

INFILL DRILLING FINDINGS PURSUANT TO  
SECTION 271.305(b) OF THE FEDERAL ENERGY REGULATORY  
COMMISSION REGULATIONS, NATURAL GAS POLICY ACT OF 1978  
AND OIL CONSERVATION DIVISION ORDER NO. R-6013-A

I.

Operator C & E Operators, Inc. Well Name and No. Fee Well No. 8  
Location: Unit H Sec. 8 Twp. 30N Rng. 11W Cty. San Juan

II.

THE DIVISION FINDS:

(1) That Section 271.305(b) of the Federal Energy Regulatory Commission Regulations promulgated pursuant to the Natural Gas Policy Act of 1978 provides that, in order for an infill well to qualify as a new onshore production well under Section 103 of said Act, the Division must find that the infill well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be so drained by any existing well within that unit.

(2) That by Order No. R-6013-A, dated February 8, 1980, the Division established an administrative procedure whereby the Division Director and the Division Examiners are empowered to act for the Division and find that an infill well is necessary.

(3) That the well for which a finding is sought is completed in the Aztec - Pictured Cliffs Pool, and the standard spacing unit in said pool is 160 acres.

(4) That a 155.28-acre proration unit comprising the NE/4 of Sec. 8, Twp. 30N, Rng. 11W, is currently dedicated to the Hartman Well No. 1 located in Unit B of said section.

(5) That this proration unit is (☒) standard ( ) nonstandard; if nonstandard, said unit was previously approved by Order No. -

(6) That said proration unit is not being effectively and efficiently drained by the existing well(s) on the unit.

(7) That the drilling and completion of the well for which a finding is sought should result in the production of an additional 35,000 MCF of gas from the proration unit which would not otherwise be recovered.

(8) That all the requirements of Order No. R-6013-A have been complied with, and that the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

(9) That in order to permit effective and efficient drainage of said proration unit, the subject application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to drill the well described in Section I above as an infill well on the existing proration unit described in Section II(4) above. The authorization for infill drilling granted by this order is necessary to permit the drainage of a portion of the reservoir covered by said proration unit which cannot be effectively and efficiently drained by any existing well thereon.

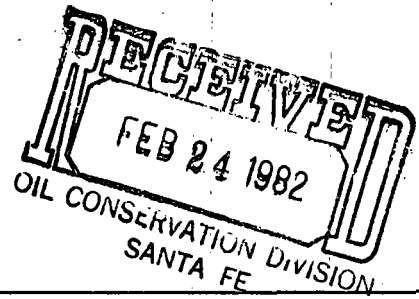
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on this 7th day of April, 19 82.

DIVISION DIRECTOR \_\_\_\_\_

EXAMINER \_\_\_\_\_

cc: OCD Aztec  
OCD Machine Acct. S.F.  
NMO & GEC Hobbs  
AR "AL" Kendrick



A. R. "Al" Kendrick

P. O. Box 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555

February 22, 1982

Mr. Joe D. Ramey  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

RE: Application for Approval of Infill Well for Gas Pricing

Dear Mr. Ramey:

We respectfully request that the C & E Operators, Inc. Fee #8 well located 2280' FNL 790' FEL of Section 8, T30N, R11W be approved as a necessary infill well in the Aztec-Pictured Cliffs Pool to effectively and efficiently drain the spacing unit shared with the Hartman #1 well.

The standard spacing unit in the Aztec-Pictured Cliffs Pool is 160 acres.

Enclosed for your consideration are copies of the Permit to Drill, Acreage Dedication Plat, Data Sheet, Structure Map, and Map showing the cumulative gas production to 1/1/81.

A copy of this application is being sent by certified mail to the operator of each developed offset spacing unit at the time of this mailing.

If further information is desired, please contact us.

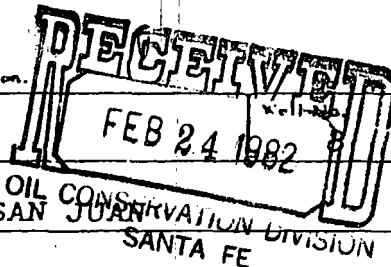
Yours very truly,

A. R. Kendrick

Enclosures

xc: Offset operators





Operator <b>C &amp; E OPERATORS, INC.</b>			Lease <b>FEE</b>		
Unit Letter <b>H</b>	Section <b>8</b>	Township <b>30NORTH</b>	Range <b>11 WEST</b>	County <b>SAN JUAN</b>	
Actual Footage Location of Wells -					
<b>2280</b>	feet from the	<b>NORTH</b>	line and	<b>790</b>	feet from the
				<b>EAST</b>	
Ground Level Elev. <b>5616</b>	Producing Formation <b>Mesaverde</b>		Pool <b>Blanco MV</b>	Dedicated Acreage <b>314.31</b>	
		<b>Pictured Cliffs</b>	<b>Aztec PC</b>	<b>155.28</b>	
				<b>ACTED</b>	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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?

N/A

☐ 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.

The Hartman #1 and the Fee #8 are the only wells completed in the Pictured Cliffs formation on the drill tract.

Hartman #1

159.03 Ac

155.28 Ac

2280

790

## CERTIFICATION

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

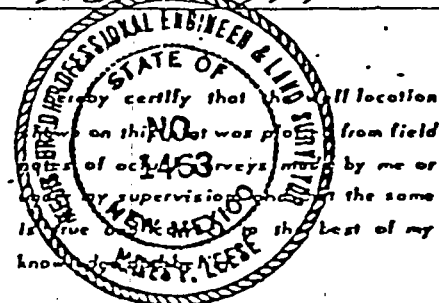
Name

Position

Company

Date

*Richard M. Keller*  
Consultant  
C & E Operators  
Nov 24, 1980



Date Surveyed

OCTOBER 27, 1980

Registered Professional Engineer and/or Land Surveyor

Certificate No.

1463

NOV 25 1980  
OIL CON. COM.  
DIST. 3

## DATA SHEET

### ORIGINAL WELL:

Operator: C & E Operatros, Inc.  
Lease: Hartman #1  
Location: 846' FNL 2024' FEL Section 8, T30N, R11W  
Spud: 5/27/54 Completed: 7/18/54  
Stimulation: Shot w/ 242 quarts of solidified nitroglycerin  
Mechanical problems: none  
Retreatment: none  
Current producing rate: 5136 MCF during 1980

REASON that the existing well cannot effectively and efficiently drain the drill tract is because of the narrow radius of effective stimulation by the shot treatment. A high-volume fracture treatment is not feasible at this time due to the possibility of casing rupture. Four wells are shown on the structure map which have been plugged because of casing failure.

