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MERRION OIL & GAS CORPORATION

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OIL CONSERVATION DIVISION
RECEIVED

'92 AUG 17 AM 8 45

August 10, 1992

Ms. Jami Bailey
State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87504

Mr. William W. Weiss
NM Petroleum Recovery Research Center
NM Institute of Mining and Technology
Socorro, New Mexico 87801

Mr. William J. Lemay
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87503

Re: Vulnerable Area Order R-7940-B

Dear Commissoners:

Your revised vulnerable area order produced a slew of emotions that I am not sure how to deal with; disappointment, anger, even fear for the future. However, the strongest emotion is a deep, insatiable frustration. I will, in this letter, endeavor to explain and define my frustrations with the hope that you might help me to understand, and thus, accept the cause of my frustration; your order.

The Complete Loss:

My first frustration is that there is absolutely nothing going right for the domestic oil industry, and your order didn't help any. I feel like a battered orphan whose parents have left him and have gone to scratch out a living overseas; and it seems that the keeper of the orphanage is under pressure from the town folk to get those miserable little wretches out of their backyard once and for all.

Industry could have justifiably opposed any expansion of the vulnerable area (and still may!) due to a lack of evidence of any problems in the expanded area. Instead, we chose to work with the regulators to try to come up with a workable solution. Through NMOGA and the Four Corners Gas Producers Association (FCGPA), industry supported the proposed order with five major revisions. We got none of our requested revisions, which is par for the course these days. While your order won't necessarily be the straw that breaks our back, the bale that you are adding it to will be.

Why, I Ask, Why?

I don't mind regulations: 1) if the rules are fair and necessary, and 2) if my concerns are addressed in some manner. If my concerns are not accounted for, at a minimum I deserve an answer as to why they were not addressed in the regulation. As outlined in our closing arguments, the Four Corners Gas Producers Association made a strong case for five major changes in the order. Apparently, only one of those was deemed important enough to warrant comments in the "Findings" section of your document, while the other four were ignored. Let me again review the five requested revisions and ask the question, "Why were these issues not addressed in your order?"

1) **Exclusion for Dry Gas Wells:** This issue you did address. Finding #13 states that while soil samples were convincing to some degree, the FCGPA "lacked critical produced water discharge analysis data and underlying ground water analysis data to warrant an exemption for dry gas wells at this time." While I don't fully agree with your finding (the FCGPA did submit two ground water samples, and even if they didn't, if the soil is uncontaminated, how can the water be contaminated?), I appreciate at least your making the effort to justify your position.

2) **Definition of Wellhead Protection Areas:** Rule 3(d.) of your order defines a wellhead protection area (WHPA) as a radius of 1,000 horizontal feet from springs and fresh water wells. Based on existing New Mexico Drinking Water Regulations, the FCGPA asked that these areas be defined as a radius of 1,000 feet from municipal supply wells, 200 feet from public supply wells, and 100 feet from other wells or springs. The FCGPA supported this request with several arguments (see page 6 of closing statement), the most telling of which is field data showing much, much smaller transport distances and the fact that only one water supply well on record has actually been contaminated. That well was in the river valley 500 feet from the source in the middle of the existing vulnerable area. Keep in mind that WHPA's will only affect wells on the bluffs outside of even the expanded vulnerable area. There have been no documented cases of contaminated wells or springs in the area where the rule will apply.

   Finally, even the OCD's April 7, 1992 draft order recommended a 1,000 foot radius for public wells and a 200 foot radius for other wells and springs. So please, on what basis did you set the WHPA's at a 1,000 foot radius for all wells and springs? Absolutely the only evidence submitted in opposition to the FCGPA was the results of the SRIC saturated model; and that wasn't evidence, that was a bad cartoon. Please justify your position and explain why the cost to industry is worth any benefits that might be gained.

3) **Implementation Schedule**

NMOGA, the FCGPA, and the BLM all requested a one, three, and five-year implementation schedule. Supported by NMOGA, the FCGPA backed up it's request with several arguments (page 8, closing statement). Basically, the one-two-three year schedule which is specified in your order is: a.) unnecessarily rigid when industry has been operating for forty years and there is only one case of water well contamination (which by the way, is in the existing vulnerable area where FCGPA supports the one-year rule), b.) will be an economic burden on industry, and c.) will be an administrative burden on the regulators. While the OCD didn't support the one-three-five rule, they did recommend in their final draft order that the OCD Director be allowed to administratively approve a two-year extension to the deadlines.

Why were these requests ignored? Your Finding #14 that "an extension of up to one and one-half years will adequately accommodate unexpected contingencies..." does not even attempt to justify your position. "Just because," is an inadequate answer.

4) **Area-wide Variances**

Rule 6(a.) of your order allows for variances only on a "case-by-case basis." Do you mean, pit-by-pit? If not, please clean up the language. If you do mean pit-by-pit, can you justify why that is necessary?

In testimony, the OCD supported industry's request for variances on an area-wide basis. The data presented by BCO and the dry gas well data presented by the FCGPA certainly demonstrated that there sometimes exists certain characteristics of pits and/or surface geology that would preclude ground water contamination on an area-wide basis. Your Finding #20 states that, "To prevent unnecessary regulation which imposes unnecessary costs on operations resulting in corresponding reductions in revenue without offsetting public health and environmental benefits, there should be a reasonable procedure established to grant variances...." If an operator has 100 similar wells, is it not an unnecessary burden to ask him to physically test 100 sites, to submit 100 separate variance applications, and perhaps to go to hearing on each? If the cost and effort to get a variance is more than the cost to cease discharge, then you might as well strike the variance provision altogether because you aren't helping us.

One final point; it appears that one cannot obtain a variance for a pit in a wellhead protection area. Are you saying there are no conditions where one would be warranted? Please justify.

5) **Notice of Request for Variance**

Rule 6(b.) of your order requires that a notice of request for variance be sent to the surface owners, property owners, and occupants within one-half mile from the pit. The cost of that effort alone might put us over the cost just to go ahead and cease discharge. I assume that the one-half mile rule came from the OCD's water disposal well regulations. Is a water disposal well which is injecting several hundred to several thousand barrels per day of water really comparable to a pit taking fractions of a barrel to a few barrels per day? How many pits are there compared to the number of disposal wells and what will be the associated administrative costs of notification? Finally, when all available field evidence shows transport distances of less than 500 feet (most less than 100 feet), how can you justify notifying everyone within 2,640 feet?

If You Already Had Your Minds Made Up, Why Didn't You Tell Us?

You cannot begin to imagine the cost, effort, and emotion that industry expended presenting our plea for a reasonable and cost effective order. How frustrating it is to be ignored and to have our arguments passed off with "sorry, this is the way it is." Please convince me with your answers to my questions that you have good offsetting arguments for your positions. As it is, I have the feeling that politics had already set the answer; that this whole thing was a show; that we should have saved our breath, money and effort.

I've Got Work to Do!

My final frustration is that I am truly sick of spending my time battling this vulnerable area issue. I've got a list of things to do a mile long and, if God takes pity, some of it might actually make us some money. However, unless you have some good reasons for neglecting to address industry's concerns in your order, the eight hours I've spent on this letter may be the tip of the iceberg. As a member of NMOGA, FCGPA, and

IPANM, I will definitely push for taking this issue to the next level. This brings up the point that these are my frustrations and my questions; not those of any of the entities listed above. Nonetheless, I predict that all the members of these associations will be most interested in your response to my inquiry.

