4. Applicant is engaged in experimental work and other activities on its potash leases, preparatory to the mining and refining of potash and related minerals from the lands it has leases on. In order to prevent waste, protect correlative rights and insure maximum conservation of the oil and gas and potash resources of New Mexico, it is necessary and advisable that the above described lands be included within the boundaries of the Potash-Oil Area established in this case. Provision for the inclusion of additional acreage is made in Paragraph II of Order No. R-111-A.

5. The names and addresses of all persons owning oil and gas leases or Federal potash prospecting permits on the lands described above are as follows:

Charlie W. Hicks, 1004 Orchard Lane, Carlsbad, New Mexico
The Texas Company, P. O. Box 1720, Fort Worth 1, Texas
Sid W. Richardson and Perry R. Bass,
Fort Worth National Bank Building, Fort Worth, Texas
Continental Oil Company, 1710 Fair Building, Fort Worth, Texas
Shell Oil Company, Midland, Texas
Paul C. Bagley, 2416 Iowa, Carlsbad, New Mexico
Santa Fe - Pacific Railway Co., Land Department,
Albuquerque, New Mexico

6. Applicant desires a hearing on this application before the Commission.

WHEREFORE APPLICANT PRAYS:

1. That the Commission set this matter down for hearing.

2. That the Commission give notice of such hearing in the manner required by its rules.

3. Upon such hearing that an order be entered adding the lands described in Paragraph 2 of this application to the Potash-Oil Area established by Order No. R-111-A in this case.

Dated this 11th day of July, 1959.

REESE, McCORMICK, LUSK and PAINE

By: Don G. McCormick
Don G. McCormick
Attorneys for Applicant

Docket Mailed 7-3 ltr to all Potash companies

Copy also to Chas. White 7-4-59 ltr

Aug 13 / Commission

Case No— Application of Duval Sulphur and Potash Company for an extension of the Potash Oil Area as set forth in Order R-111-A, Applicants, in the above-styled cause, seek an order extending the Potash-Oil Area as defined in Order R-111-A, to include additional acreage in Townships 18, 22 and 23 South, Range 30 East, Eddy County, New Mexico.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

SUITE 1120 SIMMS BUILDING
ALBUQUERQUE, NEW MEXICO
P. O. BOX 1092 PHONE CH 3-6691

March 4, 1960

Dear Ida,

We are returning Case 278 which we received from you today. This is the same transcript which we had before and which Mr. Page returned to us. It seems that he wants the portion pertaining to U. S. Borax and Chemical Co. and we sure would appreciate it if you would send it to us.

Would you also please send us copies of Case No. 1569 "No Flare" heard at the March Regular session, 1959 - the portion containing the testimony of Charles R. Marshall only.

Also please send us copies of Cases 1632 and 1633.

Thanks very much.

Ada

Transcripts to Ada mailed 3/7/60
Returned ~~Case~~ 1573, 1632, 1633 (consolidated) (carbon copy)
Returned Case 278 Aug 13 1959 U.S. Borax (carbon copy)
Returned ~~Case~~ 1569 June 9, 1959 (carbon copy)

LEGAL ADVERTISING

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice pursuant to law and the rules and regulations of said Commission promulgated thereunder in the following public hearing to be held June 21, 1951, beginning at 10 o'clock A. M., on that day in the City of Santa Fe, New Mexico, in the Council Chamber of the City Hall.

STATE OF NEW MEXICO TO:

All interested parties in the following case and notice to the public:

CASE 278—

In the matter of the application of Guy Shepard as Commissioner of Public Lands of the State of New Mexico for an order establishing a casing program for oil wells and for other special procedural regulations as may be proper for the development of said area both for potash and oil within:

Townships 18, 19, 20, 21, 22, 23 and 24 South, Ranges 29, 30, 31, 32, 33 and 34 East, N. M. P. M., Eddy and Lea Counties, New Mexico.

Given under the seal of the Oil Conservation Commisison of New Mexico at Santa Fe, New Mexico, on May 29, 1951.

State of New Mexico
Oil Conservation Commission
(SEAL) R. R. SPURRIER.
(Pub. May 31, 1951).

Affidavit of Publication

State of New Mexico }
County of Santa Fe } *ss.*

I, Will Harrison, being first duly sworn, declare and say that I am the ~~(Business Manager)~~ (Editor) of the Santa Fe New Mexican, a daily newspaper, published in the English Language, and having a general circulation in the City and County of Santa Fe, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937; that the publication, a copy which is hereto attached, was published in said paper once ~~each week~~ for 1 time ~~consecutive weeks, and on the same day of each week~~ in the regular issue of the paper during the time of publication, and that the notice was published in the newspaper proper, and not in any supplement, once ~~each week~~ for 1 time ~~weeks consecutively,~~ the first publication being on the 31st day of May, 19 51, ~~and the last publication on the day of~~, ~~per~~; that payment for said advertisement has been (duly made), or (assessed as court costs); that the undersigned has personal knowledge of the matters and things set forth in this affidavit.

Will Harrison
Editor-~~Manager~~

Subscribed and sworn to before me this 31st day of May, A.D., 1951

Virginia R. Brunelle
Notary Public

My Commission expires June 14th 1953

PUBLISHER'S BILL

36 lines, one time at $ 3.60

..... lines, ... times, $.....

Tax $.....

Total . . . . . $ 3.60

Received payment,

.....

By.....

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

I, _____

_____

Of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period of ____

_____ ~~weeks~~.

beginning with the issue dated ____

_____, 19____

and ending with the issue dated ____

_____, 19____

Publisher.

Robert L. Summers

Sworn and subscribed to before me this _____ day of ____

_____, 19____

Notary Public.

My commission expires _____

_____, 19____

(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 8, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE

June 1, 1951

NOTICE OF PUBLICATION

STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice pursuant to law and the rules and regulations of said Commission promulgated thereunder in the following public hearing to be held June 21, 1951, beginning at 10 o'clock A. M. on that day in the City of Santa Fe, New Mexico, in the Council Chamber of the City Hall.

STATE OF NEW MEXICO TO:

All interested parties in the following case and notice to the public:

Case 278:

In the matter of the application of Guy Shepard as Commissioner of Public Lands of the State of New Mexico for an order establishing a casing program for oil wells and for other special procedural regulations as may be proper for the development of said area both for potash and oil within:

Townships 18, 19, 20, 21, 22, 23 and 24 South, Ranges 29, 30, 31, 32, 33 and 34 East, N. M. P. M., Eddy and Lea Counties, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico at Santa Fe, New Mexico, on May 28, 1951

STATE OF NEW MEXICO
OIL CONSERVATION
COMMISSION
R. R. Spurrier

(SEAL)

ILLEGIBLE

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice pursuant to law and the rules and regulations of said Commission promulgated thereunder in the following public hearing to be held June 21, 1951, beginning at 10 o'clock A. M. on that day in the City of Santa Fe, New Mexico, in the Council Chamber of the City Hall.

STATE OF NEW MEXICO TO:

All interested parties in the following case and notice to the public:

Case 278:

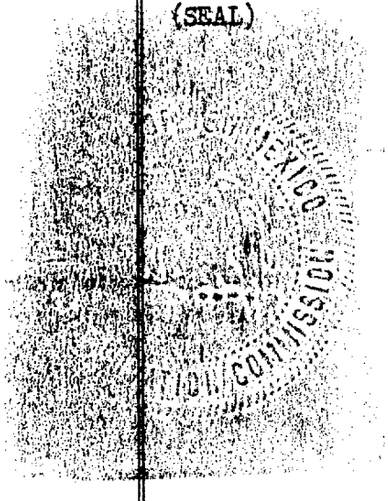
In the matter of the application of Guy Shepard as Commissioner of Public Lands of the State of New Mexico for an order establishing a casing program for oil wells and for other special procedural regulations as may be proper for the development of said area both for potash and oil within:

Townships 18, 19, 20, 21, 22, 23 and 24 South,
Ranges 29, 30, 31, 32, 33 and 34 East, N.M.P.M.,
Eddy and Lea Counties, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico at Santa Fe, New Mexico, on May 28, 1951.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION
R. R. Spurrier
R. R. SPURRIER

(SEAL)



NATIONAL POTASH COMPANY

P. O. BOX 731
CARLSBAD, NEW MEXICO

November 10, 1955

Mr. W. B. Marcy, Secretary
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Macy:

In accordance with the requirements of Order No. R-111-A Sec. 1X, Parts, 2 and 3, we are enclosing the following plats:

2 copies of a plat showing leaseholdings and present mine workings.

2 copies of a plat showing the five year mining projection.

On these plats, we have also shown a permit area that we may take into lease within the near future.

Very truly yours,

Robert T. Reeder

Robert T. Reeder
Mining Engr.

4 enc.

SOUTHWEST POTASH CORPORATION

CARLSBAD, NEW MEXICO

November 9, 1955

EXECUTIVE OFFICES
61 BROADWAY
NEW YORK 6, N. Y.

PLEASE REPLY TO
P. O. BOX 472
CARLSBAD, NEW MEXICO

Mr. W. R. Macey, Secretary-Director
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

In compliance with the provisions of Order No. R-111-A, IX (2), we enclose two copies of a plat showing the location of our leaseholdings and our open mine workings on November 1, 1955.

Very truly yours,

SOUTHWEST POTASH CORPORATION

F. H. Stewart
Vice President and
General Manager

kgb

Encs.

SOUTHWEST POTASH CORPORATION

CARLSBAD, NEW MEXICO
November 9, 1955

EXECUTIVE OFFICES
61 BROADWAY
NEW YORK 6, N. Y.

PLEASE REPLY TO
P. O. BOX 472
CARLSBAD, NEW MEXICO

Mr. W. R. Macey, Secretary-Director
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Sir:

In compliance with the provisions of Order No. R-111-A, IX (3), we enclose two copies of a plat showing a projection of our development plans to October 31, 1960, as now estimated. It is understood that this plan will be for the confidential use of the Commission and for inspection by any affected oil or gas operator.

Very truly yours,

SOUTHWEST POTASH CORPORATION

F. H. Stewart

F. H. Stewart
Vice President and
General Manager

kgb

Encs.

UNITED STATES POTASH COMPANY

INCORPORATED

GENERAL OFFICES
30 ROCKEFELLER PLAZA
NEW YORK 20, N. Y.

SUNSHINE STATE POTASH
A PRODUCT OF NEW MEXICO SOIL
REG. U. S. PAT. OFF.

CARLSBAD, NEW MEXICO

November 11, 1955

Mr. William B. Macey, Director
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Macey:

United States Potash Company received the new OCC Order R-111-A on November 8, 1955 which was approved by the New Mexico Oil Conservation Commission on October 13, 1955.

Compliance is made to OCC Order R-111-A and enclosed are mine survey plats and potash development plats required in Paragraphs 2 and 3 under Section 9 of the order.

Very truly yours,

UNITED STATES POTASH COMPANY

D. L. Libby

AIR MAIL

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

November 14, 1955

COPY

Mr. H. J. Duncan, Chief
Conservation Division
U. S. Geological Survey
3243 GSA Building
Washington, D. C.

Dear Mr. Duncan:

In accordance with your request, I am enclosing a copy of our Order No. R-111-A pertaining to the potash - oil area of Eddy and Lea County, New Mexico.

Very truly yours,

W. B. Macey
Secretary - Director

WBM:brp
Enclosure

POTASH COMPANY OF AMERICA

GENERAL SALES OFFICES · 1625 EYE STREET · N · W · WASHINGTON 6 · D · C ·
SOUTHERN SALES OFFICE · 408 · 9 CANDLER BLDG · ATLANTA · GA ·
MIDWESTERN SALES OFFICE · FIRST NATIONAL BANK BLDG · PEORIA · ILL ·

P.C.A. SALT of the EARTH RED MURIATE

REPLY TO: EXECUTIVE OFFICES
MINES AND REFINERY
CARLSBAD · NEW MEXICO

November 11, 1955

Mr. W. B. Macey
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Macey:

Enclosed are two copies of a plat showing our open mine workings and leaseholdings as required in Section IX-(2) of Order R-111-A and two copies of a plat showing a projection of development plans for our mine as required in Section IX-(3) of same order.

If there are any questions regarding these plats, please feel free to call on me.

Yours very truly,

D. E. Protz
Chief of Exploration

DEP/mmg
Enclosures

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 862
Order No. R-646

THE APPLICATION OF THE COMMISSION
UPON ITS OWN MOTION FOR AN ORDER
CREATING AND DESIGNATING A NEW POOL
TO BE KNOWN AS THE NORTH BENSON-
QUEEN OIL POOL FOR THE PRODUCTION
OF OIL FROM THE QUEEN FORMATION,
SUCH POOL TO CONSIST OF THE E/2 OF
SECTION 33 AND THE W/2 OF SECTION 34,
TOWNSHIP 18 SOUTH, RANGE 30 EAST,
NMPM, EDDY COUNTY, NEW MEXICO, AND
FOR THE ESTABLISHMENT OF RULES AND
REGULATIONS FOR THE NEW POOL IN
ACCORDANCE WITH THE PROVISIONS OF
COMMISSION ORDER R-111.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This matter came on for hearing at 9 o'clock a.m. on March 16, 1955, and was continued until April 20, 1955, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "commission".

NOW, on this 13th. day of June, 1955, the Commission, a quorum being present, having considered the record and the testimony adduced and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That Simms and Reese Oil Company did complete the McClay No. 1 Well located 1980 feet FSL and 660 feet FEL of Section 33, Township 18 South, Range 30 East, Eddy County, New Mexico, as the discovery well for a new source of supply in this area.

(3) That said well initially produced oil in commercial quantities from the Queen sand below a depth of 2,844 feet.

(4) That a second well known as Simms and Reese Oil Company's McClay No. 2 Well, located 1980 feet FNL and 660 feet FEL of Section 33, Township 18 South, Range 30 East, Eddy County, New Mexico, has been completed in this new source of supply and is producing commercial quantities of oil from the Queen sand in the depth interval 3,036 to 3,061 feet.

(5) That sufficient evidence was presented to the Commission as to the probable areal extent and directional trend of the newly discovered common source of supply to justify the creation of the new pool as contemplated.

(6) That, in conformity with previous practices of the Commission, a pool should be created, defined and classified, and should include such surface acreage as appears to cover the newly discovered common source of supply.

(7) That such a pool should be designated as the North Benson-Queen Pool, should be classified as an oil pool, and described as:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM	
Section 33:	E/2
Section 34:	W/2

and that such pool as described above should be subject to additions or deletions after notice and hearing as development and further information may direct or indicate.

(8) That said pool is situated within the horizontal limits of the so-called "potash-oil" area and that operations within that area are governed by the provisions of Commission Order R-111 entered on November 9, 1951.

(9) That no evidence was entered at said hearing which would indicate that the provisions of Order R-111 should be abrogated in establishing rules and regulations for the conduct of drilling and producing operations in this pool.

IT IS THEREFORE ORDERED:

(1) That there is hereby created an oil pool, designated as the North Benson-Queen pool, and described as follows:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM	
Section 33:	E/2
Section 34:	W/2

(2) That drilling and production operations in said pool shall comply with the provisions of those rules of the Commission which may be applicable, and that such operations shall further comply with the provisions of Commission Order R-111, as such provisions now dictate, or as such provisions may be modified by future order of the Commission.

DONE at Santa Fe, New Mexico on the day and year hereinabove designated. Signed by: John F. Simms, Chairman; E. S. Walker, Member; W. B. Macey, Member and Secretary.

ir/

JACK SITTON PUBLIC RELATIONS
HARRIS BUILDING
PHONE 5-3210 — P. O. BOX 1068
CARLSBAD, NEW MEXICO

June 1, 1955

Oil Conservation Commission
State of New Mexico
Capitol Building
Santa Fe, New Mexico

Gentlemen:

Will you please send me a copy of your Commission Order No. R-111, Case No. 278, "In the matter of defining boundaries of potential Oil producing areas in Eddy and Lea counties, within which Potash minerals are being produced or potential Potash producing lands are located."

Sincerely yours,

Jack Sitton

Jack Sitton

JS/st.

NEVILLE G. PENROSE, INC.
FAIR BUILDING
FORT WORTH 2, TEXAS

September 7, 1955

Mr. W. B. Macey, Secretary-Director
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Re: Suggested Revised Order No. R-111, Case 278

Dear Bill:

I have just read over the suggested revision to the above order and find one matter concerning cementing which I feel should be brought to your attention.

It is my interpretation of this proposed revision that when an intermediate string of casing is set through the salt section in the area described as the "Potash Oil Area" that it will be necessary to circulate the cement back to the cellar. Further, if no intermediate string is set on a deep well, it will be necessary to circulate cement behind the production string all the way back to the surface. As you are well aware, in drilling through the salt section considerable erosion usually takes place leaving a large cavity which is difficult to fill with cement.

Sometime ago I recall that Mr. Soyster who was then in charge of the Hobbs office of the U.S.G.S. was concerned about the protection of the Potash in southeast New Mexico. He made a requirement similar to the one set forth in the proposed revision concerning cementing practices. However, as an alternate he allowed operators to set a two-stage cementing tool above the salt section in order to assure that cement was placed between the salt and any potable surface waters.

Although at this time our company does not propose to do any drilling in the Potash oil area, it seems to me that it would be to the industry's advantage to amend the proposed revision in order to eliminate the necessity for excessive and expensive cement jobs on intermediate strings. As you know, perforating and squeeze cementing is quite an expensive operation. If operators knew in advance that they would be required to cover the salt with cement, my guess is they would prefer to run two-stage tools on their production string.

Very truly yours,

John P. McNaughton

mb

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE NO. 278
Order No. R-111-A

THE APPLICATION OF THE OIL CONSERVATION COMMISSION UPON ITS OWN MOTION FOR AN ORDER REVISING ORDER R-111 ISSUED IN CASE 278, PERTAINING TO THE POTASH-OIL AREAS OF EDDY AND LEA COUNTIES, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a. m. on July 14, 1955, August 17, 1955 and September 15, 1955, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this 13th day of October, 1955, the Commission, a quorum being present, having considered the records and testimony adduced, and being fully advised in the premises;

FINDS:

(1) That due notice of the time and place of hearing and the purpose thereof having been given as required by law, the Commission has jurisdiction of this case and the subject matter thereof.

(2) That the delineation of an area including and containing potential oil and gas reserves, within which are commercial potash deposits, and the promulgation of rules and regulations for the orderly development of oil and gas resources in such area known to be productive of potash is within the authority of the Commission for the protection of correlative rights, the promotion of conservation, and the prevention of waste.

IT IS THEREFORE ORDERED:

That this order shall be known as The Rules and Regulations Governing the Exploration of Oil and Gas in Certain Areas Herein Defined, which are Known to contain Potash Reserves.

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash

resources of New Mexico, and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH-OIL AREA

(1) The Potash-Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various part of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves.

(2) The Potash-Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the Potash Area shall be subject to these Rules and Regulations.

(2) No wells will be drilled for oil or gas at a location which, in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the Potash Area that would, in the opinion of the Commission or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the Potash Area, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations, and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar; however, where the base of the Delaware Mountain Group is definable the casing rules in (IV) (3b) (i) shall apply even if the depth of the bottom of the Delaware Mountain Group is greater than 5,000 feet. For the purpose of identification, the base of the Delaware Mountain Group is hereby identified as the equivalent of the base of such formation as found at a depth of 7485 feet in the Richardson and Bass No. 1

Rodke well in Section 27, Township 20 South, Range 31 East, NMPM, Lea County, New Mexico, immediately overlying the Bone Springs formation.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe, unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the

production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section IV (3), (e) (e) and (f) for the salt protection string; however if high pressure oil or gas production is discovered in any area, the Commission shall promulgate the necessary rules to prevent the charging of the salt section.

V.

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.

PLUGGING AND ABANDONMENT OF WELLS

(1) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with field rules established by the Commission that will provide a solid cement plug through the salt section and any water bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(2) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible.

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the Potash Area, the well operator shall prepare a map or plat showing the location of

the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash operators holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph IX (2).

The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipt to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash operator within ten days after receipt. If the location of the proposed well is objected to by the potash operator, the matter shall be referred to the Secretary-Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary-Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash operator may be present during drilling, cementing, casing, and plugging of all oil or gas wells within a radius of one mile of the well location to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.

FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(1) Directional Surveys:

The Commission may require an operator to file a certified directional survey from the surface to a point below the lowest known potash bearing horizon on all wells drilled within the Potash Area. These surveys may be required where, in the Commission's judgment, the exact location of the well-bore must be determined in order to aid mining operations.

(2) Mine Surveys:

Within 30 days after the adoption of this order, and thereafter on or before January 31st of each year, each potash operator shall furnish two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection.

(3) Potash Development Plan:

Within 30 days after adoption of this order and thereafter on or before January 31st of each year, each potash operator shall furnish two copies of a projection of development plans in the form of a plat, which plat shall be for the confidential use of the Commission and for inspection by any affected oil or gas operator. The projection shall cover not less than 3 nor more than a 5 year development program.

X.

