[illegible] CHEMICAL CORPORATION
[illegible]ENT OF ORDER NO. R-111-A,
[illegible] COUNTY, NEW MEXICO

CASE NO.

6838

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,

ETC.

Name

Address

Remarks: CASE 6838
Mar 26, '80

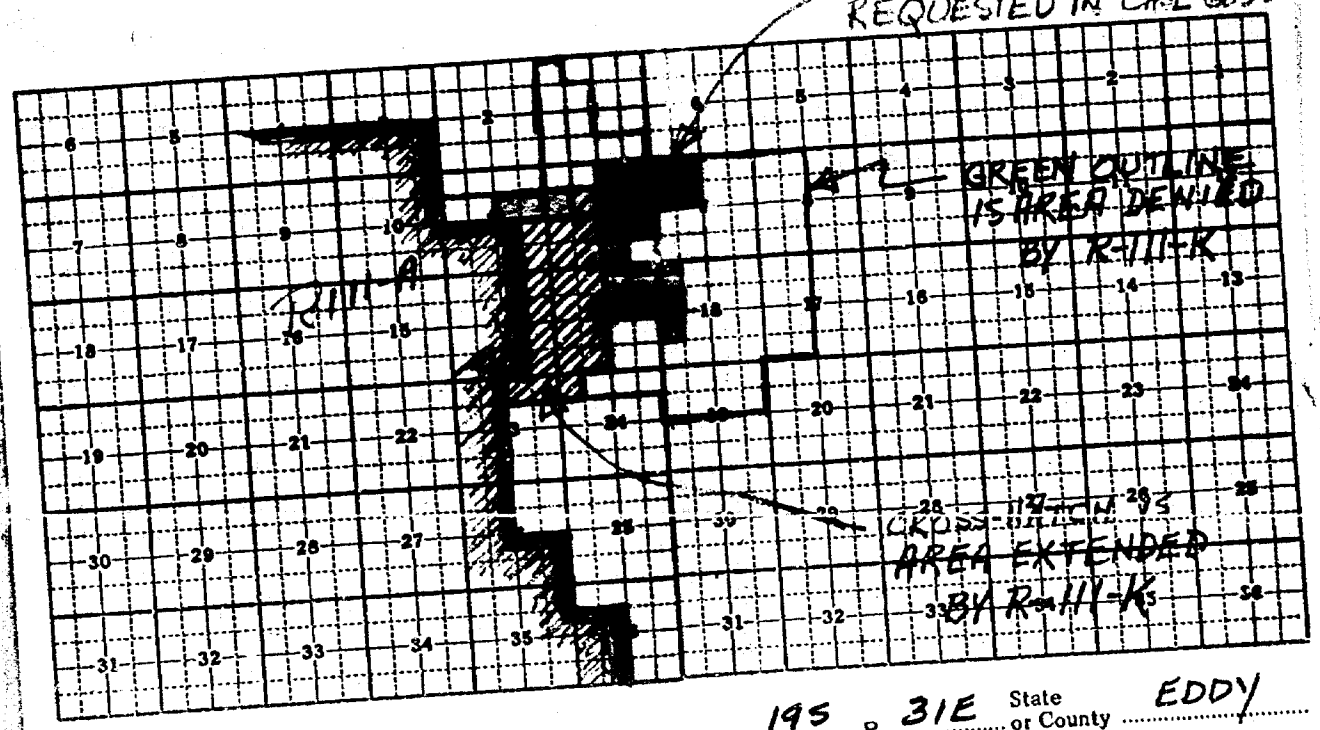
Ph.

Name

Address

Remarks:

Ph.



T 19S R 30E State or County

T 19S R 31E State or County EDDY

DOW & FEEZER, P. A.
ATTORNEYS AT LAW
DOW BUILDING
P. O. BOX 128
CARLSBAD, NEW MEXICO 88220

JAMES L. DOW
CHARLES A. FEEZER

885-2185
AREA CODE 505

May 1, 1980

Mr. Richard L. Stamets
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87501

Re: Extension of R-111
Case No. 6838 - Order No. R-111-N-1.

Dear Mr. Stamets:

You may recall that following the hearing on the above numbered case, we had a short side-bar conference, not part of the record, relating to test procedures for potash.

I have been presenting these Applications for a good number of years as I have been Amax's retained counsel for the last ten plus years and it has always been the judgment of the Examiner and those involved, as I understand it, that the exhibits in map form containing percentages of potash deposits were all admissible as a completed business record of the Applicant and to segregate out portions of the documents as requiring additional or separate proof would seem illogical.

To carry this a step further, if we had to prove every part of the exhibit, we would presumably have to have the surveyor who did the ground and mine survey. We would have to have the officers of the corporation who hold the leases with the State and Federal government. In truth and fact, all the data set forth on the exhibit is gathered together and placed thereon under the supervision of the Resident Manager and Mine Manager and in my opinion, should be admissible as a business record in its totality.

However, I have had the General Mine Superintendent obtain from the Chief Chemist a document which shows the source material for technical data relating to the process by which they do the chemical process on every sample coming from the mine, which samples, over the years, number into the thousands. I don't know if this explanation is what you wanted; but, I would welcome further communication from you if this to be a future problem at hearings extending R-111A lands.

Very truly yours,

DOW & FEEZER, P. A.

C. A. Feezer

CAF:ah

cc: Mr. Bob Kirby Encl.

Form 102

MEMORANDUM

AMAX Chemical Corporation
A Subsidiary of AMAX INC.
P. O. BOX 279, CARLSBAD, NEW MEXICO 88220 (505) 885-3157

April 28, 1980

To: Mr. Robert E. Kirby, General Mine Superintendent

From: W. M. Fincher, Chief Chemist

Subject: Methods Used for Analysis of AMAX Ore and Products

All AMAX analytical procedures presently in use are listed in detail in the publication -

"Official Methods of Analysis of the Association of Official Analytical Chemists," 13th Edition, 1980
Association of Official Analytical Chemists
P. O. Box 540
Benjamin Franklin Station
Washington, D.C. 20044

Each element normally determined in potash ore and products is listed in the following table, giving page and paragraph numbers where the information can be found:

		Pages	Paragraphs
Calcium	(Ca)	22	2.121 - 2.123
Chlorine	(Cl)	22	2.119 - 2.120
Magnesium	(Mg)	23 - 24	2.131 - 2.138
Potassium	(K)	19 - 20	2.102 - 2.104
Sodium	(Na)	25	2.147 - 2.150
Sulfur	(S)	26	2.160 - 2.162

Sodium is usually estimated by difference after calculating an ion balance using analytical values determined for the other five elements.

W. M. Fincher

WMF:ns

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

April 24, 1980

Mr. Charles Feezer
Dow & Feezer
Attorneys at Law
P. O. Box 128
Carlsbad, New Mexico 88220

Re: CASE NO. 6838
ORDER NO. R-111-N-1

Applicant:

Amax Chemical Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other William F. Carr

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

CASE NO. 6838
Order No. R-111-N-1

APPLICATION OF AMAX CHEMICAL CORPORATION FOR THE AMENDMENT OF ORDER NO. R-111-A, EDDY COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE DIVISION:

It appearing to the Division that Order No. R-111-N dated April 15, 1980, does not correctly state the intended order of the Division,

IT IS THEREFORE ORDERED:

(1) That Paragraph (4) on Page 2 of Order No. R-111-N, be and the same is hereby corrected to read in its entirety as follows:

"(4) That, based upon the evidence submitted at the hearing, it is not established that the E/2 NW/4 of Section 7, Township 19 South, Range 31 East, NMPM, Eddy County, New Mexico, contains commercial deposits of potash and the application for inclusion of said lands in the Oil-Potash Area should be denied."

(2) That the correction set forth in this order be entered nunc pro tunc as of April 15, 1980.

DONE at Santa Fe, New Mexico, on this 24th day of April, 1980.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L
fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

April 17, 1980

Re: CASE NO. 6838
ORDER NO. R-111-N

Mr. Charles Feezer
Dow & Feezer
Attorneys at Law
P. O. Box 128
Carlsbad, New Mexico 88220

Applicant:

Amax Chemical Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other William F. Carr

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6838
Order No. R-111-N

APPLICATION OF AMAX CHEMICAL CORPORATION FOR THE AMENDMENT OF ORDER NO. R-111-A, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 26, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 15th day of April, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Amax Chemical Corporation, seeks an extension of the Potash-Oil Area as defined in Order No. R-111-A, as amended, by the addition of the following described lands in Eddy County, New Mexico:

TOWNSHIP 19 SOUTH, RANGE 30 EAST, NMPM	
Section 11:	S/2 NE/4
Section 12:	NE/4, W/2 SE/4, NE/4 SE/4, and SW/4 NW/4
Section 13:	NE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM	
Section 7:	NW/4
Section 18:	W/2 NW/4 and NW/4 SW/4

(3) That the evidence establishes that although a small percentage of the lands described in Finding No. (2) above contain only marginal potash mineralization, most of the lands do contain commercial deposits of potash which may reasonably be recovered in commercial quantities.

(4) That, based upon the evidence submitted at the hearing, it is not established that the E/2 NE/4 of Section 7, Township 19 South, Range 31 East, NMPM, Eddy County, New Mexico, contains commercial deposits of potash and the application for inclusion of said lands in the Oil-Potash Area should be denied.

(5) That in order to promote the orderly development of the natural resources in the Potash-Oil Area, and prevent waste and protect correlative rights, Order No. R-111-A, as amended, should be further amended to include in the Potash-Oil Area, as defined by said order, the lands described in Finding No. (2) above with the exception of the lands described in Finding No. (4) above.

IT IS THEREFORE ORDERED

(1) That Order No. R-111-A, as amended, is hereby further amended to include the following-described lands within the Potash-Oil Area in Eddy County, New Mexico:

TOWNSHIP 19 SOUTH, RANGE 30 EAST, NMPM
Section 11: S/2 NE/4
Section 12: NE/4, W/2 SE/4, NE/4 SE/4 and SW/4 NW/4
Section 13: NE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM
Section 7: W/2 NW/4
Section 18: W/2 NW/4 and NW/4 SW/4

(2) That the application of Amax Chemical Corporation to include in the Potash-Oil Area, as defined by Order No. R-111-A, as amended, the lands described in Finding No. (4) of this order is hereby denied.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

SEAL

ed/

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, **NEW MEXICO**

Hearing Date MARCH 26, 1980 **Time:** 9:00 A.M.

NAME	REPRESENTING	LOCATION
C A Ferguson	Amax	CARLSBAD
C.W. CLAXTON	UNION TEXAS PET	
Doug Lunsford	Hinkle Law Firm	Denver
S. K. Desai	Amax.	Roswell
R.N. Bernard	Amax.	
R E Kibby	Amax	Carlsbad
CHARLES F. KALTEYER	GULF OIL	Carlsbad
Jim Knauf	Arrowhead Oil Corp.	MIDLAND
William F. Carr	Campbell + Black	Artesia
Bob Huber	Capital Observer	Santa Fe
R. C. Freeman	Tahoe Oil & Cattle Co	Santa Fe
Gary R Kilpatrick	Montgomery Andrews & Hannahs	Midland
Sue E. Umshler	USGS, Conservation	Santa Fe
Rick Fulton	" "	Albuquerque
E. A. Blumit	Kimbell Oil Co.	Roswell
S. T. Emery	OCD	Farmington
Robert J Pickens	Marathon Oil	Aztec
William Mayhew	EL PAMCO INC.	Houston
		ALBUQ

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date MARCH 26, 1980 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
G. J. Degenfelder	Marathon Oil	Midland Tx
R. M. Depauw	Maeathon Oil	Hobbs, NM
W. F. Kellahin	Kellahin & Kellahin	Santa Fe
Joe Younger	marathon oil	Midland, TX
E. J. MORGAN	TENNECO OIL COMPANY	DENVER, CO
VICTOR T LYON	CONOCO INC	HOUSTON
HUGH INGRAM	CONOCO INC	HOBBS
Charles W. Sanders	Petroleum Development Corp.	Albuquerque

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
26 March 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico. } CASE 6838

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mex;ico 87501

For the Applicant: Charles A. Feezer, Esq.
DOW AND FEEZER
Carlsbad, New Mexico 88220

For Gulf Oil: William F. Carr, Esq.
CAMPBELL & BLACK P. A.
Jefferson Place
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

MR. STAMETS: We'll call next Case 6838.

MR. PADILLA: Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico.

MR. STAMETS: Call for appearances in this case.

MR. FEEZER: Charles A. Feezer, of the firm of Dow and Feezer, in Carlsbad, on behalf of the applicant, Amax.

MR. CARR: William F. Carr, Campbell & Black, P. A., Santa Fe, appearing on behalf of Gulf Oil Corporation.

MR. STAMETS: Any other appearances? I'd like to have all of those who are going to be witnesses in this case stand and be sworn at this time.

(Witnesses sworn.)

MR. STAMETS: You may proceed, Mr. Feezer.

MR. FEEZER: Thank you, sir. I would like to call Mr. Robert Kirby as the first witness.

ROBERT E. KIRBY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

DIRECT EXAMINATION

BY MR. FEEZER:

Q. Would you please state your name for the record?

A. Robert E. Kirby.

Q. And what is your business or occupation, Mr. Kirby?

A. General Mine Superintendent for Amax Chemical.

Q. Have you previously testified before the Commission in similar matters seeking extensions of the potash zone?

A. I have.

Q. And in your capacity as -- and what is your capacity again with Amax?

A. General Mine Superintendent.

Q. In your capacity as General Mine Superintendent, have you had prepared under your supervision and direction what has been marked as Exhibit One, which is before the Hearing Examiner and counsel at this time?

A. I have.

Q. Looking first at the legend, the area marked in purple covering 840 acres, represents what at this time?

A. It represents the area which Amax is requesting be included in the R-111-A.

Q. Under your direction and supervision have drilling operations for core testing been done in the lands sought to be included in R-111-A?

A. Yes, they have.

Q. In reference to Exhibit One, I want to call your attention to various circular marks on the map that are respectively a full orange dot, an orange and yellow dot split, and a full yellow dot, as shown on the legend. What do these indicate?

A. These are potash test locations. The orange dot represents the potash value of 4-foot thickness, 11 percent K_2O or above.

Q. And by the same token, the split orange/yellow is 4 feet of 9-11, just as it shows on the legend, and these are translated the area within the application.

A. That's correct.

Q. As shown on the exhibit, is that right?

A. That's correct.

Q. Now, in reference to this exhibit, you have an outline in a free form running through portions of the lands sought to be included, which are in Section 11, running eastward and projecting out to a little beyond the center line of the northwest quarter of the northwest quarter

of Section 7, Township 19, Range 31 East, and then going down to the bottom of the map.

Will you indicate to the Hearing Examiner what this random line indicates, as shown on the exhibit?

A. This is our estimated economic reserve limit at this point in time, determined from our drilling results.

Q. On this exhibit we also have an Area I marked with an arrow and in red "See Exhibit B for interpretation". What does this indicate at this time?

A. This is our active mine workings lo East section in which we are currently advancing.

Q. All right. You have a random yellow line running from north to south and in that area running directly through Area I and in Section 14, Township 19 South, Range 30 East. What does that indicate?

A. The yellow line is the -- represents the limits of our mining in the first ore zone, which is some 35 feet to 40 feet below our mine workings which now are in the third ore zone.

Q. And would you explain to the Examiner all of the area in red --

MR. STAMETS: But before we do that, I need an explanation.

MR. FEEZER: All right, sir.

MR. STAMETS: Of the yellow line again.

MR. FEEZER: All right.

MR. STAMETS: That escaped me the first time through.

MR. FEEZER: All right.

Q. The yellow line, again, Mr. Kirby, is the first ore zone, which is at what level or depth in the ground?

A. In that area it's probably 700 or -- well, it's over -- I can't tell you the depth from the surface at that point. It's approximately 35 to 40 feet below where we're currently mining.

Now this area has been mined out in previous years and we're now coming back over these old workings with development of the third ore zone.

Q. The ore zones run from 1 to 10 in ascending numbers, do they not, to the surface?

A. Ascending numbers, yes, sir.

Q. But when you describe the third ore zone, and as shown on the legend in red, this is all an area above the first ore zone that we're talking -- that you just talked about?

A. That's correct.

Q. And all of this area outlined on Exhibit One indicates in red, except for that beyond the line running

through 12 and 13, as already included in R-111-A, is that right?

A. That's correct.

Q. And these core test holes --

MR. STAMETS: I'm still not certain what the yellow line represents now. I know what the first and third ore zones are, and you've already mined to the yellow line?

A. Yes, that's our mining limits in the first ore zone. We mined to that point, to the yellow line, and retreated.

MR. STAMETS: You'll have to bear with me in this case, because this is the first one of these cases I've had, and I know you've had several before Mr. Nutter, and you're probably going to have to spend a little more time explaining for me than you would for him.

MR. FEEZER: All right, we'll be happy to do so.

Q. All right, in view of the fact that the Examiner needs or would like a little more explanation, in the Area I on Exhibit One, will you explain in the Area I what the yellow line is running directly through that oblong or rectangular box?

A. Well, that indicates -- it indicates that we have crossed over from previously mined areas into

virgin ground or completely solid work.

Q. All right, now 10 East to the left of Area I represents a mined out area, does it not?

A. Yes, this is the panel, that whole panel, starting from the edge of the paper down to the face there at the right end of that rectangle, is an open mine workings. We are currently advancing this face to the southeast.

Q. And you're advancing it through ore in varying grades at this time?

A. We are.

Q. Is it your custom and practice to take samples of that ore as you advance through it every day of every month?

A. Yes, it is.

Q. And you keep a regular record of those samples, do you not?

A. We do.

Q. Now, in view of the fact that this map prepared under your direction contains a large area already within R-111-A, to protect the further limits of the potash bed, as outlined in purple, would you explain to the Examiner your understanding of the line marked KPA, which is in dashed blue?

A. KPA is the USGS known potash area within

which we have certain protection.

Q. And these are Federal lands where they utilize this designation KPA, is that correct?

A. Correct.

Q. Now, the KPA embraces the lands in Section 11 and 12 at this time, is that right, according to the exhibit?

A. Yes, most of 12.

Q. All right. You have also additional drill holes beyond the known potash area in the northeast of Section 12 and the southeast of Section 12, is that correct?

A. That's correct.

Q. Looking at Hole No. 139 and 136 within this area, would you tell the Examiner what those designations on those holes mean, how you interpret them?

A. Hole 139 we have designated 48 inches at 9.1 percent. The 48 inches is the mining thickness of the bed. The 9.1 percent is, of course, K_2O value.

Q. Now that's the ultimate object of your mining program, is it not, the K_2O?

A. The K_2O values, yes, sir.

Q. And what is K_2O?

A. It is a representative of the ore grades.

SALLY W. BOYD, C.S.R.
R. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

We sell potash in K_2O units and our mine faces are assayed in K_2O units. It's not a potassium oxide. We are mining potassium chloride and it's converted into K_2O units for --

Q. In your milling process?

A. In our analysis.

Q. Your assay, all right. Now, Hole No. 136 represents 48 inches of 12.4 percent K_2O?

A. That's correct.

Q. Moving eastward to Hole No. 166 in the west half of the northwest quarter of Section 7, would you tell the Examiner what that hole represents?

A. We have taken two splits of that seam. The top indicates 58 inches at 20 percent and had we reduced that height to 48 inches it would increase the grade to 23.3 percent K_2O.

Q. Now I want you to explain that very carefully as to why you reduce it and why there is a 58-inch designation of 20.0 percent K_2O.

A. In the -- in the seam there are varying strata or varying grades of K2O. We take the high grade section out at 48 inches, we'd get a little higher grade. We will be leaving a marginal strata, either in the roof or the floor, that would grade somewhat lower. In all probability in that instance we would mine at 58 or 60 inches

height to get the total K2O value.

Q. Ordinarily, what is the mining height that is utilized in the mine?

A. We are currently mining between 4-1/2 to 5 feet. 5.1.

Q. And when you mine 4-1/2 to 5 feet, is part of that material that is extracted completely waste material?

A. Yes, it is.

Q. But you need to do that to get your equipment in and out?

A. Yes, it is.

Q. Make it function?

A. Yes, sir.

Q. Moving south in Section 12, again, you have a test or core hole 125. It's colored yellow, marked 48 inches at 8.9 percent. What can you tell the Examiner about this test hole?

A. This hole tells us that the analysis is very marginal at this point in time. Our experience in this potash seam tells us that although 8.9 percent is below our cutout grade, if we were mining in that area we would probably take that ore. It's very marginal at this point.

Q. That's at that one particular spot where

the core sample was taken?

A. Yes, but we also know from our experience that a short number of feet from that hole we could have higher grade ore or lower.

Q. And that actually is reflected on face samples as you move forward through the mine in Area I, is that not a fact?

A. That's correct.

Q. Moving south again to Hole 140, this ore grade shows to be slightly higher, is that correct?

A. Yes, it is, 9.9 percent.

Q. And moving eastward to 163, how would you describe the sample in this hole?

A. A little bit better. It's 11.2 percent, which puts it into a --

Q. And 169 to the south at 9.1, the same category, approximately, as the other holes you've testified to?

A. That's correct.

Q. In your judgment as the Chief Mining Superintendent for Amax, do you believe those lands sought to be included in B-III-A embrace commercially recoverable quantities of mineable ore?

A. Yes, sir.

Q. Looking at the exhibit where it

says GRN Log at L & M, are you familiar with that well or any data relating to it?

A Yes, I am.

Q I hand to you what has been marked as Exhibit Two for this hearing. Looking at Exhibit Two, Mr. Kirby, first of all this letter is addressed to you, is it not?

A It is.

Q Did you receive this letter in the regular course of business in connection with your employment with Amax Chemical Corporation in October of 1979?

A I did.

Q And you received it from a Donald W. Ward of Winipeg, Manitoba?

A Donald Hurd.

Q Excuse me, Donald W. Hurd of Winipeg, Manitoba, can you tell the Examiner who this man is and why this letter was written to you?

A Mr. Hurd is a consulting geologist, formerly an employee of Amax, who is quite expertise in evaluating gamma ray neutron logs for the presence of potassium. He has done extensive work with Amax and does so today on a consulting basis.

Q Looking at page two of Exhibit Number Two

there is an outline at the top of the page commencing with [illegible] and [illegible] Culbertson No. 1. Would you tell the Examiner what this explanation indicates to you as being present in this old oil and gas well?