Yours very truly,

MERRION OIL & GAS CORPORATION

George F. Sharpe,
Reservoir Engineer

GFS:nb
cc: Bruce King - Governor of New Mexico
Larry Woodard, State Director - BLM
Robert Dale, Director - Albuquerque District - BLM
Albert Abee, Area Manager - Rio Puerco Area - BLM
Mike Pool, Area Manager - Farmington Area - BLM
Roger Anderson - Environmental Bureau - NMOCD
Frank Chavez - Aztec District - NMOCD
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JASON KELLAHIN (RETIRED 1991)

August 25, 1992

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VIA FEDERAL EXPRESS

RE: Application for Rehearing of Case No. 10436; Commission Order R-7940-B

Gentlemen:

On behalf of Four Corners Gas Producers Association and the New Mexico Oil and Gas Association (NMOGA), please find enclosed our Application for Rehearing of the above-referenced case. This case was heard by the Commission on January 16, April 9 and May 21, 1992, and was decided by Order R-7940 entered August 5, 1992.

Very truly yours,

W. Thomas Kellahin

WTK/jcl
Enclosure
ltrt8925.126
xc: All parties listed on Certificate of Service to Application for Rehearing

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF CONSIDERING THE APPLICATION BY THE OIL CONSERVATION DIVISION TO AMEND COMMISSION ORDER R-7940 TO PROVIDE FOR THE EXPANSION OF THE DESIGNATED VULNERABLE AREA OF THE SAN JUAN BASIN, ELIMINATION OF DISCHARGES TO UNLINED PITS, CREATION OF WELLHEAD PROTECTION AREAS, ESTABLISHMENT OF DEADLINES FOR COMPLIANCE, AND REGISTRATION OF CERTAIN PITS.

RECEIVED
AUG 25 1992
OIL CONSERVATION DIVISION

Case No. 10436
Order No. R-7940-B

APPLICATION FOR REHEARING

Pursuant to Section 70-2-25, N.M. Stat. Ann. (1978 Comp.), Four Corners Gas Producers Association ("FCGPA") and New Mexico Oil and Gas Association ("NMOGA") hereby apply to the Oil Conservation Commission of the State of New Mexico ("OCC") for a rehearing of the above-captioned case and order.

FACTUAL BACKGROUND

In 1985, OCC, pursuant to Order No. R-7940 in Case No. 8224, established and defined the "vulnerable area" in Northwest New Mexico, wherein disposal of produced water or production fluids in excess of five barrels per day into unlined pits was prohibited.

On January 16th, April 9th, April 10th, and May 21st, 1992, OCC held hearings in Case No. 10436 on an application submitted

by the Oil Conservation Division of the State of New Mexico ("OCD") to expand the designated vulnerable area in Northwest New Mexico, to eliminate discharges of produced water to unlined pits, to create wellhead protection areas, to establish deadlines for compliance, and to require registration of certain pits.

FCGPA and NMOGA entered appearances in Case No. 10436 and actively participated in all proceedings before OCC.

On August 5th, 1992, OCC entered an order in Case No. 10436 ("the OCC Order"). FCGPA and NMOGA are parties of record who are adversely affected by the OCC Order and, consequently, they are entitled to submit this application for rehearing.

GROUNDS FOR APPLICATION

As grounds for this application, FCGPA and NMOGA assert that the OCC Order is erroneous in the following respects:

I. THE OCC ORDER IMPROPERLY SHIFTS THE BURDEN OF PROOF FROM OCD, THE APPLICANT IN CASE NO. 10436, TO OPERATORS OF UNLINED PITS, THEREBY DEPRIVING SAID OPERATORS OF THEIR CONSTITUTIONALLY PROTECTED RIGHTS OF DUE PROCESS OF THE LAW.

The courts have uniformally imposed on administrative agencies the customary common-law rule that the moving party has the burden of proof. See International Minerals and Chemical Corporation v. New Mexico Public Service Commission, 81 NM 280, 466 P.2d 557 (1970).

In Case No. 10436, OCD, as the applicant, had the burden of proving the need for the expansion of the

vulnerable area, as established and defined pursuant to OCC Order No. R-7940. In an attempt to satisfy that burden, OCD submitted test results obtained from several discharge sites located within the boundaries of the existing vulnerable area and test results obtained from two discharge sites located immediately adjacent to the boundaries of the existing vulnerable area.

The evidence tendered by OCD does not support the extensive expansion of the vulnerable area as provided in the OCC Order. Nevertheless, the OCC Order, pursuant to the variance procedure incorporated therein, places on operators of discharge sites the burden of proving that their discharge operations will not, or do not, constitute a threat of contamination of fresh water sources.

In effect, the OCC Order circumvents the generally accepted rule of law that the moving party has the burden of proof. It is the contention of FCGPA and NMOGA that this result is contrary to law and deprives them of their constitutionally guaranteed rights of due process of law.

II. THE OCC ORDER IS CONTRARY TO THE PUBLIC INTEREST.

As noted above, the OCC Order places upon the operator of a discharge site the burden of proving that its discharge operations will not, or do not, constitute a threat of contamination of fresh water sources. The OCC Order provides that an operator of a discharge site may satisfy its burden

of proof pursuant to a variance procedure. A variance may be granted by OCD on a "case-by-case" basis. Although the OCC Order provides for administrative approval of variance applications, it is implicit in the order that, under certain circumstances, public hearings on variance applications will be required.

FCGPA and NMOGA submitted considerable evidence in Case No. 10436 regarding the economic impact resulting from the implementation of rules associated with the expansion of the vulnerable area. This evidence, which, in large part, was uncontradicted, reflects that operators will elect to prematurely abandon commercially productive wells where the costs of compliance with the order, including the costs of a variance procedure, adversely affect the economics of continued operations.

FCGPA and NMOGA also submitted uncontradicted evidence regarding the adverse economic impact on state revenues which is likely to result from the premature abandonment of commercially productive wells. The evidence reflects that the loss of royalty and tax revenue to the state will be significant and substantial.

The economic well-being of state government is a matter of significant public interest. Given the lack of evidence in the record demonstrating actual, or even the probability of, contamination of fresh water sources in the expanded vulnerable area, the OCC Order is contrary to the public

interest.

III. THE OCC ORDER IS ARBITRARY AND CAPRICIOUS INSOFAR AS IT IS BASED ON CERTAIN FINDINGS SET FORTH THEREIN WHICH REFLECT THAT OCC EITHER OVERLOOKED OR DID NOT CONSIDER RELEVANT EVIDENCE INTRODUCED BY FCGPA OR NMOGA.

A. Finding (13) states in pertinent part that "...The soil sample evidence presented by FCGPA raised sufficient doubt as to whether dry gas wells were a source of groundwater contamination, but lacked critical produced water discharge analysis data and underlying groundwater analysis data to warrant an exemption for dry gas wells at this time."

FCGPA submitted soil testing results from a ten (10) well study conducted by Mr. Randall Hicks. Mr. Hicks testified that, using standards recognized in the chemical analytical community, the soils at the tested sites were not contaminated. FCGPA argued that groundwater at the tested sites could not be contaminated if the soils at those sites were not contaminated. Subsequently, in an effort to address OCC concerns regarding the absence of groundwater analysis at the tested sites, Mr. Hicks tested groundwater at two dry natural gas wells -- one of which was located within the boundaries of the existing vulnerable

area, and the other which was located within the boundaries of the proposed expanded vulnerable area. The results of that testing -- which were unchallenged -- revealed no groundwater contamination.

Consequently, contrary to Finding (13), the record in Case No. 10436 contained uncontroverted underlying groundwater analysis which supported the request of FCGPA for an exemption for dry natural gas wells in the proposed expanded vulnerable area.

