

GTLT - _____2_____

HS-476

UL: O 33-13S-4W

Sierra County

Plugged & Abandoned

YEAR: 1/17/1982

DEPARTMENT OF MECHANICAL ENGINEERING

Box 3450/Las Cruces, New Mexico 88003
Telephone (505) 646-3501



January 26, 1982

Mr. J.D. Ramey
Director
Oil Conservation Division
Energy and Minerals Department
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

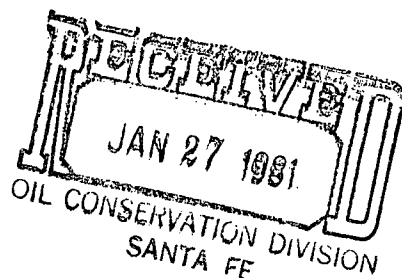
Enclosed are five (5) copies of form G-103 for HS-476 at Truth or Consequences, New Mexico.

Sincerely yours,

A handwritten signature in cursive script, reading 'Thomas R. Mancini'.

Dr. Thomas R. Mancini
Associate Professor

/dg
Encl:
xc: Dr. L. Chaturvedi



NO. OF COPIES RECEIVED		
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File	/	✓
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U. S. G. S.		
Operator	/	
Land Office		

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

5. Indicate Type of Lease State <input type="checkbox"/> city <input checked="" type="checkbox"/> land <input type="checkbox"/>
5.a State Lease No.

Do Not Use This Form for Proposals to Drill or to Deepen or Plug Back to a Different Reservoir. Use "Application For Permit -" (Form G-101) for Such Proposals.)

1. Type of well Geothermal Producer <input checked="" type="checkbox"/> Temp. Observation <input type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator Dr. Thomas R. Mancini - Principal Investigator	8. Farm or Lease Name
3. Address of Operator Box 3450, NMSU, Las Cruces, NM 88003	9. Well No. HS-476
4. Location of Well Unit Letter <u>0</u> <u>500</u> Feet From The <u>south</u> Line and <u>2300</u> Feet From The <u>east</u> Line, Section <u>33</u> Township <u>1.35</u> Range <u>4 west</u> NMPM.	10. Field and Pool, or Wildcat Hot Spring Basin
15. Elevation (Show whether DF, RT, GR, etc.) 4520 feet above M.S.L.	12. County Sierra

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

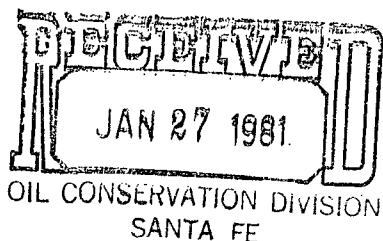
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG & ABANDONMENT <input checked="" type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 203.

The well was drilled to a total depth of 250 feet. The anticipated geothermal resource was not found. The well was then filled with cement and the ground returned to its original condition. This action was completed on September 30, 1981. The State Engineer's representative, Mr. Putnam from the Deming office, has examined the site after this operation.



18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Thomas R. Mancini TITLE Associate Professor DATE 17 Jan 1982APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE Jan 27, 1982

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501

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SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

5. Indicate Type of Lease State <input type="checkbox"/> city land <input type="checkbox"/>
5.a State Lease No.

Do Not Use This Form for Proposals to Drill or to Deepen or Plug Back to a Different Reservoir. Use "Application For Permit --" (Form G-101) for Such Proposals.)

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2. Name of Operator Dr. Thomas R. Mancini - Principal Investigator	8. Farm or Lease Name
3. Address of Operator Box 3450, NMSU, Las Cruces, NM 88003	9. Well No. HS-476
4. Location of Well Unit Letter <u>0</u> Feet From The <u>south</u> Line and <u>2300</u> Feet From The <u>east</u> Line, Section <u>33</u> Township <u>1.35</u> Range <u>4 west</u> NMPM.	10. Field and Pool, or Wildcat Hot Spring Basin
15. Elevation (Show whether DF, RT, GR, etc.) 4520 feet above M.S.L.	12. County Sierra

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NOTICE OF INTENTION TO:

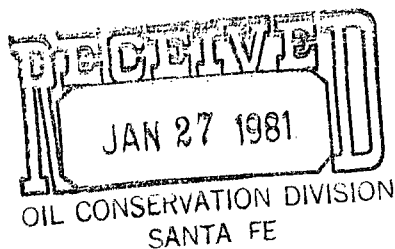
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	
PULL OR ALTER CASING <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
OTHER <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG & ABANDONMENT <input checked="" type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

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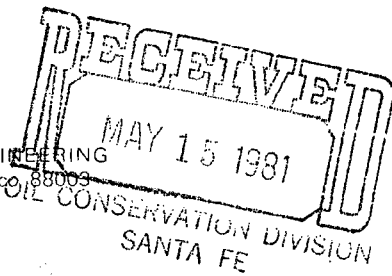
18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Thomas R. Mancini TITLE Associate Professor DATE 17 Jan 1982APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE Jan 27, 1982

CONDITIONS OF APPROVAL, IF ANY:

COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING
Box 3CE/Las Cruces, New Mexico, 88003
Telephone (505) 646-3803



May 13, 1981

HS # 476

O-33-135-4W

Mr. L.T. Putnam
Supervisor, District III
State Engineer Office
P.O. Box 844
Deming, New Mexico 88030

Dear Mr. Putnam:

The geothermal well in Truth or Consequences, which we were drilling as a part of a Geothermal Demonstration Project funded by the State of New Mexico, has been drilled to a depth of 250 feet. The well is dry. We had cemented the surface casing down to 100 feet and did not encounter any water below that depth.

