

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. Aztec Well No. 8
Location: Unit M Sec. 8 Twp. 30-N Rng. 11-W 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 159.48 -acre proration unit comprising the SW/4 of Sec. 8, Twp. 30-N, Rng. 11-W, is currently dedicated to the Oliver Well No. 1 located in Unit L of said section.
- (5) That this proration unit is (X) 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 113,000 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.

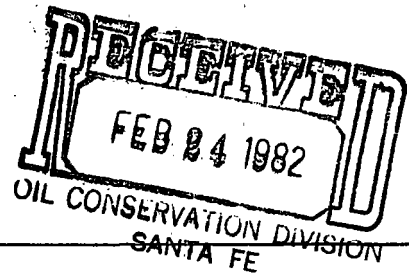
DONE at Santa Fe, New Mexico, on this 24th day of March, 19 82.


DIVISION DIRECTOR

EXAMINER

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. Aztec #8 well located 1000' FSL 890' FWL 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 Oliver #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.

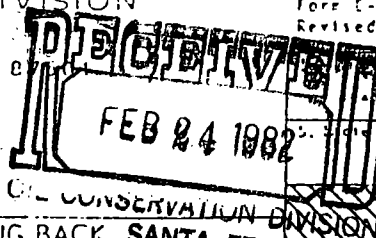
Yours very truly,

Al Kendrick
A. R. Kendrick

Enclosures

xc: Offset operators

DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATION	



APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK SANTA FE

1. Type of Work		7. Unit Agreement Name	
1. Type of Well DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> GIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE TUBE <input type="checkbox"/> MULTIPLE TUBE <input checked="" type="checkbox"/>		8. Firm or Lease Name Aztec	
2. Name of Operator C & E Operators		9. Well No. 8	
3. Address of Operator One Energy Square, Suite 170, Dallas, Texas 75206		10. Field and Foot, or Well Aztec PC - Blanco	
4. Location of Well UNIT LETTER M LOCATED 1000' FEET FROM THE South LINE 890 FEET FROM THE West LINE OF SEC. 8 TWP. 30N R. 11W		11. County San Juan	
19. Proposed Depth 4700		15A. Formation Mancos	
20. Method of C.T. Rotary		22. Approx. Date Work will start On Approval	
21A. Kind & Status Plug. bond Blanket		21B. Drilling Contractor Y-W Drilling Co.	
24. Elevation (State whether B.P., RT, etc.) 5598' Gr.		23. Proposed Casing and Cement Program	

PROPOSED CASING AND CEMENT PROGRAM

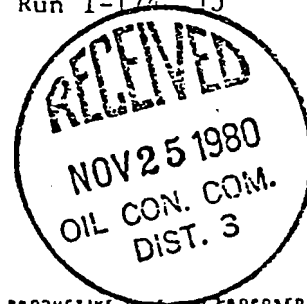
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	8-5/8"	24	250+	175 3% CaCl	Surface
7-7/8"	5-1/2"	15.5	4700	300	3025
	Stage collar	at approx. 2050'	& cement w/375		Surface

Propose to set 8-5/8" casing w/spud mud. Cement to surface. WOC - 8 hrs. Install BOP's and bleed off manifold. Press. test to 600 psi. - 30 min. Drill 7-7/8" hole with light gel-chemical mud to TD. Run IES & GRD/N Logs. Run 5-1/2" casing and stage cement. Perf. & stimulate Mesaverde; set BP; Perf. & stimulate Pictured Cliffs zone. Clean out PC zone, mill out plug and clean out Mesaverde zone. Run Baker Mod "D" prod. packer. Run 1-1/2" EUE tubing and seals on Mesaverde. Run 1-1/4" IJ tubing on Pictured Cliffs. Install dual well head; clean up and test.

(Location inside City limits of Aztec)

APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMMENCED.