A. I had obtained a copy of the [illegible] neutron logs for this well. Not being an [illegible] evaluating the log, I did realize it looked like [illegible] sium kick, so I had the log sent to Mr. [illegible] to please evaluate it. He has done this [illegible] past on numerous occasions, and this is [illegible]

Q. In these [illegible] a copy of the gamma ray neutron [illegible] of the log at a depth of between 1100 [illegible] showing the kick?

A. Yes, [illegible]

Q. [illegible] judgment, based on the report on page two of [illegible], what does that gamma ray neutron log indicate [illegible] the presence of potash ore is concerned?

A. He estimates a bed of approximately [illegible] feet of thickness at 9 to 10 percent total K_2O.

Q. In view of the thickness of that bed, [illegible] feet, or 60 inches, is that an area that suggests to you that there is recoverable potash ore in that area where that gamma ray neutron log was taken?

A. In conjunction with our drilling in the

area, it does.

Q. And that gives you a consistancy of a finding of those three holes, 140, the L & M Well, and the 169 Hole in a line, does it not, running from northeast to south --

A. Yes, it does.

Q. -- northwest to southeast?

Going on with the exhibits, in connection with the LaRue and Muncy Well, I hand you what has been marked Exhibit Number Three and ask you if you know what that is?

A. This is an approval of the Notice of Intention to Abandon this well, and we are currently in the process of pulling the casing and cementing this well through the salt zone to the surface.

Q. You show, or Amax shows, having received a covering copy of this. Has Amax as a corporation contracted with LaRue and Muncy to do the work of cementing and plugging that you just testified to?

A. We have contracted with the company that does this work; not LaRue and Muncy.

Q. I understand, but they own the well and they have no objection to this, so far as you know?

A. They have agreed to let us plug this well.

Q. Is that work in progress at this time?

A. It is.

Q. When a well is plugged, such as the one under discussion here, what does that do to assist the company in increasing the amount of potash ore that can be recovered from the area shown in the two circles on Exhibit One where the well is marked L & M with a gamma ray log in Section 13 in the northeast quarter?

A. In our mining practice whenever we are in the area of an oil well, we will leave a minimum of 100-foot radius solid pillar around that well.

If the well is not plugged to our satisfcation, or if it is active, we will not second mine or recover pillars.

Q. Let's go slow here. On the exhibit at the L & M Well in Section 13, there is a small circle with an arrow running into it, marked GRN Log. I haven't checked the scale but how large is that circle, if you can tell the Examiner? The scale of 1-to-1000 --

A. I'm not sure that he put these circles on at a scale. At the depth in that area that circle should be a radius of about 12 to 1300 feet.

Q. The small circle or the large circle, Mr. Kirby?

A. The large circle.

Q. All right. Assuming, for purposes of our discussion, realizing it is not to scale, a small circle on the interior of th large dotted circle would be a 100-foot column in diameter?

A. It would, yes.

Q. And the encompassing circle would be 1200 feet, is that correct?

A. 12 to 1300. It would be -- the radius of that circle would be the -- equal to the depth from the surface to the potash zone.

Q. All right, so that we're talking about a cone rising from the point where the potash is located to the surface?

A. Right, an inverted cone, yes.

Q. An inverted cone; cone at the bottom going up to the top.

Now, when you say you wish to leave a 100-foot barrier around that old well, what's the purpose of that?

A. The purpose is to leave sufficient salt pillar so that we will not disturb that well in any fashion as we mine through on our advance.

Q. Now you say that even in view of the fact that it would be a plugged and abandoned well with no pressure or production, presumably?

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

A. Correct.

Q. And is this a safety measure?

A. Yes, it is.

Q. What would be the result, if you can envisage it for the Examiner, of the escape of hydrocarbons into a mining operation, at least insofar as the potash workings are concerned?

A. We would be classified in that instance as a gassy mine. At the present time we are not classified as a gassy mine, and the requirements for a non-gassy mine are substantially different from that of a gassy mine. Our equipment is not permissible in a gassy mine.

Q. Could it have disastrous economic affects on the operation of your mine if it ever became a gassy mine?

A. Absolutely.

Q. Is it the judgment of you and your peers in the potash industry that the 100-foot circle is the minimum barrier that you would leave regardless of whether or not a well is active or inactive?

A. Yes, it is.

Q. So that we understand a little bit further about the 1200-foot circumference, will you tell the Examiner how that operates; what position the company takes regarding a larger or second mining operation?

A. In our mining methods we advance and leave sufficient pillars so we do not disturb any overburden. We take approximately 60 percent of the seam out on our advance. This remaining 40 percent in the pillars is substantial enough to carry the weight of the overburden.

When we reach the fringes of the ore, or the economic limit, we then begin to extract our pillars. We will extract on the average of an additional 30 percent of the area, leaving remnant pillars of approximately 10 percent.

When we are taking this last 30 percent, the support is gone, the overburden weight begins to cause convergence. In this --

Q. Let's stop just a moment here, I don't want to get too technical.

MR. STAMETS: That's all right. I am familiar with this part of mining operation.

MR. FEEZER: Fine, thank you, okay. Go right ahead.

A. In the vicinity of an oil well, when we are extracting pillars and bringing -- causing this convergence, which is subsidence of the overburden rock to the -- into our mining area, we become concerned with the continuity of this well. We know that there's tremendous rock pressures that are active and moving, and we don't --

if that well is not plugged sufficiently, we will not allow this second mining to take place, and

Q [illegible] to that?

A. Well, go ahead.

Q In view of the fact that you have an agreement based on Exhibit Three, and are in the process of plugging and abandoning this L & M Well, will this allow you to mine additional ores because of your conservation practice in plugging this well?

A. If the well -- if the plugging of the well is completed to our satisfaction, we don't run into any problems, why then we will do the second mining in this vicinity.

Q And this will allow you to recover substantially more ore by doing the second mining, Mr. Kirby?

A. Yes, it will.

Q In reference to Exhibit [illegible] are three oil or gas well locations in Sections 11 and [illegible] respectively. To your knowledge are these active or inactive wells? One is marked S. W. Inc., CAI Inc., and Collier.

A. These are three active wells, or at least they have not been abandoned.

Q In these three instances, what will be the position of the company regarding mining in the area

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

of these locations, oil and gas locations?

A. We will -- first, we will locate these wells very accurately in relationship to our mining activity underground. This is in process now.

We will then leave the 100-foot barrier pillar around that -- each of these wells. We will not, in our retreat mining, we will not do the second mining in the area of the large radius --

Q. And will this cause the, of necessity, [illegible] potash [illegible] that you must observe?

[illegible] we will definitely

[illegible] and that was almost already [illegible] 10 East. [illegible] Kirby, in the [illegible]

A. [illegible]

Q. If it [illegible] those are quite high [illegible] that you will leave a [illegible]

[illegible] judgment, if there [illegible] leave a 200-foot radius

Q. And of course, with each increase in the amount of pillar or increase in the amount of area left unmined for second mining, does this reduce your total recovery of commercially salable potash ore?

A. Yes, it would.

MR. FEEZER: Mr. Examiner, subject to further testimony regarding Area I, which we will tie in to Exhibit Number Four, we would move the admission of Exhibits One, Two, and Three at this time.

MR. STAMETS: Without objection, these exhibits will be admitted.

Are there questions of Mr. Kirby?

MR. CARR: I have.

MR. STAMETS: Mr. Carr.

CROSS EXAMINATION

BY MR. CARR:

Q. Mr. Kirby, as I understand your Exhibit Number One, the area shaded in red indicates where you now estimate there to be commercial potash reserves in the third ore zone, is that correct?

A. That's correct.

Q. So if you look at the red line on the -- well, as it goes through Section 12, 7, and 13, this red line is your estimate of the limit of where you now have

known potash reserves of a commercial quantity, or commercial grade?

A. Yes, sir.

Q. Now, if we come down to your Core Hole No. 125, that red line crosses the yellow dot, and yet that is what you've indicated as a barren hole, and I believe your testimony was that you have placed this line at this location because you might be able to move a few feet to the east and encounter a higher grade ore, is that correct?

A. I didn't -- I didn't testify that that was a barren hole. I testified that the grade was quite marginal. That 8.9 percent, as with any of these other grades, does not tell us that if we were mining in that area this is the grade we would be getting out. It tells us that we were mining, or we think we'd be mining, in very low grade ore, very low grade material.

We think by the time we do mining in this area that that will be much more economic than it is today.

Q. And it is probable --

A. At today's rate we can mine it.

Q. Was your testimony that if you were to mine to the east of that hole that you might in a short distance encounter also a better grade ore?

A. It could. It could not, either.

Q. Or poorer, as well?

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

A. Yes.

Q. Now, Mr. Kirby, if we go to the Core Holes 166 and 165, I notice that the red line falls sort of halfway between those two. Is there any particular reason that you placed it exactly where you did between these two?

A. 166 is a very high -- high grade hole. 165 is absolutely barren. We just took a mathematical swing through the middle of those two holes.

Q. If the Core 165 is -- is that 48 inches at 2.1 percent?

A. 2.1 percent, essentially barren.

Q. Now, so you are just sort of coming halfway between those two holes?

A. Essentially that's what we've done.

Q. Is it possible that there would be no commercial potash reserves in the east half of the northwest quarter of 7?

A. It's possible, and it's also possible that there could be.

Q. But at this time you have no greater control other than just the two holes?

A. No greater control at all, that's right.

Q. And you might have a very good ore body or a barren area?

A. Or anything in between, yes, sir.

Q. You said you'd be continuing this mining operation, that you would be in the area where there are these three oil and gas wells in Sections 13 and 14, in how long did you say, approximately nine months?

A. I would say, not having our projections right in front of me, I would say about eight to nine months we would be in that area.

Q. Would you have any idea of when you might be doing active mining in the northwest quarter of Section 7 or the northeast quarter of 12?

A. That would be farther down the road. It would take us a number of years to get up in there. It probably -- probably five to seven years, probably, or four to seven years. It's very difficult to --

Q. But you don't have any definite time schedule for that area, right?

A. No, there's no way you can make any schedule that close.

Q. As you -- and I don't know anything particularly about potash mining -- but if you were going to be mining in the Sections 12 and 7, would you be moving through this, the mine that you now have portrayed on Exhibit One and then be branching out from that to go into the area?

A. Yes. As we would advance this main 10

East panel, probably till we reach the ore limit down in the southeast, then we would start -- the panel is normal to this means.

Q. And then about how long do you think it would be to extend this down to the southeast as far as you have these holes?

A. Well, that's difficult to tell. We have more drilling to do in Section 13 and 18. We have not completed our drilling.

Q. So it is possible that as you continue mining you might also coring down there discover that the ore body continues to the south and east?

A. That is correct.

Q. Just with your present mining operations, you don't have any idea how long it would take you to get to the current easternmost boundary of what you have indicated as the known -- or the proven limit now, or what you understand to be the limit of the third ore zone?

A. Approximately two years.

MR. CARR: I have no further questions.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Kirby, who made the determinations

of the potash presence and percentages on these core test holes?

A. Amax' engineering staff in Carlsbad.

Q. Okay.

A. We are -- and our laboratories.

Q. Any one individual responsible for that determination?

A. Our chief mine engineer.

Q. Is he here today?

A. Yes, he is. Now, he did not do the analysis. We have an in-house laboratory that runs our assays.

Q. Okay, he is the party responsible for that, though?

A. No, our engineering is not responsible for the laboratory work, but we are responsible for developing our exploration program and putting it into affect.

Q. Is the person who is responsible for making these determinations here today?

A. No, he isn't.

MR. STAMETS: Any other questions of this witness?

MR. FEEZER: Two or three further ones.

REDIRECT EXAMINATION

BY MR. FEEZER:

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

Q. Has it been the custom and practice in all other applications that you've made, and before coming here, to fully acquaint yourself with the analysis of the core samples that have been taken and which are shown on your exhibits?

A. Yes.

Q. And is it the custom and practice in the potash industry for each ompany to do its own in-house analysis and make its own mine plan and estimates of their reserves in the manner which you've described to the Examiner?

A. Yes. Each -- each company in the potash basin must have its own laboratory. We are mining on leased land. We have to constantly analyze our meal feed. We have to constantly analyze our product, and we have the facilities there. Each company does.

Q. And do you have an accountability to other lessees and the Federal and State governments?

A. That is correct.

Q. For their percentage royalties?

A. That's correct.

Q. And this is the normal process of marking and determining the material shown on this map, is it not?

A. Yes, that's correct. We take the core. We examine the core. We log the hole. We determine where the bed is, what samples -- we cut the core into what

samples we want, the engineering department, geology. They analyze these samples. We get the analysis back. It's a complete analysis on all minerals, all --

Q. Is it not a fact that as your department examines these samples and visualizes them, based on your experience you can in many instances just look at the samples and indicate where you expect the potash, or K_2O deposits to show up?

A. Oh, yes.

Q. That's easy for you by sight, from experience --

A. By sight you can see it, yes, sir.

MR. FEEZER: Pass the witness.

RECROSS EXAMINATION

BY MR. CARR:

Q. When you leave these pillars around a wellbore, the area that you've leaving around the wellbore is actually related to the way the formation subsides, is that correct?

A. Yes.

Q. And you leave the pillar because your overburden, as it collapses, subsides sort of at an angle out from it, that's the concept behind this cone, is that correct?

A. Yes, that's correct.

Q. Do you have, I mean, you have actual experience in the area that would establish that this is the size of pillars that you have to leave?

A. This has been evaluated over a number of years, probably since 1956 or '57 when U.S. Potash began their first second mining operation.

We have taken subsidence measurements on the surface, correlating with our underground workings, and determined that this 45 degree angle of draw is a good number to use, and each company has adopted this procedure.

MR. CARR: I have nothing further.

MR. STAMETS: The witness may be excused.

MR. FEEZER: Next witness, Mr. Examiner, is Mr. Danny Desai.

DANNY DESAI

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. FEEZER:

Q. Mr. Desai, would you please state your full name and occupation?

A. Suresh K. Desai.

Q. Do you also go by the name Danny?
A. That is correct.
Q. And may I refer to you as Danny?
A. That's right.
Q. Thank you. What is your occupation, Danny?
A. I'm Chief Engineer with Amax Chemical Corporation.
Q. How long have you held that position?
A. Chief Mine Engineer since last August.
Q. And prior to that how long have you been an employee as a mine engineer of Amax Chemical Corporation?
A. Over nine years.
Q. Prior to that did you have mine engineering experience with some other mining corporation?
A. That is correct.
Q. And what one was that?
A. New Jersey Zinc Company.
Q. And where were they operating when you were employed by New Jersey Zinc?
A. Hanover, New Mexico.
Q. And at Hanover what sort of mining operation was that?
A. Lead and zinc.
Q. Underground mining operation?

A. That is correct.

Q. Did you have special education or training as a mining engineer at any college or university?

A. Yes, sir.

Q. Where did you take a degree in that field?

A. I have a Master's degree in geology from — and a Master's in mining engineering, from Missouri School of MInes.

MR. FEEZER: Is the witness qualified?

MR. STAMETS: The witness is considered qualified.

MR. FEEZER: Thank you, sir.

Q. Mr. Desai, let me hand to you what has been marked as Exhibit Number Four, and in your capacity as Chief Mine Engineer, will you explain to the Examiner what this exhibit, marked Exhibit D on the upper righthand corner but marked Exhibit Four with the Examiner's stamp, is and how it ties in to Exhibit One in evidence at this time?

A. This is an assays maps. The assays are regularly taken in the first mining operation and these assays, as they come in from the lab, are posted on this scale.

Q. Let me lay a little more foundation, if I may.

Area I on Exhibit One is a small rectangle of about 3/4 of an inch by an inch and 1/2 long, is that right?

A. Yes, sir.

Q. And it runs in an area from northwest to southeast in Section -- help me, gentlemen.

A. 14.

Q. 14. Is this Exhibit Number Four, for identification, prepared by you, a blowup of Area 1 as shown on Exhibit One?

A. That is correct.

Q. What size, or what distance are we talking about when I lay my hand across the purple on Exhibit Four in the lengthwise or longest dimension?

A. It's 920 -- 828 feet, approximately.

Q. So that we're talking about a panel across here on Exhibit One, 10 East, which is some 820 feet wide, is that right?

A. That is correct.

Q. Now, looking at Exhibit Four, you have identified a corner in the upper lefthand of Exhibit Four, marked 10, 11, 15, and 14, this is a section corner, is it not?

A. That is correct.

Q. In Township 19 South, Range 30 East, Eddy

County, New Mexico?

A. That is correct.

Q. And in your capacity as Chief Mine Engineer, are you in charge of driving this 820-foot wide opening to recover potash ore?

A. That is correct.

Q. There are a large number of squares on Exhibit Number Four. Will you tell the Examiner what each one of these represents in the purple area?

A. These squares are present when we do our first mining, we form the pillars, and these are a typical first mining panel.

Q. Let's look at the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9, running across the panel. What do they represent, Mr. Desai, in black letters?

A. They are the entries, 1 through 9.

Q. This is material that has been mined out, is it not, where these numbers appear and the purple shows?

A. That is correct.

Q. And what does the area enclosed in the square in white represent?

A. That is the grade that represents that particular pillars with the assays on it and it represents our various grades.

Q. All right, now those are solid areas of

potash, are they not?

A. That is correct.

Q. Let's look at the solid area of potash between black numbers 1 and 2 on the upper portion of Exhibit Four in the purple.

How wide an area are we talking about in the solid potash between areas 1 and 2 where the numbers 4.7-13.0 appear?

A. It's the one we are talking about between 1 and 2, it's a 4.7 --

Q. How much land area are we talking about there?

A. It is 62 by 62 pillar.

Q. That's in feet?

A. Right.

Q. Okay, it's a square pillar, 62 by 62, and there's an "X" on the top -- excuse me, on the -- at the top of the map just adjacent to the black letter number 1.

A. That's correct.

Q. And there's also an "X" just adjacent to the number 2 to the south of that particular example. Do you see that, Mr. Examiner?

MR. STAMETS: Yes.

MR. FEEZER: If we're together? Do you see it, Mr. Carr?

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

MR. CARR: Yes.

Q. Would you tell the Examiner what those "X's" represent which are to the left and right of this block?

A. To the left the "X" is represented by 4.7 at 13 percent grade, and close to No. 2 entry, represents 4.4 at 10.1 percent K_2O.

Q. Now, in your discharge of duties as the Chief Mine Engineer, do you have people under your direction take a sample from each pillar, from the left and right side, at least is the designation here?

A. That is correct.

Q. And are those samples analyzed in your laboratory?

A. Yes, sir.

Q. And do they report back those to you so that you may keep a running record of the grade and height of potash ore that you're mining through?

A. That is correct.

Q. Now, moving to the next block down, between numbers 2 and 3 in the dark letters in the purple, you show 4.9 at 16.6, and 5.8 - 9.5. For the record will you tell us what this represents?

A. These are also the samples taken. The top "X" represents the sample taken into that 46 break, and

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

the next, the sample below it, it was taken in the 45 break.

Q. All right, so we know where those numbers are, you have breaks running in a line starting at 44 and running diagonally across the exhibit from the top left-hand corner to the lower righthand corner, from 44 through 61, is that right?

A. That is correct.

Q. All right, now the breaks are openings that are how wide?

A. The breaks are 30 to 32 feet, approximately.

Q. And are the breaks 1, 2, 3, and 4, you don't call those breaks, do you?

A. No, they are the entries.

Q. Those are the entries, and how wide are they?

A. They are 30, 32 feet, approximately.

Q. All right. Now, between the Entry 3 and running upward to Break 46, you're showing 4.9 feet of potash ore at 16.6 percent, is that right?

A. Well, I'm not with you right now. It's Number 3 Entry?

Q. Number 3 Entry and to the left of Number 3 Entry, and between 2 and 3, your map is showing a 4.9 foot of 16.6 percent potash, is that correct?

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

A. That is correct.

Q. And 32 feet away you take a sample of that side and you get 5.8 feet of potash at 9.5 percent?

A. That is correct.

Q. Looking now at the designation on this exhibit in black, showing November of '79, the purple represents what as to removal of potash ore?

A. That is the tonnage mined through the month of November, '79, and we have mined 51,632 tons in the average grade of 62 inches, 10.57 percent K_2O.

Q. And, although you don't operate in this field, that is a very much commercially or recoverable quantity of ore. It has substantial value, does it not?

A. That is correct.

Q. The green, moving down towards the lower righthand corner of Exhibit Four, represents what, Mr. Desai?

A. That is the tonnage mined in the month of December of '79, and the tonnage mined was 59,413 tons, and a 65 inch, 8.2 percent K_2O.

Q. Again, in your judgment and from your knowledge, is this commercially recoverable ore and being profitably sold by Amax?

A. It is a very marginal ore and we are mining through this low grade ore in that particular month.

Q. All right, looking at January of 1980,

your tonnage jumped substantially, according to your exhibit, to 73,212 tons, averaging 67 inches at 9.3 percent. Has the grade jumped substantially from December to January?

A. That is correct.

Q. What caused your tonnage to jump?

A. Just moving the crew out from the high grade area into the low grade area in order to balance our mill feed grade.

Q. Now is that a common practice that you have to balance so that you get a mill run that is -- you attempt to make it reasonably consistent?

A. That is correct.

Q. Looking at the red portion of Exhibit Four, will you tell the Examiner what this represents?

A. The red represents the tonnage mined in the month of February, 1980.

Q. 62 inches at 9.34 percent. We're almost at the end of March, not shown on the exhibit, but you're driving in a southeasterly direction at this time beyond the present scope of this exhibit, is that right?

A. That is correct.

Q. And how many feet per month are you moving in this southeasterly direction, as shown by this exhibit, approximately?

A. About 3 to 400 feet.

Q. And 820 feet across?

A. Wide.

Q. Now, every one of the blocks on Exhibit Four contain an "X", either on -- two "X's", either on one side or the other, top or bottom or side to side, is that right?

A. That is correct.

Q. There's a tremendous difference from block to block as to the percentage of ore, is that a fact?

A. That is correct.

Q. Is this normal and what you expect to find as you actually mine through the ore body?

A. It is normal in this third ore zone.

Q. So that when you look at Petitioner -- or Applicant's Exhibit Number One, which you have in front of you, do you not, and Hole No. 134, this shows 48 inches of 8.1 percent K_2O, and then it's got a number below it, 48 inches of I think it's 9.0 in the first ore zone. We are concerned here today with testimony only as to the top number, is that right?