B. Finding (18) states that "The economics of pit closure were addressed in testimony, but this issue is not germane to this case since pits would eventually be closed at well abandonment even if granted an exception."

NMOGA submitted evidence regarding the economics of pit closure for the purpose, among other things, of illustrating the economic impact of the proposed rules on state revenues. NMOGA submitted evidence indicating that many marginal wells could not sustain the economic burden associated with discharge elimination and closure of unlined pits and would be prematurely abandoned, thereby resulting in a loss of revenue to the state in the form of royalties and taxes on production.

Consequently, the economics of pit closure

are germane to Case No. 10436.

IV. THE OCC ORDER FAILS TO CONTAIN SUFFICIENT FINDINGS.

In Fasken v. Oil Conservation Commission, 87 N.M. 292, 532 P.2d 588 (1975), the Court set forth a judicial standard of review applicable to the sufficiency of OCC findings. The Court said that the following must appear: (1) findings of ultimate facts which are material to the issues, having to do with such ultimate factors as whether a common source of supply exists, the prevention of waste, the protection of correlative rights and matters relative to net drainage, (2) sufficient findings to disclose the reasoning of OCC in reaching its ultimate findings, and (3) the findings must have substantial support in the record.

Applying the judicial standard of review set forth by the Court in Fasken, the OCC Order is deficient for the following reasons:

A. Finding (14) addresses the time schedule for compliance with that part of the OCC Order requiring elimination of discharges to unlined pits. OCC first acknowledges the testimony presented by NMOGA in support of extending the time limit for compliance with the discharge elimination requirements in the expanded vulnerable area, then notes the OCD proposal for a one (1) year extension of time, and finally concludes that,

for good cause shown, an extension of up to one and one half (1½) years will adequately accomodate unexpected contingencies and provide adequate protection to groundwater.

The OCC Order absolutely fails to set forth sufficient findings which disclose the reasoning of OCC in concluding that an extension of up to one and one half (1½) years will adequately accomodate unexpected contingencies and provide adequate protection to groundwater.

Much of the testimony submitted by FCGPA pertained to the need for the establishment of reasonable time periods for the elimination of discharges of produced water into unlined pits in the expanded vulnerable area. The so called "one-three-five year schedule" proposed by FCGPA was supported by extensive evidence -- none of which appears to have been considered by OCC.

It further appears that OCC misread the position taken by OCD with respect to this issue. The OCD proposal dated April 7th, 1992 specifically allows for a two (2) year extension of time for good cause shown -- not a one (1) year extension of time.

B. Finding (16) states, in part, that the public health and the environment will be adequately

protected with notification to the owner of the surface and other property owners within one-half (½) mile of the site for which a variance is sought.

Again, the OCC Order absolutely fails to set forth sufficient findings to disclose its reasoning in concluding that a one-half (½) mile radius is appropriate for notification purposes.

C. The OCC Order establishes a wellhead protection area to provide protection for springs and fresh water wells outside the original and expanded vulnerable areas. It provides that all discharges to unlined pits within a radius of one thousand (1,000) horizontal feet of such areas will be eliminated within two (2) years from the effective date of the OCC Order.

This aspect of the OCC Order is totally ignored in the findings section. There is no finding of ultimate fact with respect to this issue and, consequently, there are no findings which disclose the reasoning of OCC in incorporating this provision into its order. There is nothing set forth in the OCC Order which supports the use of one thousand (1,000) horizontal feet as the basis for the establishment of wellhead protection areas.

D. Finding (20) sets forth the basis for the establishment of a procedure to grant variances

to the discharge prohibition set forth in the OCC Order.

It appears that the variance procedure would not be available to an operator if the discharge is located within a wellhead protection area as defined in the OCC Order.

The OCC Order contains no finding of ultimate fact which is material to the applicability of the variance procedure to wellhead protection areas and, consequently, it is impossible to determine the basis for that part of the OCC Order which denies dischargers in wellhead protection areas the benefits of the variance procedure.

V. THE OCC ORDER IS NOT SUPPORTED BY SUBSTANTIAL EVIDENCE.

The OCC Order is not supported by substantial evidence contained in the record as a whole in the following respects:

A. The record as a whole does not support the expansion of the vulnerable area created pursuant to Order No. R-7940.

The OCC Order results in an extensive geographic expansion of the existing vulnerable area; however, none of the parties appearing in Case No. 10436 presented any conclusive evidence that groundwater contamination is occurring in the expanded vulnerable area as a result of discharges of

produced water to unlined pits. The expansion of the vulnerable area provided for in the OCC Order is based on evidence that groundwater contamination has occurred in the existing vulnerable area under certain hydrogeological conditions and on the rationale that the existence of similar hydrogeologic conditions in the expanded vulnerable area may facilitate groundwater contamination from produced water disposal activities in that area.

In the absence of evidence of actual groundwater contamination resulting from the disposal of produced water into unlined pits located in the expanded vulnerable area, the expansion of the vulnerable area is not supported by substantial evidence.

B. The record as a whole does not support the denial of the request by FCGPA that dry natural gas wells be exempted from the operation of the OCC Order.

In support of its request for an exemption or exclusion for dry natural gas wells located within the boundaries of the proposed expanded vulnerable area, FCGPA introduced into evidence the results of soil sampling and testing at ten (10) dry natural gas well sites. In addition,

FCGPA introduced into evidence the results of a study involving groundwater sampling and testing at two (2) dry natural gas wells -- one of which was located within the boundaries of the existing vulnerable area and the other which was located within the boundaries of the proposed expanded vulnerable area.

With the introduction of this evidence, FCGPA satisfied its burden of proving that the requested exemption is warranted. Parties opposed to the exemption for dry natural gas wells located within the boundaries of the proposed expanded vulnerable area introduced no evidence that the disposal of produced water from such wells into unlined pits has resulted, or is likely to result, in contamination of groundwater. The record, with respect to this issue, is completely void of evidence which would support the denial of the FCGPA request.

C. The record as a whole does not support the creation of wellhead protection areas based on a radius of one thousand (1,000) horizontal feet from springs and fresh water wells.

The only evidence submitted in support of the creation of wellhead protection areas based on a radius of one thousand (1,000) horizontal feet

from springs and fresh water wells was the Southwest Research Information Center ("SRIC") saturated model. However, the testimony and evidence delivered by FCGPA at the May 21, 1992 hearing in Case No. 10436 discredited the SRIC saturated model by showing it to be inapplicable to typical field conditions.

With respect to this issue, FCGPA proposed the creation of wellhead protection areas within a one thousand (1,000) foot radius from municipal water supply wells, a two hundred (200) foot radius from public water supply sources, and a one hundred (100) foot radius from all other fresh water springs and wells. The position of FCGPA on this issue is consistent with, and supported by, the provisions of the New Mexico Drinking Water Regulations. In addition, the position of FCGPA was supported by (a) Randall Hicks' discussion of maximum transport distance in areas of low permeability, (b) the result of the diffusion experiment conducted by Mr. Hicks, (c) the result of actual case studies conducted by Mr. Hicks regarding areal transport of contaminants in groundwater, (d) the testimony of Mr. Hicks regarding the impact of mechanisms of attenuation on contaminants in unsaturated and saturated zones, and (e) the absence of evidence

of contamination of fresh water wells and springs from produced water.

When examined as a whole, the record contains no credible evidence which supports the creation of wellhead protection areas based on a radius of one thousand (1,000) horizontal feet from springs and fresh water wells.