We plan to plug this well with cement after using it for some temperature gradient measurements. This will be done before June 15. I will contact you and Mr. Ulvog at the OCD Office again, as soon as the well is plugged, so that you may inspect it.

Yours Sincerely,

Lokesh Chaturvedi

Lokesh Chaturvedi
Assoc. Professor

cc: T. Mancini
Carl Ulvog, OCD, Santa Fe ✓

COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING
Box 3CE/Las Cruces, New Mexico 88003
Telephone (505) 646-3803



February 20, 1981

Mr. Bob Babcock
State Engineer District Office
P. O. Box 844
Deming, New Mexico 88030

Dear Mr. Babcock:

1. Attached please find a copy of the revised technical specifications for T or C geothermal well no. HS-476 as requested by you.
2. As I have explained to you over the phone today, the rate of drilling of this well has been slow due to the presence of Cherty limestone. The hole is now down to 67 feet. As soon as the driller is ready to install the surface casing in the hole, I will call you again.

Sincerely yours,

A handwritten signature in cursive script that reads 'Lokesh Chaturvedi'.

Lokesh Chaturvedi
Associate Professor
Geological Engineering

db

Encl: Revised Tech. Specs.

cc: ~~W~~lvog, Mancini

REVISED TECHNICAL SPECIFICATIONS FOR
T OR C GEOTHERMAL WELL NO. HS-476

1. Drill a 12-1/4 inch diameter well to 100 feet.
2. Allow geophysical logging of the well by a logging contractor to be hired by NMSU.
3. Install 8 inch diameter I.D. threaded and coupled surface casing of grade F-25 with 24 lbs/ft weight with couplings to a depth of 100 ft. The casing and couplings should meet the standards specified by the State Engineer and should be approved by a representative from the State Engineer's Office before installation.
4. Cement the surface casing according to methods approved by the State Engineer and allow the cement to set for at least 48 hours.
5. Perform a hydrostatic pressure test at a minimum of 200 psi pressure at the surface for a duration of at least 20 minutes, according to State Engineer's specifications. This test should be conducted in the presence of the State Engineer's representative and his approval obtained.
6. Drill a minimum of 6-3/4 inch diameter production well to a depth of 250 feet.
7. Order and install 5 inch I.D. stainless steel casing and screen. The lengths and locations of the screen and casing will be determined by the New Mexico State University representative on the basis of geophysical and lithologic logs.
8. Develop the well for at least 10 hours or until clear water is obtained.

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U. S. G. S.	
Operator	1
Land Office	

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501

RECEIVED

NOV 10 1980

SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLSIndicate Type of Lease
State ☐ Cityland ☐

5.a State Lease No.

Do Not Use This Form for Proposals to Drill or to Deepen or Plug Back to a Different Reservoir. Use "Application For Permit -" (Form G-101) for Such Proposals.)

1. Type of well Geothermal Producer <input checked="" type="checkbox"/> Temp. Observation <input type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator New Mexico State University/City of T or C	8. Farm or Lease Name
3. Address of Operator Dr. Lokesh Chaturvedi-Co PI Box 3CE, NMSU, Las Cruces, NM 88003	9. Well No. HS-476
4. Location of Well Unit Letter 0 500 Feet From The south Line and 2300 Feet From The east Line, Section 33 Township 13S Range 4 west NMPM.	10. Field and Pool, or Wildcat Hot Spring Basin
15. Elevation (Show whether DF, RT, GR, etc.) 4250 feet above M.S.L.	12. County Sierra

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	
PULL OR ALTER CASING <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
OTHER <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG & ABANDONMENT <input type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 203.

Please see the enclosed letter and new specifications for the well

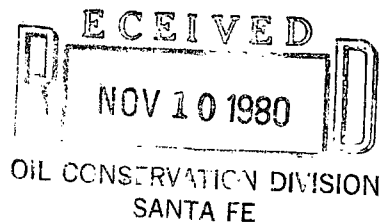
APPROVAL VALID FOR 90 DAYS
PERMIT EXPIRES 2-10-81
UNLESS DRILLING UNDERWAYOIL CONSERVATION COMMISSION TO BE NOTIFIED
WITHIN 24 HOURS OF BEGINNING OPERATIONS

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Lokesh Chaturvedi TITLE Associate Professor DATE 11.6.1980

APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 11-12-80

CONDITIONS OF APPROVAL, IF ANY:



REVISED TECHNICAL SPECIFICATIONS FOR
T OR C GEOTHERMAL WELL NO. HS-476

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7. Order and install 5 inch I.D. stainless steel casing and screen. The lengths and locations of the screen and casing will be determined by the New Mexico State University representative on the basis of geophysical and lithologic logs.
8. Develop the well for at least 10 hours or until clear water is obtained.

Memo

11-12-80

From

CARL ULVOG

To L. Chaturvedi -

As was discussed with Cuniff and/or Seerman, lets simplify land status and well numbering somehow. Actually, since this is not on any sort of lease (Item 5 & 5a) and presumably there are no royalty considerations, is there any good reason why it can't fall in the Fee land class? (As far as NMOC is concerned, it must be either fee or state owned for us to have jurisdiction. Only other class we recognize is federal!)

Also, our data processing "understands" Well No. (Item 9) to be just that; ie a number. See attached Memo 2-65.

C.U.

COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING
Box 3CE/Las Cruces, New Mexico 88003
Telephone (505) 646-3803

November 7, 1980



Mr. Carl Ulvog
Senior Petroleum Geologist
Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, NM 87501

Subject: Geothermal Well No. HS-476

Dear Mr. Ulvog:

We awarded the contract for drilling the above referenced well to Safar Drilling Company of Las Cruces, in April 1980. The drilling started on May 20. Because of his inexperience, the driller abandoned the well after drilling to a depth of 45 feet, claiming extremely hard drilling through limestone. He then moved 15 feet west of the first hole and finally walked off the job after drilling 11 feet at this second location.

Since then we have contracted with Larjon Drilling Company of Las Cruces to drill this well for us. We now plan to drill a 250 feet deep well with 10 feet of screen. The specifications for the well are attached herewith. Three copies of form G-103 are also attached.

The two holes in the ground at the location, 45 feet and 11 feet deep, have been filled back. This action was verbally approved by Mr. Putnam of the State Engineer's Office in Deming.

Kindly approve the change in plans for this well on form G-103 and oblige.

Sincerely yours,

A handwritten signature in cursive script that reads "Lokesh Chaturvedi".

Lokesh Chaturvedi
Associate Professor
Geological Engineering

cd

Enclosure: G-103
New Technical Specifications

cc: Mr. Putnam



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
ENERGY RESOURCE AND DEVELOPMENT DIVISION

Sol
FVI

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

Las Cruces Geothermal Office
P.O. Drawer 3DC
New Mexico State University
Las Cruces, New Mexico 88003

POST OFFICE BOX 2770
113 WASHINGTON AVENUE
SANTA FE, NEW MEXICO 87501
(505) 827-2471

646-3746

30 October 1980

M E M O R A N D U M

TO: Dr. Tom Mancini

FROM: Dennis Fedor *DF*

SUBJECT: SENIOR CITIZENS CENTER DEMONSTRATION PROJECT AT TRUTH OR CONSEQUENCES

I wish to reiterate those important items we discussed in our telephone conversation yesterday regarding the drilling job in Truth or Consequences.

1. No action is to take place on the drilling at T or C until the following items are obtained and received by EMD-Santa Fe:
 - Certification Number on plugging bond for the new hole.
 - Proof of obtained permits for G-101, G-102, and G-103, for the new hole to be drilled.
2. All geothermal drilling projects on state, city, or private lands are subject to the rules and regulations of the state Oil Conservation Division. Violations, in fact, are subject to OCD fines. A number of NMSU geothermal projects, in the past, have failed to obtain permits for various types from gradient holes to production holes. Thus, the OCD is encouraging "clean-up" action on behalf of NMSU.
3. No prior approval is required from the Energy and Minerals Department for the drilling contract with L. Johnson Drilling Co. Mr. George Scudella concurred with the original verbal agreement of not having to EMD-approve Sofar's contract.
4. Mr. George Scudella stated that the plugging bond cost can be allowed as a cost against the project.
5. Mr. Carl Ulvog of the OCD recommended completion report forms are needed on the first two holes drilled, filled-in, and abandoned by Mr. Sofar.

DF:drt



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
ENERGY RESOURCE AND DEVELOPMENT DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

Las Cruces Geothermal Office
P.O. Drawer 3DC
New Mexico State University
Las Cruces, New Mexico 88003

POST OFFICE BOX 2770
113 WASHINGTON AVENUE
SANTA FE, NEW MEXICO 87501
(505) 827-2471

31 October 1980

M E M O R A N D U M

TO: George Scudella
FROM: Dennis Fedor *DF*
SUBJECT: SENIOR CITIZENS DEMONSTRATION PROJECT AT TRUTH OR CONSEQUENCES

I am taking the liberty of sending to you a copy of my memo to Dr. Tom Mancini. He was informed of the necessity for the permits and plugging bond. He informed me that the plugging bond already has been handled by the City of Truth or Consequences. Next, I contacted Mr. Barry Scott, attorney for T or C, and got the bond certification number. The bond was issued by U.S. Fidelity and Guaranty Company as No. 01-0130-320-08. They also have the state engineer permit No. HS-476.

A project in the planning stages was brought to light in my conversation with Mr. Barry Scott. The board of directors of the Geronimo Springs Museum are quietly planning on retrofitting with a geothermal space-heating system. Drilling will commence this winter by Larry Johnson Drilling Company.

Find enclosed three State Geothermal Handbooks.

DF:drt

Enclosures

DEPARTMENT OF MECHANICAL ENGINEERING

Box 3450/Las Cruces, New Mexico 88003
Telephone (505) 646-3501



July 14, 1980

Mr. Carl Ulvog
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Regarding: Drilling of Geothermal Well no. 476 in Truth or Consequences, NM

Dear Mr. Ulvog:

Thank you for sending the approved G-101. The present status of the drilling is that the driller who was awarded the bid encountered problems with his equipment and has (at this time) apparently decided not to drill the well. We hope to negotiate with another driller later this week.

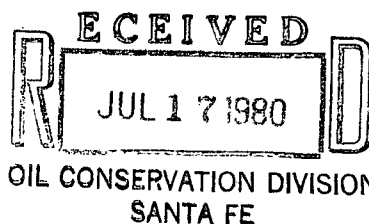
We will keep you posted on this.

Sincerely yours,

A handwritten signature in cursive script, reading 'Thomas R. Mancini'.