EXPIRES 2-23-81



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE & PROPOSED NEW DATA. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

Signed John M. Heller Title Consultant Date 11-24-80
 NM Reg. Eng. 4361, Box 1507, Durango, CO

(This space for State Use)

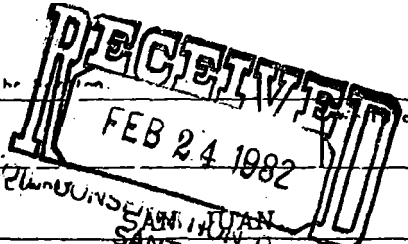
Original Signed by CHARLES GHOLSON

DEPUTY OIL & GAS INSPECTOR, DIST. #3

NOV 25 1980

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:



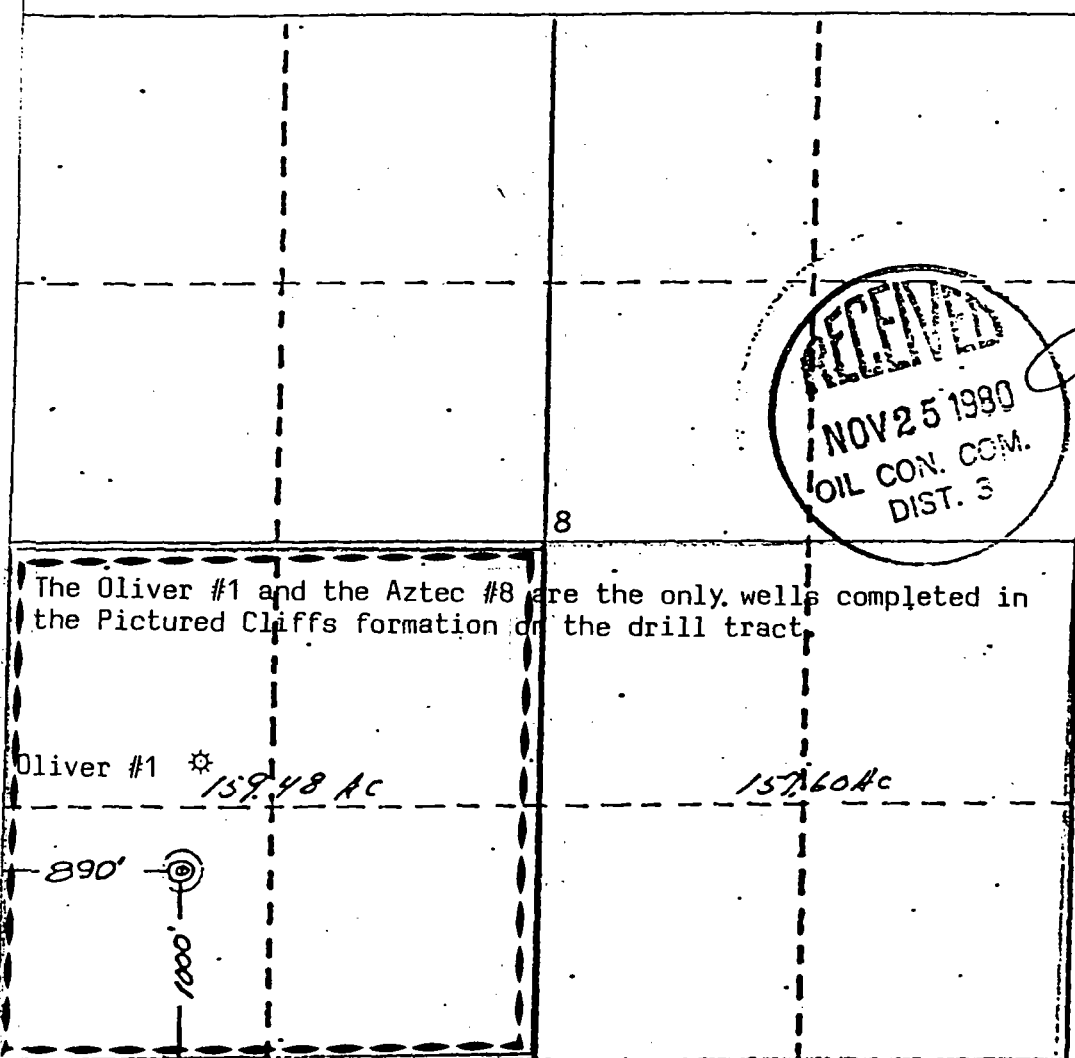
C & E OPERATORS, INC.			AZTEC	
Well Letter M	Section 8	Township 30 NORTH	Range 11 WEST	Plat UNDEVELOPED
Well Location of Well 1000 feet from the		SOUTH line and	890 feet from the	WEST line
Bound Level Elev. 5598	Producing Formation Pictured Cliffs	Mesaverde	Pool Blanco MV Aztec PC	Dedicated Acres 159.48 -
				317.03 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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? 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 Division.