D. The record as a whole does not support the compliance schedule set forth in the OCC Order.

At issue here is the compliance schedule applicable to discharge sites located in the proposed expanded vulnerable area and in wellhead protection areas. The underlying consideration is whether there exists a need for immediate action. When examined as a whole, the record contains no credible evidence that discharge elimination must occur within the time periods set forth in the OCC Order. The only evidence submitted by OCD were the results of the study conducted by Mr. William Olson. The results of that study do not support a need for immediate action with respect to the elimination of discharges at sites located within the proposed expanded vulnerable area. The only evidence submitted by SRIC relevant to this issue was its saturated model and, as noted above, that model was discredited by evidence

submitted by FCGPA during the May 21st, 1992 hearing.

On the other hand, FCGPA and NMOGA submitted evidence sufficient to support the so-called "one-three-five year schedule" for elimination of discharges of produced water to unlined pits. In the proposed expanded vulnerable area, it was demonstrated that the discharge of produced water to unlined pits presents no danger or no immediate danger to groundwater. The evidence reflects that, although hundreds of wells have been in operation for thirty (30) to forty (40) years with discharges of produced water to unlined pits, there has been only one documented case of water well contamination from produced water, and that well is located within the boundaries of the existing vulnerable area. Such field results are consistent with evidence submitted by FCGPA that shows that contaminant movement in the ground water is relatively slow and that mechanisms of attenuation are operating to retard the movement of, or eliminate, contaminants. NMOGA submitted into evidence economic data in support of the "one-three-five year schedule". The cumulative effect of the evidence submitted by FCGPA and NMOGA was the demonstration that there is

substantially less risk of groundwater contamination outside the boundaries of the existing vulnerable area.

When examined as a whole, the record does not contain evidence sufficient to support the discharge elimination schedule set forth in the OCC Order.

E. The record as a whole does not support that part of the OCC Order that establishes a variance procedure on a "case-by-case" basis.

The arguments made by FCGPA and NMOGA on this issue are based on the assumption that a "case-by-case" variance procedure precludes the opportunity to obtain variances on an area-wide basis as advocated by FCGPA and NMOGA. If it is the intent of OCC that variances may be granted on an area-wide basis, then the OCC Order should be modified to clarify that point. (See VI below.)

The only party that opposed the opportunity for variances on an area-wide basis was SRIC. However, it presented no material evidence in support of its opposition. OCD supported a procedure which allows variances on an area-wide basis.

The record is replete with evidence that conditions do exist on an area-wide basis that preclude the contamination of fresh water at any

future point of foreseeable beneficial use resulting from discharges of small volumes of produced water into unlined pits. Particularly, the FCGPA request for an exemption for dry natural gas wells was based on conditions that exist over a large area. Also, the BCO, Inc. request for the exclusion of its operations in the Lybrook area is based on the existence of such conditions.

If it can be shown that the existence of such conditions precludes contamination of fresh water sources, then an area-wide variance makes sense in terms of the economy and efficiency of regulatory administration.

When examined as a whole, the record does not contain evidence adequate to support that part of the OCC Order allowing variances to be granted only on a "case-by-case" basis.

F. The record as a whole does not support that part of the OCC Order that requires an operator to provide notice of a request for variance to property owners and occupants within one-half (½) mile of the site for which the variance is sought.

As noted in IV.B. above, it is the contention of FCGPA and NMOGA that the basis for this part of the OCC Order is not apparent from the record.

The record contains the results of field studies which reflect that the known maximum transport distance of contaminants in groundwater in the area which is the subject of this case is less than five hundred (500) feet. There is absolutely no evidence in the record that suggests that contaminants in groundwater have, or can, move a distance of one-half (½) mile from the source of contamination.

When examined as a whole, the evidence in the record is not adequate to support the requirement for notice to adjacent property owners and occupants as set forth in the OCC Order.

VI. THE OCC ORDER IS VAGUE WITH RESPECT TO THE VARIANCE PROCEDURE SET FORTH THEREIN.

As noted in V.E., it is the position of FCGPA and NMOGA that the language in the OCC Order pertaining to the variance procedure does not clearly express the position of OCC on the issue of area-wide variances.

The use of the phrase "case-by-case" is capable of various interpretations, including pit-by-pit, site-by-site, and area-wide. If it is the intent of the commission to allow an opportunity to obtain variances on an area-wide basis, then the language in the OCC Order should be modified accordingly.

WHEREFORE, FCGPA and NMOGA request that OCC grant this Application for Rehearing, and that after notice and hearing, it enter an order vacating and setting aside Order No. R-7940-B and enter a new order consistent with this Application for Rehearing.

Respectfully submitted,

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STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE APPLICATION
BY THE OIL CONSERVATION DIVISION
FOR EXPANSION OF THE SAN JUAN BASIN
"VULNERABLE AREA", WHICH WAS
ESTABLISHED BY OCC ORDER R-7940
IN 1985; SAN JUAN, RIO ARRIBA,
McKINLEY AND SANDOVAL COUNTIES,
NEW MEXICO

CASE NO. 10436

CERTIFICATE OF SERVICE

I hereby certify that on August 25, 1992, I mailed copies of the Application for Rehearing of the Four Corners Gas Producers Association and the New Mexico Oil and Gas Association to the following:

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STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF CONSIDERING THE APPLICATION BY THE OIL CONSERVATION DIVISION TO AMEND COMMISSION ORDER NO. R-7940 TO PROVIDE FOR THE EXPANSION OF THE DESIGNATED VULNERABLE AREA OF THE SAN JUAN BASIN, ELIMINATION OF DISCHARGES TO UNLINED PITS, CREATION OF WELLHEAD PROTECTION AREAS, ESTABLISHMENT OF DEADLINES FOR COMPLIANCE AND REGISTRATION OF CERTAIN PITS.

CASE NO. 10436
Order No. R-7940-B

REPLY OF THE OIL CONSERVATION DIVISION TO THE REQUEST FOR REHEARING

The Four Corners Gas Producers Association ("FCGPA") and the New Mexico Oil and Gas Association ("NMOGA"), referred to collectively as "The Producer Groups", have applied to the Commission for rehearing of this matter. The New Mexico Oil Conservation Division, Applicant in this matter, is filing this response to the Application for Rehearing.

Overall, the Division supports the order of the Commission and believes that it properly establishes regulations designed to carry out the purposes of the Oil and Gas Act, namely to prevent waste of the State's precious oil and natural gas hydrocarbons, and at the same time to prevent contamination of the State's precious water supplies. Rehearing on the entire order is unnecessary and inappropriate. The Commission has adopted a reasonable regulation which is supported by substantial evidence.

The Division does recognize that the order is going to impose substantial burdens upon the industry and believes that some of the matters brought forth in the request for rehearing by the producer groups merit reconsideration.

Prior to the last hearing session, the Division, after consultation with the producer groups and with the environmental groups concluded that the granting of extension of time of up to two years from a one-year, two-year, three-year timetable for elimination of discharges into unlined pits in the various portions of the vulnerable area is not unreasonable. The Division does not support the industries one-three-five year schedule plus extensions because that does not provide for the implementation of a compliance program on a rapid enough basis. The Division feels that if the one- two- three year implementation schedule is adopted then it will able to evaluate a specific producer's plans and determine whether extensions of up to two years to eliminate the discharges should be granted.

By looking at individual requests for extension of time, the Division can insure that allowing the additional time in specific cases will not pose an unreasonable threat to fresh water supplies in a particular area. In any particular situation in which the Division felt that there was a significant threat of harm, it could require the operator to modify its schedule to insure that implementation were carried out first in those areas where the greatest threat to water supplies occurs. In other words, if a producer submits a plan for elimination of discharges to unlined pits, and that plan has an on-going implementation schedule which requires up to two years beyond the basic time period in the order, then granting that additional time may be reasonable.