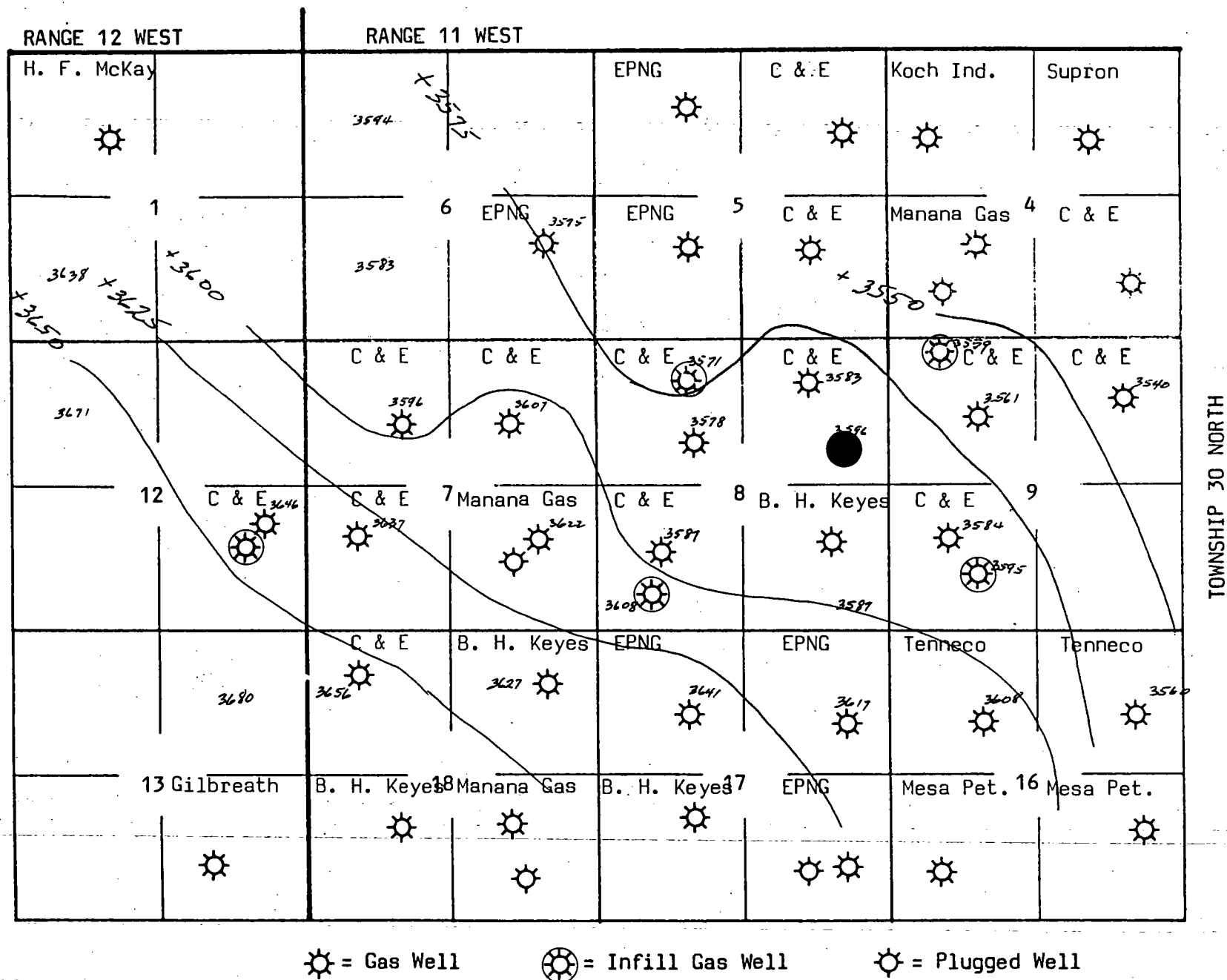
### INFILL WELL:

Operator: C & E Operators, Inc.  
Lease: Fee #8  
Location: 2280' FNL 790' FEL Section 8, T30N, R11W  
Spud: 1/22/81 Completed: 6/26/81  
Stimulation: Sand/foam fractured w/ 70 quality foam and 84,000 pounds of sand

VOLUME of expected additional recovery: 108 MMCF

~~BASED on Boyle's Law, if the initial shut-in pressure of 668 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 250 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 629 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 226 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 272 psi measured 9/30/81 on the infill well indicates recoverable reserves of 334 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 108 MMCF.~~

# PICTURED CLIFFS STRUCTURE MAP





# CITY OF AZTEC

## 9-6 REGULATION OF THE DRILLING AND PRODUCTION OF OIL AND/OR GAS WELLS

### 9-6-1 SCOPE:

The scope of this article shall be for the regulation of the drilling and production of oil and/or gas or for liquid hydrocarbons within the City of Aztec, New Mexico, and shall include any well to be used as an injection well for secondary recovery.

### 9-6-2 PERMITS

Every person, firm, partnership or corporation hereafter desiring to drill a well within the City of Aztec, New Mexico, or rework an existing well shall obtain a permit for the drilling or reworking of such well and the production thereof, such permit to be obtained as follows:

- a. Written application shall be filed therefore with the City Clerk and shall contain the following:
  1. The name of the operator desiring to drill and produce such well.
  2. The exact location of the proposed well together with a description of the area to be occupied by the drilling machinery pits and equipment in the drilling of such well and the area to be occupied by the machinery to be used in the production of such well, and
  3. Names and address of all property owners within 200 feet of well location.
  4. A certificate of insurance which certifies that the operator and all persons who may be engaged in the drilling or operation of such well are insured to the public for any operation in the sum of One Hundred Thousand (\$100,000.00) dollars for damages to any one (1) person, and Three Hundred Thousand Dollars (\$300,000.00) for damages to more than one person, from any one (1) accident; also, for the sum of One Hundred Thousand Dollars (\$100,000.00) for damages to property.
  5. Such application shall be accompanied by a \$350.00 filing fee.
- b. Upon the receipt of all of the above the City Clerk shall establish a hearing date when the application is to be considered by the City Commission. Public notice of the hearing at which the application is to be considered must be given by at least one publication in a newspaper of general circulation in the municipality at least 15 days before the date of the hearing. All property owners within 200 feet of the proposed well location shall be notified of the hearing date by written notice by certified mail, return receipt requested, not less than five days before the date of the hearing.



- c. The City Clerk shall issue a written recommendation for approval or denial to the City Commission at the hearing.
- d. In all matters pertaining to this chapter the City Manager shall advise the City Commission and shall make recommendations concerning all matters pertaining to this chapter.

9-6-3 OBSTRUCTING STREETS BY DRILLING, ETC.:

No well shall be drilled and no permit shall be issued for any well to be drilled at any one location which is within any of the streets or alleys of the City. No such street or alley shall be blocked or encumbered or closed in any drilling, production or pipeline operation except by written permission of the oil and gas inspector and the City Manager and then only temporarily.

9-6-4 PROXIMITY OF WELL, TANKS OR PIPELINES TO BUILDINGS:

No well shall be drilled and no permit shall be issued for any well to be drilled at any location or storage tank to be located which is nearer than two hundred (200) feet to any residence or commercial building without the applicant having first secured the written permission of the City Commission.

No high pressure gas injection well or a compressor used in conjunction with the gas injection well shall be located nearer than two hundred (200) feet to any residential, commercial or industrial structure, except by permission of the City Commission. In exceptional cases for reasons of safety, the City Commission may require that any such facility shall be located at a greater distance than 200 feet to any such structure.

No residential, commercial or industrial structure other than structures necessary to operate the pipeline shall be erected or moved to a location nearer than thirty (30) feet to any pipeline transporting gas when the pipeline operating pressure is greater than 250 PSI unless a greater or lesser distance is recommended by the then applicable ASA Code.

9-6-5 REQUIREMENT FOR OPERATION OF PRODUCING WELL:

Any person, firm partnership or corporation who completes an oil or gas well within the limits of the City of Aztec, New Mexico, shall operate the same in accord with the following provisions:

- a. The area to be occupied by the producing equipment in the event any well located within the City of Aztec is completed as a commercial producer shall be confined to an area not to exceed one hundred (100) feet by one hundred and fifty (150) feet and the 100 feet by 150 feet area to be occupied by the producing equipment shall be enclosed in a chain link fence six (6) feet in height and three (3) strands of barbed wire at the top, which barbed wire strands shall slope outward.