Thomas R. Mancini
Associate Professor

TRM:kz





CITY OF TRUTH OR CONSEQUENCES

CITY HALL

605 SIMS STREET

TRUTH OR CONSEQUENCES, NEW MEXICO 87901

(505) 894-6673

894-6674

March 10, 1980

Mr. J. D. Ramey
Director
Oil Conservation Division
Energy and Minerals Department
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

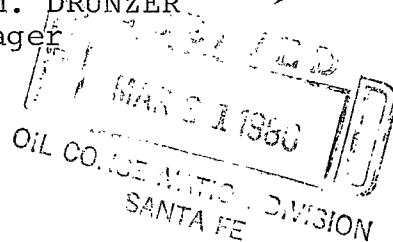
On behalf of the City of Truth or Consequences, I request a waiver of the bonding requirements for plugging the geothermal well described in the attached documents. This well is a part of a geothermal demonstration project funded by the Energy and Minerals Department, and New Mexico State University has designed this system for the city.

If, after proper completion by the artesian driller and acceptance by the city, the well becomes non-productive or is abandoned, the city agrees to plug the well in such a manner as to confine all fluids in their natural strata.

Sincerely,

A handwritten signature in cursive script that reads "Quentin M. Drunzer".

QUENTIN M. DRUNZER
City Manager



OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 26, 1980

Dr. Lokesh Chaturvedi
Box 3CE
New Mexico State University
Las Cruces, New Mexico 88003

Dear Dr. Chaturvedi:

I am in receipt of your letter of February 20, 1980, concerning the proposed geothermal test in Truth or Consequences.

Since you do not know how many forms are to be submitted in applying to drill a geothermal well, it becomes apparent you have not read our Rules and Regulations for Geothermal Resources. I am therefore attaching a copy for your information. Incidentally, the extra copies of G-101 and G-102 were not included with your letter.

I realize you plan to drill a producing well, as do all operators. However, dry holes are drilled and producing wells eventually become dry. In any event a plugging bond will be a prerequisite before the G-101 will be approved.

The well location must be reflected on the G-101 and G-102. If any changes are made in the location of the well, this can be reported on Form G-103.

With this letter and the Geothermal Rules and Regulations you should be in a position to properly file for a geothermal well. If not we will be most happy to discuss what will be required.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

cc: Dr. Harold Daw, NMSU, Las Cruces
Pat Rodriguez

C
O
P
Y

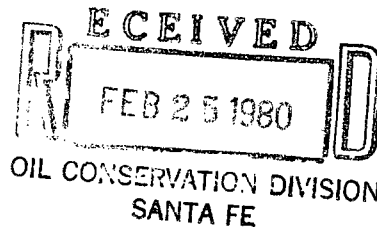
COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING
Box 3CE/Las Cruces, New Mexico 88003
Telephone (505) 646-3803



February 20, 1980

Mr. Joe D. Ramey
Director
Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, NM 87501



Dear Mr. Ramey:

Kindly refer to your letter of February 18, 1980 regarding my application for drilling a geothermal well at T or C.

1. The approximate footages for the well location are "approximate" because the "actual" location will be decided in consultation with the driller and the city officials when the driller moves his rig to the area. The "exact" location will be within 100 feet of the "approximate" location shown on G-102.
2. Enclosed please find a copy of the technical specifications for the well which have been approved by the state engineer representatives, Mr. Putnam and Mr. Babcock, of the State Engineer's Deming office. The State Engineer will closely supervise this operation.
3. The well will not be plugged and abandoned. It will be used for geothermal heating of the Senior Citizens Center at T or C. Bonding for plugging is therefore not required.
4. Since you did not say how many copies is "proper number," I have made three copies each of forms G-101 and G-102, which are enclosed.
5. Please send the authorization permit for this well at your earliest convenience.

Sincerely,

Lokesh Chaturvedi

Lokesh Chaturvedi
Associate Professor
Geological Engineering

cd

Enclosure: Technical Specifications for the well
+ Forms G-101, G-102

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 18, 1980

Dr. Lokesh Chaturvedi
Box 3CE
New Mexico State University
Las Cruces, New Mexico 88003

Dear Dr. Chaturvedi:

Attached please find the one copy of Forms G-101 and G-102 which are being returned for additional information and the proper number of copies.

Form G-102 shows approximate footages for the well location which need to be corrected to show actual footages. On Form G-101 you must show the cement to be used and the estimated tops on each string of casing.

As to waiving bond requirements for this well, please furnish this office with a letter indicating who will assume the responsibility for the final plugging and abandoning of this well.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd
enc.

C
O
P
Y

NEW MEXICO STATE UNIVERSITY

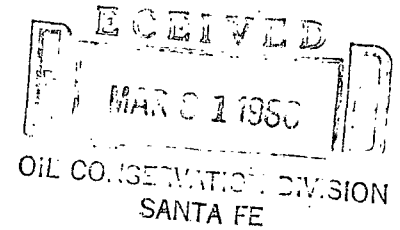
Invitation to Bid #7510

Project #800118

(Drilling and testing a geothermal well)

Addendum #3

February 6, 1980



(This addendum replaces Addendum #1 dated January 30, 1980)

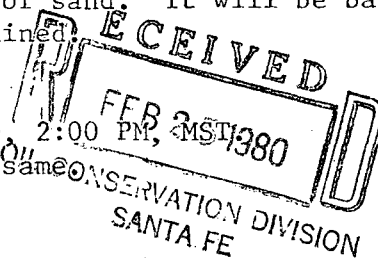
Our apologies, but the State Engineer has asked us to make some changes in our technical specifications. The following "General Description" replaces items 1 to 7 on page 1 of "Technical Provisions" on the original bid package. A new Bid Form is also attached herewith. Bidders are requested to submit bids on this new Bid Form and ignore the one in the original bid package.