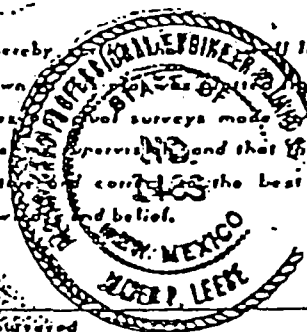


CERTIFICATION

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

Name
John M. Heller
Position
Consultant
Company
C & E Operators
Date
Nov. 24, 1980

I hereby certify that the location shown on this plat is the location of the well shown on the survey maps 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
June 13, 1980

Registered Professional Engineer
and/or Land Surveyor

James P. Leese
James P. Leese

Certificate No.

1463

DATA SHEET

ORIGINAL WELL:

Operator: C & E Operators, Inc.
Lease: Oliver #1
Location: 1544' FSL 900' FWL Section 8, T30N, R11W
Spud: 10/24/53 Completed: 11/26/53
Stimulation: Shot w/ 237 quarts of solidified nitroglycerin
Mechanical problems: none
Current production rate: 7505 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 because of the possibility of casing rupture. Four wells shown on the structure map have been plugged due to casing failure.

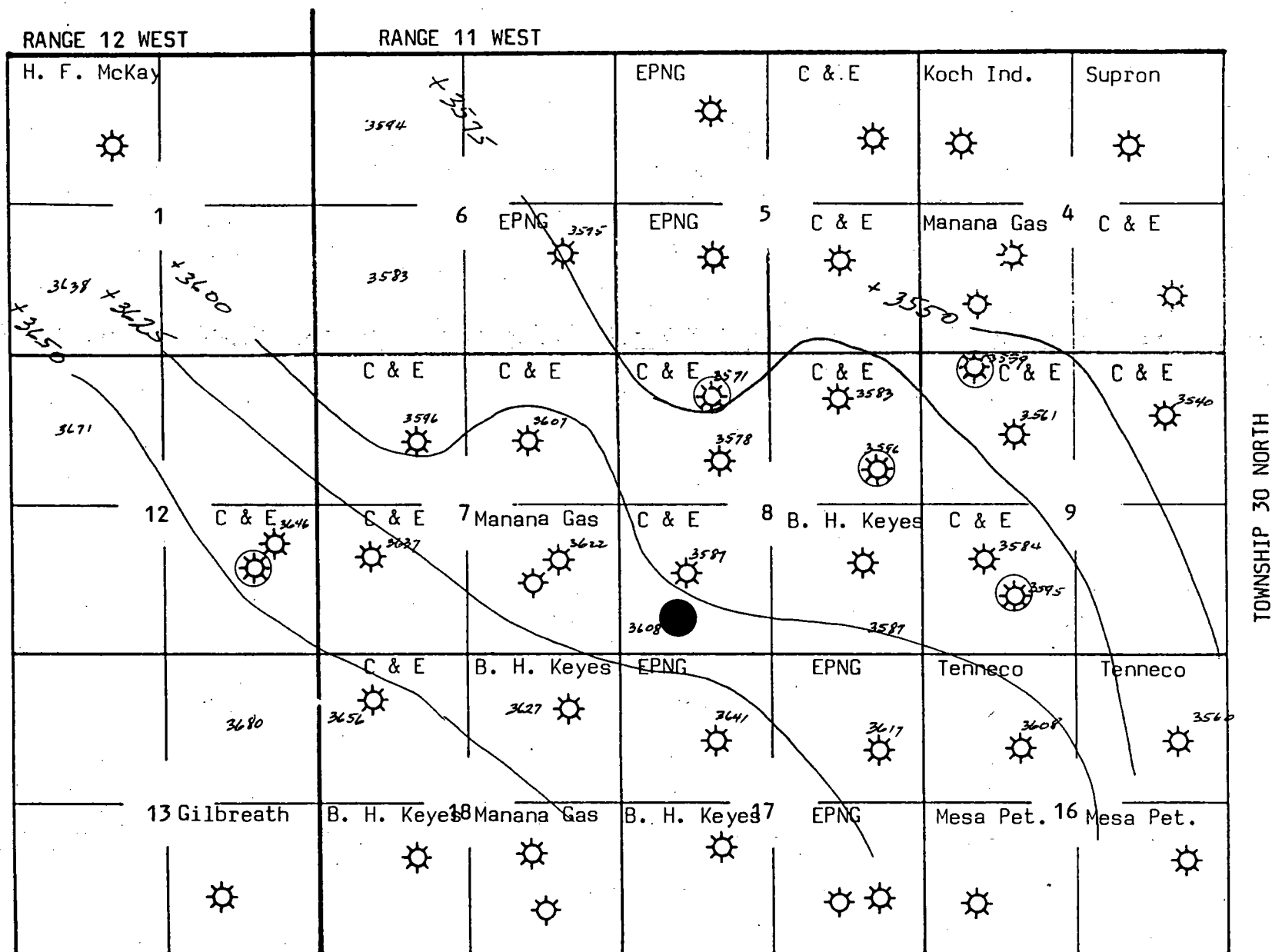
INFILL WELL:

Operator: C & E Operators, Inc.
Lease: Aztec #8
Location: 1000' FSL 890' FWL Section 8, T30N, R11W
Spud: 1/13/81 Completed: 5/12/81
Stimulation: Sand/foam fractured w/ 70 quality foam and 36,000 pounds of sand

VOLUME of expected additional recovery: 113 MMCF

BASED on Boyle's Law, if the initial shut-in pressure of 665 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 224 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 892 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 352 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 280 psi measured 9/30/81 on the infill well indicates recoverable reserves of 465 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 113 MMCF.

PICTURED CLIFFS STRUCTURE MAP



☼ = Gas Well

⊙ = Infill Gas Well

☼ = Plugged Well

Bottom number = Cumulative Production
to 1/1/81 (MMCF)

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.

CITY OF AZTEC

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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,

AR 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: Aztec #8

LOCATION: M-8-T30N-R11W

OPERATOR: Manana Gas, Inc.

BY: Ed Hartman

DATE: 2/25/82

RECEIVED FEB 24 1982

Michael E. Stegner

March 18, 1982

New Mexico Oil Conservation

✓

Infill Well Application

A.R. "A1" Kendrick for C+E Operators, Inc.

Aztec Well No. 8, M-8-T30N-R11W, San Juan Co., NM
off setting well Oliver Well #1 in Unit L.

Given: I.S.I.P. = 665 psi

Current S.I.P. = 224

Cumulative Prod. to date = 898 mMcF

Abandonment Pressure = 50 psi

Infill Well S.I.P. = 280 psi

665 psi - 224 psi = 441 pressure decline, psi

$$\frac{P}{665 \text{ psi}} = \frac{898 \text{ mMcF}}{441 \text{ psi}}$$

$z = 1345 \text{ mMcF Original Res. @ } 665 \text{ psi}$

$$\left(\frac{50 \text{ psi}}{665 \text{ psi}} \right) (1345 \text{ mMcF}) = 101 \text{ mMcF @ Abandonment psi.}$$

1345 mMcF Original Res.

- 892 mMcF

453 mMcF Remaining reserves to date

- 101 mMcF

352 mMcF Remaining recoverable res.

$$\frac{280 \text{ psi of infill well}}{665 \text{ psi}} \left(1345 \text{ mMcF} \right) = 566 \text{ mMcF, infill well reserves.}$$