- b. The fence and area referred to in sub-paragraph above shall be landscaped and maintained if such well location is within five hundred (500) feet of a residential lot as described in the City Zoning Ordinance.
- c. Any tank containing oil or distillate shall be located within a dike or fire wall capable of holding one and one-half (1½) times the volume of the tank; and all operations shall be maintained so as not to be a fire hazard and so as not to jeopardize the health and safety of the Citizens of the City of Aztec.
- d. All fluids produced shall be produced into a tank and hauled off the location.
- e. All operations shall be conducted in such a manner so that they will make the least noise possible.

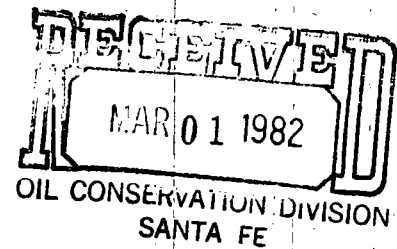
9-6-6 REQUIREMENTS FOR OPERATION OF DRILLING WELL:

Any person, firm, partnership or corporation drilling a well for oil and gas within the limits of the City of Aztec, New Mexico, shall contain all drilling fluids in pits which will be completely covered at the completion of drilling.

9-6-7 PENALTY

Any firm, person, partnership or corporation convicted of drilling or operating a well in violation of the provisions of this article shall be punished by a fine of not less than one hundred dollars (\$100.00) or more than three hundred dollars (\$300.00) and each day that any person, firm, partnership or corporation shall be in violation of this ordinance shall be taken as a separate offense.





A. R. "Al" Kendrick

P. O. BOX 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555

February 22, 1982

Dear Offset Operator:

If you have no objection to the attached Application for Approval of Infill Well for Gas Pricing, please sign the waiver below and send it to the New Mexico Oil Conservation Division office in Santa Fe, New Mexico.

Yours very truly,

*AK Kendrick*  
A. R. Kendrick

Mr. Joe D. Ramey  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

We, as offset operator, hereby waive objection to the Application for Approval of Infill Well for Gas Pricing filed for C & E Operators, Inc.

WELL: Fee #8

LOCATION: H-8-T30N-R11W

OPERATOR: Manana Gas, Inc.

BY: Ed Hartman

DATE: 2/25/82

RECEIVED FEB 24 1982

Infill Well Application  
R.R. "Al" Kendrick for C.E. Operators, Inc.  
Fee Well No. 8, H-8-30N-11W San Juan Co.

Given: I.S.P. = 668 psi  
Current S.I.P. = 250 psi  
Cumulative Production to Date = 629 MMCF  
Abandonment Pressure = 50 psi  
S.I.P. for Infill Well = 272 psi

668 psi - 250 psi = 418 psi, pressure decline

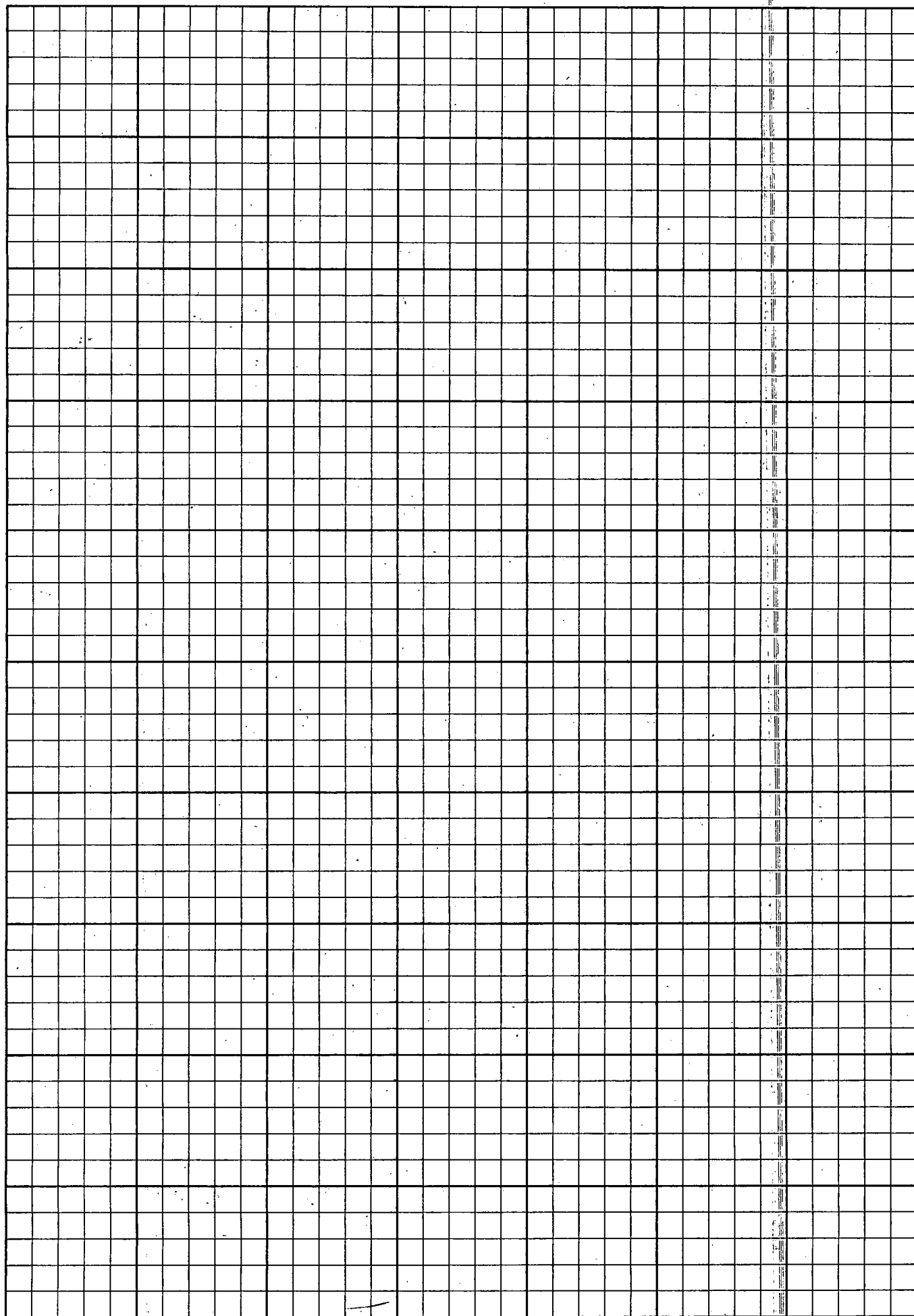
$\frac{2}{668} = \frac{629 \text{ MMCF}}{418 \text{ psi}} \rightarrow 2 = 1005 \text{ MMCF, Original reserves @ 668 psi}$

$80 \text{ psi} / 668 \text{ psi} \cdot (1005 \text{ MMCF}) = 75 \text{ MMCF reserves @ abt. pressure of 50 psi}$

1005 MMCF  
- 629 MMCF  
376 MMCF Remaining Reserve to date  
- 75 MMCF  
301 MMCF Remaining Reserve to date

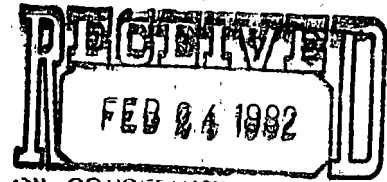
$\left( \frac{972 \text{ psi}}{668 \text{ psi}} \right) (1005 \text{ MMCF}) = 409 \text{ MMCF, infill well reserves}$

409 MMCF  
- 75  
334 MMCF Infill Well Res. Res.  
- 301 MMCF  
33 MMCF Add'l Res.



A. R. "Al" Kendrick

P. O. Box 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555



OIL CONSERVATION DIVISION  
SANTA FE

February 22, 1982

Mr. Joe D. Ramey  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

RE: Applications for Approval of Infill Wells for Gas Pricing

Dear Mr. Ramey:

Enclosed are application for approval of infill wells in the Aztec-Pictured Cliffs Pool.