A. That is correct.

Q. 48 inches at 8.1 percent. Now where would HOle No. 134 be in reference to Exhibit Four, which is before you and the Examiner?

A. Hole No. 134 is --

MR. FEEZER: Did you find it, sir?

MR. STAMETS: Okay.

Q. Okay, that's the 8.1 percent hole, is that right?

A. That is correct.

Q. Now directly below that, when you were mining in January, you were finding various grades running across in Break No. 54, of 5 foot 2 of 10.8 potash?

A. That is correct.

Q. 5.2 feet of 14.4 percent? The next --

A. Yes, that is correct.

Q. All right. Then it drops off to 5.4 feet of 9.4 percent K_2O?

A. That is correct.

Q. So as you move across here, and when you try to correlate exactly how much potash you've got from a core test hole, this map illustrates, does it not, Exhibit Four, that there are substantial dips and -- or I should say rises and falls in the potash grades as you mine through the ore?

A. That is correct.

Q. So that when you translate this 8.1 hole, Mr. Desai, to your mining experience as shown from November through February, to the holes in the purple area sought to be included in R-111-A, do you have an opinion as to

whether or not these samples of 9.9, 9.1, excuse me, 9.9 is HOle 140; 169 is 48 inches of 9.1; and 139 is 48 inches of 9.1, do these fairly represent, based on your experience, an area where you can expect to encounter commercially recoverable quantities of potash ore as your mining program moves towards those core tests?

A Yes, I do.

Q Is there anything further, Mr. Desai, that you can tell the Examiner about this exhibit and its significance, Exhibit Number Four particularly, or One, if you wish to comment?

A. Oh, I don't have any comment.

MR. FEEZER: Pass the witness.

MR. STAMETS: Any questions of this witness?

MR. CARR: No questions.

MR. STAMETS: He may be excused.

MR. FEEZER: Move the admission of Exhibit Four into the record.

MR. STAMETS: The exhibit will be admitted.

MR. FEEZER: Mr. Bob Brown.

R. D. "BOB" BROWN

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. FEEZER:

Q. You are Mr. R. D. Brown?

A. Yes, sir.

Q. And your occupation and title, sir?

A. I'm Vice President and General Manager of Amax Checmical Corporation, Carlsbad, New Mexico.

Q. And how long have you been connected with Amax, Mr. Brown?

A. 27 years.

Q. In your capacity as Vice President and General Manager, you have previously been before the Examiner and testified, have you not?

A. Yes, I have.

MR. FEEZER: Is he qualified?

MR. STAMETS: Yes.

Q. I hand you what has been marked Exhibit Five, Mr. Brown, and ask you if employees under your direction and supervision have prepared this series of pages with data as to the area under discussion today in the eastern Federal leases of Amax properties?

A. Yes, they have.

Q. I would very much like to have you give your interpretation of page one, case I, and what this

means, so that we get a full understanding in the record of what we're doing.

A. It's simply taking the amount of ore that would be lost by leaving 100-foot solid pillar, and then not mining -- not second mining in an area of 1250 feet radius, in addition to that 100-foot pillar, and it is trying to come up with the amount of tonnage of ore that would be lost at that mining height of roughly 1250 feet underground.

That's the first page. All we're doing there is trying to find out how many total tons of ore would be lost at a 4-foot mining height.

Q. Let's go through it very briefly. Case 1 selects a sample of 100-foot radius pillar.

A. Right.

Q. The number 31,416 square feet is the amount of ore in that pillar, is that right?

A. That's the number of square feet in --

Q. Square feet, excuse me, and then you multiply it by 4 to get the 125,664 --

A. To get the cubic feet.

Q. To get the cubic feet, right.

Then you cube it and you get that times a factor, which gives you the tonnage.

A. Right, the tons -- the average tons per

square feet times that figure gives you the number of tons.

Q. And that is 8,043 on the exhibit?

A. That is correct; however, we normally only get 90 percent extraction. We leave 10 percent for protection of our employees, anyway, safety, so we would only lose from that solid pillar, 7238 tons.

Q. When you talk about a normal protection of your empoyees, if we may refer a moment to Exhibit Number Four --

A. Yes, sir.

Q. -- looking again at Entry No. 2 and Break 40 -- between 45 and 46, again using the block for illustration of 4.9 feet at 16.6 percent K_2O, when you come back to second mine that, is this the area -- or will you tell the Examiner what the area is that you leave for protection of your employees?

A. Yes. What we basically do is mine the center out of that block, and we leave a 7-foot fender on each side, and we take everything else out, and that 7-foot fender protects our employees as we retreat; however, you have to do it in a very precise pattern. You've got to continue to do it; you can't leave it and then come back in six months. When you start second mining, you must continue to do it because the 400 or 500 feet behind you, it will be converging and it would be very dangerous. So we leave

a 70foot, and this has been adequate. It protects us adequately.

MR. STAMETS: Let's just run over that one time for my edification.

A. All right.

MR. STAMETS: And information.

A. Yes, sir.

MR. STAMETS: Take, for example, any one of these square pillars that we have in here on first mining.

A. Right.

MR. STAMETS: Assuming now that you've second mined beyond that point and you're working your way back towards the main shaft.

A. Well, what we would do is first mine --

MR. STAMETS: Right.

A. -- to the economic ore, and then we would retreat. Then we would start pulling back and we'd go right across here and we'd pull, for example, say this was the end of our economic ore, down at the bottom --

MR. FEEZER: The red end here.

A. The red end. We would start pulling, then, we would start mining out the center of those blocks.

MR. STAMETS: The center of the block.

A. Right.

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

MR. STAMETS: Now how do you mine out the center of the block without mining out the outside of the block?

A. Well, it's a solid block. You just leave a 7-foot fender, or a 7-foot barrier on each side. You just go in and mine out the middle of it.

MR. STAMETS: All right, in other words, like slicing through the center of a big tree.

A. Yeah.

MR. STAMETS. Leaving each side of the tree?

A. Right.

MR. STAMETS: Okay, thank you. I didn't understand that the first time.

A. Right.

Q. The pillar that you're talking about is some 60-plus feet square, is that right?

A. 60 to 62 feet square, yes.

Q. So that you take a cut out of the -- just undercut it and pull it out, leaving -- or taking out all but 14 foot of 62 foot, more or less?

A. That's correct.

Q. And move the ore backwards, and as you move backwards, as illustrated on Exhibit Four, this ground collapses behind you and you can never get in there again,

is that right?

A. That is correct.

Q. All right. Now, turning back to Exhibit Five, that tonnage which would be lost with a 100-foot pillar, shows on this as 7,238 tons lost. That takes into account your safety factor you just testified to.

A. Right.

Q. Would you go on and explain what the loss would be if you have an active gas well and do not second mine in the third ore zone, as shown on the bottom of page 1?

A. Okay, then you would take a 1250-foot radius from the well, and of course you would reduce the area of the solid pillar that -- to get the additional -- you've already taken that, and the square feet that would be in that would be 4,877,334 square feet, times 4-foot thick, would give you 19,500,000 roughly cubic feet of material, times the tons per square feet, would give you 1,248,598 tons that would be lost.

Since we only get 30 percent extraction there, or 30 percent is all we would lose. We're leaving 40, we would have to leave 10 of that for protection, so we only would really lose 30. You take 30 percent of that, which would give you 374,579 tons that would be lost, actually that we would lose to second mining. Now this is

tons of ore, plus the 7238 tons that we lose in the 100-foot solid pillar, gives us 381,000 tons of ore that would be lost if we left 100-foot solid pillar and did not second mine for the radius of 1250 feet.

Q. In Exhibit Five you have gone on to give additional figures on assumptions of a 200-foot solid pillar.

A. Yes, sir.

Q. As well, have you not?

A. Yes, sir.

Q. And the difference between 100 and a 200 is shown as 28,593 tons lost?

A. That is correct.

Q. And the same thing, unless the Examiner has any questions, as to the second mining.

A. Correct.

Q. Looking now at page three of the exhibit, Mr. Brown, I'd like you to very carefully and in some detail select from this, tied to Case I, an ore grade of, for round figures, 10 percent, and tell the Examiner what this means.

A. At a 100-foot radius pillar, 10 percent ore, we think we could get 82 percent recovery, and I feel that's probably conservative.

Q. Now, by recovery, let's explain that a little further.

A. We would recover the K_2O tons that's in the ore, we would recover 82 percent of them, if we were handling 10 percent ore.

Q. That's when you get it to the surface and run it through your mill, Mr. Brown?

A. That is correct. You see, what we mine is sylvanite ore and it's a mixture of potassium chloride, sodium chloride, and a little bit of clay and other impurities. So we have to grind it so we liberate the KCL crystals from the waste crystals. Then we run it through a refining process, a flotation process, where we separate the potassium chloride, which is really our product, and what we sell, from the other materials. The other waste material, the main waste material, is simply sodim chloride, common salt.

Q. Going back to your example, you get an 82 percent recovery, would you go on with the illustration that's shown on this exhibit?

A. All right. in the CAse I, the K_2O tons, as represented there, would be the 381,817 tons of ore, times 10 percent K_2O, times 82 percent recovery, would give you 31,309 tons of K_2O tons that we would lose. Now we don't sell K_2O tons. We sell -- we sell product, or potassium chloride. To convert that to tons of product, all right, the grade of our product is roughly 60.5 percent

K_2O, so you would divide the31,309 by .605, we would lose in that case 51,750 tons of product, salable product. That product, at $80.00 per ton, would have a sales value of $4,140,000.

Q. Now, you can, by utilizing every other example on this page, depending on your ore grade and your mill recoveries, end up at this figure with the dollars lost by each oil or gas well which you would have to go around?

A. That is correct.

Q. Now, in past hearings we haye been before the Examiners, and testimony relating to price of product has been always a material consideration. Can you tell the Examiner what's happening to the pricing of potash product at this time?

A. Yes, sir. The supply of potash is very tight. The price has been going up, thank God, very rapidly.

MR. STAMETS: It depends on whether you're buying or selling.

A. Right. But right now the price of potash in January and February has averaged just a little under, at our particular mine, a little under -- it's $71.00, I believe, and 67 cents. I'm not -- but it's between $71.00 and $72.00.

We anticipate this year that we are

going to average $80.00 a ton of potash in the year 1980, and we anticipate in our long range projections, that the price of potash is going to escalate considerably past that.

Q. Is this why you utilized this figure on this exhibit?

A. That is correct. That's --

Q. Do you believe a commercially reasonable estimate to present to the Commission as to these values at this time?

A. Yes, I do.

Q. Do you recall the last time we appeared before the Commission in November of 1979?

A. I think --

Q. Or thereabouts?

A. It was about November, as I recall.

Q. An exact date aside, at that time did you testify as to the current value of potash then?

A. Yes, I did.

Q. And could you tell the Commission your recollection of what you believe the market price was at that time?

A. I think it was -- I think we were looking at $60.00 at that time.

Q. And has this been a steady progression for some years of this advance?

A. Yes, it has.

MR. FEEZER: Pass the witness.

MR. STAMETS: Are there questions of this witness? He may be excused.

Do you have anything further in this case?

MR. FEEZER: That concludes the presentation of our evidence. I don't know whether you care to hear any comments or not.

MR. CARR: We do not intend to call a witness. I would like to make one brief comment.

MR. STAMETS: You certainly may, Mr. Carr.

MR. CARR: We certainly recognize that potash is a valuable resource. We think it is important, as the R-111-A area is extended that it also be kept in mind that oil and gas reserves in the area also are valuable resources. Whenever the potash R-111-A area is extended it imposes additional burdens on those who have leases and rights to go ahead and develop oil and gas.

For an individual, for a company, to be entitled, therefor, to an extension of the R-111-A area, we believe that it is -- the burden is clearly on them to show that there are commercial potash reserves within the area to be included in the extension.

We would submit that the testimony here today failed to show that in the east half of the northwest quarter of Section 7, that there were additional commercial reserves of potash. The testimony was there may or may not. We submit that that is a failure in the burden, and we would request that any order extending the R-111-A area exclude from the extension the east half of the northwest quarter of Section 7.

MR. STAMETS: Mr. Feezer, do you have any closing statements, arguments?

MR. FEEZER: In response to that particular area, the testimony was that they took a mathematical split of the distance between a barren and a very high hole, and that mathematical split puts it within the east half of the northwest quarter.

The potash industry has recognized over many years that there are correlative rights and we understand these and respect them. This, of course, is where the burden falls on the Examiner to make a determination of whether or not it is a commercially and administratively reasonable position to suggest to the oil companies that in order to achieve the maximum recovery of natural resources that it should defer its potential drilling program, and I might add that we have a question mark. We don't know exactly what Rubye Kersey Well, whatever it is, did, but

it shows "plugged?" Whether or not there is any indication that there is oil or gas there, we don't know, but that indicates to us that there may not be.

So that if we engage, perhaps, in a presumption, we felt we were justified in seeking the east half of the northwest quarter by splitting the difference and taking in that.

MR. STAMETS: If there is nothing further, this case will be taken under advisement.

(Hearing concluded.)

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6838, heard by me on 3-26 19 80.

Richard L. Stamets, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
26 March 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico.

CASE 6838

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: Charles A. Feezer, Esq.
DOW AND FEEZER
Carlsbad, New Mexico 88220

For Gulf Oil: William F. Carr, Esq.
CAMPBELL & BLACK P. A.
Jefferson Place
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

MR. STAMETS: We'll call next Case 6838.

MR. PADILLA: Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico.

MR. STAMETS: Call for appearances in this case.

MR. FEEZER: Charles A. Feezer, of the firm of Dow and Feezer, in Carlsbad, on behalf of the applicant, Amax.

MR. CARR: William F. Carr, Campbell & Black, P. A., Santa Fe, appearing on behalf of Gulf Oil Corporation.

MR. STAMETS: Any other appearances? I'd like to have all of those who are going to be witnesses in this case stand and be sworn at this time.

(Witnesses sworn.)

MR. STAMETS: You may proceed, Mr. Feezer.

MR. FEEZER: Thank you, sir. I would like to call Mr. Robert Kirby as the first witness.

ROBERT E. KIRBY

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. FEEZER:

Q. Would you please state your name for the record?

A. Robert E. Kirby.

Q. And what is your business or occupation, Mr. Kirby?

A. General Mine Superintendent for Amax Chemical.

Q. Have you previously testified before the Commission in similar matters seeking extensions of the potash zone?

A. I have.

Q. And in your capacity as -- and what is your capacity again with Amax?

A. General Mine Superintendent.

Q. In your capacity as General Mine Superintendent, have you had prepared under your supervision and direction what has been marked as Exhibit One, which is before the Hearing Examiner and counsel at this time?

A. I have.

Q. Looking first at the legend, the area marked in purple covering 840 acres, represents what at this time?

A. It represents the area which Amax is requesting be included in the R-111-A.

Q. Under your direction and supervision have drilling operations for core testing been done in the lands sought to be included in R-111-A?

A. Yes, they have.

Q. In reference to Exhibit One, I want to call your attention to various circular marks on the map that are respectively a full orange dot, an orange and yellow dot split, and a full yellow dot, as shown on the legend. What do these indicate?

A. These are potash test locations. The orange dot represents the potash value of 4-foot thickness, 11 percent K_2O or above.

Q. And by the same token, the split orange/yellow is 4 feet of 9-11, just as it shows on the legend, and these are translated the area within the application.

A. That's correct.

Q. As shown on the exhibit, is that right?

A. That's correct.

Q. Now, in reference to this exhibit, you have an outline in a free form running through portions of the lands sought to be included, which are in Section 11, running eastward and projecting out to a little beyond the center line of the northwest quarter of the northwest quarter

of Section 7, Township 19, Range 31 East, and then going down to the bottom of the map.

Will you indicate to the Hearing Examiner what this random line indicates, as shown on the exhibit?

A. This is our estimated economic reserve limit at this point in time, determined from our drilling results.

Q. On this exhibit we also have an Area I marked with an arrow and in red "See Exhibit B for interpretation". What does this indicate at this time?

A. This is our active mine workings lo East section in which we are currently advancing.

Q. All right. You have a random yellow line running from north to south and in that area running directly through Area I and in Section 14, Township 19 South, Range 30 East. What does that indicate?

A. The yellow line is the -- represents the limits of our mining in the first ore zone, which is some 35 feet to 40 feet below our mine workings which now are in the third ore zone.

Q. And would you explain to the Examiner all of the area in red --

MR. STAMETS: But before we do that, I need an explanation.

MR. FEEZER: All right, sir.

MR. STAMETS: Of the yellow line again.

MR. FEEZER: All right.

MR. STAMETS: That escaped me the first time through.

MR. FEEZER: All right.

Q. The yellow line, again, Mr. Kirby, is the first ore zone, which is at what level or depth in the ground?

A. In that area it's probably 700 or -- well, it's over -- I can't tell you the depth from the surface at that point. It's approximately 35 to 40 feet below where we're currently mining.

Now this area has been mined out in previous years and we're now coming back over these old workings with development of the third ore zone.

Q. The ore zones run from 1 to 10 in ascending numbers, do they not, to the surface?

A. Ascending numbers, yes, sir.

Q. But when you describe the third ore zone, and as shown on the legend in red, this is all an area above the first ore zone that we're talking -- that you just talked about?

A. That's correct.

Q. And all of this area outlined on Exhibit One indicates in red, except for that beyond the line running

through 12 and 13, as already included in R-111-A, is that right?

A. That's correct.

Q. And these core test holes --

MR. STAMETS: I'm still not certain what the yellow line represents now. I know what the first and third ore zones are, and you've already mined to the yellow line?

A. Yes, that's our mining limits in the first ore zone. We mined to that point, to the yellow line, and retreated.

MR. STAMETS: You'll have to bear with me in this case, because this is the first one of these cases I've had, and I know you've had several before Mr. Nutter, and you're probably going to have to spend a little more time explaining for me than you would for him.

MR. FEEZER: All right, we'll be happy to do so.

Q. All right, in view of the fact that the Examiner needs or would like a little more explanation, in the Area I on Exhibit One, will you explain in the Area I what the yellow line is running directly through that oblong or rectangular box?

A. Well, that indicates -- it indicates that we have crossed over from previously mined areas into

virgin ground or completely solid work.

Q. All right, now 10 East to the left of Area I represents a mined out area, does it not?

A. Yes, this is the panel, that whole panel, starting from the edge of the paper down to the face there at the right end of that rectangle, is an open mine workings. We are currently advancing this face to the southeast.

Q. And you're advancing it through ore in varying grades at this time?

A. We are.

Q. Is it your custom and practice to take samples of that ore as you advance through it every day of every month?

A. Yes, it is.

Q. And you keep a regular record of those samples, do you not?

A. We do.

Q. Now, in view of the fact that this map prepared under your direction contains a large area already within R-111-A, to protect the further limits of the potash bed, as outlined in purple, would you explain to the Examiner your understanding of the line marked KPA, which is in dashed blue?

A. KPA is the USGS known potash area within

which we have certain protection.

Q And these are Federal lands where they utilize this designation KPA, is that correct?

A Correct.

Q Now, the KPA embraces the lands in Section 11 and 12 at this time, is that right, according to the exhibit?

A Yes, most of 12.

Q All right. You have also additional drill holes beyond the known potash area in the northeast of Section 12 and the southeast of Section 12, is that correct?

A That's correct.

Q Looking at Hole No. 139 and 136 within this area, would you tell the Examiner what those designations on those holes mean, how you interpret them?

A Hole 139 we have designated 48 inches at 9.1 percent. The 48 inches is the mining thickness of the bed. The 9.1 percent is, of course, K_2O value.

Q Now that's the ultimate object of your mining program, is it not, the K_2O?

A The K_2O values, yes, sir.

Q And what is K_2O?

A It is a representative of the ore grades.

We sell potash in K_2O units and our mine faces are assayed in K_2O units. It's not a potassium oxide. We are mining potassium chloride and it's converted into K_2O units for --

Q. In your milling process?

A. In our analysis.

Q. Your assay, all right. Now, Hole No. 136 represents 48 inches of 12.4 percent K_2O?

A. That's correct.

Q. Moving eastward to Hole No. 166 in the west half of the northwest quarter of Section 7, would you tell the Examiner what that hole represents?

A. We have taken two splits of that seam. The top indicates 58 inches at 20 percent and had we reduced that height to 48 inches it would increase the grade to 23.3 percent K_2O.

Q. Now I want you to explain that very carefully as to why you reduce it and why there is a 58-inch designation of 20.0 percent K_2O.

A. In the -- in the seam there are varying strata or varying grades of K2O. We take the high grade section out at 48 inches, we'd get a little higher grade. We will be leaving a marginal strata, either in the roof or the floor, that would grade somewhat lower. In all probability in that instance we would mine at 58 or 60 inches

height to get the total K2O value.

Q. Ordinarily, what is the mining height that is utilized in the mine?

A. We are currently mining between 4-1/2 to 5 feet. 5.1.

Q. And when you mine 4-1/2 to 5 feet, is part of that material that is extracted completely waste material?

A. Yes, it is.

Q. But you need to do that to get your equipment in and out?

A. Yes, it is.

Q. Make it function?

A. Yes, sir.

Q. Moving south in Section 12, again, you have a test or core hole 125. It's colored yellow, marked 48 inches at 8.9 percent. What can you tell the Examiner about this test hole?

A. This hole tells us that the analysis is very marginal at this point in time. Our experience in this potash seam tells us that although 8.9 percent is below our cutout grade, if we were mining in that area we would probably take that ore. It's very marginal at this point.

Q. That's at that one particular spot where

the core sample was taken?

A. Yes, but we also know from our experience that a short number of feet from that hole we could have higher grade ore or lower.

Q. And that actually is reflected on face samples as you move forward through the mine in Area I, is that not a fact?

A. That's correct.

Q. Moving south again to Hole 140, this ore grade shows to be slightly higher, is that correct?

A. Yes, it is, 9.9 percent.

Q. And moving eastward to 163, how would you describe the sample in this hole?

A. A little bit better. It's 11.2 percent, which puts it into a --

Q. And 169 to the south at 9.1, the same category, approximately, as the other holes you've testified to?

A. That's correct.

Q. In your judgment as the Chief Mining Superintendent for Amax, do you believe these lands sought to be included in R-111-A embrace commercially recoverable quantities of mineable ore?

A. Yes, sir.

Q. Looking at the exhibit where it

says GRN Log at L & M, are you familiar with that well or any data relating to it?

