



MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 1:45	Date 3/11/86
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<u>Originating Party</u>	<u>Other Parties</u>
Tom Chandler - Texaco Inc	Janis Bailey

Subject
Proposed rules for commercial + centralized pits in NW NM., as presented at OCC hearing 2/26/86

Discussion
Texaco management has no problem with Rule 7, specifically, or any of the other rules presented in this case.

Conclusions or Agreements

Distribution File

Signed Janis Bailey

ARCO Oil and Gas Company
Mid-Continent District
555 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 4600



RECEIVED

FEB 28 1986

February 26, 1986

Ms. Jamie Bailey
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

UNRECORDED

Case 8835

Dear Ms. Bailey:

In reference to your proposed special rules and regulations governing the disposal of produced waters and completion fluids at commercial or centralized facilities utilizing ponds, pits or below grade tanks within McKinley, Rio Arriba, Sandoval, San Juan Counties, New Mexico, the ARCO Oil and Gas Company, a Division of the Atlantic Richfield Company, would like to make the following comments.

We as an operator in the San Juan Basin would like to support the comments already given to you by Ms. Karen Aubrey, Attorney-at-Law, Kellahin and Kellahin, attorneys for the Tenneco Oil Company and their concern that the language of the proposed rule would appear to prohibit the movement of produced water between pits on the same lease and between pits under control of the same operator. We also agree that it is a legitimate concern of the Oil Conservation Division that the source of produced water be readily identifiable. However, we do not believe that this goal is achieved by restricting disposal of produced waters to the site from which it is produced.

We would also propose the addition of the following to Rule 2(e). "Nothing in this rule is intended to prohibit the movement of produced water from the pits under the control of the operator to other pits under the control of that same operator."

We would appreciate your consideration of our proposed change as well as the proposed changes of other operators. We also support the readvertisement of the proposed special rules so that those changes may be considered at an up and coming commission hearing.

Sincerely,

John L. Calder, III
Western Area Supervisor
Environmental, Safety and Training

bcc: R. Jones - DAT 1843
S. Rose - DAT 1516
L. Trout - MIO 524
L. Troop - MIO 212
J. McCarthy - MIO 215A
W. F. Carr - Cambell and Black, P.A.
P.O. Box 2208
Santa Fe, New Mexico 87504-2208



Columbus Energy Corp.

LINCOLN TOWER BUILDING
1860 LINCOLN STREET
DENVER, COLORADO 80295
(303) 861-5252

Ms Jamie Bailey
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

Re: Proposed Special Rules and
Regulations Governing the
Disposal of Produced Water and
Completion Fluids at Commercial
or Centralized Facilities
Utilizing Ponds, Pits or Below
Grade Tanks within McKinley,
Rio Arriba, Sandoval and San
Juan Counties, New Mexico

Dear Ms Bailey:

It has come to our attention that Tenneco has proposed an amendment to Rule 2 (e) governing centralized surface disposal or collection facilities. Specifically they propose to add the following language to Rule 2 (e):

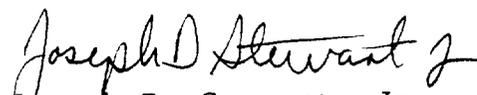
Nothing in this rule is intended to prohibit the movement of produced water from pits under the control of an operator to other pits under the control of that same operator.

Ms Jamie Bailey
Oil Conservation Division
February 21, 1986
Page two

Columbus Energy Corp. supports the proposed amendment. This would insure that there would be no questions regarding movement of produced water between pits on the same lease and between pits under the control of the same operator. We feel that it is not the intent of the Oil Conservation Division to restrict such movement.

Yours very truly,

COLUMBUS ENERGY CORP.


Joseph D. Stewart, Jr.
Operations Manager
Southern Division

JDS/sjp

cc: Farmington District
William F. Carr
Campbell & Black, P.A.
Guadalupe Place
Suite-1-110 North Guadalupe
P. O. Box 2208
Santa Fe, New Mexico 87504-2208



Amoco Production Company
501 Airport Drive
Farmington, NM 87401

February 6, 1986

Ms. Jami Bailey
New Mexico Oil Conservation Division
Post Office Box 2088
State Land Office Building
Santa Fe, NM 87501

File: DBB-53-986.621

Dear Ms. Bailey:

Proposed Special Rules
Commercial and Centralized Disposal Facilities
San Juan Basin, New Mexico

I have received your draft of special rules pertaining to the above subject. I agree with the purpose and concept of special rules for centralized and commercial disposal facilities, i.e., the protection of groundwater aquifers. Also, I agree with your proposal in general. However, I feel there are a few points which need specific clarification.