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

EXHIBIT "A"

POTASH-OIL AREA

TOWNSHIP 18 SOUTH, RANGE 30 EAST
Section 13: SW/4
Section 14: S/2, NW/4, W/2 NE/4
Section 15: SE/4
Section 22: E/2, E/2 W/2
Section 23: All
Section 24: NW/4
Section 26: N/2
Section 27: N/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 29 EAST
Section 11: SE/4
Section 12: S/2, S/2 NE/4
Section 13: N/2, N/2 S/2, S/2 SW/4
Section 14: E/2, E/2 W/2
Section 23: N/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 30 EAST
Section 3: S/2
Section 4: S/2, NW/4, SW/4 NE/4
Section 5: E/2, E/2 W/2, SW/4 SW/4
Section 7: S/2, S/2 N/2, N/2 NE/4
Section 8: All
Section 9: All
Section 10: All
Section 11: SW/4, W/2 SE/4
Section 14: W/2, W/2 SE/4
Section 15: All
Section 16: All
Section 17: All
Section 18: E/2, NW/4
Section 19: NE/4
Section 20: N/2, SE/4 SE/4
Section 21: All
Section 22: All
Section 23: W/2
Section 26: W/2, SE/4
Section 27: All
Section 28: All
Section 29: E/2
Section 32: SE/4, NE/4 NE/4
Section 33: All
Section 34: All
Section 35: All
Section 36: SW/4, S/2 NW/4, S/2 SE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST
Section 36: SE/4

TOWNSHIP 19 SOUTH, RANGE 32 EAST
Section 31: W/2 SW/4
Section 33: SE/4, E/2 SW/4
Section 34: S/2
Section 35: S/2
Section 36: SW/4, SE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST
Section 22: SE/4 SE/4
Section 23: SW/4
Section 25: SW/4
Section 26: All
Section 27: E/2
Section 31: S/2
Section 32: SW/4
Section 34: NE/4 NE/4
Section 35: All
Section 36: S/2, NW/4 W/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 34 EAST
Section 31: SW/4 SW/4

TOWNSHIP 20 SOUTH, RANGE 29 EAST
Section 13: SW/4 SW/4
Section 14: SE/4 SE/4
Section 22: SE/4, S/2 NE/4
Section 23: S/2, NE/4
Section 24: W/2, W/2 SE/4
Section 25: N/2, N/2 S/2
Section 26: All
Section 27: E/2
Section 34: NE/4, N/2 SE/4
Section 35: NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST
Section 1: All
Section 2: All
Section 3: All
Section 4: All
Section 5: S/2, NE/4
Section 6: S/2, S/2 NE/4
Section 7: NW/4, E/2
Section 8: All
Section 9: All
Section 10: All
Section 11: All
Section 12: All
Section 13: All
Section 14: All
Section 15: All
Section 16: All
Section 17: All
Section 18: E/2
Section 19: E/2

EXHIBIT "A" (Continued)

TOWNSHIP 20 SOUTH, RANGE 30 EAST (continued)

Section 20: All
Section 21: All
Section 22: All
Section 23: All
Section 24: All
Section 25: All
Section 26: All
Section 27: All
Section 28: All
Section 29: All
Section 30: All
Section 31: E/2
Section 32: All
Section 33: All
Section 34: All
Section 35: All
Section 36: All

TOWNSHIP 20 SOUTH, RANGE 31 EAST

Section 1: E/2, E/2 W/2
Section 6: SW/4, S/2 NW/4, W/2 SE/4
Section 7: W/2, SE/4, W/2 NE/4
Section 8: S/2, S/2 N/2
Section 9: SW/4, S/2 NW/4
Section 11: SE/4, E/2 SW/4
Section 12: All
Section 13: All
Section 14: E/2, SW/4, E/2 NW/4
Section 16: W/2
Section 17: All
Section 18: All
Section 19: All
Section 20: All
Section 21: NW/4, S/2
Section 22: S/2, S/2 NE/4
Section 23: All
Section 24: All
Section 25: All
Section 26: All
Section 27: All
Section 28: All
Section 29: All
Section 30: All
Section 31: All
Section 32: All
Section 33: All
Section 34: All
Section 35: All
Section 36: All

TOWNSHIP 20 SOUTH, RANGE 32 EAST

Section 1: All
Section 2: All
Section 3: All
Section 4: E/2, SW/4, E/2 NW/4

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 32 EAST, (continued)

Section 5: S/2 SE/4
Section 6: W/2, SW/4 SE/4
Section 7: All
Section 8: All
Section 9: All
Section 10: All
Section 11: All
Section 12: All
Section 13: All
Section 14: All
Section 15: All
Section 16: All
Section 17: All
Section 18: All
Section 19: All
Section 20: All
Section 21: All
Section 22: All
Section 23: All
Section 24: All
Section 25: All
Section 26: All
Section 27: All
Section 28: All
Section 29: All
Section 30: All
Section 31: All
Section 32: All
Section 33: All
Section 34: All
Section 35: All
Section 36: All

TOWNSHIP 20 SOUTH, RANGE 33 EAST

Section 1: All
Section 2: E/2, E/2 W/2
Section 5: W/2
Section 6: All
Section 7: All
Section 8: W/2, SW/4 NE/4, SE/4
Section 9: S/2 S/2, NW/4 SW/4
Section 10: S/2
Section 11: E/2, E/2 NW/4, SW/4
Section 12: All
Section 13: All
Section 14: All
Section 15: All
Section 16: All
Section 17: All
Section 18: All
Section 19: All
Section 20: All
Section 21: W/2 SW/4, NW/4, N/2 NE/4

EXHIBIT "A" (Continued)

TOWNSHIP 20 SOUTH, RANGE 33 EAST, (Continued)
Section 22: N/2 N/2
Section 23: N/2 N/2, SE/4 NE/4
Section 24: N/2, N/2 SE/4, SE/4 SE/4
Section 29: W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 30: All
Section 31: N/2, W/2 SW/4

TOWNSHIP 20 SOUTH, RANGE 34 EAST
Section 6: W/2, W/2 SE/4
Section 7: All
Section 8: SW/4
Section 16: SW/4, SW/4 NW/4, SW/4 SE/4
Section 17: All
Section 18: All
Section 19: All
Section 20: All
Section 21: All
Section 22: SW/4
Section 27: W/2
Section 28: All
Section 29: N/2, SE/4, NE/4 SW/4
Section 30: NE/4 NW/4, N/2 NE/4, SE/4 NE/4
Section 32: N/2 NE/4, SE/4 NE/4
Section 33: N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 34: W/2

TOWNSHIP 21 SOUTH, RANGE 29 EAST
Section 1: All
Section 2: Lots 1 - 16, incls., SE/4, NE/4 SW/4
Section 3: Lots 1 - 9, incl.
Section 4: Lots 1 - 8, incl., Lots 10 and 11
Section 11: E/2, E/2 SW/4
Section 12: All
Section 13: All
Section 14: E/2, E/2 W/2, SW/4 NW/4, NW/4 SW/4
Section 15: SE/4 NE/4, NE/4 SE/4
Section 23: N/2 NE/4
Section 24: NE/4, NE/4 SE/4, N/2 NW/4, SE/4 NW/4
Section 35: S/2 NE/4, SE/4, E/2 SW/4
Section 36: S/2 SW/4, SE/4, S/2 NE/4, NE/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 30 EAST
Section 1: All
Section 2: All
Section 3: All
Section 4: All
Section 5: All
Section 6: All
Section 7: All
Section 8: All
Section 9: N/2, SW/4
Section 10: N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 11: All
Section 12: All
Section 13: All

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 30 EAST (continued)

Section 14: All
Section 15: NE/4, NE/4 NW/4, N/2 SE/4, SE/4 SE/4
Section 16: NW/4 NW/4
Section 17: All
Section 18: All
Section 19: All
Section 20: NW/4, N/2 NE/4
Section 22: E/2 E/2
Section 23: All
Section 24: All
Section 25: N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 26: N/2, N/2 S/2
Section 27: NE/4, N/2 SE/4, SE/4 SE/4
Section 29: NW/4, N/2 SW/4
Section 30: E/2, E/2 W/2
Section 31: All
Section 32: S/2, NW/4, NW/4 NE/4, S/2 NE/4
Section 36: E/2

TOWNSHIP 21 SOUTH, RANGE 31 EAST

Section 1: All
Section 2: All
Section 3: All
Section 4: All
Section 5: All
Section 6: All
Section 7: All
Section 8: All
Section 9: All
Section 10: W/2
Section 12: N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 13: N/2 NE/4
Section 15: W/2
Section 16: E/2, NW/4, E/2 SW/4
Section 18: NW/4, W/2 NE/4, NE/4 NE/4, W/2 SW/4 NE/4 SW/4
Section 21: E/2, NE/4 NW/4
Section 22: W/2
Section 27: W/2, SW/4 NE/4, W/2 SE/4
Section 28: E/2
Section 30: SW/4, W/2 NW/4, SE/4 NW/4
Section 31: W/2
Section 33: NE/4 NE/4
Section 34: NW/4, NW/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 32 EAST

Section 6: Lots 1 - 7 incls., Lots 10 - 15, inclus., SW/4
Section 7: W/2
Section 22: E/2
Section 23: All
Section 24: All

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 33 EAST

Section 3: Lots 1, 2, 3
Section 17: S/2 S/2
Section 18: SE/4 SE/4
Section 19: All
Section 20: All
Section 21: W/2, SE/4, S/2 NE/4
Section 22: S/2, S/2 N/2
Section 23: S/2, S/2 N/2, NE/4 NE/4
Section 24: All
Section 25: NW/4, N/2 NE/4, SW/4 NE/4, N/2 SW/4
Section 26: W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 27: All
Section 28: All
Section 29: N/2, SE/4, NE/4 SW/4
Section 30: N/2 NE/4, SE/4 NE/4
Section 33: N/2 N/2
Section 34: N/2 N/2

TOWNSHIP 21 SOUTH, RANGE 34 EAST

Section 19: W/2

TOWNSHIP 22 SOUTH, RANGE 29 EAST

Section 1: All
Section 2: E/2, E/2 NW/4, SW/4
Section 3: S/2 SE/4, NE/4 SE/4
Section 10: E/2, E/2 W/2, SW/4 SW/4
Section 11: All
Section 12: All
Section 13: All
Section 14: All
Section 15: All
Section 16: SE/4, SE/4 NE/4, SE/4 SW/4
Section 20: E/2 E/2
Section 21: All
Section 22: All
Section 23: All
Section 24: All
Section 25: All
Section 26: All
Section 27: All
Section 28: NE/4, N/2 NW/4, SE/4 NW/4, SE/4
Section 33: NE/4 NE/4
Section 34: NW/4, W/2 E/2, N/2 SW/4, SE/4 SW/4
Section 35: E/2, SW/4, SE/4 NW/4
Section 36: All

TOWNSHIP 22 SOUTH, RANGE 30 EAST

Section 1: E/2
Section 5: N/2, N/2 S/2, SW/4 SW/4
Section 6: All
Section 7: W/2, W/2 E/2, SE/4 SE/4
Section 8: S/2 SW/4
Section 12: NE/4 NE/4
Section 13: NW/4, N/2 SW/4, SW/4 SW/4
Section 14: SE/4, S/2 NE/4, E/2 SW/4, SW/4 SW/4
Section 17: NW/4
Section 18: All
Section 19: All

EXHIBIT "A" (continued)

TOWNSHIP 22 SOUTH, RANGE 30 EAST (continued)
Section 20: All
Section 21: S/2, SW/4 NW/4
Section 22: S/2, S/2 N/2, NE/4 NE/4
Section 23: W/2, W/2 NE/4, NE/4 NE/4
Section 26: W/2 W/2
Section 27: All
Section 28: All
Section 29: All
Section 30: All
Section 31: All
Section 32: All
Section 33: All
Section 34: All
Section 35: W/2

TOWNSHIP 22 SOUTH, RANGE 31 EAST
Section 6: W/2, W/2 NE/4, NW/4 SE/4
Section 7: N/2 NW/4

TOWNSHIP 23 SOUTH, RANGE 29 EAST
Section 1: All
Section 2: E/2, NW/4, NE/4 SW/4
Section 11: NE/4 NE/4
Section 12: N/2 N/2

TOWNSHIP 23 SOUTH, RANGE 30 EAST
Section 2: NW/4
Section 3: All
Section 4: All
Section 5: All
Section 6: All
Section 7: NE/4, N/2 NW/4, SE/4 NW/4
Section 8: N/2 N/2, S/2 NE/4
Section 9: N/2, NE/4 SW/4, N/2 SE/4
Section 10: N/2, SW/4

DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN F. SIMMS, Chairman

E. S. WALKER, Member

W. B. MACEY, Member & Secretary

SEAL

dr

SUGGESTIONS BY OIL AND GAS COMMITTEE
REVISING STATE ORDER NO. R-111

I.
OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of oil and gas resources of New Mexico and permit the simultaneous economic recovery of potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) These rules and regulations are applicable to oil and gas operations and to exploration for and production of oil and gas in proven or potential potash and oil areas.

(2) The Potash-Oil Area represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves. The POTASH AREA shall be described as including the area outlined by the Secretary of the Interior in his Order of October 16, 1951, covering "Oil and gas, and potash leasing and development within the Potash Area".

III.

EXPLORATION OF POTASH AREA

1

(1) Drilling of oil and gas exploratory test wells shall be permitted in the Potash Area provided, that oil and gas exploratory test wells shall not be drilled through any open potash mines or within 1320 feet thereof unless agreed to in writing by the ~~potash lessee involved.~~

(2) Any oil or gas leases hereafter issued for lands within the Potash Area shall be subject to these regulations.

(1) ~~(3)~~ All future drilling of oil and gas exploratory test wells in the Potash Area shall be subject to these rules and regulations.

(4) Where oil and gas wells are in production in the Potash Area, no potash mine opening shall be driven to within less than 100 feet of such wells so that protection of both wells and mine can be afforded.

(5) Proposals to unitize with respect to land within the Potash Area, as heretofore defined and described, will be considered on their merits.

(6) Upon discovery ~~hereafter of oil and gas in the Potash Area, the Oil~~ Conservation Commission shall promulgate field or pool rules for the affected area after due notice and hearing.

(7) ~~Nothing herein shall be construed to prevent~~ unitization agreements involving ~~lands~~ in the Potash Area.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new, second-hand, or reconditioned pipe shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new, second-hand, or reconditioned pipe shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be recemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with three (3 percent) of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe, unless the State or Federal regulatory body having jurisdiction should require an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

V.

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.

PLUGGING AND ABANDONMENT OF WELLS

All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner that will provide a solid cement plug through the salt section and prevent liquids or gases from entering the hole above or below the salt section.

VII.

LOCATION FOR TEST WELLS

Before drilling for oil or gas on lands in the Potash Area, a map or plat showing the location of the proposed well shall be prepared by the well operator and copy sent by registered mail to the potash lessee involved, if any. Upon proper showing of such notice and if no objection to the location of the proposed well is made by the potash lessee within ten days, a drilling permit may be issued and the work may proceed. If, however, the location of the proposed well is objected to by the potash lessee on the grounds that the location of the well is not in accordance with the foregoing regulations, the potash lessee may file a written objection within ten days for consideration and decision by the Oil Conservation Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash lessee may be present during drilling, cementing, casing, and plugging of all oil or gas wells on his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.

FILING OF WELL AND MINE SURVEYS

Each oil and gas lessee shall furnish not later than January 31st of each year to the Oil Conservation Commission and to the potash lessees involved certified directional surveys from the surface to a point below the lowest known potash-bearing horizon for each oil or gas well drilled in the Potash Area during the preceding calendar year. Each potash lessee shall furnish not later than January 31st of each year to the Oil Conservation Commission and to each oil and gas lessee involved, certified plat of survey of the location of open mine workings underlying outstanding oil and gas leases.

X.

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

misc. file

Case 278

June 25, 1951

TO ALL MEMBERS OF THE NEW MEXICO OIL AND GAS ENGINEERING COMMITTEE:

Gentlemen:

Attached, hereto, you will find four Exhibits that were presented at the Hearing of the Oil Conservation Commission in Santa Fe, New Mexico, June 21, 1951 and pertain to Case 278 and relate to the drilling for oil in the vicinity of the potash mines in Eddy County, New Mexico.

These Exhibits are as follows:

Exhibit "A" - Casing Program proposed by Committee of the New Mexico Oil and Gas Engineering Committee.

Exhibit "B" - Casing Program for shallow wells above 5000', proposed by American Republics Corporation, Boyd-Plemons Drilling Company, Buffalo Oil Company, Burnham Oil Company, Malco Refineries, Inc., Yates, Robert E. McKee and others.

Exhibit "C" - Casing Program for shallow wells down to 6000', proposed by Jones and Watkins Oil Company, Miller and Miller, and Stanley L. Jones.

Exhibit "D" - Telegram from Phillips Petroleum Company protesting temperature surveys on salt string where cement is circulated. Specify centralizers should be spaced certain distance apart instead of saying every third joint.

In order that the operators may have a clear understanding of each others views pertaining to the above Exhibits and any changes or additions that any operator feels should be presented to the Commission, a meeting of all members of this organization and such others as wish to attend will be held in Santa Fe, New Mexico at 4:00 o'clock P. M., La Fonda Hotel on July 9, 1951.

Respectfully submitted,

Glenn Staley
Director

N.M. Oil & Gas Engineering Committee
Hobbs, New Mexico
June 25, 1951

CASING AND CEMENTING PROGRAMS FOR

OIL AND GAS TEST WELLS IN THE "DEFINED AREAS" IN EDDY COUNTY, NEW MEXICO

1. Surface Casing String

In order to protect the fresh water supply, the surface casing string shall be set in the "Red Bed" section of the basal Russler formation immediately above the top of the salt section and shall be cemented back to the ground surface or to the bottom of the cellar.

The surface string may consist of new, second-hand or re-conditioned pipe. New pipe shall have received a mill test of not less than 600 pounds per square inch; second-hand and re-conditioned pipe shall be re-tested to 600 pounds per square inch before being run.

Sufficient cement shall be used to fill the annular space back of the pipe from the casing point to the surface of the ground or to the bottom of the cellar. Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

Tests of casing shall vary with drilling method. If rotary is used, the mud shall be displaced with water or with the proposed saturated water solution and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

2. Salt Protection String

The salt protection string shall be set at least one hundred (100) feet and not more than two hundred (200) feet below the base of the salt section. This string may consist of new, second-hand or re-conditioned pipe. New pipe shall have received a mill test of now less than 1000 pounds per square inch; second-hand and re-conditioned pipe shall be re-tested to 1000 pounds per square inch before being run.

Centralizers shall be used on at least every third joint below surface casing.

Sufficient cement shall be used to fill the annular space back of the pipe from the casing point to the surface of the ground or to the bottom of the cellar. (The water used to mix with the cement shall be saturated with the salts common to the zones penetrated.) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests. If the cement fails to reach the surface, the salt protection casing shall be perforated just above the top of the cement and additional cement jobs done until cement is brought to the surface. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

Tests of casing shall vary with the drilling method. If rotary is used, the mud shall be displaced with water and a hydraulic pressure of 1000 pounds per square inch shall be applied. If a drop of 100 pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

3. Intermediate String

This string may be a drilling protection string for deep drilling objectives or may be an oil string for testing medium depth zones.

a. If a drilling protection string, the casing shall be cemented with a sufficient volume of cement amply to protect this casing and all shall pay zones above the casing shoe, and in every instance this string shall be cemented from a point one thousand (1000) feet below the salt string back to the surface. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

b. If an oil string in testing medium depth zones, the casing may be cemented with a nominal cement volume for testing purposes only, and if commercially productive, the string must be re-cemented by circulating cement from the top of the original cement job to the surface. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

4. Oil or Production String (Deep Wells)

This string shall be set on top or through the pay zone and cemented with a volume adequate to protect the pay zone and the casing above such zone, provided however, if no intermediate drilling casing shall have been run and commercial production obtained, that string shall be cemented to the surface or as provided by 3-a above.

5. Drilling Fluid for Salt Section

This fluid shall consist of water to which has been added sufficient

salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the system by the operator in overcoming any specific problem. This requirement is specifically inserted in order to prevent enlarged drill holes.

CASING AND CEMENTING PROGRAM FOR SHALLOW OIL AND GAS TEST WELLS IN KNOWN POTASH AREAS

CASE NO. 278
EXHIBIT B

The following is a suggested casing program for wells above 5,000 feet and is, of necessity, only general rules for the whole designated potash area, whether designated as Area A, Area B or otherwise. Geological sections change so rapidly in this large, scattered area that individual portions of the area will present individual problems. It is therefore suggested as follows:

A. That the Oil Conservation Commission retain authority to vary this general casing and cementing program to meet a specific condition, without an open hearing before the Commission.

B. That the casing and cementing program herein suggested apply only to the areas embraced in proven commercial deposits of potash, the remainder of the designated potash area to be drilled in accordance with standard, existing practices.

C. The suggested casing and cementing program is as follows:

1. Surface Casing String

In order to protect the fresh water supply, if present, the surface casing string shall be set through the fresh water bearing horizons and cemented with a volume adequate to protect the fresh water and keep it from entering the salt formation.

The surface string may consist of new, second-hand or re-conditioned pipe capable of meeting the manufacturers test specifications.

Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiatin tests.

Tests of casing shall vary with drilling method. If rotary is used, the mud shall be displaced with water or with the proposed saturated water solution and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

2. Salt Protection String

The salt protection string may be set at least one hundred (100) feet and not more than two hundred (200) feet below the base of the salt section. This string may consist of new, second-hand or re-conditioned pipe capable of meeting the manufacturers test spefifications.

The string may be cemented with a nominal cement volume for testing purposes only, and if commercially productive, the string must be re-cemented with not less than 150% of calculated volume necessary to circulate cement to surface.

Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests. If the cement fails to reach the top of the salt, the salt protection casing shall be perforated just above the top of the cement and additional cement jobs done until cement is brought to that point. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

Test of casing shall vary with the drilling method. If rotary is used. the mud shall be displaced with water and a hydraulic pressure of 1000 pounds per square inch shall be applied. If a drop of 100 pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour corrective measures shall be applied.

3. Oil Or Production String

This string may be set on top or through the pay zone and cemented with a volume adequate to protect the pay zone and the casing above such zone, provided however, if no salt protection casing shall have been run and commercial production obtained, that string shall be cemented to the surface as provided by 2 above or as provided by 3a in Deep Well program.

D. The undersigned operators, of Eddy County, New Mexico, approve the above and foregoing proposals and recommend its adoption by the Commission.

Respectfully submitted

American Republics Corp. by William B. Macey; Boyd-Plemons Drilling Company by Tom Boyd; Buffalo Oil Company by Ralph L. Gray; Guy Stevenson; J. Grady Wright; E. N. Brock; G. Kelley Stout; (Illegible;) Paton Bros. by H. R. Paton; R. D. Collier; J. W. Berry; Ross Sears; Joe Nunn; J. E. Bedingfield; Burnham Oil Company By E. Jeffers; Malco Refineries, Inc. by Donald E. Anderson; Bassett & Birney by Martin Yates III; Dixon & Yates by Martin Yates III; S. P. Yates; Yates Brothers by S. P. Yates; Resler Oil Company by S. P. Yates; J. R. Lund for Robert E. McKee.

DISTRIBUTED BY:
NEW MEXICO OIL AND GAS ENGINEERING COMMITTEE
DRAWER "EYE"
HOBBS, NEW MEXICO
JUNE 25, 1951

CASING AND CEMENTING PROGRAM FOR SHALLOW OIL AND GAS TEST WELLS IN PROSPECTIVE POTASH AREAS

CASE NO. 278
EXHIBIT C

The following program is a suggestive program for the cementing of pipe and the protecting of the prospective potash horizon from water, oil and gas contamination. This program shall pertain to oil and gas test or wells drilled for the purpose of securing oil and gas, down to a depth of 6000 feet. There should be rules set up for particular areas, naturally based on the amount of surface water and the amount of potash in the salt section, which will be penetrated during the drilling of the proposed oil test. The geological features on the oil structures will call for different programs from time to time. Especially in the districts where potash is present. The commercial potash districts according to geological features and subsurface information that has been secured from oil oil test that have been drilled in the past. Also addition information has been secured from districts from recent wells drilled in the various districts. There has also been a considerable amount of coring done by the various companies. All of this information should supply sufficient knowledge to derive at a pipe program satisfactory for all concerned. It is therefore suggested as follows:

1. That the Oil and Gas Conservation Commission retain authorization to issue a pipe program according to the area and district. A program that is sufficient to protect the potash strates at the present and future.

2. A suggestive pipe program for the general area should be as follows:

A. Surface Casing

The surface casing should be set at the top of the salt section. The size should be determined by the operator. The number one suggestion is that the pipe be mudded to the surface by pumping mud around the shoe and behind the pipe to the surface. Allow pipe to set eight hours. Then bale hole dry and test for at least two hours. If water is completely shut off, then the operator shall continue his drilling until he has reached the anhydrite formation. Then the operator should run either number one used pipe or new pipe through the potash and salt section. The operator should then be allowed to pull the surface pipe from the hole. The operator should then be permitted to cement the pipe from the bottom of the salt section to the surface, by circulating cement behind the pipe to the surface, or in such quantities recommended by the cementing concerns and the Oil Conservation Commission. The operator should then be allowed to drill his well and set his production string as he sees fit. He should be allowed to set the size of casing and at a depth he recommends, so long as he uses number one used pipe or new pipe. The amount of cement run behind the production string should be sufficient to come up at least 500 feet above the shoe. This will be adequate cement to protect the oil and gas zones and the formations behind the production string.