These wells are the C & E Operators, Inc.

Aztec #8	M-8-30N-11W
Aztec #9	M-9-30N-11W
Fee #8	H-8-30N-11W
Fee #8-A	C-8-30N-11W
Fee #9-Y	D-9-30N-11W
Fee #12	I-12-30N-12W

All of these Pictured Cliffs completions are zones in multiple completions.

The wells in sections 8 & 9 are all within the City Limits of Aztec. Places to drill are getting harder to find in town as houses are being built. A copy of the City Ordinance is enclosed for your convenience.

The Fee#12 well is located outside of the city. It is not offset by another operator who has developed his drill tract.

If there is other data that you would like, please contact me.

Yours very truly,

  
A. R. Kendrick

Enclosures



STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

March 23, 1982

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

A. R. "AL" Kendrick  
P.O. Box 516  
Aztec, New Mexico 87410

Re: Application for NGPA Infill Well  
Findings Under Provisions of  
Order No. R-6013-A

C & E OPERATORS, INC. - Fee

Well No. 8, H-8-T-30N-R-11W,

San Juan County, New Mexico.

We may not process the subject application for infill findings until the required information, forms, or plats checked on the reverse side of this letter are submitted.

Sincerely,

A handwritten signature in cursive script that reads "Michael E. Stogner".

Michael E. Stogner,  
Petroleum Engineer

MES/dp



- ☐ A copy of Form C-101 must be submitted.
- ☐ A copy of Form C-102 must be submitted.
- ☐ The pool name must be shown.
- ☐ The standard spacing unit size for the pool must be shown.
- ☐ Give the Division Order No. which granted the non-standard proration unit.
- ☐ Please state whether or not the well has been spudded and give the spud date, if any.
- ☐ Information relative to other wells on the proration unit is incomplete.

---

---

---

---

- ☐ The geologic and reservoir data is incomplete or insufficient.

---

---

---

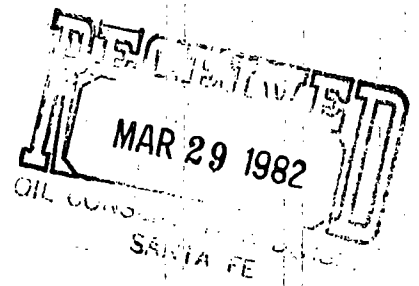
---

- ☒ Other:

Please re-check volume of expected additional recovery  
calculations.

---

---



A. R. "Al" Kendrick

P. O. Box 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555

March 26, 1982

Mr. Michael E. Stogner  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

RE: Application for Approval of Infill Well for Gas Pricing

Dear Mr. Stogner:

Please substitute the enclosed Data Sheet copies in my application for Infill Designation for the C & E Operators, Inc. Fee #8 well submitted on February 22, 1982. There was an arithmetic mistake on the original Data Sheet.

Thank you very much for your consideration of this application.

If there are further questions, please contact me.

Yours very truly,

*AR Kendrick*  
A. R. Kendrick

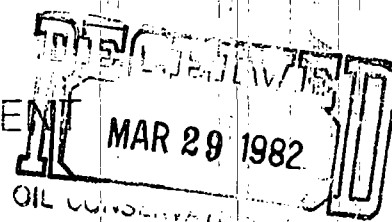
Enclosures



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

March 23, 1982

SANTA FE  
POST OFFICE BOX 2098  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-2434

A. R. "AL" Kendrick  
P.O. Box 516  
Aztec, New Mexico 87410

Re: Application for NGPA Infill Well  
Findings Under Provisions of  
Order No. R-6013-A

C & E OPERATORS, INC. - Fee

Well No. 8, H-8-T-30N-R-11W,

San Juan County, New Mexico.

We may not process the subject application for infill findings until the required information, forms, or plats checked on the reverse side of this letter are submitted.

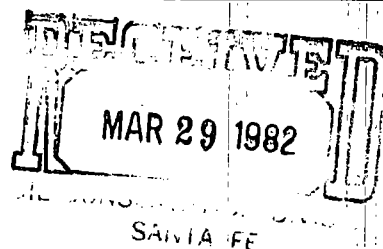
Sincerely,

*Michael E. Stogner*

Michael E. Stogner,  
Petroleum Engineer

MES/dp





- ☐ A copy of Form C-101 must be submitted.
- ☐ A copy of Form C-102 must be submitted.
- ☐ The pool name must be shown.
- ☐ The standard spacing unit size for the pool must be shown.
- ☐ Give the Division Order No. which granted the non-standard proration unit.
- ☐ Please state whether or not the well has been spudded and give the spud date, if any.
- ☐ Information relative to other wells on the proration unit is incomplete.

---

---

---

- ☐ The geologic and reservoir data is incomplete or insufficient.

---

---

---

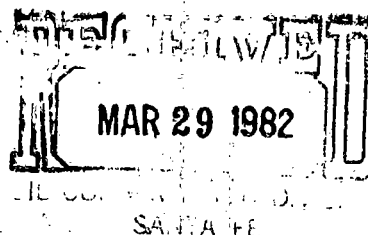
- ☒ Other:

Please re-check volume of expected additional recovery  
calculations.

---

1. The following information was obtained from the records of the Department of the Interior, Bureau of Land Management, regarding the land owned by the United States in the State of Nevada:

DATA SHEET



ORIGINAL WELL:

Operator: C & E Operators, Inc.  
Lease: Hartman #1  
Location: 846' FNL 2024 ' FEL Section 8, T30N, R11W  
Spud: 5/27/54 Completed: 7/18/54  
Stimulation: Shot w/ 242 quarts of solidified nitroglycerin.  
Mechanical problems: none  
Retreatment: none  
Current producing rate: 5136 MCF during 1980

REASON that the existing well cannot effectively and efficiently drain the drill tract is because of the narrow radius of effective stimulation by the shot treatment. A high-volume fracture treatment is not feasible at this time due to the possibility of casing rupture. Four wells are shown on the structure map which have been plugged because of casing failure.

INFILL WELL:

Operator: C & E Operators, Inc.  
Lease: Fee #8  
Location: 2280' FNL 790' FEL Section 8, T30N, R11W  
Spud: 1/22/81 Completed: 6/26/81  
Stimulation: Sand/Foam fractured w/ 70 quality foam and 84,000 pounds of sand.

VOLUME of expected additional recovery: 35 MMCF

BASED on Boyle's Law, if the initial shut-in pressure of 668 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 250 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 629 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 320 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 272 psi measured 9/30/81 on the infill well indicates recoverable reserves of 355 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 35 MMCF.