Concerning Rule 3, in order to prohibit confusion, a definition of "hazard" should be included along with explicit clarification of what does and what does not constitute a hazard to fresh water supplies.

Under Rule 4b, the process of administrative approval should be defined further. Specifics should contain information detailing forms and filing processes necessary for approval. Also it would be helpful to specify a maximum time frame for approval and notification after a request is filed.

Concerning Rule No. 5, I see this regulation as being beyond the scope of the original intent of the rules; that being to prevent contamination of fresh water sources. My point is that if these disposal facilities are permitted, constructed, and operated according to existing NMOCD guidelines, no contamination of ground water should occur. In essence, I do not feel that this rule will contribute directly or indirectly to the protection of groundwater. Further, it would present additional administrative costs for the NMOCD as well as the disposal facility operator. If the intent of this ruling is something other than the protection of groundwater, I believe it should be clearly stated. Also, if by monitoring the "source" of the disposed fluids, the intent is to prohibit fluid transport into or out of the "vulnerable area", I do not support the

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File: DBB-53-986.621
February 6, 1986

regulation. The reason for this is that the vulnerable area was somewhat arbitrarily defined and I do not believe that we presently comprehend the hydrologic behavior of this area to an extent that would warrant such regulation.

If you have any questions concerning this matter, please call me at (505) 325-8841, ext. 249. Please keep me informed as to future developments.

Yours very truly,

Bradley W. Salzman

BWS/ct

AM14

February 19, 1986

Mr. Richard L. Stamets, Director
New Mexico Oil Conservation Division
State Land Office
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Stamets:

In reviewing the Proposed Special Rules Governing Commercial and Centralized Disposal Facilities for Produced Water and Completion Fluids, which you circulated by a memo dated January 2, 1986, El Paso Natural Gas Company has developed several concerns.

Our first concern is that the prohibition and approval requirements of the proposed rules are overly broad. It appears that because of the specific language of this draft, a number of facilities beyond the intended coverage of this proposal may be included.

Our second concern is that because of this overly broad coverage, a number of facilities may be subjected to duplicative regulation under this rule and the Water Quality Control Commission Regulations. Our review of this matter has not revealed any additional regulatory benefit from this increased regulatory burden, and we, therefore, are seeking changes in this proposal.

Our third concern relates to the abbreviated compliance time available. Our reading of the proposed rules leads us to believe that operators of commercial and centralized facilities covered by the rule must give notice of the facility by April 1, 1986 and must receive approval of the disposal operations by June 1, 1986, or the operator must close the facility or operate in violation of the rules. Since we do not believe that careful attention can be given to these notice applications within this time frame, we must oppose its adoption.

In order to allow the division to begin this important task and in order to alleviate these undue hardships, we have prepared two alternative amended rule proposals. Alternative Revised Proposal No. 1 is attached and amends proposed rules 2E, 3 and 4 of your proposal of January 2, 1986.

The intent of this proposal is to eliminate the coverage of those facilities which are subject to Water Quality Control Commission

Mr. Richard L. Stamets, Director
February 19, 1986
Page 2

(WQCC) Rules and Regulations as administered by the Oil Conservation Division as a constituent agency of the WQCC under the terms of the agreement approved by the WQCC on January 16, 1986. In addition, the Revised Proposal No. 1 requires the filing of pit registration forms for all facilities covered by the rule on or before August 1, 1986. You will note that the form used for registration of pits in the vulnerable area pursuant to Order R-7940 has been proposed for use in accomplishing this pit registration, since we believe that it provides the data which the OCD finds particularly helpful. The OCD is authorized to seek additional material if it is found to be necessary, and a corrective course of action is described.

Please note that proposed rule No. 5 from your staff's proposal which requires periodic reporting by commercial facilities has been retained.