Another matter raised by the producer groups to which the Division has no objection to rehearing is in the definition of a wellhead protection area. Originally, the Division had proposed a 1,000 foot radius wellhead protection area around every well. In review, the Division has concluded that for private wells in which the drawdown rates are lower, there is less likely to be a cone of depression and drawing of potential contaminants towards those wells. Community supply and municipal wells draw water at a much higher rate and are going to affect a larger area, thereby necessitating the larger radius to prevent any potential contamination. The smaller private wells are going to drain a lesser area, and the Division had revised its proposal at the last session of the hearing to suggest that two hundred foot wellhead protection area around private wells was reasonable and would afford adequate protection to those types of wells. Therefore the Division would not object to rehearing on the issue of the wellhead protection area and can support the establishment of a wellhead protection area of a two hundred foot radius around private water wells.

The third matter raised by the producer groups, and which the Division has no objection to rehearing for clarification purposes, is the question of granting variances. One concern raised by the producer groups is whether or not a variance can be sought for more than one particular site or facility. It is the interpretation of the Division that a variance could be sought for multiple sites which have common characteristics justifying the variance under the case by case language of the order. Those common characteristics could have to do with the nature of the facility and the quality of the discharge, the geologic conditions of area or other factors which might be common to more than one specific site. The Division would not object to revising

the language of the order to clarify that the Division could approve a variance for multiple sites in a single variance application and approval.

The producers group has also objected to the requirement that notice of a variance application be given to owners and occupants within a half mile of an affected site. While the Division believes that the half-mile notice provision is reasonable and is consistent with other environmental issue notice requirements established by the Division, if the issue of a variance is reopened the Division will not object to the presentation of evidence by the producer groups with respect to that notice provision which very strongly believes that the provision as contained in the order and recommended by the Division is reasonable.

In conclusion the Division does not object to rehearing in this matter but requests that presentation be limited to the following issues:

1. To reconsider allowing extensions of up to two years to the basic one year- two year- three year timetable for the elimination of discharge;

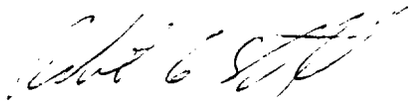
2. To reconsider the establishment of a 200-foot radius wellhead protection area around private water wells which are not part of a community or municipal water supply; and

3. To reconsider the provisions of the order providing for variances specifically to clarify whether a variance can be granted for multiple

sites under a single request and to determine the appropriate notice requirements for a variance request.

The Division objects to hearing evidence or argument on any other issues.

Respectfully submitted,



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BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF AMENDING COMMISSION ORDER R-7940 TO PROVIDE FOR THE EXPANSION OF THE DESIGNATED VULNERABLE AREA OF THE SAN JUAN BASIN, ELIMINATION OF DISCHARGES TO UNLINED PITS, CREATION OF WELLHEAD PROTECTION AREAS, ESTABLISHMENT OF DEADLINES FOR COMPLIANCE, AND OTHER MATTERS	)	CASE NO. 10436
UPON THE APPLICATION OF THE OIL CONSERVATION DIVISION	)	

Southwest Research and Information Center's
Certificate of Service of its
Response in Opposition to Application for Rehearing

Southwest Research and Information Center certifies that on September 2, 1992 copies of its Response in Opposition to Application for Rehearing and this Certificate were mailed to:

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BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF AMENDING COMMISSION ORDER R-7940 TO PROVIDE FOR THE EXPANSION OF THE DESIGNATED VULNERABLE AREA OF THE SAN JUAN BASIN, ELIMINATION OF DISCHARGES TO UNLINED PITS, CREATION OF WELLHEAD PROTECTION AREAS, ESTABLISHMENT OF DEADLINES FOR COMPLIANCE, AND OTHER MATTERS	)	CASE NO. 10436
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OIL CONSERVATION DIVISION

Southwest Research and Information Center's
Response in Opposition to Application for Rehearing

Introduction

Southwest Research and Information Center (hereafter "SRIC") hereby responds to the Application for Rehearing filed by Four Corners Gas Producers Association and New Mexico Oil and Gas Association (hereafter "Applicants"). As is explained in more detail below, the applicable law and the evidence presented during this proceeding support the action taken by the Oil Conservation Commission, and there is no basis in the record for the Application for Rehearing (hereafter "Application"). Moreover, this matter has already been the subject of four days of hearings during a period of five months, and the Applicants have had an ample opportunity to present their views to the Commission. The Commission therefore should deny the Application.

I. The Commission neither shifted the burden of proof improperly nor deprived the Applicants of their right to due process.

A. The Oil and Gas Act mandates protection for ground water, public health, and the environment against contamination by oil and natural gas wastes.

The New Mexico Oil and Gas Act, NMSA 1978 sections 70-2-1 et seq., mandates that the Oil Conservation Division (hereafter "Division") regulate disposal of wastes generated in the extraction of oil and gas to protect public health, the environment, and fresh water supplies designated by the New Mexico State Engineer, even if those supplies are not being used. (NMSA 1978 sections 70-2-12.B(21), 70-2-12.B(15)) The environment for which this protection is to be provided includes the soils surrounding unlined pits in which oil and gas wastes have been disposed of in the past. (See Webster's New World Dictionary of the American Language, 1987, which defines environment as "surroundings". See also testimony of Randall Hicks, William Olson, and Christopher Shuey, all of whom testified that soils are part of the environment. (Hicks, transcript page 789; Olson, transcript page 676; Shuey, transcript pages 986-87))

B. The Commission has authority to adopt regulations, based upon substantial evidence in the record, that assure the protection of ground water, public health, and the environment.

The Oil and Gas Act also authorizes the Commission to regulate disposal of oil and gas wastes for protection of fresh water, public health, and the environment. (NMSA 1978 sections 70-2-6, 70-2-11, 70-2-12.B(21), 70-2-12.B(15)) In order to achieve this, the Commission is authorized to adopt

regulations that apply generally to the oil and gas industry; the Commission need not adopt a specific regulation for each separate oil and gas well. (Id., see also Uhden v. New Mexico Oil Conservation Commission, 112 N.M. 528, 817 P.2d 721 (1991), in which the Supreme Court distinguished between the Commission's authority to adopt regulations and its power to adjudicate specific matters.)

Finally, in adopting regulations, the Commission should consider all of the evidence presented, and its decision must be based upon substantial evidence in the record as a whole. (Alto Village Services Corporation v. New Mexico Public Service Commission, 92 N.M. 323, 587 P.2d 1334 (1978))

C. The Commission correctly applied the applicable law to the evidence presented at the hearing.

The Applicants' assertion that the Oil Conservation Division failed to provide proof that the Vulnerable Area should be expanded is not accurate. The evidence presented at the hearing in this matter demonstrated that the Vulnerable Area should be expanded to include additional areas of alluvial soils, and the Order entered by the Oil Conservation Commission (hereafter "Commission") expanded the Vulnerable Area in accordance with that evidence.