*Corrected Copy*

DATA SHEET

RECEIVED  
MAR 29 1982

ORIGINAL WELL:

Operator: C & E Operators, Inc.  
Lease: Hartman #1  
Location: 846' FNL 2024 ' FEL Section 8, T30N, R11W  
Spud: 5/27/54 Completed: 7/18/54  
Stimulation: Shot w/ 242 quarts of solidified nitroglycerin  
Mechanical problems: none  
Retreatment: none  
Current producing rate: 5136 MCF during 1980

REASON that the existing well cannot effectively and efficiently drain the drill tract is because of the narrow radius of effective stimulation by the shot treatment. A high-volume fracture treatment is not feasible at this time due to the possibility of casing rupture. Four wells are shown on the structure map which have been plugged because of casing failure.

INFILL WELL:

Operator: C & E Operators, Inc.  
Lease: Fee #8  
Location: 2280' FNL 790' FEL Section 8, T30N, R11W  
Spud: 1/22/81 Completed: 6/26/81  
Stimulation: Sand/Foam fractured w/ 70 quality foam and 84,000 pounds of sand.

VOLUME of expected additional recovery: 35 MMCF

BASED on Boyle's Law, if the initial shut-in pressure of 668 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 250 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 629 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 320 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 272 psi measured 9/30/81 on the infill well indicates recoverable reserves of 355 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 35 MMCF.





OIL CONSERVATION DIVISION  
P. O. Box 2088  
SANTA FE, NEW MEXICO  
87501

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

ADMINISTRATIVE ORDER  
NFL 44

INFILL DRILLING FINDINGS PURSUANT TO  
SECTION 271.305(b) OF THE FEDERAL ENERGY REGULATORY  
COMMISSION REGULATIONS, NATURAL GAS POLICY ACT OF 1978  
AND OIL CONSERVATION DIVISION ORDER NO. R-6013-A

I.

Operator C & E Operators, Inc. Well Name and No. Fee Well No. 8  
Location: Unit H Sec. 8 Twp. 30N Rng. 11W Cty. San Juan

II.

THE DIVISION FINDS:

(1) That Section 271.305(b) of the Federal Energy Regulatory Commission Regulations promulgated pursuant to the Natural Gas Policy Act of 1978 provides that, in order for an infill well to qualify as a new onshore production well under Section 103 of said Act, the Division must find that the infill well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be so drained by any existing well within that unit.

(2) That by Order No. R-6013-A, dated February 8, 1980, the Division established an administrative procedure whereby the Division Director and the Division Examiners are empowered to act for the Division and find that an infill well is necessary.

(3) That the well for which a finding is sought is completed in the Aztec - Pictured Cliffs Pool, and the standard spacing unit in said pool is 160 acres.

(4) That a 155.28-acre proration unit comprising the NE/4 of Sec. 8, Twp. 30N, Rng. 11W, is currently dedicated to the Hartman Well No. 1 located in Unit B of said section.

(5) That this proration unit is (☒) standard ( ) nonstandard; if nonstandard, said unit was previously approved by Order No. -.

(6) That said proration unit is not being effectively and efficiently drained by the existing well(s) on the unit.

(7) That the drilling and completion of the well for which a finding is sought should result in the production of an additional 35,000 MCF of gas from the proration unit which would not otherwise be recovered.

(8) That all the requirements of Order No. R-6013-A have been complied with, and that the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

(9) That in order to permit effective and efficient drainage of said proration unit, the subject application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to drill the well described in Section I above as an infill well on the existing proration unit described in Section II(4) above. The authorization for infill drilling granted by this order is necessary to permit the drainage of a portion of the reservoir covered by said proration unit which cannot be effectively and efficiently drained by any existing well thereon.

(2) 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 this 7th day of April, 19 82.

DIVISION DIRECTOR \_\_\_\_\_ EXAMINER \_\_\_\_\_

cc: OCD Aztec  
OCD Machine Acct. S.F.  
NMO & GEC Hobbs  
AR "AL" Kendrick

INFILL DRILLING FINDINGS PURSUANT TO  
SECTION 271.305(b) OF THE FEDERAL ENERGY REGULATORY  
COMMISSION REGULATIONS, NATURAL GAS POLICY ACT OF 1978  
AND OIL CONSERVATION DIVISION ORDER NO. R-6013-A

I.

Operator C & E Operators, Inc. Well Name and No. Fee Well No. 8  
Location: Unit H Sec. 8 Twp. 30N Rng. 11W Cty. San Juan

II.

THE DIVISION FINDS:

(1) That Section 271.305(b) of the Federal Energy Regulatory Commission Regulations promulgated pursuant to the Natural Gas Policy Act of 1978 provides that, in order for an infill well to qualify as a new onshore production well under Section 103 of said Act, the Division must find that the infill well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be so drained by any existing well within that unit.

(2) That by Order No. R-6013-A, dated February 8, 1980, the Division established an administrative procedure whereby the Division Director and the Division Examiners are empowered to act for the Division and find that an infill well is necessary.

(3) That the well for which a finding is sought is completed in the Aztec - Pictured Cliffs Pool, and the standard spacing unit in said pool is 160 acres.

(4) That a 155.28-acre proration unit comprising the NE/4 of Sec. 8, Twp. 30N, Rng. 11W, is currently dedicated to the Hartman Well No. 1 located in Unit B of said section.

(5) That this proration unit is (☒) standard ( ) nonstandard; if nonstandard, said unit was previously approved by Order No. -

(6) That said proration unit is not being effectively and efficiently drained by the existing well(s) on the unit.

(7) That the drilling and completion of the well for which a finding is sought should result in the production of an additional 35,000 MCF of gas from the proration unit which would not otherwise be recovered.

(8) That all the requirements of Order No. R-6013-A have been complied with, and that the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

(9) That in order to permit effective and efficient drainage of said proration unit, the subject application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to drill the well described in Section I above as an infill well on the existing proration unit described in Section II(4) above. The authorization for infill drilling granted by this order is necessary to permit the drainage of a portion of the reservoir covered by said proration unit which cannot be effectively and efficiently drained by any existing well thereon.

(2) 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 this 7<sup>th</sup> day of April, 19 82.

DIVISION DIRECTOR \_\_\_\_\_ EXAMINER \_\_\_\_\_

cc: OCD Aztec  
OCD Machine Acct. S.F.  
NMO & GEC Hobbs  
AR "AL" Kendrick

A. R. "Al" Kendrick

P. O. Box 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555

February 22, 1982

Mr. Joe D. Ramey  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

RE: Application for Approval of Infill Well for Gas Pricing

Dear Mr. Ramey:

We respectfully request that the C & E Operators, Inc. Fee #8 well located 2280' FNL 790' FEL of Section 8, T30N, R11W be approved as a necessary infill well in the Aztec-Pictured Cliffs Pool to effectively and efficiently drain the spacing unit shared with the Hartman #1 well.

The standard spacing unit in the Aztec-Pictured Cliffs Pool is 160 acres.

Enclosed for your consideration are copies of the Permit to Drill, Acreage Dedication Plat, Data Sheet, Structure Map, and Map showing the cumulative gas production to 1/1/81.

A copy of this application is being sent by certified mail to the operator of each developed offset spacing unit at the time of this mailing.

If further information is desired, please contact us.