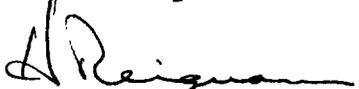
Alternative Revised Proposal No. 2 is attached and amends Rules 2E, 3 and 4 of your January 2, 1986 proposal, plus, this proposal adds new rules 6 and 7. The intention of this alternative is to maintain the presently proposed regulatory and permitting program for commercial facilities, avoid double regulation of centralized facilities by the WQCC regulations and the OCD proposal and to provide for pit registration of centralized facilities.

As it has in the past, El Paso applauds the efforts of the OCD to conserve and protect multiple natural resources, and appreciates this opportunity to suggest alternatives which balance objectives and alleviate unnecessary regulatory burdens.

We look forward to discussing this matter with the commission at its hearing on February 26 and 27, 1986.

Thank you for your consideration of this matter.

Sincerely,



Howard Reiquam, Ph.D.
Director
Environmental Affairs Department

HR:dml
Attachments

ALTERNATIVE REVISED PROPOSAL NO. 1

Rule 2

- (e). Centralized surface disposal or collection facilities: Those facilities, other than commercial surface disposal or collection facilities and those facilities which are subject to regulation under the rules and regulations of the Water Quality Control Commission, that receive produced water or completion fluids from any off-site location for collection, disposal, evaporation, or storage in surface pits, ponds, or below grade tanks.

Rule 3

- (a). PIT REGISTRATION
By August 1, 1986 the owner/operator of any existing commercial or centralized surface disposal or collection facility seeking the continued use of such pit for disposal purposes must have filed a Pit Registration Form with our Division in the form attached as "Exhibit A" hereto.
- (b). The owner/operator of any new commercial or centralized surface disposal or collection facility must file a Pit Registration Form with the Division within 90 days following initial use of the pit facility or by August 1, 1986, whichever is later.

RULE 4. ADDITIONAL INFORMATION

If after reviewing the Pit Registration Form covering any commercial or centralized surface disposal or collection facility the Division believes that additional information is necessary in order for the Division to properly carry out its duties, the Division shall contact the owner/operator of such facility and request such information. In the event that the Division determines that any such facility presents a present hazard to fresh water, the Division shall upon proper notice and hearing, give the owner/operator of such facility an opportunity to show cause why the facility should not be closed in a manner approved by the Division.

ALTERNATIVE REVISED PROPOSAL NO. 2

RULE 2

- (e). Centralized surface disposal or collection facilities: Those facilities, other than commercial surface disposal or collection facilities, and those facilities which are subject to regulation under the rules and regulations of the Water Quality Control Commission that receive produced water or completion fluids from any off-site location for collection, disposal, evaporation, or storage in surface pits, ponds, or below grade tanks.

RULE 3. Prohibitions

Effective March 15, 1986, at commercial surface disposal facilities, disposal or storage of completion fluids, produced water, or other fluids produced in connection with the production of oil and/or natural gas, in^{UN} authorized pits, on the surface of the ground, or in any other watercourse, or in any place or in any manner which may constitute a hazard to any fresh water supplied is hereby prohibited in that area encompassed by McKinley, Rio Arriba, Sandoval, or San Juan Counties, New Mexico.

RULE 4. Surface Disposal Facilities To Be Approved

- (a) Effective June 1, 1986, no produced water or completion fluids may be received at commercial surface disposal facilities except to such facilities as may be approved by the Division.
- (b) The Director of the Division is hereby authorized to approve administratively the use of lined or unlined pits or below grade tanks at commercial facilities for collection, disposal, or storage of produced water or completion fluids upon a proper showing that the tank or pit will be constructed and operated in such a manner as to safely contain the fluids to be placed therein and to protect fresh waters.
- (c) Notification of any existing commercial collection or disposal facilities will be submitted by April 1, 1986, so that inspection and schedule of compliance can be arranged by the Division.

624 com + cont

(d) Any commercial surface collection or disposal facilities which are not approved in accordance with this Rule shall be closed in a manner approved by the Oil Conservation Division.

RULE 6. Reporting By Centralized Surface Disposal or Collection Facilities

(a) By August 1, 1986, the owner/operator of of any existing centralized surface disposal or collection facility seeking the continued use of such pit for disposal purposes must have filed a Pit Registration Form with our Division in the form attached as "Exhibit A" hereto.