I. General description of the work

1. Drill a 7 7/8 inch test hole to a depth of 500 feet.
2. Install a 2-inch diameter PVC pipe, capped at the bottom, through the entire length of the hole. Fill the pipe with water and wait 24 hours for the temperature gradient to stabilize. The temperature log will be recorded by New Mexico State University personnel.
3. Pull out the PVC pipe and allow geophysical logging in the hole to be done by a New Mexico State University contractor.
4. Enlarge the hole to 15 inch diameter to a depth of 95 feet.
5. Install a 12 3/4 inch (12 inch I.D.) threaded and coupled surface casing with shoe (according to API standards) to a depth of 95 feet.
6. Cement the surface casing and allow the cement to set for 72 hours.
7. Perform a hydrostatic pressure test at a minimum of 200 psi pressure at the surface for a duration of at least 20 minutes, according to State Engineer specifications.
8. Drill a production hole with 11 1/2 inch bit to a depth to be specified by the New Mexico State University representative.
9. Order and install a 6 5/8 inch O.D. stainless steel screen and casing. The lengths and locations of the screen and casing will be determined by the New Mexico State University representative on the basis of geophysical logs and other information.
10. Gravel pack the annular space outside the screen.
11. Develop the well until it is cleaned of sand. It will be bailed for eight hours or until a good sample can be obtained.
12. Test pump the well for 24 hours.

II. BID OPENING DATE REMAINS FEBRUARY 11, 1980

III. All other terms and conditions remain the same



- IV. Bidder must acknowledge receipt of this addendum on bid form.
- V. A new Bid Form to be used for bidding is enclosed herewith.
- VI. End of addendum.

Central Purchasing Office
New Mexico State University
Box 3890
Las Cruces, NM 88003
(505) 646-2916

cc: L. Chaturvedi, Civil Engr.
Physical Plant Dept.

BID FORM

Place: _____

Date: _____

Project Number 800118

Proposal of _____

(Hereinafter called Bidder) a corporation, partnership or and individual.

TO: The Director of Purchasing
New Mexico State University
Las Cruces, New Mexico 88003

GENTLEMEN:

The Bidder, in compliance with your invitation for bids for the Drilling and Testing of a Geothermal Well for New Mexico State University at Truth or Consequences, New Mexico, having examined the specifications and the site of the proposed work and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials, equipment, labor and supplies and to complete the project at the prices stated below. These prices, including taxes, are to cover all expenses incurred in performing the work as required in the bid proposal as outlined in the specifications.

The Bidder, if awarded the contract, agrees to commence and complete all work according to these specifications within _____ consecutive calendar days.

Bidder acknowledged receipt of the following addendum(s):

Bid Lot #1: Bidder agrees to perform all work as described in these specifications for:

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1.		Mobilization, demobilization clean-up		\$ _____
2.	500 ft.	Drill well bore		\$ _____
3.	500 ft.	2" PVC pipe installation and removal		\$ _____
4.	24 hours	Standby time		\$ _____
5.	4 hours	Standby time during logging		\$ _____

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
6.	95 ft.	Surface casing, cementing & 72 hrs for cement setting		\$ _____
7.	20 min.	Pressure test		\$ _____
8.	Per ft.	11 1/2" Production hole from 95 feet downwards	\$ _____	
9.	Per ft.	Set production casing	\$ _____	
10.	Per ft.	Set Screen	\$ _____	
11.	per ft.	Gravel packing	\$ _____	
12.	1	Set bottom hole cement plug		\$ _____
13.	8 hours	Developing the well		\$ _____
14.	24 hours	Test pumping		\$ _____

ADDRESS OF FIRM:

DATE: _____

New Mexico Contractor's License Number: _____

SUBCONTRACTORS: (list all)

RESPECTFULLY SUBMITTED:

BY: _____

TITLE: _____

ADDRESSES OF SUBCONTRACTORS:

COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING
Box 3CE/Las Cruces, New Mexico 88003
Telephone (505) 646-3803



March 27, 1980

Mr. Joe D. Ramey
Director
Oil Conservation Division
Energy and Minerals Department
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

Kindly refer to your letter of February 26 regarding our application for permit to drill a geothermal well at T or C.

Enclosed please find a letter from the City Manager, Truth or Consequences, requesting waiver of the plugging bond. I hope this will be found sufficient for waiver of the bond requirement.

The well location, as reported on G-101 and G-102 (enclosed) is the correct location. If the location is changed, we will inform you on form G-103.

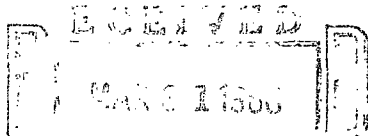
Attached please find five copies each of forms G-101 and G-102. I still could not find the requirement for copies in your Rules and Regulations but have found from other sources that you require five copies.

With these explanations, I hope you can now process our application at your earliest convenience and oblige.

Sincerely yours,

Lokesh Chaturvedi

Lokesh Chaturvedi
Associate Professor



LC:db

OIL CONSERVATION DIVISION

Enclosures: Forms G-101, G-102
with 5 copies each

Technical specifications

Letter from City Manager, T or C

cc: Dr. T. Mancini



CITY OF TRUTH OR CONSEQUENCES

CITY HALL

605 SIMS STREET

TRUTH OR CONSEQUENCES, NEW MEXICO 87901

(505) 894-2601

894-2672

894-2236

February 5, 1980

Ms. Maxine S. Goad
Permits and Regulations Unit
Environmental Improvement Agency
P. O. Box 968
Santa Fe, New Mexico 87503

Dear Ms. Goad:

Enclosed is our NOTICE OF INTENT TO DISCHARGE which is filed to be in compliance with Section 1-201 of the Water Quality Control Commission Regulations. An application for and NPDES Permit was filed with EPA on August 22, 1979, and a copy of the application was sent to you on that date. This notice was completed in accordance with the instructions of Mr. Roy McKeag to Dr. Tom Gebhard.

