

EXHIBIT F

SUMMARY OF ENGINEERING DATA

SOUTH CULEBRA BLUFF UNIT WELL NO. 2

EDDY COUNTY, NEW MEXICO

The South Culebra Bluff Unit Well No. 2 has produced an estimated 216.2 million cubic feet of gas between November 20, 1978 and March 15, 1979 with flow rates declining from approximately 4.5 MMCFPD to 573 MCFPD during this period. The remaining gas-in-place by decline curve analysis would be 158 million cubic feet. The thickness of pay is estimated to be approximately 7 feet.

The original bottom hole pressure is estimated at 6076 psig. Porosity has been estimated at 9% of rock volume, connate water at 15% of pore space, and the bottom hole temperature at 190 degrees Fahrenheit. These factors indicate a total recoverable gas volume of 415 million cubic feet.

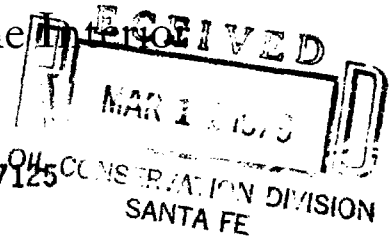
The Delta Drilling Company No. 1 South Culebra Bluff, 3700' south of the subject well, has penetrated the Upper Atoka section productive in the South Culebra Bluff No. 2 well. Based on sample cuttings, gas shows and log analyses, the productive sand in the South Culebra Bluff No. 2 well is absent in the South Culebra Bluff No. 1 well. Similarly, the pay zone in the South Culebra Bluff No. 1 well is not developed in the No. 2 well. That the producing zones in these two wells are stratigraphically, rather than structurally controlled, is indicated by both the accompanying cross-section (Exhibit E) and the structure map drawn on the Bell Lake Lime (Exhibit D). The structure map indicates regional tilt, with the South Culebra Bluff Nos. 1 and 2 being flat to each other. The cross-section indicates the separation of pay zones productive in these wells.

Based on the above data, it is submitted that the E/2 of Section 14, T23S, R28E, comprised of 320 acres of land, has been reasonably proved to be productive of gas in paying quantities.



United States Department of the Interior

GEOLOGICAL SURVEY  
P. O. Box 26124  
Albuquerque, New Mexico 87125



MAR 12 1979

*No. 6117*

Delta Drilling Company  
Attention: Mr. James L. Wible  
P. O. Box 2012  
Tyler, Texas 75710

Gentlemen:

On this date, your 1979 plan of development and operation for the South Culebra Bluff unit area, Eddy County, New Mexico, wherein you propose to complete evaluation of the No. 3 South Culebra Bluff unit well and drill well No. 4 South Culebra Bluff in the  $W\frac{1}{2}$  sec. 13, T. 23 S., R. 38 E., N.M.P.M., to test the Morrow, was approved. Such approval is subject to like approval by the appropriate State officials.

One approved copy of such plan is enclosed.

Sincerely yours,

(ORIG. SGD.) JAMES W. SUTHERLAND

Oil and Gas Supervisor, SRMA

Enclosure

CC:  
NMOCD, Santa Fe (1tr. only) ← 1979 File Copy for  
Com. Pub. Lands, Santa Fe (1tr. only)

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

March 5, 1979

Delta Drilling Company  
Box 2012  
Tyler, Texas 75710

Attention: James L. Wible

Re: Case No. 6117  
South Culebra Bluff Unit  
1979 Plan of Further Development  
and Operation

Gentlemen:

We hereby approve the 1979 Plan of Further Development and Operation for the South Culebra Bluff Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

One approved copy of the Plan is returned herewith.