A. Yes, I am.

Q. I hand to you what has been marked as Exhibit Two for this hearing. Looking at Exhibit Two, Mr. Kirby, first of all this letter is addressed to you, is it not?

A. It is.

Q. Did you receive this letter in the regular course of business in connection with your employment with Amax Chemical Corporation in October of 1979?

A. I did.

Q. And you received it from a Donald W. Ward of Winipeg, Manitoba?

A. Donald Hurd.

Q. Excuse me, Donald W. Hurd of Winipeg, Manitoba, can you tell the Examiner who this man is and why this letter was written to you?

A. Mr. Hurd is a consulting geologist, formerly an employee of Amax, who is quite expertise in evaluating gamma ray neutron logs for the presence of potassium. He has done extensive work with Amax and does so today on a consulting basis.

Q. Looking at page two of Exhibit Number Two

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

there is an outline at the top of the page commencing with LaRue and Muncy Culbertson No. 1. Would you tell the Examiner what this explanation indicates to you as being present in this old oil and gas well?

A. I had obtained a copy of the gamma ray neutron logs for this well. Not being an expert at evaluating the log, I did realize it looked like quite a potassium kick, so I had the log sent to Mr. Hurd, asking him to please evaluate it. He has done this for us in the past on numerous occasions, and this is his report.

Q. Is there attached to the letter a copy of the gamma ray neutron log, and page two of the log at a depth of between 1100 to 1200 feet, showing the kick?

A. Yes, there is.

Q. And in his judgment, based on the report on page two of the letter, what does that gamma ray neutron log indicate so far as the presence of potash ore is concerned?

A. He estimates a bed of approximately 5-foot of thickness at 9 to 10 percent total K_2O.

Q. In view of the thickness of that bed, 5 feet, or 60 inches, is that an area that suggests to you that there is recoverable potash ore in that area where that gamma ray neutron log was taken?

A. In conjunction with our drilling in the

area, it does.

Q And that gives you a consistancy of a finding of those three holes, 140, the L & M Well, and the 169 Hole in a line, does it not, running from northeast to south --

A Yes, it does.

Q -- northwest to southeast?

Going on with the exhibits, in connection with the LaRue and Muncy Well, I hand you what has been marked Exhibit Number Three and ask you if you know what that is?

A This is an approval of the Notice of Intention to Abandon this well, and we are currently in the process of pulling the casing and cementing this well through the salt zone to the surface.

Q You show, or Amax shows, having received a covering copy of this. Has Amax as a corporation contracted with LaRue and Muncy to do the work of cementing and plugging that you just testified to?

A We have contracted with the company that does this work; not LaRue and Muncy.

Q I understand, but they own the well and they have no objection to this, so far as you know?

A They have agreed to let us plug this well.

Q. Is that work in progress at this time?

A. It is.

Q. When a well is plugged, such as the one under discussion here, what does that do to assist the company in increasing the amount of potash ore that can be recovered from the area shown in the two circles on Exhibit One where the well is marked L & M with a gamma ray log in Section 13 in the northeast quarter?

A. In our mining practice whenever we are in the area of an oil well, we will leave a minimum of 100-foot radius solid pillar around that well.

If the well is not plugged to our satisfcation, or if it is active, we will not second mine or recover pillars.

Q. Let's go slow here. On the exhibit at the L & M Well in Section 13, there is a small circle with an arrow running into it, marked GRN Log. I haven't checked the scale but how large is that circle, if you can tell the Examiner? The scale of 1-to-1000 ---

A. I'm not sure that he put these circles on at a scale. At the depth in that area that circle should be a radius of about 12 to 1300 feet.

Q. The small circle or the large circle, Mr. Kirby?

A. The large circle.

Q. All right. Assuming, for purposes of our discussion, realizing it is not to scale, a small circle on the interior of th large dotted circle would be a 100-foot column in diameter?

A. It would, yes.

Q. And the encompassing circle would be 1200 feet, is that correct?

A. 12 to 1300. It would be -- the radius of that circle would be the -- equal to the depth from the surface to the potash zone.

Q. All right, so that we're talking about a cone rising from the point where the potash is located to the surface?

A. Right, an inverted cone, yes.

Q. An inverted cone; cone at the bottom going up to the top.

Now, when you say you wish to leave a 100-foot barrier around that old well, what's the purpose of that?

A. The purpose is to leave sufficient salt pillar so that we will not disturb that well in any fashion as we mine through on our advance.

Q. Now you say that even in view of the fact that it would be a plugged and abandoned well with no pressure or production, presumably?

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

A. Correct.

Q. And is this a safety measure?

A. Yes, it is.

Q. What would be the result, if you can envisage it for the Examiner, of the escape of hydrocarbons into a mining operation, at least insofar as the potash workings are concerned?

A. We would be classified in that instance as a gassy mine. At the present time we are not classified as a gassy mine, and the requirements for a non-gassy mine are substantially different from that of a gassy mine. Our equipment is not permissible in a gassy mine.

Q. Could it have disastrous economic affects on the operation of your mine if it ever became a gassy mine?

A. Absolutely.

Q. Is it the judgment of you and your peers in the potash industry that the 100-foot circle is the minimum barrier that you would leave regardless of whether or not a well is active or inactive?

A. Yes, it is.

Q. So that we understand a little bit further about the 1200-foot circumference, will you tell the Examiner how that operates; what position the company takes regarding a larger or second mining operation?

A. In our mining methods we advance and leave sufficient pillars so we do not disturb any overburden. We take approximately 60 percent of the seam out on our advance. This remaining 40 percent in the pillars is substantial enough to carry the weight of the overburden.

When we reach the fringes of the ore, or the economic limit, we then begin to extract our pillars. We will extract on the average of an additional 30 percent of the area, leaving remnant pillars of approximately 10 percent.

When we are taking this last 30 percent, the support is gone, the overburden weight begins to cause convergence. In this --

Q. Let's stop just a moment here, I don't want to get too technical.

MR. STAMETS: That's all right. I am familiar with this part of mining operation.

MR. FEEZER: Fine, thank you, okay. Go right ahead.

A. In the vicinity of an oil well, when we are extracting pillars and bringing -- causing this convergence, which is subsidence of the overburden rock to the -- into our mining area, we become concerned with the continuity of this well. We know that there's tremendous rock pressures that are active and moving, and we don't --

if that well is not plugged sufficiently, we will not allow this second mining to take place, and --

Q. Excuse me, did you want to add any more to that?

A. Well, go ahead.

Q. In view of the fact that you have an agreement based on Exhibit Three, and are in the process of plugging and abandoning this L & M Well, will this allow you to mine additional ores because of your conservation practice in plugging this well?

A. If the well -- if the plugging of the well is completed to our satisfaction, we don't run into any problems, why then we will do the second mining in this vicinity.

Q. And this will allow you to recover substantially more ore by doing the second mining, Mr. Kirby?

A. Yes, it will.

Q. In reference to Exhibit One again, there are three oil or gas well locations in Sections 13 and 14, respectively. To your knowledge are these active or inactive wells? One is marked S. W. Inc., CAI Inc., and Colllier?

A. These are three active wells, or at least they have not been abandoned.

Q. In these three instances, what will be the position of the company regarding mining in the area

of these locations, oil and gas locations?

A. We will -- first, we will locate these wells very accurately in relationship to our mining activity underground. This is in process now.

We will then leave the 100-foot barrier pillar around that -- each of these wells. We will not, in our retreat mining, we will not do the second mining in the area of the large radius --

Q. And will this cause the, of necessity, leaving large quantities of commercially recoverable potash ore because of the safety factor that you must observe?

A. That's correct. We will definitely lose considerable amount of potash ore.

Q. Obviously, S. W. Inc. and CAI are almost directly in the path of your advancing mining activities in 10 East. When would you expect to reach those areas, Mr. Kirby, in the ordinary course of your mining activity?

A. Probably eight to nine months.

Q. If it should appear as you approach that area that these are quite high pressure wells, is there any possibility that you will leave a larger column than 100 feet around these wells?

A. It is our judgment, if there was gas, active gas, high pressure, we would leave a 200-foot radius solid pillar around each well.

Q And of course, with each increase in the amount of pillar or increase in the amount of area left unmined for second mining, does this reduce your total recovery of commercially salable potash ore?

A Yes, it would.

MR. FEEZER: Mr. Examiner, subject to further testimony regarding Area I, which we will tie in to Exhibit Number Four, we would move the admission of Exhibits One, Two, and Three at this time.

MR. STAMETS: Without objection, these exhibits will be admitted.

Are there questions of Mr. Kirby?

MR. CARR: I have.

MR. STAMETS: Mr. Carr.

CROSS EXAMINATION

BY MR. CARR:

Q Mr. Kirby, as I understand your Exhibit Number One, the area shaded in red indicates where you now estimate there to be c mercial potash reserves in the third ore zone, is that correct?

A That's correct.

Q So if you look at the red line on the -- well, as it goes through Section 12, 7, and 13, this red line is your estimate of the limit of where you now have

known potash reserves of a commercial quantity, or commercial grade?

A. Yes, sir.

Q. Now, if we come down to your Core Hole No. 125, that red line crosses the yellow dot, and yet that is what you've indicated as a barren hole, and I believe your testimony was that you have placed this line at this location because you might be able to move a few feet to the east and encounter a higher grade ore, is that correct?

A. I didn't -- I didn't testify that that was a barren hole. I testified that the grade was quite marginal. That 8.9 percent, as with any of these other grades, does not tell us that if we were mining in that area this is the grade we would be getting out. It tells us that we were mining, or we think we'd be mining, in very low grade ore, very low grade material.

We think by the time we do mining in this area that that will be much more economic than it is today.

Q. And it is probable --

A. At today's rate we can mine it.

Q. Was your testimony that if you were to mine to the east of that hole that you might in a short distance encounter also a better grade ore?

A. It could. It could not, either.

Q. Or poorer, as well?

A. Yes.

Q. Now, Mr. Kirby, if we go to the Core Holes 166 and 165, I notice that the red line falls sort of halfway between those two. Is there any particular reason that you placed it exactly where you did between these two?

A. 166 is a very high -- high grade hole. 165 is absolutely barren. We just took a mathematical swing through the middle of those two holes.

Q. If the Core 165 is -- is that 48 inches at 2.1 percent?

A. 2.1 percent, essentially barren.

Q. Now, so you are just sort of coming halfway between those two holes?

A. Essentially that's what we've done.

Q. Is it possible that there would be no commercial potash reserves in the east half of the northwest quarter of 7?

A. It's possible, and it's also possible that there could be.

Q. But at this time you have no greater control other than just the two holes?

A. No greater control at all, that's right.

Q. And you might have a very good ore body or a barren area?

A. Or anything in between, yes, sir.

Q. You said you'd be continuing this mining operation, that you would be in the area where there are these three oil and gas wells in Sections 13 and 14, in how long did you say, approximately nine months?

A. I would say, not having our projections right in front of me, I would say about eight to nine months we would be in that area.

Q. Would you have any idea of when you might be doing active mining in the northwest quarter of Section 7 or the northeast quarter of 12?

A. That would be farther down the road. It would take us a number of years to get up in there. It probably -- probably five to seven years, probably, or four to seven years. It's very difficult to --

Q. But you don't have any definite time schedule for that area, right?

A. No, there's no way you can make any schedule that close.

Q. As you -- and I don't know anything particularly about potash mining -- but if you were going to be mining in the Sections 12 and 7, would you be moving through this, the mine that you now have portrayed on Exhibit One and then be branching out from that to go into the area?

A. Yes. As we would advance this main 10

East panel, probably till we reach the ore limit down in the southeast, then we would start -- the panel is normal to this means.

Q. And then about how long do you think it would be to extend this down to the southeast as far as you have these holes?

A. Well, that's difficult to tell. We have more drilling to do in Section 13 and 18. We have not completed our drilling.

Q. So it is possible that as you continue mining you might also coring down there discover that the ore body continues to the south and east?

A. That is correct.

Q. Just with your present mining operations, you don't have any idea how long it would take you to get to the current easternmost boundary of what you have indicated as the known -- or the proven limit now, or what you understand to be the limit of the third ore zone?

A. Approximately two years.

MR. CARR: I have no further questions.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Kirby, who made the determinations

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

of the potash presence and percentages on these core test holes?

A. Amax' engineering staff in Carlsbad.

Q. Okay.

A. We are -- and our laboratories.

Q. Any one individual responsible for that determination?

A. Our chief mine engineer.

Q. Is he here today?

A. Yes, he is. Now, he did not do the analysis. We have an in-house laboratory that runs our assays.

Q. Okay, he is the party responsible for that, though?

A. No, our engineering is not responsible for the laboratory work, but we are responsible for developing our exploration program and putting it into affect.

Q. Is the person who is responsible for making these determinations here today?

A. No, he isn't.

MR. STAMETS: Any other questions of this witness?

MR. FEEZER: Two or three further ones.

REDIRECT EXAMINATION

BY MR. FEEZER:

Q. Has it been the custom and practice in all other applications that you've made, and before coming here, to fully acquaint yourself with the analysis of the core samples that have been taken and which are shown on your exhibits?

A. Yes.

Q. And is it the custom and practice in the potash industry for each ompany to do its own in-house analysis and make its own mine plan and estimates of their reserves in the manner which you've described to the Examiner?

A. Yes. Each -- each company in the potash basin must have its own laboratory. We are mining on leased land. We have to constantly analyze our meal feed. We have to constantly analyze our product, and we have the facilities there. Each company does.

Q. And do you have an accountability to other lessees and the Federal and State governments?

A. That is correct.

Q. For their percentage royalties?

A. That's correct.

Q. And this is the normal process of marking and determining the material shown on this map, is it not?

A. Yes, that's correct. We take the core. We examine the core. We log the hole. We determine where the bed is, what samples -- we cut the core into what

samples we want, the engineering department, geology. They analyze these samples. We get the analysis back. It's a complete analysis on all minerals, all --

Q. Is it not a fact that as your department examines these samples and visualizes them, based on your experience you can in many instances just look at the samples and indicate where you expect the potash, or K_2O deposits to show up?

A. Oh, yes.

Q. That's easy for you by sight, from experience --

A. By sight you can see it, yes, sir.

MR. FEEZER: Pass the witness.

RECROSS EXAMINATION

BY MR. CARR:

Q. When you leave these pillars around a wellbore, the area that you've leaving around the wellbore is actually related to the way the formation subsides, is that correct?

A. Yes.

Q. And you leave the pillar because your overburden, as it collapses, subsides sort of at an angle out from it, that's the concept behind this cone, is that correct?

A. Yes, that's correct.

Q. Do you have, I mean, you have actual experience in the area that would establish that this is the size of pillars that you have to leave?

A. This has been evaluated over a number of years, probably since 1956 or '57 when U.S. Potash began their first second mining operation.

We have taken subsidence measurements on the surface, correlating with our underground workings, and determined that this 45 degree angle of draw is a good number to use, and each company has adopted this procedure.

MR. CARR: I have nothing further.

MR. STAMETS: The witness may be excused.

MR. FEEZER: Next witness, Mr. Examiner, is Mr. Danny Desai.

DANNY DESAI

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. FEEZER:

Q. Mr. Desai, would you please state your full name and occupation?

A. Suresh K. Desai.

Q Do you also go by the name Danny?

A That is correct.

Q And may I refer to you as Danny?

A That's right.

Q Thank you. What is your occupation, Danny?

A I'm Chief Engineer with Amax Chemical Corporation.

Q How long have you held that position?

A Chief Mine Engineer since last August.

Q And prior to that how long have you been an employee as a mine engineer of Amax Chemical Corporation?

A. Over nine years.

Q Prior to that did you have mine engineering experience with some other mining corporation?

A. That is correct.

Q And what one was that?

A. New Jersey Zinc Company.

Q And where were they operating when you were employed by New Jersey Zinc?

A. Hanover, New Mexico.

Q And at Hanover what sort of mining operation was that?

A. Lead and zinc.

Q Underground mining operation?

A. That is correct.

Q. Did you have special education or training as a mining engineer at any college or university?

A. Yes, sir.

Q. Where did you take a degree in that field?

A. I have a Master's degree in geology from -- and a Master's in mining engineering, from Missouri School of MInes.

MR. FEEZER: Is the witness qualified?

MR. STAMETS: The witness is considered qualified.

MR. FEEZER: Thank you, sir.

Q. Mr. Desai, let me hand to you what has been marked as Exhibit Number Four, and in your capacity as Chief Mine Engineer, will you explain to the Examiner what this exhibit, marked Exhibit D on the upper righthand corner but marked Exhibit Four with the Examiner's stamp, is and how it ties in to Exhibit One in evidence at this time?

A. This is an assays maps. The assays are regularly taken in the first mining operation and these assays, as they come in from the lab, are posted on this scale.

Q. Let me lay a little more foundation, if I may.

Area I on Exhibit One is a small rectangle of about 3/4 of an inch by an inch and 1/2 long, is that right?

A. Yes, sir.

Q. And it runs in an area from northwest to southeast in Section -- help me, gentlemen.

A. 14.

Q. 14. Is this Exhibit Number Four, for identification, prepared by you, a blowup of Area 1 as shown on Exhibit One?

A. That is correct.

Q. What size, or what distance are we talking about when I lay my hand across the purple on Exhibit Four in the lengthwise or longest dimension?

A. It's 920 -- 828 feet, approximately.

Q. So that we're talking about a panel across here on Exhibit One, 10 East, which is some 820 feet wide, is that right?

A. That is correct.

Q. Now, looking at Exhibit Four, you have identified a corner in the upper lefthand of Exhibit Four, marked 10, 11, 15, and 14, this is a section corner, is it not?

A. That is correct.

Q. In Township 19 South, Range 30 East, Eddy

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

County, New Mexico?

A. That is correct.

Q. And in your capacity as Chief Mine Engineer, are you in charge of driving this 820-foot wide opening to recover potash ore?

A. That is correct.

Q. There are a large number of squares on Exhibit Number Four. Will you tell the Examiner what each one of these represents in the purple area?

A. These squares are present when we do our first mining, we form the pillars, and these are a typical first mining panel.

Q. Let's look at the numbers 1, 2, 3, 4, 5, 6, 7, 8, and 9, running across the panel. What do they represent, Mr. Desai, in black letters?

A. They are the entries, 1 through 9.

Q. This is material that has been mined out, is it not, where these numbers appear and the purple shows?

A. That is correct.

Q. And what does the area enclosed in the square in white represent?

A. That is the grade that represents that particular pillars with the assays on it and it represents our various grades.

Q. All right, now those are solid areas of

potash, are they not?

A. That is correct.

Q. Let's look at the solid area of potash between black numbers 1 and 2 on the upper portion of Exhibit Four in the purple.

How wide an area are we talking about in the solid potash between areas 1 and 2 where the numbers 4.7-13.0 appear?

A. It's the one we are talking about between 1 and 2, it's a 4.7 --

Q. How much land area are we talking about there?

A. It is 62 by 62 pillar.

Q. That's in feet?

A. Right.

Q. Okay, it's a square pillar, 62 by 62, and there's an "X" on the top -- excuse me, on the -- at the top of the map just adjacent to the black letter number 1.

A. That's correct.

Q. And there's also an "X" just adjacent to the number 2 to the south of that particular example. Do you see that, Mr. Examiner?

MR. STAMETS: Yes.

MR. FEEZER: If we're together? Do you see it, Mr. Carr?

MR. CARR: Yes.

Q Would you tell the Examiner what those "X's" represent which are to the left and right of this block?

A To the left the "X" is represented by 4.7 at 13 percent grade, and close to No. 2 entry, represents 4.4 at 10.1 percent K_2O.

Q Now, in your discharge of duties as the Chief Mine Engineer, do you have people under your direction take a sample from each pillar, from the left and right side, at least is the designation here?

A That is correct.

Q And are those samples analyzed in your laboratory?

A Yes, sir.

Q And do they report back those to you so that you may keep a running record of the grade and height of potash ore that you're mining through?

A That is correct.

Q Now, moving to the next block down, between numbers 2 and 3 in the dark letters in the purple, you show 4.9 at 16.6, and 5.8 - 9.5. For the record will you tell us what this represents?

A These are also the samples taken. The top "X" represents the sample taken into that 46 break, and

the next, the sample below it, it was taken in the 45 break.

Q All right, so we know where those numbers are, you have breaks running in a line starting at 44 and running diagonally across the exhibit from the top lefthand corner to the lower righthand corner, from 44 through 61, is that right?

A That is correct.

Q All right, now the breaks are openings that are how wide?

A The breaks are 30 to 32 feet, approximately.

Q And are the breaks 1, 2, 3, and 4, you don't call those breaks, do you?

A No, they are the entries.

Q Those are the entries, and how wide are they?

A They are 30, 32 feet, approximately.

Q All right. Now, between the Entry 3 and running upward to Break 46, you're showing 4.9 feet of potash ore at 16.6 percent, is that right?

A Well, I'm not with you right now. It's Number 3 Entry?

Q Number 3 Entry and to the left of Number 3 Entry, and between 2 and 3, your map is showing a 4.9 foot of 16.6 percent potash, is that correct?

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

A. That is correct.

Q. And 32 feet away you take a sample of that side and you get 5.8 feet of potash at 9.5 percent?

A. That is correct.

Q. Looking now at the designation on this exhibit in black, showing November of '79, the purple represents what as to removal of potash ore?

A. That is the tonnage mined through the month of November, '79, and we have mined 51,632 tons in the average grade of 62 inches, 10.57 percent K_2O.

Q. And, although you don't operate in this field, that is a very much commercially or recoverable quantity of ore. It has substantial value, does it not?

A. That is correct.

Q. The green, moving down towards the lower righthand corner of Exhibit Four, represents what, Mr. Desai?

A. That is the tonnage mined in the month of December of '79, and the tonnage mined was 59,413 tons, and a 65 inch, 8.2 percent K_2O.

Q. Again, in your judgment and from your knowledge, is this commercially recoverable ore and being profitably sold by Amax?

A. It is a very marginal ore and we are mining through this low grade ore in that particular month.

Q. All right, looking at January of 1980,

your tonnage jumped substantially, according to your exhibit, to 73,212 tons, averaging 67 inches at 9.3 percent. Has the grade jumped substantially from December to January?

A. That is correct.

Q. What caused your tonnage to jump?

A. Just moving the crew out from the high grade area into the low grade area in order to balance our mill feed grade.

Q. Now is that a common practice that you have to balance so that you get a mill run that is -- you attempt to make it reasonably consistent?