(b) The owner/operator of any new centralized surface disposal or collection facility must file a Pit Registration Form with the Division within 90 days following initial use of the pit facility or by August 1, 1986, whichever is later.

RULE 7. Additional Information

If after reviewing the Pit Registration Form covering any commercial or centralized surface disposal or collection facility the Division believes that additional information is necessary in order for the Division to properly carry out its duties, the Division shall contact the owner/operator of such facility and request such information. In the event that the Division determines that any such facility presents a present hazard to fresh water and is unable to secure appropriate design or operation modifications by the owner/operator, the Division shall upon proper notice and hearing, give the owner/operator of such facility an opportunity to show cause why the facility should not be closed in a manner approved by the Division.

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey

KELLAHIN and KELLAHIN
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Telephone 982-4285
Area Code 505

February 4, 1986

HAND-DELIVERED

Ms Jamie Bailey
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: Proposed Special Rules and Regulations Governing the Disposal of Produced Water and Completion Fluids at Commercial or Centralized Facilities Utilizing Ponds, Pits or Below Grade Tanks within McKinley, Rio Arriba, Sandoval and San Juan Counties, New Mexico

Dear Ms Bailey:

As we discussed on the telephone today, our firm represents a client who has some concerns about the language presently contained in proposed Rule 2(e) governing centralized surface disposal or collection facilities. Our client's concern is that the language of the proposed rule would appear to prohibit the movement of produced water between pits on the same lease and between pits under the control of the same operator. We believe that it is a legitimate concern of the Oil Conservation Division that the source of produced water be readily identifiable. However, we do not believe that this goal is achieved by restricting disposal of produced water to the site from which it is produced.

We would propose the following change in Rule 2(e):

Centralized surface disposal or collection facilities: Those facilities other than the commercial surface disposal or collection facilities that receive produced water or completion fluids from any off-site location for collection, disposal, evaporation, or storage in surface pits, ponds, or below grade tanks. Examples include facilities operated by producer or those operated by any governmental entity including landfills.

KELLAHIN and KELLAHIN

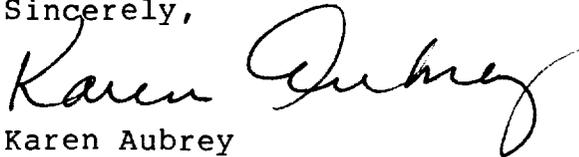
Ms Jamie Bailey
Oil Conservation Division
Page -2-
February 4, 1986

Nothing in this rule is intended to prohibit the movement of produced water from pits under the control of an operator to other pits under the control of that same operator.

We would appreciate your consideration of the proposed change and the readvertisement of the proposed Special Rules so that this proposed change may be considered by the Commission at its March Commission hearing.

I would appreciate the opportunity to discuss this with you further if you have any questions or comments.

Sincerely,



Karen Aubrey

KA:mh

FIRST DRAFT TESTIMONY FOR CASE 8835

Q Would you state your name and place of employment.

A. I am Jami Bailey, and I work with the Environmental Bureau of the Oil Conservation Division in Santa Fe.

Q. Would you then for the Examiner state your background and educational experience?

A. I graduated cum laude from Texas Christian University in Ft. Worth, Texas with a BS degree in geology.

From 1982 to '84 I worked for Gramps Field, a private oil field in southern Colorado. I was the Field Geologist responsible for the exploration and development program.

~~I'm still their consulting geologist.~~

?
,
They still call me occasionally when they need some work done.

From September, 1984, to April '85 I worked for Veneklasen Associates, a local private consultant, where I was the geo hydrologist.

In April of 1985 I joined the OCD Environmental Bureau, where I am the Field Representative.

Tenderos Qualified witness

Q. What is the purpose of this hearing?

A. The OCD is proposing special rules and regulations governing the disposal of produced water and completion fluids at commercial or centralized facilities utilizing ponds, pits, or below grade tanks within McKinley, Rio Arriba, Sandoval and San Juan Counties, New Mexico.

Section 70-2-12 B (15) of the ~~OCD~~ Oil & Gas Act authorizes the Oil Conservation Division and Commission "to regulate the disposition of water produced or used in connection with the drilling for or producing of oil or gas, or both, and to direct surface or subsurface disposal of such water in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer".