Yours very truly,

JOE D. RAMEY  
Director

JDR/LT/fd  
enc.

cc: USGS - Roswell  
Commissioner of Public Lands

C

O

P

Y

# DELTA DRILLING COMPANY

Box 2012 TELEPHONE 214 595-1911

TYLER, TEXAS 75710

February 26, 1979

*No. 6117  
Approve*

Supervisor  
U. S. Geological Survey  
Drawer 1857  
Roswell, NM 88201

Director  
Oil Conservation Division  
Energy and Minerals Department  
P. O. Box 2088  
Santa Fe, NM 87501

Re: Plan of Further Development and Operation  
South Culebra Bluff Unit, October 10, 1977  
Contract Number 14-08-0001-16067  
Township 23 South, Range 28 East, N.M.P.M.  
Eddy County, New Mexico

Gentlemen:

Reference is made to the Plan of Further Development and Operation dated June 22, 1978, submitted by Delta Drilling Company as Operator of the South Culebra Bluff Unit, as modified by letter dated December 29, 1978. The modification extended the original Plan to February 28, 1979 to allow the Operator sufficient time to drill the #3 South Culebra Bluff Unit well which was provided for in the original Plan.

It is anticipated that the #3 Unit well (a 8,000' Bone Springs test now drilling in the SW/4 of NE/4 of Section 23, T23S, R28E) will be at total depth by February 28, 1979, but will not be fully evaluated by that date. In accordance with Paragraph 10 of the South Culebra Bluff Unit Agreement, Delta Drilling Company, as Unit Operator, hereby submits this Plan of Further Development and Operation for the unitized land. This plan, which has been approved by the working interest owners in the Unit, shall, upon approval, constitute the Plan of Development for the time period March 1, 1979 through December 31, 1979.

In furtherance of the working interest owners' plans to continue exploration of the unitized area and to drill the wells necessary for determination of the areas thereof capable of producing unitized substances from each productive formation, the following plan of further evaluation, exploration and development is proposed:

RECEIVED

FEB 23 1979

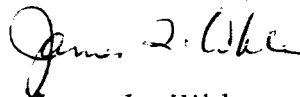
OIL CONSERVATION DIVISION  
SANTA FE

Supervisor, U. S. Geological Survey  
Director, Oil Conservation Division  
Re: South Culebra Bluff Unit  
February 26, 1979  
Page 2

- A. Evaluation: Complete evaluation of the #3 South Culebra Bluff Unit Well. Submit an amended Plan as circumstances dictate.
- B. Drilling: (1) Drill the #4 South Culebra Bluff Unit Well at a legal location in the W/2, Section 13-23S-28. The #4 Well will be a projected 13,300 ft. Morrow test and will be spudded in the 2nd quarter, 1979. (2) Other Morrow tests will be contingent upon the success of the #4 Well, as well as the success of other development tests in the South Culebra Bluff Federal Unit area. Upon evaluation, an amended plan will be submitted as in "A" above.
- C. Operating practices for proper conservation of natural resources will be continued.

We respectfully request your approval of this Plan.

Very truly yours,

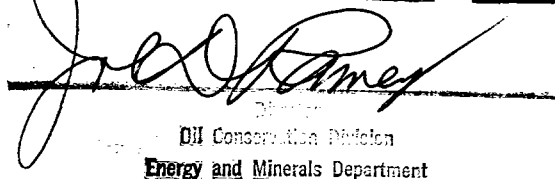


James L. Wible  
Executive Vice President

OK Trans.  
OK Form

JLW:jcb

Approved March 6 19 79



Joe O'Rourke  
Director  
Oil Conservation Division  
Energy and Minerals Department

RECEIVED  
FEB 28 1979  
OIL CONSERVATION DIVISION  
SANTA FE

THIS APPROVAL CONSTITUTES THE NECESSARY APPROVAL  
FOR THE EXECUTION OF THE PLAN BY THE GEOLOGICAL  
SURVEY AND THE BUREAU OF LAND MANAGEMENT OF THE  
DEPARTMENT OF THE INTERIOR.

# Memo

From

LYNN  
TESCHENDORF

To Dan

Please check this.