A. That is correct.

Q. Looking at the red portion of Exhibit Four, will you tell the Examiner what this represents?

A. The red represents the tonnage mined in the month of February, 1980.

Q. 62 inches at 9.34 percent. We're almost at the end of March, not shown on the exhibit, but you're driving in a southeasterly direction at this time beyond the present scope of this exhibit, is that right?

A. That is correct.

Q. And how many feet per month are you moving in this southeasterly direction, as shown by this exhibit, approximately?

A. About 3 to 400 feet.

Q And 320 feet across?

A. Wide.

Q Now, every one of the blocks on Exhibit Four contain an "X", either on -- two "X's", either on one side or the other, top or bottom or side to side, is that right?

A. That is correct.

Q There's a tremendous difference from block to block as to the percentage of ore, is that a fact?

A. That is correct.

Q Is this normal and what you expect to find as you actually mine through the ore body?

A. It is normal in this third ore zone.

Q So that when you look at Petitioner -- or Applicant's Exhibit Number One, which you have in front of you, do you not, and Hole No. 134, this shows 48 inches of 8.1 percent K_2O, and then it's got a number below it, 48 inches of I think it's 9.0 in the first ore zone. We are concerned here today with testimony only as to the top number, is that right?

A. That is correct.

Q 48 inches at 8.1 percent. Now where would Hole No. 134 be in reference to Exhibit Four, which is before you and the Examiner?

A. Hole No. 134 is --

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

MR. FEEZER: Did you find it, sir?

MR. STAMETS: Okay.

Q. Okay, that's the 8.1 percent hole, is that right?

A. That is correct.

Q. Now directly below that, when you were mining in January, you were finding various grades running across in Break No. 54, of 5 foot 2 of 10.8 potash?

A. That is correct.

Q. 5.2 feet of 14.4 percent? The next --

A. Yes, that is correct.

Q. All right. Then it drops off to 5.4 feet of 9.4 percent K_2O?

A. That is correct.

Q. So as you move across here, and when you try to correlate exactly how much potash you've got from a core test hole, this map illustrates, does it not, Exhibit Four, that there are substantial dips and -- or I should say rises and falls in the potash grades as you mine through the ore?

A. That is correct.

Q. So that when you translate this 8.1 hole, Mr. Desai, to your mining experience as shown from November through February, to the holes in the purple area sought to be included in R-111-A, do you have an opinion as to

whether or not these samples of 9.9, 9.1, excuse me, 9.9 is HOle 140; 169 is 48 inches of 9.1; and 139 is 48 inches of 9.1, do these fairly represent, based on your experience, an area where you can expect to encounter commercially recoverable quantities of potash ore as your mining program moves towards those core tests?

A. Yes, I do.

Q. Is there anything further, Mr. Desai, that you can tell the Examiner about this exhibit and its significance, Exhibit Number Four particularly, or One, if you wish to comment?

A. Oh, I don't have any comment.

MR. FEEZER: Pass the witness.

MR. STAMETS: Any questions of this witness?

MR. CARR: No questions.

MR. STAMETS: He may be excused.

MR. FEEZER: Move the admission of Exhibit Four into the record.

MR. STAMETS: The exhibit will be admitted.

MR. FEEZER: Mr. Bob Brown.

R. D. "BOB" BROWN

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. FEEZER:

Q You are Mr. R. D. Brown?

A Yes, sir.

Q And your occupation and title, sir?

A I'm Vice President and General Manager of Amax Checmical Corporation, Carlsbad, New Mexico.

Q And how long have you been connected with Amax, Mr. Brown?

A 27 years.

Q In your capacity as Vice President and General Manager, you have previously been before the Examiner and testified, have you not?

A Yes, I have.

MR. FEEZER: Is he qualified?

MR. STAMETS: Yes.

Q I hand you what has been marked Exhibit Five, Mr. Brown, and ask you if employees under your direction and supervision have prepared this series of pages with data as to the area under discussion today in the eastern Federal leases of Amax properties?

A Yes, they have.

Q I would very much like to have you give your interpretation of page one, case I, and what this

means, so that we get a full understanding in the record of what we're doing.

A. It's simply taking the amount of ore that would be lost by leaving 100-foot solid pillar, and then not mining -- not second mining in an area of 1250 feet radius, in addition to that 100-foot pillar, and it is trying to come up with the amount of tonnage of ore that would be lost at that mining height of roughly 1250 feet underground.

That's the first page. All we're doing there is trying to find out how many total tons of ore would be lost at a 4-foot mining height.

Q. Let's go through it very briefly. Case 1 selects a sample of 100-foot radius pillar.

A. Right.

Q. The number 31,416 square feet is the amount of ore in that pillar, is that right?

A. That's the number of square feet in --

Q. Square feet, excuse me, and then you multiply it by 4 to get the 125,664 --

A. To get the cubic feet.

Q. To get the cubic feet, right.

Then you cube it and you get that times a factor, which gives you the tonnage.

A. Right, the tons -- the average tons per

square feet times that figure gives you the number of tons.

Q. And that is 8,043 on the exhibit?

A. That is correct; however, we normally only get 90 percent extraction. We leave 10 percent for protection of our employees, anyway, safety, so we would only lose from that solid pillar, 7238 tons.

Q. When you talk about a normal protection of your empoyees, if we may refer a moment to Exhibit Number Four --

A. Yes, sir.

Q. -- looking again at Entry No. 2 and Break 40 -- between 45 and 46, again using the block for illustration of 4.9 feet at 16.6 percent K_2O, when you come back to second mine that, is this the area -- or will you tell the Examiner what the area is that you leave for protection of your employees?

A. Yes. What we basically do is mine the center out of that block, and we leave a 7-foot fender on each side, and we take everything else out, and that 7-foot fender protects our employees as we retreat; however, you have to do it in a very precise pattern. You've got to continue to do it; you can't leave it and then come back in six months. When you start second mining, you must continue to do it because the 400 or 500 feet behind you, it will be converging and it would be very dangerous. So we leave

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

a 70foot, and this has been adequate. It protects us adequately.

MR. STAMETS: Let's just run over that one time for my edification.

A. All right.

MR. STAMETS: And information.

A. Yes, sir.

MR. STAMETS: Take, for example, any one of these square pillars that we have in here on first mining.

A. Right.

MR. STAMETS: Assuming now that you've second mined beyond that point and you're working your way back towards the main shaft.

A. Well, what we would do is first mine --

MR. STAMETS: Right.

A. -- to the economic ore, and then we would retreat. Then we would start pulling back and we'd go right across here and we'd pull, for example, say this was the end of our economic ore, down at the bottom --

MR. PEARCE: The red end here.

A. The red end. We would start pulling, then, we would start mining out the center of those blocks.

MR. STAMETS: The center of the block.

A. Right.

MR. STAMETS: Now how do you mine out the center of the block without mining out the outside of the block?

A. Well, it's a solid block. You just leave a 7-foot fender, or a 7-foot barrier on each side. You just go in and mine out the middle of it.

MR. STAMETS: All right, in other words, like slicing through the center of a big tree.

A. Yeah.

MR. STAMETS. Leaving each side of the tree?

A. Right.

MR. STAMETS: Okay, thank you. I didn't w[illegible]stand that the first time.

A. Right.

Q. The pillar that you're talking about is some 60-plus feet square, is that right?

A. 60 to 62 feet square, yes.

Q. So that you take a cut out of the -- just undercut it and pull it out, leaving -- or taking out all but 14 foot of 62 foot, more or less?

A. That's correct.

Q. And move the ore backwards, and as you move backwards, as illustrated on Exhibit Four, this ground collapses behind you and you can never get in there again,

is that right?

A That is correct.

Q All right. Now, turning back to Exhibit Five, that tonnage which would be lost with a 100-foot pillar, shows on this as 7,238 tons lost. That takes into account your safety factor you just testified to.

A Right.

Q Would you go on and explain what the loss would be if you have an active gas well and do not second mine in the third ore zone, as shown on the bottom of page 1?

A Okay, then you would take a 1250-foot radius from the well, and of course you would reduce the area of the solid pillar that --- to get the additional -- you've already taken that, and the square feet that would be in that would be 4,877,334 square feet, times 4-foot thick, would give you 19,500,000 roughly cubic feet of material, times the tons per square feet, would give you 1,248,598 tons that would be lost.

Since we only get 30 percent extraction there, or 30 percent is all we would lose. We're leaving 40, we would have to leave 10 of that for protection, so we only would really lose 30. You take 30 percent of that, which would give you 374,579 tons that would be lost, actually that we would lose to second mining. Now this is

tons of ore, plus the 7238 tons that we lose in the 100-foot solid pillar, gives us 381,000 tons of ore that would be lost if we left 100-foot solid pillar and did not second mine for the radius of 1250 feet.

Q. In Exhibit Five you have gone on to give additional figures on assumptions of a 200-foot solid pillar.

A. Yes, sir.

Q. As well, have you not?

A. Yes, sir.

Q. And the difference between 100 and a 200 is shown as 28,593 tons lost?

A. That is correct.

Q. And the same thing, unless the Examiner has any questions, as to the second mining.

A. Correct.

Q. Looking now at page three of the exhibit, Mr. Brown, I'd like you to very carefully and in some detail select from this, tied to Case I, an ore grade of, for round figures, 10 percent, and tell the Examiner what this means.

A. At a 100-foot radius pillar, 10 percent ore, we think we could get 82 percent recovery, and I feel that's probably conservative.

Q. Now, by recovery, let's explain that a little further.

A. We would recover the K_2O tons that's in the ore, we would recover 82 percent of them, if we were handling 10 percent ore.

Q. That's when you get it to the surface and run it through your mill, Mr. Brown?

A. That is correct. You see, what we mine is sylvanite ore and it's a mixture of potassium chloride, sodium chloride, and a little bit of clay and other impurities. So we have to grind it so we liberate the KCL crystals from the waste crystals. Then we run it through a refining process, a flotation process, where we separate the potassium chloride, which is really our product, and what we sell, from the other materials. The other waste material, the main waste material, is simply sodim chloride, common salt.

Q. Going back to your example, you get an 82 percent recovery, would you go on with the illustration that's shown on this exhibit?

A. All right. In the CAse I, the K_2O tons, as represented there, would be the 381,817 tons of ore, times 10 percent K_2O, times 82 percent recovery, would give you 31,309 tons of K_2O tons that we would lose. Now we don't sell K_2O tons. We sell -- we sell product, or potassium chloride. To convert that to tons of product, all right, the grade of our product is roughly 60.5 percent

K_2O, so you would divide the31,309 by .605, we would lose in that case 51,750 tons of product, salable product. That product, at $80.00 per ton, would have a sales value of $4,140,000.

Q. Now, you can, by utilizing every other example on this page, depending on your ore grade and your mill recoveries, end up at this figure with the dollars lost by each oil or gas well which you would have to go around?

A. That is correct.

Q. Now, in past hearings we have been before the Examiners, and testimony relating to price of product has been always a material consideration. Can you tell the Examiner what's happening to the pricing of potash product at this time?

A. Yes, sir. The supply of potash is very tight. The price has been going up, thank God, very rapidly.

MR. STAMETS: It depends on whether you're buying or selling.

A. Right. But right now the price of potash in January and February has averaged just a little under, at our particular mine, a little under -- it's $71.00, I believe, and 67 cents. I'm not -- but it's between $71.00 and $72.00.

We anticipate this year that we are

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

before the

A Yes, it has.

MR. FEEZER: Pass the witness.

MR. STAMETS: Are there questions of this witness? He may be excused.

Do you have anything further in this case?

MR. FEEZER: That concludes the presentation of our evidence. I don't know whether you care to hear any comments or not.

MR. CARR: We do not intend to call a witness. I would like to make one brief comment.

MR. STAMETS: You certainly may, Mr. Carr.

MR. CARR: We certainly recognize that potash is a valuable resource. We think it is important, as the R-111-A area is extended that it also be kept in mind that oil and gas reserves in the area also are valuable resources. Whenever the potash R-111-A area is extended it imposes additional burdens on those who have leases and rights to go ahead and develop oil and gas.

For an individual, for a company, to be entitled, therefor, to an extension of the R-111-A area, we believe that it is -- the burden is clearly on them to show that there are commercial potash reserves within the area to be included in the extension.

We would submit that the testimony here today failed to show that in the east half of the northwest quarter of Section 7, that there were additional commercial reserves of potash. The testimony was there may or may not. We submit that that is a failure in the burden, and we would request that any order extending the R-111-A area exclude from the extension the east half of the northwest quarter of Section 7.

MR. STAMETS: Mr. Feezer, do you have any closing statements, arguments?

MR. FEEZER: In response to that particular area, the testimony was that they took a mathematical split of the distance between a barren and a very high hole, and that mathematical split puts it within the east half of the northwest quarter.

The potash industry has recognized over many years that there are correlative rights and we understand these and respect them. This, of course, is where the burden falls on the Examiner to make a determination of whether or not it is a commercially and administratively reasonable position to suggest to the oil companies that in order to achieve the maximum recovery of natural resources that it should defer its potential drilling program, and I might add that we have a question mark. We don't know exactly what Rubye Kersey Well, whatever it is, did, but

it shows "plugged?" Whether or not there is any indication that there is oil or gas there, we don't know, but that indicates to us that there may not be.

So that if we engage, perhaps, in a presumption, we felt we were justified in seeking the east half of the northwest quarter by splitting the difference and taking in that.

MR. STAMETS: If there is nothing further, this case will be taken under advisement.

(Hearing concluded.)

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____ heard by me on _____ 19__.

_____, Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

OCC 2

C. FEEZER

Donald W. Hurd
215 Augusta Drive
Winnipeg, Manitoba
R3T 4H3

October 12, 1979

Mr. R. Kirby,
Amax Chemical Corp.,
Box 279 Carlsbad, N.M.

Dear Bob:

Enclosed are Xerox copies of the GR traces through the K-bed section of logs run in the 3 wells which you asked me to review.

Bed #1 is weak or nil in all three logs. However, in the La Rue and Muncy test in the east (13-19S-30E) bed 3 shows a GR response of moderate strength.

The following briefly summarizes observations from the 3 logs:

So. Royalty State 23A-1

23-19S-29E

Bed 1 very weak at 707' (+2621), the elevation tying in with structure contour map of this bed.
Bed 3 also very weak.
Polyhalite/anhydrite beds 124 - 129 inclusive, and 134 correspond with decrease in hole gauge and sonic velocity.

So. Royalite State 24-1

24-19S-29-1

Beds 1 and 3 are very weak, as above.
Excellent correlation between polyhalite/anhydrite marker beds. The well, located closer to the center of the structural depression at the property shows an expanded stratigraphic section between beds 124-129.
Bed 1 position is at 747' (+2591), the elevation agreeing with the structure map contours.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 2
CASE NO. 6838
Submitted by AMAX
Hearing Date

..... 2

La Rue and Muncy Clubertson 1

13-19S-30E.

Bed 1 position at 1170' (+2341), 80-90' higher than expected from structure map. However excellent co-relation of marker beds define bed elevation.

Bed 3 from 1135-1140, 5' estimated at 9-10% total K_2O.

In studying these traces I have applied the USGS numbering system to the various marker beds in order to help define K-Beds 1 and 3. As I recall USGS 125 and 126 are property beds 127 and 129 respectively.

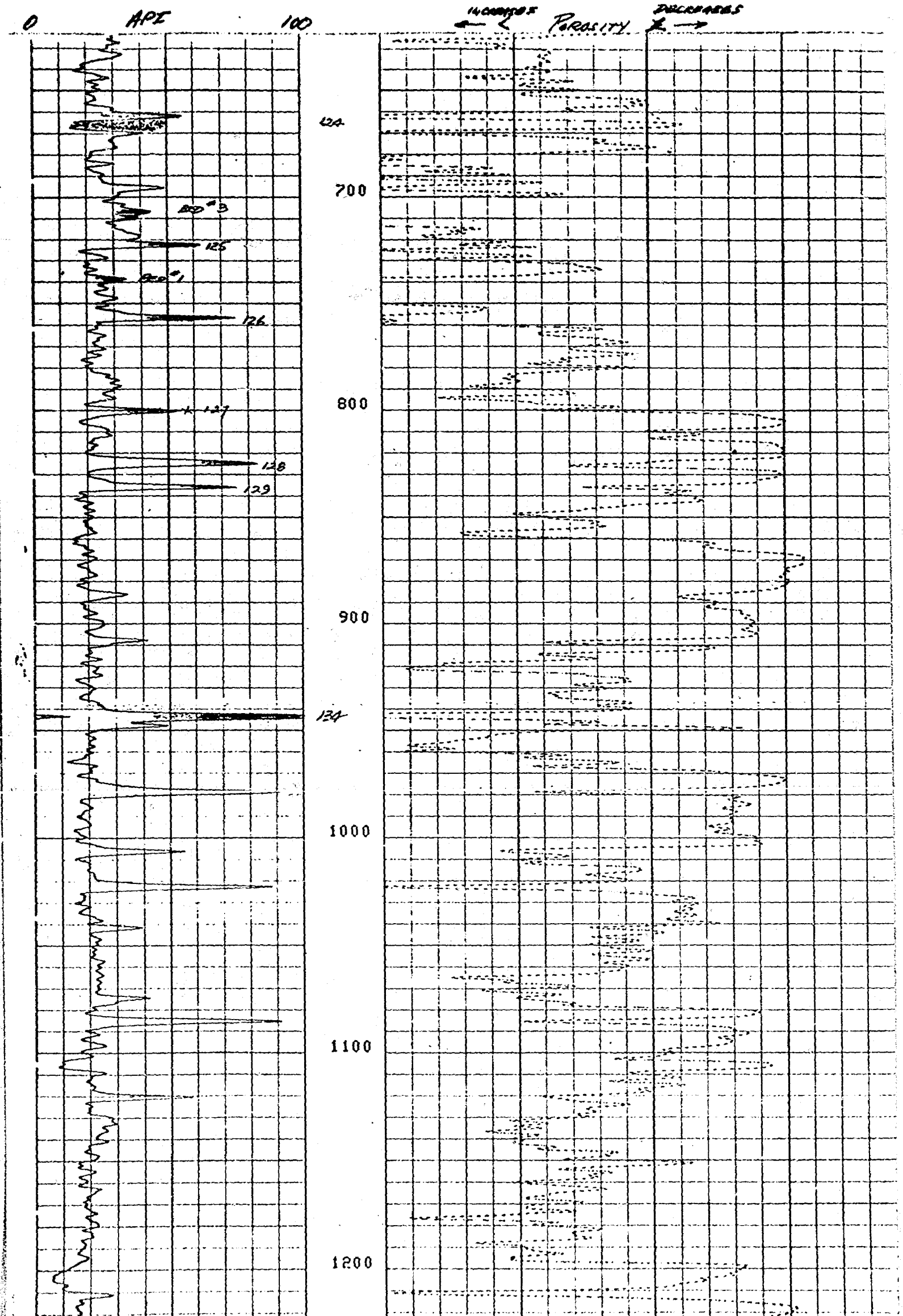
Should you wish me to return the log prints, kindly let me know.

Best regards

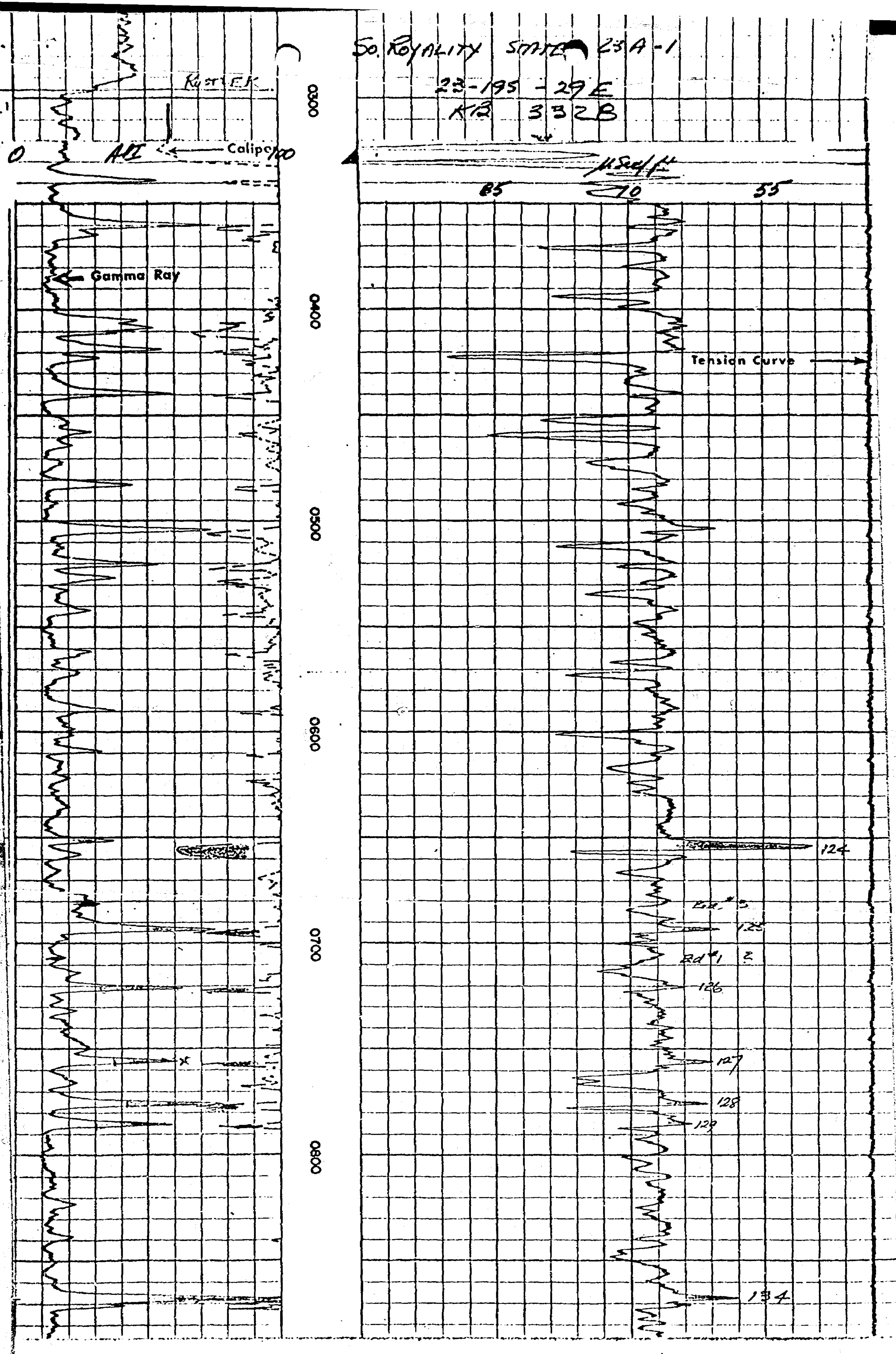
Yours sincerely,

Don Hurd

So. Royalty State 24-1
24-19S-29E
KB 3338



LaRue & Muncy
Culbertson Irvin #1
13-19S-30E
KB 3511



So. Royality State 23A-1
22-19S-29E
KB 3328
Rustler
0 API 100
Caliper
Gamma Ray
µSec/ft
85
70
55
Tension Curve
0300
0400
0500
0600
0700
0800
124
125
126
127
128
129
134

United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Drawer U
Artesia, New Mexico 88210

March 19, 1980

Operator:

C. E. LaRue & B. N. Muncy, Jr.
P. O. Box 196
Artesia, New Mexico 88210

Lease No. NM-025559

Well No. 1-Culbertson & Irwin

Location 2310/N 990/E

Sec. 13 T. 19S R. 30E

Gentlemen:

The Notice of Intention to Abandon (form 9-331) for the above well has been received, and your proposed down-hole plugging program is hereby approved.

