1. By 11 July 2014, submit a work plan that adequately describes the procedures to collect a representative groundwater sample from the injection zone(s) for the injection well subject to this Order. By 1 August 2014, submit a technical report with the analyses of each of the groundwater samples, in accordance with the water quality analysis and reporting requirements contained in Attachment A to this Order.

Note: If a representative sample cannot feasibly be collected from one or more of the injection zones for the injection well subject to this Order within the required timeframe (e.g., due to constraints posed by the design of the injection well), then by 18 July 2014, submit a technical report demonstrating that collection of a representative sample from those injection zones is not feasible within the required timeframe, and proposing an alternative sampling procedure and expeditious time schedule for obtaining a representative sample of groundwater from those injection zones. Alternative sampling procedures and time schedules are subject to approval by the Assistant Executive Officer of the Central Valley Water Board.
2. By 1 August 2014, submit all previously-obtained analytical data for fluid samples collected from any injection zones within one (1) mile of the injection well subject to this Order.

3. By 1 August 2014, submit a technical report containing the following:

A. A list and location map of all water supply wells within one mile of the injection well subject to this Order.

B. All available information for each identified water supply well, including the well owner name and contact information; type of well (i.e., domestic, irrigation, industrial, etc.); status (i.e., active, idle, etc.); well construction; borehole geophysical logs; and all analytical results for any water sample(s) collected from each water supply well. Notify Central Valley Water Board staff within 24 hours upon determination that any water supply well information cannot be obtained from the California Department of Water Resources because it is confidential.

Submissions pursuant to this Order must include the following statement signed by an authorized representative of Macpherson Operating Company, L.P.:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

The failure to furnish the required report, or the submission of a substantially incomplete report or false information, is a misdemeanor, and may result in additional enforcement actions, including issuance of an Administrative Civil Liability Complaint pursuant to California Water Code section 13268. Liability may be imposed pursuant to California Water Code section 13268 in an amount not to exceed one thousand dollars ($1,000) for each day in which the violation occurs.

Any person aggrieved by this Order of the Central Valley Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with California Water Code section 13320. The State Water Board must receive the petition by 5:00 p.m., within 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations, and instructions applicable to filing petitions, may be found at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml, or will be provided upon request.

By 9 July 2014, you must contact Dane S. Johnson of this office at (559) 445-5525 to discuss your proposed work plan and technical report.
All required technical information must be submitted to the attention of:

Dane S. Johnson  
Central Valley Water Board  
1685 E Street  
Fresno, CA 93706

In addition, all information is to be copied to the Division, to the attention of:

Steven R. Bohlen, State Oil and Gas Supervisor  
Department of Conservation, DOGGR  
801 K Street  
Sacramento, CA 95814-3500

Based on the information submitted in the work plan and/or technical report, additional information or action may be required.

Be advised that sections 13260 and 13264 of the California Water Code require any person who proposes to discharge waste that could affect waters of the state to submit a Report of Waste Discharge for any new discharge or change in the character, volume, or location of an existing discharge. Fluids produced by oil or gas extraction activities that can no longer be disposed of in the injection well subject to this Order cannot be discharged to land or waters of the state prior to the issuance of Waste Discharge Requirements, and cannot be discharged to waters of the United States prior to the issuance of an National Pollutant Discharge Elimination System (NPDES) Permit. Failure to comply with these requirements may constitute a misdemeanor under Water Code section 13265 or a felony under Water Code section 13387, and may also subject Macpherson Operating Company, L.P., to judicial or administrative civil liabilities. It is strongly recommended that you contact Central Valley Water Board staff to discuss any proposed changes to the discharge of the fluids that had previously been disposed of in the injection well subject to this Order.

Any questions regarding this matter should be directed to me at (559) 445-5116 or at Clay.Rodgers@waterboards.ca.gov.

Clay Rodgers  
Assistant Executive Officer

Enclosure: Attachment A
ATTACHMENT A

Water Quality Analysis

Groundwater samples collected from wells and injection zones shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program, using current applicable EPA-approved analytical methods for water for the following:

A. Total dissolved solids
B. Metals listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A)
C. Benzene, toluene, ethylbenzene, and xylenes
D. Total petroleum hydrocarbons for crude oil
E. Polynuclear aromatic hydrocarbons (including acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene)
F. Radionuclides listed under California Code of Regulations, title 22, Table 64442
G. Methane
H. Major and minor cations (including sodium, potassium, magnesium, and calcium)
I. Major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide)
J. Trace elements (including lithium, strontium, boron, iron, and manganese)

Water Quality Reporting

Water quality information shall be submitted in a technical report that includes, at a minimum:

A. Site plan with locations of well(s) sampled.
B. Description of field sampling procedures.
C. Table(s) of analytical results organized by well number (including API number).
D. Copies of analytical laboratory reports, including quality assurance/quality control procedures and analytical test methods.
E. Waste management and disposal procedures.
EXHIBIT 2
United States Geological Survey  
Federal Building, Room 309  
Bakersfield, California 93301  
Attention: Mr. Don Russell

Re: Conversion of suspended oil-well to water disposal well, U.S.L. 20-3, Sec. 20, T. 27S., R. 28E., M.D.B.&M., Kern County, California  
Sec. 044132

Dear Sir:

Thomas Oil Company proposes to convert suspended oilwell No. U.S.L. 20-3, Sec. 20, T. 27S., R. 28E., M.D.B.&M., West Mt. Poso Oil Field to a water disposal well. The purpose is to comply with various Federal and State Agencies relative to disposal of produced waters for the following properties located in Sec. 18, 19, & 20.

- U.S.L. Union 18
- U.S.L. Ring 18
- Glide 19
- Glide 19-B
- U.S.L. Vedder
- U.S.L. Ring 20

Comingled produced waters will be disposed of in the Olcese sand in the interval 920'-1130' (210' gross). The Olcese sand is Lower to Middle Miocene Age and is generally marine in origin. It is found to be Oil Productive in many areas of the San Joaquin Valley and has been sidewall cored in the immediate area as spotty oil stained. The Olcese is oil productive in the following fields:

- Ant Hills
- Edison
- Mountain View
- Tejon  
- North Tejon
- Wheeler Ridge
- Greeley
- Rio Bravo

Structural conditions are depicted in the California Division of Oil and Gas Summary of Operations, Vol. 43, No. 2, 1957-1957 and according to our geologic interpretation, Well No. 20-3 is located within a fault closure area. The West Mt. Poso fault has provided a barrier to accumulation.
Analysis of current comingled produced waters is being made by B. C. Lab in order to compare Olcese water and injected water, when Olcese sample is secured.

Regulations established by the State Regional Water Quality Control Board prohibits water discharged onto the surface if said water exceeds 1 p.p.m. Boron, 200 p.p.m. Chloride, and 1,000 umhos specific conductance.

No known fresh water exists within the area.

The proposed program was established after the procedure used for well No. U.S.L. Bishop #6, Sec. 14, T. 28S., R. 28E., Sharktooth Field, Kern County, California. The project is outlined on the Application for Permit to Drill, Deepen, or Plug Back No. 42-RL1425 attached.

Your favorable consideration is appreciated.

Yours truly,

THOMAS OIL COMPANY

F. P. Mondary, Production Engineer
EXHIBIT 3
309 Federal Building
800 Truxtun Avenue
Bakersfield, California 93301

December 27, 1974

Thomas Oil Company
4311 Meadow View Place
Sacramento, California 91418

Gentlemen:

Your request to convert well Ring 20-3, Lease Sacramento 094132 to a waste water disposal well is hereby approved for use in disposing of approximately 4500 barrels of water per day of Union 18 lease Sac. 039618; Ring 18 lease Sac. 03724; Vedder lease Sac. 019728; Ring 20 lease Sac. 094132.

In order to comply with the State of California Water Quality Control Board regulations and with the USGS Notice to Leases and Operators of October 21, 1974 (RTL-2) you have elected to dispose of the waste water into the Olcese sand interval 920-1130 of well Ring 20-3. A copy of RTL-2 is enclosed for your file. The chemical analysis of Olcese formation water is shown having an average boron content of 3.3 ppm and MCl of 1715 ppm both are considerably above the limits established for a water which may be safely disposed of in wells. The electrical conductivity is almost three times the limit of 1,000 micromhos. The chemical analysis of the water to be injected show it also greatly exceeds the desirable limits, therefore, the water to be injected will not degrade any possible future water source. We believe water in the Olcese sand will be confined from horizontal movement by faults, especially the West Mount Paseo fault and from vertical migration by the Freeman-Jewett silt which underlies the Olcese and by the Round Mountain silt which is above the formation.

We hereby approve the proposed commingling of fluids produced from the four leases and the disposal of waste water into the Olcese sand of well Ring 20-3 subject to the following conditions:

1) A spinner survey, radio-activity or other type survey should be made at yearly intervals to confirm the waste water is confined to the Olcese.

2) The injection pressure must not exceed the fracture gradient for the formation.
(3) We will be furnished duplicate copies of DOG form 110-8 or other form showing amount of water injected each month.

(4) We reserve the right to modify or to order a cessation of injection of waste water if it should prove to be detrimental to any zone capable of producing a fresh water or if there should be surface damage caused by leaks, spills, etc.

Sincerely yours,

D. F. Russell
District Engineer

cc: Bryant-Park & Assoc., Inc.
1901 Oak Street, Room 18
Bakersfield, California 93301

Oil & Gas Supervisor, Pacific Area

Enclosures.

DPR: cr
Report on Operations
WATER DISPOSAL PROJECT
Mount Poso Field
West Area
Close Zone

Mr. Frank P. Mondary
THOMAS OIL COMPANY
F.O. Box 5368
Bakersfield, CA 93308

Bakersfield, Calif.
September 25, 1980

Your operations at well "Ring 20" 3, API No. 029-14064, Sec. 20, T27S, R28W on 9-23-80 by Mr. David Mitchell were reviewed.

Present condition of well:

The operations were performed for the purpose of demonstrating that the injection fluid is confined to strata below 920'.

DECISION: THE OPERATIONS ARE APPROVED AS INDICATING THAT THE INJECTION FLUID IS CONFINED TO STRATA BELOW 920' AT THIS TIME.

Multiple years of this report in the file.

DM/vk
cc: DWR
RKQCB

OG109 (10-70-0SR-15M)

M.G. MEFFERD
State Oil and Gas Supervisor
By: W.E. Fertitta, Mgr.
Deputy Supervisor
G.W. Hunter
Memorandum

To: Mr. Dave Mitchell
Division of Oil and Gas
Department of Conservation
4800 Stockdale Highway, Suite 417
Bakersfield, CA 93309

From: California Regional Water Quality Control Board
3374 East Shields Avenue, Fresno, California 93723

Subject: THOMAS OIL COMPANY, BRINE DISPOSAL WELLS, MOUNT POSO OIL FIELD, KERN COUNTY

We have reviewed your recent inquiry on the subject disposal wells.

Attached is a memorandum reviewing the wells and current Board policy. The memorandum concludes that the operators should be required to demonstrate that the wells can meet our requirements before expanded injection is allowed. However, in the interim it appears reasonable to allow continued injection of existing quality and quantity of Vedder Formation water into the Okeese Formation.

If you have any questions, please call Tim Souther at this office.

SARGEANT J. GREEN
Senior Land and Water Use Analyst

Attachment
MEMORANDUM

TO: Sargeant J. Green

FROM: Timothy G. Souther

SUBJECT: THOMAS OIL COMPANY, BRINE DISPOSAL WELLS, MOUNT POSO OIL FIELD, KERN COUNTY

DATE: 3 February 1982

I have reviewed the letter from the Division of Oil and Gas of 8 December 1981, in which they requested information on requirements on nondegradation of groundwater as they relate to the subject facilities.

I noted that Thomas Oil Company and other operators inject up to 20,000 barrels per day of oil field production brine from Vedder Zone into the shallow Olcese Formation. The Vedder Zone was found to be poorer in quality than the Olcese based on analyses submitted by Thomas Oil Company (1,590 mg/l total dissolved solids vs. 1,191 mg/l).

In discussion with Kern County Health Department, I have been informed that groundwater from the Olcese is used for agricultural purposes in the vicinity of the injection wells.

It is my understanding that produced water from the Vedder Zone is also used for stock watering. I do not know of any other beneficial uses of these zones.

My analysis of the situation is as follows. The University of California Committee of Consultants has issued "Guidelines for Interpretation of Water Quality for Agriculture". The Committee indicates that you can expect problems when irrigation water quality exceeds 2,000 mg/l total dissolved solids or stock water quality exceeds 3,000 mg/l total dissolved solids.

The "Waste Discharge Requirements for Nonsewerable Waste Disposal to Land" as published by the State Water Resources Control Board indicates the following:

"Wells suitable for the disposal of wastes shall provide protection to usable ground water as determined by the following conditions:

a. The receiving formation shall not have continuity with any usable ground water.

b. Construction and injection procedures shall be such that no passageways are developed which will permit the movement of wastes to a usable aquifer or to the surface.

c. Certification has been provided by the California Division of Oil and Gas that construction and operation of waste wells under its jurisdiction conform to regulations of the Division."
The "Water Quality Control Plan Report for the Tulare Lake Basin" as established by the Regional Board states:

"All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of the resource."

From the information currently available, it is apparent that oil field operators in Mount Poso Oil Field currently inject wastewater into a zone that contains water that is beneficially used. However, the wastewater does not contain sufficient dissolved matter to degrade the Olcese beyond its current beneficial uses.

Before expanded injection is allowed into the Olcese, the operators should be required to demonstrate that the wells can meet the provisions of the Nonsewerable Waste Requirements. In the interim, it is reasonable to allow the continued injection of the existing quantity and quality of Vedder water into the Olcese.

TIMOTHY G. SOUTHER
Staff Engineer
Division of Oil and Gas

This is to inform you that effective March 2, 1982, Thomas Oil Company transferred ownership of the following described property to Macpherson Oil Company.

Macpherson Oil Company
P.O. Box 5368 Oildale, CA 93388

1. (legal description of property)

Sec. 28, T. 27S, R. 28E, B.&M., Mount Poso (Kern) (field or county)

2. (list of wells)

Tribe A-10 WD

1. 13 ABA

Tribe B 1, 2

CS-28 ABD 61/2 61/2 SPOT LOC 61/2

JOHN SOURCES TO BE RETAINED

Sec. 18, T27S, R28E

(Ring 18) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 ABA

Ring 18-13 WD

8 ABD 3E1/4

Sec. 19, T27S, R28E

(Glide 19) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 A

Ring 19-13 WD

8 ABD 3E1/4

Sec. 19, T27S, R28E

(Glide 19-B) 1

35 1/4 NE 1/4

MACPHERSON OIL COMPANY

Macpherson Oil Company
P.O. Box 5368 Oildale, CA 93388

(name of operator)

(address)

By

Signature
REPORT OF PROPERTY AND WELL TRANSFER

Field or County: See Below
Former Owner: THOMAS OIL COMPANY

Description of Property: MIDWAY-SUNSET
T. 11 N., R. 23 W., S. B. & M.
Sec. 7
S ½ NW ¼
(Hoyt)
All wells
(Oil, Inc.)

List of Wells:
All wells
"Midway Northern" 1 (029-15055) (spot loc)
"Munzer" 1 (029-15056) (spot loc)
W ½ NW ¼ NW ¼
(Iroquois)
All wells

(continued)

Date of Transfer: March 2, 1982
New Owner: MACPHERSON OIL COMPANY
Address: P.O. Box 5368
Oildale, CA 93388

Telephone No.

Type of Organization: Corp.
Reported by: Macpherson
Confirmed by: Thomas
New Operator
New Status: PA
Request Designation of Agent
No

Remarks:
EAW/pms
cc: Macpherson
THOMAS
EDP
Kern Co. Assessor
Conservation Committee

INITIALS | DATE
---|---
Form 121 | 8-6-82
New Well Cards | 8-6-82
Well Records | 8-7-82
Electric Logs | 8-7-82
Production Reports | 8-6-82
Map and Book | 8-13-82
Form 148 | 8-6-82
Notice to be cancelled | 
Bond status | 

LEGEND

PA—Producing Active
NPA—Non Potential Active
PI—Potential Inactive
NPI—Non Potential Inactive
Ab—Abandoned or No More Wells

Deputy Supervisor: [Signature]
MOUNT POZO
T. 27S., R. 26E., MDB&M
Sec. 18

SR²
(Ring 16)
All wells

NE¹
(Union 18)
All wells

Sec. 19

NE¹ SE¹
(Glide-19)
(1,2,3)

SE¹ NE¹
(Glide-19-B)
(1)

Retain as spot loc: EMERICH OIL CORP, LTD Well No. 1

Sec. 20

SW¹; SW¹ NW¹
(Ring 20)
All wells

NW¹ NW¹
(Vedder USL)
All wells

Retain as spot loc: SUN EXPLORATION & PROD. CO., Well No. 1(abd)
Fred J. Elliott, Well No. 1(abd)

Sec. 28

E¹ E¹
(Tribe A)
All wells

W¹ W¹
(Tribe B)
(all wells)

Retain as spot loc: JOHN SOWERS, (all the following are "Tribe B" designation)

ROUND MOUNTAIN
T. 28S., R. 28E., MDB&M
Sec. 1

NE¹ SE¹ NE¹
(Coffee) 1

Sec. 12

SE¹ NE¹; NW¹ NE¹ NW¹ NW¹ NW¹
(Bell)
All wells
"Sayre" 1 (029-18240)(spot loc)

SE¹ NE¹ NW¹
(Bell Two)
All wells

E¹ SE¹ NW¹
(Larkin)
(1)
(Larkin Two)
(1,2,3)

SE¹
(Thomas)
All wells
T. 28S., R. 28E., MDB&M

Sec. 13
NE\(^1\)\(\frac{1}{4}\) NE\(^1\)
(KCL)
\((2(ab), 3(ab), 4)\)

Sec. 14
NE\(^1\)\(\frac{1}{4}\) SW\(^1\)
(Bishop)
All wells
S\(^1\)\(\frac{1}{4}\) SE\(^1\)
(Malta)
All wells
W\(^1\)\(\frac{1}{4}\) NW\(^1\)
(Maxwell A)
All wells
S\(^1\)\(\frac{1}{4}\) NW\(^1\)
(Maxwell B)
All wells
N\(^1\)\(\frac{1}{4}\) SE\(^1\)
(Ring 14)
All wells

Sec. 15
NE\(^1\)\(\frac{1}{4}\) NW\(^1\) NE\(^1\)
(Diana)
\((1)\)

Sec. 23
Property as shown
(Railroad)
All wells

T. 28S., R. 29E., MDB&M

Sec. 6
W\(^1\)\(\frac{1}{4}\) SW\(^1\) NW\(^1\); W\(^1\)\(\frac{1}{4}\) NW\(^1\) SW\(^1\)
\((1, 2, 4, 5, 6, 8, 3(ab))\)
SW\(^1\) SW\(^1\); W\(^1\)\(\frac{1}{4}\) SW\(^1\) SE\(^1\)
(Coffee)
(All wells)

Sec. 7
W\(^1\)\(\frac{1}{4}\) SE\(^1\); SE\(^1\)\(\frac{1}{4}\) NE\(^1\); SW\(^1\) NE\(^1\); SE\(^1\)\(\frac{1}{4}\) NW\(^1\); E\(^1\)\(\frac{1}{4}\) NE\(^1\); SW\(^1\) W\(^1\)\(\frac{1}{4}\) NW\(^1\)
(Caldwell)
All wells
"Pearce" 7-1 (029-42612) (spot loc)
NW\(^1\)\(\frac{1}{4}\) NE\(^1\)
(East Signal)
All wells
NE\(^1\) NW\(^1\)
(West Signal)
All wells

Sec. 16
"Olcese Heirs" 22X-16 (029-52047) (spot loc)

Sec. 17
Property as shown in SW\(^1\) of Sec.
(Olcese Taylor)
All wells
Retain as spot loc: ROUND MOUNTAIN OIL CO., LTD., "Olcese" 1 (ab)
EXHIBIT 7
**API:** 02914064  **Oper:** Macpherson Operat. Co., L.P.  **M0955**  **Opr Status:**  **County:** Kern

**Field:** Mount Poso  **Lease:** Ring 20  **Well#:** 3

**Area:** West Area  **District:** 4  **Section:** 20  **Twp:** 27S  **Rng:** 28E  **BLM:** B

**Pool:** Olcase  **Well Type:** WD  **Well Status:** Active  **BLM:** B

**Entry:** 4/1/1976  **Pool Status:** Active

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EXHIBIT 8
Dear Mr. Butler:

During the annual injection project review of your above referenced project, it was noted that this project has been idle and that you have no short term plans for re-activation.

Therefore, effective today, this project has been suspended and approval to inject is hereby rescinded. In order to resume injection, a written request must be submitted to this office. It may also be necessary to furnish this Division with a current fluid stream analysis at that time.

If you have any questions, please call Bill Penderel at (661) 334-3659.

Sincerely,
Randy Adams
Deputy Supervisor
EXHIBIT 9
REPORT OF PROPERTY/WELL TRANSFER OR ACQUISITION
(To be completed by old and new operators)

Please complete and return this form to:
Division of Oil, Gas, and Geothermal Resources
2800 Cottage Way
Sacramento, CA 95825

Effective date of transfer / acquisition November 1, 2010
(date)
Date of possession (if different)
Macpherson Oil Company
(old operator)
the following wells to Macpherson Operating Company L.P.
(new operator)

NOTE: Pursuant to Section 3202 of the Public Resources Code, before wells will be transferred, the new operator must provide proper bond coverage and well information for all transferred active, idle, and/or plugged and abandoned wells.

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Legal description of the land where the well(s) is (are) located: Sect. 19 E/2 NE/4 NE/4 & NE/4 SE/4 NE/4; Sect. 18 SE/4; Sect. 20 SW/4 & SW/4 NW/4; Sect. 18 W/2 NE/4 Lots 1 of NW/4 & Lots 1 of SW/4; Sect. 20 NW/4 NW/4; and Sect. 17 SW/4 SW/4

OLD OPERATOR
Macpherson Oil Company
2716 Ocean Park Blvd., Suite 3080
Santa Monica, CA 90405
Phone (310) 452-3680
By Donald R. Macpherson, President & CEO

NEW OPERATOR
Macpherson Operating Company L.P.
2716 Ocean Park Blvd., Suite 3080
Santa Monica, CA 90405
Phone (310) 452-3680
By Macpherson Operating Company L.P. General Partner
Donald R. Macpherson, President and CEO

Note: By signing this form, both the old operator and the new operator certify that the new operator owns the mineral interest, holds a valid and effective lease, or holds a valid and effective operating contract, giving the new operator the right to operate the well or wells being transferred.
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# REPORT OF PROPERTY AND WELL TRANSFER

**Field or county:** Mount Poso  
**Former owner:** Macpherson Oil Company  
**Operator code:** M0950  
**Date:** 03/10/2013

**Name and location of well(s):** See attached list.

### Description of the land upon which the well(s) is (are) located
Sec.18:15620-27B/28E / Retain Spot Locs: None.

### Date of transfer, sale, assignment, conveyance, or exchange
12/01/2010

### New owner
Macpherson Operating Co. L.P.
Address: 2716 Ocean Park Blvd. Ste. 3080  
Santa Monica, CA 90405

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<td>M0955</td>
<td>Limited Partnership</td>
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### Address
2716 Ocean Park Blvd. Ste. 3080  
Santa Monica, CA 90405

### Telephone No.
949-242-3636

### Reported by
Macpherson Oil Company (M0950)

### Confirmed by
Macpherson Operating Co. L.P. (M0955)

### New operator new status (status abbreviation)
PA

### Request designation of agent:

### Old operator new status (status abbreviation)
PA

**Remarks**
The DOGGR requirements for this transfer have been met. However, your right to enter and operate the wells/property is not complete until you receive final approval of transfer from the Bureau of Land Management.

---

### OPERATOR STATUS ABBREVIATIONS

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Note: The table shows the lease, well number, API number, status (Active, Plugged, Idle), section, township, and range for the wells in the Mt. Poso Unit - West Area.
EXHIBIT 10
EMERGENCY ORDER TO
IMMEDIATELY CEASE INJECTION OPERATIONS
NO. 1056
Dated: Wednesday, July 2, 2014
Operators: Macpherson Operating Company, L.P.
Well: 02914064

BY
Steven R. Bohlen
STATE OIL AND GAS SUPERVISOR
INTRODUCTION

1. The Division of Oil, Gas, and Geothermal Resources (Division) has determined that an emergency exists in connection with underground injection operations for the well operated by Macpherson Operating Company, L.P., identified as API no(s). 02914064 (hereinafter “the well subject to this order”). Injection into this well, if any is still occurring, poses danger to life, health, property, and natural resources. Therefore, under the authority of Public Resources Code sections 3106, 3222, 3224, 3225, 3226, and 3235, and California Code of Regulations, title 14, sections 1724.6, 1724.7, 1724.10, the State Oil and Gas Supervisor (Supervisor) is ordering that any injection into the well subject to this order, if any is still occurring, immediately cease as specified below. The Division is working cooperatively with the Central Valley Regional Water Quality Control Board, (which is contemporaneously issuing its own order pursuant to California Water Code section 13267), and the State Water Resources Control Board to obtain information for use in evaluating, preserving and protecting underground water suitable for irrigation or domestic purposes.

2. This order constitutes written notice from the Division to immediately stop any and all injection in the well subject to this order, pursuant to California Code of Regulations, title 14, section 1724.10, subdivision (h).

STATUTORY and RELATED AUTHORITY

3. Pursuant to Public Resources Code section 3106, the Supervisor shall supervise the operation of wells in this State so as to prevent, as far as possible, damage to life, health, property, and natural resources, and to prevent damage to underground waters suitable for irrigation and domestic purposes by the infiltration of, or the addition of, detrimental substances.