Yours very truly,

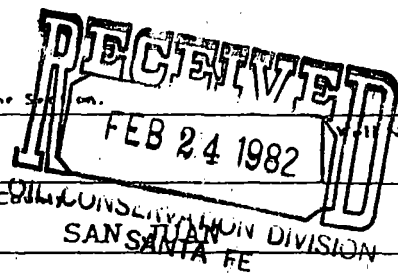


A. R. Kendrick

Enclosures

xc: Offset operators





C & E OPERATORS, INC.			FEE		
Unit Letter H	Section 8	Township 30NORTH	Range 11 WEST	COMMUNICATIONS DIVISION SAN ANTONIO, TEXAS	
Actual Footage Location of Wells -					
2280	feet from the	NORTH	line and	790	feet from the
Ground Level Elev. 5616	Producing Formation Pictured Cliffs		Pool	Blanco MV Aztec PC	Dedicated Acreage 155.28
					N.V. - 314.31 Acres

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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? N/A

☐ 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.

The Hartman #1 and the Fee #8 are the only wells completed in the Pictured Cliffs formation on the drill tract.

Hartman #1

159.03 Ac

155.28 Ac

2280

790



#### CERTIFICATION

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

Name

Position

Company

Date

Robert M. Keller  
Consultant  
C & E Operators  
Nov 24, 1980

STATE OF TEXAS  
I hereby certify that the well location on this plat was plotted from field notes of October 1980 by me or under my supervision and that the same is true to the best of my knowledge.

Date Surveyed

OCTOBER 27, 1980

Registered Professional Engineer and/or Land Surveyor

James P. Lease

Certificate No.

1463

## DATA SHEET

### ORIGINAL WELL:

Operator: C & E Operatros, Inc.  
Lease: Hartman #1  
Location: 846' FNL 2024' FEL Section 8, T30N, R11W  
Spud: 5/27/54 Completed: 7/18/54  
Stimulation: Shot w/ 242 quarts of solidified nitroglycerin  
Mechanical problems: none  
Retreatment: none  
Current producing rate: 5136 MCF during 1980

REASON that the existing well cannot effectively and efficiently drain the drill tract is because of the narrow radius of effective stimulation by the shot treatment. A high-volume fracture treatment is not feasible at this time due to the possibility of casing rupture. Four wells are shown on the structure map which have been plugged because of casing failure.

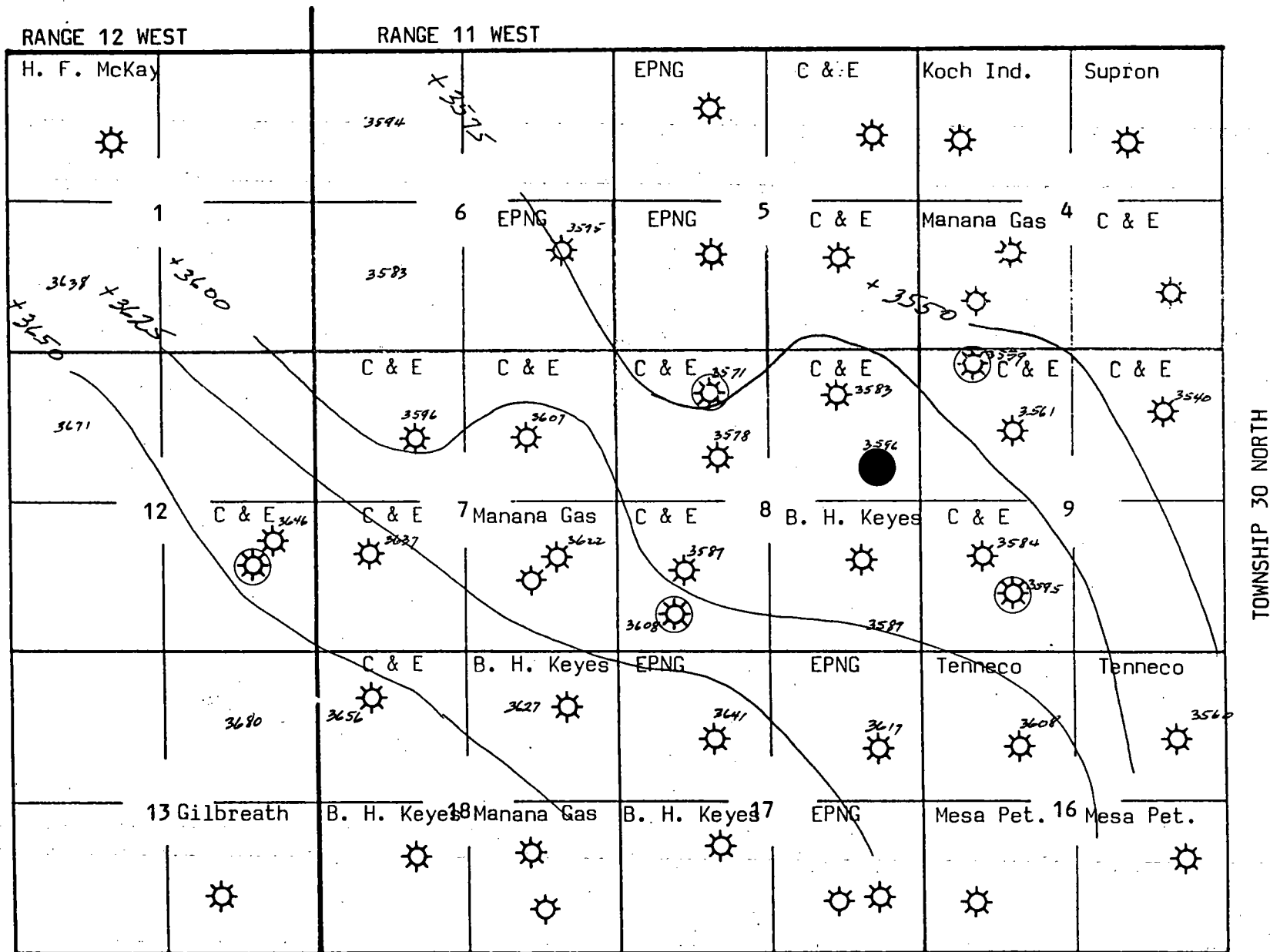
### INFILL WELL:

Operator: C & E Operators, Inc.  
Lease: Fee #8  
Location: 2280' FNL 790' FEL Section 8, T30N, R11W  
Spud: 1/22/81 Completed: 6/26/81  
Stimulation: Sand/foam fractured w/ 70 quality foam and 84,000 pounds of sand


VOLUME of expected additional recovery: 108 MMCF

BASED on Boyle's Law, if the initial shut-in pressure of 668 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 250 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 629 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 226 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 272 psi measured 9/30/81 on the infill well indicates recoverable reserves of 334 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 108 MMCF.

## PICTURED CLIFFS STRUCTURE MAP



☀ = Gas Well

 = Infill Gas Well

☼ = Plugged Well



[illegible]

# CITY OF AZTEC

## 9-6 REGULATION OF THE DRILLING AND PRODUCTION OF OIL AND/OR GAS WELLS

### 9-6-1 SCOPE:

The scope of this article shall be for the regulation of the drilling and production of oil and/or gas or for liquid hydrocarbons within the City of Aztec, New Mexico, and shall include any well to be used as an injection well for secondary recovery.

