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н. — — — — — — — — — — — — — — — — — — —		TION DIVISION	•	
STATE OF NEW MEXICO	SANTA FE, I	Box 2088 New Mexico	ADMINISTRATIVE ORDE	R
ENERGY AND MINERALS DEPARTMENT	8750	01	NFL41	
	•		•	
SECTION 27 COMMISSION R	EGULATIONS, NATURA	DINGS PURSUANT TO Ederal Energy Regul Al Gas Policy Act o DN Order No. R-6013	F 1978	
1.	•			
Operator <u>C & E Operato</u>	ors, Inc. Well :	Name and No. Az	cec Well No. 9	
Location: Unit_M_Sec9				
II.			· · · · ·	
THE DIVISION FINDS:		· · · · · · · ·	•	
 That Section 271.305(b) of pursuant to the Natural Gas Polic as a new onshore production well infill well is necessary to effect by the proration unit which cannot (2) That by Order No. R-6013-A, 	cy Act of 1978 pro under Section 103 ctively and efficient ot be so drained b dated February 8	ovides that, in order of said Act, the liently drain a port by any existing well , 1980, the Division	er for an infill well to qual Division must find that the ion of the reservoir covered l within that unit. n established an administrati	-
procedure whereby the Division D Division and find that an infill	irector and the Di well is necessary	ivision Examiners a /•	re empowered to act for the	
(3) That the well for which a f	1			
_	· · ·		<u>160</u> acr	es.
(4) That a 158.54 -ac				مک دیس و س
of Sec. 9, Twp. 30-N		—		
Well No. 1 10				
(5) That this proration unit is approved by Order No.	() standard ()	nonstandard; if no	nstandard, said unit was prev	viously
(6) That said proration unit is well(s) on the unit.	not being effecti	vely and efficient	ly drained by the existing	
(7) That the drilling and comple	etion of the well	for which a finding	g is sought should result in	
the production of an additional otherwise be recovered.			proration unit which would n	lot
(8) That all the requirements of for which a finding is sought is reservoir covered by said proratunit.	necessary to effe	ectively and efficio	ently drain a portion of the	:he
(9) That in order to permit eff application should be approved.	ective and efficie	ent drainage of said	l proration unit, the subject	:
IT IS THEREFORE ORDERED:	•	•		
(1) That the applicant is hereby infill well on the existing pror- for infill drilling granted by to reservoir covered by said prorat any existing well thereon.	ation unit describ his order is neces	bed in Section II(4 ssary to permit the) above. The authorization drainage of a portion of the	
(2) That jurisdiction of this c Division may deem necessary.		·		· ·
DONE at Santa Fe, New Mexico, on	this 24th day	of March	, 19 <u>_82</u>	
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	DIVIS	ION DIRECTOR	EXAMINER	•
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A. R. "Al" Kendrick

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

SANTA FE

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 #9 well located 1095' FSL 1140' FWL of Section 9, 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 Harvey #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,

ak Kendrick

A. R. Kendrick

Enclosures

xc: Offset operators

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DATA SHEET

ORIGINAL WELL:

C & E Operators, Inc.

Harvey #1

Operator: Lease Location:

1718' FSL 923' FWL Section 9, T3ON, R11W 5/53 Completed: 11/10/53

Spud: 10/5/53 Co Stimulation: Shot w

Stimulation: Shot w/ 230 quarts of solidified nitroglycerin

Retreatment: Sand/oil fractured w/ 6195 gallons of oil and 5700 pounds of sand

Mechanical problems: Casing leak at shoe of production casing Remedial action: Squeezed w/ 200 sacks 50/50 Pozmix and cement Retreatment: Shot w/ 80 quarts of solidified nitroglycerin and

Sand/oil fractured w/7980 gallons of oil and 7000 pounds of sand

Current production rate: 4714 MCF during 1980

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

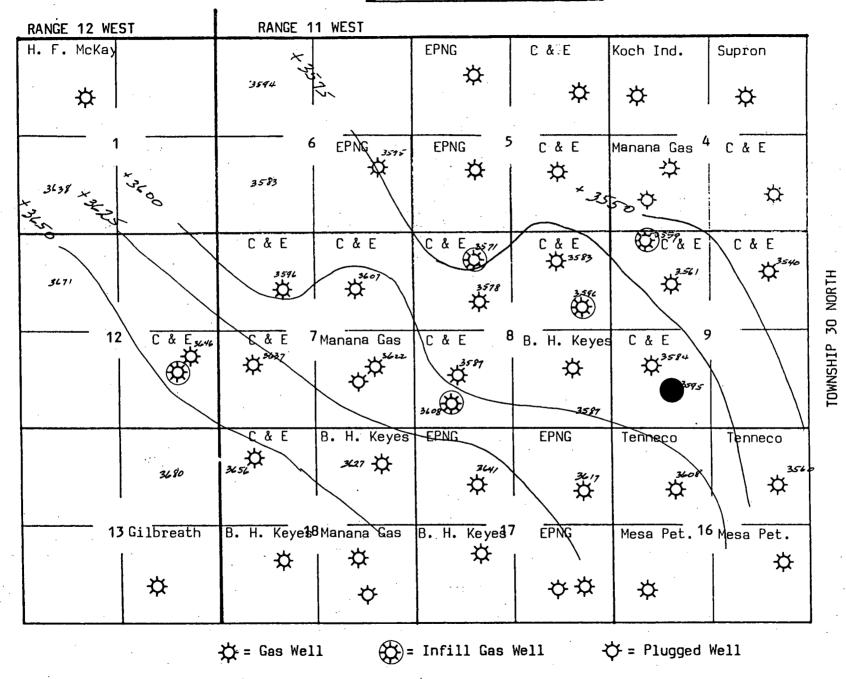
INFILL WELL:

Operator: C & E Operators, Inc. Lease: Aztec #9 Location: 1095' FSL 1140' FWL Section 9, T30N, R11W Spud: 2/14/81 Completed: 5/27/81 Stimulation: Sand/foam fractured w/ 70 quality foam and 40,000 pounds of sand

VOLUME of expected additional recovery: 38 MMCF

BASED on Boyle's Law, If the initial shut-in pressure of 655 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 244 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 339 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 160 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 290 psi measured 9/30/81 on the infill well indicates recoverable reserves of 198 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be 38 MMCF.

PICTURED CLIFFS STRUCTURE MAP



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

CITY OF AZTEC

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. Section 9-6 Page two

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 enumbered 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.

Section 9-6 Page three

> 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.

1.1

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- 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.

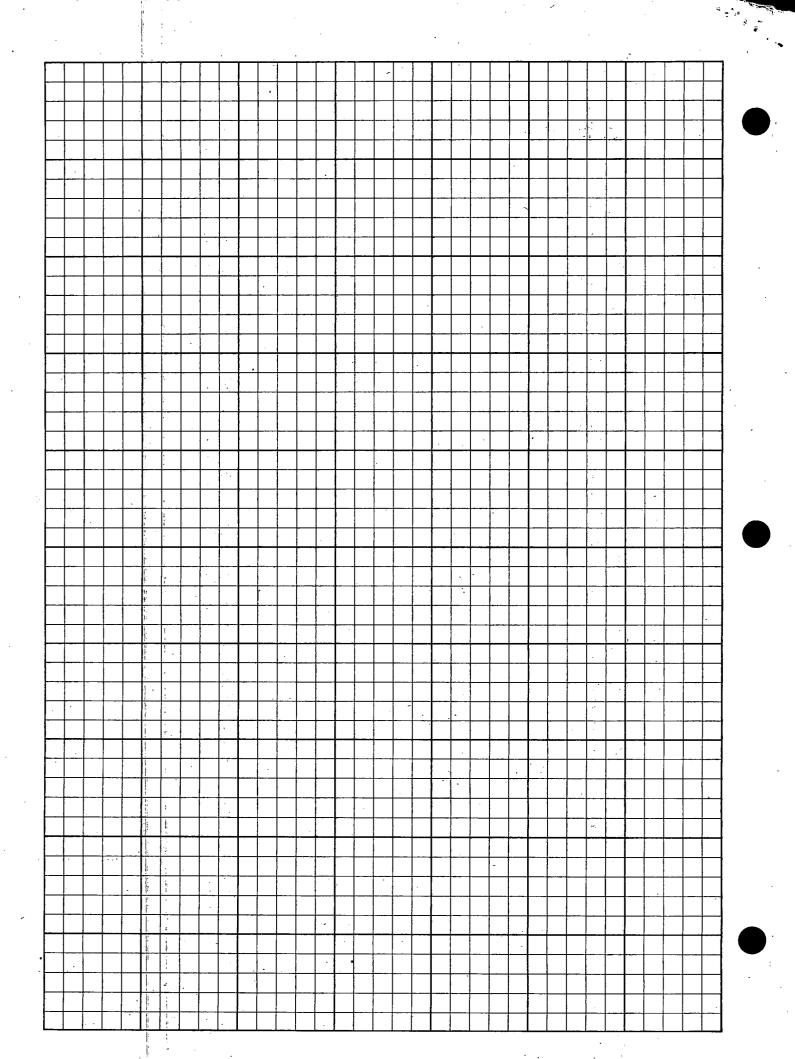
9-6-6 REQUIREMENTS FOR OPERATION OF DRILLING WELL:

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.