1. The Commission expanded the existing Vulnerable Area to include additional alluvial areas.

The Commission determined that the Division presented unrefuted evidence of ground water contamination from small

volume discharges of produced water into unlined pits in the existing Vulnerable Area, and that the high permeability of alluvium allows contaminants, particularly benzene, toluene, ethylbenzene, and xylene, to migrate into ground water. (Commission Order number R-7940-B (hereafter "Order") Findings 10, 11)

On those grounds, the Commission expanded the Vulnerable Area to include alluvial areas within 50 vertical feet of specified major and other tributaries of the San Juan, Animas, and La Plata Rivers and within 50 vertical feet of the unnamed arroyo known as the Lee Acres landfill arroyo. (Order Rule 3) This expanded Vulnerable Area defined by the Commission is based upon the same definition used to delineate the existing Vulnerable Area; that is significant because the Applicants did not oppose the elimination of discharges into unlined pits within the existing Vulnerable Area. (See Four Corners Gas Producers Association's Proposed Order (submitted with its Closing Statement) pages 9-10 and New Mexico Oil and Gas Association's Closing Statement pages 4-5 (expressing agreement with that Proposed Order)) In addition, the oil and gas industry generally worked on the proposed expansion of that existing Area. (See SRIC exhibits 9, 10)

2. The evidence presented by the Oil Conservation Division and SRIC demonstrated the need for expansion of the Vulnerable Area.

Three items of evidence presented at the hearing support this expansion of the Vulnerable Area. They are the

testimony and study presented by William Olson of the Division, the evidence introduced by Christopher Shuey of Southwest Research and Information Center, and the modeling done by Michael Wallace.

Mr. Olson testified about the study titled "Volatile Organic Contamination of Ground Water around Unlined Produced Water Pits" (Open File Report H89-9), the results of which show that disposal of produced water into unlined pits causes contamination of the ground water beneath the pits. Of the 13 sites that he examined, nine (which is more than 70 percent) had ground water contamination by dissolved-phase volatile organics. (Olson, transcript page 77; Division exhibit six, page 50) At more than half of the 13 sites (seven), contamination by benzene, toluene, ethylbenzene, and xylene exceeded the New Mexico Water Quality Control Commission standards. (Id.) As Mr. Olson pointed out, his study therefore demonstrated that ground water was being contaminated by discharges of produced water into unlined pits in the existing Vulnerable Area. (Id.)

The second piece of evidence that supports the expansion of the Vulnerable Area is the exhibits and testimony presented by Mr. Shuey, who reviewed Division records pertaining to contamination of ground water by produced water pits (SRIC exhibits two and 17). SRIC exhibit two shows the results of investigations performed at 22 produced water disposal pit sites at which ground water was sampled. BTEX contamination was found at 15 or 68

percent of those sites. That corresponds closely with Mr. Olson's finding of BTEX contamination at 69 percent of the sites that he investigated. In addition, Mr. Shuey's review revealed contamination in excess of Water Quality Control Commission standards at 11 of the 22 sites, which is close to Mr. Olson's finding of such contamination at seven of 13 sites. (Shuey, transcript pages 483-86; SRIC exhibit two)

Moreover, the contamination of ground water and soils demonstrated by the Division records is not limited to the existing Vulnerable Area. At the Commission's request, Mr. Shuey prepared SRIC exhibit 17, which indicates the location of each of the sites on SRIC exhibit two relative to the existing and proposed expanded Vulnerable Areas. There are five sites that are located within the proposed expanded Vulnerable Area and one that is on the border of that area. Four of the five sites within the proposed expanded Vulnerable Area have ground water contamination, soil contamination, BTEX contamination, and BTEX contamination in excess of Water Quality Control Commission standards. The fifth site has soil contamination, but the records do not indicate whether the other categories of contamination are present. The records show all types of contamination at the one site that is on the border of the proposed expanded Vulnerable Area, but indicate that the BTEX contamination does not exceed Water Quality Control Commission standards. (SRIC exhibits two, 17)

The need to expand the Vulnerable Area and to ban discharges of produced water into unlined pits was confirmed by the modeling and statistical analysis presented by Michael Wallace on behalf of SRIC. Mr. Wallace conducted two modeling studies. The first was for the purpose of determining whether discharges of small amounts of produced water into unlined pits located in unconsolidated geologic materials such as river-valley alluvium could cause contamination of ground water. His methodology and results in that study were presented in his testimony and SRIC exhibits 11, 15, and 16. As he explained, the results of Mr. Wallace's first modeling study confirm the empirical results obtained by Mr. Olson in his study (Division exhibit six). As he also indicated, the model was not intended to apply to all situations, and that the hydraulic conductivity parameters that he used are those for alluvial soils. (Wallace, transcript pages 922-23, 596)

The evidence presented at the hearing also indicated that discharges of produced water into unlined pits contaminates soils, which are part of the environment that the Division is required by the Oil and Gas Act to protect. (See page two, supra) As SRIC pointed out in its Closing Statement, such contamination occurs when a chemical constituent is introduced that exceeds Water Quality Control Commission Standards or background levels, and when such a constituent is introduced that does not occur naturally. (SRIC Closing Statement pages 16-18) Moreover, the evidence

presented by SRIC and by Four Corners Gas Producers Association during the hearing demonstrated that soil contamination had occurred at unlined pits that received discharges of produced water. (SRIC Closing Statement pages 18-20)

Contrary to the assertions of the Applicants, the evidence at the hearing therefore demonstrated the need to expand the Vulnerable Area in order to prevent contamination of both ground water and the environment. The Commission's Order therefore is supported by substantial evidence in the record, and the Commission was justified in adopting that Order. For that reason, it is appropriate for any individual operator seeking a variance from the Commission's Order to be required to show cause for that variance. The Commission therefore should not reconsider its determination to expand the Vulnerable Area.

II. The Commission's Order furthers the public interest.

The evidence presented at the hearing demonstrates that the Commission's Order is necessary to carry out the mandates of the Oil and Gas Act. As the pronouncement of the Legislature, that Act defines the public interest to some extent. Because the Commission's action was mandated by the Act, it therefore is in accordance with the Legislature's determination of the public interest.

Moreover, the Commission's Order is not contrary to the public financial interest, as is asserted by the Applicants. (Application pages 3-5) The extreme cost of cleaning up

contaminated ground water was discussed by several witnesses at the hearing, Roger Anderson and Mr. Olson of the Division (Anderson, transcript page 47, Olson, transcript pages 83, 160-61), and Mr. Wallace, who also has extensive experience in clean up of contaminated ground water (SRIC exhibit 13, Wallace, transcript pages 582-83). These costs make it especially critical to prevent contamination of ground water from produced water disposal in unlined pits.

As Mr. Olson pointed out, the Division's approach is to require prevention of contamination, rather than to deal with the expense of cleaning up contamination that has occurred. (Olson, transcript page 180) That is appropriate both because of the Oil and Gas Act's mandate that the Division protect ground water, public health, and the environment, and because of the comparatively small cost of eliminating unlined pits. Both Mr. Anderson and Mr. Olson testified that a company had indicated that it would cost $1,000 per site to comply with the Division's proposed regulation, and the Division records indicate that representatives of the oil and gas industry have had ample opportunities to provide additional data concerning costs to the Division. (Anderson, transcript page 47; Olson, transcript page 124; Division exhibits one, two) In addition, the $1,000 estimate was confirmed by the Meridian Oil Company figures presented by Mr. Shuey in SRIC exhibit six. It shows that Meridian projected its total cost for installation of fiberglass tanks with leak detection systems

at 44 sites to be $52,586.73, which is an average of less than $1,200 per site. (Shuey, transcript page 497)

The figures presented by Darwin Van de Graaff, the Executive Director of the New Mexico Oil and Gas Association, indicated much higher closure costs (Van de Graaff, transcript page 377), but he did not provide any evidence to indicate that the relatively large expenses he discussed were typical or would be required at all of the pits that would have to be closed pursuant to the Division's proposed regulation. Moreover, even the expenses he outlined are small compared to the costs necessary to clean up contamination of ground water.