L

Lynn, this is a small unit area, and I think that one 13000-ft well should be sufficient for a one year development plan for a unit its size.

OIL CONSERVATION COMMISSION-SANTA FE



# United States Department of the Interior

GEOLOGICAL SURVEY

P. O. Box 26124  
Albuquerque, New Mexico 87125

JAN 23 1979

Delta Drilling Company  
Attention: Mr. R. Dale Keadle  
P. O. Box 2012  
Tyler, Texas 74710

*No. 6117*

Gentlemen:

The 1979 plan of development submitted for the South Culebra Bluff unit area, Eddy County, New Mexico, was approved on this date subject to like approval by the appropriate State officials.

Such plan reschedules the drilling of the No. 3 unit well to the first quarter of 1979 since a rig was not available for the drilling of this well in 1978.

One approved copy is enclosed.

Sincerely yours,

(ORIG. SGD.) JAMES W. SUTHERLAND

Oil and Gas Supervisor, SRMA

## Enclosure

cc:  
NMOCD, Santa Fe (1tr. only) ← This Copy for  
Com. Pub. Lands, Santa Fe (1tr. only)

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

January 5, 1979

Delta Drilling Company  
Box 2012  
Tyler, Texas 75710

Attention: R. Dale Keadle

Re: Case No. 6117  
South Culebra Bluff Unit  
Modified Plan of  
Development

Gentlemen:

We hereby approve the Modified Plan of Development and Operation for the South Culebra Bluff Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Three approved copies of the Modified Plan are returned herewith.

Yours very truly,

JOE D. RAMEY  
Director

JDR/fd  
enc.

cc: U.S.G.S. - Roswell  
Commissioner of Public Lands

C  
O  
P  
Y



# DELTA DRILLING COMPANY

Box 2012 TELEPHONE 214 595-1911

TYLER, TEXAS 75710

December 29, 1978

ADDRESS REPLY TO

Dale Keadle  
Delta Drilling Company  
P. O. Box 2113  
Midland, Texas 79702

Supervisor  
U. S. Geological Survey  
Drawer 1857  
Roswell, New Mexico 88201

Director  
Oil Conservation Division  
Energy and Minerals Department  
P. O. Box 2088  
Santa Fe, New Mexico 87501

*No. 6117*

Re: Plan of Further Development and Operation  
South Culebra Bluff Unit, October 10, 1977  
Contract Number 14-08-0001-16067  
Township 23 South, Range 28 East N.M.P.M.  
Eddy County, New Mexico

Gentlemen:

Reference is made to our Plan of Further Development and Operation dated June 12, 1978, approved by the U.S.G.S. on June 13, 1978 and partially approved by the State of New Mexico on June 15, 1978.

Such Plan called for (1) the drilling of the #2 South Culebra Bluff Unit Well in the E $\frac{1}{2}$  Section 14-23S-28E, (2) the drilling of the #3 South Culebra Bluff Unit Well in the NE $\frac{1}{4}$  Section 23-23S-28E prior to December 31, 1978, and (3) the recomple-tion of the #1 South Culebra Bluff Unit Well.

Under the Plan, the #2 Unit Well was drilled and completed as a gas well and the #1 Unit Well was killed and recompleted as a gas well. Kill operations on the #1 Unit Well were commenced on August 29, 1978 and the well was recompleted on November 22, 1978.

The #3 South Culebra Bluff Unit Well has not been drilled due to the holding over on a previous well of the drilling rig scheduled to drill the #3 Unit well. Delta's rig number 60 was scheduled to move on and commence the #3 Unit well in early December. However, it was then and remains now under contract to Coquina Oil Corporation on a well in Section 20-23S-23E, Eddy County, New Mexico. It has been held over on the Coquina well because of well bore problems. It appears now that

December 29, 1978  
U. S. Geological Survey  
Oil Conservation Division  
Re: Plan of Further Development and Operation  
South Culebra Bluff Unit  
Eddy County, New Mexico  
Page Two

it will be middle to late January before rig 60 will be available to move to our #3 Unit location.