B. The next pipe program is recommended as follows:

The surface pipe should be set through the surface water, and cemented by circulating cement behind the pipe to the surface, or else there should be sufficient amount of cement pumped in and around the pipe to come to the surface, under ordinarily conditions. The cement should be allowed to set under pressure not less than 48 hours before drilling same and testing for water. The operator must test for water at least 2 hours. In case there is no water present, he shall then be allowed to carry on drilling operations until he reaches the casing point necessary to set the production string. At this time the potash and salt is protected from

all water hazards. The only hazards existing at this time is the possibility of contaminating the potash with oil and gas. Therefore, the operator should run nothing but A-1 used pipe or new pipe, tonging each joint up as tight as possible to prevent leakage. He shall then be allowed, to pump heavy acquagel mud behind the pipe sufficient to reach and come above the salt and potash section. Then the operator should pump enough cement behind the pipe to come up at least 500 feet behind it, which would be sufficient to seal off any possible chances of oil and gas working its way up behind it. The production string shall be allowed to be set threw or above the oil producing sections as the operator may see fit. The reason for this is that the different known producing zones are treated differently.

Most of the wells are drilled through-out Eddy County by the cable tool method. Which has the advantages of being able to identify the formations immediately upon topping them and the exact thickness. We are also able to detect immediately the different changes in the formations that takes place. We are also able to test our water zones as to the amount of water and the thickness of the zones. Therefore it is necessary to have a different type of pipe program for this type of drilling than for rotary drilling. The above recommendation are based on cable tool drilling.

These recommendations or suggestions are based on past experience and present drilling operations being carried on in one or more districts. The oil and gas producers of New Mexico are fortunate enough to have the Oil and Gas Conservation Commission to assist us in our problems. They have accumulated information sufficient to guide them in any section of Eddy County, New Mexico. They are known to work and cooperate with the United States Geological Department all times.

The undersigned operator or operators of Eddy County, New Mexico approve whole heartedly the above and foregoing proposals and do hereby recommend these adoptions by the State Land Commission as well as the United States Land Commission.

Respectfully submitted,

/s/ Jones & Watkins Oil Company, Artesia, New Mexico, by Stanley L. Jones; Inc.

/s/ Miller & Miller, Artesia, New Mexico, by Stanley L. Jones,

/s/ Stanley L. Jones, Inc.

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NEW MEXICO OIL AND GAS ENGINEERING COMMITTEE
DRAWER "EYE"
HOBBS, NEW MEXICO.
JUNE 25, 1951

TELEGRAM
BARTLESVILLE, OKLAHOMA
JUNE 21, 1951

CASE NO. 278
EXHIBIT D.

R. R. SPURRIER, SECY.
NEW MEXICO OIL CONSERVATION COMMISSION - SANTA FE, NEW MEXICO.

RE CASE 278 FOR AN ORDER ESTABLISHING A CASING PROGRAM WITHIN THE SO CALLED POTASH AREA OF EDDY AND LEA COUNTIES. PHILLIPS PETROLEUM COMPANY HAS STUDIED PROPOSALS OF VARIOUS OPERATORS WHICH WOULD REQUIRE TEMPERATURE SURVEYS WHERE SALT STRING IS CEMENTED TO SURFACE. IN OUR OPINION CURCULATION SHOULD BE SUFFICIENT EVIDENCE AND WE OBJECT TO THE REQUIREMENT OF TEMPERATURE SURVEYS BECAUSE SUCH SURVEYS WILL NOT REVEAL ADDITIONAL INFORMATION. ALSO IN OUR OPINION, ON SHALLOW WELLS, IF NO INTERMEDIATE STRING, IS RUN THE OIL STRING SHOULD BE REQUIRED TO BE CEMENTED SOLID TO THE SURFACE TO AVOID POSSIBLE LEAKS AND IN THIS CASE WE ALSO OBJECT TO REQUIREMENT OF GAMMA RAY OR TEMPERATURE LOGS FOR SAME REASON THAT THEY SHOW NO MORE THAN IS INDICATED BY OBTAINING CIRCULATION OF CEMENT.

OPERATORS SUGGESTION THAT CENTRALIZERS BE PLACED ON EVERY THIRD JOINT OF SALT STRING SHOULD BE AMENDED TO PROVIDE LENGTH OF SUCH JOINTS OR CENTRALIZERS SHOULD BE SPACED CERTAIN DISTANCE APART. OTHERWISE PHILLIPS PETROLEUM COMPANY CONCURS WITH PROPOSALS OF OTHER OPERATORS AS SET FORTH IN RECENT MEMORANDUM OF NEW MEXICO OIL AND GAS ENGINEERING COMMITTEE.

C. P. DIMIT

PHILLIPS PETROLEUM COMPANY

DISTRIBUTED BY:
NEW MEXICO OIL AND GAS ENGINEERING COMMITTEE
DRAWER "EYE"
HOBBS, NEW MEXICO.
JUNE 25, 1951

OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

June 26, 1951

Mr. Guy Shepard
State Commissioner of Public Lands
State Capitol
SANTA FE, NEW MEXICO

Dear Guy:

Copies of the attached exhibits relative to Case 278 (Casing and Cementing Program for Shallow Oil and Gas Test Wells in Known Potash Areas) have been sent to the entire mailing list of the Oil Conservation Commission - a total of 726.

Envelopes were addressed separately to each of the following:

Mr. F. O. Davis
Potash Co. of America, Carlsbad

Mr. T. M. Cramer
U. S. Potash Co., Carlsbad

Mr. John Kelly, Roswell

Mr. Emery Carper, Artesia

Mr. R. H. Allport
USGS, Carlsbad

Mr. Foster Morell
USGS, Roswell

Very truly yours,

R. R. Spurrier,
Committee Member

RRS:nr

CASING AND CEMENTING PROGRAM FOR SHALLOW OIL AND GAS TEST WELLS IN KNOWN POTASH AREAS

CASE NO. 278
EXHIBIT B

The following is a suggested casing program for wells above 5,000 feet and is, of necessity, only general rules for the whole designated potash area, whether designated as Area A, Area B or otherwise. Geological sections change so rapidly in this large, scattered area that individual portions of the area will present individual problems. It is therefore suggested as follows:

A. That the Oil Conservation Commission retain authority to vary this general casing and cementing program to meet a specific condition, without an open hearing before the Commission.

B. That the casing and cementing program herein suggested apply only to the areas embraced in proven commercial deposits of potash, the remainder of the designated potash area to be drilled in accordance with standard, existing practices.

C. The suggested casing and cementing program is as follows:

1. Surface Casing String

In order to protect the fresh water supply, if present, the surface casing string shall be set through the fresh water bearing horizons and cemented with a volume adequate to protect the fresh water and keep it from entering the salt formation.

The surface string may consist of new, second-hand or re-conditioned pipe capable of meeting the manufacturers test specifications.

Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

Tests of casing shall vary with drilling method. If rotary is used, the mud shall be displaced with water or with the proposed saturated water solution and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

2. Salt Protection String

The salt protection string may be set at lease one hundred (100) feet and not more than two hundred (200) feet below the base of the salt section. This string

CASE NO. 278
EXHIBIT A

Tests of casing shall vary with the drilling method. If rotary is used, the mud shall be displaced with water and a hydraulic pressure of 1000 pounds per square inch shall be applied. If a drop of 100 pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

3. Intermediate String

This string may be a drilling protection string for deep drilling objectives or may be an oil string for testing medium depth zones.

a. If a drilling protection string, the casing shall be cemented with a sufficient volume of cement amply to protect this casing and all shallow pay zones above the casing shoe, and in every instance this string shall be cemented from a point one thousand (1000) feet below the salt string back to the surface. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

b. If an oil string in testing medium depth zones, the casing may be cemented with a nominal cement volume for testing purposes only, and if commercially productive, the string must be re-cemented by circulating cement from the top of the original cement job to the surface. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

4. Oil or Production String (Deep Wells)

This string shall be set on top or through the pay zone and cemented with a volume adequate to protect the pay zone and the casing above such zone, provided however, if no intermediate drilling casing shall have been run and commercial production obtained, that string shall be cemented to the surface or as provided by 3-a above.

5. Drilling Fluid for Salt Section

This fluid shall consist of water to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the system by the operator in overcoming any specific problem. This requirement is specifically inserted in order to prevent enlarged drill holes.

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3. Oil or Production String

This string may be set on top or through the pay zone and cemented with a volume adequate to protect the pay zone and the casing above such zone, provided however, if no salt protection casing shall have been run and commercial production obtained, that string shall be cemented to the surface as provided by 2 above or as provided by 3a in Deep Well program.

D. The undersigned operators, of Eddy County, New Mexico, approve the above and foregoing proposals and recommend its adoption by the Commission.

Respectfully submitted,

American Republics Corp. by William B. Macey; Boyd-Plemons Drilling Company by Tom Boyd; Buffalo Oil Company by Ralph L. Gray; Guy Stevenson; J. Grady Wright; E. N. Brock; G. Kelley Stout; (Illegible;) Paton Bros. by H. R. Paton; R. D. Collier; J. W. Berry; Ross Sears; Joe Nunn; J. E. Bedingfield; Burnham Oil Company by E. Jeffers; Malco Refineries, Inc. by Donald E. Anderson; Bassatt & Birney by Martin Yates III; Dixon & Yates by Martin Yates III; S. P. Yates; Yates Brothers by S. P. Yates; Resler Oil Company by S. P. Yates; J. R. Lund for Robert E. McKee.

CASING AND CEMENTING PROGRAM FOR SHALLOW OIL AND GAS TEST WELLS IN PROSPECTIVE POTASH AREAS

CASE No. 278
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The following program is a suggestive program for the cementing of pipe and the protecting of the prospective potash horizon from water, oil and gas contamination. This program shall pertain to oil and gas test or wells drilled for the purpose of securing oil and gas, down to a depth of 6000 feet. There should be rules set up for particular areas, naturally based on the amount of surface water and the amount of potash in the salt section, which will be penetrated during the drilling of the proposed oil test. The geological features on the oil structures will call for different programs from time to time. Especially in the districts where potash is present. The commercial potash districts according to geological features and subsurface information that has been secured from old oil test that have been drilled in the past. Also addition information has been secured from districts from recent wells drilled in the various districts. There has also been a considerable amount of coring done by the various companies. All of this information should supply sufficient knowledge to derive at a pipe program satisfactory for all concerned. It is therefore suggested as follows:

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The surface casing should be set at the top of the salt section. The size should be determined by the operator. The number one suggestion is that the pipe be mudded to the surface by pumping mud around the shoe and behind the pipe to the surface. Allow pipe to set eight hours. Then bale hole dry and test for at least two hours. If water is completely shut off, then the operator shall continue his drilling until he has reached the anhydrite formation. Then the operator should run either number one used pipe or new pipe through the potash and salt section. The operator should then be allowed to pull the surface pipe from the hole. The operator should then be permitted to cement the pipe from the bottom of the salt section to the surface, by circulating cement behind the pipe to the surface, or in such quantities recommended by the cementing concerns and the Oil Conservation Commission. The operator should then be allowed to drill his well and set his production string as he sees fit. He should be allowed to set the size of casing and at a depth he recommends, so long as he uses number one used pipe or new pipe. The amount of cement run behind the production string should be sufficient to come up at least 500 feet above the shoe. This will be adequate cement to protect the oil and gas zones and the formations behind the production string.

may consist of new, second-hand or re-conditioned pipe capable of meeting the manufacturer's test specifications.

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Telegram -
Bartlesville, Oklahoma
June 21, 1951 - - - - - -

CASE NO. 278
EXHIBIT D

R. R. SPURRIER, SECY.
NEW MEXICO OIL CONSERVATION COMMISSION - SANTA FE, NEW MEXICO

RE CASE 278 FOR AN ORDER ESTABLISHING A CASING PROGRAM WITHIN THE SO CALLED POTASH AREA OF EDDY AND LEA COUNTIES. PHILLIPS PETROLEUM COMPANY HAS STUDIED PROPOSALS OF VARIOUS OPERATORS WHICH WOULD REQUIRE TEMPERATURE SURVEYS WHERE SALT STRING IS CEMENTED TO SURFACE. IN OUR OPINION CIRCULATION SHOULD BE SUFFICIENT EVIDENCE AND WE OBJECT TO THE REQUIREMENT OF TEMPERATURE SURVEYS BECAUSE SUCH SURVEYS WILL NOT REVEAL ADDITIONAL INFORMATION. ALSO IN OUR OPINION, ON SHALLOW WELLS, IF NO INTERMEDIATE STRING IS RUN THE OIL STRING SHOULD BE REQUIRED TO BE CEMENTED SOLID TO THE SURFACE TO AVOID POSSIBLE LEAKS AND IN THIS CASE WE ALSO OBJECT TO REQUIREMENT OF GAMMA RAY OR TEMPERATURE LOGS FOR SAME REASON THAT THEY SHOW NO MORE THAN IS INDICATED BY OBTAINING CIRCULATION OF CEMENT.

OPERATORS SUGGESTION THAT CENTERALIZERS BE PLACED ON EVERY THIRD JOINT OF SALT STRING SHOULD BE AMENDED TO PROVIDE LENGTH OF SUCH JOINTS OR CENTRALIZERS SHOULD BE SPACED CERTAIN DISTANCE APART. OTHERWISE PHILLIPS PETROLEUM COMPANY CONCURS WITH PROPOSALS OF OTHER OPERATORS AS SET FORTH IN RECENT MEMORANDUM OF NEW MEXICO OIL AND GAS ENGINEERING COMMITTEE.

C. P. DIMIT

PHILLIPS PETROLEUM COMPANY

File

UNITED STATES POTASH COMPANY

INCORPORATED

GENERAL OFFICES
30 ROCKEFELLER PLAZA
NEW YORK 20, N. Y.

SUNSHINE STATE POTASH — A PRODUCT OF NEW MEXICO U.S.A.
REG. U. S. PAT. OFF.

CARLSBAD, NEW MEXICO

August 24, 1955

Mr. W. B. Macey, Secretary - Director
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Macey:

Your letter of August 22, 1955 together with the six copies of the proposed rules for the Potash - Oil Area is acknowledged and appreciated.

Very truly yours,

UNITED STATES POTASH COMPANY

T. M. Cramer

TMC:db

SUGGESTED REVISED ORDER NO. R-111

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would, in the opinion of the Commission or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the POTASH AREA, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar. However, where the base of the Delaware sand is definable the casing rules in (IV) (3b) (i) shall apply even if the depth of the bottom of the Delaware Sand is greater than 5000'.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe,

unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section IV (3), (c), (e) and (f) for the salt

protection string, however if high pressure oil or gas production is discovered in any area the Commission shall promulgate the necessary rules to prevent the charging of the salt section.

V.

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.

PLUGGING AND ABANDONMENT OF WELLS

(a) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with field rules established by the Commission that will provide a solid cement plug through the salt section and any water bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(b) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the

location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash operators holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph IX (b).

The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash operator within ten days after receipt. If the location of the proposed well is objected to by the potash operator, the matter shall be referred to the Secretary-Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash operator may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.

FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(a) Directional Surveys:

The Commission may require an operator to file a certified directional survey from the surface to a point below the lowest known potash

bearing horizon on all wells drilled within the POTASH AREA. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(b) Mine Surveys:

On or before January 31st of each year, each potash operator shall furnish two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection.

(c) Potash Development Plan

Within 30 days after the adoption of this order and thereafter, on or before January 31st of each year, each potash operator shall furnish two copies of a five-year projection of development plans in the form of a plat, which plat shall be for the confidential use of the Commission and for inspection by any affected oil or gas operator. The projection shall cover not less than 3 nor more than a 5 year development program.

X.

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

File 278

Please Register

Potash-Oil Committee Meeting

Harvey E. Yates

Howard H. Jennings

John A. Frost.

John G. Anderson

F. O. Davis

R H Blackman Jr

Jack Sitton

Henry H. Bruhn

D. L. Libbey

Ira A. Herbert

C A Arena Jr.

L. A. Hanson O.C.C. Artesia

W.G. Abbott, Amerada

W. A. Roberts, Phillips - Hobbs

[illegible] Jr. National Potash - Hobbs

[illegible] OCC

W [illegible] [illegible]

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

July 6, 1955

Case #278

The Texas Company
P. O. Box 1720
Fort Worth 1, Texas

Attention: Mr. E. P. Munson, Jr.

Re: Extensions NMOCC Order R-111
Potash-Oil Cases
Eddy and Lea Counties, N. M.

COPY

Gentlemen:

Reference is made to your letter entitled Misc. 2002-3, dated June 21, 1955.

You requested to be advised of the area involved in the three cases as extensions to New Mexico Oil Conservation Commission Order No. R-111. Very likely you have reference to Cases Nos. 889, 890, and 891, that have been continued to the August 17, 1955 regular Commission hearing. Also you may wish to know that two additional Cases (No. 926 and No. 927) are on the docket for the July 14, 1955 hearing, but will likely be continued to the August 17, 1955 regular hearing.

Attached is a description of the extensions requested by the five different Potash Companies in Case Nos. 889, 890, 891, and 927. I believe that your Petroleum Engineering Department has a copy of Order R-111, dated November 9, 1951 which is in full effect and has not been amended up until the present time. Case No. 278 which was the basis for Order R-111 has been re-advertised for the July 14, 1955 hearing, but likewise may be continued to the August 17, 1955 hearing.

Very truly yours,

W. B. Macey
Secretary-Director

WBM:jh

Reader

THE TEXAS COMPANY

TEXACO PETROLEUM PRODUCTS

PRODUCING DEPARTMENT
WEST TEXAS DIVISION

P. O. BOX 1720
FORT WORTH 1, TEXAS

June 21, 1955

Misc. 2002-3 - New Mexico Oil & Gas Association

Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

Gentlemen:

We understand there are three applications pending for extension of potash "A" areas as defined in OCC Order No. R-111.

We would appreciate knowing the contents of these applications in order that we may determine if any of our holdings are affected and would like to have a photo copy of the plats filed with the applications, or a description of the new extensions being requested. We will be glad to pay for the expense involved in furnishing this material.

Very truly yours,

E. P. Munson, Jr.
Division Land and Leaseman

EPMJr-ECW

FILE

CASE NO. 889 Extend Area "A" at request of Southwest Potash Corporation:

TOWNSHIP 19 SOUTH, RANGE 30 EAST

SW/4 Sec. 3 ; SE/4 Sec. 4 ,
N/2 NE/4, NE/4, N/2 NW/4, SE/4 NW/4, E/2 SW/4 and SE/4 of Sec. 10 ,
NE/4, E/2 NW/4, and SW/4NW/4 of Sec. 15; N/2 NE/4 Sec. 9 .

CASE NO. 890 Extend Area "A" at request of International Minerals & Chemicals Corp.:

TOWNSHIP 21 SOUTH, RANGE 29 EAST

SE/4 Sec. 35 ; W/2 SW/4 Sec. 36

TOWNSHIP 22 SOUTH, RANGE 29 EAST

NW/4 NW/4 Sec. 1 ; W/2, N/2 NE/4, SW/4 NE/4, and W/2 SE/4 of Sec. 2 ;
All of Sections 10, 14, 15, 22, 23, 25, 26, and 36;
W/2, W/2 NE/4, W/2 SE/4, SE/4 SE/4 of Sec. 11 ;
W/2 SW/4 Sec. 13 ; W/2 Sec. 24 ; N/2 Sec. 27 .

CASE NO. 891 Extend Area "A" at request of Duval Sulpher and Potash Company:

TOWNSHIP 18 SOUTH, RANGE 30 EAST

All of Sections 14, 22, and 23; SW/4 Sec. 13 ; SE/4 Sec. 15 ;
NW/4, W/2 SW/4 Sec. 24 ; NW/4 NW/4 Sec. 25 ; N/2 Sec. 26 ; NE/4 Sec. 27.

TOWNSHIP 20 SOUTH, RANGE 29 EAST

S/2 Sec. 36 .

TOWNSHIP 20 SOUTH, RANGE 30 EAST

All of Sections 1 and 27 ; NE/4, and N/2 SE/4 Sec. 11; N/2 SW/4 Sec. 12;
S/2 Sec. 22 ; S/2 Sec. 23 ; N/2, N/2 SE/4, N/2 SW/4, SW/4 SW/4 Sec. 26;
N/2 Sec. 34 ; W/2 NW/4 Sec. 35 .

TOWNSHIP 20 SOUTH, RANGE 31 EAST

All of Section 6 .

TOWNSHIP 21 SOUTH, RANGE 29 EAST

N/2 SE/4 Sec. 24 .

TOWNSHIP 21 SOUTH, RANGE 30 EAST

Lots 6 & 7, SE/4, and E/2 SW/4 Sec. 19 ; SW/4 Sec. 20 ;
Lots 1, 2, 3, and 4 , NE/4, N/2 SE/4 and E/2 NW/4 Sec. 30 .

TOWNSHIP 22 SOUTH, RANGE 30 EAST

All of Sections 27, 28, 29, 32, 33, 34, and 36 ; W/2 Sec. 26 ;
SE/4 Sec. 30 ; E/2 Sec. 31 ; W/2 Sec. 35 .

TOWNSHIP 23 SOUTH, RANGE 30 EAST

All of Sections 2 and 3 ; NE/4 NE/4 (Lot 1) of Sec. 4 .

CASE NO. 926: (a) Extend Area "A" at request of National Farmers Service Union Corporation:

TOWNSHIP 20 SOUTH, RANGE 32 EAST

S/2, S/2 N/2, and NE/4 NE/4 of Sec. 32 ; All of Sections 33 and 34 .

TOWNSHIP 21 SOUTH, RANGE 31 EAST

All of Sections 2 through 5 ; All of Sections 7 through 10 ; All of Sec. 16 .

(b) Extend Area "B" at request of National Farmers Service Union Corporation:

TOWNSHIP 21 SOUTH, RANGE 30 EAST

All of Sections 25, 26, and 36 ; N/2 Sec. 12 ; S/2 Sec. 23 ;
S/2 Sec. 24 ; N/2 Sec. 35 .

TOWNSHIP 22 SOUTH, RANGE 30 EAST

E/2 Sec. 25 ; E/2 Sec. 36 .

TOWNSHIP 21 SOUTH, RANGE 31 EAST

All of Sections 7 through 17 , and 20 through 36; All sec 3 ;
S/2 Sec. 1 ; S/2 Sec. 2 ; E/2 Sec. 4 ; N/2 Sec. 18 ; S/2 Sec. 19 .

TOWNSHIP 22 SOUTH, RANGE 31 EAST

All of Sections 1 through 3 , 10 through 16 , and 20 through 36 ;
S/2 Sec. 19 .