If you need any additional information, please let me know.

Very truly yours,

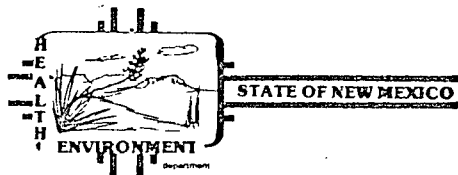
QUENTIN M. DRUNZER
City Manager

QMD/pmj

RECEIVED

FEB 6 1980

EID: WATER
POLLUTION CONTROL



MEMORANDUM

DATE: February 29, 1980

TO: R. L. Stamets, OCD

FROM: Maxine S. Goad, ELD

SUBJECT:

Enclosed are copies for you of a Notice of Intent to Discharge and a NPDES permit application from the City of Las Cruces for their geothermal heating project.

NOTICE OF INTENT TO DISCHARGE

This notice is filed to be in compliance with Section 1-201 of the Water Quality Control Commission Regulations of the State of New Mexico. The City of Truth or Consequences has a grant to install a Geothermal Heating System in the Senior Citizens Center. A water right was obtained from the State Engineer of the State of New Mexico on August 30, 1979 in response to Application Number HS-476. The water for this project will be pumped from a well adjacent to the Senior Citizen's Center. After being circulated through the heat exchanger, the water will be discharged into a storm drain that becomes a community ditch before entering the Rio Grande. A NPDES Permit Application was filed the Dallas Regional Office of The U.S. Environmental Protection Agency on August 22, 1979. The water for the project would be naturally effluent from the aquifer to the river without this project. Thus, the point of discharge is changed because beneficial use is made of the water.

The following information is requested in Section 201-B of the Water Quality Control Commission Regulations.

Name: City of Truth or Consequences, New Mexico

Address: 605 Sims Street, Truth or Consequences, NM 87901

Location of Discharge: 607 Sims Street, Truth or Consequences, NM

Discharge Quantity: A rate not to exceed 30 acre feet per year

Estimate of Discharge Quality: This estimate is based upon water quality tests reported by the Yucca Lodge in Truth or Consequences.

NaCl = 1,771 ppm

HCO_3^- = 0.8 ppm

CaCl_2 = 144 ppm

SiO_2 = 43 ppm

CaSO_4 = 113 ppm

Cu^{++} = 7.0 ppb

Cr^{++} = 9.2 ppb

Cd^{++} = 0.97 ppb

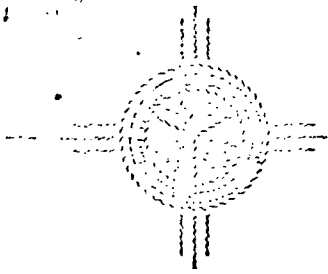
Pb^{++} = 12 ppb

Zn^{++} = 17 ppb

RECEIVED

FEB 6 1980

EID: WATER
POLLUTION CONTROL



CITY OF TRUTH OR CONSEQUENCES

CITY HALL

665 SIMS STREET

TRUTH OR CONSEQUENCES, NEW MEXICO 87401

(505) 894-6574

August 22, 1979

Regional Administrator
Region VI, EPA
1201 Elm Street
Dallas, Texas 75270

Attention: Permits Branch

Dear Sir:

The city of Truth or Consequences has a grant to install a Geothermal Heating System in our Senior Citizens Center. Water will be pumped from below the center, through a heat exchanger and discharged through a storm drain that flows into the Rio Grande.

Enclosed is Short Form C for an NPDES Permit and the \$10.00 application fee. Maxine Goad of the Environmental Improvement Agency of New Mexico provided the instructions and applicable forms.

If you have any additional questions, please let us know.

Very truly yours,

TED J. LAUBACHER
Mayor

RECEIVED

AUG 24 1979

BAEP

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE - SHORT FORM

FOR
AGENCY
USE

APPLICATION NUMBER			
44	10	02	87
DATE RECEIVED			
7	9	0	8
YEAR		MO.	DAY

To be filed only by persons engaged in manufacturing and mining

Do not attempt to complete this form before reading accompanying instructions

Please print or type

1. Name, address, location, and telephone number of facility producing discharge

A. Name CITY OF TRUTH OR CONSEQUENCES

SENIOR CITIZENS CENTER

B. Mailing address

1. Street address 605 Sims Street

2. City Truth or Consequences

3. State New Mexico

4. County Sierra

5. ZIP 87901

C. Location:

1. Street 607 Sims Street

2. City Truth or Consequences

3. County Sierra

4. State New Mexico 87901

D. Telephone No. 894-6674

Area
Code 505

Fee \$10.00 006903

Copies Furnished

State of

CDE

BOPW

NOAA

2. SIC 8321 4952 PRI
(Leave blank)

3. Number of employees 5

If all your waste is discharged into a publicly owned waste treatment facility and to the best of your knowledge you are not required to obtain a discharge permit, proceed to item 4. Otherwise proceed directly to item 5.

4. If you meet the condition stated above, check here ☐ and supply the information asked for below. After completing these items, please complete the date, title, and signature blocks below and return this form to the proper reviewing office without completing the remainder of the form.