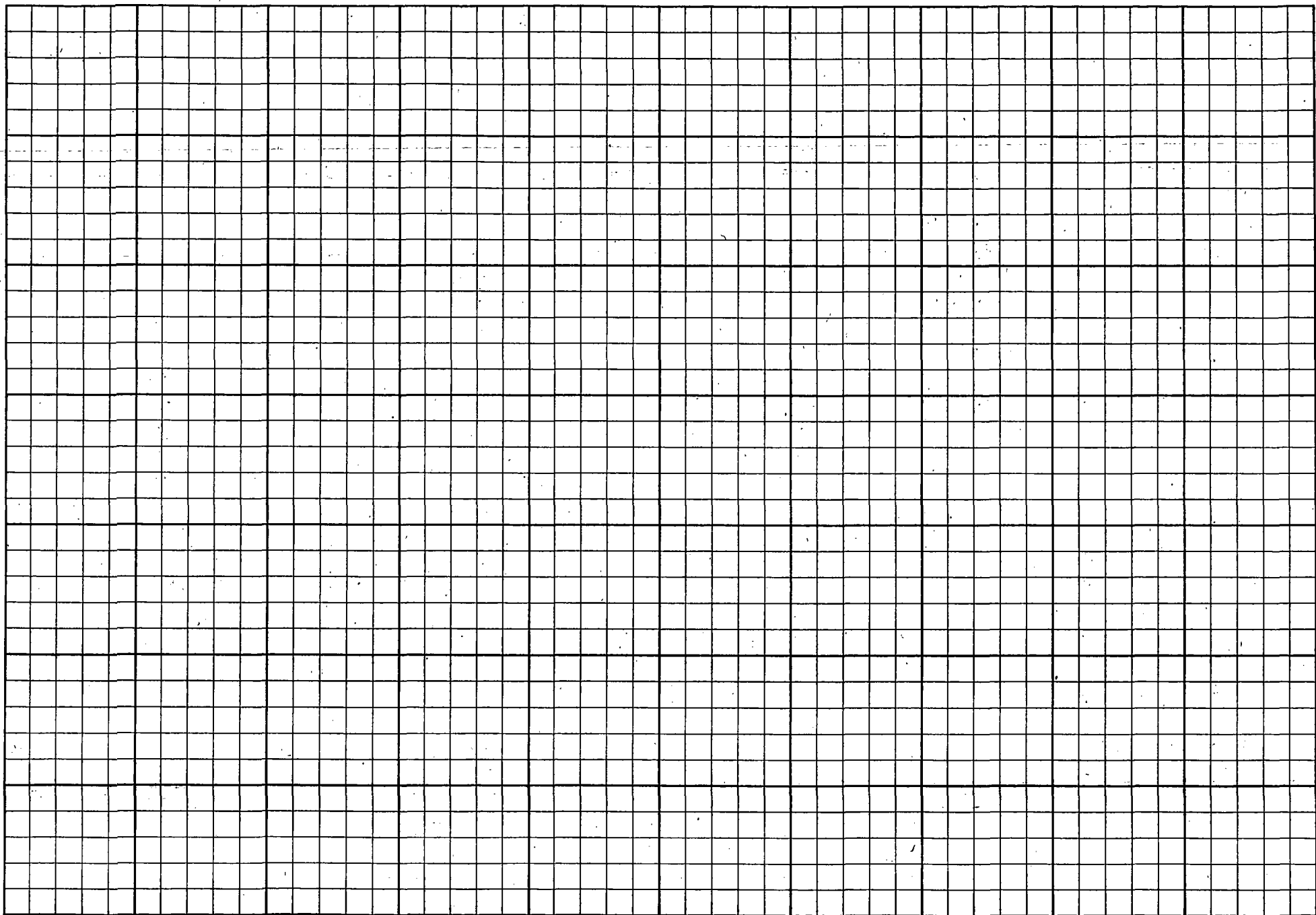
566 mMcF

- 101 mMcF

465 Res. Res. @ Infill, mMcF

- 352 mMcF

113 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
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If further information is desired, please contact us.

Yours very truly,

Al Kendrick
A. R. Kendrick

Enclosures

xc: Offset operators

FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

DECEMBER

FEB 24 1980

OIL CONSERVATION DIVISION
SANTA FE

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		7. Unit Agreement Name
1b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		8. Firm or Lease Name Aztec
2. Name of Operator C & E Operators		9. Well No. 8
3. Address of Operator One Energy Square, Suite 170, Dallas, Texas 75206		10. Field and Pool, or Well Aztec PC - Blanco
4. Location of Well UNIT LETTER M LOCATED 1000' FEET FROM THE South LINE 890 FEET FROM THE West LINE OF SEC. 8 TWP. 30N R. 11W		12. County San Juan
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Stage collar at approx. 2050' & cement w/375					Surface

Propose to set 8-5/8" casing w/spud mud. Cement to surface. WOC - 8 hrs. Install BOP's and bleed off manifold. Press. test to 600 psi. - 30 min. Drill 7-7/8" hole with light gel-chemical mud to TD. Run IES & GRD/N Logs. Run 5-1/2" casing and stage cement. Perf. & stimulate Mesaverde; set BP; Perf. & stimulate Pictured Cliffs zone. Clean out PC zone, mill out plug and clean out Mesaverde zone. Run Baker Mod "D" prod. packer. Run 1-1/2" EUE tubing and seals on Mesaverde. Run 1-1/2" IJ tubing on Pictured Cliffs. Install dual well head; clean up and test.

(Location inside City limits of Aztec)

APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMPLETED

EXPIRES 2-23-81

RECEIVED
NOV 25 1980
OIL CON. DIV.
DIST.