CASE NO. 927: Extend ARea "A" at request of United States Potash Company:

TOWNSHIP 20 SOUTH, RANGE 30 EAST

SE/4 Sec. 12 ; N/2 and SE/4 Sec. 13 ; S/2 and NE/4 Sec. 24 ;
N/2 , SE/4 , N/2 SW/4 , and SE/4 SW/4 Sec. 25;
E/2 NW/4 , NE/4 , SE/4 , S/2 SW/4 , and NE/4 SW/4 Sec. 36 .

TOWNSHIP 21 SOUTH, RANGE 29 EAST

N/2 NE/4 , N/2 NW/4 , SW/4 NW/4 and NW/4 SW/4 Sec. 1 ; SW/4 SW/4 Sec. 13 ;
N/2 , SW/4 , N/2 SE/4 , and SW/4 SE/4 Sec. 2 ; E/2 E/2 Sec. 15 ;
W/2 SW/4 , NW/4 NE/4 , and SW/4 NW/4 Sec. 11 ; S/2 NE/4 , and NW/4 NW/4 Sec24;
S/2 S/2 , W/2 NW/4 and NW/4 SW/4 Sec. 14 .

TOWNSHIP 20 SOUTH, RANGE 31 EAST

W/2 , and W/2 E/2 Sec. 7 ; SW/4 , W/2 SE/4, and W/2 NW/4 Sec 17 ;
All of Sections 16 , 18 , 19 , 20 , 28 , 29 , 30 , 31 , 32 , and 33 .

TOWNSHIP 21 SOUTH, RANGE 30 EAST

Lots 3,4,5,6,11,12,13 and 14 , and N/2 SW/4 Sec. 3 ; W/2 Sec. 9 ;
All of Sections 4, 5, 8 and 16 ; N/2 and N/2 S/2 Sec. 17 ;
E/2 , E/2 SW/4 , N/2 NW/4 and SE/4 NW/4 Sec. 6 ;
N/2 NE/4 , SE/4 NE/4 , E/2 SE/4 , NE/4 NW/4 Sec. 7 ;
E/2 NE/4 , S/2 SE/4 , NE/4 SE/4 and SE/4 SW/4 Sec. 18 .

POTASH COMPANY OF AMERICA

GENERAL SALES OFFICES · 1625 EYE STREET · N · W · WASHINGTON 6 · D · C ·
SOUTHERN SALES OFFICE · 408 · 9 CANDLER BLDG · ATLANTA · GA ·
MIDWESTERN SALES OFFICE · FIRST NATIONAL BANK BLDG · PEORIA · ILL ·

P.C.A. SALT of the EARTH RED MURIATE

Tel. 5-2111

R. H. BLACKMAN, JR.
RESIDENT COUNSEL

REPLY TO: EXECUTIVE OFFICES
MINES AND REFINERY
CARLSBAD · NEW MEXICO

July 5, 1955

Mr. W. R. Macey
Secretary Director
State Oil Conservation Commission
Mabry Hall
Santa Fe, New Mexico

Re: Case No. 278-R.111

Dear Mr. Macey:

Potash Company of America has prepared an application for the extension of Area A as described in Part II, Section (1)(b) of Order R-111, dated November 9, 1951. Since it is understood that Case No. 278 will be reopened by the Commission for the purpose of revising Order R-111, both as to area and as to regulations, we presume that such an application for revision of area as it pertains to Potash Company of America is not necessary at this time. Therefore, we do not intend to file such an application, unless the Commission deems it necessary or desirable.

Very truly yours,

PHBJr/mmg

DEPARTMENT OF THE INTERIOR

Office of the Secretary

EDDY AND LEA COUNTIES, NEW MEXICO

OIL AND GAS, AND POTASH LEASING AND DEVELOPMENT WITHIN POTASH AREA

1. For the purpose of providing for concurrent operations in the prospecting for and the development and production of oil and gas and potash deposits owned by the United States within the area herein described and designated as "Potash Area" (see Schedule A), and for the purpose of opening to oil and gas leasing certain lands (see Schedule B) which have heretofore been withheld from such leasing and, subject to valid existing rights as to leases heretofore issued, it is ordered as follows:

1. *Oil and gas leases for that part of Potash Area covered by order of February 6, 1939.* (a) The order of the Secretary of the Interior dated February 6, 1939 (4 F. R. 1012), withholding certain lands in New Mexico from application or lease under the oil and gas provisions of the Mineral Leasing Act of February 25, 1920 (41 Stat. 437), as amended, is hereby revoked.

(b) The lands described in the order dated February 6, 1939 (except the E½SE¼, sec. 24, and the E½E½, W½SE¼, S½SW¼, sec. 25, T. 20 S., R. 29 E., N. M. M., which were withdrawn from all forms of entry by Public Land Order No. 569, 14 F. R. 1086), shall be open for oil and gas leasing as of the date of this notice, and offers on form No. 4–1158, Second Edition, received up to and including November 16, 1951, at the Land and Survey Office, Bureau of Land Management, Santa Fe, New Mexico, for lands subject to noncompetitive leasing under section 17 of the Mineral Leasing Act, as amended, shall be regarded as simultaneously filed.

(c) During the period from the date of this order to and including November 16, 1951, the following rules must be followed in applying for oil and gas leases:

(i) Each offer must cover all the Federal land subject to noncompetitive oil and gas leasing contained in a particular section and must not cover more than one section.

(ii) All offers of any offeror shall be rejected if the offeror's interests, direct and indirect, in oil and gas leases and offers and applications therefor on Federal lands in the State of New Mexico, including the offers filed pursuant to this notice exceed 15,360 chargeable acres. Where a corporation, or association, files an application for the Federal lands in a section, no person who owns an interest of 10 percent or more in such corporation or association shall be eligible to file an offer for the same area.

(iii) It will be necessary to file only one copy of each offer to lease and lease form for each section. If the offeror is successful, the Manager will execute the form and arrange to obtain the additional copies.

(iv) Each offer, accompanied by two separate checks or money orders, must be enclosed in a separate sealed envelope. One check or money order must be for $10 to cover the filing fee. The second check or money order must cover the first year's rental (50 cents per acre).

(v) The front of each envelope must be marked to show the nature of the contents and the section involved as follows:

Oil and Gas Offer, Potash Area
Sec. ------ T. ------, R. ------

(vi) Any offer filed during the prescribed period that does not conform to all the requirements of this notice shall be rejected.

(d) If necessary, a drawing will be held to determine the successful offeror for each section. Such drawing will commence at 10 a. m., m. s. t., November 20, 1951, at the Land and Survey Office, Santa Fe, New Mexico.

(e) Each successful applicant for a noncompetitive oil and gas lease, and any party awarded a competitive lease, for lands included in schedule B will be required, as a condition to the issuance of such lease, to execute a stipulation agreeing that:

(i) No wells will be drilled for oil or gas in formations above the base of the Delaware sand, or above a depth of 5,000 feet, whichever is the lesser, except upon approval of the Director of the Geological Survey, it being understood that drilling for production to these formations will be permitted only in the event that it is satisfactorily established that such drilling will not interfere with the mining and recovery of potash deposits or the interest of the United States would best be subserved thereby.

(ii) No wells will be drilled for oil or gas in formations below the base of the Delaware sand, or below a depth of 5,000 feet, whichever is the lesser, except pursuant to a unit plan approved by the Director of the Geological Survey, unless drilling is otherwise required or approved by the Director to protect the lease from drainage.

(iii) No wells will be drilled for oil or gas at a location which, in the opinion of the Oil and Gas Supervisor of the Geological Survey, would result in undue waste of potash deposits or constitute a hazard to or unduly interfere with mining operations being conducted for the extraction of potash deposits.

(iv) The drilling or the abandonment of any well on said lease shall be done in accordance with applicable oil and gas operating regulations including such requirements as the Oil and Gas Supervisor of the Geological Survey may prescribe as necessary to prevent the infiltration of oil, gas, or water into formations containing potash deposits or into mines or workings being utilized in the extraction of such deposits.

2. *Oil and gas leases for lands in Potash Area not covered by order of February 6, 1939.* (a) As a condition to the issuance of either a non-competitive or a competitive lease, or the granting of any renewal or extension of any existing lease, embracing such lands, the applicant, the successful bidder, or the lessee, as the case may be, will be required to execute a stipulation identical to that specified in item 1 (e) hereof.

(b) Upon the discovery hereafter of any oil or gas pool or field embracing all or part of any nonunitized oil and gas lease heretofore issued, unit operation will be required under the applicable unitization provisions of the lease and the Mineral Leasing Act of 1920, as amended, unless it is shown to the satisfaction of the Secretary of the Interior that independent operation will not jeopardize maximum economic recovery of the natural resources of the area.

3. *Potash leases.* All potash permits and leases hereafter issued or existing potash leases hereafter renewed for federal lands within the Potash Area, shall be subject to a requirement, either to be included in the lease or permit or imposed as a stipulation, to the effect that no mining or exploratory operations will be conducted that, in the opinion of the Mining Supervisor of the Geological Survey, would constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production under any oil or gas lease issued for the same land.

4. *Maps and surveys.* (a) Well records and survey plats that an oil and gas lessee must file, pursuant to applicable operating regulations (30 CFR Part 221), shall be available for inspection at the office of the Oil and Gas Supervisor, to any party holding a potash permit or lease on the land on which the well is situated insofar as such records are pertinent to the mining and protection of potash deposits.

(b) Maps of mine workings and surface installations, and records of core analyses that a potash lessee must file pursuant to applicable operating regulations (30 CFR Part 231), shall be available for inspection at the office of the Mining Supervisor, to any party holding an oil and gas lease on the same land insofar as such maps or records are pertinent to the development and protection of oil and gas deposits.

5. *Unit plans.* Any unit plan hereafter approved or prescribed that includes oil and gas leases covered by this notice shall include a provision embodying in substance the requirements set forth in items 1 (e) (ii) and ~~(iv)~~ (iii) and 4 (a), hereof.

6. *Definition.* The word "potash" as used herein shall be deemed to embrace potassium and associated minerals as specified in the act of February 7, 1927 (44 Stat. 1057).

II. Except to the extent herein modified the general regulations contained in 43 CFR, Parts 191 and 192, governing the leasing and development of oil and gas and in 43 CFR, Part 194, governing the leasing and development of potash deposits shall be applicable to the lands covered hereby. Copies of this notice and copies of form No. 4–1158, Second Edition, titled "Offer to Lease and Lease for Oil and Gas" can be obtained from the Land and Survey Office, Bureau of Land Management, Santa Fe, N. Mex.

SCHEDULE A

DESIGNATED POTASH AREA

New Mexico Principal Meridian

T. 19 S., R. 29 E.,
Sec. 11, SE¼;
Sec. 12, S½;
Secs. 13, and 14;
Sec. 23, N½;
Sec. 24, N½.
T. 20 S., R. 29 E.,
Sec. 12, NE¼SE¼, and S½SE¼;
Sec. 13, NE¼, and S½;
Sec. 24, N½;
Sec. 36.
T. 21 S., R. 29 E.,
Secs. 1 and 2;
Sec. 3, E½;
Sec. 10, E½;
Sec. 11 to 15 inclusive;
Sec. 22, N½N½;
Sec. 23, N½;
Secs. 24 and 25;
Sec. 35, E½;
Sec. 36.
T. 22 S., R. 29 E.,
Secs. 1 and 2;
Sec. 3, S½;
Sec. 9, E½;
Secs. 10 to 16 inclusive;
Sec. 17, E½;
Sec. 20, E½;
Secs. 21 to 28 inclusive;
Secs. 33 to 36 inclusive.
T. 23 S., R. 29 E.,
Secs. 1 to 3 inclusive;
Secs. 4, E½;
Sec. 9, E½;
Secs. 10 to 15 inclusive;
Secs. 22 to 27 inclusive;
Secs. 34 to 36 inclusive.
T. 18 S., R. 30 E.,
Sec. 12, S½;
Secs. 13 and 14;
Sec. 15, SE¼;
Sec. 21, SE¼;
Secs. 22 to 24 inclusive;
Sec. 25, W½;
Secs. 26 to 28 inclusive;
Sec. 29, SE¼;
Sec. 32, NE¼, and S½;
Secs. 33 and 34;
Sec. 35, W½.
T. 19 S., R. 30 E.,
Secs. 2 to 5 inclusive;
Sec. 6, SE¼;
Sec. 7, NE¼, and S½;
Secs. 8 to 36 inclusive.
T. 20 S., R. 30 E.;
T. 21 S., R. 30 E.,
Secs. 1 to 11 inclusive;
Sec. 12, S½;
Secs. 13 to 22 inclusive;
Sec. 23, N½;
Sec. 24, N½;
Secs. 27 to 34 inclusive;
Sec. 35, S½.
T. 22 S., R. 30 E.,
Secs. 1 to 24 inclusive;
Sec 25, W½;
Secs. 26 to 35 inclusive;
Sec. 36, W½.
T. 23 S., R. 30 E.,
Sec. 1, S½;
Secs. 2 to 36 inclusive.
T. 24 S., R. 30 E.,
Sec. 1, N½;
Sec. 2, N½;
Sec. 3, N½.
T. 18 S., R. 31 E.,
Sec. 18, W½.
T. 19 S., R. 31 E.,
Secs. 9 and 10;
Sec. 11, W½;
Sec. 14, W½;
Secs. 15 to 17 inclusive;
Secs. 19 to 22 inclusive;
Sec. 23, W½;
Sec. 25, S½;
Secs. 26 to 36 inclusive.
T. 20 S., R. 31 E.;
T. 21 S., R. 31 E.,
Sec. 1, lots 1 to 16 inclusive;
Sec. 2, lots 1 to 16 inclusive;
Sec. 4, W½;
Secs. 5 and 6;
Sec. 18, S½;
Sec. 19, N½.
T. 22 S., R. 31 E.,
Secs. 4 to 9 inclusive;
Secs. 17 and 18;
Sec. 19, N½.
T. 23 S., R. 31 E.,
Sec. 7;
Sec. 8, S½;
Sec. 16, SW¼;
Secs. 17 to 20 inclusive;
Sec. 21, W½;
Secs. 28 to 33 inclusive.
T. 24 S., R. 31 E.,
Secs. 4 to 6 inclusive.
T. 19 S., R. 32 E.,
Sec. 23, S½;
Secs. 24 to 27 inclusive;
Sec. 28, S½;
Sec. 31, S½;
Sec. 32, S½;
Secs. 33 to 36 inclusive.
T. 20 S., R. 32 E.;
T. 21 S., R. 32 E.,
Secs. 1 to 17 inclusive;
Secs. 21 to 27 inclusive;
Secs. 35 and 36.
T. 19 S., R. 33 E.,
Secs. 19, 30 and 31.
T. 20 S., R. 33 E.,
Secs. 5 to 9 inclusive;
Secs. 15 to 23 inclusive;
Secs. 25 to 36 inclusive.
T. 21 S., R. 33 E.,
Secs. 4 to 9 inclusive;
Secs. 16 to 21 inclusive;
Secs. 28 to 33 inclusive.
T. 22 S., R. 33 E.,
Secs. 4 to 6 inclusive.
T. 20 S., R. 34 E.,
Sec. 31.

The area described, including both public and nonpublic lands, aggregates approximately 298,345 acres.

SCHEDULE B

LANDS COVERED BY ORDER OF FEBRUARY 6, 1939, WITHIN POTASH AREA [1]

T. 20 S., R. 29 E.,
Sec. 12, SE¼SE¼;
Sec. 13, E½E½, and NW¼NE¼;
Sec. 24, E½NE¼;
Sec. 36.
T. 21 S., R. 29 E.,
Sec. 1;
Sec. 11, N½NE¼, SW¼NE¼, N½NW¼, SE¼NW¼, and SE¼;
Sec. 12;
Sec. 13, E½, and S½SW¼;
Sec. 14, SW¼NE¼, SW¼, and S½SE¼;
Sec. 15, NE¼, NE¼NW¼, S½NW¼, and S½;
Sec. 22, N½N½;
Sec. 23, N½N½;
Sec. 24, NE¼, and N½NW¼.
T. 22 S., R. 29 E.,
Sec. 1;
Sec. 11, E½, N½NW¼, and S½SW¼;
Secs. 12 to 14, inclusive;
Secs. 23 and 24;
Sec. 25, NE¼, NE¼NW¼, S½NW¼, and S½;
Sec. 26, W½NW¼, and S½;
Sec. 35, NE¼.

[1] Of the lands included in this schedule, the following tracts are covered by outstanding leases or are within the limits of a known geologic structure of a producing oil or gas field: E½NE¼, sec. 24, T. 20 S., R. 29 E., S½NE¼, SE¼, sec. 9, W½SE¼, SW¼, SE¼SE¼, sec. 10, sec. 15 (all), N½NE¼, sec. 21, T. 20 S., R. 30 E. The SE¼NE¼, sec. 11, T. 21 S., R. 29 E., is included in the order of February 6, 1939, but is omitted from this schedule because it is state land.

T. 19 S., R. 30 E.,
Sec. 22, S½;
Sec. 23, S½N½, and S½;
Sec. 24;
Sec. 25, NE¼, NE¼NW¼, S½NW¼, and S½;
Secs. 26 and 27;
Sec. 28, SE¼;
Secs. 33 to 35 inclusive.
T. 20 S., R. 30 E.,
Sec. 3, lots 2, 3, and 4, S½N½, and S½;
Sec. 4;
Sec. 5, lots 1, 2, 3, and 4, S½N½, N½SW¼, SE¼SW¼, and SE¼;
Sec. 6, E½SE¼;
Sec. 7, lots 3 and 4, NE¼NE¼, S½NE¼, SE¼NW¼, E½SW¼, and SE¼;
Secs. 8 to 10 inclusive;
Sec. 13, SE¼;
Sec. 14, NW¼NE¼, S½NE¼, NW¼, and S½;
Sec. 15;
Sec. 21, N½NE¼;
Sec. 22, N½;
Sec. 23, N½;
Sec. 24, NW¼;
Sec. 25, NE¼, and S½;
Sec. 31, lots 1, 2, 3, and 4, E½W½;
Sec. 35, S½.
T. 21 S., R. 30 E.,
Sec. 3, lots 3, 4, 5, 6, 11, 12, 13, and 14, SW¼;
Secs. 4 to 7 inclusive;
Sec. 8, NE¼, NE¼NW¼, S½NW¼, and S½;
Sec. 9;
Sec. 10, W½;
Secs. 17 and 18;
Sec. 19, lots 1, 2, 3, and 4, NE¼, and E½NW¼;
Sec. 20, N½N½;
Sec. 31.
T. 22 S., R. 30 E.,
Secs. 6 and 7;
Secs. 18 to 20 inclusive;
Sec. 21, W½E½, and W½;
Secs. 28 and 29;
Sec. 30, lots 1, 2, 3, and 4, N½NE¼, SE¼NE¼, E½W½, and SE¼;
Sec. 31, lot 1.
T. 19 S., R. 31 E.,
Secs. 19, 30, and 31.
T. 20 S., R. 31 E.,
Secs. 28 to 31 inclusive;
Sec. 33.

The areas described aggregate 42,245.18 acres.

Dated: October 16, 1951.

OSCAR L. CHAPMAN,
Secretary of the Interior.

[F. R. Doc. 51-12547; Filed, Oct. 18, 1951; 8:46 a. m.]

Published in 16 F.R. 10669 of October 18, 1951

P. O. Box 6721
Roswell, New Mexico

August 31, 1956

Memorandum

To: Chief, Oil and Gas Leasing Branch

From: Oil and Gas Supervisor, Roswell, New Mexico

Subject: Potash area oil and gas lease stipulations, regulations of October 12, 1951 (16 F. R. 10669, 10/14/51), State Order R-111-A.

In accordance with your request of June 3, I have discussed with the Regional Mining Supervisor at Carlsbad possible revision of the subject potash regulations and stipulations to simplify the procedure established thereunder and to conform the stipulations and procedure to the provisions of Oil Conservation Commission Order No. R-111-A.

Mr. Fulton has advised me that the potash operators will protest any reduction in the potash area described in Schedule "A" of the potash regulations inasmuch as future mining operations are contemplated in certain portions of the area described in Schedule "A" which are not included in the lands to which Order No. R-111-A is applicable. We recommend, therefore, that the area described in Schedule "A" be not reduced but instead be extended to include certain lands in T. 19 S., R. 33 E., T. 20 S., Rs. 29, 33, and 34 E., and T. 21 S., Rs., 29, 30, 31, 33, and 34 E., which are included in Order No. R-111-A.

We believe that certain changes should be made in potash stipulations Item 1 (c) (i) (ii) and 5 in order to simplify action to be taken on applications to drill for oil and gas within the potash area, and to permit closer cooperation with the Oil Conservation Commission in its administration of Order No. R-111-A. Item 2 (b) seems to us to be superfluous inasmuch as it adds nothing not already in the lease.

Our proposed changes and additions have been made on the two enclosed copies of the potash regulations and stipulations. I have discussed these changes with Regional Mining Supervisor Fulton and I believe that they are acceptable to him and also will be acceptable to the potash operators and the oil and gas operators. Mr. Fulton plans to report to the Chief of the Mining Branch on the proposed changes.

JOE A. ANDERSON

Copy to: Washington

Mining Supervisor, Carlsbad (2)
Artesia
Hobbs

ILLEGIBLE

Case 229

HOWARD W. JENNINGS
WHITE BUILDING
ROSWELL, NEW MEXICO

ADDRESS
POST OFFICE BOX 450

TELEPHONE
3302

September 22, 1955

A I R M A I L

Mr. W. B. Macey
Oil Conservation Commission
Santa Fe, New Mexico

Dear Bill,

Reference is made to our conversation regarding the revision of the Potash rules insofar as the salt protection string of casing. I have had a conference today with Mr. John Anderson and Mr. Tom Stipp of the U. S. G. S. and the following is the suggested wording of Paragraph (IV)(3b) (ii):

"For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar; however, where the base of the Delaware Mountain Group is definable the casing rules (IV) (3b) (i) shall apply even if the depth of the base of the Delaware Mountain Group is greater than 5,000 feet. For the purpose of identification the base of the Delaware Mountain Group is hereby identified as the equivilent of the base of such formation as found at a depth of 7485 feet in the Richardson and Bass #1 Rodke well in Section 27, Township 20 South, Range 31 East, N.M.P.M., immediately overlying the Bone Springs formation."