The State Engineer has designated all surface waters of the State and all underground waters

containing 10,000 milligrams per liter (mg/l) of total dissolved solids (TDS), or less, for which there is a reasonably foreseeable future use as fresh water.

Would you identify what has been ^{marked} ~~identified~~ as Exhibit 1 and explain it ←

Exhibit 1 is a copy of the proposed rules in which the Division seeks to require approval of the surface disposition ^{or collection} of oil field related fluids at commercial or centralized facilities as may be necessary for the purpose of affording reasonable protection against contamination of fresh water supplies. Industry members have worked with us for development of these rules and this exhibit is modified from the proposed rules which were distributed earlier. *The modifications are as follows: Rule 1. Applicability*

These rules would apply to all ~~central~~ ^{commercial & most} centralized surface disposal or collection facilities which receive produced water or completion fluids in the northwestern part of the state. You will note that centralized

facilities which are presently subject to Water Quality Control Commission regulations would not be affected by these proposed rules; there is no reason to duplicate regulations for those facilities.

Good
— GO TO YELLOW PG 1

— The Division is proposing that all commercial surface disposal or storage facilities which receive produced water, completion fluids or other fluids produced in connection with the drilling for or production of oil and/or natural gas shall be regulated in their use of the lined or unlined pits or below grade tanks.

1

~~The rules which have been modified are as follows:~~

Rule 2. Prohibitions. This rule was the old Rule 3.

June 1 is ^{now} the date by which commercial surface disposal facilities must regulate the disposal or storage of fluids in a manner that does not constitute a hazard to ground water.

Rule 3(e) Definitions. ^{This rule was the old Rule 2.} The definition of centralized disposal or collection facility ^{now} lists yield compressor stations as an example of a centralized facility.
This is a matter of clarification.

Rule 4. This rule now applies only to commercial facilities, & makes it clear that ~~under pits pits~~ will also be reviewed for their structural integrity as well as their ability to protect fresh water.
Section (d) of the old proposed rule was eliminated.

Rules 6+7 were added to this copy of ^{the} proposed rules & deal specifically with centralized facilities.

We also seek to require commercial surface disposal facilities to keep and make available for inspection, records for each calendar month on the source, location, volume and type of waste, date of disposal, and hauling company that disposes of fluids in their pit.

Section of the
This rule is needed as a means of tracking disposal locations for Vulnerable Area produced water.

In addition we are *seeking authority to require the* asking for pit registration forms for centralized surface disposal or collection facilities *in order to evaluate circumstances, so as to minimize* ~~and the authorization to require show~~ ~~cause hearings if the Division determines that a facility~~ ~~is structurally deficient or presents a hazard to fresh water, + modifications in the construction or operation can not be negotiated with the owner/operator of the facility.~~ ?

Q. Why are these proposed rules necessary?

A. The proposed rules are necessary for a variety of reasons. OCD Order No. R-7940 required surface disposal facility approval for produced water removed from or disposed of or stored (with certain volume and ground water elevation limitations) in the defined Vulnerable Area of the San Juan Basin. I'd like the Commission to take administrative notice of Order No. R-7940. *To recap certain rules of this order: R-7940 - Rule*

RULE 3. PROHIBITIONS: *stated that*

Effective January 1, 1987, within the Vulnerable Area, disposal of produced water or fluids produced in connection with the production of oil and natural gas, or both, in unlined pits or on the surface is prohibited, except for disposal of produced water specifically exempted herein.

RULE 4. *stated the* EXEMPTIONS:

- (a) The provisions of this order shall not apply to:
- (1) Produced water pits which receive five (5) barrels or less per day (daily) of produced water provided that such produced water has a concentration of total dissolved solids of 10,000 milligrams per liter (mg/l) or less and that the base of such pit is at least 10 feet above the water table.
 - (2) Unlined produced water or ancillary pits which receive one-half (1/2) barrel or less per day (daily) of produced water provided that the base of such pit is at least 10 feet above the water table.
 - (3) Any pits, ponds, lagoons or impoundments resulting from activities regulated by a discharge plan approved and permit issued by The Division under Water Quality Control Commission Regulations authorized under the New Mexico Water Quality Act which permit specifically authorizes the disposal of produced water.
- (b) Notwithstanding the exceptions contained in this rule, the surface disposal of produced water in the Vulnerable Area at such a location or in such a

Order No. R-7940 ^{based} ~~based~~ volume limitations for VA ^{on the heterogeneous nature of the geology, alluvial deposits in} sit disposal of fluids from ^{the VA} ~~surface~~ well's productions.