4. Pursuant to Public Resources Code sections 3222, 3224, 3225, 3226, 3235, and other authorities, the Supervisor has a duty to, and may take action to, prevent the infiltration of detrimental substances into underground water potentially suitable for irrigation or domestic purposes. Pursuant to these statutes and authorities, the Supervisor may order tests to be performed, remedial action(s) to be taken, and the preparation of reports regarding such tests and/or remedial action(s).
5. Pursuant to Title 14, California Code of Regulations, sections 1724.6, 1724.7, 1724.10, and other authorities, the Division possesses authority to approve and evaluate Underground Injection and Disposal projects, and to require that data be submitted in connection therewith.

6. Pursuant to Title 40, Code of Federal Regulations, section 146.4, and other authorities, only properly designated aquifers may receive injected fluids in connection with underground injection operations.

7. Pursuant to Title 14, California Code of Regulations, section 1724.10, subdivision (h), underground injection operations shall be stopped upon written notice from the Division.

FACTS

8. The well subject to this order is under the permitting authority of the Supervisor and/or Division pursuant to Public Resources Code section 3106, and Title 14, California Code of Regulations section 1724.6.

9. Such permitting authority is also contemplated by the federal Safe Drinking Water Act and its implementing regulations. Effective March 14, 1983, California’s Division of Oil, Gas and Geothermal Resources (Division) was granted primacy by the United States Environmental Protection Agency (US EPA) to carry out the terms of an Underground Injection Control Program, pursuant to section 1425 of the Safe Drinking Water Act (codified at 42 U.S.C. § 300f et seq.). (48 Fed. Register 6336, Feb. 11, 1983.)

10. Contemporaneously with the granting of primacy to the Division, and on occasion thereafter, certain underground aquifers within the State were designated as “exempted aquifers.” (40 CFR, § 146.3.) This designation qualifies such aquifers as appropriate for the injection of fluids attendant to or produced by oil and gas extraction activities and depends upon, among other things, the presence of sufficient hydrocarbons and sufficient number of parts per million (ppm) of total dissolved solids (TDS) in the receiving aquifer. (40 CFR, section 146.4.)

11. As a result of the granting of primacy, the Division, pursuant to Title 14, California Code of Regulations sections 1724.6, 1724.7, and 1724.10, must approve any subsurface injection or disposal activities based on pertinent and necessary data submitted to the Division.
12. The Division has become aware that certain underground injection activities are occurring, or may have been permitted to occur, into non-exempted aquifers.

13. Based on information and belief, the Division has determined that the well subject to this order is or may be injecting into one or more non-exempt aquifers which:

(a) May contain underground water suitable for irrigation or domestic purposes;
(b) May contain water with less than 3,000 ppm total dissolved solids;
(c) May have been specifically denied exempted aquifer status by the US EPA in connection with the Division's application for primacy;
(d) May not have been hydrocarbon-bearing at the time injection commenced; and
(e) May be potential underground sources of drinking water.

14. In order to prevent the infiltration of detrimental substances into underground water suitable for irrigation or domestic purposes, the Supervisor relies on the above-referenced legal authorities and factual allegations, and makes the orders set forth below.

ORDERS

15. Based on the facts, circumstances, and authorities described herein, on information and belief, and pursuant to the Supervisor’s duties set forth in Public Resources Codes section 3106, pursuant to Public Resources Code section 3222, 3224, 3225, 3226, and 3235 the Supervisor has determined that an emergency exists and that immediate action(s) are necessary to protect life, health, property, and natural resources, specifically, the further degradation of the affected aquifers, and orders as follows:

I. Cease and Desist Injection Operations

16. The operator subject to this order will cease any and all injection operations still occurring into the well subject to this order on or before 12:00 Noon on Monday, July 7, 2014 unless the operator subject to this order provides the Division with documentary evidence generated by the United States Environmental Protection Agency, satisfactory to the Supervisor, specifically establishing that the aquifer(s) affected by the well subject to this order are “exempted aquifers” as defined in Title 40, Code of Federal Regulations, sections 146.3, consistent with Title 40, Code of Federal Regulations section
144.1, subdivisions (e)-(g), and the Safe Drinking Water Act. In the event the operator subject to this order makes such a submission of evidence, the operator will nevertheless cease any and all injection operations into the wells subject to this order on or before 12:00 Noon on Monday, July 7, 2014 unless the Supervisor notifies the operator in writing (1) that the documentary evidence provided is sufficient to establish that the aquifer receiving injection is an exempted aquifer under the authorities stated above, and (2) that resumption of injection is approved on that basis.

II. Alternative Disposal or Injection

17. In the event that production activities relying on the use of any well subject to this order are continued using an alternative method of disposal of fluid, or an alternative location of underground injection, such alternative disposal or injection method or location shall be utilized only pursuant to, as applicable, (a) any applicable waste discharge requirements or NPDES permit issued by the Central Valley Regional Water Quality Control Board; (b) an existing permit for Underground Injection into an “exempted aquifer” consistent with Title 40, Code of Federal Regulations, section 146.3, updated to reflect the addition of the new injectate as required by Title 14 of the California Code of Regulations, section 1724.10, subdivision (d); or (c) other means carried out in full compliance with any required laws or regulations.

III. Written Approval Required

18. Injection operations shall not resume into the well subject to this order except on the express written approval of the Supervisor.

IV. Provide Information

19. The operator subject to this order will provide the following information to the State Oil and Gas Supervisor, in compliance with the truthful and accurate reporting requirement of Public Resources Code section 3236, within 30 days of the date of this order:

(a) For each well subject to this order, any and all information compiled or maintained, whether or not previously submitted to the Division, in compliance with Title 14,
California Code of Regulations, section 1724.7. The information submitted in response to this aspect of this order shall include, but not be limited to, the categories of information listed in Exhibit A attached hereto;

(b) For each well subject to this order, the total volume of injected fluid for each month of operation, for all years of operation, any periodic chemical analyses of the fluid(s) being injected, and any amendments to the original project approval, as provided by Division reporting requirements;

(c) For each well subject to this order, a technical report with an analysis of a representative sample of the fluid being injected, in accordance with the water quality analysis and reporting requirements contained in Exhibit B to this order;

(d) For each well subject to this order, any and all data maintained in compliance with Title 14, California Code of Regulations, section 1724.10, subd. (b);

(e) For each well subject to this order, the dates of, and documentation associated with, each mechanical integrity test undertaken to comply with Title 14, California Code of Regulations, section 1724.10, subd. (j);

(f) For each well subject to this order, please also send copies of all of the data required in items (a) through (e) above to

Central Valley Water Board
Attn. Dane Johnson
1685 E Street
Fresno, CA 93706
Operator's Appeal Rights

20. This order may be appealed by filing a written statement with the State Oil and Gas Supervisor or district deputy that the order is not acceptable within ten (10) days of service of the order. This is an emergency order issued pursuant to Public Resources Code section 3226 and therefore, pursuant to Public Resources Code section 3350, subdivision (b), the filing of an appeal of this emergency order shall not operate as a stay of the order.

DATE JUL 01 2014

By Steven R. Bohlen
State Oil and Gas Supervisor
Exhibit A

Paragraph 19(a) of this order requires submission of the categories of information listed below. Specifically, your submission will include the following in spreadsheet form, labeled with the capital letters indicated, with attachments containing the backup documentation indicated in items Q through S, inclusive:

A. The name of the owner and/or operator of the injection well;
B. American Petroleum Institute (API) number for the injection well;
C. Injection well name and number;
D. Name of the field in which the well is located;
E. County in which the well is located;
F. Latitude and Longitude (decimal degrees) of well head location;
G. Latitude and Longitude Datum, indicate “1” for North American Datum of 1983 or “2” for North American Datum of 1927;
H. Injection well total depth (feet);
I. Top injection depth (feet);
J. Formation/Zone name at top injection depth;
K. Bottom injection depth (feet);
L. Formation/Zone name at bottom injection depth;
M. Date injection started in the well (Day/Month/Year, xx/xx/xxxx);
N. Identify and describe all sources of fluid injected into the well;
O. Injection volume in barrels for the period from 1 June 2013 through 31 May 2014;
P. Total injection volume in barrels from the date injection in the well began through 31 May 2014;
Q. Attach well construction diagram including all perforations, annular material, and seals;
R. Attach copies of all available water quality lab analyses and/or reports of the injected fluids;
S. Attach a calculation of the average water quality of injected fluid from the date injection began through 31 May 2014;
Exhibit B

Paragraph 19(c) of this order requires a technical report with an analysis of a representative sample of the fluid being injected into the well subject to this order. Such sampling and reporting will reflect the following:

**Sampling**

Injection fluid samples shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program, using current applicable EPA-approved analytical methods for water for the following:

A. Total dissolved solids
B. Metals listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A)
C. Benzene, toluene, ethylbenzene, and xylenes
D. Total petroleum hydrocarbons for crude oil
E. Polynuclear aromatic hydrocarbons (including acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene)
F. Radionuclides listed under California Code of Regulations, title 22, Table 64442
G. Methane
H. Major and minor cations (including sodium, potassium, magnesium, and calcium)
I. Major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide)
J. Trace elements (including lithium, strontium, boron, iron, and manganese)

**Water Quality Reporting**

Water quality information shall be submitted in a technical report that includes, at a minimum:

A. Site plan with location(s) of representative sample(s).
B. Description of field sampling procedures.
C. Table(s) of analytical results organized by well number (including API number).
D. Copies of analytical laboratory reports, including quality assurance/quality control procedures and analytical test methods.
E. Waste management and disposal procedures.
Central Valley Regional Water Quality Control Board  
165 E Street  
Fresno, CA 93706  

Attention: Dane S. Johnson

Ladies and Gentlemen:

Enclosed please find information being submitted by Macpherson Operating Company in response to Order Pursuant To California Water Code Section 13276 dated July 2, 2014 issued to Macpherson Operating Company ("Macpherson") by the Central Valley Regional Water Quality Control Board ("RWQCB"). Please be advised that Macpherson is concurrently filing an appeal of this Order with the State Water Resources Control Board. Accordingly, Macpherson is providing this information to the RWQCB without prejudice to or waiver of any of Macpherson's rights or remedies.

Sincerely,

[Signature]

On Behalf Of  
Macpherson Operating Company, L.P.

Enclosure  
cc: Stephen R. Bohlen, State Oil and Gas Supervisor  
Department of Conservation, DOGGR  
801 K Street  
Sacramento, CA 95814-3500
Central Valley Regional Water Quality Control Board  
165 E Street  
Fresno, CA 93706  

Attention: Dane S. Johnson  

Ladies and Gentlemen:  

Enclosed please find information being submitted by Macpherson Operating Company in response to Order Pursuant To California Water Code Section 13276 dated July 2, 2014 issued to Macpherson Operating Company ("Macpherson") by the Central Valley Regional Water Quality Control Board ("RWQCB"). Please be advised that Macpherson is concurrently filing an appeal of this Order with the State Water Resources Control Board. Accordingly, Macpherson is providing this information to the RWQCB without prejudice to or waiver of any of Macpherson's rights or remedies.

Sincerely,

[Signature]

On Behalf Of  
Macpherson Operating Company, L.P.

Enclosure  
cc: Stephen R. Bohlen, State Oil and Gas Supervisor  
Department of Conservation, DOGGR  
801 K Street  
Sacramento, CA 95814-3500
MACPHERSON OPERATING COMPANY

RESPONSE TO CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION 13267
Issued on July 2, 2014

API 029-14064, RING 20-3

MT. POSO OIL FIELD
Section 20, T27S, R28E, MDB&M

Kern County, California

August 1, 2014

Prepared by:

EnviroTech Consultants, Inc.
5400 Rosedale Avenue
Bakersfield, CA 93308
I, Tim Lovley, an authorized representative of Macpherson Operating Company, L.P., certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Tim Lovley
Agent

7.30.14
Date
EXECUTIVE SUMMARY

The following information is provided to the State of California, California Water Boards, Central Valley Regional Water Quality Control Board (RWQCB) by Macpherson Operating Company following Order Pursuant to California Water Code Section 13267 issued to Macpherson Operating Company on July 2, 2014 to provide the information listed in the Order and in the attachment to the Order. The RWQCB Order was complimented by an Order from the Department of Oil, Gas, and Geothermal Resources (DOGGR), a copy of this response is being provided to the DOGGR.
Table of Contents

1.0 INTRODUCTION .................................................................................................................. 4
2.0 WATER QUALITY ANALYSIS AND REPORTING (ITEM 1) ........................................... 4
3.0 PREVIOUSLY-OBTAINED CHEMICAL ANALYSIS (ITEM 2) ........................................ 4
4.0 ITEMS 3A AND 3B ............................................................................................................ 4

ATTACHMENTS

ATTACHMENT A Copy of July 2, 2014 Order Pursuant to California Water Code Section 13267
ATTACHMENT B Copy of the Request for a Time Extension for Water Quality Analysis and Reporting (Order Item 1)
ATTACHMENT C Copies of all available previously-obtained chemical analysis within one mile (Order Item 2)
ATTACHMENT D Map of all water supply wells within one mile of each injection well subject to this order (Order Item 3A)
ATTACHMENT E Copy of 24 hour notification to RWQCB of wells with confidential classification (Order Item 3B)

ON DISK

One PDF copy of the data included in this binder
1.0 Introduction

This report provides the information requested in Order Pursuant to California Water Code Section 13267 issued to Macpherson Operating Company (Macpherson) by the Central Valley Regional Water Quality Control Board (RWQCB). Copies of the requested spreadsheets, attachments and text are also provided electronically on a disk in the back of this report. A copy of the Order is included at the back of this report (Attachment A).

2.0 Water Quality Analysis and Reporting (Order Item 1)

An extension to the required water quality analysis and reporting was filed with the RWQCB on July 17, 2014 as the radionuclide testing could not be processed by the lab within the required time frame. A copy of the extension is included at the back of this report (Attachment B).

Water samples were collected on July 24, 2014 and the final report will be submitted no later than one week following receipt of the laboratory analytical report.

3.0 Previously-Obtained Chemical Analysis (Order Item 2)

Attachment C contains information on previously-obtained analytical data for fluid samples collected from any injection zones within one mile of each of the injection wells subject to this order.

4.0 Order Items 3A and 3B – Water Supply Wells

During our search for surrounding water supply wells, none were found within a one mile radius of the injection well subject to this order.

- Attachment D contains a map showing that there are no water supply wells within one mile of the injection well subject to this order.

Due to confidentiality classification on many of the surrounding wells, minimal information was available for each identified water supply well within one mile of the injection wells subject to this order. The RWQCB was notified within 24 hours upon determination and a copy of the notification is included in Attachment E.

EnviroTech was able to view water well records at the Kern County Water Agency, and received records from Kern County Environmental Health. We were able to identify the following:

- Location (Section, Township, Range)
- Well Identification Number
- Owner
- Owner address
- Year of drilling application (from Kern County Water Agency Files)
- Type of well
- Descriptive location
Data Source

Well completion interval and water analytical data are confidential.
ATTACHMENT A

Copy of July 2, 2014 Order Pursuant to California Water Code Section 13267
ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION 13267. You are legally obligated to respond to this Order. Read this Order carefully.

Macpherson Operating Company, L.P., is the operator of the injection well identified as API number 02914064 (hereinafter “injection well subject to this Order”). The California Division of Oil, Gas, and Geothermal Resources (Division) has determined that the injection well subject to this Order have been injecting fluids produced by oil or gas extraction activities into aquifers that may not have been properly designated as exempt aquifers under the federal Safe Drinking Water Act (42 U.S.C. § 300f et seq.). These aquifers may be suitable for drinking water supply and other beneficial uses. The Division is issuing an Emergency Order to Immediately Cease Injection Operations (Emergency Order) to Macpherson Operating Company, L.P., for the injection well subject to this Order concurrently with the issuance of this Order by the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

This Order is intended to complement the Division’s Emergency Order. As described further below, this Order requires Macpherson Operating Company, L.P., to submit information about the quality of groundwater within the zone(s) where fluids have been injected using the injection well subject to this Order. In addition, this Order requires Macpherson Operating Company, L.P., to submit the location and contact information for all water supply wells within one (1) mile of each of the injection well subject to this Order. The Division’s Emergency Order requires Macpherson Operating Company, L.P., to submit other information that is also needed to assess the threat to groundwater quality posed by the operation of the injection well subject to this Order. The Division’s Emergency Order requires Macpherson Operating Company, L.P., to submit that information to the Division and to the Central Valley Water Board. This Order is not intended to require Macpherson Operating Company, L.P., to submit any information that the Division’s Emergency Order also requires Macpherson Operating Company, L.P., to submit.

The Central Valley Water Board’s authority to require technical reports derives from Section 13267 of the California Water Code, which specifies, in part, that:

(a) A regional board ... in connection with any action relating to any plan or requirement authorized by this division, may investigate the quality of any waters of the state within its region.

KARL E. LONGLEY BCD, P.E., CHAIR | PAMELA G. ORREGGON P.E., BCEE, EXECUTIVE OFFICER

1685 E Street, Folsom, CA 95630 | www.waterboards.ca.gov/centralvalley

© 2014 WATER BOARD OF THE CENTRAL VALLEY
(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region... that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The Central Valley Water Board is concerned about the potential threat to human health and potential impacts to water quality posed by the discharge of waste associated with the injection of fluids into aquifers that were not properly designated as exempt aquifers under the federal Safe Drinking Water Act and that may be suitable for drinking water supply and other beneficial uses. The technical information and reports required by this Order are necessary to assess the potential threat to human health and potential impacts to water quality. The need to understand the potential threat to human health and potential impacts to water quality justifies the need for the information and reports required by this Order. Based on the nature and possible consequences of the discharges of waste, the burden of providing the required information, including reporting costs, bears a reasonable relationship to the need for the report, and the benefits to be obtained. Macpherson Operating Company, L.P., is required to submit this information and reports because it is the operator of the injection well subject to this Order.

Under the authority of California Water Code section 13267, the Central Valley Water Board hereby orders Macpherson Operating Company, L.P., to:

1. By 11 July 2014, submit a work plan that adequately describes the procedures to collect a representative groundwater sample from the injection zone(s) for the injection well subject to this Order. By 1 August 2014, submit a technical report with the analyses of each of the groundwater samples, in accordance with the water quality analysis and reporting requirements contained in Attachment A to this Order.

Note: If a representative sample cannot feasibly be collected from one or more of the injection zones for the injection well subject to this Order within the required timeframe (e.g., due to constraints posed by the design of the injection well), then by 18 July 2014, submit a technical report demonstrating that collection of a representative sample from those injection zones is not feasible within the required timeframe, and proposing an alternative sampling procedure and expeditious time schedule for obtaining a representative sample of groundwater from those injection zones. Alternative sampling procedures and time schedules are subject to approval by the Assistant Executive Officer of the Central Valley Water Board.
2. **By 1 August 2014**, submit all previously-obtained analytical data for fluid samples collected from any injection zones within one (1) mile of the injection well subject to this Order.

3. **By 1 August 2014**, submit a technical report containing the following:

   A. A list and location map of all water supply wells within one mile of the injection well subject to this Order.
   B. All available information for each identified water supply well, including the well owner name and contact information; type of well (i.e., domestic, irrigation, industrial, etc.); status (i.e., active, idle, etc.); well construction; borehole geophysical logs; and all analytical results for any water sample(s) collected from each water supply well. Notify Central Valley Water Board staff within 24 hours upon determination that any water supply well information cannot be obtained from the California Department of Water Resources because it is confidential.

Submissions pursuant to this Order must include the following statement signed by an authorized representative of Macpherson Operating Company, L.P.:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

The failure to furnish the required report, or the submission of a substantially incomplete report or false information, is a misdemeanor, and may result in additional enforcement actions, including issuance of an Administrative Civil Liability Complaint pursuant to California Water Code section 13268. Liability may be imposed pursuant to California Water Code section 13268 in an amount not to exceed one thousand dollars ($1,000) for each day in which the violation occurs.

Any person aggrieved by this Order of the Central Valley Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with California Water Code section 13320. The State Water Board must receive the petition by 5:00 p.m., within 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations, and instructions applicable to filing petitions, may be found at [http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml), or will be provided upon request.

By 9 July 2014, you must contact Dane S. Johnson of this office at (559) 445-5525 to discuss your proposed work plan and technical report.
All required technical information must be submitted to the attention of:

Dane S. Johnson  
Central Valley Water Board  
1685 E Street  
Fresno, CA 93706

In addition, all information is to be copied to the Division, to the attention of:

Steven R. Bohlen, State Oil and Gas Supervisor  
Department of Conservation, DOGGR  
801 K Street  
Sacramento, CA 95814-3500

Based on the information submitted in the work plan and/or technical report, additional information or action may be required.

Be advised that sections 13260 and 13264 of the California Water Code require any person who proposes to discharge waste that could affect waters of the state to submit a Report of Waste Discharge for any new discharge or change in the character, volume, or location of an existing discharge. Fluids produced by oil or gas extraction activities that can no longer be disposed of in the injection well subject to this Order cannot be discharged to land or waters of the state prior to the issuance of Waste Discharge Requirements, and cannot be discharged to waters of the United States prior to the issuance of an National Pollutant Discharge Elimination System (NPDES) Permit. Failure to comply with these requirements may constitute a misdemeanor under Water Code section 13265 or a felony under Water Code section 13387, and may also subject Macpherson Operating Company, L.P., to judicial or administrative civil liabilities. It is strongly recommended that you contact Central Valley Water Board staff to discuss any proposed changes to the discharge of the fluids that had previously been disposed of in the injection well subject to this Order.

Any questions regarding this matter should be directed to me at (559) 445-5116 or at Clay.Rodgers@waterboards.ca.gov.

Clay L. Rodgers  
Assistant Executive Officer

Enclosure: Attachment A
ATTACHMENT A

Water Quality Analysis

Groundwater samples collected from wells and injection zones shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program, using current applicable EPA-approved analytical methods for water for the following:

A. Total dissolved solids
B. Metals listed in California Code of Regulations, title 22, section 66281.24, subdivision (a)(2)(A)
C. Benzene, toluene, ethylbenzene, and xylenes
D. Total petroleum hydrocarbons for crude oil
E. Polynuclear aromatic hydrocarbons (including acenaphthene, acenaphthyene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene)
F. Radionuclides listed under California Code of Regulations, title 22, Table 64442
G. Methane
H. Major and minor cations (including sodium, potassium, magnesium, and calcium)
I. Major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide)
J. Trace elements (including lithium, strontium, boron, iron, and manganese)

Water Quality Reporting

Water quality information shall be submitted in a technical report that includes, at a minimum:

A. Site plan with locations of well(s) sampled.
B. Description of field sampling procedures.
C. Table(s) of analytical results organized by well number (including API number).
D. Copies of analytical laboratory reports, including quality assurance/quality control procedures and analytical test methods.
E. Waste management and disposal procedures.
ATTACHMENT B

Copy of the Request for a Time Extension for Water Quality Analysis and Reporting

Order Item 1
July 17, 2014

Clay Rodgers
Assistant Executive Officer
Central Valley Water Board
1685 E Street,
Fresno, CA 93706


Mr. Rodgers:

As required by the Central Valley Regional Water Quality Control Board (RWQCB) Order referenced above Macpherson Operating Company (MOC) is submitting this request for an extension to the well testing required by the order issued by RWQCB on July 2, 2014 hereby referred to as the Order. Below is a status of preparation, explanation of this request, and a revised timeline to comply with the Order.

- MOC has prepared the injection well for sampling by placing a half-round containment, having standby replacement tubing placed at the site, and performing some of the required plumbing to perform the sampling required. MOC had a work over rig scheduled to be on the well on July 17, 2014.

- An approved work plan has not been received, the work over rig has been sent to another job. Scheduling the work over rig is subject to multiple variables that cannot be controlled by MOC.

- MOC will provide the RWQCB and Division of Oil and Gas and Geothermal Resources (DOGGR) a schedule to perform the testing required within 2 (two) business days of when an approved work plan has been received by MOC. Please see the attached schedule identifying the number of days required to perform and receive the results of testing.

- In addition, some sample results required in the Order cannot be analyzed within the schedule required within the Order. MOC will ensure the sample results are sent in the most expeditious manner available to the RWQCB and DOGGR when the results are available.

All other requested information will be submitted to the RWQCB and DOGGR as requested in the Order. Macpherson will also inform the RWQCB of any delays or changes to the program listed above and in the Order.

Sincerely,

Tim Lovley

I certify under penalty of the law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

cc: Steven R. Bohlen, State Oil and Gas Supervisor (via email)
    J. Ellis McNaboe, EnviroTech (via email)
    File Attachment
### TASK

<table>
<thead>
<tr>
<th>TASK</th>
<th>Scheduled Days</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MIRU workover rig and clean half round surface tank for swabbing displacement.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. POOH with AD1 Packer and 3-1/2&quot; tubing string.</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>3. MIU bailer and RIH and tag fill.</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>4. Clean out fill to +/- 970' and POOH. If unable to bail down to 970', MOC will select a nearby well to be used for formation water sampling.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5. Install displacement line (with 1&quot; valve for sampling) to half round tank.</td>
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<td></td>
</tr>
<tr>
<td>6. RIH with 2-7/8 tubing string and swab tool. Attempt to swab out 18 plus bbl's of fluid (three well volumes) and displace into half round surface tank. If unable to collect targeted volume, contact Mike Cook at MOC for further instructions.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7. Swab an additional barrel of fluid (4 sample gallons to be extracted from sampling valve). Sample to be provided to laboratory representative.</td>
<td>0.1</td>
<td></td>
</tr>
</tbody>
</table>

### LABORATORY ANALYSIS

- Transport Groundwater sample to Certified Laboratory. If the sample arrives at the lab on a Friday the analytical work will begin the following Monday.