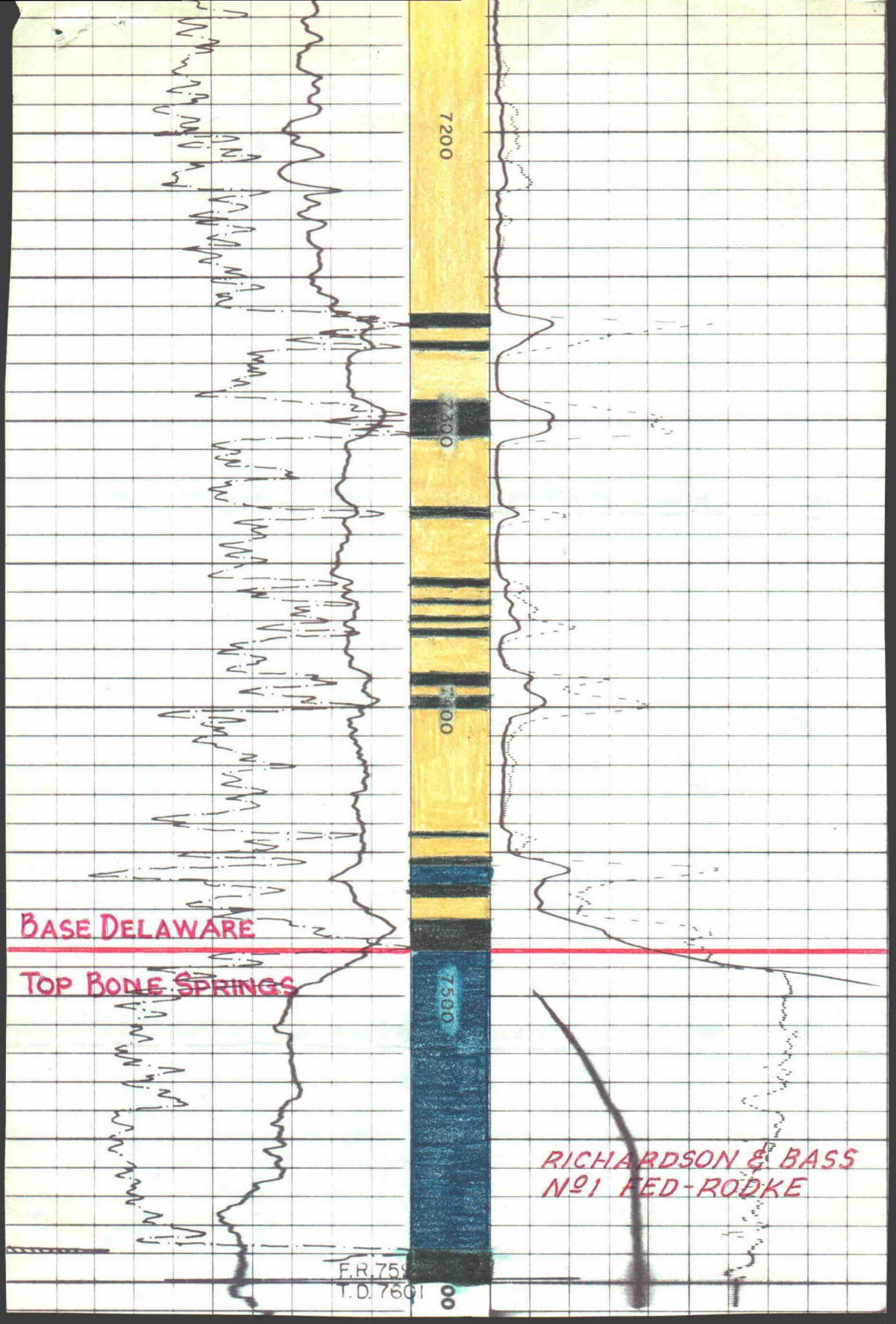
As you will note, they suggested changing the phraseology from Delaware Sand to Delaware Mountain Group as it was their idea that this would be much more definable by all geologists. If you have any questions concerning same it would be appreciated if you would call me or call Mr. Anderson, as you prefer. We are enclosing a portion of the electric log on the #1 Rodke which clearly reflects the base of the Delaware and the top of the Bone Springs formation. This log is for your information only as it was thought that possibly you might like to see how this break in the formation is shown on electrical logs.

Sincerely yours,

Howard W. Jennings

HWJ:wmb

Enclosure


7200
7300
7400
7500
BASE DELAWARE
TOP BONE SPRINGS
F.R. 75
T.D. 7601
RICHARDSON & BASS
No 1 FED-RODKE

Final Revision on 9/1/55

CASE 278

SUGGESTED REVISED ORDER NO. R-111

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would, in the opinion of the Commission or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the POTASH AREA, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar. However, where the base of the Delaware sand is definable the casing rules in (IV) (3b) (i) shall apply even if the depth of the bottom of the Delaware Sand is greater than 5000'.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe,

unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section IV (3), (c), (e) and (f) for the salt

protection string, however if high pressure oil or gas production is discovered in any area the Commission shall promulgate the necessary rules to prevent the charging of the salt section.

V.

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.

PLUGGING AND ABANDONMENT OF WELLS

(a) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with field rules established by the Commission that will provide a solid cement plug through the salt section and any water bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(b) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the

location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash operators holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph IX (b).

The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash operator within ten days after receipt. If the location of the proposed well is objected to by the potash operator, the matter shall be referred to the Secretary-Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash operator may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.

FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(a) Directional Surveys:

The Commission may require an operator to file a certified directional survey from the surface to a point below the lowest known potash

bearing horizon on all wells drilled within the POTASH AREA. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(b) Mine Surveys:

On or before January 31st of each year, each potash operator shall furnish two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection.

(c) Potash Development Plan

Within 30 days after the adoption of this order and thereafter, on or before January 31st of each year, each potash operator shall furnish two copies of a five-year projection of development plans in the form of a plat, which plat shall be for the confidential use of the Commission and for inspection by any affected oil or gas operator. The projection shall cover not less than 3 nor more than a 5 year development program.

X.

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

1st Revision Given out on 8/17/65

CASE 278

SUGGESTED REVISED ORDER NO. R-111

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

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(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

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protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

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Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash lessees within 1320 feet of the proposed well.

The well operator shall furnish proof of the fact that said potash lessees were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash lessee within ten days after receipt. If the location of the proposed well is objected to by the potash lessee, the matter shall be referred to the Secretary - Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATONS

A representative of the potash lessee may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.
FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(a) Directional Surveys:

The Commission may require an operator to file a certified directional survey fromthe surface to a point below the lowest known potash bearing horizon on all wells drilled within the POTASH AREA. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(b) Mine Surveys:

On or before January 31st of each year, each potash lessee shall furnish two copies of a certified plat of a survey of the location of all of his open mine workings.

(c) Potash Development Plan

On or before January 31st of each year, each potash lessee shall furnish two copies of a five-year projection of development plans in the form of a plat, which plat shall be available for public inspection.

X.
APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

EXHIBIT "A"

PROPOSED POTASH OIL AREA

TOWNSHIP 18 SOUTH, RANGE 30 EAST

Section 13:	SW/4
Section 14:	S/2, NW/4, W/2 NE/4
Section 15:	SE/4
Section 22:	E/2, E/2 W/2
Section 23:	All
Section 24:	NW/4
Section 26:	N/2
Section 27:	N/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 19 SOUTH, RANGE 29 EAST	
Section 11:	SE/4
Section 12:	S/2, S/2 NE/4
Section 13:	N/2, N/2 S/2, S/2 SW/4
Section 14:	E/2, E/2 W/2
Section 23:	N/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 30 EAST	
Section 3:	S/2
Section 4:	S/2, NW/4, SW/4 NE/4
Section 5:	E/2, E/2 W/2, SW/4 SW/4
Section 7:	S/2, S/2 N/2, N/2 NE/4
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	SW/4, W/2 SE/4
Section 14:	W/2, W/2 SE/4
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2, NW/4
Section 19:	NE/4
Section 20:	N/2, SE/4 SE/4
Section 21:	All
Section 22:	All
Section 23:	W/2
Section 26:	W/2, SE/4
Section 27:	All
Section 28:	All
Section 29:	E/2
Section 32:	SE/4, NE/4 NE/4
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	SW/4, S/2 NW/4, S/2 SE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST	
Section 36:	SE/4

TOWNSHIP 19 SOUTH, RANGE 32 EAST	
Section 31:	W/2 SW/4
Section 33:	SE/4, E/2 SW/4
Section 34:	S/2
Section 35:	S/2
Section 36:	SW/4, SE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST	
Section 22:	SE/4 SE/4
Section 23:	SW/4
Section 25:	SW/4
Section 26:	All
Section 27:	E/2
Section 31:	S/2
Section 32:	SW/4
Section 34:	NE/4 NE/4
Section 35:	All
Section 36:	S/2, NW/4, W/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 19 SOUTH, RANGE 34 EAST	
Section 31:	SW/4 SW/4

TOWNSHIP 20 SOUTH, RANGE 29 EAST	
Section 13:	SW/4 SW/4
Section 14:	SE/4 SE/4
Section 22:	SE/4, S/2 NE/4
Section 23:	S/2, NE/4
Section 24:	W/2, W/2 SE/4
Section 25:	N/2, N/2 S/2
Section 26:	All
Section 27:	E/2
Section 34:	NE/4, N/2 SE/4
Section 35:	NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST	
Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	S/2, NE/4
Section 6:	S/2, S/2 NE/4
Section 7:	NW/4, E/2
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2
Section 19:	E/2
Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	E/2
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 31 EAST	
Section 1:	E/2, E/2 W/2
Section 6:	SW/4, S/2 NW/4, W/2 SE/4
Section 7:	W/2, SE/4, W/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 31 EAST (continued)

Section 8:	S/2, S/2 N/2
Section 9:	SW/4, S/2 NW/4
Section 11:	SE/4, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, SW/4, E/2 NW/4
Section 16:	W/2
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	NW/4, S/2
Section 22:	S/2, S/2 NE/4
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 32 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	E/2, SW/4, E/2 NW/4
Section 5:	S/2 SE/4
Section 6:	W/2, SW/4 SE/4
Section 7:	All
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 32 EAST (continued)

Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 33 EAST

Section 1:	All
Section 2:	E/2, E/2 W/2
Section 5:	W/2
Section 6:	All
Section 7:	All
Section 8:	W/2, SW/4 NE/4, SE/4
Section 9:	S/2 S/2, NW/4 SW/4
Section 10:	S/2
Section 11:	E/2, E/2 NW/4, SW/4
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	W/2 SW/4, NW/4, N/2 NE/4
Section 22:	N/2 N/2
Section 23:	N/2 N/2, SE/4 NE/4
Section 24:	N/2, N/2 SE/4, SE/4 SE/4
Section 29:	W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 30:	All
Section 31:	N/2, W/2 SW/4

TOWNSHIP 20 SOUTH, RANGE 34 EAST

Section 6:	W/2, W/2 SE/4
Section 7:	All
Section 8:	SW/4
Section 16:	SW/4, SW/4 NW/4, SW/4 SE/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	SW/4
Section 27:	W/2
Section 28:	All

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 34 EAST (continued)

Section 29:	N/2, SE/4, NE/4 SW/4
Section 30:	NE/4 NW/4, N/2 NE/4, SE/4 NE/4
Section 32:	N/2 NE/4, SE/4 NE/4
Section 33:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 34:	W/2

TOWNSHIP 21 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	Lots 1 - 16, incl., SE/4, NE/4 SW/4
Section 3:	Lots 1 - 9, incl.
Section 4:	Lots 1 - 8, incl., Lots 10 and 11
Section 11:	E/2, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, E/2 W/2, SW/4 NW/4, NW/4 SW/4
Section 15:	SE/4 NE/4, NE/4 SE/4
Section 23:	N/2 NE/4
Section 24:	NE/4, NE/4 SE/4, N/2 NW/4, SE/4 NW/4
Section 35:	S/2 NE/4, SE/4, E/2 SW/4
Section 36:	S/2 SW/4, SE/4, S/2 NE/4, NE/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 30 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	All
Section 9:	N/2, SW/4
Section 10:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	NE/4, NE/4 NW/4, N/2 SE/4, SE/4 SE/4
Section 16:	NW/4 NW/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	NW/4, N/2 NE/4
Section 22:	E/2 E/2
Section 23:	All
Section 24:	All
Section 25:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 26:	N/2, N/2 S/2
Section 27:	NE/4, N/2 SE/4, SE/4 SE/4
Section 29:	NW/4, N/2 SW/4
Section 30:	E/2, E/2 W/2
Section 31:	All
Section 32:	S/2, NW/4, NW/4 NE/4, S/2 NE/4
Section 36:	E/2

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 31 EAST

Section 1: All
Section 2: All
Section 3: All
Section 4: All
Section 5: All
Section 6: All
Section 7: All
Section 8: All
Section 9: All
Section 10: W/2
Section 12: N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 13: N/2 NE/4
Section 15: W/2
Section 16: E/2, NW/4, E/2 SW/4
Section 18: NW/4, W/2 NE/4, NE/4 NE/4, W/2 SW/4, NE/4 SW/4
Section 21: E/2, NE/4 NW/4
Section 22: W/2
Section 27: W/2, SW/4 NE/4, W/2 SE/4
Section 28: E/2
Section 30: SW/4, W/2 NW/4, SE/4 NW/4
Section 31: W/2
Section 33: NE/4 NE/4
Section 34: NW/4, NW/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 32 EAST

Section 6: Lots 1 - 7 incl., Lots 10 - 15, incl., SW/4
Section 7: W/2
Section 22: E/2
Section 23: All
Section 24: All

TOWNSHIP 21 SOUTH, RANGE 33 EAST

Section 3: Lots 1, 2, 3
Section 17: S/2 S/2
Section 18: SE/4 SE/4
Section 19: All
Section 20: All
Section 21: W/2, SE/4, S/2 NE/4
Section 22: S/2, S/2 N/2
Section 23: S/2, S/2 N/2, NE/4 NE/4
Section 24: All
Section 25: NW/4, N/2 NE/4, SW/4 NE/4, N/2 SW/4
Section 26; W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 27: All
Section 28: All
Section 29: N/2, SE/4, NE/4 SW/4
Section 30: N/2 NE/4, SE/4 NE/4
Section 33: N/2 N/2
Section 34: N/2 N/2

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 34 EAST

Section 19:	W/2

TOWNSHIP 22 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	E/2, E/2 NW/4, SW/4
Section 3:	S/2 SE/4, NE/4 SE/4
Section 10:	E/2, E/2 W/2, SW/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	SE/4, SE/4 NE/4, SE/4 SW/4
Section 20:	E/2 E/2
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	NE/4, N/2 NW/4, SE/4 NW/4, SE/4
Section 33:	NE/4 NE/4
Section 34:	NW/4, W/2 E/2, N/2 SW/4, SE/4 SW/4
Section 35:	E/2, SW/4, SE/4 NW/4
Section 36:	All

TOWNSHIP 22 SOUTH, RANGE 30 EAST

Section 1:	E/2
Section 5:	N/2, N/2 S/2, SW/4 SW/4
Section 6:	All
Section 7:	W/2, W/2 E/2, SE/4 SE/4
Section 8:	S/2 SW/4
Section 12:	NE/4 NE/4
Section 13:	NW/4, N/2 SW/4, SW/4 SW/4
Section 14:	SE/4, S/2 NE/4, E/2 SW/4, SW/4 SW/4
Section 17:	NW/4
Section 18	All
Section 19:	All
Section 20:	All
Section 21:	S/2, SW/4 NW/4
Section 22:	S/2, S/2 N/2, NE/4 NE/4
Section 23:	W/2, W/2 NE/4, NE/4 NE/4
Section 26:	W/2 W/2
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	W/2

EXHIBIT "A" (continued)

TOWNSHIP 22 SOUTH, RANGE 31 EAST	
Section 6:	W/2, W/2 NE/4, NW/4 SE/4
Section 7:	N/2 NW/4
TOWNSHIP 23 SOUTH, RANGE 29 EAST	
Section 1:	All
Section 2:	E/2, NW/4, NE/4 SW/4
Section 11:	NE/4 NE/4
Section 12:	N/2 N/2
TOWNSHIP 23 SOUTH, RANGE 30 EAST	
Section 2:	NW/4
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	NE/4, N/2 NW/4, SE/4 NW/4
Section 8:	N/2 N/2, S/2 NE/4
Section 9:	N/2, NE/4 SW/4, N/2 SE/4
Section 10:	N/2, SW/4

August 16, 1955
/ir

last revision

CASE 278

SUGGESTED REVISED ORDER NO. R-111

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the POTASH AREA, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred

(600) feet below the base of the salt section.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with three (3 percent) of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative,, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe, unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt

protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

V.
DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.
PLUGGING AND ABANDONMENT OF WELLS

(a) All wells heretofore and hearafter drilled within the Potash Area shall be plugged in a manner that will provide a solid cement plug through the salt section and prevent liquids of gases from entering the hole above or below the salt section.

(b) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with three (3) percent of calcium chloride by weight of cement.

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash lessees within 1320 feet of the proposed well.

The well operator shall furnish proof of the fact that said potash lessees were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash lessee within ten days after receipt. If the location of the proposed well is objected to by the potash lessee, the matter shall be referred to the Secretary - Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATONS

A representative of the potash lessee may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

STATE OF NEW MEXICO
OFFICE OF STATE GEOLOGIST
SANTA FE, NEW MEXICO

April 5, 1951

COPY

Mr. Guy Shepard
State Land Office
Santa Fe, New Mexico

Dear Guy:

I have your letter of March 30, 1951, in which you list my appointment to the committee to recommend regulations for the proper exploration and development of state lands within the Delaware Basin, Eddy County, New Mexico, by both the potash and oil industries.

I shall be glad to serve on this committee with the other members you have named, and I am sure that all of us will make every effort to understand the problems of the two industries.

Sincerely,

R. R. Spurrier

RRS:nr

Committee met 4-17-51 3 p.m. in Guy Shepard's office, recessed until morning session 4-18-51

Tract No. 35

	Sec.	Twp.	Rge.	Acres
S½NE¼	16	29N	8W	80.00
N½, N½SW¼, SE¼SW¼, E½SE¼	32	29N	8W	520.00
N½NE¼, SE¼NE¼, N½SW¼	36	29N	8W	200.00

Total Acreage 800.00
Minimum Rental 25c per acre
Filing fee $5.00

Tract No. 36

	Sec.	Twp.	Rge.	Acres
NW¼SW¼	2	22S	35E	40.00

Total Acreage 40.00
Minimum rental 25c per acre
Filing fee $5.00

FURTHER PUBLIC NOTICE is hereby given that, pursuant to the rules and regulations of the State Land Office, the Commissioner of Public Lands of the State of New Mexico will hold a sale at PUBLIC AUCTION of oil and gas leases as described hereinbelow, at his office in the Capitol Building, Santa Fe, New Mexico, immediately at the conclusion of the sale of Tracts offered at sealed bid.

This sale will be governed by the provisions of Chapter 8-1110, New Mexico Statutes, Compilation of 1931, being an Act of the Legislature of New Mexico, approved March 10, 1931, and the rules and regulations of the State Land Office, pertaining to sale of oil and gas leases upon State Lands.

No sealed bids will be received, accepted or considered in the disposition of the hereinbelow described tracts. The Commissioner of Public Lands reserve the right to reject any and all bids.

Tract 0-1

	Sec.	Twp.	Rge.	Acres
SW¼SW¼	3	14S	33E	40.00
W½W½	11	14S	33E	160.00

Total Acreage 200.00
Minimum Rental 25c per acre
Filing fee $5.00

Tract 0-2

	Sec.	Twp.	Rge.	Acres
All	36	22S	30E	640.00
Lots 1, 2, 3, 4, S½N½, N½SE¼, S½SW¼, NW¼SW¼	2	23S	30E	520.56
All	16	23S	30E	640.00
Lots 1, 2, 3, 4, SE¼NW¼, E½SW¼	19	23S	30E	280.80
NE¼NE¼, E½NW¼, NE¼SW¼	21	23S	30E	160.00
S½, NW¼, S½NE¼, NW¼NE¼	22	23S	30E	600.00
NE¼NE¼	28	23S	30E	40.00
Lots 1, 2, 3, 4, E½W½	30	23S	30E	321.36
Lots 1, 2, 3, 4, E½W½	31	23S	30E	322.72
All	32	23S	30E	640.00
All	36	23S	30E	640.00
All	2	24S	30E	640.66

Total Acreage 5,446.10
Minimum Rental 25c per acre
Filing fee $5.00

Tract 0-3

	Sec.	Twp.	Rge.	Acres
NW¼, W½NE¼, S½SE¼	2	20S	31E	315.66
SW¼, W½NW¼	16	20S	31E	240.00
W½NE¼, SE¼NE¼, N½SE¼	32	20S	31E	200.00
S½, W½NW¼, NE¼	36	20S	31E	560.00
NW¼, E½NE¼	16	20S	32E	240.00
All	32	20S	32E	640.00
E½NW¼	36	20S	30E	80.00
Lot 2	2	21S	30E	35.97
SE¼NE¼, SE¼, S½SW¼	14	21S	30E	280.00
N½, SW¼, N½SE¼	16	21S	30E	560.00
NE¼SE¼	20	21S	30E	40.00
E½	21	21S	30E	320.00
All	22	21S	30E	640.00
N½	23	21S	30E	320.00
NW¼	24	21S	30E	160.00
N½	27	21S	30E	320.00
NE¼, NW¼NW¼, S½NW¼, SW¼, S½SE¼, NE¼ SE¼	28	21S	30E	560.00
N½, SE¼, NE¼SW¼	36	19S	31E	520.00

Total Acreage 6,031.63
Minimum Rental 25c per acre
Filing fee $5.00

Tract 0-4

	Sec.	Twp.	Rge.	Acres
Lots 1, 4, SW¼NW¼, N½SW¼	2	20S	32E	199.80
NE¼	13	20S	32E	160.00
E½NE¼, N½SE¼, SE¼SE¼, SW¼	36	20S	32E	360.00
Lots 3, 4, S½NW¼, SW¼NE¼, SW¼, N½SE¼	4	20S	33E	400.92
Lots 1, 2, 3, 4, E½W½, S½SE¼	18	20S	33E	399.88
W½NE¼	19	20S	33E	80.00
Lot 1, NE¼NW¼, N½NE¼, SE¼NE¼, NE¼SE¼	31	20S	33E	240.26
S½	2	21S	31E	320.00
N½, E½SE¼, E½SW¼	32	21S	31E	480.00

Total Acreage 2,640.86
Minimum Rental 25c per acre
Filing fee $5.00

Tract 0-5

	Sec.	Twp.	Rge.	Acres
SW¼SW¼, S½NE¼, NW¼NE¼	16	21S	28E	160.00
SW¼NW¼	18	21S	28E	39.67
S½NE¼, SE¼NW¼, S½SE¼, SE¼SW¼	32	21S	28E	240.00
All	36	21S	28E	640.00
N½, N½SE¼	32	21S	29E	400.00
All	36	21S	29E	637.12
E½, NW¼, N½SW¼, SW¼SW¼	2	22S	29E	600.24
S½NW¼, N½SW¼	11	22S	29E	160.00
All	16	22S	29E	640.00
NW¼NW¼	25	22S	29E	40.00
NE¼, E½NW¼	26	22S	29E	240.00
All	32	22S	29E	640.00
All	36	22S	29E	640.00
All	2	23S	29E	638.78

Total Acreage 5,715.81
Minimum Rental 25c per acre
Filing Fee $5.00

Tract 0-6

	Sec.	Twp.	Rge.	Acres
Lots 9, 10, SE¼	2	21S	29E	240.00
SE¼NE¼, SW¼NW¼, SW¼	11	21S	29E	240.00
N½NW¼, SE¼NW¼, NE¼SW¼	13	21S	29E	160.00
NW¼, N½NE¼, NW¼SE¼	14	21S	29E	280.00
SW¼NE¼, SW¼SE¼	16	21S	29E	80.00
NW¼NW¼	8	21S	30E	40.00

Total Acreage 1,040.00
Minimum Rental 25c per acre
Filing fee $5.00

STATE LAND OFFICE

Santa Fe, New Mexico

GUY SHEPARD
COMMISSIONER OF PUBLIC LANDS

March 30, 1951

Following the hearing March 29, 1951, I, as Commissioner of Public Lands, announced that I would appoint a Committee to recommend regulations for the proper exploration and development of the State lands within the Delaware basin, Eddy County, New Mexico, simultaneously by both the Potash and Oil Industries. In keeping with this announcement, I have appointed:

Mr. Fred O. Davis, a Director of Potash Company of America, Carlsbad, New Mexico,

Mr. Emory Carper, President, New Mexico Oil and Gas Association, Artesia, New Mexico,

Mr. Tom Cramer, Vice-President, United States Potash Company, Carlsbad, New Mexico,

Mr. John M. Kelly, Independent Oil Operator, Roswell, New Mexico, and

Mr. R. R. Spurrier, Director, New Mexico Oil Conservation Commission, Santa Fe, New Mexico.