Finally, the public interest encompasses more than financial considerations. Messrs. Olson and Shuey both testified that approximately 90 percent of New Mexico's drinking water comes from ground water. (Olson, transcript page 162; Shuey, transcript page 499) For that reason, protection of the public health requires protection of fresh water, in ground water, wells, and springs. The Commission's Order provides that protection, and it therefore furthers the public interest.

III. The Commission considered the evidence presented by by the Applicants at the hearing.

Contrary to the Applicants' allegations, the Commission did consider the evidence that they presented at the hearing. The study conducted for Four Corners Gas Producers Association was addressed in the Commission's Finding 14,

and the evidence presented by the New Mexico Oil and Gas Association was considered in Finding 18. Moreover, the Commission's determinations based upon the evidence presented were correct.

As SRIC pointed out in its Closing Statement (pages 33-36) Four Corners' proposal to exempt approximately 2,150 dry gas wells (testimony of Randall Hicks, transcript page 271) from regulation would not have been consistent with the Oil and Gas Act for two reasons. First, the evidence presented by Four Corners in support of its request for an exemption for these wells did not demonstrate that they do not pose a threat to ground water, public health, and the environment. On the contrary, the study presented by Four Corners demonstrated that disposal of produced water from dry gas wells in unlined pits does contaminate soils, and that study provided no evidence to indicate that such disposal does not contaminate ground water.

The results of the study conducted for Four Corners by H+GCL are discussed in detail in SRIC's Closing Statement (pages 33-36). Briefly, that study found contamination of the soil beneath nine of 10 unlined pits that were investigated. (Hicks, transcript pages 301-03, Four Corners exhibit two; see also Olson, transcript page 627; Four Corners exhibit one, section 3.0) Mr. Hicks acknowledged that there was contamination at what he termed levels of concern at two of those sites, and that contamination at one site exceeded the Water Quality Control Commission

standards. (Hicks, transcript pages 757-61) Although he did assert that the levels of contaminants in the soils at the other sites did not constitute contamination, the Underground Storage Tank Regulations (on which he relied) do not support his assertion. (SRIC Closing Statement pages 16-18)

The Commission's determination not to grant an exemption for dry gas wells was also justified by the failure of the study conducted by H^+GCL for Four Corners to examine ground water at any of the ten dry gas well sites that were investigated. The study presented no evidence to indicate that disposal of produced water into those pits had not contaminated ground water. Moreover, as Messrs. Olson and Wallace stated, the level of contamination in ground water beneath a pit can be higher than the level of contamination in the soil between the pit and the ground water. (Olson, transcript page 673; Wallace, transcript pages 584-85) For that reason, H^+GCL's data on levels of soil contamination do not demonstrate whether contaminants were present in the ground water at the sites investigated. (Olson, transcript page 627; Wallace, transcript page 584)

Furthermore, although H^+GCL investigated 10 wells, only two of those are within the proposed expanded Vulnerable Area. (Olson, transcript page 628) It therefore is not clear that a large majority of the sample used by Four Corners has any application to this proceeding.

The second reason that the Commission was correct to include dry gas wells is that Four Corners' definition of a dry gas well does not address the factors that will determine whether discharges from such a well will adversely affect ground water, public health, and the environment. Mr. Hicks defined a dry gas well as a well that has an oil to gas ratio of less than one to 100,000, at which no liquid hydrocarbons are recovered, and that discharges less than one barrel of produced water per day. (Hicks, transcript pages 271-72) As Mr. Olson testified, that definition does not provide the information necessary to determine whether contamination will result from discharges of produced water from the well. In order to know whether discharges from certain wells will cause contamination, it is necessary to determine the composition of the discharge and the depth to ground water. (Olson, transcript page 627)

More importantly, the Four Corners definition is based upon the extent to which hydrocarbons can be recovered from produced water, not upon its possible impact on ground water. The relevant issue is the potential impact on ground water and the environment, however, and an exemption based upon hydrocarbon recovery and marketability would therefore not be appropriate. (Olson, transcript page 627)

The Commission therefore considered the evidence presented by Four Corners Gas Producers Association. It also took into account the information presented by the New Mexico Oil and Gas Association. As outlined by the

Applicants in their Application (pages 6-7), that evidence dealt with the economic consequences of the Division's proposed order, but as was pointed out above, the Commission did consider those economic factors in its ruling.

Finally, the Commission's decision to enter its Order does not mean that the Commission did not consider the evidence presented by the Applicants. As is explained in detail in SRIC's Closing Statement, the Applicants' evidence was contradicted by both the Division and SRIC. For example, Mr. Hicks' testimony on what constitutes soil contamination was contradicted by Mr. Shuey; Mr. Hicks' conclusions about water contamination at the sites examined by H+GCL were disputed by Messrs. Olson and Wallace; and Mr. Van de Graaf's cost estimates were countered by the statements of Messrs. Anderson, Olson, and Shuey and by the information in SRIC exhibit six. (SRIC Closing Statement pages 16-18, 33-36, 22-24) Because the evidence was not uncontradicted, the Commission had to exercise its expertise to determine what to do on the basis of all of the evidence presented. (Grace v. Oil Conservation Commission of New Mexico, 87 N.M. 205, 531 P.2d 939 (1975), Tallman v. ABF (Arkansas Best Freight), 108 N.M. 124, 767 P.2d 363 (Ct. App. 1988)) In addition, the possibility of drawing two different conclusions from the evidence does not mean that the Commission's ruling was not based on substantial evidence. (Snyder Ranches, Inc. v. Oil Conservation Commission of the State of New Mexico, 110 N.M. 637, 798

P.2d 587 (1990), Tallman v. ABF (Arkansas Best Freight), supra)

IV. The Commission's Order sets forth adequate findings on the schedule for eliminating discharges, and if there are not adequate findings on other issues, the Commission should amend its Order.

Contrary to the Applicants' allegations (Application pages 7-10), the Order does set forth adequate findings with regard to the schedule for eliminating discharges to unlined pits. The schedule for elimination of discharges is addressed by Findings 14 and 16. In addition, Finding 19 confirms the need for elimination of those discharges. As those Findings indicate, the Commission considered the evidence presented by the Division, the New Mexico Oil and Gas Association, and SRIC on what schedule is appropriate. The Commission also determined for the reasons expressed in Finding 14 that the schedule set forth in Rule 3 of the Order with a possible extension of one and one-half years would be appropriate.

The Commission indicated as well that its decision to require notification of requests for variances to property owners within one and one-half miles is based on protection of public health and the environment. (Finding 16) The Commission did not discuss this issue in greater detail, and the Applicants' statements (Application pages 8-10) that there are no findings related to the wellhead protection area and variances within that area are correct. That does not mean, however, that the Commission should conduct

another hearing. The Commission has already conducted four days of hearings during five months on this matter, and it is not appropriate to re-open or repeat that process. The Commission already has an extensive record with the evidence and arguments presented by the parties on these issues, and if further findings are appropriate the Commission should amend its Order to include them. The Commission has already amended the Order once, and a second amendment would be the appropriate manner in which to include further findings.

V. The Commission's Order is supported by substantial evidence in the record.

A. The evidence in the record supports expansion of the Vulnerable Area without an exemption for dry gas wells.

As is explained above and in greater detail in SRIC's Closing Statement (Closing Statement pages 5-23), the evidence presented at the hearing demonstrated the need for expansion of the Vulnerable Area and the elimination of discharges of produced water into unlined pits in the existing and expanded Vulnerable Areas. Those discharges cause soil and ground water contamination in those Areas, which is prohibited by the Oil and Gas Act, and which is extremely costly to remediate.