- Analysis, 25 calendar days

- Report/Table preparation

- Overnight delivery to the RWQCB and DOGGR

**TOTAL # of DAYS: 35**

34.35(35)

As stated in the MOC submitted work plan:

- If during bailing the fluid level drops to the total depth of the well, the RWQCB will be notified. The well will be left standing for 12 hours and the fluid level will be checked at the end of the 12 hour period. A discussion with the RWQCB and if appropriate DOGGR to determine next actions.

- If the well does not bail dry, following removal of three well volumes of fluid the water samples will be decanted from the bailer to labeled laboratory sampling containers.

- The samples will be placed in a cold ice chest and transported to the laboratory under chain of custody procedures.
ATTACHMENT C

Copies of All Available Previously-Obtained Chemical Analysis within One Mile

Order Item 2
December 10, 1974

Mr. Don Russell  
United States Geological Survey  
Federal Building, Room 309  
800 Truxtun Avenue  
Bakersfield, California  93301

Dear Mr. Russell:

Enclosed is a summary of the laboratory analysis of water samples from the Olcece formation from well no. "Ring 20" 3, Section 20, T.27S., R.28E., M.D.B.& M. Also included in this report is the analysis of a combined sample of the injection water.

Thank you for your cooperation in the conversion of this well to a waste water injector.

Yours truly,

William H. Park

WHP/jk

Enclosure
Thomas Oil Company
P. O. Box 6356
Bakersfield, California 93306

Attention: Mr. Frank Mundy

Combined Water including Sec. #18 3.4 390 1,033.6

<table>
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<tr>
<th>Sample Description</th>
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<th>B. C. (g/l)(S)</th>
<th>Salinity as ppt</th>
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<tr>
<td>Ring 20 #3 Closest</td>
<td>0.27</td>
<td>63</td>
<td>456.4</td>
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<tr>
<td>Ring 20 #3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing Fluid prior to shooting</td>
<td>2.0</td>
<td>260</td>
<td>1,633.2</td>
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<tr>
<td>Ring 20 #3 Sample #1</td>
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<td>139</td>
<td>611.8</td>
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<tr>
<td>Ring 20 #3 Sample #2</td>
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<td>160</td>
<td>864.3</td>
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<tr>
<td>Ring 20 #3 Closest 11/29/74</td>
<td>1.3</td>
<td>160</td>
<td>834.4</td>
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<tr>
<td>Ring 20 #3 5:45 PM 755°</td>
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<td>190</td>
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<tr>
<td>04 11/29/74</td>
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<td></td>
<td></td>
</tr>
<tr>
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<tr>
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<td></td>
<td></td>
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<td>200</td>
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<tr>
<td>Wall 20 #3 1000 Feet</td>
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<td>300</td>
<td>1,703.2</td>
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</table>
WATER ANALYSIS

**Sample Description:**

- **pH or Hydrogen-ion activity:** 9.0
- **E.C. x 10^3 @ 25°C (salinity):** 300
- **Electrical Resistivity Ohms M/M:**

**Constituents, P. P. M. (parts per million):**

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<th>Parts Per Million</th>
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<tr>
<td>Sodium, (Na)</td>
<td>6.2</td>
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<tr>
<td>Potassium, (K)</td>
<td>2.1</td>
</tr>
<tr>
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</tr>
<tr>
<td>Bicarbonates, (HCO_3^-)</td>
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</tr>
<tr>
<td>Chlorides, (Cl)</td>
<td>6.40.7</td>
</tr>
<tr>
<td>Sulphates, (SO_4^-)</td>
<td>less than 5</td>
</tr>
<tr>
<td>Nitrate, (NO_3^-)</td>
<td>less than 0.5</td>
</tr>
<tr>
<td>Fluoride, (F)</td>
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</tr>
<tr>
<td>Total Iron, (Fe)</td>
<td>less than 5.8</td>
</tr>
<tr>
<td>Copper, (Cu)</td>
<td>less than 0.01</td>
</tr>
<tr>
<td>Manganese, (Mn)</td>
<td>0.17</td>
</tr>
<tr>
<td>Chromium, (Cr)</td>
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</tr>
<tr>
<td>Zinc, (Zn)</td>
<td></td>
</tr>
<tr>
<td>Aluminum, (Al)</td>
<td>50</td>
</tr>
<tr>
<td>Silica, (SiO_2)</td>
<td></td>
</tr>
<tr>
<td>Lithium, (Li)</td>
<td></td>
</tr>
<tr>
<td>Lead, (Pb)</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
</tr>
<tr>
<td>Sulphides as H_2S</td>
<td></td>
</tr>
<tr>
<td>Total Hardness as CaCO_3</td>
<td>72.3 (4.6 gr/gal)</td>
</tr>
<tr>
<td>Oil (chloroform extractable)</td>
<td>1,634</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td></td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Notes:**

- **Date Reported:** 12/8/74
- **Date Received:** 12/9/74
- **Laboratory No.:** 11435

**Attention:** Mr. Mundary

**Well:** 20 8 1000 Feet
Thomas Oil Company  
P. O. Box 6356  
Bakersfield, California 93306

Date Reported: 12/3/74  
Date Received: 12/2/74  
Laboratory No.: 11396-11397

### WATER ANALYSES

Sample Description:  
#1 - Ring 20 #3 Sample #6  
#2 - Ring 20 #3 Sample #7

<table>
<thead>
<tr>
<th>Constituents</th>
<th>#1</th>
<th>#2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salinity as NaCl</td>
<td>1144.6 PPM</td>
<td>1168.0 PPM</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>196 Kx10^5</td>
<td>200 Kx10^5</td>
</tr>
<tr>
<td>Boron</td>
<td>1.6 PPM</td>
<td>2.1 PPM</td>
</tr>
</tbody>
</table>
WATER ANALYSIS

Sample Description:

- pH or Hydrogen-ion activity: 7.8
- EC x 10^6 @ 25°C (salinity): 85
- Electrical Resistivity (Ohms m/M): 11.76

Constituents, P. P. M. (parts per million):

- Boron, (B): 0.27
- Calcium, (Ca): 47
- Magnesium, (Mg): 17.3
- Sodium, (Na): 33
- Potassium, (K): 66
- Carbonate, (CO₃): 0
- Bicarbonate, (HCO₃): 183
- Chloride, (Cl): 74.7
- Sulfate, (SO₄): 210
- Nitrate, (NO₃): less than 0.5
- Fluoride, (F): 1.03
- Iron, (Fe): less than 0.01
- Copper, (Cu): less than 0.06
- Manganese, (Mn): 0.06
- Chromium, (Cr): 1
- Zinc, (Zn): 79
- Silica, (SiO₂): 0.06
- Aluminum, (Al): 0.06
- Lithium, (Li): 0.06
- Lead, (Pb): 0.06
- Phenol: 0.06
- Sulfides as H₂S: 0.06
- Total Hardness as CaCO₃: 189.6 (11.1 gr/gal)
- Oil (chloroform extractable): 600
- Total Dissolved Solids: 496.4
- Total Suspended Solids: 496.4
- Salinity as NaCl: 496.4
WATER ANALYSIS

Sample Description:

pH or Hydrogen-ion activity ------ 10.7
E.C. x 10^4 @ 25°C (salinity) ------ 280.
Electrical Resistivity Ohms M/cm ------ 3.57

Constituents, P. P. M. (parts per million)

<table>
<thead>
<tr>
<th>Constituent</th>
<th>P. P. M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron, (B)</td>
<td>2.0</td>
</tr>
<tr>
<td>Calcium, (Ca)</td>
<td>5.0</td>
</tr>
<tr>
<td>Magnesium, (Mg)</td>
<td>Less than</td>
</tr>
<tr>
<td>Sodium, (Na)</td>
<td>570.</td>
</tr>
<tr>
<td>Potassium, (K)</td>
<td>66.</td>
</tr>
<tr>
<td>Carbonates, (CO₃)</td>
<td>30.1</td>
</tr>
<tr>
<td>Bicarbonates, (HCO₃)</td>
<td>0</td>
</tr>
<tr>
<td>Chlorides, (Cl)</td>
<td>648.9</td>
</tr>
<tr>
<td>Sulphates, (SO₄)</td>
<td>57.</td>
</tr>
<tr>
<td>Nitrate, (NO₃)</td>
<td>Less than 0.5</td>
</tr>
<tr>
<td>Phosphate, (P)</td>
<td></td>
</tr>
<tr>
<td>Total Iron, (Fe)</td>
<td>1.16</td>
</tr>
<tr>
<td>Copper, (Cu)</td>
<td>Less than 0.01</td>
</tr>
<tr>
<td>Manganese, (Mn)</td>
<td>Less than 0.01</td>
</tr>
<tr>
<td>Chromium, (Cr)</td>
<td></td>
</tr>
<tr>
<td>Zinc, (Zn)</td>
<td></td>
</tr>
<tr>
<td>Aluminum, (Al)</td>
<td></td>
</tr>
<tr>
<td>Silica, (SiO₂)</td>
<td>60.0</td>
</tr>
<tr>
<td>Lihium, (Li)</td>
<td></td>
</tr>
<tr>
<td>Lead, (Pb)</td>
<td></td>
</tr>
<tr>
<td>Phozol</td>
<td></td>
</tr>
<tr>
<td>Sulphides as H₂S</td>
<td></td>
</tr>
<tr>
<td>Total Hardness as CaCO₃</td>
<td>12.50 (0.7 gr/gal)</td>
</tr>
<tr>
<td>Oil (chloroform extractable)</td>
<td></td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>1,564.</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td></td>
</tr>
<tr>
<td>Salinity as NaCl</td>
<td>1,635.2</td>
</tr>
</tbody>
</table>

Date Reported: 12/2/74
Date Received: 11/26/74
Laboratory No.: 11317

submitted by: Thomas Oil Company
E. O. Box 6356
Bakersfield, California 93306

Attention: Mr. Frank Mondary
Marked: Ring 20 #3 Casing Fluid Prior to Shooting

WATER ANALYSIS

**Sample Description:**

- **pH or Hydrogen-ion activity:** 7.8
- **E.C. x 10^6 @ 21°C (salinity):** 139.
- **Electrical Resistivity Ohms M²/M:** 7.19

** Constituents, P. P. M. (parts per million) **

<table>
<thead>
<tr>
<th>Constituent</th>
<th>P. P. M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron, (B)</td>
<td>1.10</td>
</tr>
<tr>
<td>Calcium, (Ca)</td>
<td>48.</td>
</tr>
<tr>
<td>Magnesium, (Mg)</td>
<td>13.8</td>
</tr>
<tr>
<td>Sodium, (Na)</td>
<td>235.</td>
</tr>
<tr>
<td>Potassium, (K)</td>
<td>62.</td>
</tr>
<tr>
<td>Carbonates, (CO₃⁻)</td>
<td>0.</td>
</tr>
<tr>
<td>Bicarbonates, (HCO₃⁻)</td>
<td>292.8</td>
</tr>
<tr>
<td>Chlorides, (Cl)</td>
<td>252.</td>
</tr>
<tr>
<td>Sulphates, (SO₄²⁻)</td>
<td>163.</td>
</tr>
<tr>
<td>Nitrate, (NO₃⁻)</td>
<td>less than 0.5</td>
</tr>
<tr>
<td>Fluoride, (F)</td>
<td></td>
</tr>
<tr>
<td>Total Iron, (Fe)</td>
<td>2.68</td>
</tr>
<tr>
<td>Copper, (Cu)</td>
<td>less than 0.01</td>
</tr>
<tr>
<td>Manganese, (Mn)</td>
<td>0.11</td>
</tr>
<tr>
<td>Chromium, (Cr)</td>
<td></td>
</tr>
<tr>
<td>Zinc, (Zn)</td>
<td></td>
</tr>
<tr>
<td>Aluminum, (Al)</td>
<td></td>
</tr>
<tr>
<td>Silica, (SiO₂)</td>
<td>62.</td>
</tr>
<tr>
<td>Lithium, (Li)</td>
<td></td>
</tr>
<tr>
<td>Lead, (Pb)</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
</tr>
<tr>
<td>Sulfides as H₂S</td>
<td></td>
</tr>
<tr>
<td>Total Hardness as CaCO₃</td>
<td>177.5 (10.3 gr/gal)</td>
</tr>
<tr>
<td>Oil (chloroform extractable)</td>
<td></td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>920.</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td></td>
</tr>
<tr>
<td>Salinity as NaCl</td>
<td>811.8 (47.4 gr/gal)</td>
</tr>
</tbody>
</table>
WATER ANALYSIS

Sample Description:

- pH or Hydrogen-ion activity: 7.8
- E.C. x 10^4 @ 25°C (salinity): 148.1
- Electrical Resistivity Ohms M²/M: 6.76

Constituents, P. P. M. (parts per million):

- Boron, (B): 1.3
- Calcium, (Ca): 49
- Magnesium, (Mg): 13.6
- Sodium, (Na): 250
- Potassium, (K): 66
- Carbonates, (CO₃): 0
- Bicarbonates, (HCO₃): 311.1
- Chlorides, (Cl): 282.5
- Sulphates, (SO₄): 145
- Nitrate, (NO₃): less than 0.5
- Fluoride, (F): 0.01
- Total Iron, (Fe): 2.19
- Copper, (Cu): less than 0.01
- Manganese, (Mn): 0.13
- Chromium, (Cr): 61
- Zinc, (Zn): 10.4 gr/gal
- Aluminum, (Al): 61
- Silica, (SiO₂): 179.2
- Lithium, (Li): 962
- Lead, (Pb): 864.3
- Phenol:
- Sulfides as H₂S:
- Total Hardness as CaCO₃: 179.2 (10.4 gr/gal)
- Oil (chloroform extractable):
- Total Dissolved Solids: 962
- Total Suspended Solids:
- Salinity as NaCl: 864.3

Date Reported: 12/2/74
Date Received: 11/27/74
Laboratory No.: 11353

BC LABORATORIES Inc.

By [Signature]
WATER ANALYSIS

Sample Description: Sample #5 760' @ 4:00 pm 11/29/74 Sec. #20-3

- Salinity as NaCl: 1109.6 ppm
- Electrical Conductivity: 190 $\times 10^5$
- Boron: 1.7 ppm

B C LABORATORIES, INC.

By J. J. Eglin
Thomas Oil Company  
P. O. Box 6356  
Bakersfield, California 93306

Date Reported: 12/2/74  
Date Received: 11/29/74  
Laboratory No.: 11375

WATER ANALYSIS

Sample Description: Sample #4 755' 3:45 pm 11/29/74 Sec. #20-3

Salinity as NaCl 1109.6 ppm  
Electrical Conductivity 190 Kx10^5  
Boron 1.9 ppm

B C LABORATORIES, INC.


3016 Union Ave, Bakersfield, California 93305 Phone 325-7475
WATER ANALYSIS

Sample Description: Ring 20 #3 Olcose 11/29/74

Salinity as NaCl 934.4 ppm
Electrical Conductivity 160 x 10^5
Boron 1.2 ppm
Thomas Oil Company
P. O. Box 6356
Bakersfield, California 93306

Date Reported: 11/29/74
Date Received: 11/26/74
Laboratory No.: 11316

WATER ANALYSIS

Sample Description: Ring 20 #3 Olcese

Salinity as NaCl 496.4 PPM
Electrical Conductivity 85 Kx10^5
Boron 0.27 PPM
WATER ANALYSIS

Sample Description: Ring 20 #3 Sample #1

Salinity as NaCl 811.6 ppm
Electrical Conductivity 139 Kx10^5
Boron 1.1 ppm
WATER ANALYSIS

Sample Description: Ring 2C #3 Sample #2

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
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</thead>
<tbody>
<tr>
<td>Salinity as NaCl</td>
<td>864.3 PPM</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>148 Kx10^5</td>
</tr>
<tr>
<td>Boron</td>
<td>1.3 PPM</td>
</tr>
</tbody>
</table>

B C LABORATORIES, INC.

By J. J. EGLIN, REG. CHEM. ENGR.
Submitted By: Thomas Oil Company
4311 Meadowview Place
Encino, California 91316

Mailed: Attention: Mr. Frank Mondary

Co-mingled water sample from Section 20, Glide 19 & Vadder U. S. L. Tank Farm West Mt. Poso 11/13/74

WATER ANALYSIS (water for injection into well 20-3 Mt. Poso)

Sample Description:

pH or Hydrogen-ion activity
H. C. x 10^6 @ 25°C (salinity)
Total Dissolved Solids mg/l

Test Values, P. P. M. (parts per million)

<table>
<thead>
<tr>
<th>Ion</th>
<th>Test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ca</td>
<td>16.8</td>
</tr>
<tr>
<td>Mg</td>
<td>2.9</td>
</tr>
<tr>
<td>Na</td>
<td>1.2</td>
</tr>
<tr>
<td>K</td>
<td>0.005</td>
</tr>
<tr>
<td>SO_4</td>
<td>8.4</td>
</tr>
<tr>
<td>CO_3</td>
<td>0.002</td>
</tr>
<tr>
<td>Cl</td>
<td>0.003</td>
</tr>
<tr>
<td>NO_3</td>
<td>0.001</td>
</tr>
<tr>
<td>pH</td>
<td>7.7</td>
</tr>
<tr>
<td>Conductivity (µmhos/cm)</td>
<td>333</td>
</tr>
</tbody>
</table>

Total Salinity (as NaCl) 1,752 ppm
Chlorides (as NaCl) 1,308.2 ppm

Solids: 1,723 g/l (9.4 gr/gal)

S
as CaCO_3 160.8 g l (9.4 gr/gal)
ATTACHMENT D

Map of All Water Supply Wells within One Mile of the Injection Well Subject to this Order

Order Item 3A
ATTACHMENT E

Copy of 24 Hour Notification to RWQCB of Wells with Confidential Classification

Order Item 3B
Dane,

This email is to notify the RWQCB that some requested water supply well data within one mile of the Macpherson Ring 20-3 well is confidential.

EnviroTech will review the public DWR web site, and the Kern County Water Agency files, and will provide the RWQCB with the information publicly available. For each water supply well within one mile, where possible from public information, we will provide the following information (also see the attached spreadsheet):

- Location (Section, Township, Range)
- Well Identification number
- Owner
- Owner address
- Year of drilling application (from Kern County Water Agency Files)
- Type of well
- Descriptive location
- Data Source

The details of the depth, well construction, geophysical logs, and water analytical data are confidential and not available to EnviroTech.

Regards,

M. Jane Ellis-McNaboe, PG
jmcnaboe@envirotechteam.com

EnviroTech Consultants, Inc.
5400 Rosedale Highway,
Bakersfield, CA 93308

(661) 377-0073 X 11, Office
(661) 246-9854, Cell
(661) 377-0074, Fax
One PDF copy of the data included in this binder

API: 029-14064
EXHIBIT 12
July 31, 2014

Central Valley Regional Water Quality Control Board
165 E Street
Fresno, CA 93706

Attention: Dane S. Johnson

Ladies and Gentlemen:

Enclosed please find information being submitted by Macpherson Operating Company in response to Order Pursuant To California Water Code Section 13276 dated July 2, 2014 issued to Macpherson Operating Company ("Macpherson") by the Central Valley Regional Water Quality Control Board ("RWQCB"). Please be advised that Macpherson is concurrently filing an appeal of this Order with the State Water Resources Control Board. Accordingly, Macpherson is providing this information to the RWQCB without prejudice to or waiver of any of Macpherson's rights or remedies.

Sincerely,

[Signature]

On Behalf Of
Macpherson Operating Company, L.P.

Enclosure

cc: Stephen R. Bohlen, State Oil and Gas Supervisor
Department of Conservation, DOGGR
801 K Street
Sacramento, CA 95814-3500
MACPHERSON OPERATING COMPANY

RESPONSE TO CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

EMERGENCY ORDER No. 1056 issued on July 2, 2014

API 029-14064, Ring 20-3

Mt. POSO OIL FIELD
Section 20, T27S, R28E, MDB&M

Kern County, California

August 1, 2014

Prepared by:

EnviroTech Consultants, Inc.
5400 Rosedale Avenue
Bakersfield, CA 93308
Table of Contents

1.0 INTRODUCTION ......................................................................................... 3
2.0 EXHIBIT A (INFORMATION IV(A)) .......................................................... 3
3.0 ALL INFORMATION COMPILED OR MAINTAINED BY MOC IN COMPLIANCE WITH TITLE 14, CCR, SECTION 1724.7 (INFORMATION IV(A)) .......................................................... 3
4.0 VOLUME OF FLUID INJECTED (INFORMATION IV(B)) .......................... 3
5.0 PERIODIC CHEMICAL ANALYSIS (INFORMATION IV(B)) ................... 4
6.0 AMENDMENTS TO THE ORIGINAL PROJECT APPROVAL (INFORMATION IV(B)) ... 4
7.0 CHEMICAL ANALYSIS OF INJECTATE (INFORMATION IV(C)) ............. 4
8.0 DATA MAINTAINED TO SHOW PROJECT PERFORMANCE (INFORMATION IV(D)) .. 5

TABLES

Table 1 – Volume of Fluid Injected ........................................................................ 4

ATTACHMENTS

ATTACHMENT A  Copy of Emergency Order No. 1056
ATTACHMETN B  Spreadsheet with DOGGR listed items A through S
ATTACHMENT C  Well Construction Diagram, Ring 20-3
ATTACHMENT D  Copies of All Available Water Quality Laboratory Analyses, Injected Fluids (Exhibit A, Item R)
ATTACHMENT E  Project Application and Division Project Approval Correspondence
ATTACHMENT F  Macpherson Well File, Ring 20-3
ATTACHMENT G  Injection Volume Spreadsheet (missing 1975 – 1977)

ON DISK

One PDF copy of the data included in this binder
Spreadsheets in Microsoft Excel
Copies of all MITs and SAPTs for Ring 20-3 (API 029-14064)
1.0 Introduction

Ring 20-3 has been a permitted injection well since December 1974 when it was permitted by Thomas Oil Company. Ring 20-3 has not been used, injected into, since August of 2008. In 2009 Ring 20-3 documentation was submitted to the Division officially idling the well. Effective December 1, 2010 Macpherson Operating Company became the Operator of Record for the Mt Poso project. Additional Ring 20-3 history is described in section 6.0 and 7.0 and in the attachments to this document.

This report provides the information requested in Order No. 1056 issued to Macpherson Operating Company (MOC) by the Department of Conservation, Division of Oil, Gas and Geothermal Resources (the Division). Copies of the requested spreadsheets, attachments and text are also provided electronically on a disk in the back of this report. A copy of the Order is included at the back of this report (Attachment A).

2.0 Exhibit A (Information IV(a))

- Attachment B contains the spreadsheet required in Exhibit A of the Division Order.
- Attachment C contains a wellbore diagram of APN 029-14064, Ring 20-3.
- Attachment D contains copies of all available water quality analyses and/or reports of the injected fluids (Exhibit A, Item R).

3.0 All Information Compiled or Maintained by MOC in Compliance with Title 14, CCR, Section 1724.7 (Information IV(a))

Attachment E contains copies of the project correspondence. Included in Attachment D is the original formation water analysis from the correspondence file, the formation water sample was collected in December 1974.

Attachment F contains a copy of the MOC well file. The original project application (Attachment E), copies of annual Mechanical Integrity Tests (MIT) and Standard Annular Pressure Tests (SAPT). Copies of the MITs and SAPTs are included on disk.

4.0 Volume of Fluid Injected (Information IV(b))

A spreadsheet containing the total volume of injected fluid for each month of operation, for years 1977 through 2014 included in Attachment G. Fluid was injected into the well from January 1975 until August 2008. No injection volume information was found for the time period January 1975 through April 1977. The total volume injected between May 1977 and May 2014 is shown below.

No injection has taken place in Ring 20-3 since August 2008. Ring 20-3 has been officially suspended since September 29, 2010.
Table 1 – Volume of Fluid Injected

<table>
<thead>
<tr>
<th>Dates</th>
<th>Injected Wastewater (BBLS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1977– May 2014</td>
<td>50,520,239</td>
</tr>
<tr>
<td>1 June 2013 – 31</td>
<td></td>
</tr>
<tr>
<td>May 2014</td>
<td>0</td>
</tr>
</tbody>
</table>

5.0 Periodic Chemical Analysis (Information IV(b))

Copies of the analyses of the fluid that were injected are included in Attachment D. A spreadsheet listing the results is also included in Attachment D. No water quality averages were calculated as the analytical results are not comparable and the source of each water sample is unknown.

6.0 Amendments to the Original Project Approval (Information IV(b))

This UIC project (project) was initiated by Thomas Oil Company in November 1974. In December of 1974 a report was provided to the USGS United States Geological Survey from William Park, Geologist indicating that “No known fresh water exists within the area”. The Division approved a discharge rate of 4500 barrels per day in December 1974. The Division continued to approve the project through the Report on Operations Water Disposal Project indicating that the fluid is confined to the strata below 920 feet. On February 3, 1982 the California Regional Water Quality Control Board concluded that the project be allowed to continue. In the Memorandum dated February 3, 1982 the California Regional Water Quality Control Board indicated that they did not know of any other beneficial uses of these zones, and that is is reasonable to allow the continued injection of the existing quantity and quality of Vedder water into the Ocesse. In November of 1991 the Division again approved the continued use of the project with a reduction in rate to 4,000 barrels per day. In August 1996 the continuance of the project was approved by the Division of Oil, Gas, and Geothermal Resources. Injection stopped in August of 2008 and Ring 20-3 has been suspended since September 29, 2010.

There have been no amendments to the project.

(Correspondence from and to the Division of Oil and Gas and other agencies is included in Attachment E).

7.0 Chemical Analysis of Injectate (Information IV(c))

A representative sample of fluid being injected into the well was not collected as ordered by the Division Order No. 1056, Exhibit B. No fluid has been injected into the well since August 2008.