May I ask that each of you advise me at your earliest convenience of your willingness to serve on this Committee. It is my intention that such Committee meet at the earliest possible time and submit its recommendations to me.

I would be grateful, because of the considerable Federal Acreage in the area, if Messrs. Foster Morrell and R. H. Allport of the United States Geological Survey would sit in an advisory or unofficial capacity with the Committee if they may do so under regulations.

I sincerely trust that each of you will accept and make reasonable recommendations to me in order that I may the sooner promulgate and publish regulations as required by law.

Very truly yours,

Guy Shepard

GUY SHEPARD
Commissioner of Public Lands

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE NO. 278
Order No. R-111-A

THE APPLICATION OF THE OIL CONSERVATION COMMISSION UPON ITS OWN MOTION FOR AN ORDER REVISING ORDER R-111 ISSUED IN CASE 278, PERTAINING TO THE POTASH-OIL AREAS OF EDDY AND LEA COUNTIES, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on July 14, 1955, August 17, 1955 and September 15, 1955, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this 13th day of October, 1955, the Commission, a quorum being present, having considered the records and testimony adduced, and being fully advised in the premises;

FINDS:

(1) That due notice of the time and place of hearing and the purpose thereof having been given as required by law, the Commission has jurisdiction of this case and the subject matter thereof.

(2) That the delineation of an area including and containing potential oil and gas reserves, within which are commercial potash deposits, and the promulgation of rules and regulations for the orderly development of oil and gas resources in such an area known to be productive of potash is within the authority of the Commission for the protection of correlative rights, the promotion of conservation, and the prevention of waste.

IT IS THEREFORE ORDERED:

That this order shall be known as The Rules and Regulations Governing the Exploration of Oil and Gas in Certain Areas Herein Defined, which are Known to Contain Potash Reserves.

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico, and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH-OIL AREA

(1) The Potash-Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves.

(2) The Potash-Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the Potash Area shall be subject to these Rules and Regulations.

(2) No wells will be drilled for oil or gas at a location which, in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the Potash Area that would, in the opinion of the Commission or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the Potash Area, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations, and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar; however, where the base of the Delaware Mountain Group is definable the casing rules in (IV) (3b) (i) shall apply even if the depth of the bottom of the Delaware Mountain Group is greater than 5000 feet. For the purpose of identification, the base of the Delaware Mountain Group is hereby identified as the equivalent of the base of such formation as found at a depth of 7485 feet in the Richardson and Bass No. 1 Rodke well in Section 27, Township 20 South, Range 31 East, NMPM, Lea County, New Mexico, immediately overlying the Bone Springs formation.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgement the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe, unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled

before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section IV (3), (c), (e) and (f) for the salt protection string; however if high pressure oil or gas production is discovered in any area, the Commission shall promulgate the necessary rules to prevent the charging of the salt section.

V.

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.

PLUGGING AND ABANDONMENT OF WELLS

(1) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with field rules established by the Commission that will provide a solid cement plug through the salt section and any water bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(2) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible.

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the Potash Area, the well operator shall prepare a map or plat showing the location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash operators holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph IX (2).

The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash operator within ten days after receipt. If the location of the proposed well is objected to by the potash operator, the matter shall be referred to the Secretary-Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary-Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash operator may be present during drilling, cementing, casing, and plugging of all oil or gas wells within a radius of one mile of the well location to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.

FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(1) Directional Surveys:

The Commission may require an operator to file a certified directional survey from the surface to a point below the lowest known potash bearing horizon on all wells drilled within the Potash Area. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(2) Mine Surveys:

Within 30 days after the adoption of this order, and thereafter on or before January 31st of each year, each potash operator shall furnish two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection.

(3) Potash Development Plan

Within 30 days after the adoption of this order and thereafter on or before January 31st of each year, each potash operator shall furnish two copies of a projection of development plans in the form of a plat, which plat shall be for the confidential use of the Commission and for inspection by any affected oil or gas operator. The projection shall cover not less than 3 nor more than a 5 year development program.

X.

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

EXHIBIT "A"

POTASH-OIL AREA:

TOWNSHIP 18 SOUTH, RANGE 30 EAST

Section 13:	SW/4
Section 14:	S/2, NW/4, W/2 NE/4
Section 15:	SE/4
Section 22:	E/2, E/2 W/2
Section 23:	All
Section 24:	NW/4
Section 26:	N/2
Section 27:	N/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 29 EAST

Section 11:	SE/4
Section 12:	S/2, S/2 NE/4
Section 13:	N/2, N/2 S/2, S/2 SW/4
Section 14:	E/2, E/2 W/2
Section 23:	N/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 30 EAST

Section 3:	S/2
Section 4:	S/2, NW/4, SW/4 NE/4
Section 5:	E/2, E/2 W/2, SW/4 SW/4
Section 7:	S/2, S/2 N/2, N/2 NE/4
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	SW/4, W/2 SE/4
Section 14:	W/2, W/2 SE/4
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2, NW/4
Section 19:	NE/4
Section 20:	N/2, SE/4 SE/4
Section 21:	All
Section 22:	All
Section 23:	W/2
Section 26:	W/2, SE/4
Section 27:	All
Section 28:	All
Section 29:	E/2
Section 32:	SE/4, NE/4 NE/4
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	SW/4, S/2 NW/4, S/2 SE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST

Section 36:	SE/4

EXHIBIT "A" (continued)

TOWNSHIP 19 SOUTH, RANGE 32 EAST

Section 31:	W/2 SW/4
Section 33:	SE/4, E/2 SW/4
Section 34:	S/2
Section 35:	S/2
Section 36:	SW/4, SE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST

Section 22:	SE/4 SE/4
Section 23:	SW/4
Section 25:	SW/4
Section 26:	All
Section 27:	E/2
Section 31:	S/2
Section 32:	SW/4
Section 34:	NE/4 NE/4
Section 35:	All
Section 36:	S/2, NW/4, W/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 34 EAST

Section 31:	SW/4 SW/4

TOWNSHIP 20 SOUTH, RANGE 29 EAST

Section 13:	SW/4 SW/4
Section 14:	SE/4 SE/4
Section 22:	SE/4, S/2 NE/4
Section 23:	S/2, NE/4
Section 24:	W/2, W/2 SE/4
Section 25:	N/2, N/2 S/2
Section 26:	All
Section 27:	E/2
Section 34:	NE/4, N/2 SE/4
Section 35:	NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	S/2,NE/4
Section 6:	S/2, S/2 NE/4
Section 7:	NW/4, E/2
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2
Section 19:	E/2

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 30 EAST (continued)

Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	E/2
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 31 EAST

Section 1:	E/2, E/2 W/2
Section 6:	SW/4, S/2 NW/4, W/2 SE/4
Section 7:	W/2, SE/4, W/2 NE/4
Section 8:	S/2, S/2 N/2
Section 9:	SW/4, S/2 NW/4
Section 11:	SE/4, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, SW/4, E/2 NW/4
Section 16:	W/2
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	NW/4, S/2
Section 22:	S/2, S/2 NE/4
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 32 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	E/2, SW/4, E/2 NW/4

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 32 EAST, (Continued)

Section 5:	S/2 SE/4
Section 6:	W/2, SW/4 SE/4
Section 7:	All
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 33 EAST

Section 1:	All
Section 2:	E/2, E/2 W/2
Section 5:	W/2
Section 6:	All
Section 7:	All
Section 8:	W/2, SW/4 NE/4, SE/4
Section 9:	S/2 S/2, NW/4 SW/4
Section 10:	S/2
Section 11:	E/2, E/2 NW/4, SW/4
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	W/2 SW/4, NW/4, N/2 NE/4
Section 22:	N/2 N/2

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 33 EAST (continued)

Section 23:	N/2 N/2, SE/4 NE/4
Section 24:	N/2, N/2 SE/4, SE/4 SE/4
Section 29:	W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 30:	All
Section 31:	N/2, W/2 SW/4

TOWNSHIP 20 SOUTH, RANGE 34 EAST

Section 6:	W/2, W/2 SE/4
Section 7:	All
Section 8:	SW/4
Section 16:	SW/4, SW/4 NW/4, SW/4 SE/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	SW/4
Section 27:	W/2
Section 28:	All
Section 29:	N/2, SE/4, NE/4 SW/4
Section 30:	NE/4 NW/4, N/2 NE/4, SE/4 NE/4
Section 32:	N/2 NE/4, SE/4 NE/4
Section 33:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 34:	W/2

TOWNSHIP 21 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	Lots 1 - 16, incl., SE/4, NE/4 SW/4
Section 3:	Lots 1 - 9, incl.
Section 4:	Lots 1 - 8, incl., Lots 10 and 11
Section 11:	E/2, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, E/2 W/2, SW/4 NW/4, NW/4 SW/4
Section 15:	SE/4 NE/4, NE/4 SE/4
Section 23:	N/2 NE/4
Section 24:	NE/4, NE/4 SE/4, N/2 NW/4, SE/4 NW/4
Section 35:	S/2 NE/4, SE/4, E/2 SW/4
Section 36:	S/2 SW/4, SE/4, S/2 NE/4, NE/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 30 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	All
Section 9:	N/2, SW/4
Section 10:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	NE/4, NE/4 NW/4, N/2 SE/4, SE/4 SE/4

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 30 EAST (continued)

Section 16:	NW/4 NW/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	NW/4, N/2 NE/4
Section 22:	E/2 E/2
Section 23:	All
Section 24:	All
Section 25:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 26:	N/2, N/2 S/2
Section 27:	NE/4, N/2 SE/4, SE/4 SE/4
Section 29:	NW/4, N/2 SW/4
Section 30:	E/2, E/2 W/2
Section 31:	All
Section 32:	S/2, NW/4, NW/4 NE/4, S/2 NE/4
Section 36:	E/2

TOWNSHIP 21 SOUTH, RANGE 31 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	All
Section 9:	All
Section 10:	W/2
Section 12:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 13:	N/2 NE/4
Section 15:	W/2
Section 16:	E/2, NW/4, E/2 SW/4
Section 18:	NW/4, W/2 NE/4, NE/4 NE/4, W/2 SW/4 NE/4 SW/4
Section 21:	E/2, NE/4 NW/4
Section 22:	W/2
Section 27:	W/2, SW/4 NE/4, W/2 SE/4
Section 28:	E/2
Section 30:	SW/4, W/2 NW/4, SE/4 NW/4
Section 31:	W/2
Section 33:	NE/4 NE/4
Section 34:	NW/4, NW/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 32 EAST

Section 6:	Lots 1-7 incls., Lots 10-15, incl., SW/4
Section 7:	W/2
Section 22:	E/2
Section 23:	All
Section 24:	All

TOWNSHIP 21 SOUTH, RANGE 33 EAST

Section 3:	Lots 1, 2, 3
Section 17:	S/2 S/2
Section 18:	SE/4 SE/4
Section 19:	All
Section 20:	All

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 33 EAST (continued)

Section 21:	W/2, SE/4, S/2 NE/4
Section 22:	S/2, S/2 N/2
Section 23:	S/2, S/2 N/2, NE/4 NE/4
Section 24:	All
Section 25:	NW/4, N/2 NE/4, SW/4 NE/4, N/2 SW/4
Section 26:	W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 27:	All
Section 28:	All
Section 29:	N/2, SE/4, NE/4 SW/4
Section 30:	N/2 NE/4, SE/4 NE/4
Section 33:	N/2 N/2
Section 34:	N/2 N/2

TOWNSHIP 21 SOUTH, RANGE 34 EAST

Section 19:	W/2

TOWNSHIP 22 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	E/2, E/2 NW/4, SW/4
Section 3:	S/2 SE/4, NE/4 SE/4
Section 10:	E/2, E/2 W/2, SW/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	SE/4, SE/4 NE/4, SE/4 SW/4
Section 20:	E/2 E/2
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	NE/4, N/2 NW/4, SE/4 NW/4, SE/4
Section 33:	NE/4 NE/4
Section 34:	NW/4, W/2 E/2, N/2 SW/4, SE/4 SW/4
Section 35:	E/2, SW/4, SE/4 NW/4
Section 36:	All

TOWNSHIP 22 SOUTH, RANGE 30 EAST

Section 1:	E/2
Section 5:	N/2, N/2 S/2, SW/4 SW/4
Section 6:	All
Section 7:	W/2, W/2 E/2, SE/4 SE/4
Section 8:	S/2 SW/4
Section 12:	NE/4 NE/4
Section 13:	NW/4, N/2 SW/4, SW/4 SW/4
Section 14:	SE/4, S/2 NE/4, E/2 SW/4, SW/4 SW/4
Section 17:	NW/4
Section 18:	All
Section 19:	All
Section 20:	All

EXHIBIT "A" (continued)

TOWNSHIP 22 SOUTH, RANGE 30 EAST (continued)

Section 21:	S/2, SW/4 NW/4
Section 22:	S/2, S/2 N/2, NE/4 NE/4
Section 23:	W/2, W/2 NE/4, NE/4 NE/4
Section 26:	W/2 W/2
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	W/2

TOWNSHIP 22 SOUTH, RANGE 31 EAST

Section 6:	W/2, W/2 NE/4, NW/4 SE/4
Section 7:	N/2 NW/4

TOWNSHIP 23 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	E/2, NW/4, NE/4 SW/4
Section 11:	NE/4 NE/4
Section 12:	N/2 N/2

TOWNSHIP 23 SOUTH, RANGE 30 EAST

Section 2:	NW/4
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	NE/4, N/2 NW/4, SE/4 NW/4
Section 8:	N/2 N/2, S/2 NE/4
Section 9:	N/2, NE/4 SW/4, N/2 SE/4
Section 10:	N/2, SW/4

DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN F. SIMMS, Chairman

E. S. WALKER, Member

W. B. MACEY, Member and Secretary

S E A L

jh

Second SUGGESTED REVISED ORDER NO. R-111

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would, in the opinion of the Commission or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the POTASH AREA, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar. However, where the base of the Delaware sand is definable the casing rules in (IV) (3b) (i) shall apply even if the depth of the bottom of the Delaware Sand is greater than 5000'.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe,

unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section IV (3), (c), (e) and (f) for the salt

protection string, however if high pressure oil or gas production is discovered in any area the Commission shall promulgate the necessary rules to prevent the charging of the salt section.

V.

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.

PLUGGING AND ABANDONMENT OF WELLS

(a) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with field rules established by the Commission that will provide a solid cement plug through the salt section and any water bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(b) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the

location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash operators holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph IX (b).

The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash operator within ten days after receipt. If the location of the proposed well is objected to by the potash operator, the matter shall be referred to the Secretary-Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash operator may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.

FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(a) Directional Surveys:

The Commission may require an operator to file a certified directional survey from the surface to a point below the lowest known potash

bearing horizon on all wells drilled within the POTASH AREA. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(b) Mine Surveys:

within 30 days after the adoption of this order, and thereafter

On or before January 31st of each year, each potash operator shall furnish two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection.

(c) Potash Development Plan

Within 30 days after the adoption of this order and thereafter, on or before January 31st of each year, each potash operator shall furnish two copies of a ~~five year~~ projection of development plans in the form of a plat, which plat shall be for the confidential use of the Commission and for inspection by any affected oil or gas operator. The projection shall cover not less than 3 nor more than a 5 year development program.

X.

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

CASE 278

first SUGGESTED REVISED ORDER NO. R-111 1955

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the POTASH AREA, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred

(600) feet below the base of the salt section.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with three (3 percent) of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative,, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe, unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt

protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

V.
DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.
PLUGGING AND ABANDONMENT OF WELLS

(a) All wells heretofore and hearafter drilled within the Potash Area shall be plugged in a manner that will provide a solid cement plug through the salt section and prevent liquids of gases from entering the hole above or below the salt section.

(b) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with three (3) percent of calcium chloride by weight of cement.

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash lessees within 1320 feet of the proposed well.

The well operator shall furnish proof of the fact that said potash lessees were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash lessee within ten days after receipt. If the location of the proposed well is objected to by the potash lessee, the matter shall be referred to the Secretary - Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATONS

A representative of the potash lessee may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.
FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(a) Directional Surveys:

The Commission may require an operator to file a certified directional survey fromthe surface to a point below the lowest known potash bearing horizon on all wells drilled within the POTASH AREA. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(b) Mine Surveys:

On or before January 31st of each year, each potash lessee shall furnish two copies of a certified plat of a survey of the location of all of his open mine workings.

(c) Potash Development Plan

On or before January 31st of each year, each potash lessee shall furnish two copies of a five-year projection of development plans in the form of a plat, which plat shall be available for public inspection.

X.
APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

EXHIBIT "A"

PROPOSED POTASH OIL AREA

TOWNSHIP 18 SOUTH, RANGE 30 EAST

Section 13:	SW/4
Section 14:	S/2, NW/4, W/2 NE/4
Section 15:	SE/4
Section 22:	E/2, E/2 W/2
Section 23:	All
Section 24:	NW/4
Section 26:	N/2
Section 27:	N/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 19 SOUTH, RANGE 29 EAST	
Section 11:	SE/4
Section 12:	S/2, S/2 NE/4
Section 13:	N/2, N/2 S/2, S/2 SW/4
Section 14:	E/2, E/2 W/2
Section 23:	N/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 30 EAST	
Section 3:	S/2
Section 4:	S/2, NW/4, SW/4 NE/4
Section 5:	E/2, E/2 W/2, SW/4 SW/4
Section 7:	S/2, S/2 N/2, N/2 NE/4
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	SW/4, W/2 SE/4
Section 14:	W/2, W/2 SE/4
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2, NW/4
Section 19:	NE/4
Section 20:	N/2, SE/4 SE/4
Section 21:	All
Section 22:	All
Section 23:	W/2
Section 26:	W/2, SE/4
Section 27:	All
Section 28:	All
Section 29:	E/2
Section 32:	SE/4, NE/4 NE/4
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	SW/4, S/2 NW/4, S/2 SE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST	
Section 36:	SE/4

TOWNSHIP 19 SOUTH, RANGE 32 EAST	
Section 31:	W/2 SW/4
Section 33:	SE/4, E/2 SW/4
Section 34:	S/2
Section 35:	S/2
Section 36:	SW/4, SE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST	
Section 22:	SE/4 SE/4
Section 23:	SW/4
Section 25:	SW/4
Section 26:	All
Section 27:	E/2
Section 31:	S/2
Section 32:	SW/4
Section 34:	NE/4 NE/4
Section 35:	All
Section 36:	S/2, NW/4, W/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 19 SOUTH, RANGE 34 EAST	
Section 31:	SW/4 SW/4

TOWNSHIP 20 SOUTH, RANGE 29 EAST	
Section 13:	SW/4 SW/4
Section 14:	SE/4 SE/4
Section 22:	SE/4, S/2 NE/4
Section 23:	S/2, NE/4
Section 24:	W/2, W/2 SE/4
Section 25:	N/2, N/2 S/2
Section 26:	All
Section 27:	E/2
Section 34:	NE/4, N/2 SE/4
Section 35:	NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST	
Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	S/2, NE/4
Section 6:	S/2, S/2 NE/4
Section 7:	NW/4, E/2
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2
Section 19:	E/2
Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	E/2
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 31 EAST	
Section 1:	E/2, E/2 W/2
Section 6:	SW/4, S/2 NW/4, W/2 SE/4
Section 7:	W/2, SE/4, W/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 31 EAST (continued)

Section 8:	S/2, S/2 N/2
Section 9:	SW/4, S/2 NW/4
Section 11:	SE/4, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, SW/4, E/2 NW/4
Section 16:	W/2
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	NW/4, S/2
Section 22:	S/2, S/2 NE/4
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 32 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	E/2, SW/4, E/2 NW/4
Section 5:	S/2 SE/4
Section 6:	W/2, SW/4 SE/4
Section 7:	All
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 32 EAST (continued)

Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 33 EAST

Section 1:	All
Section 2:	E/2, E/2 W/2
Section 5:	W/2
Section 6:	All
Section 7:	All
Section 8:	W/2, SW/4 NE/4, SE/4
Section 9:	S/2 S/2, NW/4 SW/4
Section 10:	S/2
Section 11:	E/2, E/2 NW/4, SW/4
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	W/2 SW/4, NW/4, N/2 NE/4
Section 22:	N/2 N/2
Section 23:	N/2 N/2, SE/4 NE/4
Section 24:	N/2, N/2 SE/4, SE/4 SE/4
Section 29:	W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 30:	All
Section 31:	N/2, W/2 SW/4

TOWNSHIP 20 SOUTH, RANGE 34 EAST

Section 6:	W/2, W/2 SE/4
Section 7:	All
Section 8:	SW/4
Section 16:	SW/4, SW/4 NW/4, SW/4 SE/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	SW/4
Section 27:	W/2
Section 28:	All

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 34 EAST (continued)

Section 29:	N/2, SE/4, NE/4 SW/4
Section 30:	NE/4 NW/4, N/2 NE/4, SE/4 NE/4
Section 32:	N/2 NE/4, SE/4 NE/4
Section 33:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 34:	W/2

TOWNSHIP 21 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	Lots 1 - 16, incl., SE/4, NE/4 SW/4
Section 3:	Lots 1 - 9, incl.
Section 4:	Lots 1 - 8, incl., Lots 10 and 11
Section 11:	E/2, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, E/2 W/2, SW/4 NW/4, NW/4 SW/4
Section 15:	SE/4 NE/4, NE/4 SE/4
Section 23:	N/2 NE/4
Section 24:	NE/4, NE/4 SE/4, N/2 NW/4, SE/4 NW/4
Section 35:	S/2 NE/4, SE/4, E/2 SW/4
Section 36:	S/2 SW/4, SE/4, S/2 NE/4, NE/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 30 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	All
Section 9:	N/2, SW/4
Section 10:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	NE/4, NE/4 NW/4, N/2 SE/4, SE/4 SE/4
Section 16:	NW/4 NW/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	NW/4, N/2 NE/4
Section 22:	E/2 E/2
Section 23:	All
Section 24:	All
Section 25:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 26:	N/2, N/2 S/2
Section 27:	NE/4, N/2 SE/4, SE/4 SE/4
Section 29:	NW/4, N/2 SW/4
Section 30:	E/2, E/2 W/2
Section 31:	All
Section 32:	S/2, NW/4, NW/4 NE/4, S/2 NE/4
Section 36:	E/2