ABOVE SPACE DESCRIBE PROPOSED PROGRAM IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

Signed Robert M. Heller Title Consultant NM Reg. Eng. 4361, Box 1507, Durango, CO Date 1

(This space for State Use)

Original Signed by CHARLES CHOLSON

DEPUTY OIL & GAS INSPECTOR, DIST. #3

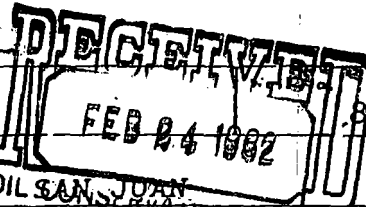
APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

114-100-110

114-100-110



C & E OPERATORS, INC.			AZTEC		
Well Letter M	Section 8	Township 30 NORTH	Range 11 WEST	County SANTA FE	
Total Wellbore Location of Well 1000 feet from the		SOUTH line and		890 feet from the WEST line	
Land Level Elev. 5598	Underlying Formation Pictured Cliffs	Pool Blanco MV & Aztec PC	Dedicated Acres 317.03 159.48 - Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plot 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? 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.) _____

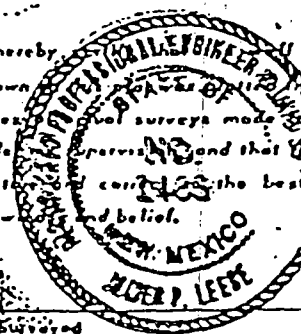
No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.

CERTIFICATION

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

Name John M. Heller
 Position Consultant
 Company C & E Operators
 Date Nov. 24, 1980

I hereby certify that the location shown on the map is correct and that the same is true and correct to the best of my knowledge and belief.



Date Surveyed
June 13, 1980

Registered Professional Engineer
and/or Land Surveyor

James P. Leese
James P. Leese

Certificate No.

1463

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

Oliver #1 159.48 AC

157.60 AC

890'



1000'

DATA SHEET

ORIGINAL WELL:

Operator: C & E Operators, Inc.
Lease: Oliver #1
Location: 1544' FSL 900' FWL Section 8, T30N, R11W
Spud: 10/24/53 Completed: 11/26/53
Stimulation: Shot w/ 237 quarts of solidified nitroglycerin
Mechanical problems: none
Current production rate: 7505 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 because of the possibility of casing rupture. Four wells shown on the structure map have been plugged due to casing failure.

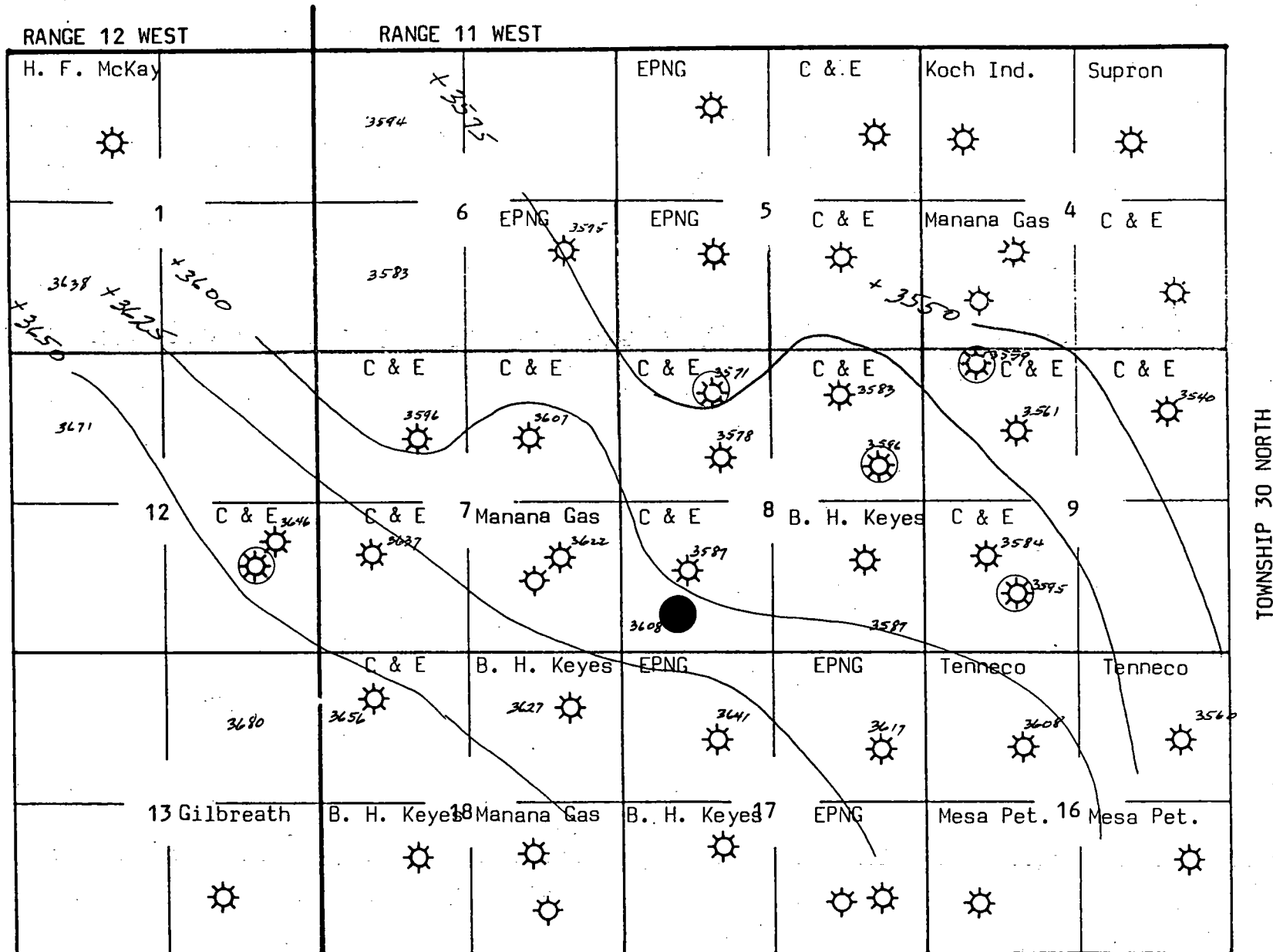
INFILL WELL:

Operator: C & E Operators, Inc.
Lease: Aztec #8
Location: 1000' FSL 890' FWL Section 8, T30N, R11W
Spud: 1/13/81 Completed: 5/12/81
Stimulation: Sand/foam fractured w/ 70 quality foam and 36,000 pounds of sand

VOLUME of expected additional recovery: 113 MMCF

BASED on Boyle's Law, if the initial shut-in pressure of 665 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 224 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 892 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 352 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 280 psi measured 9/30/81 on the infill well indicates recoverable reserves of 465 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 113 MMCF.

PICTURED CLIFFS STRUCTURE MAP



☼ = Gas Well

⊗ = Infill Gas Well

☼ = Plugged Well

Bottom number = Cumulative Production
to 1/1/81 (MMCF)

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.

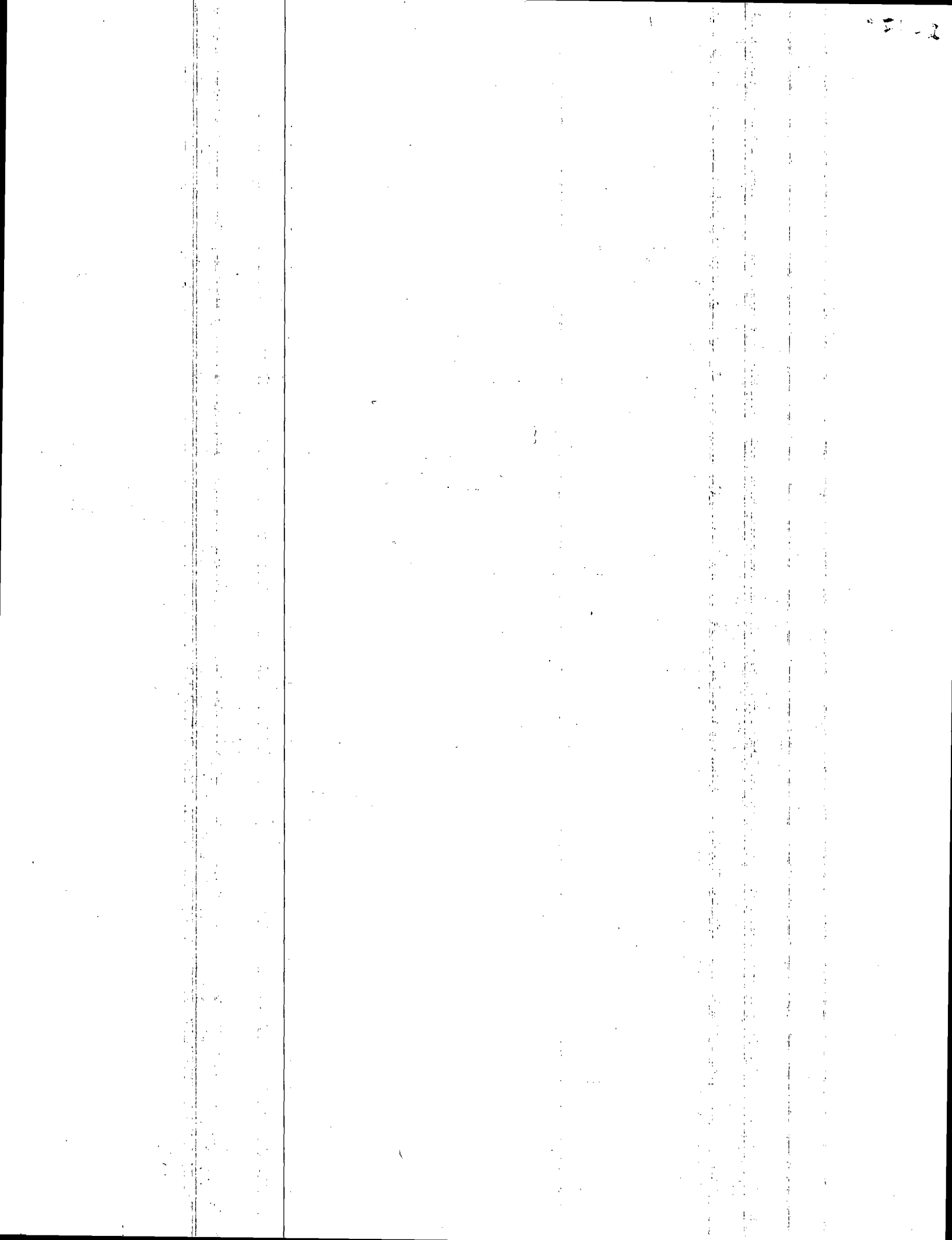
- b. The fence and area referred to in sub-paragraph above shall be landscaped and maintained if such well location is within five hundred (500) feet of a residential lot as described in the City Zoning Ordinance.
- c. Any tank containing oil or distillate shall be located within a dike or fire wall 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.