From 1975 until 2008 produced water from the Ring lease Vedder production wells was injected into Ring 20-3. After 2008 produced water from the lease and waste water from the Mt Poco Cogeneration Facility, who receives produced water from the lease, has been injected into the permitted Vedder wastewater disposal wells Ring 18-9, Ring 18-21 and Ring 18 WD-1. Wells Ring 18-9 and Ring 18-21 dispose of waste water into the producing Vedder zone (cycling waste water through the production formation).
During the time that Ring 20-3 was used as a wastewater disposal well only Vedder Formation produced water was disposed. The Mt Poso Cogeneration Facility waste water was isolated, through piping limitations, from being disposed of in Ring 20-3.

It is no longer possible to collect a sample representative of the fluid injected into the Ring 20-3 well as the current waste water stream includes both Vedder produced water and the cogeneration facility brine water.

8.0 Data Maintained to Show Project Performance (Information IV(d))

A copy of the well file for Ring 20-3 is included in Attachment F. Electronic copies of the open-hole logs, annual Mechanical integrity Tests (MITs) and one Standard Annual Pressure Test (SAPT) are included electronically on the disk located in a pocket in the back of the report. Macpherson retains copies of all electronic logs, Notices, MITs and SAPTs.

Mechanical Integrity tests were conducted on the dates shown below:

- 6/26/2007
- 7/15/2005
- 8/6/1992
- 8/31/1992
- 5/30/1990
- 5/24/1989
- 8/19/1988
- 10/9/1987
- 7/8/1986
- 11/21/1985
- 6/4/1984
- 6/1/1983
- 7/20/1982
- 8/5/1981
- 9/25/1980
- 9/2/1980
- 5/6/1979
- 11/4/1977
- 10/13/1977
- 9/13/1977
- 1/21/1977

The casing was pressure tested on:

- October 6, 1977, the pressure test was approved witnessed and by the Division.

Electronic copies of the MIT and SAPT records are included on the disk located in the back of this report.
ATTACHMENT A

Copy of Emergency Order No. 1056
EMERGENCY ORDER TO
IMMEDIATELY CEASE INJECTION OPERATIONS

NO. 1056

Dated: Wednesday, July 2, 2014

Operators: Macpherson Operating Company, L.P.
Well: 02914064

BY

Steven R. Bohlen
STATE OIL AND GAS SUPERVISOR
INTRODUCTION

1. The Division of Oil, Gas, and Geothermal Resources (Division) has determined that an emergency exists in connection with underground injection operations for the well operated by Macpherson Operating Company, L.P., identified as API no(s). 02914064 (hereinafter “the well subject to this order”). Injection into this well, if any is still occurring, poses danger to life, health, property, and natural resources. Therefore, under the authority of Public Resources Code sections 3106, 3222, 3224, 3225, 3226, and 3235, and California Code of Regulations, title 14, sections 1724.6, 1724.7, 1724.10, the State Oil and Gas Supervisor (Supervisor) is ordering that any injection into the well subject to this order, if any is still occurring, immediately cease as specified below. The Division is working cooperatively with the Central Valley Regional Water Quality Control Board, (which is contemporaneously issuing its own order pursuant to California Water Code section 13267), and the State Water Resources Control Board to obtain information for use in evaluating, preserving and protecting underground water suitable for irrigation or domestic purposes.

2. This order constitutes written notice from the Division to immediately stop any and all injection in the well subject to this order, pursuant to California Code of Regulations, title 14, section 1724.10, subdivision (h).

STATUTORY and RELATED AUTHORITY

3. Pursuant to Public Resources Code section 3106, the Supervisor shall supervise the operation of wells in this State so as to prevent, as far as possible, damage to life, health, property, and natural resources, and to prevent damage to underground waters suitable for irrigation and domestic purposes by the infiltration of, or the addition of, detrimental substances.

4. Pursuant to Public Resources Code sections 3222, 3224, 3225, 3226, 3235, and other authorities, the Supervisor has a duty to, and may take action to, prevent the infiltration of detrimental substances into underground water potentially suitable for irrigation or domestic purposes. Pursuant to these statutes and authorities, the Supervisor may order tests to be performed, remedial action(s) to be taken, and the preparation of reports regarding such tests and/or remedial action(s).
5. Pursuant to Title 14, California Code of Regulations, sections 1724.6, 1724.7, 1724.10, and other authorities, the Division possesses authority to approve and evaluate Underground Injection and Disposal projects, and to require that data be submitted in connection therewith.

6. Pursuant to Title 40, Code of Federal Regulations, section 146.4, and other authorities, only properly designated aquifers may receive injected fluids in connection with underground injection operations.

7. Pursuant to Title 14, California Code of Regulations, section 1724.10, subdivision (h), underground injection operations shall be stopped upon written notice from the Division.

FACTS

8. The well subject to this order is under the permitting authority of the Supervisor and/or Division pursuant to Public Resources Code section 3106, and Title 14, California Code of Regulations section 1724.6.

9. Such permitting authority is also contemplated by the federal Safe Drinking Water Act and its implementing regulations. Effective March 14, 1983, California’s Division of Oil, Gas and Geothermal Resources (Division) was granted primacy by the United States Environmental Protection Agency (US EPA) to carry out the terms of an Underground Injection Control Program, pursuant to section 1425 of the Safe Drinking Water Act (codified at 42 U.S.C. § 300f et seq.). (48 Fed. Register 6336, Feb. 11, 1983.)

10. Contemporaneously with the granting of primacy to the Division, and on occasion thereafter, certain underground aquifers within the State were designated as “exempted aquifers.” (40 CFR, § 146.3.) This designation qualifies such aquifers as appropriate for the injection of fluids attendant to or produced by oil and gas extraction activities and depends upon, among other things, the presence of sufficient hydrocarbons and sufficient number of parts per million (ppm) of total dissolved solids (TDS) in the receiving aquifer. (40 CFR, section 146.4.)

11. As a result of the granting of primacy, the Division, pursuant to Title 14, California Code of Regulations sections 1724.6, 1724.7, and 1724.10, must approve any subsurface injection or disposal activities based on pertinent and necessary data submitted to the Division.
12. The Division has become aware that certain underground injection activities are occurring, or may have been permitted to occur, into non-exempted aquifers.

13. Based on information and belief, the Division has determined that the well subject to this order is or may be injecting into one or more non-exempt aquifers which:
   (a) May contain underground water suitable for irrigation or domestic purposes;
   (b) May contain water with less than 3,000 ppm total dissolved solids;
   (c) May have been specifically denied exempted aquifer status by the US EPA in connection with the Division’s application for primacy;
   (d) May not have been hydrocarbon-bearing at the time injection commenced; and
   (e) May be potential underground sources of drinking water.

14. In order to prevent the infiltration of detrimental substances into underground water suitable for irrigation or domestic purposes, the Supervisor relies on the above-referenced legal authorities and factual allegations, and makes the orders set forth below.

ORDERS

15. Based on the facts, circumstances, and authorities described herein, on information and belief, and pursuant to the Supervisor’s duties set forth in Public Resources Codes section 3106, pursuant to Public Resources Code section 3222, 3224, 3225, 3226, and 3235 the Supervisor has determined that an emergency exists and that immediate action(s) are necessary to protect life, health, property, and natural resources, specifically, the further degradation of the affected aquifers, and orders as follows:

I. Cease and Desist Injection Operations

16. The operator subject to this order will cease any and all injection operations still occurring into the well subject to this order on or before 12:00 Noon on Monday, July 7, 2014 unless the operator subject to this order provides the Division with documentary evidence generated by the United States Environmental Protection Agency, satisfactory to the Supervisor, specifically establishing that the aquifer(s) affected by the well subject to this order are “exempted aquifers” as defined in Title 40, Code of Federal Regulations, sections 146.3, consistent with Title 40, Code of Federal Regulations section
144.1, subdivisions (e)-(g), and the Safe Drinking Water Act. In the event the operator subject to this order makes such a submission of evidence, the operator will nevertheless cease any and all injection operations into the wells subject to this order on or before 12:00 Noon on Monday, July 7, 2014 unless the Supervisor notifies the operator in writing (1) that the documentary evidence provided is sufficient to establish that the aquifer receiving injection is an exempted aquifer under the authorities stated above, and (2) that resumption of injection is approved on that basis.

II. Alternative Disposal or Injection

17. In the event that production activities relying on the use of any well subject to this order are continued using an alternative method of disposal of fluid, or an alternative location of underground injection, such alternative disposal or injection method or location shall be utilized only pursuant to, as applicable, (a) any applicable waste discharge requirements or NPDES permit issued by the Central Valley Regional Water Quality Control Board; (b) an existing permit for Underground Injection into an "exempted aquifer" consistent with Title 40, Code of Federal Regulations, section 146.3, updated to reflect the addition of the new injectate as required by Title 14 of the California Code of Regulations, section 1724.10, subdivision (d); or (c) other means carried out in full compliance with any required laws or regulations.

III. Written Approval Required

18. Injection operations shall not resume into the well subject to this order except on the express written approval of the Supervisor.

IV. Provide Information

19. The operator subject to this order will provide the following information to the State Oil and Gas Supervisor, in compliance with the truthful and accurate reporting requirement of Public Resources Code section 3236, within 30 days of the date of this order:

(a) For each well subject to this order, any and all information compiled or maintained, whether or not previously submitted to the Division, in compliance with Title 14,
California Code of Regulations, section 1724.7. The information submitted in response to this aspect of this order shall include, but not be limited to, the categories of information listed in Exhibit A attached hereto;

(b) For each well subject to this order, the total volume of injected fluid for each month of operation, for all years of operation, any periodic chemical analyses of the fluid(s) being injected, and any amendments to the original project approval, as provided by Division reporting requirements;

(c) For each well subject to this order, a technical report with an analysis of a representative sample of the fluid being injected, in accordance with the water quality analysis and reporting requirements contained in Exhibit B to this order;

(d) For each well subject to this order, any and all data maintained in compliance with Title 14, California Code of Regulations, section 1724.10, subd. (h);

(e) For each well subject to this order, the dates of, and documentation associated with, each mechanical integrity test undertaken to comply with Title 14, California Code of Regulations, section 1724.10, subd. (j);

(f) For each well subject to this order, please also send copies of all of the data required in items (a) through (e) above to

Central Valley Water Board
Attn. Dane Johnson
1685 E Street
Fresno, CA 93706
Operator's Appeal Rights

20. This order may be appealed by filing a written statement with the State Oil and Gas
Supervisor or district deputy that the order is not acceptable within ten (10) days of service of the order.

This is an emergency order issued pursuant to Public Resources Code section 3226 and therefore,
pursuant to Public Resources Code section 3350, subdivision (b), the filing of an appeal of this
emergency order shall not operate as a stay of the order.

DATE JUL 01 2014

By Steven R. Bohlen
State Oil and Gas Supervisor
Paragraph 19(a) of this order requires submission of the categories of information listed below. Specifically, your submission will include the following in spreadsheet form, labeled with the capital letters indicated, with attachments containing the backup documentation indicated in items Q through S, inclusive:

A. The name of the owner and/or operator of the injection well;
B. American Petroleum Institute (API) number for the injection well;
C. Injection well name and number;
D. Name of the field in which the well is located;
E. County in which the well is located;
F. Latitude and Longitude (decimal degrees) of well head location;
G. Latitude and Longitude Datum, indicate “1” for North American Datum of 1983 or “2” for North American Datum of 1927;
H. Injection well total depth (feet);
I. Top injection depth (feet);
J. Formation/Zone name at top injection depth;
K. Bottom injection depth (feet);
L. Formation/Zone name at bottom injection depth;
M. Date injection started in the well (Day/Month/Year, xx/xx/xxxx);
N. Identify and describe all sources of fluid injected into the well;
O. Injection volume in barrels for the period from 1 June 2013 through 31 May 2014;
P. Total injection volume in barrels from the date injection in the well began through 31 May 2014;
Q. Attach well construction diagram including all perforations, annular material, and seals;
R. Attach copies of all available water quality lab analyses and/or reports of the injected fluids;
S. Attach a calculation of the average water quality of injected fluid from the date injection began through 31 May 2014;
Exhibit B

Paragraph 19(c) of this order requires a technical report with an analysis of a representative sample of the fluid being injected into the well subject to this order. Such sampling and reporting will reflect the following:

Sampling

Injection fluid samples shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program, using current applicable EPA-approved analytical methods for water for the following:

A. Total dissolved solids
B. Metals listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A)
C. Benzene, toluene, ethylbenzene, and xylenes
D. Total petroleum hydrocarbons for crude oil
E. Polynuclear aromatic hydrocarbons (including acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene)
F. Radionuclides listed under California Code of Regulations, title 22, Table 64442
G. Methane
H. Major and minor cations (including sodium, potassium, magnesium, and calcium)
I. Major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide)
J. Trace elements (including lithium, strontium, boron, iron, and manganese)

Water Quality Reporting

Water quality information shall be submitted in a technical report that includes, at a minimum:

A. Site plan with location(s) of representative sample(s).
B. Description of field sampling procedures.
C. Table(s) of analytical results organized by well number (including API number).
D. Copies of analytical laboratory reports, including quality assurance/quality control procedures and analytical test methods.
E. Waste management and disposal procedures.
ATTACHMENT B

DOGGR Exhibit A Requested Information on Spreadsheet

Items A through S
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<th>Column</th>
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<th>Value</th>
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<td>A</td>
<td>Owner/Operator</td>
<td>Macpherson Operating Company</td>
</tr>
<tr>
<td>B</td>
<td>API Number</td>
<td>029-14064</td>
</tr>
<tr>
<td>C</td>
<td>Injection Well Name and Number</td>
<td>Ring 20 - 3</td>
</tr>
<tr>
<td>D</td>
<td>Field Name</td>
<td>Mount Poso</td>
</tr>
<tr>
<td>E</td>
<td>County</td>
<td>Kern</td>
</tr>
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<td>G</td>
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<td>1</td>
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<td>H</td>
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<td>I</td>
<td>Top Injection Depth (feet)</td>
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<tr>
<td>J</td>
<td>Formation/Zone name at top injection depth</td>
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<tr>
<td>K</td>
<td>Bottom injection depth (feet)</td>
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<tr>
<td>L</td>
<td>Formation/Zone name at bottom injection depth</td>
<td>Olcese</td>
</tr>
<tr>
<td>M</td>
<td>Date injection started in the well (Day/Month/Year)</td>
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<td>N</td>
<td>Identify and describe all sources of fluid injected into the well</td>
<td>Vedder Formation Produced water, Ring Lease</td>
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<tr>
<td>O</td>
<td>Injection volume in barrels for the period from 1 June 2013 through 31 May 2014</td>
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</tr>
<tr>
<td>P</td>
<td>Total injection volume in barrels from the date injection in the well began through 31 May 2014</td>
<td>50,520,239 - data from 1975 - 1977 is not available</td>
</tr>
<tr>
<td>Q</td>
<td>Attach well construction diagram including all perforations, annular material, and seals.</td>
<td>See Attachment B</td>
</tr>
<tr>
<td>R</td>
<td>Attach copies of all available water quality lab analyses and/or reports of the injected fluids</td>
<td>See Attachment C</td>
</tr>
<tr>
<td>S</td>
<td>Attach a calculation of the average water quality of injected fluid from the date injection began through 31 May 2014.</td>
<td>See Attachment C and text</td>
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</table>
ATTACHMENT C

Well Construction Diagram, Ring 20-3
### Macpherson Oil Company

**Field:** Mount Poso  
**Well No:** Ring 20 #3  
**Sec. 20, T27S, R28E, MD B&M**  
2320' S & 600' E from NW corner of

---

**WBD As of:** 09/29/77  
**Lease Ser. #:** CAS 044132  
**Unit or CA #:** CACA 23573X

---

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<th>API No.: 029-14064</th>
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<td>10-3/4&quot;</td>
<td>0' - 2272'</td>
<td>11&quot;</td>
<td>2272' - 2317'</td>
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</table>

**Cmt. Sqz'd holes in csg. @ 550' & 560' w/ 168 Sks. Cmt.**

**Hard Drilling Mud Plug 1130'-2100'**

**Cannot clean out fill below 970'. Possible damaged csg. @ 970'.**

**Vedder Top @ 2270'**

**Cement Plug 2100' - 2316'**

**Perforated 920'-1130' w/ 4-1/2" JHPF**

**NOTE:** Packer release. Pick up to neutral. 1/4 turn to right.

**NOTE: Bad casing @ 793'-880', 446'-584', 219'-376', & 47"**

---

**Prod. Equip. as of:** 10/30/07  
**Reason for pull:** Csg. test

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<td>3-1/2&quot; x 2-7/8&quot; X-Over</td>
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<td>1 jt. 2-7/8&quot; tbg.</td>
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<td>7&quot;, AD1 Packer. (Inverted)</td>
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<td>Wireline entry guide</td>
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<td>Perforated 920'-1130' w/ 4-1/2&quot; JHPF</td>
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**TTOC @ 1300'**

**7", 23# casing @ 2272'**

**Cemented with 250 Sks Cmt.**

**7", 23# casing @ 2272'**

**5-1/2", 17# Liner Hung @ 2316', Top @ 2227'**

**Pertforated 2261'-2316' w/ 80M slots**

**TD @ 2317'**
ATTACHMENT D

Spreadsheet - Water Quality Analytical Report Summary

Copies of All Available Water Quality Laboratory Analyses, Injected Fluids
### Macpherson, Ring Lease
**Historic Produced Water Analytical Data**

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<td>Sample name</td>
<td>From Water Tank Discharge</td>
<td>Combined water including Sec. #10</td>
<td>Mt Poso Ring 20 #3</td>
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<td>pH</td>
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<td>Electrical Conductivity (millimhos/cm @25C)</td>
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<td>Specific Gravity @60 F</td>
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<td>Total Salinity</td>
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* E.C. x 10 E 5
** Oil (chloroform extractable)
**Sample Identification:** Mt. POSO Ring 20 #3  
**Sampled by:**  
**Date:** 1/4/2008  
**Time:** 06:45  
**Report Notes:** Alkalinity reported as zero due to low pH, < 4.5

### GEOCHEM ANALYSIS

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<th>mg/L</th>
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<td>312</td>
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<tr>
<td>Boron, B</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Dissolved Solids, (Gravimetric)</td>
<td>8700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculated Hardness, CaCO3</td>
<td>240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Alkalinity, CaCO3</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Chloride, (total)</td>
<td>8800</td>
<td></td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Primary Salinity</th>
<th>Secondary Salinity</th>
<th>Total Salinity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium, Na (Calculated), mg/L</td>
<td>3493.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Langefur Scale Index</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stiff/Davis Stability Index</td>
<td>not determined</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This report is furnished for the exclusive use of our Customer and applies only to the samples tested. Zalco is not responsible for report alteration or detachment.
December 10, 1974

Mr. Don Russell
United States Geological Survey
Federal Building, Room 309
800 Truxtun Avenue
Bakersfield, California  93301

Dear Mr. Russell:

Enclosed is a summary of the laboratory analysis of water samples from the Olcese formation from well no. "Ring 20" 3, Section 20, T.27S., R.28E., M.D.B. & M. Also included in this report is the analysis of a combined sample of the injection water.

Thank you for your cooperation in the conversion of this well to a waste water injector.

Yours truly,

William H. Park

WHP/jk

Enclosure
Thomas Oil Company  
P. O. Box 6396  
Bakersfield, California 93305

Attention: Mr. Frank Hendary

<table>
<thead>
<tr>
<th>Sample Description</th>
<th>Boron</th>
<th>B. C. (x10³)</th>
<th>Salinity as NaCl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ring 20 &amp;3 Olleece</td>
<td>0.27</td>
<td>65</td>
<td>436.4</td>
</tr>
<tr>
<td>Ring 20 &amp;3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing fluid prior to shooting</td>
<td>3.0</td>
<td>260</td>
<td>1,655.2</td>
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<tr>
<td>Ring 20 &amp;3 Sample 01</td>
<td>1.10</td>
<td>139</td>
<td>811.6</td>
</tr>
<tr>
<td>Ring 20 &amp;3 Sample 02</td>
<td>1.9</td>
<td>148</td>
<td>864.3</td>
</tr>
<tr>
<td>Ring 20 &amp;3 Olleece 11/29/74</td>
<td>1.2</td>
<td>160</td>
<td>934.4</td>
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<tr>
<td>Ring 20 &amp;3 3:45 PM 755'</td>
<td>1.9</td>
<td>190</td>
<td>1,300.6</td>
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<tr>
<td>#4 11/29/74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ring 20 &amp;3 4:00 PM 760'</td>
<td>1.7</td>
<td>190</td>
<td>1,169.6</td>
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<tr>
<td>#5 11/29/74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ring 20 &amp;2 Sample 06</td>
<td>1.6</td>
<td>196</td>
<td>1,133</td>
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<tr>
<td>Ring 20 &amp;3 Sample 07</td>
<td>2.1</td>
<td>200</td>
<td>1,151</td>
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<tr>
<td>Well 20 &amp;3 1000 Feet</td>
<td>3.8</td>
<td>300</td>
<td>1,728</td>
</tr>
</tbody>
</table>

B C LABORATORIES, INC.


3016 Union Ave. Bakersfield, California 93305 Phone 325-7475
## WATER ANALYSIS

<table>
<thead>
<tr>
<th>Constituents</th>
<th>P. P. M. (parts per million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron (B)</td>
<td>3.6</td>
</tr>
<tr>
<td>Calcium (Ca)</td>
<td>26</td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>3.2</td>
</tr>
<tr>
<td>Sodium (Na)</td>
<td>615</td>
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<tr>
<td>Potassium (K)</td>
<td>21</td>
</tr>
<tr>
<td>Carbonates (CO₃⁻)</td>
<td>0</td>
</tr>
<tr>
<td>Bicarbonates (HCO₃⁻)</td>
<td>581.8</td>
</tr>
<tr>
<td>Chlorides (Cl⁻)</td>
<td>640.7</td>
</tr>
<tr>
<td>Sulphates (SO₄²⁻)</td>
<td>less than 5</td>
</tr>
<tr>
<td>Nitrate (NO₃⁻)</td>
<td>less than 0.3</td>
</tr>
<tr>
<td>Fluoride (F⁻)</td>
<td>0.01</td>
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<tr>
<td>Fluoride (F⁻)</td>
<td>0.17</td>
</tr>
<tr>
<td>Total Iron (Fe)</td>
<td>5</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>less than 0.01</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>0.01</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>0.01</td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>0.01</td>
</tr>
<tr>
<td>Aluminum (Al)</td>
<td>59</td>
</tr>
<tr>
<td>Silica (SiO₂)</td>
<td></td>
</tr>
<tr>
<td>Lithium (Li)</td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
</tr>
<tr>
<td>Sulphides as H₂S</td>
<td></td>
</tr>
<tr>
<td>Total Hardness as CaCO₃</td>
<td>79.30 (4.6 gr/gal)</td>
</tr>
<tr>
<td>Chloroform extractable Oils</td>
<td>1.634</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>1,752</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td></td>
</tr>
</tbody>
</table>

Submitted By: Thomas Oil Company  
P. O. Box 6356  
Bakersfield, California 93306  

Marked: Well 26 #3 1000 Feet  

Date Reported: 12/6/76  
Date Received: 12/3/76  
Laboratory No.: 11492  

By:  

B.C. LABORATORIES Inc.
Thomas Oil Company  
P. O. Box 6356  
Bakersfield, California 93306

Date Reported: 12/3/74  
Date Received: 12/2/74  
Laboratory No.: 11396-11397

WATER ANALYSES

Sample Description:

#1 - Ring 20  #3  Sample #6
#2 - Ring 20  #3  Sample #7

<table>
<thead>
<tr>
<th>Constituents</th>
<th>#1</th>
<th>#2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salinity as NaCl</td>
<td>1144.6 PPM</td>
<td>1168.0 PPM</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>196 Kx10^5</td>
<td>200 Kx10^5</td>
</tr>
<tr>
<td>Boron</td>
<td>1.6 PPM</td>
<td>2.1 PPM</td>
</tr>
</tbody>
</table>
**LABORATORIES** Inc.