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 31 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	All
Section 9:	All
Section 10:	W/2
Section 12:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 13:	N/2 NE/4
Section 15:	W/2
Section 16:	E/2, NW/4, E/2 SW/4
Section 18:	NW/4, W/2 NE/4, NE/4 NE/4, W/2 SW/4, NE/4 SW/4
Section 21:	E/2, NE/4 NW/4
Section 22:	W/2
Section 27:	W/2, SW/4 NE/4, W/2 SE/4
Section 28:	E/2
Section 30:	SW/4, W/2 NW/4, SE/4 NW/4
Section 31:	W/2
Section 33:	NE/4 NE/4
Section 34:	NW/4, NW/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 32 EAST

Section 6:	Lots 1 - 7 incl., Lots 10 - 15, incl., SW/4
Section 7:	W/2
Section 22:	E/2
Section 23:	All
Section 24:	All

TOWNSHIP 21 SOUTH, RANGE 33 EAST

Section 3:	Lots 1, 2, 3
Section 17:	S/2 S/2
Section 18:	SE/4 SE/4
Section 19:	All
Section 20:	All
Section 21:	W/2, SE/4, S/2 NE/4
Section 22:	S/2, S/2 N/2
Section 23:	S/2, S/2 N/2, NE/4 NE/4
Section 24:	All
Section 25:	NW/4, N/2 NE/4, SW/4 NE/4, N/2 SW/4
Section 26;	W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 27:	All
Section 28:	All
Section 29:	N/2, SE/4, NE/4 SW/4
Section 30:	N/2 NE/4, SE/4 NE/4
Section 33:	N/2 N/2
Section 34:	N/2 N/2

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 34 EAST

Section 19:	W/2

TOWNSHIP 22 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	E/2, E/2 NW/4, SW/4
Section 3:	S/2 SE/4, NE/4 SE/4
Section 10:	E/2, E/2 W/2, SW/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	SE/4, SE/4 NE/4, SE/4 SW/4
Section 20:	E/2 E/2
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	NE/4, N/2 NW/4, SE/4 NW/4, SE/4
Section 33:	NE/4 NE/4
Section 34:	NW/4, W/2 E/2, N/2 SW/4, SE/4 SW/4
Section 35:	E/2, SW/4, SE/4 NW/4
Section 36:	All

TOWNSHIP 22 SOUTH, RANGE 30 EAST

Section 1:	E/2
Section 5:	N/2, N/2 S/2, SW/4 SW/4
Section 6:	All
Section 7:	W/2, W/2 E/2, SE/4 SE/4
Section 8:	S/2 SW/4
Section 12:	NE/4 NE/4
Section 13:	NW/4, N/2 SW/4, SW/4 SW/4
Section 14:	SE/4, S/2 NE/4, E/2 SW/4, SW/4 SW/4
Section 17:	NW/4
Section 18	All
Section 19:	All
Section 20:	All
Section 21:	S/2, SW/4 NW/4
Section 22:	S/2, S/2 N/2, NE/4 NE/4
Section 23:	W/2, W/2 NE/4, NE/4 NE/4
Section 26:	W/2 W/2
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	W/2

EXHIBIT "A" (continued)

TOWNSHIP 22 SOUTH, RANGE 31 EAST	
Section 6:	W/2, W/2 NE/4, NW/4 SE/4
Section 7:	N/2 NW/4

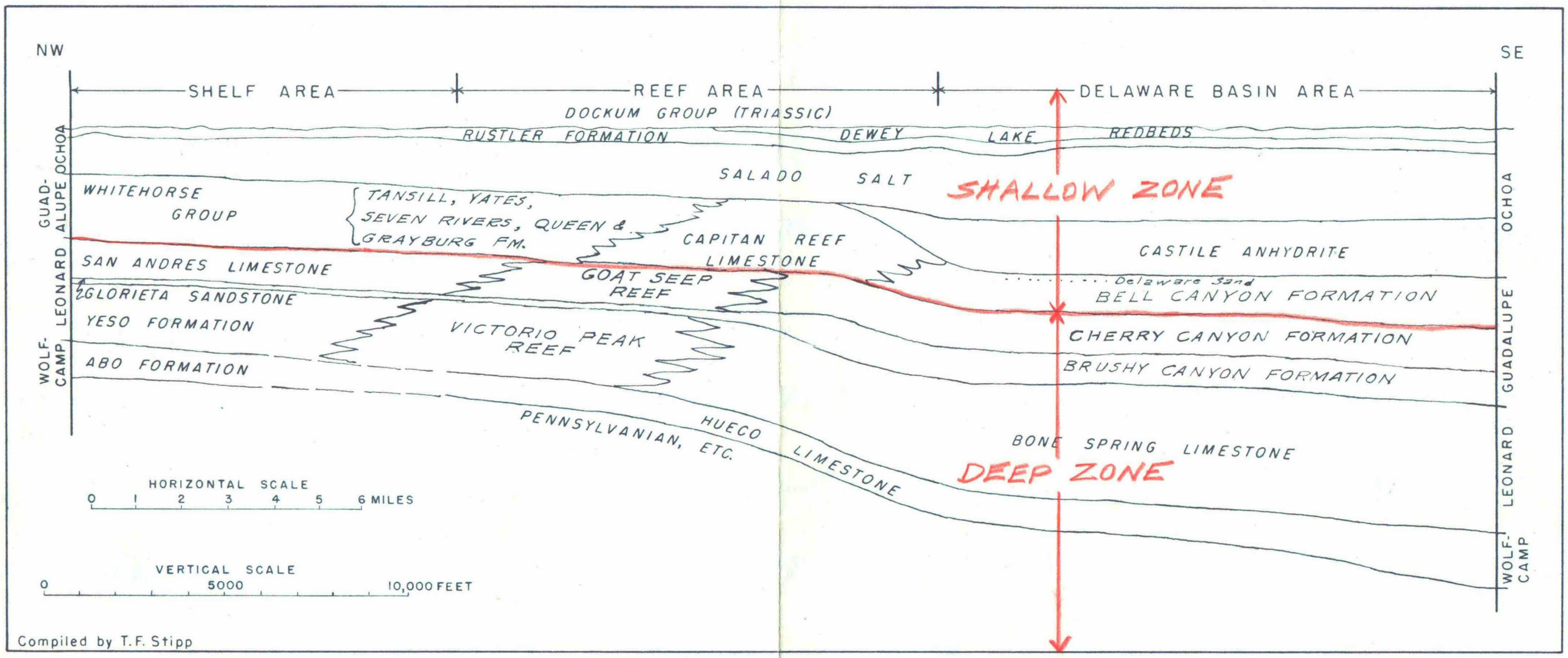
TOWNSHIP 23 SOUTH, RANGE 29 EAST	
Section 1:	All
Section 2:	E/2, NW/4, NE/4 SW/4
Section 11:	NE/4 NE/4
Section 12:	N/2 N/2

TOWNSHIP 23 SOUTH, RANGE 30 EAST	
Section 2:	NW/4
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	NE/4, N/2 NW/4, SE/4 NW/4
Section 8:	N/2 N/2, S/2 NE/4
Section 9:	N/2, NE/4 SW/4, N/2 SE/4
Section 10:	N/2, SW/4

August 16, 1955
/ir

USGS - Morrell

Case 278



SECTION ACROSS CAPITAN REEF IN CENTRAL EDDY COUNTY, NEW MEXICO SHOWING CHANGE OF FACIES IN PERMIAN STRATA

CASE 278

SUGGESTED REVISED ORDER NO. R-111

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the POTASH AREA, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallowand deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred

(600) feet below the base of the salt section.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with three (3 percent) of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative,, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe, unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt

protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

V.
DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.
PLUGGING AND ABANDONMENT OF WELLS

(a) All wells heretofore and hearafter drilled within the Potash Area shall be plugged in a manner that will provide a solid cement plug through the salt section and prevent liquids of gases from entering the hole above or below the salt section.

(b) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with three (3) percent of calcium chloride by weight of cement.

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash lessees within 1320 feet of the proposed well.

The well operator shall furnish proof of the fact that said potash lessees were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash lessee within ten days after receipt. If the location of the proposed well is objected to by the potash lessee, the matter shall be referred to the Secretary - Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATONS

A representative of the potash lessee may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.
FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(a) Directional Surveys:

The Commission may require an operator to file a certified directional survey fromthe surface to a point below the lowest known potash bearing horizon on all wells drilled within the POTASH AREA. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(b) Mine Surveys:

On or before January 31st of each year, each potash lessee shall furnish two copies of a certified plat of a survey of the location of all of his open mine workings.

(c) Potash Development Plan

On or before January 31st of each year, each potash lessee shall furnish two copies of a five-year projection of development plans in the form of a plat, which plat shall be available for public inspection.

X.
APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

EXHIBIT "A"

PROPOSED POTASH OIL AREA

TOWNSHIP 18 SOUTH, RANGE 30 EAST

Section 13:	SW/4
Section 14:	S/2, NW/4, W/2 NE/4
Section 15:	SE/4
Section 22:	E/2, E/2 W/2
Section 23:	All
Section 24:	NW/4
Section 26:	N/2
Section 27:	N/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 19 SOUTH, RANGE 29 EAST

Section 11:	SE/4
Section 12:	S/2, S/2 NE/4
Section 13:	N/2, N/2 S/2, S/2 SW/4
Section 14:	E/2, E/2 W/2
Section 23:	N/2 NE/4

TOWNSHIP 19 SOUTH, RANGE 30 EAST

Section 3:	S/2
Section 4:	S/2, NW/4, SW/4 NE/4
Section 5:	E/2, E/2 W/2, SW/4 SW/4
Section 7:	S/2, S/2 N/2, N/2 NE/4
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	SW/4, W/2 SE/4
Section 14:	W/2, W/2 SE/4
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2, NW/4
Section 19:	NE/4
Section 20:	N/2, SE/4 SE/4
Section 21:	All
Section 22:	All
Section 23:	W/2
Section 26:	W/2, SE/4
Section 27:	All
Section 28:	All
Section 29:	E/2
Section 32:	SE/4, NE/4 NE/4
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	SW/4, S/2 NW/4, S/2 SE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST

Section 36:	SE/4

TOWNSHIP 19 SOUTH, RANGE 32 EAST

Section 31:	W/2 SW/4
Section 33:	SE/4, E/2 SW/4
Section 34:	S/2
Section 35:	S/2
Section 36:	SW/4, SE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST

Section 22:	SE/4 SE/4
Section 23:	SW/4
Section 25:	SW/4
Section 26:	All
Section 27:	E/2
Section 31:	S/2
Section 32:	SW/4
Section 34:	NE/4 NE/4
Section 35:	All
Section 36:	S/2, NW/4, W/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 19 SOUTH, RANGE 34 EAST	
Section 31:	SW/4 SW/4

TOWNSHIP 20 SOUTH, RANGE 29 EAST	
Section 13:	SW/4 SW/4
Section 14:	SE/4 SE/4
Section 22:	SE/4, S/2 NE/4
Section 23:	S/2, NE/4
Section 24:	W/2, W/2 SE/4
Section 25:	N/2, N/2 S/2
Section 26:	All
Section 27:	E/2
Section 34:	NE/4, N/2 SE/4
Section 35:	NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST	
Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	S/2, NE/4
Section 6:	S/2, S/2 NE/4
Section 7:	NW/4, E/2
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	E/2
Section 19:	E/2
Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	E/2
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 31 EAST	
Section 1:	E/2, E/2 W/2
Section 6:	SW/4, S/2 NW/4, W/2 SE/4
Section 7:	W/2, SE/4, W/2 NE/4

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 31 EAST (continued)

Section 8:	S/2, S/2 N/2
Section 9:	SW/4, S/2 NW/4
Section 11:	SE/4, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, SW/4, E/2 NW/4
Section 16:	W/2
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	NW/4, S/2
Section 22:	S/2, S/2 NE/4
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 32 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	E/2, SW/4, E/2 NW/4
Section 5:	S/2 SE/4
Section 6:	W/2, SW/4 SE/4
Section 7:	All
Section 8:	All
Section 9:	All
Section 10:	All
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	All
Section 23:	All

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 32 EAST (continued)

Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	All
Section 36:	All

TOWNSHIP 20 SOUTH, RANGE 33 EAST

Section 1:	All
Section 2:	E/2, E/2 W/2
Section 5:	W/2
Section 6:	All
Section 7:	All
Section 8:	W/2, SW/4 NE/4, SE/4
Section 9:	S/2 S/2, NW/4 SW/4
Section 10:	S/2
Section 11:	E/2, E/2 NW/4, SW/4
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	W/2 SW/4, NW/4, N/2 NE/4
Section 22:	N/2 N/2
Section 23:	N/2 N/2, SE/4 NE/4
Section 24:	N/2, N/2 SE/4, SE/4 SE/4
Section 29:	W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 30:	All
Section 31:	N/2, W/2 SW/4

TOWNSHIP 20 SOUTH, RANGE 34 EAST

Section 6:	W/2, W/2 SE/4
Section 7:	All
Section 8:	SW/4
Section 16:	SW/4, SW/4 NW/4, SW/4 SE/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	All
Section 21:	All
Section 22:	SW/4
Section 27:	W/2
Section 28:	All

EXHIBIT "A" (continued)

TOWNSHIP 20 SOUTH, RANGE 34 EAST (continued)

Section 29:	N/2, SE/4, NE/4 SW/4
Section 30:	NE/4 NW/4, N/2 NE/4, SE/4 NE/4
Section 32:	N/2 NE/4, SE/4 NE/4
Section 33:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 34:	W/2

TOWNSHIP 21 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	Lots 1 - 16, incl., SE/4, NE/4 SW/4
Section 3:	Lots 1 - 9, incl.
Section 4:	Lots 1 - 8, incl., Lots 10 and 11
Section 11:	E/2, E/2 SW/4
Section 12:	All
Section 13:	All
Section 14:	E/2, E/2 W/2, SW/4 NW/4, NW/4 SW/4
Section 15:	SE/4 NE/4, NE/4 SE/4
Section 23:	N/2 NE/4
Section 24:	NE/4, NE/4 SE/4, N/2 NW/4, SE/4 NW/4
Section 35:	S/2 NE/4, SE/4, E/2 SW/4
Section 36:	S/2 SW/4, SE/4, S/2 NE/4, NE/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 30 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	All
Section 9:	N/2, SW/4
Section 10:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	NE/4, NE/4 NW/4, N/2 SE/4, SE/4 SE/4
Section 16:	NW/4 NW/4
Section 17:	All
Section 18:	All
Section 19:	All
Section 20:	NW/4, N/2 NE/4
Section 22:	E/2 E/2
Section 23:	All
Section 24:	All
Section 25:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 26:	N/2, N/2 S/2
Section 27:	NE/4, N/2 SE/4, SE/4 SE/4
Section 29:	NW/4, N/2 SW/4
Section 30:	E/2, E/2 W/2
Section 31:	All
Section 32:	S/2, NW/4, NW/4 NE/4, S/2 NE/4
Section 36:	E/2

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 31 EAST

Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	All
Section 9:	All
Section 10:	W/2
Section 12:	N/2, SE/4, N/2 SW/4, SE/4 SW/4
Section 13:	N/2 NE/4
Section 15:	W/2
Section 16:	E/2, NW/4, E/2 SW/4
Section 18:	NW/4, W/2 NE/4, NE/4 NE/4, W/2 SW/4, NE/4 SW/4
Section 21:	E/2, NE/4 NW/4
Section 22:	W/2
Section 27:	W/2, SW/4 NE/4, W/2 SE/4
Section 28:	E/2
Section 30:	SW/4, W/2 NW/4, SE/4 NW/4
Section 31:	W/2
Section 33:	NE/4 NE/4
Section 34:	NW/4, NW/4 NE/4

TOWNSHIP 21 SOUTH, RANGE 32 EAST

Section 6:	Lots 1 - 7 incl., Lots 10 - 15, incl., SW/4
Section 7:	W/2
Section 22:	E/2
Section 23:	All
Section 24:	All

TOWNSHIP 21 SOUTH, RANGE 33 EAST

Section 3:	Lots 1, 2, 3
Section 17:	S/2 S/2
Section 18:	SE/4 SE/4
Section 19:	All
Section 20:	All
Section 21:	W/2, SE/4, S/2 NE/4
Section 22:	S/2, S/2 N/2
Section 23:	S/2, S/2 N/2, NE/4 NE/4
Section 24:	All
Section 25:	NW/4, N/2 NE/4, SW/4 NE/4, N/2 SW/4
Section 26:	W/2, NE/4, N/2 SE/4, SW/4 SE/4
Section 27:	All
Section 28:	All
Section 29:	N/2, SE/4, NE/4 SW/4
Section 30:	N/2 NE/4, SE/4 NE/4
Section 33:	N/2 N/2
Section 34:	N/2 N/2

EXHIBIT "A" (continued)

TOWNSHIP 21 SOUTH, RANGE 34 EAST

Section 19:	W/2

TOWNSHIP 22 SOUTH, RANGE 29 EAST

Section 1:	All
Section 2:	E/2, E/2 NW/4, SW/4
Section 3:	S/2 SE/4, NE/4 SE/4
Section 10:	E/2, E/2 W/2, SW/4 SW/4
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	All
Section 15:	All
Section 16:	SE/4, SE/4 NE/4, SE/4 SW/4
Section 20:	E/2 E/2
Section 21:	All
Section 22:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	All
Section 27:	All
Section 28:	NE/4, N/2 NW/4, SE/4 NW/4, SE/4
Section 33:	NE/4 NE/4
Section 34:	NW/4, W/2 E/2, N/2 SW/4, SE/4 SW/4
Section 35:	E/2, SW/4, SE/4 NW/4
Section 36:	All

TOWNSHIP 22 SOUTH, RANGE 30 EAST

Section 1:	E/2
Section 5:	N/2, N/2 S/2, SW/4 SW/4
Section 6:	All
Section 7:	W/2, W/2 E/2, SE/4 SE/4
Section 8:	S/2 SW/4
Section 12:	NE/4 NE/4
Section 13:	NW/4, N/2 SW/4, SW/4 SW/4
Section 14:	SE/4, S/2 NE/4, E/2 SW/4, SW/4 SW/4
Section 17:	NW/4
Section 18	All
Section 19:	All
Section 20:	All
Section 21:	S/2, SW/4 NW/4
Section 22:	S/2, S/2 N/2, NE/4 NE/4
Section 23:	W/2, W/2 NE/4, NE/4 NE/4
Section 26:	W/2 W/2
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	W/2

EXHIBIT "A" (continued)

TOWNSHIP 22 SOUTH, RANGE 31 EAST	
Section 6:	W/2, W/2 NE/4, NW/4 SE/4
Section 7:	N/2 NW/4

TOWNSHIP 23 SOUTH, RANGE 29 EAST	
Section 1:	All
Section 2:	E/2, NW/4, NE/4 SW/4
Section 11:	NE/4 NE/4
Section 12:	N/2 N/2

TOWNSHIP 23 SOUTH, RANGE 30 EAST	
Section 2:	NW/4
Section 3:	All
Section 4:	All
Section 5:	All
Section 6:	All
Section 7:	NE/4, N/2 NW/4, SE/4 NW/4
Section 8:	N/2 N/2, S/2 NE/4
Section 9:	N/2, NE/4 SW/4, N/2 SE/4
Section 10:	N/2, SW/4

August 16, 1955
/ir

SUGGESTED REVISED ORDER NO. R-111

I.

OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

II.

THE POTASH - OIL AREA

(1) The Potash - Oil Area, as outlined in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves.

(2) The Potash - Oil Area, as outlined herein, may be revised by the Commission after due notice and hearing.

III.

DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the POTASH AREA shall be subject to these rules and regulations.

(2) No wells will be drilled for oil or gas at a location, which in the opinion of the Commission or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with potash deposits.

No mining operations will be conducted in the POTASH AREA that would, in the opinion of the Commission or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the POTASH AREA, the Oil Conservation Commission shall promulgate pool rules for the affected area after due notice and hearing.

IV.

DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar. However, where the base of the Delaware sand is definable the casing rules in (IV) (3b) (i) shall apply even if the depth of the bottom of the Delaware Sand is greater than 5000'.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Commission, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, the operator shall have the option of running an intermediate string of pipe,

unless the Commission requires an intermediate string.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section IV (3), (c), (e) and (f) for the salt

protection string, however if high pressure oil or gas production is discovered in any area the Commission shall promulgate the necessary rules to prevent the charging of the salt section.

V.

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI.

PLUGGING AND ABANDONMENT OF WELLS

(a) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with field rules established by the Commission that will provide a solid cement plug through the salt section and any water bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(b) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible

VII.

LOCATION FOR WELLS

Before commencing drilling operations for oil or gas on any lands within the POTASH AREA, the well operator shall prepare a map or plat showing the

location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Commission, the well operator shall send one copy by registered mail to all potash operators holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph IX (b).

The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipts to the copies of the Notice of Intention to Drill and plats furnished the Commission.

The Commission, or its authorized representative, may approve such Notice of Intention to Drill if no objection to the location of the proposed well is made by a potash operator within ten days after receipt. If the location of the proposed well is objected to by the potash operator, the matter shall be referred to the Secretary-Director of the Commission for arbitration. If a satisfactory settlement cannot be reached, the Secretary - Director of the Commission shall refer the matter to a hearing before the Commission after due notice and a decision either approving or denying the operator's plans to drill shall be entered by the Commission.

VIII.

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash operator may be present during drilling, cementing, casing, and plugging of all oil or gas wells within 1320 feet of his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX.

FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

(a) Directional Surveys:

The Commission may require an operator to file a certified directional survey from the surface to a point below the lowest known potash

bearing horizon on all wells drilled within the POTASH AREA. These surveys may be required where, in the Commission's judgment, the exact location of the wellbore must be determined in order to aid mining operations.

(b) Mine Surveys:

On or before January 31st of each year, each potash operator shall furnish two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection.

(c) Potash Development Plan

Within 30 days after the adoption of this order and thereafter, on or before January 31st of each year, each potash operator shall furnish two copies of a ~~five-year~~ projection of development plans in the form of a plat, which plat shall be for the confidential use of the Commission and for inspection by any affected oil or gas operator. The projection shall cover not less than 3 nor more than a 5 year development program.

X.

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

CASING AND CEMENTING PROGRAMS FOR

OIL AND GAS TEST WELLS IN THE "DEFINED AREAS" IN EDDY COUNTY, NEW MEXICO

1. Surface Casing String

In order to protect the fresh water supply, the surface casing string shall be set in the "Red Bed" section of the basal Russler formation immediately above the top of the salt section and shall be cemented back to the ground surface or to the bottom of the cellar.

The surface string may consist of new, second-hand or re-conditioned pipe. New pipe shall have received a mill test of not less than 600 pounds per square inch; second-hand and re-conditioned pipe shall be re-tested to 600 pounds per square inch before being run.