Please notify this office in sufficient time so that a representative may witness the plugging of the well.

A notice of your abandonment proposal has been furnished to the Surface Management Agency and, as soon as surface restoration requiremtnts are received, your approved copy of the Notice of Intention to Abandon will be forwarded to you.

Sincerely yours,

Albert R. Stall
Acting District Engineer

cc:
Amax Chemical Co.
Attention: Mr. Nelson Muncy
P. O. Box 279
Carlsbad, New Mexico 88220

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 3
CASE NO. 6838
Submitted by Amax
Hearing Date

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

AMAX CHEMICAL CORPORATION

EASTERN FEDERAL LEASES

3rd Ore Zone

Re: Calculations of potash values lost to oil/gas wells.

Tonnage Calculated:

Assume: 4.0 feet (48") ore bed thickness
1250 feet average depth 3rd ore zone.

Case 1.

100-foot radius solid pillar and 1250-foot radius (less: 100-foot solid). No 2nd mining.

Loss: 100-foot radius =

31,416 Ft.²
x 4 Ft. Thick

125,664 Ft.³
x (.064) T/Ft.³

8,043 Tons
x 90% Extraction

7,238 Tons Lost

2nd Mining:

1250-foot radius =
Less: Area Solid Pillar

Area No 2nd Mining

4,908,750 Ft.²
- 31,416 Ft.²

4,877,334 Ft.²
x 4 Ft. Thick

19,509,336 Ft.³
x (.064) T/Ft.³

1,248,598 Tons
x 30% Extraction (lost to no 2nd mining)

374,579 Tons Lost to no 2nd mining
+ 7,238 Tons Lost Solid (100' rad.) Pillar

381,817 Total Tons Lost Case 1

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 5
CASE NO. 6838
Submitted by AMAX
Hearing Date

AMAX CHEMICAL CORPORATION

EASTERN FEDERAL LEASES
3rd Ore Zone

Re: Calculations of potash values lost to oil/gas wells.

Tonnage Calculated:

Assume: 4.0 feet (48") ore bed thickness
1250 feet average depth 3rd ore zone.

Case II.

200-foot radium solid pillar and 1250-foot radius (less: 200-foot solid). No 2nd mining.

Loss: 200-foot radius

125,664 Ft.^{2}
x 4 Ft. Thick
502,656 Ft.^{3}
x (.064) Tons/Ft.
32,170 Tons
x 90% Extraction
28,593 Tons Lost

2nd Mining:

1250-foot radius =
Less: Area Solid Pillar
Area No 2nd Mining =

4,908,750 Ft.^{2}
- 125,664 Ft.^{2}
4,783,086 Ft.^{2}
x 4 Ft. Thick
19,132,344 Ft.^{3}
x (.064) Tons/Ft.^{3}
1,224,470 Tons
x 30% Extraction (lost to no 2nd mining)
367,341 Tons Lost to no 2nd mining
+ 28,593 Tons Lost Solid (200' rad.) Pillar
395,934 Total Tons Lost Case II

		CASE I			CASE II		
		100' Radius Solid Pillar = 381,817 Tons Lost			200' Radius Solid Pillar = 395,934 Tons		
% Ore Grade	% Mill Rec.	K_2O Tons	(.605) Tons Product	At $80/Ton Gross Value	K_2O Tons	(.605) Tons Product	At $80/Ton Gross Value
8.0	81.0	24,742	40,896	$3,271,669	25,657	42,407	$3,392,598
8.5	81.5	26,450	43,715	$3,497,570	27,428	45,336	$3,626,886
9.0	82.0	28,178	46,575	$3,726,029	29,220	48,297	$3,863,792
9.5	82.0	29,744	49,163	$3,933,030	30,843	50,981	$4,078,447
10.0	82.0	31,309	51,750	$4,140,032	32,467	53,564	$4,293,103
10.5	82.0	32,874	54,338	$4,347,034	34,090	56,347	$4,507,758
11.0	82.5	34,650	57,273	$4,581,804	35,931	59,390	$4,751,208
11.5	82.5	36,225	59,876	$4,790,068	37,564	62,090	$4,967,172
12.0	82.5	37,780	62,479	$4,998,331	39,197	64,789	$5,183,136
12.5	82.5	39,375	65,082	$5,206,595	40,831	67,489	$5,399,100
13.0	82.5	40,950	67,686	$5,414,859	42,464	70,188	$5,615,064
13.5	83.0	42,783	70,715	$5,657,203	44,364	73,330	$5,866,368
14.0	83.0	44,367	73,334	$5,866,729	46,008	76,046	$6,083,640
14.5	83.0	45,952	75,953	$6,076,255	47,651	78,761	$6,300,913
15.0	83.5	47,823	79,046	$6,323,680	49,591	81,968	$6,557,452
15.5	83.5	49,417	81,680	$6,534,435	51,244	83,700	$6,776,034
16.0	84.0	51,316	84,820	$6,785,614	53,214	87,956	$7,036,500
16.5	84.0	52,920	87,471	$6,997,664	54,876	90,705	$7,256,390
17.0	84.5	54,848	90,658	$7,252,630	56,876	94,010	$7,520,783
17.5	84.5	56,461	93,324	$7,465,942	58,549	96,775	$7,741,982
18.0	85.0	58,418	96,559	$7,724,694	60,578	100,129	$8,010,301
18.5	85.0	60,041	99,241	$7,939,269	62,261	102,910	$8,232,809
19.0	85.0	61,663	101,923	$8,153,844	63,943	105,691	$8,455,318
19.5	85.0	63,286	104,605	$8,368,419	65,626	108,473	$8,677,826
20.0	85.0	64,909	107,287	$8,582,994	67,309	111,254	$8,900,335
20.5	85.0	66,532	109,970	$8,797,569	68,992	114,036	$9,122,843
21.0	85.0	68,154	112,652	$9,012,143	70,674	116,817	$9,345,351

Docket No. 8-80

Dockets Nos. 9-80 and 10-80 are tentatively set for April 9 and 23, 1980. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 26, 1980

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 6838: Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-111-A to extend the boundaries of the Potash-Oil Area by the inclusion of certain lands in Sections 11, 12, and 13, Township 19 South, Range 30 East, and Sections 7 and 18, Township 19 South, Range 31 East.

CASE 6839: Application of Kimbell Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Otero-Chacra and South Blanco-Pictured Cliffs production in the wellbore of its Salazar Well No. 4-26 to be located in Unit D of Section 26, Township 25 North, Range 6 West.

CASE 6840: Application of Union Texas Petroleum for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Fruitland and Pictured Cliffs production in the wellbore of its Johnston Federal Well No. 11Y located in Unit N of Section 7, Township 31 North, Range 9 West.

CASE 6841: Application of CIG Exploration, Inc. for two non-standard gas proration units, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of two non-standard gas proration units in Township 16 South, Range 28 East, the first being 219.6 acres comprising Lots 1 thru 8 of Section 1 and the second being 219.92 acres comprising Lots 1 thru 8 of Section 2, for the Wolfcamp, Pennsylvanian, and Mississippian formations, each unit to be dedicated to a well to be drilled at a standard location thereon.

CASE 6842: Application of ARCO Oil and Gas Company for an unorthodox gas well location, simultaneous dedication, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its W. C. Roach Well No. 6, 660 feet from the North line and 1980 feet from the West line of Section 21, Township 20 South, Range 37 East, Eumont Gas Pool, to be simultaneously dedicated with its W. C. Roach Well No. 1 in Unit D to the W/2 of said Section 21. Also sought are findings that the proposed well is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing unit well.

CASE 6843: Application of Yates Petroleum Corporation for two compulsory poolings, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Yeso formation underlying two 40-acre proration units, the first being the SE/4 SE/4 and the second being the SW/4 SE/4 of Section 6, Township 19 South, Range 25 East, Penasco Draw Field, each unit to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the wells and a charge for risk involved in drilling said wells.

CASE 6844: Application of Arrowhead Oil Corporation for two exceptions to Order No. R-111-A and an unorthodox well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the casing-cementing rules of Order No. R-111-A to complete its Creek Federal Well No. 3 at an unorthodox location 250 feet from the North line and 2350 feet from the East line and its Creek Federal Well No. 4 to be drilled in Unit G, both in Section 23, Township 18 South, Range 30 East, by setting surface casing at a depth of approximately 600 feet and production casing at total depth. The production casing would have cement circulated back to the potash zone in the salt section.

CASE 6845: Application of Marathon Oil Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 800 feet from the North line and 200 feet from the East line of Section 30, Township 21 South, Range 23 East, Indian Basin-Upper Pennsylvanian Gas Pool, all of Section 30 or that portion thereof which may be reasonably presumed productive of gas from said pool to be dedicated to the well.

CASE 6846: Application of Doyle Hartman for two compulsory poolings, two non-standard gas proration units, and two unorthodox well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Eumont Gas Pool underlying two 80-acre non-standard gas proration units, the first being the S/2 NE/4 of Section 13, Township 21 South, Range 36 East, to be dedicated to a well to be drilled at an unorthodox location 1650 feet from the North line and 2310 feet from the East line of said Section 13, and the second being the N/2 NE/4 of said Section 13 to be dedicated to a well to be drilled at an unorthodox location 1330 feet from the North line and 2310 feet from the East line of said Section 13. Also to be considered will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designtion of applicant as operator of the wells and a charge for risk involved in drilling said wells.

CASE 6834: (Continued and Readvertised)

Application of Conoco Inc. for a dual completion and unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its SEMU Burger Well No. 107 at an unorthodox location 2615 feet from the South and East lines of Section 19, Township 20 South, Range 38 East, to produce oil from the Blinebry Oil and Gas and Drinkard Pools.

CASE 6837: (Continued from March 12, 1980, Examiner Hearing)

Application of Curtis Little for compulsory pooling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the W/2 of Section 7, Township 25 North, Range 3 West, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6847: Application of Tenneco Oil Company for dual completions and downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete, in such a manner as to produce gas from the Dakota formation and commingled Chacra and Mesaverde production through parallel strings of tubing, ten proposed wells to be located as follows: in Township 29 North, Range 10 West: Unit C, Section 19; Unit N, Section 19; Unit A, Section 30; and Unit D, Section 30; in Township 29 North, Range 11 West: Unit G, Section 24; Unit O, Section 24; Unit A, Section 25; Unit D, Section 25; Unit M, Section 25; and Unit P, Section 25.

CASE 6818: (Continued from March 12, 1980, Examiner Hearing)

Application of Tenneco Oil Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination for its State HL 11 Well No. 1 located in Unit N of Section 11, Township 19 South, Range 29 East.

CASE 6849: (This is the same matter as was previously designated Case No. 6813.)

Application of Petroleum Development Corporation to amend Order No. R-6196, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to amend Order No. R-6196 which authorized re-entry of a well at an unorthodox location in the Lusk-Morrow Gas Pool to be dedicated to the N/2 of Section 13, Township 19 South, Range 31 East. Applicant now seeks approval for a new revised location 750 feet from the North line and 660 feet from the West line of said Section 13.

CASE 6848: Application of Petroleum Development Corporation for pool contraction and creation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the Querecho Plains-Bone Spring Pool to comprise the Upper Bone Spring formation only, from 8390 feet to 8680 feet on the log of its McKay West Federal Well No. 1 located in Unit F of Section 34, Township 18 South, Range 32 East, and the creation of the Querecho Plains-Lower Bone Spring Pool to comprise said formation from 8680 feet to the base of the Bone Spring underlying the NW/4 of said Section 34.

CASE 6826: (Continued from March 12, 1980, Examiner Hearing)

Application of Tahoe Oil and Cattle Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Penrose Skelly Pool underlying the SE/4 SE/4 of Section 25, Township 21 South, Range 36 East, to be dedicated to its Bromlee Well No. 1 located thereon. Also to be considered will be the cost of recompleting said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in recompleting said well.

JAMES L. DOW
CHARLES A. FEEZER

DOW & FEEZER, P. A.
ATTORNEYS AT LAW
DOW BUILDING
P. O. BOX 128
CARLSBAD, NEW MEXICO 88220

885-2185
AREA CODE 505

March 4, 1980

Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Oil Conservation Commission
909 West Dallas Avenue
Artesia, NM 88210

Re: Amax Chemical Corporation
Extension of R-111A

Case 6838

Dear Sir:

I enclose the original and three copies of the Applicant's Application for extension of R-111A.

As you will note on page 2 of the Application, I had no success in obtaining an address for H. Speer and Hanlad Oil.

Very truly yours,

DOW & FEEZER, P. A.

C. A. Feezer

CAF:ah

Encls.

cc: Mr. Bob Kirby w/copy of Application.

BEFORE THE NEW MEXICO OIL CONSERVATION
COMMISSION OF THE STATE OF NEW MEXICO

APPLICATION OF AMAX CHEMICAL CORPORATION FOR AN ORDER AMENDING R-111A AND SEEKING AN EXTENSION OF THE POTASH-OIL AREA IN EDDY COUNTY, NEW MEXICO)

No. 6838

A P P L I C A T I O N

COMES NOW Amax Chemical Corporation, a Delaware corporation, authorized to do business in the State of New Mexico and in support of this Application, states:

1. The lands hereinafter described are within a known potash area and exploratory drilling thereon has occurred and Applicant believes that commercially recoverable quantities of potash ore exist within the described lands and should be included within the boundaries of lands embraced in R-111A as defined by the rules and regulations of this Commission.

2. The lands sought to be included in the R-111A boundaries are as follows, to-wit:

SECTION 7	TOWNSHIP 19S	RANGE 31E
NW/4	Containing approximately	160 acres
SECTION 11	**TOWNSHIP 19S**	**RANGE 30E**
S/2 NE/4	Containing approximately	80 "
SECTION 12	**TOWNSHIP 19S**	**RANGE 30E**
SW/4 NW/4	Containing approximately	40 "
NE/4	" "	160 "
NE/4 SE/4	" "	40 "
NW/4 SE/4	" "	40 "
SW/4 SE/4	" "	40 "
SECTION 13	**TOWNSHIP 19S**	**RANGE 30E**
NE/4	Containing approximately	160 "
SECTION 18	**TOWNSHIP 19S**	**RANGE 31E**
W/2 NW/4	Containing approximately	80 "
NW/4 SW/4	" "	40 "

3. Amax Chemical Corporation is the owner of Federal Lease No. NM21606 and Federal Prospecting Permit Nos. NM21659, NM24584 and

NM21660, which lease and permits cover, among other property, the above described lands. All of the lands embraced in this Application are under the above numbered federal lease and federal prospecting permits and consist of 840 acres.

4. Amax Chemical Corporation has heretofore filed its Annual Mining Survey and Potash Development Plan with the Commission, a copy of which is attached hereto and marked Exhibit "A".

5. The names and addresses of the known interested parties in the Application as known to the Applicant are as follows:

J. I. O'Neill, et al.
Box 2840
Midland, Texas 79701

Texaco, Inc.
P. O. Box 3109
Midland, Texas 79702

Burleson & Huff
Box 2479
Midland, Texas 79702

Culbertson & Irwin
Box 1071
Midland, Texas 79702

LaRue & Muncy
P. O. Box 196
Artesia, NM 88210

Kerr-McGee
Box 25861
Oklahoma City, Oklahoma 73215

Scope Industries
C/o Culbertson & Irwin
Box 1071
Midland, Texas 79702

Gulf
Box 3786
Odessa, Texas 79760

Mabel E. Hale
120 Requa Road
Piedmont, CA 94611

H. Speer
UNKNOWN

ARCO
P. O. Box 1710
Hobbs, NM 88240

Harlon Oil
Box 668
Artesia, NM 88210

Southwestern Inc.
P. O. Box 1116
Lovington, NM 88260

Collier & Collier
Box 798
Artesia, New Mexico 88210

Hanlad Oil
UNKNOWN

Rutter & Wilbanks
500 North Big Spring Street
Midland, Texas 79701

Hanson Oil
Box 1515
Roswell, NM 88201

6. This Application has been filed contemporaneously with the Oil Conservation Commission in Santa Fe and Artesia, New Mexico for the purpose of giving notice of its contents to interested parties and Applicant further prays that the Commission, as required by statute, publish a description of and take such other action as may be necessary to notify the interested parties of the action sought by this Application.

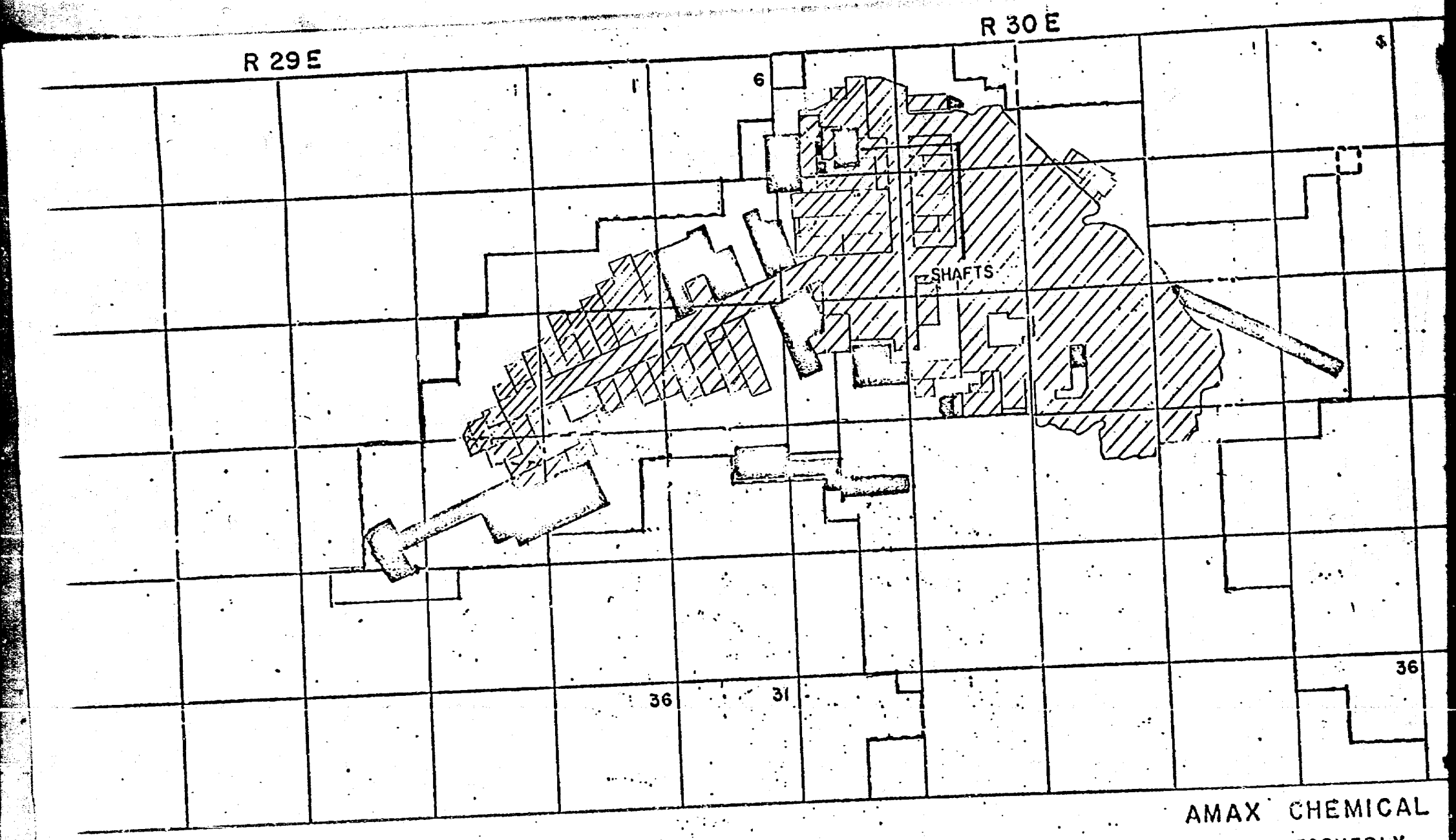
WHEREFORE, Amax Chemical Corporation requests that the Commission fix a time and place for hearing before the Commission, after proper notice, to determine the propriety of the request as set forth herein.