Due to the geologic diversity of the area outside the VA + the volume of ~~fluids~~ ^{fluids} which is disposed of in commercial + centralized facilities

Range of depth to ground-water

Outside the vulnerable area, there is a great geological diversity, a large variation in the depth to ground water, and a demand for disposal ^{facilities for} fluids which cannot be disposed of in the VA, as well as large volumes of fluid which migrates outside the VA.

Rule 5 (a) of Order No. R-7940 requires that no produced water shall be removed from the Vulnerable Area of the San Juan Basin for surface disposal except to such facilities as may be approved by the Division, but the order provided no mechanism for reporting the disposal location for Vulnerable Area produced water, and ^{The} ~~the~~ Oil Conservation Division ^{would have to spend an inordinate amount of} ~~does not have sufficient staff to~~ ^{time} assure that non-approved facilities are not receiving produced water from the Vulnerable Area. A demand has been created for approved disposal + collection facilities located outside the VA, & 8 sites have been approved for centralized + commercial facilities.
so far

~~18~~

The larger volume of fluids concentrated in the commercial + centralized facilities, ^{com} transport a larger concentration of contaminants into the subsurface. These larger volumes ^{+ concentrations} may present a hazard to fresh water. Due to the variation in geology, depth to water + contaminant load of the disposed fluids, it would be impossible to adopt specific ^{regulations} ~~regulations~~ concerning volume limitations, etc., that would not be burdensome to those affected. In an effort not to be burdensome, we are asking ~~you~~ to monitor centralized facilities by way of ~~pt~~ registration forms so as to avoid any potential problems.

The ~~pt~~ registration forms for centralized facilities are requested as an efficient means of evaluating facilities which may receive large volumes of fluids. For those facilities which ^{are located in known shallow water areas +} receive large volumes of fluids, additional information may be requested on TOS content + ^{specific} depth to ground water.

lf Division determines that the centralized facility ^{may} presents a hazard in its design or operation, and we are ^{unable to secure appropriate records} request ~~ing~~ authorization to ~~investigate~~ **INSTITUTE** proceedings to require the owner/operator of the centralized facility to show cause why the facility should not be closed in a manner approved by the Division.

In addition to the previous reasons for the need of these proposed rules
~~However~~, a situation can occur where produced water from the Vulnerable Area is disposed of or stored in an approved pit side-by-side produced water and other oil field fluids from outside the Vulnerable Area disposed of or stored in a pit that does not require approval.

This situation is undesirable in that it does not provide the same degree of protection to fresh water under equivalent conditions.

Q. How much water is produced in the Vulnerable Area and disposed of in the San Juan Basin?

A. I have Exhibit 2 ^{WHICH} ~~that~~ is a summary of Northwestern New Mexico 1984 produced water and injected water figures. These were tabulated from the Monthly Statistical Reports and the Underground Injection Waterflood and Pressure Maintenance Annual Report. You can see by the difference in figures for water produced and injected or reinjected, that nearly 3 1/2 million barrels produced in Northwestern New Mexico are disposed of in permitted ponds, unlined pits and used in secondary recovery. ^{Exhibit 3 shows that} 2,342,406 barrels of water were reported from 595 wells in the Vulnerable Area alone in 1984, but 41 wells located in the Vulnerable Area produced more than 150 bbls of water per month or more than 5 BWPD. This adds up to a bare minimum of 2,296,551 bbls of produced water ^{from these 41 wells} which if it is removed for surface disposal, must be disposed of in approved pits. There is no mechanism for reporting this

disposal of fluid into permitted ponds, and the proposed Rule 5 would help alleviate the problem.