Sufficient cement shall be used to fill the annular space back of the pipe from the casing point to the surface of the ground or to the bottom of the cellar. Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

Tests of casing shall vary with drilling method. If rotary is used, the mud shall be displaced with water or with the proposed saturated water solution and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

2. Salt Protection String

The salt protection string shall be set at least one hundred (100) feet and not more than two hundred (200) feet below the base of the salt section. This string may consist of new, second-hand or re-conditioned pipe. New pipe shall have received a mill test of not less than 1000 pounds per square inch; second-hand and re-conditioned pipe shall be re-tested to 1000 pounds per square inch before being run.

Centralizers shall be used on at least every third joint below surface casing.

Sufficient cement shall be used to fill the annular space back of the pipe from the casing point to the surface of the ground or to the bottom of the cellar. (The water used to mix with the cement shall be saturated with the salts common to the zones penetrated.) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests. If the cement fails to reach the surface, the salt protection casing shall be perforated just above the top of the cement and additional cement jobs done until cement is brought to the surface. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

Tests of casing shall vary with the drilling method. If rotary is used, the mud shall be displaced with water and a hydraulic pressure of 1000 pounds per square inch shall be applied. If a drop of 100 pounds per square inch or more should occur within 30 minutes, corrective measures shall be applied. If cable tools are used the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

3. Intermediate String

This string may be a drilling protection string for deep drilling objectives or may be an oil string for testing medium depth zones.

a. If a drilling protection string, the casing shall be cemented with a sufficient volume of cement amply to protect this casing and all shallow pay zones above the casing shoe, and in every instance this string shall be cemented from a point one thousand (1000) feet below the salt string back to the surface. One or more temperature or gamma ray surveys supporting complete cementation shall be filed with the Oil Conservation Commission.

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

1201

(18)

W. P. MARSHALL, PRESIDENT

SYMBOLS
DL=Day Letter
NL=Night Letter
LT=Int'l Letter Telegram
VLT=Int'l Victory Ltr.

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R R SPURRIER, SECRETARY NEW MEXICO OIL CONSERVATION COMMISSION=SANTA FE NMEX=

WE ARE AIRMAILING TODAY OUR OBJECTIONS TO CASING PROGRAM PROPOSED IN CASE NO. 278 BEING HEARD BY THE COMMISSION TODAY=

SINCLAIR OIL AND GAS CO T H HAMMETT=

SINCLAIR OIL & GAS COMPANY

SINCLAIR BUILDING

TULSA, OKLAHOMA

T. H HAMMETT
VICE-PRESIDENT

July 10, 1951

Mr. R. R. Spurrier
Secretary
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

In Re: Proposed Casing Programs -
Case No. 278, Exhibits A,
B & C

Dear Sir:

With respect to the proposals referred to above, we advise:

1. As to Exhibit A, Item 2, "Salt Protection String," we do not believe that conditions justify the requirement that centralizers be used on every third joint below surface casing, and accordingly object to such requirement. We feel that centralizers should be used at the option of the operator.

Also, under Item 2, with respect to the requirement that temperature or gamma ray surveys supporting complete cementation be filed with the Commission, we feel that such surveys should not be required on casing where the cement is circulated to the surface.

2. With respect to Exhibit B, Item 2, "Salt Protection String," we make the same objection to the requirement with respect to temperature or gamma ray surveys as stated under Exhibit A above, in cases where cement is run to the top of the surface.

3. As to Exhibit C, Item 2 A, "Surface Casing," our practice is to cement surface casing back to the surface so as to adequately protect fresh waters encountered. The use of one string of pipe, the intermediate string, could be used for protective and surface casing but should be cemented to the surface.

4. We understand that the New Mexico Oil Conservation Commission is not required to follow rules and regulations promulgated by the United States Geological Survey, but in view of the fact that large areas of land in New Mexico are owned by the United States, and upon which oil and gas operations are conducted under rules and regulations

promulgated by the USGS, we feel that before final rules and regulations as contemplated by Case No. 278 are adopted that the Commission and the Survey, in the interest of simplified operations, should work out rules acceptable to both jurisdictions.

Other than as set forth above, we have no objection to the proposals set forth in Exhibits A, B and C, referred to.

Will you, therefore, please have this letter made a part of the record in the above case so that the Commission will consider the same in arriving at a final decision.

Very truly yours,

T. H. Hammett

THH/is

STATE LAND OFFICE

Santa Fe, New Mexico

GUY SHEPARD
COMMISSIONER OF PUBLIC LANDS

March 30, 1951

Following the hearing March 29, 1951, I, as Commissioner of Public Lands, announced that I would appoint a Committee to recommend regulations for the proper exploration and development of the State lands within the Delaware basin, Eddy County, New Mexico simultaneously by both the Potash and Oil Industries. In keeping with this announcement, I have appointed:

Mr. Fred O. Davis, a Director of Potash Company of America, Carlsbad, New Mexico,

Mr. Emory Carper, President, New Mexico Oil and Gas Association, Artesia, New Mexico,

Mr. Tom Cramer, Vice-President, United States Potash Company, Carlsbad, New Mexico

Mr. John M. Kelly, Independent Oil Operator, Roswell, New Mexico, and

Mr. R. R. Spurrier, Director, New Mexico Oil Conservation Commission, Santa Fe, New Mexico.

May I ask that each of you advise me at your earliest convenience of your willingness to serve on this Committee. It is my intention that such Committee meet at the earliest possible time and submit its recommendations to me.

I would be grateful, because of the considerable Federal Acreage in the area, if Messrs. Foster Morrell and R. H. Allport of the United States Geological Survey would sit in an advisory or unofficial capacity with the Committee if they may do so under regulations.

I sincerely trust that each of you will accept and make reasonable recommendations to me in order that I may the sooner promulgate and publish regulations as required by law.

Very truly yours,

Guy Shepard

GUY SHEPARD
Commissioner of Public Lands

Cabl 278

Mr. T. M. Cramer
Mr. Fred C. Davis
Carlsbad, New Mexico

Gentlemen:

As per our agreement made at the last meeting of the Oil-Potash Committee, I am enclosing herewith the "Casing and Cementing Programs for Oil and Gas Test Wells in the Defined Areas in Eddy County, New Mexico". Please distribute these programs to the operating Potash Companies for their study and comments.

To date I have not received from you an outline of the areas that the Potash Companies consider as critical and in which area the Potash Companies will request that drilling for oil and gas be prohibited.

It is my suggestion that the next meeting of the Oil-Potash Committee be held 10 days after you submit for study by the oil representatives the above described area map. In no case should the next meeting be later than June 10, 1951.

I will appreciate receiving your comments on both the above casing program and my suggestions as to the time of the next meeting.

Kindest personal regards

John W. Kelly

cc. Mr. Guy Shepard
Mr. R. R. Spurrier
Mr. Emery Carper
Mr. Foster Morrell
Mr. E. E. Allport

ILLEGIBLE

ROCKY MOUNTAIN OIL AND GAS ASSOCIATION

LLOYD MADSEN, WESTERN DIVISION MANAGER • EMPIRE 4-7969

WESTERN DIVISION
430 EMPIRE BUILDING
SALT LAKE CITY 11, UTAH

May 9, 1960

Dan S. Nutter
Chief Engineer
New Mexico Oil Conservation Commission
State Capitol Building
Santa Fe, New Mexico

Dear Dan:

Enclosed are the two transcripts I borrowed from your records. Thank you very much for your help and co-operation. If I may ever be of service to you please do not hesitate to contact me.

My best regards.

LLOYD MADSEN

LM/cj

POTASH COMPANY OF AMERICA
MINE AND REFINERY: P. O. BOX 31 • CARLSBAD, NEW MEXICO • TU 5-2111

R. H. BLACKMAN
RESIDENT COUNSEL

June 12, 1961

Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Miss Ida Rodriguez

Dear Ida:

Thank you very much for loaning me the transcript of the hearing of May 13, 1959 in Case No. 278. I return the transcript herewith.

With best personal wishes,

Sincerely,

R. H. Blackman

RHB/b
Enc.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF DEFINING BOUNDARIES OF POTENTIAL OIL PRODUCING AREAS IN EDDY AND LEA COUNTIES, NEW MEXICO, WITHIN WHICH POTASH MINERALS ARE BEING PRODUCED OR POTENTIAL POTASH PRODUCING LANDS ARE LOCATED.

CASE No. 278
ORDER No. R-111

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," on June 21, 1951, and for further hearing on July 10, 1951, and the Commission, a quorum being present, having considered the testimony adduced and the exhibits introduced in evidence and arguments presented and being fully advised in the premises,

FINDS, (1) That due notice having been given, according to law, and all interested parties having appeared, the Commission has jurisdiction of this cause, and the subject matter thereof.

(2) That an area defining potential oil and gas reserves within which are proved and potential potash deposits, and the promulgation of rules and regulations for the orderly development of oil and gas resources in such an area known to be productive of potash is within the authority of the Commission for the protection of correlative rights, the promotion of conservation, and the prevention of waste.

IT IS THEREFORE ORDERED:

That this order shall be known as THE RULES AND REGULATIONS GOVERNING THE EXPLORATION AND PRODUCTION OF OIL AND GAS IN CERTAIN AREAS AND SUB-AREAS HEREIN DEFINED AND KNOWN TO CONTAIN PROVED AND SEMI-PROVED POTASH MINERALS IN THE AREA AND SUB-AREAS HEREINAFTER SET OUT.

I
OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil and gas resources of New Mexico and permit the simultaneous economic recovery of potash minerals in the area hereinafter defined.

II
THE POTASH - OIL AREAS

(1) These Rules and Regulations are applicable to oil and gas operations and to exploration for and production of oil and gas in proven or potential Potash-Oil areas herein defined as "Area A" and "Area B."

(a) The potash-oil area represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves are located and is described, as follows:

BEFORE THE OIL CONSERVATION COMMISSION
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(a) The potash-oil area represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves are located and is described, as follows:

T. 19 S, R. 29 E
Sec. 11 - SE/4
Sec. 12 - S/2
Sec. 13 and 14 - all
Sec. 23 - N/2
Sec. 24 - N/2

T. 20 S, R. 29 E
Sec. 12 - NE/4 SE/4 and S/2 SE/4
Sec. 13 - NE/4 and S/2
Sec. 22 to 27, inclusive
Sec. 34 to 36, inclusive

T. 21 S, R. 29 E
Sec. 1 and 2, all
Sec. 3 - E/2
Sec. 10 - E/2
Sec. 11 to 14, inclusive
Sec. 15 - E/2
Sec. 23 - N/2
Sec. 24 and 25 - all
Sec. 35 - E/2
Sec. 36 - all

T. 22 S, R. 29 E
Sec. 1 and 2 - all
Sec. 3 - S/2
Sec. 9 - E/2
Sec. 10 to 16, inclusive
Sec. 17 - E/2
Sec. 20 - E/2
Sec. 21 to 28, inclusive
Sec. 33 to 36, inclusive

T. 23 S, R. 29 E
Sec. 1 to 3, inclusive
Sec. 4 - E/2
Sec. 9 - E/2
Sec. 10 to 15, inclusive
Sec. 22 to 27, inclusive
Sec. 34 to 36, inclusive

T. 18 S. R. 30 E
Sec. 12 - S/2
Sec. 13 and 14 - all
Sec. 15 - SE/4
Sec. 21 - SE/4
Sec. 22 to 24, inclusive
Sec. 25 - W/2
Sec. 26 to 28, inclusive
Sec. 29 - SE/4
Sec. 32 - SW/4 and E/2
Sec. 33 and 34 - all
Sec. 35 - W/2

T. 19 S, R. 30 E
Sec. 2 to 5, inclusive
Sec. 6 - SE/4
Sec. 7 - NE/4 and S/2
Sec. 8 to 30, inclusive
Sec. 32 to 36, inclusive

T. 20 S, R. 30 E
Sec. 1 to 36, inclusive

T. 21 S, R. 30 E
Sec. 1 to 11, inclusive
Sec. 12 - S/2
Sec. 13 to 22, inclusive
Sec. 23, - N/2
Sec. 24 - N/2
Sec. 27 to 34, inclusive
Sec. 35- S/2

T. 22 S, R. 30 E
Sec. 1 to 24, inclusive
Sec. 25 - W/2
Sec. 26 to 35, inclusive
Sec. 36 - W/2

T. 23 S, R. 30 E
Sec. 1 - S/2
Sec. 2 to 36, inclusive

T. 24 S, R. 30 E
Sec. 1 - N/2
Sec. 2 - N/2
Sec. 3 - N/2

T. 18 S, R. 31 E
Sec. 18 - W/2

T. 19 S, R. 31 E
Sec. 9 and 10 - all
Sec. 11 - W/2
Sec. 14 - W/2
Sec. 15 to 17, inclusive
Sec. 19 to 22, inclusive
Sec. 23 - W/2
Sec. 25 - S/2
Sec. 26 to 36, inclusive

T. 20 S, R. 31 E
Sec. 1 to 36, inclusive

T. 21 S, R. 31 E
Sec. 1 - N/2
Sec. 2 - N/2
Sec. 4 - W/2
Sec. 5 and 6 - all
Sec. 18 - S/2
Sec. 19 - N/2

T. 22 S, R. 31 E
Sec. 4 to 9, inclusive
Sec. 17 and 18 - all
Sec. 19 - N/2

T. 23 S, R. 31 E
Sec. 7 - all
Sec. 8 - S/2
Sec. 16 - SW/4
Sec. 17 to 20, inclusive
Sec. 21 - W/2
Sec. 28 to 33, inclusive

T. 24 S, R. 31 E
Sec. 4 to 6, inclusive

T. 19 S, R. 32 E
Sec. 23, S/2
Sec. 24 to 27, inclusive
Sec. 28 - S/2
Sec. 31 - S/2
Sec. 32 - S/2
Sec. 33 to 36, inclusive

T. 20 S, R. 32 E
Sec. 1 to 36, inclusive

T. 21 S, R. 32 E
Sec. 1 to 17, inclusive
Sec. 21 to 27, inclusive
Sec. 35 and 36 - all

T. 19 S, R. 33 E
Sec. 19 - all
Sec. 30 and 31 - all

T. 20 S, R. 33 E
Sec. 5 to 9, inclusive
Sec. 15 to 23, inclusive
Sec. 25 to 36, inclusive

T. 21 S, R. 33 E
Sec. 4 to 9, inclusive
Sec. 16 to 21, inclusive
Sec. 28 to 33, inclusive

T. 22 S, R. 33 E
Sec. 4 to 6, inclusive

T. 20 S, R. 34 E
Sec. 31 - all

(b) Area "A" represents the area in various parts of which potash mining operations are now in progress and is described, as follows:

T. 19 S, R. 30 E
Sec. 9 - SE/4 NW/4, E/2 SW/4, S/2 NE/4, SE/4
Sec. 10 - SW/4 NW/4, W/2 SW/4
Sec. 15 - NW/4 NW/4
Sec. 16 - N/2 NE/4, NE/4 NW/4
Sec. 26 - S/2 NW/4, SW/4 NE/4, W/2 SE/4, SW/4
Sec. 27 - S/2 NE/4, SE/4 NW/4, NE/4 SW/4, S/2 SW/4, SE/4
Sec. 28 - SE/4 SE/4
Sec. 33 - SE/4 NW/4, NE/4 NE/4, S/2 NE/4, E/2 SW/4, SE/4
Sec. 34 - all
Sec. 35 - NW/4, W/2 NE/4, NW/4 SE/4, N/2 SW/4, SW/4 SW/4

T. 20 S, R. 30 E
Sec. 2 - W/2 NW/4, NW/4 SW/4
Sec. 3 - N/2, SW/4, N/2 SE/4, SW/4 SE/4
Sec. 4 - E/2, SW/4, E/2 NW/4, SW/4 NW/4
Sec. 5 - SE/4 NE/4, E/2 SE/4, SW/4 SE/4, SE/4 SW/4
Sec. 7 - SE/4 SE/4
Sec. 8 - E/2, E/2 NW/4, E/2 SW/4, SW/4 SW/4
Sec. 9 - N/2, SW/4, N/2 SE/4, SW/4 SE/4
Sec. 10 - NW/4, W/2 NE/4, NW/4 SE/4, N/2 SW/4
Sec. 16 - N/2 NW/4, NW/4 NE/4
Sec. 17 - W/2, N/2 NE/4, SW/4 NE/4, W/2 SE/4
Sec. 18 - E/2 NE/4, E/2 SE/4
Sec. 19 - NE/4 NE/4
Sec. 20 - N/2 NW/4, NW/4 NE/4
Sec. 25 - SW/4 SW/4
Sec. 26 - SE/4 SW/4, S/2 SE/4
Sec. 35 - E/2 NW/4, NE/4, N/2 SE/4, NE/4 SW/4
Sec. 36 - W/2 NW/4, NW/4 SW/4

T. 21 S, R. 29 E
Sec. 1 - SE/4, S/2 NE/4, SE/4 NW/4, NE/4 SW/4, S/2 SW/4
Sec. 2 - SE/4 SE/4
Sec. 11 - NE/4 NE/4, S/2 NE/4, SE/4 NW/4, E/2 SW/4, SE/4
Sec. 12 - all
Sec. 13 - N/2, SE/4, N/2 SW/4, SE/4 SW/4
Sec. 14 - E/2 NW/4, NE/4, NE/4 SW/4, N/2 SE/4
Sec. 24 - NE/4 NW/4, N/2 NE/4
Sec. 25 - SE/4 SW/4, S/2 SE/4
Sec. 36 - E/2 NW/4, E/2 SW/4, E/2

T. 22 S, R. 29 E
Sec. 1 - E/2 NW/4, SW/4 NW/4, SW/4, E/2
Sec. 2 - SE/4 NE/4, E/2 SE/4
Sec. 11 - E/2 NE/4, NE/4 SE/4
Sec. 12 - N/2, N/2 SW/4, N/2 SE/4

T. 21 S, R. 30 E
Sec. 6 - SW/4 NW/4, W/2 SW/4
Sec. 7 - NW/4 NW/4, S/2 NW/4, SW/4 NE/4, SW/4, W/2 SE/4
Sec. 18 - NW/4, W/2 NE/4, N/2 SW/4, SW/4 SW/4, NW/4 SE/4
Sec. 19 - NW/4 NW/4

T. 21 S, R. 30 E
Sec. 29 - SW/4 SW/4
Sec. 30 - S/2 SW/4, S/2 SE/4
Sec. 31 - all
Sec. 32 - W/2 NW/4, W/2 SW/4

T. 22 S, R. 30 E
Sec. 5 - W/2 NW/4, NW/4 SW/4
Sec. 6 - N/2, SW/4, N/2 SE/4, SW/4 SE/4
Sec. 7 - N/2 NW/4, SW/4 NW/4, NW/4 NE/4, NW/4 SW/4

(c) Area "B" is defined as that area in which core tests indicate potential potash reserves and includes the entire potash-oil area as described under "The Potash-Oil Areas" Sec. (1) (a), of this order, except and excluding lands defined and described as area "A" in "The Potash-Oil Areas," Sec. (1) (b) of this order.

(2) Area "A" and "B" as hereinabove defined may be contracted or expanded by the Commission from time to time as circumstances or conditions may warrant, after due notice and hearing.

III
EXPLORATION OF AREAS

(1) Area "A"

(a) Drilling of oil and gas exploratory test wells shall not be permitted in Area "A" except upon leases outstanding as of the effective date of these regulations, provided, that oil and gas exploratory test wells shall not be drilled through any open potash mines or within 1,320 feet thereof unless agreed to in writing by the potash lessee involved.

(b) Any oil or gas leases hereafter issued for lands within Area "A" shall be subject to these regulations.

(c) All future drilling of oil and gas exploratory test wells in Area "A " shall be further subject to these rules and regulations.

(d) Where oil and gas wells are in production in Area "A," no potash mine opening shall be driven to within less than 100 feet of such wells so that protection of both wells and mine can be afforded.

(e) Proposals to unitise with respect to land within Area "A", as herein defined and described, will be considered on their merits.

(2) Area "B"

(a) Oil and gas exploratory test wells may be drilled in Area "B" in accordance with these rules and regulations.

(3) Upon the discovery hereafter of oil and gas in Areas "A" or "B", the Oil Conservation Commission shall promulgate field or pool rules for the affected area after due notice and hearing.

(4) Nothing herein shall be construed to prevent unitisation agreements involving lands in Areas "A" or "B", or both.

IV
DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A surface casing string of new, second-hand, or reconditioned pipe shall be set in the "Red Bed" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150 percent) of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new, second-hand, or reconditioned pipe shall be set not less than one hundred (100) feet nor more than two hundred (200) feet below the base of the salt section.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be recemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with three (3 percent) percent of calcium chloride by weight of cement.

(e) Centralizers shall be spaced on at least every one hundred fifty (150) feet of the salt protection string below the surface casing string.

(f) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(g) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, an intermediate string shall be set at sufficient depth to case-off all formations in the shallow zone and shall be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (f) and (g) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-sections IV (3) (c), (f) and (g) for the salt protection string.

V
DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI
PLUGGING AND ABANDONMENT OF WELLS

All wells heretofor and hereafter drilled within Areas "A" and "B" shall be plugged in a manner that will provide a solid cement plug through the salt section and prevent liquids or gases from entering the hole above or below the salt section.

VII
LOCATIONS FOR TEST WELLS

Before drilling for oil or gas on lands in Areas "A" or "B", a map or plat showing the location of the proposed well shall be prepared by the well operator and copy sent by registered mail to the potash lessee involved, if any. Upon proper showing of such notice and if no objection to the location of the proposed well is made by the potash lessee within ten days, a drilling permit may be issued and the work may proceed. If, however, the location of the proposed well is objected to by the potash lessee on the grounds that the location of the well is not in accordance with the foregoing regulations, the potash lessee may file a written objection within ten days for consideration and decision by the Oil Conservation Commission.

VIII
INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash lessee may be present during drilling, cementing, casing, and plugging of all oil or gas wells on his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX
FILING OF WELL AND MINE SURVEYS

Each oil and gas lessee shall furnish not later than January 31st of each year to the Oil Conservation Commission and to the potash lessees involved, certified directional surveys from the surface to a point below the lowest known potash-bearing horizon for each oil or gas well drilled in Area "A" during the preceding calendar year. Each potash lessee shall furnish not later than January 31st of each year to the Oil Conservation Commission and to each oil and gas lessee involved, certified plat of survey of the location of open mine workings underlying outstanding oil and gas leases.

X
APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

XI
ADOPTION

The foregoing Rules and Regulations are hereby adopted by the Oil Conservation Commission and adopted, ratified and confirmed by the Commissioner of Public Lands of the State of New Mexico this _____ day of November, 1951.

DONE at Santa Fe, New Mexico, this 9th day of November, 1951.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Edwin L. Mechem
EDWIN L. MECHEM, Chairman

Guy Shepard
GUY SHEPARD, Member

R. R. Spurrier
R. R. SPURRIER, Secretary

Guy Shepard
GUY SHEPARD
Commissioner of Public Lands

(iv) The Oil and Gas Supervisor of the Geological Survey in any action taken under item 1 (e) (i) (ii) and (iii) shall take into consideration recommendations of the Mining Supervisor of the Geological and applicable conservation rules and regulations of the State of New Mexico.