Respectfully submitted,

AMAX CHEMICAL CORPORATION

By _____

C. A. Feezer
DOW & FEEZER, P. A.
P. O. Box 128
Carlsbad, NM 88220
Phone No. 885-2185
Attorneys for Applicant



OPEN MINE WORKINGS – DEC 31, 1979

R-III-A OIL - POTASH AREA

PROJECTION 1980 - 1984

AMAX CHEMICAL

FORMERLY

SOUTHWEST POTA

CARLSBAD, N

SCALE 1" = 1 MILE

R 30 E

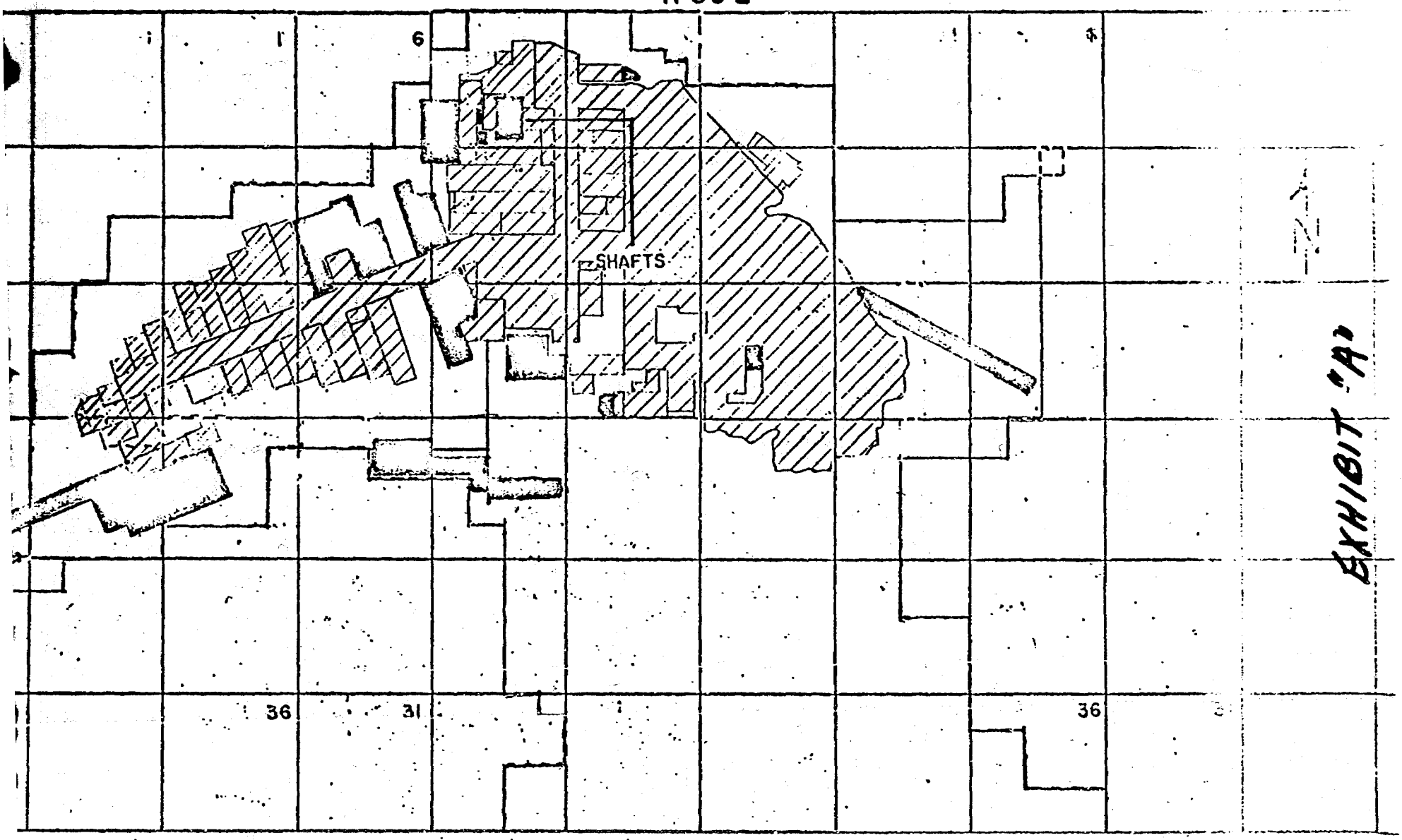


EXHIBIT "A"

AMAX CHEMICAL CORP.
FORMERLY
SOUTHWEST POTASH CORP.
CARLSBAD, N. M.
SCALE 1" = 1 MILE

KINGS - DEC 31, 1979

SH AREA

980 - 1984

BEFORE THE NEW MEXICO OIL CONSERVATION
COMMISSION OF THE STATE OF NEW MEXICO

APPLICATION OF AMAX CHEMICAL CORPORATION FOR AN ORDER AMENDING R-111A AND SEEKING AN EXTENSION OF THE POTASH-OIL AREA IN EDDY COUNTY, NEW MEXICO)

No. 6838

A P P L I C A T I O N

COMES NOW Amax Chemical Corporation, a Delaware corporation, authorized to do business in the State of New Mexico and in support of this Application, states:

1. The lands hereinafter described are within a known potash area and exploratory drilling thereon has occurred and Applicant believes that commercially recoverable quantities of potash ore exist within the described lands and should be included within the boundaries of lands embraced in R-111A as defined by the rules and regulations of this Commission.

2. The lands sought to be included in the R-111A boundaries are as follows, to-wit:

SECTION 7	TOWNSHIP 19S	RANGE 31E
NW/4	Containing approximately	160 acres
SECTION 11	**TOWNSHIP 19S**	**RANGE 30E**
S/2 NE/4	Containing approximately	80 "
SECTION 12	**TOWNSHIP 19S**	**RANGE 30E**
SW/4 NW/4	Containing approximately	40 "
NE/4	" "	160 "
NE/4 SE/4	" "	40 "
NW/4 SE/4	" "	40 "
SW/4 SE/4	" "	40 "
SECTION 13	**TOWNSHIP 19S**	**RANGE 30E**
NE/4	Containing approximately	160 "
SECTION 18	**TOWNSHIP 19S**	**RANGE 31E**
W/2 NW/4	Containing approximately	80 "
NW/4 SW/4	" "	40 "

3. Amax Chemical Corporation is the owner of Federal Lease No. NM21606 and Federal Prospecting Permit Nos. NM21659, NM24584 and

NM21660, which lease and permits cover, among other property, the above described lands. All of the lands embraced in this Application are under the above numbered federal lease and federal prospecting permits and consist of 840 acres.

4. Amax Chemical Corporation has heretofore filed its Annual Mining Survey and Potash Development Plan with the Commission, a copy of which is attached hereto and marked Exhibit "A".

5. The names and addresses of the known interested parties in the Application as known to the Applicant are as follows:

J. I. O'Neill, et al.
Box 2840
Midland, Texas 79701

H. Speer
UNKNOWN

Texaco, Inc.
P. O. Box 3109
Midland, Texas 79702

ARCO
P. O. Box 1710
Hobbs, NM 88240

Burleson & Huff
Box 2479
Midland, Texas 79702

Harlon Oil
Box 668
Artesia, NM 88210

Culbertson & Irwin
Box 1071
Midland, Texas 79702

Southwestern Inc.
P. O. Box 1116
Lovington, NM 88260

LaRue & Muncy
P. O. Box 196
Artesia, NM 88210

Collier & Collier
Box 798
Artesia, New Mexico 88210

Kerr-McGee
Box 25861
Oklahoma City, Oklahoma 73215

Hanlad Oil
UNKNOWN

Scope Industries
C/o Culbertson & Irwin
Box 1071
Midland, Texas 79702

Rutter & Wilbanks
500 North Big Spring Street
Midland, Texas 79701

Gulf
Box 3786
Odessa, Texas 79760

Hanson Oil
Box 1515
Roswell, NM 88201

Mabel E. Hale
120 Requa Road
Piedmont, CA 94611

6. This Application has been filed contemporaneously with the Oil Conservation Commission in Santa Fe and Artesia, New Mexico for the purpose of giving notice of its contents to interested parties and Applicant further prays that the Commission, as required by statute, publish a description of and take such other action as may be necessary to notify the interested parties of the action sought by this Application.

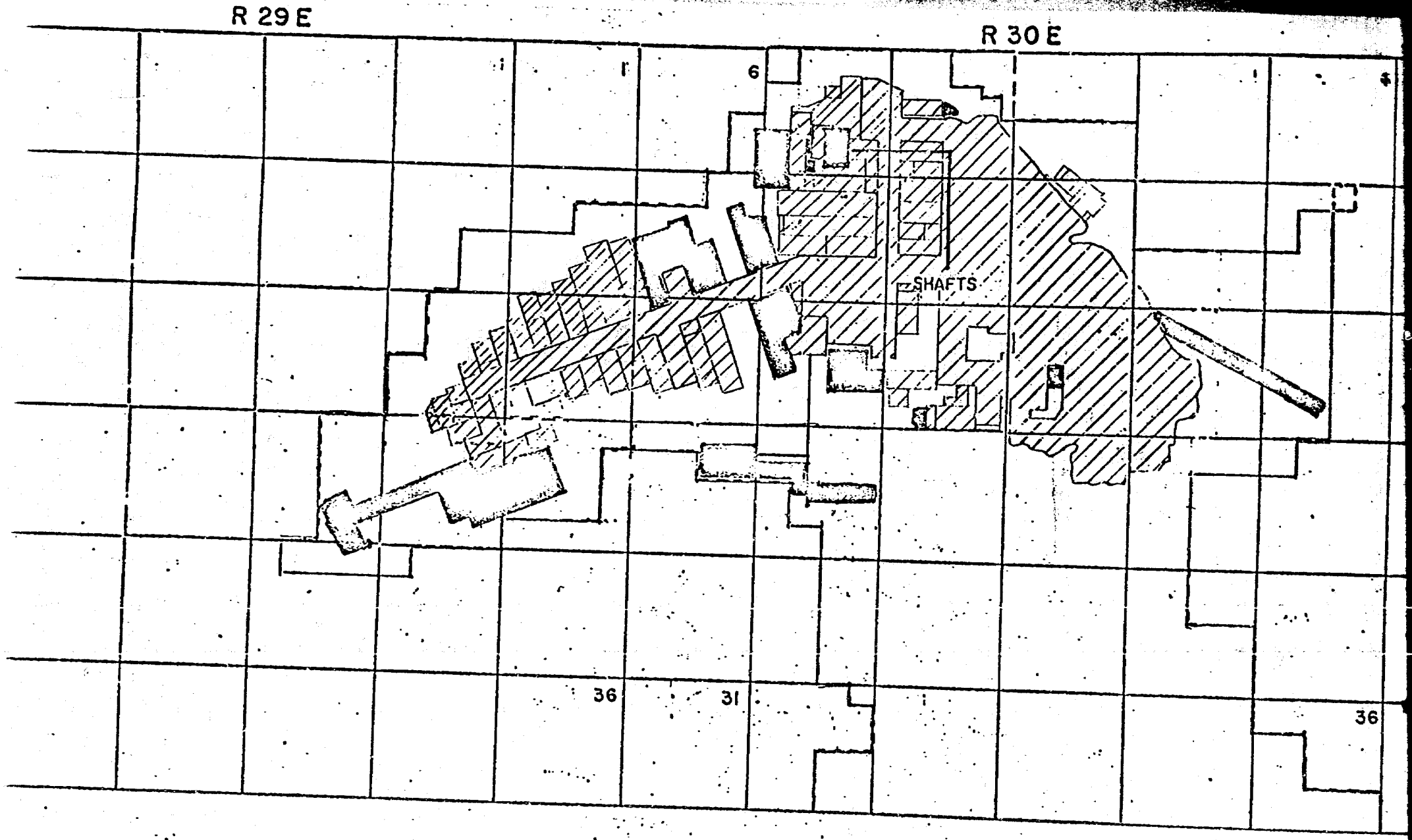
WHEREFORE, Amax Chemical Corporation requests that the Commission fix a time and place for hearing before the Commission, after proper notice, to determine the propriety of the request as set forth herein.

Respectfully submitted,

AMAX CHEMICAL CORPORATION

By _____

C. A. Feezer
DOW & FEEZER, P. A.
P. O. Box 128
Carlsbad, NM 88220
Phone No. 885-2135
Attorneys for Applicant



OPEN MINE WORKINGS – DEC 31, 1979

R-III-A OIL - POTASH AREA

PROJECTION 1980 - 1984

AMAX CHEMICAL
FORMERLY
SOUTHWEST POTAS

CARLSBAD, N.

SCALE 1" = 1 MILE

R 30 E

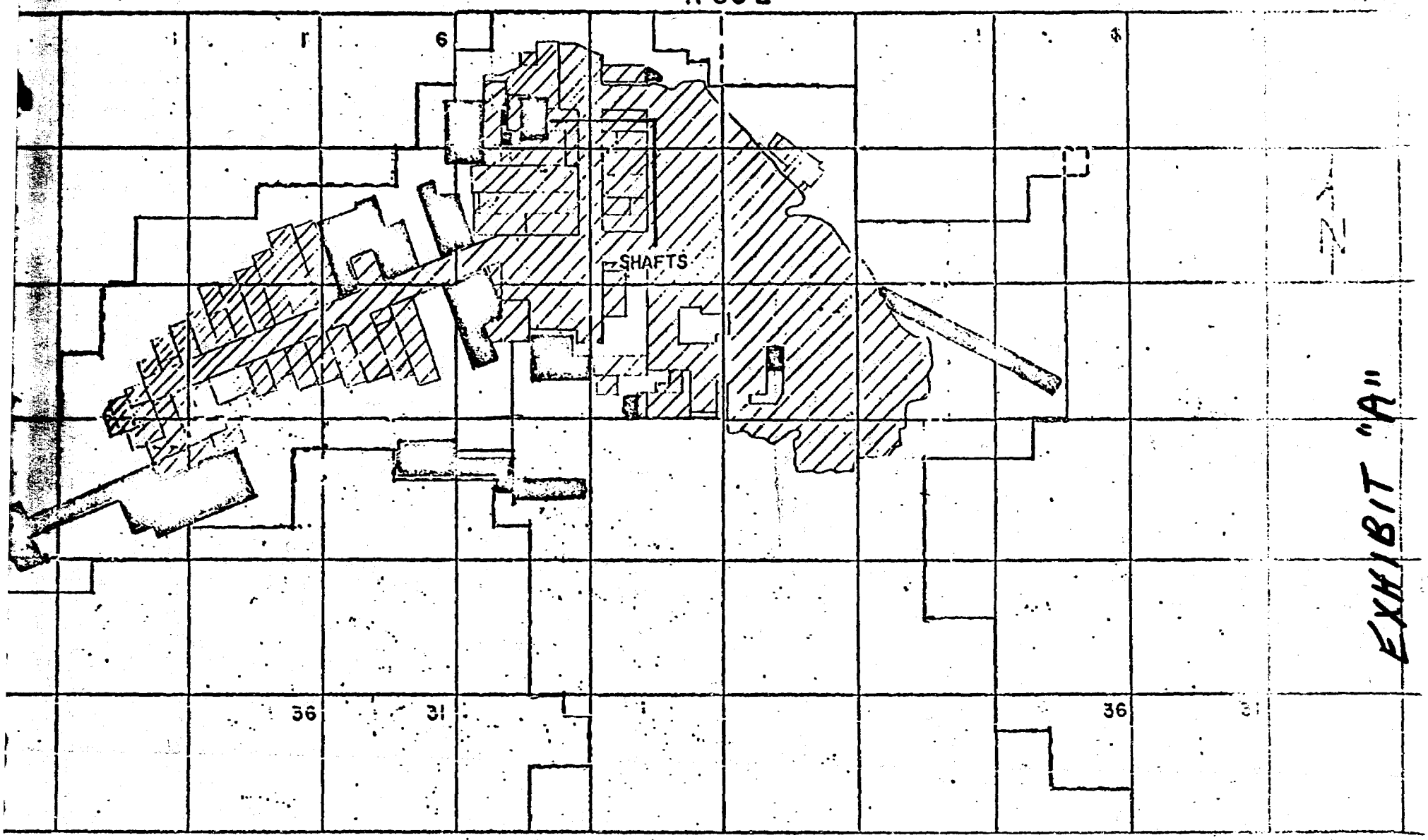


EXHIBIT "A"

AMAX CHEMICAL CORP.
FORMERLY
SOUTHWEST POTASH CORP.
CARLSBAD, N. M.
SCALE 1" = 1 MILE JAN 1980

ORKINGS - DEC 31, 1979

OTASH AREA

1980 - 1984

BEFORE THE NEW MEXICO OIL CONSERVATION
COMMISSION OF THE STATE OF NEW MEXICO

APPLICATION OF AMAX CHEMICAL CORPORATION FOR AN ORDER AMENDING R-111A AND SEEKING AN EXTENSION OF THE POTASH-OIL AREA IN EDDY COUNTY, NEW MEXICO)

No. 6838

A P P L I C A T I O N

COMES NOW Amax Chemical Corporation, a Delaware corporation, authorized to do business in the State of New Mexico and in support of this Application, states:

1. The lands hereinafter described are within a known potash area and exploratory drilling thereon has occurred and Applicant believes that commercially recoverable quantities of potash ore exist within the described lands and should be included within the boundaries of lands embraced in R-111A as defined by the rules and regulations of this Commission.

2. The lands sought to be included in the R-111A boundaries are as follows, to-wit:

SECTION 7	TOWNSHIP 19S	RANGE 31E
NW/4	Containing approximately	160 acres
SECTION 11	TOWNSHIP 19S	RANGE 30E
S/2 NE/4	Containing approximately	80 "
SECTION 12	TOWNSHIP 19S	RANGE 30E
SW/4 NW/4	Containing approximately	40 "
NE/4	" "	160 "
NE/4 SE/4	" "	40 "
NW/4 SE/4	" "	40 "
SW/4 SE/4	" "	40 "
SECTION 13	TOWNSHIP 19S	RANGE 30E
NE/4	Containing approximately	160 "
SECTION 18	TOWNSHIP 19S	RANGE 31E
W/2 NW/4	Containing approximately	80 "
NW/4 SW/4	" "	40 "

3. Amax Chemical Corporation is the owner of Federal Lease No. NM21606 and Federal Prospecting Permit Nos. [illegible]1659, NM24584 and

NM21660, which lease and permits cover, among other property, the above described lands. All of the lands embraced in this Application are under the above numbered federal lease and federal prospecting permits and consist of 840 acres.

4. Amax Chemical Corporation has heretofore filed its Annual Mining Survey and Potash Development Plan with the Commission, a copy of which is attached hereto and marked Exhibit "A".

5. The names and addresses of the known interested parties in the Application as known to the Applicant are as follows:

J. I. O'Neill, et al.
Box 2840
Midland, Texas 79701

Texaco, Inc.
P. O. Box 3109
Midland, Texas 79702

Burleson & Huff
Box 2479
Midland, Texas 79702

Culbertson & Irwin
Box 1071
Midland, Texas 79702

LaRue & Muncy
P. O. Box 196
Artesia, NM 88210

Kerr-McGee
Box 25861
Oklahoma City, Oklahoma 73215

Scope Industries
C/o Culbertson & Irwin
Box 1071
Midland, Texas 79702

Gulf
Box 3786
Odessa, Texas 79760

Mabel E. Hale
120 Requa Road
Piedmont, CA 94611

H. Speer
UNKNOWN

ARCO
P. O. Box 1710
Hobbs, NM 88240

Harlon Oil
Box 668
Artesia, NM 88210

Southwestern Inc.
P. O. Box 1116
Lovington, NM 88260

Collier & Collier
Box 798
Artesia, New Mexico 88210

Hanlad Oil
UNKNOWN

Rutter & Wilbanks
500 North Big Spring Street
Midland, Texas 79701

Hanson Oil
Box 1515
Roswell, NM 88201

6. This Application has been filed contemporaneously with the Oil Conservation Commission in Santa Fe and Artesia, New Mexico for the purpose of giving notice of its contents to interested parties and Applicant further prays that the Commission, as required by statute, publish a description of and take such other action as may be necessary to notify the interested parties of the action sought by this Application.

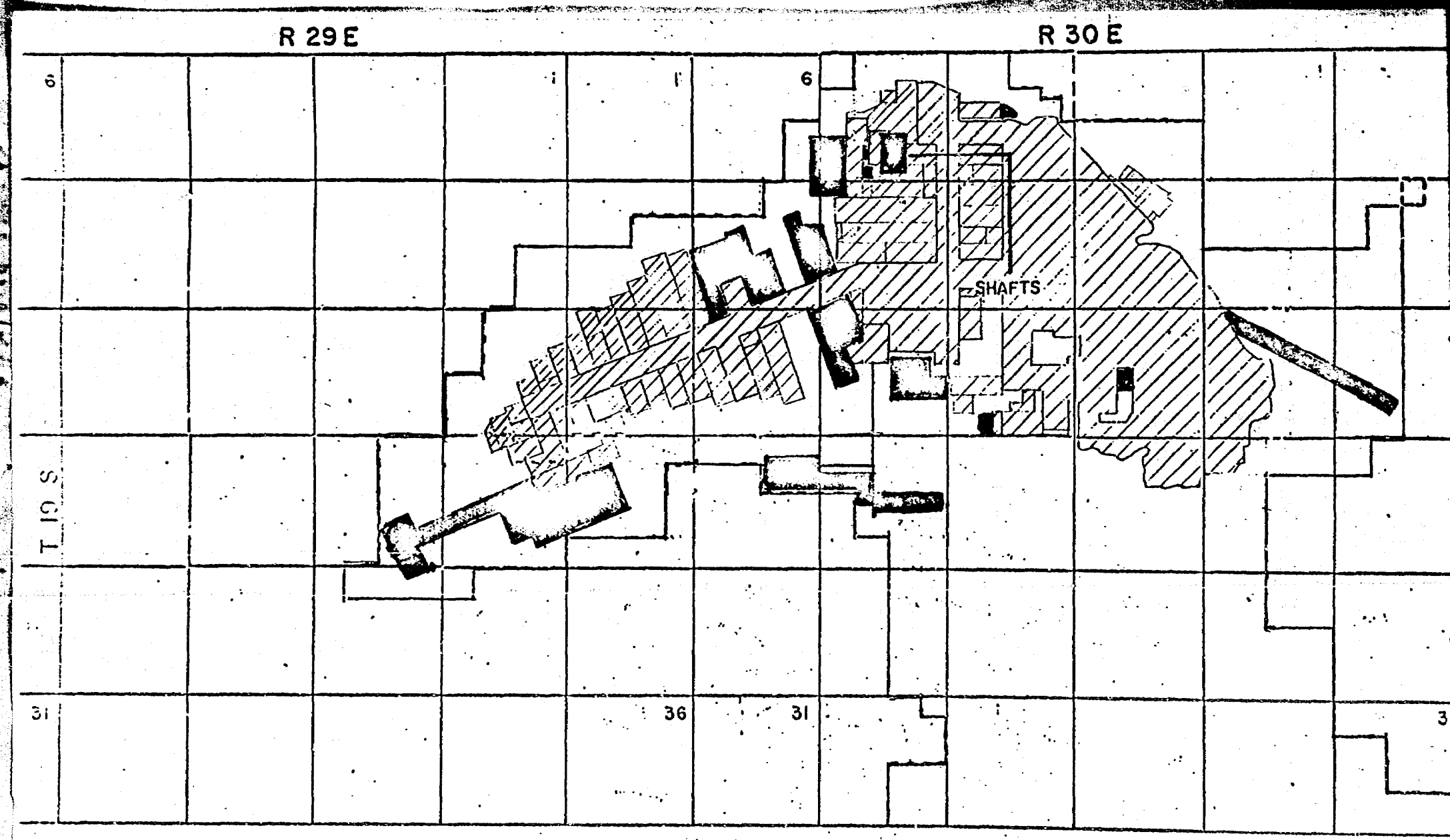
WHEREFORE, Amax Chemical Corporation requests that the Commission fix a time and place for hearing before the Commission, after proper notice, to determine the propriety of the request as set forth herein.