### 9-6-2 PERMITS

Every person, firm, partnership or corporation hereafter desiring to drill a well within the City of Aztec, New Mexico, or rework an existing well shall obtain a permit for the drilling or reworking of such well and the production thereof, such permit to be obtained as follows:

- a. Written application shall be filed therefore with the City Clerk and shall contain the following:
  1. The name of the operator desiring to drill and produce such well.
  2. The exact location of the proposed well together with a description of the area to be occupied by the drilling machinery pits and equipment in the drilling of such well and the area to be occupied by the machinery to be used in the production of such well, and
  3. Names and address of all property owners within 200 feet of well location.
  4. A certificate of insurance which certifies that the operator and all persons who may be engaged in the drilling or operation of such well are insured to the public for any operation in the sum of One Hundred Thousand (\$100,000.00) dollars for damages to any one (1) person, and Three Hundred Thousand Dollars (\$300,000.00) for damages to more than one person, from any one (1) accident; also, for the sum of One Hundred Thousand Dollars (\$100,000.00) for damages to property.
  5. Such application shall be accompanied by a \$350.00 filing fee.
- b. Upon the receipt of all of the above the City Clerk shall establish a hearing date when the application is to be considered by the City Commission. Public notice of the hearing at which the application is to be considered must be given by at least one publication in a newspaper of general circulation in the municipality at least 15 days before the date of the hearing. All property owners within 200 feet of the proposed well location shall be notified of the hearing date by written notice by certified mail, return receipt requested, not less than five days before the date of the hearing.

- c. The City Clerk shall issue a written recommendation for approval or denial to the City Commission at the hearing.
- d. In all matters pertaining to this chapter the City Manager shall advise the City Commission and shall make recommendations concerning all matters pertaining to this chapter.

9-6-3 OBSTRUCTING STREETS BY DRILLING, ETC.:

No well shall be drilled and no permit shall be issued for any well to be drilled at any one location which is within any of the streets or alleys of the City. No such street or alley shall be blocked or encumbered or closed in any drilling, production or pipeline operation except by written permission of the oil and gas inspector and the City Manager and then only temporarily.

9-6-4 PROXIMITY OF WELL, TANKS OR PIPELINES TO BUILDINGS:

No well shall be drilled and no permit shall be issued for any well to be drilled at any location or storage tank to be located which is nearer than two hundred (200) feet to any residence or commercial building without the applicant having first secured the written permission of the City Commission.

No high pressure gas injection well or a compressor used in conjunction with the gas injection well shall be located nearer than two hundred (200) feet to any residential, commercial or industrial structure, except by permission of the City Commission. In exceptional cases for reasons of safety, the City Commission may require that any such facility shall be located at a greater distance than 200 feet to any such structure.

No residential, commercial or industrial structure other than structures necessary to operate the pipeline shall be erected or moved to a location nearer than thirty (30) feet to any pipeline transporting gas when the pipeline operating pressure is greater than 250 PSI unless a greater or lesser distance is recommended by the then applicable ASA Code.

9-6-5 REQUIREMENT FOR OPERATION OF PRODUCING WELL:

Any person, firm partnership or corporation who completes an oil or gas well within the limits of the City of Aztec, New Mexico, shall operate the same in accord with the following provisions:

- a. The area to be occupied by the producing equipment in the event any well located within the City of Aztec is completed as a commercial producer shall be confined to an area not to exceed one hundred (100) feet by one hundred and fifty (150) feet and the 100 feet by 150 feet area to be occupied by the producing equipment shall be enclosed in a chain link fence six (6) feet in height and three (3) strands of barbed wire at the top, which barbed wire strands shall slope outward.

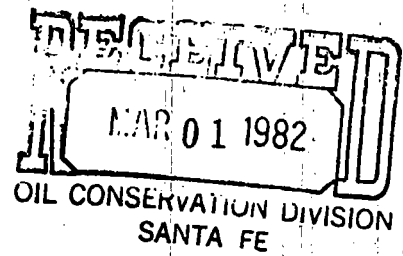
- b. The fence and area referred to in sub-paragraph above shall be landscaped and maintained if such well location is within five hundred (500) feet of a residential lot as described in the City Zoning Ordinance.
- c. Any tank containing oil or distillate shall be located within a dike or fire wall capable of holding one and one-half (1½) times the volume of the tank; and all operations shall be maintained so as not to be a fire hazard and so as not to jeopardize the health and safety of the Citizens of the City of Aztec.
- d. All fluids produced shall be produced into a tank and hauled off the location.
- e. All operations shall be conducted in such a manner so that they will make the least noise possible.

9-6-6      REQUIREMENTS FOR OPERATION OF DRILLING WELL:

Any person, firm, partnership or corporation drilling a well for oil and gas within the limits of the City of Aztec, New Mexico, shall contain all drilling fluids in pits which will be completely covered at the completion of drilling.

9-6-7      PENALTY

Any firm, person, partnership or corporation convicted of drilling or operating a well in violation of the provisions of this article shall be punished by a fine of not less than one hundred dollars (\$100.00) or more than three hundred dollars (\$300.00) and each day that any person, firm, partnership or corporation shall be in violation of this ordinance shall be taken as a separate offense.



A. R. "Al" Kendrick

P. O. Box 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555

February 22, 1982

Dear Offset Operator:

If you have no objection to the attached Application for Approval of Infill Well for Gas Pricing, please sign the waiver below and send it to the New Mexico Oil Conservation Division office in Santa Fe, New Mexico.

Yours very truly,

*A. R. Kendrick*  
A. R. Kendrick

Mr. Joe D. Ramey  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

We, as offset operator, hereby waive objection to the Application for Approval of Infill Well for Gas Pricing filed for C & E Operators, Inc.

WELL: Fee #8

LOCATION: H-8-T30N-R11W

OPERATOR: Manana Gas Inc.

BY: Ed Hartman

DATE: 2/25/82

RECEIVED FEB 24 1982

Michael E. Stegner

March 23, 1982

M.M.O.C.D.

Infill Well Application

A.H. "Al" Kendrick for C. & E. Operators, Inc.

Fee Well No. 8, H-8-302 - NW San Juan Co.

Given: I.S.I.P. = 668 psi.

Current S.I.P. = 250 psi.

Cumulative Production to Date = 629 mncf

Abandonment Pressure = 50 psi.

S.I.P. for Infill Well = 272 psi.

668 psi - 250 psi = 418 psi, pressure decline

$\frac{2}{668} = \frac{629 \text{ mncf}}{418 \text{ psi}} \rightarrow 2 = 1005 \text{ mncf, Original reserves @ 668 psi.}$

$\frac{80 \text{ psi}}{668 \text{ psi}} (1005 \text{ mncf}) = 75 \text{ mncf reserve @ abd. pressure of 50 psi.}$

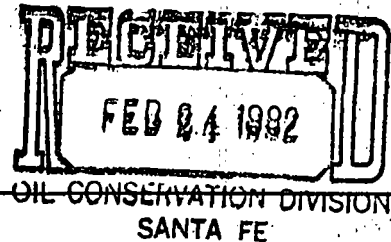
1005 mncf  
- 629 mncf  
376 mncf Remaining Reserve to date  
- 75 mncf  
301 mncf Remaining Reserve to date.

$\left( \frac{272 \text{ psi}}{668 \text{ psi}} \right) (1005 \text{ mncf}) = 409 \text{ mncf, infill well reserves.}$

409 mncf  
- 75  
334 mncf Infill Well Res. Res.  
- 301 mncf  
33 mncf Add'l Res.

A. R. "Al" Kendrick

P. O. BOX 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555



February 22, 1982

Mr. Joe D. Ramey  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

RE: Applications for Approval of Infill Wells for Gas Pricing

Dear Mr. Ramey:

Enclosed are application for approval of infill wells in the Aztec-Pictured Cliffs Pool.