As is also outlined above and set forth in greater detail in SRIC's Closing Statement (Closing Statement pages 33-36), an exemption for dry gas wells is not justified. The evidence presented concerning such wells indicates that they contaminate soils, and there is no evidence that they

do not contaminate ground water as well. Moreover, the criteria used to determine whether a well is a dry gas well do not include factors relevant to the well's potential to cause soil and water contamination.

There is therefore a substantial basis in the record as a whole for the Commission's actions on expansion of the Vulnerable Area and the proposed exemption for dry gas wells, and the Applicants' assertions to the contrary are not correct.

B. The record as a whole supports the Commission's determination to enact wellhead protection measures.

As Messrs. Olson and Shuey both testified, about 90 percent of New Mexico's drinking water comes from ground water. (Olson, transcript page 162; Shuey, transcript page 499) For that reason, protection of the public health requires protection of fresh water wells and springs. In addition, as Mr. Olson pointed out, wells may represent shallow ground water, and because of the way in which many wells are completed, they can act as conduits for migration of contamination to ground water. (Olson, transcript page 72)

The evidence therefore confirms the need to protect wellhead areas. In addition, contrary to the Applicants' assertion, the record does contain credible evidence supporting a 1,000 foot radius for protection of wells. Mr. Shuey testified that contamination at the Flora Vista site has traveled 500 to 600 feet. He also stated that the end

of the contaminant plume from the Lee Acres site has not been located, and that the contaminants in that plume have moved more than half a mile. (Shuey, transcript pages 976-79) In addition, Mr. Wallace's saturated flow model (which was not discredited although other witnesses disagreed with it) understated the flow of contaminants in a wellhead area because the model assumed that there would be no pumping that would influence ground water movement. (SRIC exhibit 11)

Finally, the New Mexico Drinking Water Regulations, cited by the Applicants, do not govern the Commission's actions in this matter. The Commission must comply with the Oil and Gas Act, which requires protection of fresh water supplies, public health, and the environment. (NMSA 1978 sections 70-2-12.B(15), 70-2-12.B(21), 70-2-12.B(22)) Under that Act, protection of all fresh water is required, and springs and wells that supply users other than municipalities should receive the same protection as municipal water supply wells.

There is therefore substantial evidence in the record to support the Commission's wellhead protection measures.

C. The compliance schedule ordered by the Commission is supported by substantial evidence in the record.

As has been discussed, disposal of produced water in unlined pits causes soil and ground water contamination. The Commission therefore was mandated by the Oil and Gas Act to enact a regulation requiring elimination of those

discharges as soon as possible. SRIC urged at the hearing and in its Closing Statement (Closing Statement pages 24-27) that compliance should be required sooner than has been ordered by the Commission because of the contamination that is caused by discharge of produced water into unlined pits and the exorbitant costs of remediating that contamination. (Shuey, transcript pages 506-13) Moreover, as he pointed out, the assertion by representatives of the oil and gas industry that they need even more time than the Division proposed in which to eliminate these discharges is not persuasive for two reasons.

First, the technology necessary to eliminate discharges into unlined pits is available and being used; since late 1986 and early 1987, at least 562 pits in the Basin have, or shortly will be, eliminated, and at least 17 different operators are or are anticipating replacing unlined pits with tanks or lined pits. (Shuey, transcript pages 492-96; see also SRIC exhibits 3-8) Second, the oil and gas industry has had ample notice that it would have to eliminate these discharges. The industry representatives on the Long Term Produced Water Study Committee have been aware for at least four and one-half years that discharges into unlined pits created contamination. (Shuey, transcript pages 510-13; SRIC exhibits nine, 10) Since they also knew of the Division and Commission's mandate to protect ground water (which was in effect in 1986 and 1987) and to protect public health and the environment (which was enacted in

1989), they have had ample notice that discharges to unlined pits would have to be eliminated.

For these reasons, and on the basis of the evidence demonstrating that discharges into unlined pits cause soil and water contamination, the Commission was justified in acting to eliminate discharges as soon as possible in order to protect fresh water, public health, and the environment. Although it is SRIC's position that discharges should have been eliminated sooner than the Commission required, the Commission's order is supported by substantial evidence in the record.

D. The Commission's establishment of a case by case variance procedure is supported by the evidence presented.

The need for dealing with variances on a case by case basis was demonstrated by several points of evidence. First, the evidence demonstrates that discharges into unlined pits cause contamination of ground water in approximately 70 percent of the cases that have been investigated and of soils in virtually all of the situations studied. Second, the costs of dealing with that contamination are enormous. Third, the Oil and Gas Act requires the Division to protect ground water, public health, and the environment, and it does not provide exceptions to that requirement. Variances therefore should be granted only if it is clear that the variance will result in the same level of protection for water, public health,

and the environment as is afforded by the Commission's Order.

Moreover, the evidence established that conditions can vary greatly within limited areas. Clay Kilmer testified that there was no alluvium located in the areas for which BCO sought an exemption, but Mr. Olson stated that he found extensive alluvium in the valleys and extensive shallow ground water in those systems. (Kilmer, transcript pages 457, 879, Olson, transcript pages 630-37) The evidence therefore indicates that it is difficult to determine conditions over a large area, and that variance requests should be considered on a case by case, rather than an area by area, basis.

E. The record supports the Order's requirements for providing notice of variance requests.

As was pointed out above, Mr. Shuey testified that contamination at the Lee Acres site has traveled more than half a mile. As he also stated, the owner of the surface land on which the disposal occurs and owners of adjacent properties will be most directly affected by a variance. (Shuey, transcript pages 976-79, 505-06, 982) In addition, he testified that members of the public have legitimate concerns about the effects of variances on ground water supplies, public health, and the environment. (Shuey, transcript pages 505-06)

Mr. Shuey stated as well that giving notice solely by publication is not appropriate because that notice does not

reach people, and that the 1990 Solid Waste Act, a very recent expression on this issue by the Legislature, and the 1991 Solid Waste Management Regulations, both require that notice of permit requests be provided to owners of adjacent properties by certified mail. (Shuey, transcript pages 982, 908)

The record therefore reflects the need for notice by certified mail as well as publication for notice to the general public, and that contamination can travel at least one half mile. That is substantial evidence supporting the Commission's determination on these issues.

VI. The Order's requirements for variances are not vague, but if there is any vagueness, it should be corrected by amendment of the Order for which a rehearing is not necessary.

The Commission's Order indicates that variances are to be considered on a case by case basis. As was pointed out above, that is appropriate because of the variability of local conditions. Moreover, if that is not clear, it should be clarified by an amendment to the Order, for which it is not necessary to conduct another hearing.

Conclusion

The Commission's Order complies with the mandate of the Oil and Gas Act that water, public health, and the environment be protected. Moreover, the Order is supported by the evidence presented at the extensive hearings already conducted in this matter. If the Commission determines that additional findings should be included in the Order or that

the procedure for obtaining variances should be clarified, that should done through amendments to the Order. There is no need for further hearings on these issues and the Commission therefore should deny the Application.

Dated: September 2, 1992.

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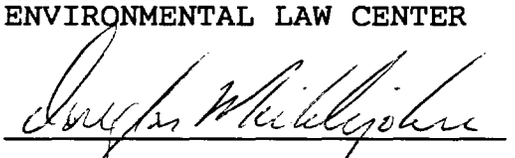

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