Reepectfully submitted,

AMAX CHEMICAL CORPORATION

By _____

C. A. Feezer
DOW & FEEZER, P. A.
P. O. Box 128
Carlsbad, NM 88220
Phone No. 885-2185
Attorneys for Applicant



OPEN MINE WORKINGS - DEC 31, 1979

R-III-A OIL - POTASH AREA

PROJECTION 1980 - 1984

AMAX CHEMICA

FORMERLY

SOUTHWEST POT

CARLSBAD,

SCALE 1"= 1 MILE

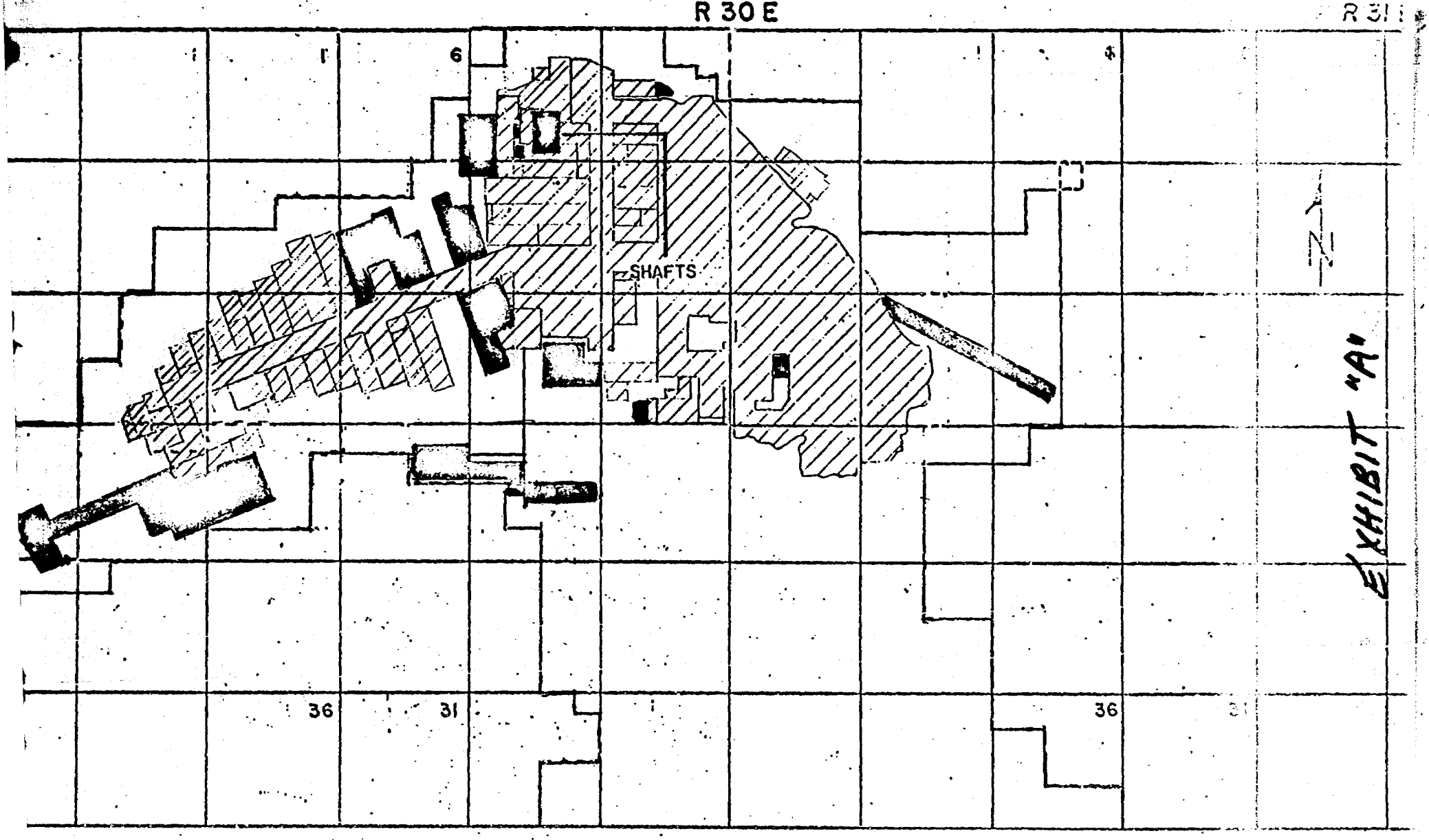


EXHIBIT "A"

ORKINGS – DEC 31, 1979

OTASH AREA

1980 - 1984

AMAX CHEMICAL CORP.
FORMERLY
SOUTHWEST POTASH CORP.
CARLSBAD, N. M.
SCALE 1" = 1 MILE JAN 1980

BEFORE THE NEW MEXICO OIL CONSERVATION
COMMISSION OF THE STATE OF NEW MEXICO

APPLICATION OF AMAX CHEMICAL CORPORATION FOR AN ORDER AMENDING R-111A AND SEEKING AN EXTENSION OF THE POTASH-OIL AREA IN EDDY COUNTY, NEW MEXICO)

No. 6838

A P P L I C A T I O N

COMES NOW Amax Chemical Corporation, a Delaware corporation, authorized to do business in the State of New Mexico and in support of this Application, states:

1. The lands hereinafter described are within a known potash area and exploratory drilling thereon has occurred and Applicant believes that commercially recoverable quantities of potash ore exist within the described lands and should be included within the boundaries of lands embraced in R-111A as defined by the rules and regulations of this Commission.

2. The lands sought to be included in the R-111A boundaries are as follows, to-wit:

SECTION 7	TOWNSHIP 19S	RANGE 31E
NW/4	Containing approximately	160 acres
SECTION 11	TOWNSHIP 19S	RANGE 30E
S/2 NE/4	Containing approximately	80 "
SECTION 12	TOWNSHIP 19S	RANGE 30E
SW/4 NW/4	Containing approximately	40 "
NE/4	" "	160 "
NE/4 SE/4	" "	40 "
NW/4 SE/4	" "	40 "
SW/4 SE/4	" "	40 "
SECTION 13	TOWNSHIP 19S	RANGE 30E
NE/4	Containing approximately	160 "
SECTION 18	TOWNSHIP 19S	RANGE 31E
W/2 NW/4	Containing approximately	80 "
NW/4 SW/4	" "	40 "

3. Amax Chemical Corporation is the owner of Federal Lease No. NM21606 and Federal Prospecting Permit Nos. NM21659, NM24584 and

NM21660, which lease and permits cover, among other property, the above described lands. All of the lands embraced in this Application are under the above numbered federal lease and federal prospecting permits and consist of 840 acres.

4. Amax Chemical Corporation has heretofore filed its Annual Mining Survey and Potash Development Plan with the Commission, a copy of which is attached hereto and marked Exhibit "A".

5. The names and addresses of the known interested parties in the Application as known to the Applicant are as follows:

J. I. O'Neill, et al.
Box 2840
Midland, Texas 79701

H. Speer
UNKNOWN

Texaco, Inc.
P. O. Box 3109
Midland, Texas 79702

ARCO
P. O. Box 1710
Hobbs, NM 88240

Burleson & Huff
Box 2479
Midland, Texas 79702

Harlon Oil
Box 668
Artesia, NM 88210

Culbertson & Irwin
Box 1071
Midland, Texas 79702

Southwestern Inc.
P. O. Box 1116
Lovington, NM 88260

LaRue & Muncy
P. O. Box 196
Artesia, NM 88210

Collier & Collier
Box 798
Artesia, New Mexico 88210

Kerr-McGee
Box 25861
Oklahoma City, Oklahoma 73215

Hanlad Oil
UNKNOWN

Scope Industries
C/o Culbertson & Irwin
Box 1071
Midland, Texas 79702

Rutter & Wilbanks
500 North Big Spring Street
Midland, Texas 79701

Gulf
Box 3786
Odessa, Texas 79760

Hanson Oil
Box 1515
Roswell, NM 88201

Mabel E. Hale
120 Requa Road
Piedmont, CA 94611

6. This Application has been filed contemporaneously with the Oil Conservation Commission in Santa Fe and Artesia, New Mexico for the purpose of giving notice of its contents to interested parties and Applicant further prays that the Commission, as required by statute, publish a description of and take such other action as may be necessary to notify the interested parties of the action sought by this Application.

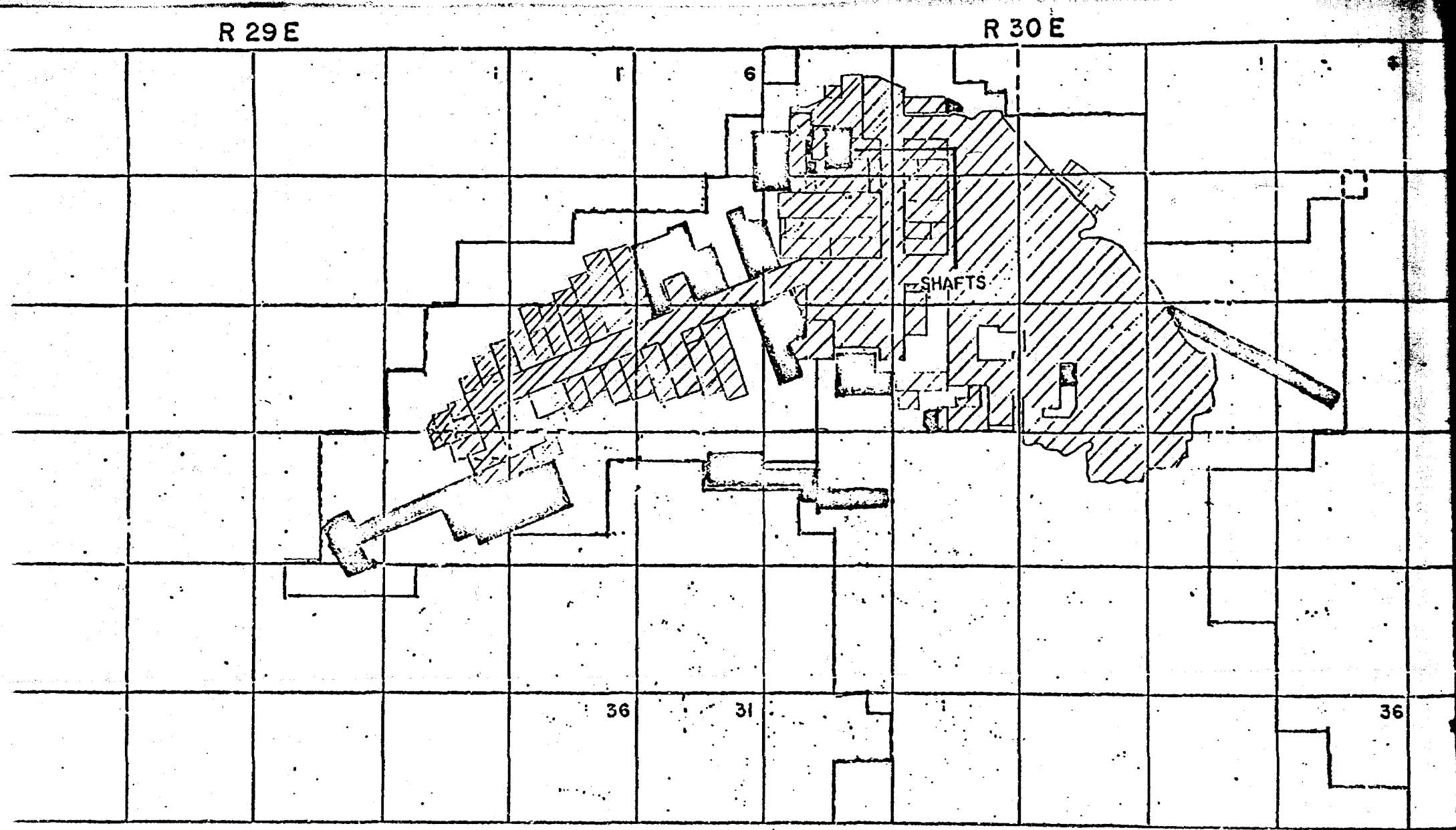
WHEREFORE, Amax Chemical Corporation requests that the Commission fix a time and place for hearing before the Commission, after proper notice, to determine the propriety of the request as set forth herein.

Respectfully submitted,

AMAX CHEMICAL CORPORATION

By _____

C. A. Feezer
DOW & FEEZER, P. A.
P. O. Box 128
Carlsbad, NM 88220
Phone No. 885-2185
Attorneys for Applicant



OPEN MINE WORKINGS – DEC 31, 1979

R-III-A OIL - POTASH AREA

PROJECTION 1980 - 1984

AMAX CHEMICAL C

FORMERLY

SOUTHWEST POTASH

CARLSBAD, N. M

SCALE 1" = 1 MILE

R 30 E

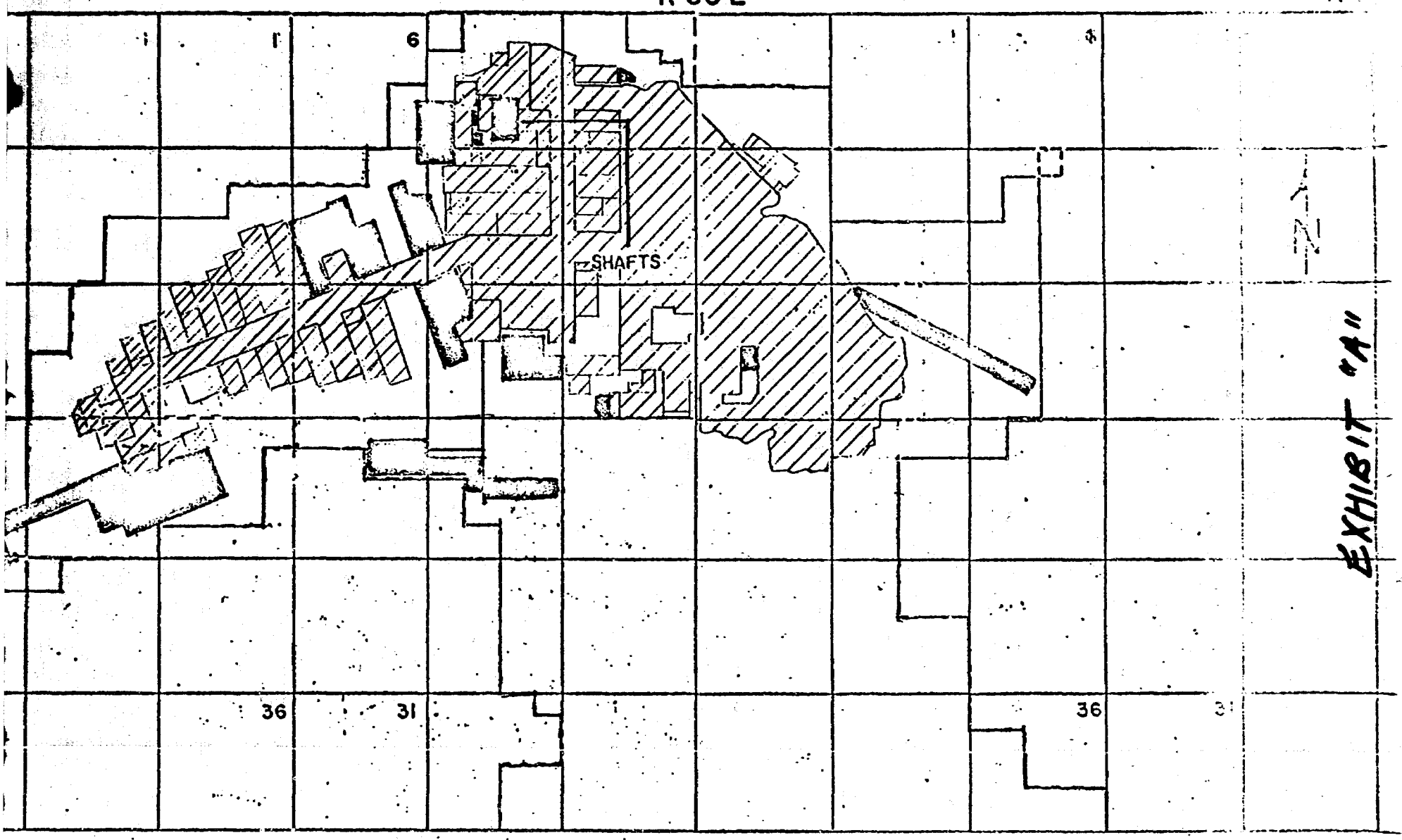


EXHIBIT "A"

AMAX CHEMICAL CORP.
FORMERLY
SOUTHWEST POTASH CORP.
CARLSBAD, N. M.
SCALE 1"= 1 MILE JAN 1980

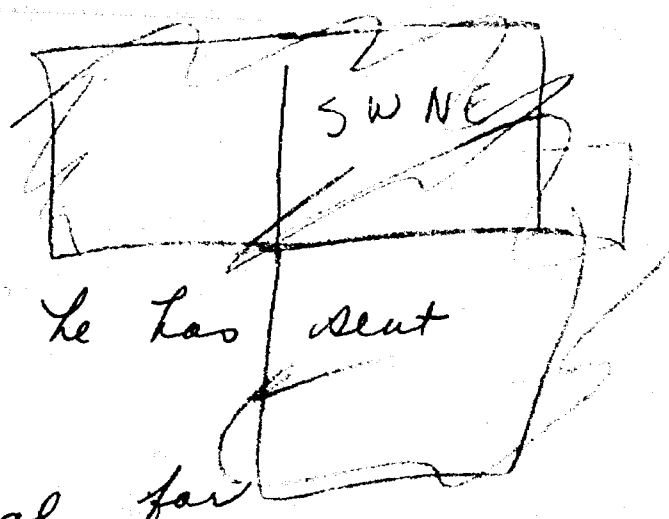
RKINGS - DEC 31, 1979
ASH AREA
1980 - 1984

Case 6838

Ernie -

Please call Mr. Feiser - Carlsbad

885- 2185



Re: An application he has sent

for Amax Chemical for

extension of potash (R-111-A).

He has tight schedule for April

and wants to talk to you about

docketing this. There are 19

mineral interest parties involved.

Please call before noon

Wants March 26 D

ROUGH

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6838

Order No. R-111-N

APPLICATION OF AMAX CHEMICAL CORPORATION FOR THE AMENDMENT OF ORDER NO. R-111-A, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 26, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of _____, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Amax Chemical Corporation, seeks an extension of the Potash-Oil Area as defined in Order No. R-111-A, as amended, by the addition of the following described lands in Eddy County, New Mexico:

TOWNSHIP 19 SOUTH, RANGE 30 EAST, NMPM
Section 11: S/2 NE/4
Section 12: NE/4, W/2 SE/4, NE/4 SE/4 & SW/4 NW/4
Section 13: NE/4

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM
Section 7: NW/4
Section 18: W/2 NW/4 & NW/4 SW/4

(3) That the evidence establishes that although ~~certain of~~ a small percentage of the lands described in Finding No. (2) above ~~are barren of~~ contain only marginal ~~commercial~~ potash mineralization, most of the ~~certain remaining~~ lands do contain commercial deposits of potash which may reasonably be recovered in commercial quantities.

(4) That the following described lands comprise those lands which, according to the evidence, contain commercial deposits of potash:

4 ~~(5)~~ That, based upon the evidence submitted at the hearing, it is not established that ~~certain of the lands sought to be included in the Oil-Potash Area~~ the E/2 NE/4 of Section 7, Township 19 South, Range 31 East, NMPM, Lea County, New Mexico contains commercial deposits of potash and ~~that~~ the application for inclusion of said lands in the Oil-Potash Area should be denied ~~and that said lands are described as follows:~~

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM

Section 7: E/2 NW/4

(5) ~~(6)~~ That in order to promote the orderly development of the natural resources in the potash-oil area, and prevent waste and protect correlative rights, Order No. R-111-A, as amended, should be further amended to include in the Potash-Oil Area, as defined by said order, the lands described in Finding No. (2) ~~(3)~~ above. with the exception of the lands described in Finding No (4) above.

IT IS THEREFORE ORDERED:

(1) That Order No. R-111-A, as amended, is hereby further amended to include the following-described lands within the Potash-Oil Area in Eddy County, New Mexico:

Township 19 S. Range 30 East, NMPM

Section 11 : S/2 NE/4
" 12 : NE/4, W/2 SE/4, NE/4 SE/4 & SW/4 NW/4
" 13 : NE/4

Township 19 South, Range 31 East, NMPM

Section 7 : W/2 NW/4
" 18 : W/2 NW/4 & NW/4 SW/4

(2) That the application of Amax Chemical Corporation to include in the Potash-Oil Area, as defined by Order No. R-111-A, as amended, the lands described in Finding No. (4) ~~(5)~~ of this order is hereby denied.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

DRAFT

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

CASE NO. 6838

Order No. R- 111-N-1

APPLICATION OF AMAX CHEMICAL CORPORATION FOR THE AMENDMENT OF ORDER NO. R-111-A, EDDY COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE DIVISION:

It appearing to the Division that Order No. R-111-N, dated April 15, 1980, does not correctly state the intended order of the Division,

IT IS THEREFORE ORDERED:

(1) That Paragraph (4) on Page 2 of Order No. R-111-N, be and the same is hereby corrected to read in its entirety as follows:

"(4) That, based upon the evidence submitted at the hearing, it is not established that the E/2 NW/4 of Section 7, Township 19 South, Range 31 East, NMPM, Eddy County, New Mexico, contains commercial deposits of potash and the application for inclusion of said lands in the Oil-Potash Area should be denied."

(2) That the correction set forth in this order be entered nunc pro tunc as of April 15, 1980.

DONE at Santa Fe, New Mexico, on this _____ day of April, 1980.