These wells are the C & E Operators, Inc.

Aztec #8	M-8-30N-11W
Aztec #9	M-9-30N-11W
Fee #8	H-8-30N-11W
Fee #8-A	C-8-30N-11W
Fee #9-Y	D-9-30N-11W
Fee #12	I-12-30N-12W

All of these Pictured Cliffs completions are zones in multiple completions.

The wells in sections 8 & 9 are all within the City Limits of Aztec. Places to drill are getting harder to find in town as houses are being built. A copy of the City Ordinance is enclosed for your convenience.

The Fee#12 well is located outside of the city. It is not offset by another operator who has developed his drill tract.

If there is other data that you would like, please contact me.

Yours very truly,

  
A. R. Kendrick

Enclosures



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

March 23, 1982

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

A. R. "AL" Kendrick  
P.O. Box 516  
Aztec, New Mexico 87410

Re: Application for NGPA Infill Well  
Findings Under Provisions of  
Order No. R-6013-A \_\_\_\_\_

C & E OPERATORS, INC. - Fee

Well No. 8, H-8-T-30N-R-11W,

San Juan County, New Mexico.

We may not process the subject application for infill findings until the required information, forms, or plats checked on the reverse side of this letter are submitted.

Sincerely,

Michael E. Stogner,  
Petroleum Engineer

MES/dp



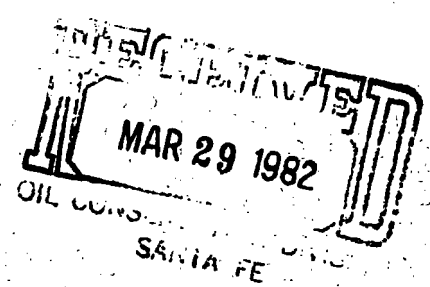
- ☐ A copy of Form C-101 must be submitted.
- ☐ A copy of Form C-102 must be submitted.
- ☐ The pool name must be shown.
- ☐ The standard spacing unit size for the pool must be shown.
- ☐ Give the Division Order No. which granted the non-standard proration unit.
- ☐ Please state whether or not the well has been spudded and give the spud date, if any.
- ☐ Information relative to other wells on the proration unit is incomplete. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- ☐ The geologic and reservoir data is incomplete or insufficient. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Other:

Please re-check volume of expected additional recovery  
calculations. \_\_\_\_\_



A. R. "Al" Kendrick

P. O. Box 516 • AZTEC, NEW MEXICO 87410 • (505) 334-2555

March 26, 1982

Mr. Michael E. Stogner  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

RE: Application for Approval of Infill Well for Gas Pricing

Dear Mr. Stogner:

Please substitute the enclosed Data Sheet copies in my application for Infill Designation for the C & E Operators, Inc. Fee #8 well submitted on February 22, 1982. There was an arithmetic mistake on the original Data Sheet.

Thank you very much for your consideration of this application.

If there are further questions, please contact me.

Yours very truly,

*AR Kendrick*  
A. R. Kendrick

Enclosures



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR  
LARRY KEHOE  
SECRETARY

March 23, 1982

RECEIVED  
MAR 29 1982  
OIL CONSERVATION DIVISION  
SANTA FE  
POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-2434

A. R. "AL" Kendrick  
P.O. Box 516  
Aztec, New Mexico 87410

Re: Application for NGPA Infill Well  
Findings Under Provisions of  
Order No. R-6013-A

C & E OPERATORS, INC. - Fee

Well No. 8, H-8-T-30N-R-11W,

San Juan County, New Mexico.

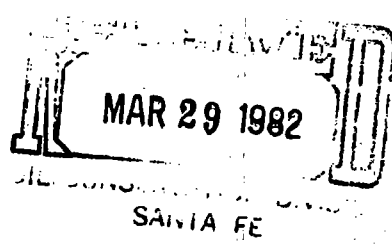
We may not process the subject application for infill findings until the required information, forms, or plats checked on the reverse side of this letter are submitted.

Sincerely,

*Michael E. Stogner*

Michael E. Stogner,  
Petroleum Engineer

MES/dp



- ☐ A copy of Form C-101 must be submitted.
- ☐ A copy of Form C-102 must be submitted.
- ☐ The pool name must be shown.
- ☐ The standard spacing unit size for the pool must be shown.
- ☐ Give the Division Order No. which granted the non-standard proration unit.
- ☐ Please state whether or not the well has been spudded and give the spud date, if any.
- ☐ Information relative to other wells on the proration unit is incomplete.

---

---

---

- ☐ The geologic and reservoir data is incomplete or insufficient.

---

---

---

☒ Other:

Please re-check volume of expected additional recovery  
calculations.

DATA SHEET

MAR 29 1982

ORIGINAL WELL:

Operator: C & E Operators, Inc.  
Lease: Hartman #1  
Location: 846' FNL 2024 ' FEL Section 8, T30N, R11W  
Spud: 5/27/54 Completed: 7/18/54  
Stimulation: Shot w/ 242 quarts of solidified nitroglycerin.  
Mechanical problems: none  
Retreatment: none  
Current producing rate: 5136 MCF during 1980.

REASON that the existing well cannot effectively and efficiently drain the drill tract is because of the narrow radius of effective stimulation by the shot treatment. A high-volume fracture treatment is not feasible at this time due to the possibility of casing rupture. Four wells are shown on the structure map which have been plugged because of casing failure.

INFILL WELL:

Operator: C & E Operators, Inc.  
Lease: Fee #8  
Location: 2280' FNL 790' FEL Section 8, T30N, R11W  
Spud: 1/22/81 Completed: 6/26/81  
Stimulation: Sand/Foam fractured w/ 70 quality foam and 84,000 pounds of sand.

VOLUME of expected additional recovery: 35 MMCF

BASED on Boyle's Law, if the initial shut-in pressure of 668 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 250 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 629 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 320 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 272 psi measured 9/30/81 on the infill well indicates recoverable reserves of 355 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 35 MMCF.

*Corrected Copy*

DATA SHEET

**RECEIVED**  
**MAR 29 1982**

ORIGINAL WELL:

Operator: C & E Operators, Inc.  
Lease: Hartman #1  
Location: 846' FNL 2024 ' FEL Section 8, T30N, R11W  
Spud: 5/27/54 Completed: 7/18/54  
Stimulation: Shot w/ 242 quarts of solidified nitroglycerin  
Mechanical problems: none  
Retreatment: none  
Current producing rate: 5136 MCF during 1980

REASON that the existing well cannot effectively and efficiently drain the drill tract is because of the narrow radius of effective stimulation by the shot treatment. A high-volume fracture treatment is not feasible at this time due to the possibility of casing rupture. Four wells are shown on the structure map which have been plugged because of casing failure.

INFILL WELL:

Operator: C & E Operators, Inc.  
Lease: Fee #8  
Location: 2280' FNL 790' FEL Section 8, T30N, R11W  
Spud: 1/22/81 Completed: 6/26/81  
Stimulation: Sand/Foam fractured w/ 70 quality foam and 84,000 pounds of sand.

VOLUME of expected additional recovery: 35 MMCF

BASED on Boyle's Law, if the initial shut-in pressure of 668 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 250 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 629 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 320 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 272 psi measured 9/30/81 on the infill well indicates recoverable reserves of 355 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 35 MMCF.