Exhibit ⁴3 is a map of Northwestern New Mexico showing locations for OCD approved ^{commercial and centralized} evaporation pits. A total storage volume of 367,428 bbls has been authorized up to date and a total storage volume ^{for} of 228,928 bbls has been constructed. ^{permitted pits storage for} ~~This represents~~ only about 10% of the volume of produced water ~~that was reported from the V.A. in 1984.~~

Exhibit ⁵4 is a copy of the Guidelines that are used for approval of lined evaporation pits. It must be emphasized that these are guidelines only and that site specific studies are ^{by the applicant} done. We work with each individual applicant according to their situation. Unlined as well as lined pit designs are looked at for their capability of ground water protection, structural integrity, freeboard allowance, use of skimmer ponds and tanks, etc.

Q. What is the threat to fresh water supplies from centralized or commercial surface disposal or collection facilities?

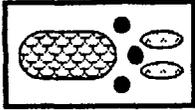
A. As stated in Findings 27 and 28 of Order No. R-7940, waste fluids disposed of in unlined pits transport any included dissolved contaminant load into the

*Section 1
Jensen*

POTENTIAL FOR CONTAMINATION BY
ORGANIC CONTAMINANTS

Modeling using acceptable hydrologic methods has shown the potential for pollution by organic contaminants. In particular, "Random Walk" simulations which include a retardation factor for sorption show high levels of benzene exceeding standards at distance from the source. Standards are exceeded at all values of discharge between five barrels per day down to 1/2 barrel per day. Other than dilution, the mechanisms of attenuation (volatilization, sorption, evaporation and especially biodegradation) have not been shown to be effective at all places under all circumstances. Therefore, the potential for ground water contamination by volatile organic hydrocarbons remain. Given the toxicity of the contaminants and health concerns related to it, and the potential as shown by modeling for ground water contamination, the Commission should limit discharges of produced water to unlined pits to no more than one-half barrel per day.

1215



BASIN DISPOSAL, INC.

P. O. BOX 100 • AZTEC, NEW MEXICO 87410 • PHONE: (505) 334-3013
LOCATED 3 MILES NORTH OF BLOOMFIELD ON WEST SIDE OF NM HWY 44

NO. 2102

DATE 5-15-86 CUSTOMER AMOCO

WELL NAME & NUMBER GOU 247E

TRUCKING CO. CHIEF UNIT NO. 203

DRIVER VAUGHT

ORDERED BY _____ DEL. TICKET NO. _____

NO.	WATER	MUD	TIME	AM	PM	DRIVER'S SIGNATURE
1	80					<i>Ray Vaught</i>
2						
3						
4						
5						
6						

1 LOADS @ \$50.00 = 50⁰⁰
 _____ LOADS @ \$75.00 = _____
 TOTAL = 50⁰⁰

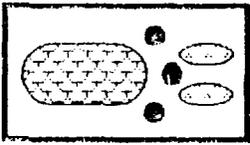
ATTENDANT'S SIGNATURE Allen Bryan

San Juan repr Form 168-1

Jamie,
 This is a copy
 of our delivery tickets
 which match the
 log for billing
 instructions.

Thanks
 Jerry

RECEIVED
 MAY 20 1986



BASIN DISPOSAL, INC.

"SPECIALIZING IN DISPOSAL OF PRODUCED WATER AND DRILLING MUD"

P. O. BOX 100 • AZTEC, NEW MEXICO 87410 • PHONE: (505) 334-3013

INVOICE

NO. 1215

PAGE 1

CUSTOMER

BILLING DATE:

P. O. NO.

5-19-86

Amoco Production Co.
501 Airport Drive
Farmington, N.M. 87401

LOCATION NAME & NUMBER:

GOB #247E

DATE	TICKET NO.	WATER	MUD	TRUCKING COMPANY	LOADS	RATE	AMOUNT
5-13-86	2091	X		Triple S	1	50.00	50.00
5-15-86	2102	X		Chief	1	50.00	50.00

*Samir,
This is a copy
of our invoice
for billing the company
for dumping. It matches
daily log and delivery
tickets. Jerry*

RECEIVED

MAY 20 1986

OIL CON. DIV.

DIST. 3

TOTAL	2	SUB-TOTAL	100.00
		TAX	3.75
		TOTAL AMOUNT	103.75

NEW MEXICO OIL CONSERVATION DIVISION APPROVED DISPOSAL SITE
LOCATED 3 MILES NORTH OF BLOOMFIELD, NM ON WEST SIDE OF NM HWY 1