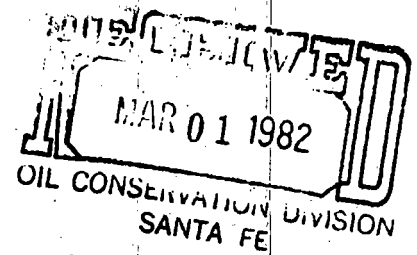
9-6-6 REQUIREMENTS FOR OPERATION OF DRILLING WELL:

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,

Al 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: Aztec #8

LOCATION: M-8-T30N-R11W

OPERATOR: Manana Gas, Inc.

BY: Ed Hartman

DATE: 2/25/82

RECEIVED FEB 24 1982

Infill Well Application

A.R. "A" Kendrick for C+E Operators, Inc.

Water Well No. 8, M-8-T30N-R11W, San Juan Co., NM
off setting well. Oliver Well #1 in Unit L.

Given: I.S.I.R. = 665 psi

Current S.I.R. = 224

Cumulative Prod. to date = 898 MMCF

Abandonment Pressure = 50 psi.

Infill Well S.I.R. = 280 psi.

665 psi - 224 psi = 441 pressure decline, psi.

$$\frac{665 \text{ psi}}{2} = \frac{892 \text{ MMCF}}{441 \text{ psi}}$$

2 = 1345 MMCF Original Res. @ 665 psi.

$$\left(\frac{50 \text{ psi}}{665 \text{ psi}} \right) (1345 \text{ MMCF}) = 101 \text{ MMCF @ Abandonment psi.}$$

1345 MMCF Original Res.

- 892 MMCF

453 MMCF Remaining reserves to date

- 101 MMCF

352 MMCF Remaining recoverable res.

$$280 \text{ psi. of infill well} \left(\frac{665 \text{ psi}}{1345 \text{ MMCF}} \right) = 566 \text{ MMCF, infill well reserves.}$$

566 MMCF

- 101 MMCF

465 Res. @ Infill, MMCF

- 352 MMCF

113 MMCF Res.