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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 #9 well located 1095' FSL 1140' FWL of Section 9, 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 Harvey #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

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DATA SHEET

ORIGINAL WELL:

Operator: C & E Operators, Inc. Lease Harvey #1 1718' FSL 923' FWL Section 9, T30N, R11W Location: Spud: 10/5/53 Completed: 11/10/53 Stimulation: Shot w/ 230 quarts of solidified nitroglycerin Retreatment: Sand/oil fractured w/ 6195 gallons of oil and 5700 pounds of sand Mechanical problems: Casing leak at shoe of production casing Remedial action: Squeezed w/ 200 sacks 50/50 Pozmix and cement Shot w/ 80 quarts of solidified nitroglycerin and Retreatment: Sand/oil fractured w/7980 gallons of oil and 7000 pounds of sand Current production rate: 4714 MCF during 1980

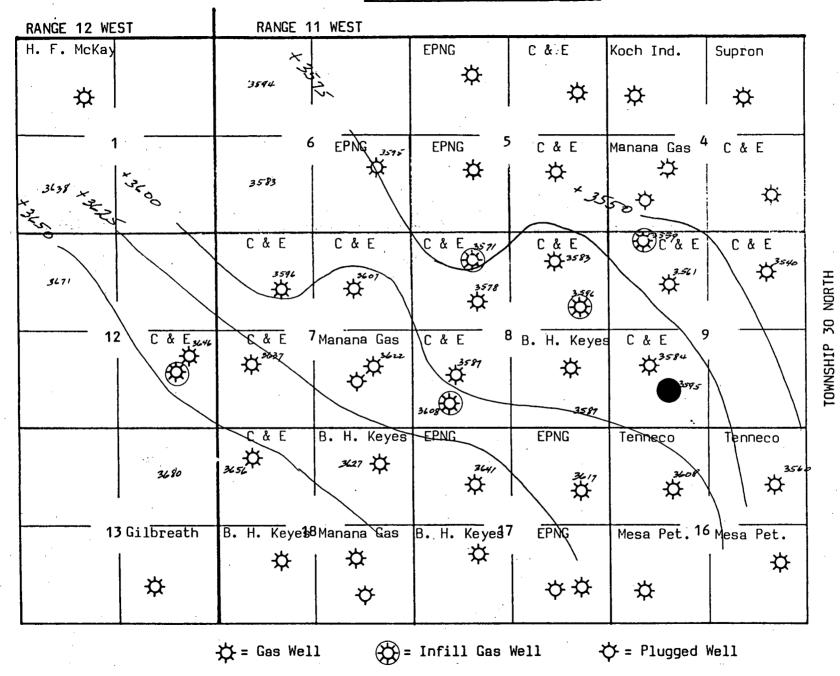
<u>REASON</u> that the existing well cannot effectively and efficiently drain the drill tract is because of the narrow radius of effective stimulation by the shot and low-volume fracture treatments. A high-volume fracture treatment is not feasible at this time due to the possibility of casing rupture.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

INFILL WELL:

Operator: C & E Operators, Inc. Lease: Aztec #9 Location: 1095' FSL 1140' FWL Section 9, T30N, R11W Spud: 2/14/81 Completed: 5/27/81 Stimulation: Sand/foam fractured w/ 70 quality foam and 40,000 pounds of sand

VOLUME of expected additional recovery: 38 MMCF

BASED on Boyle's Law, If the initial shut-in pressure of 655 psi represented 100% of the recoverable reserves, and if the shut-in pressure of 244 psi measured 10/19/81 represented the remaining recoverable reserves, and considering the production of 339 MMCF having been produced through 10/31/81; then, the remaining recoverable reserves were 760 MMCF at an abandonment pressure of 50 psi. The shut-in pressure of 290 psi measured 9/30/81 on the infill well indicates recoverable reserves of 199 MMCF at an abandonment pressure of 50 psi. Therefore, the additional recoverable reserves will be (39 MMCF. PICTURED CLIFFS STRUCTURE MAP



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

CITY OF AZTEC

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 soperating 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.

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> 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 (1¹/₂) 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.

Michael E. Stagner N.M. Oil Conservation Div. March 17, 1982 Infill Well Application A.R. "Al" Kendrick for COE Operators, Inc. Aztec Well No. 9, M-9-30N-11W Son Juan Co., NM Given : I.S.J.P. = 655 psi 5. I.P. = 244 psi Cummitative Production to date = 339 MMCF Abandonment Pressure = 50 psi 5. I.P. for infill well = 290 psi 655-244 = 411 pressure decline, p.s.i. 2/655psi = 339 MM(F) 411psi -> x = 540 Mmc F, Origina rearries (a) 155 psi. (50psi/155 psi) (540 MMCF) = 41 MMCF, reserve @ abandmount pressure of 50 pris. 540 MMCF -339 <u>MM(F</u> 201 MMCF Remaining Reserves to date - 41 MMLF 159 MMCF Remaining Recoverable hearons to date (290 pri of infill well) (540 MMCF) = 239 MMCF, 155 pri (540 MMCF) = 239 MMCF, nifill well reserved 239 MMLF - 41 MMCF 198 MMEF Infill Well Russerable Reserves -159 MM[F 39 MMIF Addinal Reserves