OIL - CORES - SOIL - WATER

3016 UNION AVENUE
BAKERSFIELD, CALIFORNIA 93305
Phone (805) 325-7475

Submitted By: Thomas Oil Company
P. O. Box 6356
Bakersfield, California 93306
Attention: Mr. Frank Mondary
Marked: Ring 20 #3 Olsees

Date Reported: 12/2/74
Date Received: 11/26/74
Laboratory No.: 11316

**WATER ANALYSIS**

**Sample Description:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH or Hydrogen-ion activity</td>
<td>7.9</td>
</tr>
<tr>
<td>E.C. x 10^6 @ 25°C (salinity)</td>
<td>85.</td>
</tr>
<tr>
<td>Electrical Resistivity Ohms M²/M</td>
<td>11.76</td>
</tr>
</tbody>
</table>

**Constituents, P. P. M. (parts per million):**

<table>
<thead>
<tr>
<th>Component</th>
<th>P. P. M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron (B)</td>
<td>0.27</td>
</tr>
<tr>
<td>Calcium (Ca)</td>
<td>47.</td>
</tr>
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<td>Magnesium (Mg)</td>
<td>17.3</td>
</tr>
<tr>
<td>Sodium (Na)</td>
<td>93.</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>66.</td>
</tr>
<tr>
<td>Carbonates (CO₃)</td>
<td>0</td>
</tr>
<tr>
<td>Bicarbonates (HCO₃)</td>
<td>183.3</td>
</tr>
<tr>
<td>Chlorides (Cl)</td>
<td>74.7</td>
</tr>
<tr>
<td>Sulphates (SO₄)</td>
<td>210.0</td>
</tr>
<tr>
<td>Nitrate (NO₃)</td>
<td>less than 0.5</td>
</tr>
<tr>
<td>Fluoride (F)</td>
<td>1.03</td>
</tr>
<tr>
<td>Total Iron (Fe)</td>
<td>less than 0.01</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>0.06</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>less than 0.01</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>0.01</td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>0.06</td>
</tr>
<tr>
<td>Aluminium (Al)</td>
<td>79.1</td>
</tr>
<tr>
<td>Silica (SiO₂)</td>
<td>189.6 (11.1 gr/gal)</td>
</tr>
<tr>
<td>Lithium (Li)</td>
<td>0.01</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>0.01</td>
</tr>
<tr>
<td>Phenol</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Total Hardness as CaCO₃**: 189.6 (11.1 gr/gal)

**Total Dissolved Solids**: 600.0

**Total Suspended Solids**: 496.4

**Salinity as NaCl**: 496.4
Submitted By: Thomas Oil Company  
P. O. Box 6356  
Bakersfield, California 93306  
Attention: Mr. Frank Mondary  
Marked: Ring 20 #3 Casing Fluid Prior to Shooting

Date Reported: 12/2/74  
Date Received: 11/26/74  
Laboratory No.: 11317

## WATER ANALYSIS

### Sample Description:
- pH or Hydrogen-ion activity: 10.7
- E.C. x 10^4 @ 25°C (salinity): 280.0
- Electrical Resistivity Ohms M'/M': 3.57

### Constituents, P. P. M. (parts per million):

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Value</th>
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<tbody>
<tr>
<td>Boron, (B)</td>
<td>2.0</td>
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<tr>
<td>Calcium, (Ca)</td>
<td>5.0</td>
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<td>Magnesium, (Mg)</td>
<td>Less-than</td>
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<td>Sodium, (Na)</td>
<td>570.0</td>
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<tr>
<td>Potassium, (K)</td>
<td>66.6</td>
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<tr>
<td>Carbonates, (CO₃)</td>
<td>80.1</td>
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<tr>
<td>Bicarbonates, (HCO₃)</td>
<td>0.0</td>
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<tr>
<td>Chlorides, (Cl)</td>
<td>648.9</td>
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<tr>
<td>Sulphates, (SO₄)</td>
<td>57.0</td>
</tr>
<tr>
<td>Nitrate, (NO₃)</td>
<td>Less-than</td>
</tr>
<tr>
<td>Fluorides, (F)</td>
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<tr>
<td>Total Iron, (Fe)</td>
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<td>Copper, (Cu)</td>
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<td>Manganese, (Mn)</td>
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</tr>
<tr>
<td>Chromium, (Cr)</td>
<td>0.01</td>
</tr>
<tr>
<td>Zinc, (Zn)</td>
<td></td>
</tr>
<tr>
<td>Aluminum, (Al)</td>
<td></td>
</tr>
<tr>
<td>Silica, (SiO₂)</td>
<td>60.0</td>
</tr>
<tr>
<td>Lithium, (Li)</td>
<td></td>
</tr>
<tr>
<td>Lead, (Pb)</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
</tr>
<tr>
<td>Sulfides as H₂S</td>
<td></td>
</tr>
<tr>
<td>Total Hardness as CaCO₃</td>
<td>12.50 (0.7 gr/gal)</td>
</tr>
<tr>
<td>Oil (chloroform extractable)</td>
<td></td>
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<tr>
<td>Total Dissolved Solids</td>
<td>1,564.0</td>
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<tr>
<td>Total Suspended Solids</td>
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</tr>
<tr>
<td>Salinity as NaCl</td>
<td>1,635.2</td>
</tr>
</tbody>
</table>

B C LABORATORIES Inc.

By...
Water Analysis

Sample Description:

pH or Hydrogen-ion activity ______ 7.8
E.C. x 10^6 @ 25°C (salinity) ______ 139.
Electrical Resistivity Ohms MΩ/M ______ 7.19

Constituents, P. P. M. (parts per million)

<table>
<thead>
<tr>
<th>Constituent</th>
<th>P. P. M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron, (B)</td>
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<tr>
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<td>Magnesium, (Mg)</td>
<td>13.8</td>
</tr>
<tr>
<td>Sodium, (Na)</td>
<td>235.</td>
</tr>
<tr>
<td>Potassium, (K)</td>
<td>62.</td>
</tr>
<tr>
<td>Carbonates, (CO₃)</td>
<td>0.</td>
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<tr>
<td>Bicarbonates, (HCO₃)</td>
<td>292.8</td>
</tr>
<tr>
<td>Chlorides, (Cl)</td>
<td>252.</td>
</tr>
<tr>
<td>Sulphates, (SO₄)</td>
<td>163.</td>
</tr>
<tr>
<td>Nitrate, (NO₃)</td>
<td>less than 0.5</td>
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<tr>
<td>Fluoride, (F)</td>
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</tr>
<tr>
<td>Total Iron, (Fe)</td>
<td>2.68</td>
</tr>
<tr>
<td>Copper, (Cu)</td>
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<tr>
<td>Manganese, (Mn)</td>
<td>0.11</td>
</tr>
<tr>
<td>Chromium, (Cr)</td>
<td></td>
</tr>
<tr>
<td>Zinc, (Zn)</td>
<td></td>
</tr>
<tr>
<td>Aluminum, (Al)</td>
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</tr>
<tr>
<td>Silica, (SiO₂)</td>
<td>62.</td>
</tr>
<tr>
<td>Lithium, (Li)</td>
<td></td>
</tr>
<tr>
<td>Lead, (Pb)</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
</tr>
</tbody>
</table>

Sulfides as HS
Total Hardness as CaCO₃ ______ 177.5 (10.3 gr/gal)
Oil (chloroform extractable) ______
Total Dissolved Solids ______ 920.
Total Suspended Solids ______

Salinity as NaCl ______ 811.8 (47.4 gr/gal)
WATER ANALYSIS

Sample Description:

- pH or Hydrogen-ion activity: 7.8
- E.C. x 10° @ 25°C (salinity): 148
- Electrical Resistivity Ohms M²/M: 0.76

Constituents, P. P. M. (parts per million):

<table>
<thead>
<tr>
<th>Constituent</th>
<th>P. P. M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron, (B)</td>
<td>1.3</td>
</tr>
<tr>
<td>Calcium, (Ca)</td>
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</tr>
<tr>
<td>Magnesium, (Mg)</td>
<td>13.6</td>
</tr>
<tr>
<td>Sodium, (Na)</td>
<td>250.0</td>
</tr>
<tr>
<td>Potassium, (K)</td>
<td>66</td>
</tr>
<tr>
<td>Carbonates, (CO₃)</td>
<td>0</td>
</tr>
<tr>
<td>Bicarbonates, (HCO₃)</td>
<td>311.1</td>
</tr>
<tr>
<td>Chlorides, (Cl)</td>
<td>282.5</td>
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<tr>
<td>Sulphates, (SO₄)</td>
<td>145.0</td>
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<tr>
<td>Nitrate, (NO₃)</td>
<td>less than 0.5</td>
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<tr>
<td>Fluoride, (F)</td>
<td></td>
</tr>
<tr>
<td>Total Iron, (Fe)</td>
<td>2.19</td>
</tr>
<tr>
<td>Copper, (Cu)</td>
<td>less than 0.01</td>
</tr>
<tr>
<td>Manganese, (Mn)</td>
<td>0.13</td>
</tr>
<tr>
<td>Chromium, (Cr)</td>
<td></td>
</tr>
<tr>
<td>Zinc, (Zn)</td>
<td></td>
</tr>
<tr>
<td>Aluminium, (Al)</td>
<td></td>
</tr>
<tr>
<td>Silica, (SiO₂)</td>
<td>61.0</td>
</tr>
<tr>
<td>Lithium, (Li)</td>
<td></td>
</tr>
<tr>
<td>Lead, (Pb)</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
</tr>
<tr>
<td>Sulphides as H₂S</td>
<td></td>
</tr>
<tr>
<td>Total Hardness as CaCO₃</td>
<td>179.2 (10.4 gr/gal)</td>
</tr>
<tr>
<td>Oil (chloroform extractable)</td>
<td></td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>962.0</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td></td>
</tr>
<tr>
<td>Salinity as NaCl</td>
<td>864.3</td>
</tr>
</tbody>
</table>

Date Reported: 12/2/74
Date Received: 11/27/74
Laboratory No.: 11353

Thomas Oil Company
P.O. Box 6356
Bakersfield, California 93306

Date Reported: 12/2/74
Date Received: 11/29/74
Laboratory No.: 11376

WATER ANALYSIS

Sample Description: Sample #5 760' @ 4:00 pm 11/29/74 Sec. #20-3

Salinity as NaCl 1109.6 ppm
Electrical Conductivity 190 kHz
Boxon 1.7 ppm

B C LABORATORIES, INC.

BY J. J. Eglin

J. J. Eglin
WATER ANALYSIS

Sample Description: Sample #4 755' 3:45 pm 11/29/74 Sec. #20-3

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salinity as NaCl</td>
<td>1109.6 ppm</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>190 Kx10^5</td>
</tr>
<tr>
<td>Boron</td>
<td>1.9 ppm</td>
</tr>
</tbody>
</table>

B C LABORATORIES, INC.

BY J. J. Joslin
WATER ANALYSIS

Sample Description: Ring 20 #3 Olcese 11/29/74

Salinity as NaCl 934.4 ppm
Electrical Conductivity 160 \text{ \times } 10^5 
Boron 1.2 ppm
Thomas Oil Company  
P. O. Box 6356  
Bakersfield, California 93306  

Date Reported: 11/29/74  
Date Received: 11/26/74  
Laboratory No.: 11316

WATER ANALYSIS

Sample Description: Ring 20 #3 Olceze

Salinity as NaCl 496.4 PPM
Electrical Conductivity 85 Kx10^5
Boron 0.27 PPM

B C LABORATORIES, INC.

By J. J. Bolin
WATER ANALYSIS

Sample Description: Ring 20 #3 Sample #1

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salinity as NaCl</td>
<td>811.8 ppm</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>139 Kx10^5</td>
</tr>
<tr>
<td>Boron</td>
<td>1.1 ppm</td>
</tr>
</tbody>
</table>

Thomas Oil Company
P. O. Box 6356
Bakersfield, California 93306

Date Reported: 11/29/74
Date Received: 11/27/74
Laboratory No.: 11352
Thomas Oil Company  
P.O. Box 6356  
Bakersfield, California 93306

Date Received: 11/27/74
Date Reported: 11/29/74
Laboratory No.: 11353

WATER ANALYSIS

Sample Description: Ring 20 #3 Sample #2

Salinity as NaCl 864.3 PPM
Electrical Conductivity 148 $\times 10^5$
Boron 1.3 PPM

B C LABORATORIES, INC.

By J. J. EGHLIN
Co-mingled water sample from Section 20, Glide 19 & Vadder U. S. L. Tank Farm
West Mt. Poso 11/13/74

WATER ANALYSIS (water for injection into)
well 20-3 Mt. Poso

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Total Salinity (as NaCl)</td>
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<tr>
<td>Chlorides (as NaCl)</td>
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<tr>
<td>S (as CaCO₃)</td>
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<td>Solids</td>
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<td>Mn, (mg/l)</td>
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<tr>
<td>Cr, (mg/l)</td>
<td>less than 0.12</td>
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<tr>
<td>Solids</td>
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<td>Solids (as KCl)</td>
<td>1,752 ppm</td>
</tr>
</tbody>
</table>
ATTACHMENT E

Project Application, and Division Project Approval Correspondence
December 16, 1974

L. C. Fiedler
THOMAS OIL COMPANY
2401 Eric Way #45
Bakersfield, CA 93306

Gentlemen:

Your proposal to initiate a water disposal project in the Olcese Zone in the West Area of Mount Poso is approved provided:

1. Form OG105 or Form OG107 shall be used whenever a new well is to be drilled for use as an injection well, or whenever an existing well is to be converted to an injection well, even if no work is required. (Specific requirements will be outlined in our answer to your notice.)

2. A monthly statement shall be filed with this Division on our Form 110-B showing the amount of fluid injected, pressure required, and source of injected fluid.

3. A chemical analysis of the fluid to be injected shall be made and filed with this Division whenever the source of injection fluid is changed, or as requested by this office.

4. An accurate, operating pressure gauge or chart shall be maintained at the wellhead at all times. Additional pressure monitoring devices may be required for wells equipped with packers or multiple tubing strings.

5. This Division shall be notified to witness, within 30 days after injection is started, sufficient surveys to confirm that the injection fluid is confined to the intended zone. Subsequent periodic surveys may be required for continued surveillance. (Specific requirements will be determined on an individual well basis.)

6. A graph of tubing pressure, casing pressure and injection rate vs. time shall be maintained for each injection well and shall be available for periodic inspection by personnel from this Division.

7. The injection pressure gradient at the top of the injection zone in any injection well shall not exceed 0.8 psi/ft., without approval from this Division. Additional tests may be required to establish that no damage will occur due to excessive injection pressure.

8. All injection piping, valves and facilities shall meet or exceed design standards for the injection pressure and shall be maintained in a safe and leak-free condition.

9. Injection shall cease if any evidence of damage or pollution is observed, or upon written notice from this Division.

Yours truly,

A. G. Hlusha
Deputy Supervisor

cc: Department of Water Resources
Regional Water Quality Control Board
Mr. James C. Thomas III
December 26, 1974

United States Geological Survey
Federal Building, Room 309
800 Truxtun Avenue
Bakersfield, California 93301

Attention: Mr. Don Russell

Re: Conversion of suspended oilwell to water disposal well,
County, California.

Dear Sir:

Thomas Oil Company proposes to convert suspended oilwell No. U.S.L.
20-3, Sec. 20, T.27S., R.28E., M.D.B. & M, West Mount Poso Oil Field
to a water disposal well. The purpose is to comply with various
Federal and State agencies relative to disposal of produced waters
for the following properties located in Sec. 18, 19, and 20:

- U.S.L. Union 18
- U.S.L. Ring 18
- U.S.L. Vedder
- U.S.L. Ring 20

Commingled produced waters will be disposed of in the Olcese sand in
the interval 920' - 1,130' (210' gross). The Olcese sand is Lower
to Middle Miocene Age and is generally marine in origin. It is found
to be oil productive in many areas of the San Joaquin Valley; and has
been sidewall cored in the immediate area as spotty oil stained. The
Olcese is oil productive in the following fields:

- Ant Hills, Edison, Mountain View, Tejon,
- North Tejon, Wheeler Ridge, Greeley, and Rio Bravo.

Structural conditions are depicted in the California Division of Oil
and Gas Summary of Operations, Vol. 43, No. 2, 1057 and according to
our geologic interpretation, Well No. 20-3 is located within a fault
closure area. The West Mount Poso fault has provided a barrier to
accumulation.

The attached report by B. C. Laboratories shows the chemical analysis
of a combined sample of the water to be injected as follows:

- Boron - 3.4 p.p.m., Electrical Conductivity (E.C.) - 2900
  Micromhos and Total Salinity as NaCl - 1693.5 p.p.m.

This report also shows the analysis of a series of samples taken from
Well No. "Ring 20" #3, beginning on November 27, 1974 when the casing
opposite the Olcese sand was first perforated, until December 9, 1974.
It will be noted that the quality of the water from the Olcese declined as it was produced. When the well was originally completed the relatively fresh water from the drilling operations infiltrated the very permeable Olcese sand and became entrapped when the casing was cemented in the hole. During the testing procedure it was necessary to exhaust this previously introduced water before samples of the true formation water could be obtained. Therefore, samples 8, 9, and 10 on the attached report are representative of the actual formation water. An average of the analysis of these samples show the following:

Boron - 3.3 p.p.m., E.C. - 2933.3 Micromhos and NaCl - 1713.0 p.p.m.

Regulations established by the State Regional Water Quality Control Board prohibits water to be discharged to the surface in this area if such water exceeds 1 p.p.m. Boron, 1,000 Micromhos E.C. and 200 p.p.m. chloride.

No known fresh water exists within the area.

The proposed program was established after the procedure was used for Well No. U.S.L. Bishop No. 6, Sec. 14, T.28S., R.28E., Sharktooth Field, Kern County, California. The project is outlined on the Application for Permit to Drill, Deepen, or Plug Back No. 42-R1425.

Your favorable consideration will be appreciated.

Yours truly,

THOMAS OIL COMPANY

[Signature]

William H. Park, Consulting Geologist

United States Geological Survey
December 26, 1974
Page 2 of 2

WHP/jk
Enclosure
309 Federal Building
800 Truxtun Avenue
Bakersfield, California 93301

December 27, 1974

Thomas Oil Company
4311 Meadow View Place
Eacino, California 91318

Gentlemen:

Your request to convert well Ring 20-3, lease Sacramento 044132 to a waste water disposal well is hereby approved for use in disposing of approximately 8500 barrels of water per day of Union 15 lease Sec. 030614; Ring 18 lease Sec. 037934; Vedder lease Sec. 019208; Ring 20 lease Sec. 044132.

In order to comply with the State of California Water Quality Control Board regulations and with the USGS Notice to Lessees and Operators of October 21, 1975 (NTL-2) you have elected to dispose of the waste water into the Olceoe sand interval 920-1130 of well Ring 20-3. A copy of NTL-2 is enclosed for your file. The chemical analysis of Olceoe formation water is shown having an average boron content of 3.3 ppm and NaCl of 1713 ppm both are considerably above the limits established for a water which may be safely disposed of in swamps. The electrical conductivity is almost three times the limit of 1,000 microhms. The chemical analysis of the water to be injected show it also greatly exceeds the desirable limits, therefore, the water to be injected will not degrade any possible future water source. We believe water in the Olceoe sand will be confined from horizontal movement by faults, especially the West Mount Pass fault and from vertical migration by the Freeman-Jewett silt which underlies the Olceoe and by the Round Mountain silt which is above the formation.

We hereby approve the proposed commingling of fluids produced from the four leases and the disposal of waste water into the Olceoe sand of well Ring 20-3 subject to the following conditions:

(1) A spinner survey, radio-activity or other type survey should be made at yearly intervals to confirm the waste water is confined to the Olceoe.

(2) The injection pressure must not exceed the fracture gradient for the formation.
(3) We will be furnished duplicate copies of DOG form 110-B or other form showing amount of water injected each month.

(4) We reserve the right to modify or to order a cessation of injection of waste water if it should prove to be detrimental to any zone capable of producing a fresh water or if there should be surface damage caused by leaks, spills, etc.

Sincerely yours,

D. F. Russell
District Engineer

cc: Bryant-Farr & Assoc., Inc.
1801 Oak Street, Room 18
Bakersfield, California 93301

Oil & Gas Supervisor, Pacific Area

Enclosures.

DFR:cr
United States Geological Survey  
Federal Building, Room 309  
Bakersfield, California 93301  

Attention: Mr. Don Russell  

Re: Conversion of suspended oil-well to water disposal well, U.S.L. 20-3, Sec. 20, T. 27S., R. 28E., M.D.B.&M., Kern County, California  
Sac. 044132

Dear Sir:

Thomas Oil Company proposes to convert suspended oilwell No. U.S.L. 20-3, Sec. 20, T. 27S., R. 28E., M.D.B.&M., West Mt. Poso Oil Field to a water disposal well. The purpose is to comply with various Federal and State Agencies relative to disposal of produced waters for the following properties located in Sec. 18, 19, & 20.

- U.S.L. Union 18
- U.S.L. Ring 18
- Glide 19
- Glide 19-B
- U.S.L. Vedder
- U.S.L. Ring 20

Comingled produced waters will be disposed of in the Olcece sand in the interval 920'-1130' (210' gross). The Olcece sand is Lower to Middle Miocene Age and is generally marine in origin. It is found to be Oil Productive in many areas of the San Joaquin Valley, and has been sidewall cored in the immediate area as spotty oil stained. The Olcece is oil productive in the following fields:

- Ant Hills
- Edison
- Mountain View
- Tejon
- North Tejon
- Wheeler Ridge
- Greeley
- Rio Bravo

Structural conditions are depicted in the California Division of Oil and Gas Summary of Operations, Vol. 43, No. 2, 1957-1958, and according to our geologic interpretation, Well No. 20-3 is located within a fault closure area. The West Mt. Poso fault has provided a barrier to accumulation.
Analysis of current comingled produced waters is being made by B. C. Lab in order to compare Olcese water and injected water, when Olcese sample is secured.

Regulations established by the State Regional Water Quality Control Board prohibits water discharged onto the surface if said water exceeds 1 p.p.m. Boron, 200 p.p.m. Chloride, and 1,000 umhos specific conductance.

No known fresh water exists within the area.

The proposed program was established after the procedure used for well No. U.S.L. Bishop #6, Sec. 14, T. 28S., R. 28E., Sharktooth Field, Kern County, California. The project is outlined on the Application for Permit to Drill, Deepen, or Plug Back No. 42-R1425 attached.

Your favorable consideration is appreciated.

Yours truly,

THOMAS OIL COMPANY

F. P. Mondary, Production Engineer
309 Federal Building
800 Truxtun Avenue
Bakersfield, California 93301

December 27, 1979

Thomas Oil Company
4311 Meadow View Place
Fresno, California 93728

Gentlemen:

Your request to convert well Ring 20-2, lease Sacramento 094132 to a waste water disposal well is hereby approved for use in disposing of approximately 4500 barrels of water per day of Union 10 leases Sec. 030614; Ring 18 lease Sec. 037394; Vodoo Lease Sec. 019209; Ring 20 lease Sec. 094132.

In order to comply with the State of California Water Quality Control Board regulations and with the USGS Notice to Lessees and Operators of October 21, 1974 (WTL-2) you have elected to dispose of the waste water into the Olcece sand interval 920-4130 of well Ring 20-2. A copy of WTL-2 is enclosed for your file. The chemical analysis of Olcece formation water is shown having an average boreal content of 3.3 ppm and NaCl of 11700 ppm both are considerably above the limits established for a water which may be safely disposed of in aquifers. The electrical conductivity is almost three times the limit of 1,000 micromhos. The chemical analysis of the water to be injected shows it also greatly exceeds the desirable limits, therefore, the water to be injected will not degrade any possible future water sources. We believe water in the Olcece sand will be confined from horizontal movement by faults, especially the East Mount Paso fault and from vertical migration by the Freeman-Jewett silt which underlies the Olcece and by the Round Mountain silt which is above the formation.

We hereby approve the proposed commingling of fluids produced from the four leases and the disposal of waste water into the Olcece sand of well Ring 20-2 subject to the following conditions:

(1) A spinner survey, radio-activity or other type survey should be made at yearly intervals to confirm the waste water is confined to the Olcece.

(2) The injection pressure must not exceed the fracture gradient for the formation.
(3) We will be furnished duplicate copies of DOG form 110-B or other form showing amount of water injected each month.

(4) We reserve the right to modify or to order a cessation of injection of waste water if it should prove to be detrimental to any zone capable of producing a fresh water or if there should be surface damage caused by leaks, spills, etc.

Sincerely yours,

D. F. Russell
District Engineer

cc: Bryant-Park & Assoc., Inc.
1901 Oak Street, Room 18
Bakersfield, California 93301

Oil & Gas Supervisor, Pacific Area

Enclosures.

DFR: cr
January 31, 1980

Mr. Frank P. Mondary
THOMAS OIL COMPANY
P. O. Box 5368
Bakersfield, Ca. 93308

Gentlemen:

Continuation of your water disposal project in the Olcese Zone in the West area of Mount Poso Field is approved, provided:

1. Form OG105 or Form OG107 shall be used whenever a new well is to be drilled for use as an injection well, or whenever an existing well is to be converted to an injected well, even if no work is required. (Specific requirements will be outlined in our answer to your notice.)

2. A monthly statement shall be filed with this Division on our Form 03110B on or before the last day of each month, for the preceding month, showing the amount of fluid injected, pressure required and source of injected fluid.

3. A chemical analysis of the fluid to be injected shall be made and filed with this Division whenever the source of injection fluid is changed, or as requested by this office.

4. An accurate, operating pressure gauge or chart shall be maintained at the wellhead at all times. Additional pressure monitoring devices may be required for wells equipped with packers or multiple tubing strings.

5. Injection profile surveys for all fluid injection wells shall be filed with the Division within three (3) months after injection has commenced, once every year thereafter, after any significant anomalous rate or pressure change, or as requested by the Division, to confirm that the injection fluid is confined to the proper zone or zones. This monitoring schedule may be modified by the district deputy. This office shall be notified before such surveys are made, as surveys may be witnessed by a Division inspector.

6. Data shall be maintained to show performance of the project and to establish that no damage to life, health, property, or natural resources is occurring by reason of the project. Injection shall be stopped if there is evidence of such damage, or loss of hydrocarbons, or upon written notice from the Division. Project data shall be available for periodic inspection by Division personnel.

7. The injection pressure gradient at the top of the injection zone in any injection well shall not exceed 0.8 psi/ft., without approval from this Division. Additional tests may be required to establish that no damage will occur due to excessive injection pressure.
8. All injection piping, valves, and facilities shall meet or exceed design standards for the injection pressure and shall be maintained in a safe and leak-free condition.

9. This office shall be notified of any anticipated changes in a project resulting in alteration of conditions originally approved, such as: increase in size, change of injection interval, or increase in injection pressure. Such changes shall not be carried out without Division approval.

10. Additional data will be supplied upon the request of the Division.

Yours truly,

[Signature]

W. Hunter
Deputy Supervisor

Department of Water Resources
Regional Water Quality Control Board
Memorandum

To: Mr. Dave Mitchell  
Division of Oil and Gas  
Department of Conservation  
4800 Stockdale Highway, Suite 417  
Bakersfield, CA  93309

From: California Regional Water Quality Control Board  
3374 East Shields Avenue, Fresno, California 93723

Subject: THOMAS OIL COMPANY, BRINE DISPOSAL WELLS, MOUNT POSO OIL FIELD, KERN COUNTY

We have reviewed your recent inquiry on the subject disposal wells.

Attached is a memorandum reviewing the wells and current Board policy. The memorandum concludes that the operators should be required to demonstrate that the wells can meet our requirements before expanded injection is allowed. However, in the interim it appears reasonable to allow continued injection of existing quality and quantity of Vedder Formation water into the Olcese Formation.

If you have any questions, please call Tim Souther at this office.