A. Name of organization responsible for receiving waste

B. Facility receiving waste:

AUG 24 1979

1. Name

2. Street address

3. City

4. County

5. State

6. ZIP

5. ☒ Principal product, Draw material (Check one) Municipal Services

6. Principal process

7. Maximum amount of principal product produced or raw material consumed per (Check one) N/A

Basis	Amount							
	1-99	100-199	200-499	500-999	1000-4999	5000-9999	10,000-49,999	50,000 or more
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Day								
B. Month								
C. Year								

From item 7, above, is measured (Check one):

A. ☐ pounds B. ☐ tons C. ☐ barrels D. ☐ bushels E. ☐ square feet
F. ☐ gallons G. ☐ pieces or units H. ☒ other, specify N/A

9. (a) Check here if discharge occurs all year ☐ , or

(b) Check the month(s) discharge occurs:

1. ☒ January 2. ☒ February 3. ☒ March 4. ☒ April 5. ☐ May 6. ☐ June

7. ☐ July 8. ☐ August 9. ☐ September 10. ☒ October 11. ☒ November 12. ☒ December

(c) Check how many days per week: 1. ☒ 1-2. ☐ 2-3 3. ☐ 4-5 4. ☒ 6-7

10. Types of waste water discharged to surface waters only (check as applicable)

Discharge per operating day	Flow, gallons per operating day					Volume treated before discharging (percent)				
	0.1-999	1000-4999	5000-9999	10,000-49,999	50,000 or more	None	0.1-29.9	30-64.9	65-94.9	95-100
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. Sanitary, daily average										
B. Cooling water, etc. daily average				X		X				
C. Process water, daily average										
D. Maximum per operating day for total discharge (all types)				X						

11. If any of the three types of waste identified in item 10, either treated or untreated, are discharged to places other than surface waters, check below as applicable.

N/A

Waste water is discharged to:	Average flow, gallons per operating day				
	0.1-999	1000-4999	5000-9999	10,000-49,999	50,000 or more
	(1)	(2)	(3)	(4)	(5)
A. Municipal sewer system					
B. Underground well					
C. Septic tank					
D. Evaporation lagoon or pond					
E. Other, specify					

12. Number of separate discharge points: A. ☒ 1 B. ☐ 2-3 C. ☐ 4-5 D. ☐ 6 or more

13. Name of receiving water or waters Ditch tributary to Rio Grande

14. Does your discharge contain or is it possible for your discharge to contain one or more of the following substances added as a result of your operations, activities, or processes: ammonia, cyanide, aluminum, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols, oil and grease, and chlorine (residual). A. ☐ Yes B. ☒ No

I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete, and accurate.

TED J. LAUBACHER

Printed Name of Person Signing

August 21, 1979

Date Application Signed

MAYOR

Title

Signature of Applicant

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious, or fraudulent statements or representations; or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years, or both.

Water well
4 (no letters)

Table 14. Analysis of water sample from the demonstration well
at the NMSU University Center and Residence, 1979.

SAMPLE	<u>Na</u>	<u>Ca</u>	<u>Mg</u>	<u>K</u>	<u>Cl</u>	<u>CO₃</u>	<u>HCO₃</u>	<u>SO₄</u>
MG/1	381.6	19.2	27.0	174.8	421.9	0	508.9	226.2

SAMPLE	MMHOS/CM							
	<u>EC</u>	<u>PH</u>	<u>B</u>	<u>F</u>	<u>As</u>	<u>TDS</u>	<u>P</u>	<u>SiO₂</u>
	2.48	8.35	0.23	1.31	.013	1704	.135	57.50
	<u>FE</u>	<u>MN</u>						
	0.55	1.05						

SAR = 13.16

RSC = 5.16

ALKALINITY AS CaCO_3 = 417 PPM

HARDNESS AS CaCO_3 = 159 PPM

USDA IRRIGATION CLASS - C4-S4

NO. OF COPIES RECEIVED	
DISTRIBUTION	
File	1
N.M.B.M.	1
U.S.G.S.	1
Operator	1
Land Office	

USBLM

NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

APPLICATION FOR PERMIT TO DRILL, DEEPEN,
OR PLUG BACK--GEOTHERMAL RESOURCES WELL

5. Indicate Type of Lease

STATE ☐ City Land ☐ FEE ☐

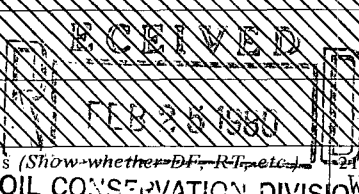
5.a State Lease No.

1a. Type of Work Drill ☒ Deepen ☐ Plug Back ☐
b. Type of Well Geothermal Producer ☒ Temp Observation ☐
Low-Temp Thermal ☐ Injection/Disposal ☐

7. Unit Agreement Name

8. Farm or Lease Name

2. Name of Operator New Mexico State University/City of T or C

9. Well No.
HS-4763. Address of Operator Dr. Lokesh Chaturvedi - Co. P.I.
Box 3CE, NMSU, Las Cruces, NM 8800310. Field and Pool, or Wildcat
Hot Springs basin4. Location of Well UNIT LETTER 0 LOCATED 500 FEET FROM THE south LINE
AND 2300 FEET FROM THE east LINE OF SEC. 33 TWP. 13 south RGE. 4 west NMPM12. County
Sierra19. Proposed Depth
500 ft.19A. Formation
Magdalena Limestone20. Rotary or C.T.
Rotary21. Elevations (Show whether Dr. or R. etc.)
OIL CONSERVATION DIVISION