SARGEANT J. GREEN  
Senior Land and Water Use Analyst  
TGS: hmm  
Attachment
MEMORANDUM

TO: Sargeant J. Green
FROM: Timothy G. Souther
SUBJECT: THOMAS OIL COMPANY, BRINE DISPOSAL WELLS, MOUNT POSO OIL FIELD, KERN COUNTY

I have reviewed the letter from the Division of Oil and Gas of 8 December 1981, in which they requested information on requirements on nondegradation of ground water as they relate to the subject facilities.

I noted that Thomas Oil Company and other operators inject up to 20,000 barrels per day of oil field production brine from Vedder Zone into the shallow Olcese Formation. The Vedder Zone was found to be poorer in quality than the Olcese based on analyses submitted by Thomas Oil Company (1,590 mg/l total dissolved solids vs. 1,191 mg/l).

In discussion with Kern County Health Department, I have been informed that ground water from the Olcese is used for agricultural purposes in the vicinity of the injection wells.

It is my understanding that produced water from the Vedder Zone is also used for stock watering. I do not know of any other beneficial uses of these zones.

My analysis of the situation is as follows. The University of California Committee of Consultants has issued "Guidelines for Interpretation of Water Quality for Agriculture". The Committee indicates that you can expect problems when irrigation water quality exceeds 2,000 mg/l total dissolved solids or stock water quality exceeds 3,000 mg/l total dissolved solids.

The "Waste Discharge Requirements for Nonsewerable Waste Disposal to Land" as published by the State Water Resources Control Board indicates the following:

"Wells suitable for the disposal of wastes shall provide protection to usable ground water as determined by the following conditions:

a. The receiving formation shall not have continuity with any usable ground water.

b. Construction and injection procedures shall be such that no passageways are developed which will permit the movement of wastes to a usable aquifer or to the surface.

c. Certification has been provided by the California Division of Oil and Gas that construction and operation of waste wells under its jurisdiction conform to regulations of the Division."
The "Water Quality Control Plan Report for the Tulare Lake Basin" as established by the Regional Board states:

"All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of the resource."

From the information currently available, it is apparent that oil field operators in Mount Poso Oil Field currently inject wastewater into a zone that contains water that is beneficially used. However, the wastewater does not contain sufficient dissolved matter to degrade the Olcese beyond its current beneficial uses.

Before expanded injection is allowed into the Olcese, the operators should be required to demonstrate that the wells can meet the provisions of the Nonsewerable Waste Requirements. In the interim, it is reasonable to allow the continued injection of the existing quantity and quality of Vedder water into the Olcese.

TIMOTHY B. SOUTHER
Staff Engineer
October 17, 1991

Joyce Jaszarowski
Division of Oil and Gas
4800 Stockdale Hwy Suite #417
Bakersfield, CA 93309

Subject: Proposed volume expansion for Water Disposal Project, Code 48818029, Mt. Poso Field-West Area.

Dear Ms Jaszarowski:

The proposed water disposal project expansion on Macpherson Oil Company's United States Lease (USL) in sections 18 and 20, T27S, R28E, is requested to increase the volume of disposed produced water from these USL properties. The proposed volume expansion is for a combined disposal rate of 15,000 BPD, from the present approved disposal rate of 8,000 BPD. The two approved disposal wells will remain the same. Currently, RING 20 #3 is active and RING 18 #13 is idle. The zone of disposal will remain the same which is the Olcese Formation. The produced water requiring disposal is from the Vedder Sand.

A geochemical analysis of the Vedder water from Union 18 #6, section 18, T27S, R28E in included. This March 1991 analysis reports that the Vedder water has a specific gravity of 1.002, and TDS of 1915. All production in the project area is from the Vedder zone, thus the disposed fluid is also from the Vedder.

The increase in volume of disposed produced water is necessary due to planned production increases from submersible pump installations on several producing wells in the project area. Also, the Mount Poso Cogeneration Company (MPOC), who currently uses a large percentage of the properties produced water for steam generation, is planning to reduce that percentage after a source water well is drilled by early 1992. With the increase in production and the decrease in water use by MPOC, the need for expanded disposal volumes is essential for effective lease management. Concurrently, a request to expand the water disposal project code 48818026, also on this lease, is being submitted.
Thank you for your attention and consideration regarding this expansion request. Please notify myself or Rocky Freeman at 393-3204, of questions or further requirements for this project.

Sincerely,

Chris Williamson
Engineer

Encl.
November 13, 1991

Mr. Chris E. Williamson
MACPHERSON OIL COMPANY
P. O. Box 5368
Bakersfield, CA 93388

Dear Mr. Williamson:

This office has received and reviewed your October 17, 1991 proposal to expand your Olcese zone water disposal project in Mount Poso field. Your proposal must be denied.

On November 27, 1981, this office mailed a letter to Thomas Oil Company, the operator at that time, stating that the Olcese zone in Mount Poso field is an underground source of drinking water under the Federal U.I.C. program (a copy of this letter is attached for your records). As such, this zone was designated a non-exempt aquifer. The California Regional Water Quality Control Board at that time issued a statement outlining the potential use of this zone and concluded that injection of oilfield water could be allowed but should be restricted. The Division of Oil and Gas, in our November 1981 letter, stipulated that injection into the Olcese zone would be restricted to existing conditions.

Since that time, this office has worked toward not only restricting but eventually eliminating the use of the Olcese zone in Mount Poso field for Class II injection. It is for this reason that your proposal to expand injection into this zone must be rejected. It is further this Division’s ruling that injection into the Olcese zone be limited to currently active wells and current volumes and intervals. Well "Ring 18" 13, section 18, township 27S, range 28E, is shown as idle in Division records, hence reactivation of this well is henceforth prohibited and approval to inject rescinded. Injection into well "Ring 20" 3, section 20, township 27S, range 28E, is allowed to continue in its present interval at a maximum of 4,000 barrels per day until such time as the well is idled for 30 or more consecutive days, or until the well is reworked requiring perforating, plugging, or remedial cementing work, or until so ordered by this Division. We will be glad to work with you on identifying and permitting alternative zones and wells for injection.

If you have any questions, please contact this office.

Yours truly,

David Mitchell
Senior Oil and Gas Engineer
November 27, 1981

Thomas Oil Company
P.O. Box 5368
Bakersfield, CA 93388

Gentlemen:

In April of this year, this Division submitted its underground injection control program to the Environmental Protection Agency for review and approval to permit the California Division of Oil and Gas to retain control of the injection of produced oilfield water. Within this application, we specified that due to the fact the Olces Zone is a potential source of drinking water, as defined by the U.I.C., no additional injection would be permitted, other than those wells and intervals approved prior to April 1981.

As a result, we cannot approve your applications for four new injectors into this zone and we are returning these notices to you. If you have any questions, please contact this office.

Yours truly,

A. G. HLUZA
Acting Deputy Supervisor

By

David C. Mitchell
Associate Oil & Gas Engineer

DCM/bp

attachments 8
November 27, 1981

Thomas Oil Company
P.O. Box 5368
Bakersfield, CA 93388

Gentlemen:

In April of this year, this Division submitted its underground injection control program to the Environmental Protection Agency for review and approval to permit the California Division of Oil and Gas to retain control of the injection of produced oilfield water. Within this application, we specified that due to the fact the Olcese Zone is a potential source of drinking water, as defined by the U.I.C., no additional injection would be permitted, other than those wells and intervals approved prior to April 1981.

As a result, we cannot approve your applications for four new injectors into this zone and we are returning these notices to you. If you have any questions, please contact this office.

Yours truly,

A. G. HLUZA
Acting Deputy Supervisor

By David C. Mitchell
Associate Oil & Gas Engineer

DCM/bp

attachments 8
August 15, 1996

Mr. Paul K. Duncan
Macpherson Oil Co.
P. O. Box 5368
Bakersfield, CA 93388

WATER DISPOSAL PROJECT
Mount Poso Field
Olcese Zone
Sec. 18,20, T.27S., R.28E

Project Code: 48318029
Max. Permitted Volume: 4000 B/D
Max. Permitted Well(s): 2
Note: Notify this office if either of these values are exceeded.

Dear Mr. Duncan:

The continuance of the project designated above is approved provided:

1. Notices of intention to drill, redrill, deepen, rework, or abandon, on current Division forms (OG105, OG107, OG108) shall be completed and submitted to the Division for approval whenever a new well is to be drilled for use as an injection well and whenever an existing well is converted to an injection well, even if no work is required on the well.

2. This office shall be notified of any anticipated changes in a project resulting in alteration of conditions originally approved, such as: increase in size, change of injection interval, or increase in injection pressures. Such changes shall not be carried out without Division approval.

3. A monthly Injection Report shall be filed with this Division on our Form OG1108 on or before the last day of each month, for the preceding month, showing the amount of fluid injected, and surface pressure required for each injection well.

4. A chemical analysis of the fluid to be injected shall be made and filed with this Division whenever the source of injection fluid is changed, or as requested by this office. ALL FLUIDS MUST MEET CLASS II CRITERIA.
5. All fluid sampling and analyses required by this Division are done in accordance with 
the provisions of the Division's Quality Assurance Program. Please refer to the 
Division's "Notice to Oil and Gas Operators" dated November 17, 1986.

6. An accurate, operating pressure gauge or pressure recording device shall be available at 
all times, and all injection wells shall be equipped for installation and operation of such 
gauge or device. A gauge or device used for injection pressure testing, which is 
permanently affixed to the well or any part of the injection system, shall be calibrated 
at least every six months. Portable gauges shall be calibrated at least every two 
months. Evidence of such calibration shall be available to the Division upon request.

7. All injection wells shall be equipped with tubing and packer set immediately above the 
approved zone of injection upon completion or recompletion, unless a variance to this 
requirement has been granted by this office.

8. A Standard Annular Pressure Test (SAPT) shall be run, as outlined in the Notice to 
Operators dated 1/9/90, prior to injecting into any well(s) being drilled or reworked for 
the purpose of injection and every five years thereafter or as requested by the Division. 
The Division shall be notified to witness such tests.

9. Injection profile surveys for all fluid injection wells shall be filed with the Division 
within three (3) months after injection has commenced, once every year thereafter, after 
any significant anomalous rate or pressure change, or as requested by the Division, to 
confirm that the injection fluid is confined to the proper zone or zones. This 
monitoring schedule may be modified by the district deputy. This office shall be 
notified before such surveys are made, as surveys may be witnessed by the Division 
inspector.

10. Data shall be maintained to show performance of the project and to establish that no 
damage to life, health, property, or natural resources is occurring by reason of the 
project. Injection shall be stopped if there is evidence of such damage, or loss of 
hydrocarbons, or upon written notice from the Division. Project data shall be available 
for periodic inspection by Division personnel.

11. The maximum allowable injection pressure gradient is limited to 0.8 psi per foot of 
depth as measured at the top perforation. Prior to any sustained injection above this 
gradient, rate-pressure tests shall be made. The test shall begin at the hydrostatic 
gradient of the injection fluid to be used and shall continue until either the intended 
maximum injection pressure is reached or until the formation fractures, whichever 
occurring first. These tests shall be witnessed, unless otherwise instructed, and the 
test results submitted to this Division for approval.
All injection piping, valves, and facilities shall meet or exceed design standards for the injection assurance and shall be maintained in a safe and leak-free condition.

13. Any remedial work needed as a result of this project on idle, abandoned, or deeper zone wells in order to protect oil, gas, or freshwater zones, shall be the responsibility of the project operator.

14. Additional data will be supplied upon the request of the Division.

Sincerely,

Hal Bopp
Deputy Supervisor

cc: RWQCB
UIC file
June 2, 1998

State of California
Department of Conservation
Division of Oil, Gas, & Geothermal Resources
4800 Stockdale Highway, Suite 417

Attention: Rich Theskin

Re: Variance for Standard Annular Pressure Test
Mount Poso
West Area
Vedder Formation & Olcese Formation
Water Disposal Projects
Sec.18 & 20, T27S, R28E, MDB&M

Macpherson Oil Company requests a variance to the California Code of Regulations Section 1724.10 (j)(3) concerning annular pressure tests in water disposal wells located in Sections 18 and 20, T28S, R29E, MDB&M in the Mount Poso Field, West Area. Macpherson requests the ability to dispose of water down tubing and utilizing a packer without running the required biannual SAPT. The annual fluid migration test for casing, tubing and packer will continue to be conducted.

As you know many of our wells have packers and tubing installed because of holes in the casing. SAPT’s for these wells are not feasible, hence the variance request. It is Macpherson Oil Company’s position that the produced water injected from the Vedder Formation (See attached water analysis – Exhibit 1) is of a Class 2 water quality category and the closest to fresh water zone in the area, the Olcese Formation (See attached water analysis – Exhibit 2) is also a Class 2 category. Both analysis are fairly low in TDS and have similar Boron content and are basically of good quality. If produced water was to accidentally breach the tubing/packer protective string and outside casing annular cement job, there would be no contamination of the Olcese Formation.
Macpherson Oil Company  
Variance Request for SAPT  
West Area  
Mount Poso Field

Projects and wells affected by this variance are as follows:

<table>
<thead>
<tr>
<th>Project #</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>48818026</td>
<td>Mount Poso Field West Area</td>
</tr>
<tr>
<td>Ring 18 #16</td>
<td></td>
</tr>
<tr>
<td>48818029</td>
<td>Mount Poso Field West Area</td>
</tr>
<tr>
<td>Ring 20 #3</td>
<td></td>
</tr>
</tbody>
</table>

The most recent water injection survey for the Ring 18 #16 shows no fluid migration around the packer or above the top perf. All water injection is contained in the permitted zone. We will lower the packer to approximately 100' above the top perf prior to the next due date for the water injection survey. The most recent water injection survey for the Ring 20 #3 shows no fluid migration around the packer or above the top perf. All water injection is contained in the permitted zone.

Thank you for your consideration in this matter. If you have any questions or would like to discuss this further, please call me at our Bakersfield office.

Best regards,

David P. Niewiara  
Production Engineer
June 10, 1998

Mr. David P. Niewiara
Macpherson Oil Co.
P.O. Box 5368
Bakersfield, CA 93388

Re: SAPT Variance Request for Projects 4881802 (Olcese) & 48818026 (Vedder) in Mount Poso, Sec. 18 & 20, T.27S, R.28E

Dear Mr. Niewiara:

The above-mentioned request, dated June 2, 1998, has been reviewed and approved provided that the following conditions are met:
1. the wells in these projects must be surveyed every 6 months instead of every year, and
2. the source of the injection fluid must remain the same. Any new sources must be pre-approved by this office.

If you have any questions, please don’t hesitate to call.

Sincerely,

Richard S. Thesken
Associate Engineer
April 15, 2009

Macpherson Oil Co. (M0950)
Mr. Scott Mundy
P.O. Box 5368
Bakersfield, CA 93388

Dear Mr. Mundy:

This Division maintains a continuous monitoring and surveillance program regarding enhanced recovery and water disposal projects. A portion of this program involves conducting an annual review of these projects.

We wish to review the above mentioned project(s) located in Kern County. In order to complete this review we have provided a questionnaire to be addressed. For each project, please answer the applicable questions and return the completed form(s) to this office within 45 days. The review will be handled entirely by mail. Failure to submit your data within the above time frame will result in the suspension of your project(s) unless previous arrangements have been made.

I look forward to hearing from you in the near future. If you have any questions, please contact me at (661) 334-3674.

Sincerely,

[Signature]

Burton R. Ellison
Associate Oil and Gas Engineer
Division of Oil, Gas and Geothermal Resources

Attachments

uic\wp\apr-301
June 6, 2006

Annual Project Review

M0950 Operator: Macpherson Oil Co.

Project Code: 48818029

Field: Mount Poso

Area: West

Location: 18 27/28 20 27/28

PLEASE USE EXTRA PAGES AS NEEDED.

1. Number of Injectors: ACTIVE:  [ ]  IDLE:  [ ]

2. Injection Pressure and Rate:
   a. average pressure: 6 psig maximum pressure: 106 psig
   b. average rate: 110 bbl/d/well maximum rate: 570 bbl/d/well

3. Injection Fluid Type:
   [ ] Produced Water  [ ] Scrubber Effluent  [ ] Regeneration Brine
   [ ] Other (Specify)

PLEASE SUBMIT AN INJECTATE ANALYSIS NOT OVER TWO YEARS OLD, TO INCLUDE:
Ca, Mg, Na, K, Fe, Cl, SO4, B, Total Dissolved Solids, pH, Alkalinity, Hardness, Resistivity, and Electrical Conductivity.

4. Self-Generated and Outside Source(s) of Injection Fluid (MUST complete if active):
   A. Leases or other sources operated by you that are associated with this project:
      1. Field: [ ] Zone: [ ] 
         Lease: [ ] By: [ ] pipeline [ ] truck
      2. Field: [ ] Zone: [ ] 
         Lease: [ ] By: [ ] pipeline [ ] truck
   B. Leases or other sources operated by others associated with this project:
      Do you receive a net-profit compensation for this service? [ ]
      1. Operator: [ ] Field: [ ]
         Zone: [ ] Lease: [ ]
         Transport by: [ ] pipeline [ ] truck
      2. Operator: [ ] Field: [ ]
         Zone: [ ] Lease: [ ]
         Transport by: [ ] pipeline [ ] truck
Safeguards against unauthorized unloading:

5. For Each Trucked Source Noted in # 4:
   a. injectate source.
   b. name of authorized transportation hauler.
   c. delivery schedule(s).
   d. average loads per day or per week and volumes.

6. Anticipated project changes: (expansions, abds, rate chg, fluid chg, etc.)

   [Signature]

7. Plans for Idle Projects:

   If the source lease(s),is active, what is the disposal method and disposition of the fluid previously allocated to this project?

   [Signature]

8. Plans for Idle Injectors:

   [Signature]

Other Data Necessary to Complete This Review:

Operator Signature: [Signature] Date: __/__/2006
Day Phone: 393 5024 Evening Phone: [Number] Emergency Phone: [Number]

Please check the attached list of well(s) for accuracy and note any changes, including any wells missing from the list.
<table>
<thead>
<tr>
<th>PROJECT CODE</th>
<th>Well Designation</th>
<th>API #</th>
<th>Sec TWN RGE Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>48818029</td>
<td>&quot;Ring 18&quot; 13</td>
<td>029-14052</td>
<td>18 27S 28E R</td>
</tr>
<tr>
<td></td>
<td>&quot;Ring 20&quot; 3</td>
<td>029-14064</td>
<td>20 A</td>
</tr>
</tbody>
</table>
Macpherson Oil Company (M0950)
Mr. Joseph Butler
P.O. Box 5368
Bakersfield, CA 93388

Dear Mr. Butler:

During the annual injection project review of your above referenced project, it was noted that this project has been idle and that you have no short term plans for re-activation.

Therefore, effective today, this project has been suspended and approval to inject is hereby rescinded. In order to resume injection, a written request must be submitted to this office. It may also be necessary to furnish this Division with a current fluid stream analysis at that time.

If you have any questions, please call Bill Penderel at (661) 334-3659.

Sincerely,

Randy Adams
Deputy Supervisor

The Department of Conservation's mission is to balance today's needs and efficient use of California's energy resources.
ATTACHMENT F

Macpherson Operating Company, Well File, Ring 2-03
September 14 1961

Mr. Clarke N. Simm
PRODUCING PROPERTIES, INC.
9890 Wilshire Blvd.
Beverly Hills California

Dear Sir:

On May 5, 1955, a notice of intention to redrill and a drilling bond were filed with this office by Geo. W. Ring and Frank L. Ring for well No. 20-3, Sec. 20, T. 27 S., R. 28 E., M.D.B.&M., Mount Pico field.

According to our records the bottom of the hole has been effectively abandoned but the well was never redrilled.

Since the bond is still in effect, please inform me of your intentions as to recompletion to production or final abandonment of this well.

Yours truly

G G FEIRCE
Deputy Supervisor

By William H. Park
Associate Oil and Gas Supervisor

WHP:EH
DEAR SIR:

Your proposal to Redrill Well No. 20-3 at Bakersfield, Calif., May 9, 1955, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS in addition to or at variance with those shown in the notice quoted below:

7" cemented 2272', four 1/2" holes at 2250' BHA

THE NOTICE STATES:

"The present condition of the well is as follows:
Total depth: 2317'
Casing: 20" cemented, 7" perforated 2261 to 2316'
Average Production: 5 bbls not oil per day, cut 98.5%"

PROPOSAL:

"The proposed work is as follows:
Clean out hole to 2316'
Set cement retainer in 7" casing and pump in cement to plug hole from 2316' up to 7" casing to approximately 2200'
Shoot off and pull 7" casing from approximately 1500' or from where ever it can be freed.
Place cement plug on top of 7" stub and set whipstock.
Directionally Redrill to bottom hole 100' to 125' South of surface location.
Cement 7" casing above oil sand estimated at about 2265'.
Complete with 51/4" perforated liner at about 2275'."

DECISION:

This Division shall be notified to witness a test of the 7" water shut-off with the hole open not more than 5' below the casing shoe.

5/16/55

E. H. Musser, State Oil and Gas Supervisor

By: Deputy

Memor: Matthew J. Wish
Witnessed test at plug
Lumpard Oil and Gas
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well
This notice must be given fifteen days before work begins when possible

Bakersfield, Calif. May 4, 1956

DIVISION OF OIL AND GAS

Bakersfield, Calif.

In compliance with Section 17, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at well No. 20 - 3, Sec. 20, T. 27 S., R. 28 E., M.D. B. & McMount Posa Field, Kern County.

The present condition of the well is as follows:
Total depth: 2317'.
Casing: 7" - 2273', cemented.
5½" - 2316', 99' liner, perforated 2261 to 2316'.
Average Production: 5 bbls net oil per day, cut 98%.

The proposed work is as follows:
Clean out hole to 2315'.
Set cement retainer in 7" casing and pump in cement to plug hole from 2316' up into 7" casing to approximately 2100'.
Shoot off and pull 7" casing from approximately 1500' or from where ever it can be freed.
Place cement plug on top of 7" stub and set whipstock.
Directionally redrill to bottom hole 100' to 125' South of surface location.
Cement 7" casing above oil sand estimated at about 2285'.
Complete with 5½" perforated liner at about 2285'.

Reference to file of data

Geo. W. Ring and Frank L. Ring

By

Address Notice to Division of Oil and Gas in District Where Well is Located
121
Card
150b
Map & Book

COMPLETED PRODUCING
11 - 6 = 45
1613 Sixteenth Street
Bakersfield, California
June 9, 1949

Mr. P. W. Lea, Agent
Geo. W. Ring & Frank L. Ring
Rm. 10th Morgan Bldg.
Bakersfield, California

Dear Sirs:

In accordance with a telephone conversation between
you and Engineer Kaslins, of this Division, I am correcting
your notice to drill well No. 20-3, Sec. 30, T. 27 S., R. 28 E.
M. D. H. & M., Mt. Pico field, dated October 15, 1948, and
our Report No. P-32-3-3193, in answer thereto, to show the
following elevations:

949 ft KB

Yours truly,

[Signature]

Deputy Supervisor

[Handwritten Note]

/red

At = R. D. Rush (R)
= Company
FORM 109-A
 STATE OF CALIFORNIA
 DEPARTMENT OF NATURAL RESOURCES
 DIVISION OF OIL AND GAS

Report on Test of Water Shut-off (FORMATION TESTER)

Bakersfield, Calif. October 27, 1943

Mr. E. E. Lea
16411 Western Ridge Rd., Bakersfield, Calif.
Agent for Lea Oil Company

Dear Sir:

Your well No. 2272, Field, in Kern County, was tested for water shut-off on October 26, 1943. Mr. D. E. Proctor, designated by the supervisor, was present as prescribed in Secs. 3222 and 3223, Ch. 93, Stat. 1939; there were also present J. E. Lea, Supervisor; D. W. Viles, Tester Operator.

Shut-off date: 7 in. 1720 lb casing was cemented around the shop at 2372 ft. on October 26, 1943. 11 in. hole with 300 sacks of cement of which 10 sacks was left in casing.

Casing record of well: 7th name 2272. 4 perforated holes 2250 ft. W.H.O.

Present depth 2237 ft. Bridged with cement from 2272 ft. to 2280 ft. Cleaned out to 2230 ft. for test. A pressure of 1700 lb. was applied to the inside of casing for 30 min. without loss after cleaning out to 2220 ft. A Johnston combination run & tester was run into the hole on 5 1/2 in. drill pipe tubing with 2 7/8 ft. of water-mud cushion, and packer set at 2217 ft. with tailpiece to 2200 ft. Tester valve, with 1/2 in. bean, was opened at 6:15 a.m. and remained open for 9 hr. and 0 min. During this interval there was a strong steady blow for 3 minutes, a light hunting blow for 2 minutes and no blow for the balance of the test.

The inspector arrived at the well at 8:30 a.m. and Mr. Lea reported that the 7th casing was 7m perforated at 2250 with four 2 holes for a test of water shut-off.

The inspector noted the following:
1. The 2¼ ft. of drill pipe remaining to be pulled contained 152 ft. of heavy drilling fluid above the tester valve.
2. The pressure beam chart indicated that the tester functioned properly.

The inspection was completed at 10:30 a.m.

THE SHUT-OFF IS APPROVED.

Bakersfield
Lea Oil Company

R. D. BUSH, State Oil and Gas Supervisor

By: [Signature], Deputy
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
___
Report on Proposed Operations

No. P-22157

Dekerafield ___________________________ Calif. October 19 __________

Mr. T. A. Low

Dekafield, Orange Co., Calif.

Agent for Deka Shell Oil Company

Dear Sir:

Your proposal to drill Well No. 20-2

Section 20, T. 27 S., R. 26 E., T. 26 B. & M., 174 1/2 Peso Field, Orange County,
dated Oct. 15, 1948, received Oct. 18, 1948, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATE:

"The well is 2230 feet SE. and 600 feet NE. from the corner of Section 20

in the bow of ground above sea level 477 feet. All depth measurements taken from top of Kelly bushing, which is 3 feet above ground. The estimate that the first productive oil or gas sand should be encountered at a depth of about 2250 feet."