SANTA FE

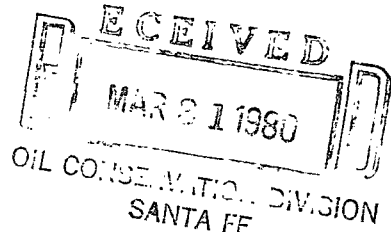
21A. Kind & Status Plug. Bond
Waiver requested21B. Drilling Contractor
to be selected22. Approx. Date Work will start
2/25/80

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
15 inch to 95 ft.	12 3/4 in. sur.	43		State Engr. specs.	
7 7/8 inch to 500 ft.	6 5/8 inch	17			

A permit from the State Engineer for 30 acre feet per annum has been received. The well will be drilled by a licensed driller according to the State Engineer specifications. The State Engineer requirements for inspection, testing, etc. will be met. The depth and length of screen installation will be determined on the basis of geophysical and lithologic well logs. Request waiving the bond requirements for plugging since it is a production well. This is a part of a research project funded by N.M. Energy and Minerals Department.

Bond No. 01-0130-320-8 Posted



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. Give blowout preventer program, if any.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed W. Chaturvedi Title Associate Professor, NMSU Date 2/04/80

(This space for State Use)

APPROVED BY Carl Ulsog TITLE SENIOR PETROLEUM GEOLOGISTDATE 7-3-80

CONDITIONS OF APPROVAL, IF ANY:

GEOHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section.

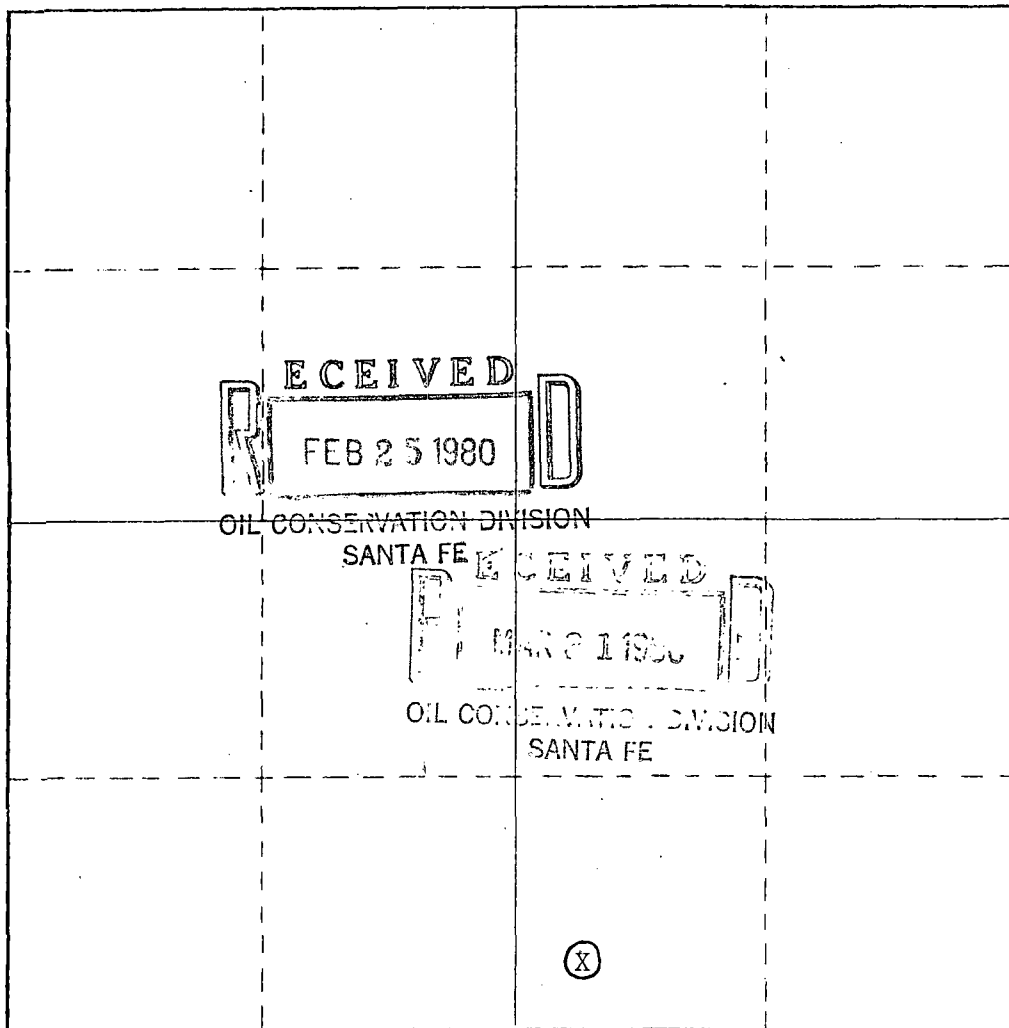
Operator New Mexico State University/City of T or C		Lease City land		Well No. HS-476
Unit Letter 0	Section 33	Township 13 South	Range 4 West	County Sierra
Actual Footage Location of Well: Approx. 2300 feet from the east line and approx. 500 feet from the south line				
Ground Level Elev.	Producing Formation Magdalena Limestone	Pool	Dedicated Acreage: Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Lokesh Chaturvedi
Lokesh Chaturvedi

Name
Associate Professor
Position
New Mexico State University
Company
Las Cruces, NM 88003
Date
2/04/80

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer
and/or Land Surveyor

Certificate No.