PROPOSAL:

We propose to use the following strings of casing, either cementing or landing, them as herein indicated:

Size of Casing, Inches

Depth

Grade and Type

Landed or Cemented

20'

2,12'

2,15'

Cemented

" 2215'

Landed

Well is to be drilled with rotary tools.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

DECISION: THIS PROPOSAL IS APPROVED PROVIDED THAT THIS DIVISION SHALL BE NOTIFIED TO WITNESS a test of the 20' water shut-off with the hole open not more than 5' below the casing shoe.

R. D. BUSH
State Oil and Gas Supervisor

By: ___________________________ Deputy
In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of drilling well No. 20-3, Sec. 20, T. 27 S., R. 28 E., M. D., B. & M., Mount Pogo Field, Kern County.

Legal description of lease: SW 1/4 of NW 1/4, Sec. 20.

The well is 2,520 feet NNW or S., and 600 feet E. or W. from NW corner of Section 20.

Elevation of ground above sea level: 347 feet.

All depth measurements taken from top of Kelly Bushing, which is 9 feet above ground.

We estimate that the first productive oil or gas sand should be encountered at a depth of about 2,265 feet.

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

<table>
<thead>
<tr>
<th>Site of Casing, inch</th>
<th>Weight, Lb. Per Foot</th>
<th>Grade and Type</th>
<th>Depth</th>
<th>Landed or Cemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>7&quot;</td>
<td>20</td>
<td>seamless</td>
<td>2,835'</td>
<td>Cemented</td>
</tr>
<tr>
<td>5&quot;</td>
<td></td>
<td>n</td>
<td>2,315'</td>
<td>landed</td>
</tr>
</tbody>
</table>

Reference to file of data

Well is to be drilled with rotary tools.

It is understood that if changes in this plan become necessary we will notify you before cementing or landing casing.

Address: 704 Pacific Mutual Bldg., Los Angeles 14, Calif.

Telephone number: __________________________

By: ____________________________

RUNG OIL COMPANY
(Name of Operator)

104 Morgan Bldg., Bakersfield, Calif.
**COMPANY:** THOMAS OIL COMPANY  
**WELL:** RING 20-3  
**FIELD:** W. MOUNT POSO  
**STATE:** CALIFORNIA  
**COUNTY:** KERN  
**LOCATION:**  
SEC. 20  
TWP. 27  
RGE. 28

### PERMANENT DATUM
- **MAT ELEV.**
- **ELEV. 8 FT. ABOVE PERM. DATUM**
- **D.F.**
- **G.L.**

### DATE
- **9-1-77**

### RUN NO.
- **ONE**

### TYPE LOG
- **DEPTH—DRILLER:** 1132'
- **DEPTH—LOGGER:** 1150'
- **BOTTOM LOGGED INTERVAL:** 1148'
- **TOP LOGGED INTERVAL:** 450'

### TYPE FLUID IN HOLE
- **WATER**

### DENSITY

### LEVEL

### MAX. REC. TEMP., DEG F.

### OPERATING RIG TIME

### RECORDED BY
- **J. YEAGER**

### WITNESSED BY
- **MR. MONDARY**

### RUN  
<table>
<thead>
<tr>
<th>NO.</th>
<th>BORE-HOLE RECORD</th>
<th>CASING RECORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIT</td>
<td>FROM</td>
<td>TO</td>
</tr>
<tr>
<td>7&quot;</td>
<td>23#</td>
<td>SURF.</td>
</tr>
<tr>
<td>PRIMARY CEMENTING PROCEDURE</td>
<td>Equipment Data</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>Hour — date</td>
<td>Hours from start of operation</td>
<td>Type standoff</td>
</tr>
<tr>
<td>t pumping cement</td>
<td></td>
<td>STD</td>
</tr>
<tr>
<td>in bottom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement Bond Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement Bond Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumping cement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
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<tr>
<td>Cement Bond Log</td>
<td></td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>Pumping cement</td>
<td></td>
<td></td>
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<tr>
<td>Bottom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td></td>
<td></td>
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<tr>
<td>Cement Bond Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement Bond Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe reciprocated during Pumping: Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td>Partial</td>
<td>None</td>
</tr>
<tr>
<td>Pipe reciprocated after plug down: Yes</td>
<td>min. No</td>
<td></td>
</tr>
</tbody>
</table>

PIPE PREPARATION AND CEMENTING DATA

Cement Bond Log

Bonding Decreases

150 | \( \Delta t \) MICRO SECONDS/FOOT 50

P | PIPE AMPLITUDE

500
All,

Fit: [Graph]

Tip: [Graph]

A
d

1

L

R


Mr. William H. Park  
Division of Oil and Gas  
318 Chester Avenue  
Bakersfield, California  

Dear Mr. Park:

PPI (Ring Oil Co.) Well No. 3  
Section 20, 27S/28E  
West Mount Poso Oil Field  
Kern County, California

Our records for subject well also indicate bottom of hole effectively abandoned and well suspended June 9, 1955.

Our current program is to sell Ring Oil Company property in Mount Poso, therefore no anticipated well work will be completed by Producing Properties within next 60-days, except joint ventures.

The above information is in reply to your request of September 14th. Our anticipated action is not to be divulged to any source.

Yours very truly,

[Signature]

Frank P. Mondary

PPM daw
MAP & BOOK

STATUS

Completed Producing
Recompleted Producing
Completed Abandoned
Uncompleted Abandoned
Idle 6-9-59

RECORDS
Received 7-21-59 Needed

Well Summary

History
Log & Core
Lge Sm Elec Log(s) Lge Sm
Direct Survey
Other

Location
Elevation
Release bond
Hold bond
Final letter

150b
121t

EMPLOYEES

1. Log, history & core record (dupl)
2. Electric log
3. Operator name & well designation
4. Location
5. Elevation
6. Signature
7. Notices
8. "T" reports
9. Casing record
10. Plugs
11. Production
12. Wildcat cards
13. Map and Book
14. Surface Inspection

APPROVED ________ NOT APPROVED FOR THE FOLLOWING REASON

RECORDS OK
A. L. Y. 10-8-59

TRANSFER DATA

Former Owner: J. H. P. S. S. L. S.
New Owner: J. H. P. S. S. L. S.
Transfer Date: 10-8-59
Form 156 Dated: 10-8-59

* There was a bond card in the file as asked for & 7. 4/ send one
Founders' Insurance Company Bond No. 9687 accompanied with a Notice to Redrill George W. Ring and Frank L. Ring well No. 20-3, Sec. 20, T. 27 S., R. 28 E., M. D. B. & M., Mount Pose field, was filed in 1955. The redrilling operations were never performed and the property has been transferred to another operator who is not interested in redrilling the well.

Since the bond has never been obligated and it will be necessary for the present operator to file a new notice in the event any future work is done on the well, I recommend bond No. 9687 be released.

Form 150b is attached for this bond.

Deputy Supervisor

[Signature]
MEMO

ON 10-31-61, ENR. ALVIZA VISITED THE LOCATION AND NOTED THAT ALL SURFACE EQUIPMENT HAD BEEN REMOVED FROM THE WELL SITE. A HOME-MADE BULL PLUG WAS SCREWED INTO THE TOP OF 7" CASING. THERE WAS FILL IN THE ANNUlus BETWEEN THE CONDUCTOR PIPE & THE 7" CASING AT A DEPTH OF APPROXIMATELY 15 FEET.

E. H. MUSSER
State Oil and Gas Supervisor
October 3, 1961

Messrs. George W. Ring and
Frank L. Ring
2975 Wilshire Blvd.
Suite 501
Los Angeles 5, California

Gentlemen:

On May 5, 1955 a Notice of Intention to Redrill and a drilling bond were filed by you with this office for well No. 20-3, Sec. 20, T. 27S., R. 28E., M.D.B.&M. Mount Foso field.

According to our records the bottom of the hole has been effectively abandoned, but the well was never redrilled. Since your bond is still in effect and the well is in a deserted condition, please inform me of your intentions as to final abandonment.

Yours truly,

G. E. FEIRCE
Deputy Supervisor

By W. R. Park
Associate Oil and Gas Engineer
DEAR SIR:

Operations at well No. "Ring 20" 3, API No. 029-14064, Sec. 20, T.27S, R.28E, M.D., B & M, Mount Poso Field, in Kern County, were witnessed on Jan. 15, 1975 by Mr. T. Rasmussen, representative of the supervisor.

Present condition of well: 7" cemented, 2272', perf. at intervals 920'-1130', T.D. 2317', Effec. depth 2100'.

The operations were performed for the purpose of demonstrating that the injection fluid is confined to strata below 920'.

DECISION: THE OPERATIONS AS WITNESSED AND REPORTED ARE APPROVED AS INDICATING THAT ALL OF THE INJECTION FLUID IS CONFINED TO THE FORMATIONS BELOW 920' AT THIS TIME.

TR/1r
cc: Co. - Encino
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOPHYSICAL SURVEY

SUNDAY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT," for both proposals)

1. WELL CLASS □ OTHER Suspended 5-22-1956

2. NAME OF OPERATOR

   Thomas Oil Company

3. ADDRESS OF OPERATOR

   P.O. Box 6356, Bakersfield, Calif. 93306

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

   At surface

   2320' South and 600' East from Cor. Sec. 20, T. 27S., R. 28E., MDB&M

5. FORM NO.

   949' KB

6. SUNDAY NOTICES, REPORTS, OR OTHER DATA

   Check appropriate box to indicate nature of notice, report, or other data

   (Other)

   ---

7. PERIODIC REPORTS ON COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated dates of starting any proposed work. If well is directionally drilled, give subsurface locations and measured true vertical depths for all markers and zones pertinent to this work.)

   1. Well was suspended 5-22-56 after cutt. plug 2316'-2100'

      7' 3/4' 2272'-2200' 17# & 20# Sams. in 10-3/4" hole w/550 ox.

      5-1/2" liner 2316'-2227' 17# sams. 80 mesh

   2. Enter well and determine static fluid level and locate top of cutt plug.

   3. Bail fluid below Olcese 1050' & Jet 2 - 1/2" H.F. at 1000' KB


   5. Jet 4 - 1/2" H.F. 1130-1095', 1090'-970', & 955-920'.

   6. Install pressure & metering equipment.

   7. Inject produced water down csg.

8. I hereby certify that the foregoing is true and correct

   SIGNED R. D. Wohlfahrt

   TITLE Production Engineer

   DATE Nov. 14, 1974

   (Title space for Federal or State office use)

   APPROVED BY

   TITLE

   DATE

   CONSIDERING OR APPROVAL, IF ANY

   See Instructions on Reverse Side.
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only.

DIVISION OF OIL AND GAS

November 14, 1974

Bakersfield, Calif.

The present condition of the well is as follows:

1. Total depth: 2317'

2. Complete casing record, including plugs:
   7" O.D. 2272' - Surface 17# & 20# N. Smls. in 10-3/4" hole w/350 sq.
   W.S.O. in 7" 2250' D.K. Sqz'd. away 250 sq.
   5-1/2" 2316'-2227' 17# N. Smls. in 11" hole - 80 M 2261'-2316'
   Suspended 5-22-1956
   Plug 2316'-2100' - Witnessed by D.O.G. (?) Remove all surface equipment & screw in 7" bull-plug at surface.

3. Last produced: 5-22-56(?) 5 105 0
   (Date) (Oil B/D) (Water B/D) (Gas Mcf/D)

The proposed work is as follows:

1. Enter well and locate static fluid level and locate cmt. plug.
2. Bail fluid below 1050' KB & collect well fluid sample.
3. Jet 2 - 1/2" holes at 1000' KB.
5. Jet 4 - 1/2" H.F. 920'-955', 970'-1090', & 1095'-1130'.
6. Inject oilwell produced waters into csg.
7. Metering & pressure equipment shall be installed.

Thomas Oil Company

2401 Eric Way, Apt. #45
P. O. Box 6356
Bakersfield, California 93306
805 872-0613

(Telephone No.)

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only.


DIVISION OF OIL AND GAS

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at Well No. Ring 20-3 (Cost out subsidiary wells)

Sec. 20, T. 27S, R. 26E, M.D., B. & M.

West Mount Poseo Field, Kern County.

The present condition of the well is as follows:

1. Total depth. 2317'

2. Complete casing record, including plugs:
   Liner 5-1/2" 2316-2227' 11" hole perf'd 2261-2316'
   Found hard mud plug at 1130' KB.
   Jet 4 - 1/2" H.F. 920 - 1130' 23 gram D.M.L.

3. Last produced. 00 (Oil, N/D)

The proposed work is as follows:

1. Set bridge plug at 900'.
2. Jet squeeze holes in 7" at 895'.
3. Squeeze cement (10 sx.) away.
4. Jet squeeze holes in 7" at 885'.
5. Squeeze away cement.
6. Drill out cement and pressure test holes.
7. Drill out plug and clean out to bottom.
8. Return to water injection.
9. Run R/A log.

P. O. Box 5368
Oildale, California 93308

Thomas Oil Company

By/ )/J. A. Mondary, Production Engineer

ADDRESS ONE COPY OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED.
History of Oil or Gas Well

Operator: Thomas Oil Company
Field: West Mt. Posa

Ring 20-3
Well No. 20-73, Sec. 20, T. 28 S., R. 26 E., M.D.B. & M.

Date: August 11, 1975
F. O. Box 5358
Oildale, California 93308
(805) 393-3204

Signed: F. F. Mondary
Production Engineer

Title: Production Engineer
(Title)
(Address)
(Telephone Number)
(President, Secretary, or Agent)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during readrilling or altering the casing, plugging, or abandonment with the date thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

Date

7-20-74 Ran in bailer and bailed drilling mud to 900'. Made up bit on 2-7/8" tubing and ran in. Circulated out hard drilling mud down to 1130'.

8-1-74 Mud plug took all weight of 1130' + Kelly 2-7/8" tubg. Hole remained full of fluid.

10-1-74 Ran in and jet perforated 7" casing w/2 - 1/2" H.F. (23 gram D.M.L.)

920 - 1130' K.B. (8')

12-13-74 Installed surface water injection line and placed well into water disposal well service at 1300 B/D rate.

12-14-74
Purpose: Squeeze cement slug to exclude vertical water migration above injection zone. Injection water surfaces at 895 ft.

1. Run in fluid bailer # 4A3, bottom plug at 900' BGL.
2. Run in # 5 set Gains 7" bridge plug at 900' BGL.
3. Run in # 6, jet 2 1/2" holes in 7" casing at 895' (5' above Gains plug).
4. Bottom dump in 5sx class "A" cement, mixed 5 gal. water per sack as rapidly as possible. Locate fluid level.
5. Displace water down 7" casing. Displacement to be determined at location.
6. Dump in 1sx gravel.
7. Jet 2 1/2" holes in 7" casing approx. 885'.
8. Dump in 5sx class "B" cement, mixed 5 gal. water per sack cement rapidly. Locate fluid level.
9. Displace (squeeze cement) as directed.
10. Test pressure on 7" casing min of 750.
11. Make up 6½" clean out tricone bit on tubing & clean out cement to below jet holes at 895', but do not drill-up Causing bridge plug. Circulate clear.

12. Pressure test holes as directed. If O.K. drill up bridge plug.

13. Drill up & circulate out to bottom.

14. Run injection tests as directed.

Monday 8/11/75
Dear Sir:

Your proposal to alter casing in water disposal Well No. "Ring 29" 3, Section 20, T. 27S., R. 28E., M.D. B. & M., Mount Poso Field, Kern County, dated 8/11/75, received 8/14/75, has been examined in conjunction with records filed in this office.

Decision: The proposal is approved provided that this Division shall be notified to witness, within 30 days after injection is started, sufficient surveys to confirm that the injection fluid is confined to the intended zone of injection.

All/ere
Blanket Bond

c: Co. - Oildale (Frank Mondary)
Dept of Water Resources
RWQCB

Thomas E. Gay, Jr., Acting Chief

By A. J. Hugg
Deputy
DIVISION OF OIL AND GAS

Notice of Intention to Rework Well

This notice and indemnity or cash bond shall be filed, and approval given, before rework begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

FOR DIVISION USE ONLY

| BOND | DD0114 | DD0121 |

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework well No. 620, Sec. 20, T.22N., R.21E., M., B. & M., 174th Field, Kern County.

The present condition of the well is as follows:

1. Total depth 1,900' minus plug 1,470'

2. Complete casing record, including plugs and perforations:

   7 1/2" pipe 1,920' - 1,340' cemented

3. Present producing zone name XEVEET Zone in which well is to be recompleted

4. Present zone pressure

5. Last produced

   (Date) (Oil, bbl/D) (Water, M/D) (Gas, Mcf/D)

6. Last injected

   (Date) (Oil, bbl/D) (Water, M/D) (Gas, Mcf/D) (Surface pressure, psig)

The proposed work is as follows:

1. Go to bottom net 100' chains plus 1400' place 25' section plug
2. Not padder and install leak coil
3. Return to injection

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address Post Office Box 5368

Thomas Oil Company

Oildale, California 93308

By

Type of Organization (Individual)

(Stuart) (City) (State) (Zip)

(305) 292-204

(OG107 07-06-75)
SUNDARY NOTICES AND REPORTS ON WELLS

(Do not use this form for requests to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such requests)

1. OIL WELL ☐ OIL WELL ☐ OTHER ☐

2. NAME OF OPERATOR

3. ADDRESS OF OPERATOR

4. LOCATION OF WELL (Describe location clearly and in accordance with any State requirements.

   At surface:

   Sec. 26, T. 27S., R. 28E., M.D.B.&M.

   SW/4 of NW/4 of Sec. 20 and/or 2320' S. & 600' E.

   fr. NW Cor. of Sec. 20

5. PERMIT NO.

6. PERMIT NUMBER

7. WATER SHUT-OFF ☐

   FULL OR ALIVE CASING ☐

   MULTIPLE COMPLETES ☐

   ABANDON ☐

   REPAIR WELLS ☐

   CHANGE PLAN ☐

8. WATER SHUT-OFF ☐

   FULL OR ALIVE CASING ☐

   MULTIPLE COMPLETES ☐

   ABANDON ☐

   REPAIR WELLS ☐

   CHANGE PLAN ☐

(Notes: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DECREASE PROPOSED ON COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured true vertical depths for all markers and zones pertinent to this work):

1. Set bridge plug at 900'.
2. Jet squeeze holes in 7" at 895'.
3. Squeeze cement (10 ex.) away.
4. Jet squeeze holes in 7" at 885'.
5. Squeeze away cement.
6. Drill out cement and pressure test holes.
7. Drill out plug and clean out to bottom.
8. Return to water injection.

18. I hereby certify that the foregoing is true and correct.

SIGNED

TITLED Production Engineer

DATE August 23, 1975

APPROVED BY

TITLED Acting District Engineer

DATE August 14, 1975

CONDITIONS OF APPROVAL IF ANY: None.

SEE ATTACHED CONDITIONS AND REQUIREMENTS

SEE INSTRUCTIONS ON REVERSE SIDE

cc: DOG, Bakersfield
Your proposal is approved subject to the following requirements:

1. Compliance with Federal Oil and Gas Operating Regulations.

2. Any change in the approved program must receive prior approval of District Engineer.

3. A Subsequent Report of work performed shall be filed in triplicate promptly upon completion of the work.
February 11, 1977

Division of Oil & Gas
520 Kentucky Street - Rm. 1
Bakersfield, Calif. 93305

Attn: Larry Bright

Re: Thomas Oil Company
Ring 20 #3 WIN (029-14064)
Sec. 20, T. 27 S., R. 28 E.
M.D.B. & M.

Dear Larry:

Please be advised the proposal of August, 1975, to plug well to 900' and squeeze off two holes was not done. Please cancel the proposed operation P-475-2472.

Very truly yours,

THOMAS OIL COMPANY

FPM/ajc

Cc: USGS—Bakersfield
SUNDARY NOTICES AND REPORTS ON WELLS

1. OIL WELL ☐ GAS WELL ☐ OTHERS ☐ Injection Well

2. NAME OF OPERATOR
   Thomas Oil Company

3. ADDRESS OF OPERATOR
   P. O. Box 5368, Oildale, Calif. 93308

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See slip space 17 below.)
   At surface
   Sec. 20 - SW/4 of NW/4

5. PERMIT NO.

6. NOTICE OF INTENTION TO:
   **REPAIRING WELL** ☐
   **ABANDON** ☐
   **MULTIPLE COMPLETION** ☐
   **FULL OR ALTER CASING** ☐
   **FRAC. TREATMENT** ☐
   **REPAIR WELL** ☐
   **CHANGE PLAN** ☐
   **SHOOT OR ACIDIZE** ☐
   **(Other)** ☐

   SUBSEQUENT REPORT OF:
   **REPAIRING WELL** ☐
   **ABANDON** ☐
   **MULTIPLE COMPLETION** ☐
   **FULL OR ALTER CASING** ☐
   **FRAC. TREATMENT** ☐
   **REPAIR WELL** ☐
   **CHANGE PLAN** ☐
   **SHOOT OR ACIDIZE** ☐
   **(Other)** ☐

   (Note: Report results of multiple completions on Well Completion or Abandonment Report and Log form.)

5. PROPOSED:
   1. C.O. to bottom, set bailer CAVING plug at 1400'. Place 2' mix. cement on plug.
   2. Set packer and swab back fluid.
   3. Return to injection.

Total Depth: 1900', mud plug at 1130'.
Casing: 7" perf'd 920-1130'. Oloose Sand.

18. I hereby certify that the foregoing is true and correct.

SIGNED

**Production Engineer**

DATE 2/1/77

(Authority for Federal or State office use)

APPROVED BY

**Production Engineer**

DATE 2/1/77

*See Instructions on Reverse Side
FROM THE DESK OF

1974

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Dear Sir:

Your proposal to rework Well No. "Ring 20" 3 Section 20, T. 27S, R. 28E, M.D.B. & M., Mount Paso Field, Kern County, dated 12/27/76, received 12/30/76, has been examined in conjunction with records filed in this office.

DECISION: THE PROPOSAL IS APPROVED.

NOTES:

1. The proposed work shall not be considered as fulfilling the requirements of this Division for the abandonment of the lower portion of the hole without further consideration.

2. The Public Resources Code requires well records to be filed within 60 days of the completion of the proposed work.
February 14, 1977

U.S.G.S.,

220 Truxton Avenue

Riverside, California 92501

Attn: J. D. Kincaid

Gentlemen:

In reply to your letter of February 11, 1977, Division of Oil and

Gas 120-3 (water disposition) report copies are herewith supplied.

You requested the May 1975 report for Ring 20 #3 and the 1976 reports

from February, 1976, to present. Outside of your request, I doubt

that we have submitted our reports on water disposition for Bishop

36 and Tube 1 #10 for 1976, so they are included also.

Also please note that we have mailed to you a copy of the history

on the proposal to convert Ring 20 #7 to a water injection well

The records that we have in the work done in May, 1956 are also being

sent along as per your request.

Sincerely,

THOMAS OIL COMPANY

[Signature]

Clare J. Riss
Production Clerk
Thomas Oil Company  
P.O. Box 5368  
Oildale, CA 93308  

Attention: Mr. Frank Mondary  

Gentlemen:  

Enclosed are approved Sundry Notices for work on wells Ring 20 #3 and 16, section 20, T. 27 S., R. 28 E., MDM, lease Sac. 044132, Mount Poso Field, Kern County, California.  

In regard to well Ring 20 #3, we have not been receiving the monthly reports of injection. Please supply these in duplicate plus duplicate copies back to and including that for February 1976 and duplicate copies of the May 1975 report. Also in regard to well Ring 20 #3, please provide us with duplicate copies of the subsequent report of operations (histories) of: the work done in May 1956 when the well was plugged and suspended, the November 12, 1974 proposal to convert to water injection, and the casing repair proposal of August 13, 1975. May we please hear from you in regard to these requests?  

Sincerely yours,  

J. D. Rintoul  
Acting District Engineer  

Enclosures
SUMMIT IN DUPLICATE
RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator: Thomas Oil Company
Well name and No.: "Ring 20", 3
A.P.I. well No.: 029-14064
Date: April 12, 1977

Field or County: West Mount Pose
Sec., T., R., M.D.B. & M.: 20, 27S., 28E.

Name: Frank P. Mondary
Title: Agent
(Permit issuing report)

Address: P.O. Box 5368, Oildale, Calif. 93308

Telephone Number: (805) 393-3204

Ran in bailer and bailed drilling mud to 900'. Made up bit on 2-7/8" tubing and ran in. Circulated out hard drilling mud down to 1130'.

Mud plug took weight of 1130' 2-7/8" tubing and Kelly. Hole remained full of fluid.

Ran in and jet perforated 23 g. D.M.L. Jets in 7" casing. 2-1/2" H.F. 920-1130' KB.

Installed surface water injection lines and placed well into disposal service at 1300 B/D rate, zero surface pressure.

Ran Go International Migration Survey, copy sent to D.O.G.

Ran Go International Injection Profile Survey. OK at 583 B/D rate injection (copy enclosed).
April 12, 1977

U.S.G.S.
800 Truxtun Avenue - Room 1
Bakersfield, California 93301

Attention: Mr. J. D. Rintoul

Re: Thomas Oil Company Ring 20 #3
Mt. Poso Field, Sec. 20/27S/28E MDB&M
Kern County, California

Dear Sir:

Please advise if you have received copies of Go International Injection Profile Survey for captioned well dated 1/21/77 and 12/21/74.

Also, advise if you received Sundry Notice and Reports on well when workover completed to convert Ring 20 #3 to an injector well 12/13/74.

Our records do not indicate transmittal of any of the above listed materials.

Very truly yours,

THOMAS OIL COMPANY

[Signature]

Frank P. Mondary

FFM/ajc

cc: Well File
Thomas Oil Company  
P. O. Box 5368  
Oildale, CA 93308

Attention: Mr. Frank P. Mondary

Gentlemen:

The following is in reply to your letter of April 12, 1977 requesting information on whether or not we have received certain data on your well Ring 20 #3 Mt. Poso Field, section 20, T. 27 S., R. 28 E., MDM, lease Sac. 044132, Kern County,

We have received the Go International Injection Profile Survey of January 21, 1977 and a Division of Oil and Gas History of the work of converting to water disposal in the Olcese which was done between the dates of July 20, 1974 to December 13, 1974.

We have not received the Go International Survey of December 12, 1974 so please send us two copies of that. Also the Division of Oil and Gas History did not show which specific intervals of the Olcese were perforated. We assume they were 1130-1095, 1090-970, and 955-920 as proposed. Please advise us whether or not these were the intervals actually perforated.

Sincerely yours,

D. F. Russell  
District Engineer
(1) Make up either single or double header, fill casing cups top bearing down & bottom leaking up on about 3" depth montread. Run in 2 7/8" or 2 3/8" tubing.

(2) Test casing by setting below perforated approx. 10', and pressure to 100# on surface. Hold 3 min. by drop off. If O.K. proceed to step #3. If not O.K. determine cause of leak & correct. Repeat. Pull up into bottom of perfor & displace K.C. water out tubing — approx. 100 Gal. (say 266#/). Do not exceed 50#/ on surface. Advise Mat. & pressure.

(3) Mix Acid from material (Mol) 25:1 Natrium & Clear mud tank.

(4) Displace 500 mix down tubing to clear washer — say 266#/ & inject not less than 25/gal/ft each stage from 120-970° and 950-920°. Total mix use is 5,000 gal (100 lbs. leaner water @ 466#/). Let stand overnight or minimum of 12 hr.

(5) Run in & jet 7' Production packer at 1050: Displace 50 66#/ K.C. mix. (Mix 5000 gal fresh water 1/80 # 100 lbs.,
Pull up & set 2nd at 90º. Displace 50 bbl of K.C. mix on the remainder.

6. Inject lease water - appx 500 bbl - with rig pump down casing. Keep record of volume & pressure as follows & advise Monday prior to #7:
   - 50 bbl = ___ bbls
   - 100 bbl = ___ bbls
   - 150 bbl = ___ bbls

7. Rig down & move to either Thomas #9 or K.C.L. #81-12 as directed.

Mond. 4-19-77
F.P. Monday

cc: Gordon Smith
J. Penney
**PURPOSE OF WORK:**

Prevent injection rate is 580 Bbl/d. Need to increase rate to approx. 3000 Bbl

1. Enter well & locate top of fill 
   & static fluid level.

2. Bail fill if any & bail out mud plug to about 125 ft - 1300 ft. Collect sampler.

3. Make up Baker rate-vert scraper on 2½" tubing with taconite bit under scraper & scrap to minimum of 1300 ft.

4. Make up big pump, tank & shuttle to pump run in 7" line 2 down 2-up.
   Space slips about 4' apart. Mix chemicals as directed. Wash perforations 1150 - 920. Break down each interval & note circulation up annulus if any.

5. Hook up 2" meter between pump & well head. Injection trials. If unfavorable go to step 2.

6. Run in jet cannon & penetrate 920 - 1130 or as directed.

7. Run 7" casing scraper over jetted interval. Retest injection rate.

8. Inject HCl acid as needed based on Step 6.
April 27, 1977

U. S. Department of Interior
Geological Survey
800 Truxtun Avenue
Bakersfield, California 93301

Attention: Mr. D. F. Russell Re: Thomas Oil Company Ring 20-3
Water Disposal Well

Gentlemen:

Please find enclosed two copies of Go-International Migration Survey
dated December 21, 1974.

The Olcese sand was perforated as follows:

10-1-74  2-1/2" H.F. D.M.L. jet (23 gram) zone
         continuous 920'-1130'.

Please advise if you require supplementary notice for the above
perforated interval.

Very truly yours,

THOMAS OIL COMPANY

Frank P. Mondary

FPM/aja

cc: DOG Bakersfield
    Well File / Water Disposition Book
MEMO

To: L. C. Fiedler                      Date: 4/26/77
From: Frank P. Mondary
Subject: Maximum Pressure of Injection Well Ring 20-3

Based on overburden requirements, the maximum surface injection pressure for well Ring 20-3 is 398 psig.

Tabulations:
- Top of Injection Interval = 920'
- Frac Gradient = 0.8/#/ft
- Max. Pressure at Top of Zone = 793 psi
- Max Surface Pressure = 398 psig

However, we may witness communication between the casing and formation, upward. Should this occur, regardless of pressures, we will be required to prevent fluid movement upward by cement squeezing.

The pumpers should be directed to monitor the surface of this well for evidence of water communication to surface.

cc: Jack Gilpin
    Well File
    Water Disposition Book

Frank P. Mondary
History of Oil or Gas Well

Operator: THOMAS OIL COMPANY

Field: West Mount Rose

Well No.: "Ring 20" 3 (029-14064), Sec. 20, T. 27S, R. 28E, M.D. B. & M.

Date: April 28, 1977

Signed: [Signature]

P.O. Box 5368, Oildale, Ca. 93308 (805)393-3204

Production Engineer (Address)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

Date

4-20-77 Moved in Ideco rig. Bailed to bottom 1130', no fill.

4-21-77 Bailed out mud plug to 1300' and swabbed well clean.

4-22-77 Ran in close spaced cups to wash perfs and stuck washing tool.

4-23-77 ---

4-24-77 Circulated out 60' sand over top washer tool with 1" stinger and pulled out washer tool.

5-25-77 Made up 7" production packer on 2-7/8" tubing and set at 900'. Displaced 2000 gal. water premixed with 150 gal. solvent chemical and let set over night.

5-26-77 Displaced away solvent mixture with 2% K.Cl. mixture and lease water; tested injection rates up to 8,000 B/D.

5-27-77 Re-tested rates. Rig down and prepared move out.
SUNDRY NOTICES AND REPORTS ON WELLS

1. OIL WELL [ ] DRAINAGE WELL [ ] OTHER [X] Injection Well

2. NAME OF OPERATOR
   THOMAS OIL COMPANY

3. ADDRESS OF OPERATOR
   P. O. Box 5368, Oildale, CA 93308

4. LOCATION OF WELL (Report location clearly and in accordance with any state requirements.*
   See also space 17 below.)
   At Surface
   Sec. 20 - SW/4 of NW/4

5. DATE: 4/24/77

6. SUBMIT IN TRIPlicate:
   GAC 944132

7. UNIT AGREEMENT NAME
   "Ring 20"

8. FIELD OR LEASE NAME
   Mount Poso

9. WELL NO.
   3

10. FIELD AND POOL OR WILDCAT

11. P.O. OR CITY, STATE OR BLOCK AND NUMBER OF ACRE
   20/27S/28E, MDB&M

16. FORM NO.

17. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

   1. TEST WATER SHUT-OFF [ ]
   2. FRACTURE TREATMENT [ ]
   3. SHOOT OR ACIDIZE [ ]
   4. REPAIR WELL [ ]
   5. OTHER [X]

   SUBSEQUENT REPORT ON:

   1. WATER SHUT-OFF [ ]
   2. FRACTURE TREATMENT [ ]
   3. SHOOTING OR ACIDIZING [ ]
   4. CHANGE PLANS [ ]
   5. OTHER [X]

18. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured true vertical depths for all markers and points pertinent to this work.)

   4/20/77 Moved in Ideco Rig. Bailed to bottom 1130’ no fill.
   4/21/77 Bailed out mud plug to 1300’ and swabbed well clean.
   4/22/77 Ran in close spaced cups to wash perforations and stuck washing tool.
   4/23/77 --
   4/24/77 Circulated out 60’ sand over top washer tool with 1’ stinger and pulled out washer tool.
   4/25/77 Made up 7’ production packer on 2-7/8” tubing and set at 900’. Displaced with 2000 gal. water, premixed with 150 gal. solvent chemicals and let set over night.
   4-26-77 Displaced away solvent mixture with 25% K.CI. mixture and lease water; tested injection rates up to 8,000 B/D.
   4-27-77 Re-tested rates. Rig down and prep. move out.

18. I hereby certify that the foregoing is true and correct

SIGNED ___________________________ TITLE Production Engineer DATE 4-28-77

APPROVED BY ___________________________ TITLE District Engineer DATE April 29, 1977

cc: DOG, Bakersfield

*See Instructions on Reverse Side
DIVISION OF OIL AND GAS

Bakersfield, Calif.

A notice to you dated December 27, 1977, stating the intention to

Rework (Drill, rework, abandon)

Well No. "Ring 20" 3 API No. 029-11064

Sec. 20 T. 27S R. 28E M.D. B & M. West Mount Paso Field, Kern County, should be amended because of changed conditions.

The present condition of the well is as follows:

Total depth 1900'. Mud Plug 1130'.

Complete casing record including plugs and perforations:

7" cemented at 2272'. Perf'd. 920-1130' (Olcese Sand).
Liner 5-1/2" 2316-2227' perf'd. 2261-2316';
Cut. plug 2316-2100'
Mud Plug 1130'.

We now propose

1) Bail out mud plug to approx. 1300'.
2) Do Not set Davins Bridge Plug.
3) Swab back fluid until clear.
4) Spot solvent adjacent to perforations. Let set 8 hrs.
5) Displace solvent - 2% KCl water.
6) Inject test and return to injector status.

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address P. O. Box 5368
Bakersfield, California 93308
Telephone Number (805) 323-3204

THOMAS OIL COMPANY

By

Type of Organization Individual

Address P. O. Box 5368
Bakersfield, California 93308
Telephone Number (805) 323-3204

Type of Organization Individual
**SUNDAY NOTICES AND REPORTS ON WELLS**

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT..." for such proposals.)

<table>
<thead>
<tr>
<th>Date of Notice or Report</th>
<th>Nature of Notice, Report, or Other Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-2-77</td>
<td>Run CBL Log</td>
</tr>
<tr>
<td></td>
<td>Place sand plug to approx. 850'</td>
</tr>
<tr>
<td></td>
<td>Set 4 1/4&quot; holes 830-849</td>
</tr>
<tr>
<td></td>
<td>Squeeze away approx. 500# cement 2-3</td>
</tr>
<tr>
<td></td>
<td>C.O. CMT to 831 @ TEST CASING 200# 15mm</td>
</tr>
<tr>
<td></td>
<td>C.O. CMT &amp; Sand to bottom</td>
</tr>
<tr>
<td></td>
<td>Test injectivity either return to injection or treat zone then return to injection</td>
</tr>
</tbody>
</table>

1. **OIL WELL**
2. **NAME OF OPERATOR**
   - Thomas Oil Company
3. **ADDRESS OF OPERATOR**
   - P.O. Box 5368 Oldal, CA. 93838
4. **LOCATION OF WEL (Report location clearly and in accordance with any state requirements.)**
   - See 20 July 1977

**Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

<table>
<thead>
<tr>
<th>Nature of Notice, Report, or Other Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Water Shut-Off</td>
</tr>
<tr>
<td>Fracture Shale</td>
</tr>
<tr>
<td>Shoot or Acidize</td>
</tr>
<tr>
<td>Repair Well</td>
</tr>
<tr>
<td>Full or Alter Casing</td>
</tr>
<tr>
<td>Multiple Complete</td>
</tr>
<tr>
<td>Abandon*</td>
</tr>
<tr>
<td>Change Plane</td>
</tr>
<tr>
<td>Water Shut-Off</td>
</tr>
<tr>
<td>Fracture Shale</td>
</tr>
<tr>
<td>Shoot or Acidize</td>
</tr>
<tr>
<td>Repairing Well</td>
</tr>
<tr>
<td>Accessing Casing</td>
</tr>
<tr>
<td>Abandonment</td>
</tr>
</tbody>
</table>

(Note: Report results of multiple completion on Well Completion or Restoration Report and Log form.)

17. **Proposed or Completed Operations**
   - Clearly state all pertinent details and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations measured true vertical depths for all markers and zones pertinent to this work.

I hereby certify that the foregoing is true and correct

**SIGNED**

**TITLE**

**DATE** 9-2-77

(This space for Federal or State officials use)

**APPROVED BY**

**TITLE**

**DATE** September 6, 1977

cc: DOG, Bakersfield
Your proposal is approved subject to the following requirements:

1. Compliance with Federal Oil and Gas Operating Regulations.

2. Any change in the approved program must receive prior approval of District Engineer.

3. A Subsequent Report of work performed shall be filed in triplicate promptly upon completion of the work.
Notice of Intention to Rework Well

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division 13, Public Resources Code, notice is hereby given that it is our intention to rework well No. King 20 - 3, API No. _____________.

Sec., Tr., R., T., E., L., B. & M., ______________ Field, ______________ County.

The present condition of the well is as follows:

1. Total depth. 1900' Mud plug at 1140'

2. Complete casing record, including plugs and perforations:

   7" depth, fresh at 970 - 1130

3. Present producing zone name. OLEOS. Zone in which well is to be recompleted.

4. Present zone pressure. _____________. New zone pressure. _____________.

5. Last produced.

   (Date) _____________. (Oil, B/D) _____________. (Water, B/D) _____________. (Gas, Mcf/D) _____________.

6. Last injected.

   (Date) _____________. (Oil, B/D) _____________. (Water, B/D) _____________. (Gas, Mcf/D) _____________.

The proposed work is as follows:

1) _____________. 2) _____________. 3) _____________. 4) _____________.

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address: _____________. (City) _____________. Telephone Number: _____________. (Area Code) _____________.

By: _____________. (Name of person) _____________. (Date) _____________.

Type of Organization: _____________.
SUPPLEMENTARY NOTICE

DIVISION OF OIL AND GAS

A notice to you dated ___________ 1970, stating the intention to

(Drill, rework, abandon)

Well No. Pint 20-3 API No.

Sec. _____ T. _____ R. _____ P.M. _____ Field, _____

County, should be amended because of changed conditions.

The present condition of the well is as follows:

Total depth 1900' MUD PLUG AT 1198'

Complete casing record including plugs and perforations:

We now propose (fill in form I to 8 in array with plan)

1. Run casing pipe (3) on 2 7/8 in. tubing @ 1198'

2. Reenter well as licence... InnOCe 1198' casing

3. Casing value to remain open to injection, if it

It is understood that if changes in this plan become necessary we are to notify you immediately.

Address Box 5368

Culver City, CA 90230

Telephone Number 310-725-2064

Type of Organization: Corporation

By: Thomas O. Carter

(Date)

Type of Organization: Corporation, Partnership, Individual, etc.
SUNDRY NOTICES AND REPORTS ON WELLS

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>WELL</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>NAME OF OPERATOR</td>
<td>Thomas Oil Co.</td>
</tr>
<tr>
<td>3.</td>
<td>ADDRESS OF OPERATOR</td>
<td>Box 5368, Culde, CA 95368</td>
</tr>
<tr>
<td>4.</td>
<td>LOCATION OF WELL</td>
<td>See also space 17 below.</td>
</tr>
</tbody>
</table>

**NOTICE OF INTENTION TO:**
- TEST WATER SHUT-OFF
- FRACTURE TREATMENT
- SHOOT OR ACKNOWLEDGE
- REPAIR WELL

**SUCCESST REPORT OF:**
- WATER SHUT-OFF
- FRACTURE TREATMENT
- SHOOT OR ACKNOWLEDGE
- REPAIRING WELL
- ABANDONING

17. SURVEY PROPOSED OR COMPLETED OPERATIONS: (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and points pertinent to this work.)

1. Cured placed on plugs failed to include water to surface.
2. Plug 7" w/pand to 9262 inject down chemicals plg ton 19 day per time.
3. Opened to 620 ft Cap of 1.5x 34x cement.
4. Test auto 168 ft Cross 6 + 72 Calum cement.
5. 2.0 to 690 ft Test casing.
6. If test ok, drill out Casing + c.o. gravel/pump to bottom.
7. JUICE WELLS PAK.

18. I hereby certify that the foregoing is true and correct.

<table>
<thead>
<tr>
<th>SIGNED:</th>
<th>TITLE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>P.e.d. Eng.</td>
<td>9/29/27</td>
</tr>
</tbody>
</table>

*See Instructions on Reverse Side*
DEAR Sir:

Operations at well No. "Ring 20" 3, API No. 029-14064, Sec. 20, T. 27 S, R. 28 E, M.D. B & M., Mount Poso Field, in Kern County, were reviewed on 11-17-77. Mr. Larry S. Bright, representative of the supervisor, presented:

Present condition of well: 7" cem, 2272', perf. 920' - 1130', hole in casing 545' - 590', E.D. 2100', T.D. 2317'.

The operations were performed for the purpose of demonstrating that the injection fluid is confined to strata below 920'.

DECISION: THE OPERATIONS ARE APPROVED AS INDICATING THAT THE INJECTION FLUID IS CONFINED TO STRATA BELOW 920' AT THIS TIME.

LSH/bj

M. G. MEFFERD

State Oil and Gas Supervisor
History of Oil or Gas Well

OPERATOR: Thomas Oil Company                     FIELD: West Mt. Pora

Well No.: Ring 20-3                                Sec.: 20        T.: 278        R.: 28E        MD: B & M

Date: January 26, 1978                           Signed: [Signature]

P.O. Box 5368 Oildale, Calif. 93308 (805)393-3204 Title: Production Engineer

(Address)                                           (Telephone Number)                (President, Secretary or Agent)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

Date: 9/19/77 Tagged bottom with bailer & dumped in crese, sand & pea gravel to fill casing to 600'.

9/20/77 SQUEEZE

Mixed & displaced 168 sx glasso C + 3% calcium chloride (6 gal/sx water mix). Displaced with one top rubber plug W/88 cu ft salt water. Left plug at 400' in (calculated). Located plug at 376' in 4 hrs. Did not have any returns to surface.

9/21/77 Move in D.O. Equipment & D.O. to 400'.

9/22/77 Drill out to 590'.

9/26/77 Pressure test 7' csg at 190# surface pressure for 15 min. O.K. Test approved by D.O.G.

9/27/77 C.O. cmt & sand

9/28/77 C.O. Bottom 1130'

9/29/77 Swab well back into tank & displace 2% KCL water into formation and continue injection

11/4/77 Ran injection rate/temperature log. All injected water entering perforations.
SUNDARY NOTICES AND REPORTS ON WELLS

1. TYPY OF WELL
   - [ ] oil well
   - [x] gas well
   - [ ] other

2. NAME OF OPERATOR
   Thomas Oil Company

3. ADDRESS OF OPERATOR
   P.O. Box 5368, Oildale, Calif. 93308

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
   - AT-SURFACE:
     2320' S & 500' E from NW cor sec. 20
   - AT-TO-L-PHD- INTERVAL:
     AT-TO-L-PHD-
   - TOTAL-DEPTH:

5. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA
   - [ ] REQUEST FOR APPROVAL TO:
   - [ ] SUBSEQUENT REPORT OF:
     - [ ] TEST WATER SHUT-OFF
     - [ ] FRACURE TREAT
     - [ ] REPAIR WELL
     - [ ] PULL OR ALTER CASING
     - [ ] MULTIPLE COMPLETE
     - [ ] CHANGE ZONES
     - [ ] ABANDON*
       (Other)

6. LEASE
   - [ ] Sec. 044132

7. IF INDIAN, ALLOTTEE OR TRIBE NAME
   None

8. UNIT AGREEMENT NAME
   None

9. FARM OR LEASE NAME
   Ring Sec. 20

10. WELL NO.
    Ring 20-3

11. FIELD OR WILDCAT NAME
    West Mt. Pose

12. SEC., T., R., M., OR BLK. AND SURVEY
    Sec. 20 T27S28E MDB&M

13. COUNTY OR PARISH
    Kern

14. STATE
    California

15. API NO.
    029-14064

16. ELEVATIONS (SHOW DF, KDB, AND WD)
    949 KB KB=8'

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*
   1) Cement hole in csg. (see report attached)

Subsurface Safety Valve: Manu. and Type
   None

18. I hereby certify that the foregoing is true and correct
   SIGNED
   signing Engineer
   DATE

APPROVED BY
   Parle
   DATE

(This space for Federal or State office use)

cc: DOG, Bakersfield

*See Instructions on Reverse Side
Dear Mr. L. C. Fiedler,

THOMAS OIL COMPANY
P.O. Box 5368
Oildale, CA 93308

Bakersfield, Calif.
June 2, 1978

Operations at well No. "Ring 20", API No. 029-44064, Sec. 20, T. 27S, R. 28E, N.D. B & M, Mount Poso Field, in Kern County, were reviewed on 3-31-78, by Mr. H. Bopp, a representative of the supervisor, and present condition of well: 7" clean, 2272 ft, perf. 2250 ft, 920 ft-1130 ft, hole in casing 545 ft-590 ft, T.D. 2317 ft, E.D. 2100 ft.

The operations were performed for the purpose of demonstrating that the injection fluid is confined to strata below 920 ft.

DECISION: THE OPERATIONS ARE APPROVED AS INDICATING THAT THE INJECTION FLUID IS CONFINED TO STRATA BELOW 920 FT AT THIS TIME.

cc: F. Mondary
DWR
RWQCB

M. G. MEFFERD
State Oil and Gas Supervisor

By [Signature] Deputy
SUNDARY NOTICES AND REPORTS ON WELLS

1. **Oil** ☑, **Gas** ☑, **Water** ☑, **Other** ☑
2. **Name of Operator**: Thomas Oil Co.
3. **Address of Operator**: P.O. Box 5368, Tulare, CA 93212
4. **Location of Well (Report location clearly. See space 17 below.)**
   - **At Surface**: 2520'N, 600'E, NW1/4 Sec.
   - **At Top Prod. Interval**: 
   - **At Total Depth**: 8500'N, 200'E, NW1/4 Sec.
5. **Check appropriate box to indicate nature of notice, report, or other data**.
6. **Request for Approval To**:
   - **Test Water Shut-Off** ☑
   - **Fracure Treat** ☑
   - **Shoot or Acidize** ☑
   - **Repair Well** ☑
   - **Pull or Alter Casing** ☑
   - **Multiple Complete Change Zones** ☑
   - **Abandon** ☑
   - **Other** ☑
7. **Subsequent Report Of**:
   - **Test Water Shut-Off** ☑
   - **Fracure Treat** ☑
   - **Shoot or Acidize** ☑
   - **Repair Well** ☑
   - **Pull or Alter Casing** ☑
   - **Multiple Complete Change Zones** ☑
   - **Abandon** ☑
8. **Describe Proposed or Completed Operations** (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

**NOTE**

**Conditioned to W.J.W. in Olga's Shl.

1. **Overlap perforates** (2) 4-1/2" M.F. 970'-1050'
2. **Jet** 4-1/2" M.F. 1050'-1203' (New)

**Subsurface Safety Valve**: Menu., and Type

**Signed**

**Condition of Approval, if any**

**Approved By** J. P. Wagner, Title Dist. Supervisor, Date 4-13-81

**cc**: DOG, Bakersfield

*See Instructions on Reverse Side*
Mr. Frank P. Mondary  
THOMAS OIL COMPANY  
P.O. Box 5368  
Bakersfield, CA 93308

Your operations at well "Ring 20" 3, API No. 029-14064, Sec. 20, T28S, R28E, M.D., B.&M., Mount Poso Field, in Kern County, were reviewed on 9-23-80 by Mr. David Mitchell, representative of the supervisor.

Present condition of well: 7" cement 2272', perf. 2250', WSO perf. 920' - 1130', hole in casing 545' - 590' (cement off), T.D. 2317', E.D. 2100'.

The operations were performed for the purpose of demonstrating that the injection fluid is confined to strata below 920'.

DECISION: THE OPERATIONS ARE APPROVED AS INDICATING THAT THE INJECTION FLUID IS CONFINED TO STRATA BELOW 920' AT THIS TIME.
REPORT ON PROPOSED OPERATIONS

Water Disposal Project
Mount Poso Field
West Area
Olcese Zone

Mr. Frank P. Mondary
THOMAS OIL COMPANY
P. O. Box 5368
Oildale, CA 93388

Bakersfield, California
April 20, 1981

Your proposal to rework well "Ring 20"-3,
A.P.I. No. 0-29-14064, Section 20, T. 27S., R. 28E., MD B. & M.,
Mt. Poso field, West area, Olcese pool,
Kern County, dated 4/13/81, received 4/14/81 has been examined in conjunction with records
filed in this office.

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT:

1. In all other respects the well is to be reworked in accordance with provisions outlined in our letter dated December 6, 1974, approving the water disposal project.

PJK/tm
Bond #50418791
Dated 4/6/81
cc: DWR

M. G. MEFFERD, State Oil and Gas Supervisor

By Bill H. Hunter
Deputy Supervisor

A copy of this report and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.
Your operations at well "Ring 20" 3, API No. 029-14064, Sec. 20, T. 27 S, R. 28 E, M. D. B. & M., Mount Poso Field, in Kern County, were witnessed on 10/9/81 by Mr. David Mitchell, representative of the supervisor, present from to . There were also present. 

Present condition of well: (see Report No. T 480-1066 dated Sept. 25, 1980)

The operations were performed for the purpose of demonstrating that the injection fluid is confined to strata below 920'.

DECISION: THE OPERATIONS ARE APPROVED AS INDICATING THAT THE INJECTION FLUID IS CONFINED TO STRATA BELOW 920' AT THIS TIME.
Your operations at well "Ring 20" 3
Sec. 20, T27S R28E, M.D.B & M. Mount Poo Field, in Kern County,
were reviewed on 12/23/82 by Mr. David Mitchell
representative of the supervisor.


The operations were performed for the purpose of demonstrating that the injection fluid is
confined to strata below 920'.

DECISION: THE OPERATIONS ARE APPROVED AS INDICATING THAT THE INJECTION FLUID IS
CONFINED TO STRATA BELOW 920' AT THIS TIME.