Therefore, we wish to modify the existing Plan of Further Development and Operation to provide that the drilling of the #3 South Culebra Bluff Unit Well be accomplished prior to February 28, 1979 and respectfully request your approval of such modification.

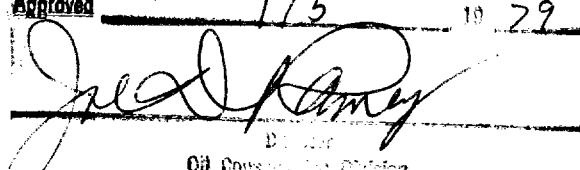
Thank you for your cooperation.

Very truly yours,



R. Dale Keadle

RDK:gk

Approved 1/5 19 79  
  
Director  
Oil Conservation Division  
Energy and Minerals Department

11/5/78  
11/5/78  
11/5/78  
11/5/78

# DELTA DRILLING COMPANY

Box 2012 TELEPHONE 214 595-1011

TYLER, TEXAS 75701

Reply to:  
R.D. Keadle  
Delta Drilling Co.  
Box 2113  
Midland, Texas 79702

Certified Mail  
Return Receipt Requested

Supervisor  
U.S. Geological Survey  
Drawer 1857  
Roswell, New Mexico

Director  
Oil Conservation Division  
Energy and Minerals Department  
P.O. Box 2088  
Santa Fe, New Mexico 87501

*No. 6117*

Re: Plan of Further Development and Operation  
South Culebra Bluff Unit, October 10, 1977  
Contract Number 14-08-0001-16067  
Township 23 South, Range 28 East NMPM  
Eddy County, New Mexico

Gentlemen:

Delta Drilling Company, Operator of the captioned unit, has drilled and completed the #1 Culebra Bluff Unit well 1980' FNL and 1650' FEL of Section 23, T23S; R28E NMPM at a depth of 11,769 feet in the Atoka formation. Complete documentation of the well has been furnished to you in accordance with the terms of the Unit Agreement.

Section 9 of the Unit Agreement required a test well to be drilled to a depth sufficient to test the Morrow formation unless unitized substances were discovered at a lesser depth. Due to the blowout in the test well, we were unable to drill such test to the Morrow formation but did succeed in completing the well at a lesser depth in the Atoka formation. Therefore, in accordance with Section 10 of the Unit Agreement, we now formally submit for your approval a "Plan of Further Development and Operation" for the unitized land. This plan which has been approved by the working interest owners in the unit shall constitute our further drilling and operating obligations as Unit Operator for the time period shown below.

Delta plans to explore the unitized area and to diligently drill the wells necessary for determination of the area or areas capable of producing unitized substances in paying quantities in every potentially productive

formation. We plan to prudently and timely develop as well as properly conserve the oil and gas resources of the unitized area. Specifically, we plan to do the following during a period of time ending December 31, 1978.

- A. Wells to be drilled: (1) Drill the #2 South Culebra Bluff Unit well at a legal location in the E $\frac{1}{2}$  of Section 14-T23S-R28E, NMPM. The #2 will be a projected 13,200 foot Morrow test and will be drilled during the third quarter of 1978.
- (2) Drill the #3 South Culebra Bluff Unit well at a legal location in the NE $\frac{1}{4}$  of Section 23-T23S-R28E, NMPM. The #3 well will be a projected 8,000 foot Bone Springs Test and will be drilled subsequent to the #2 well but prior to December 31, 1978.
- (3) Reenter the #1 South Culebra Bluff Unit well and deepen same to a sufficient depth (Est. 11,900+ feet) to make a proper completion in the Atoka formation. This reentry will occur subsequent to the drilling of the #2 well but prior to December 31, 1978.
- B. Operating practices for proper conservation of natural resources will be continued.

The rig to be used to drill the #2 well is presently located in Brewster County, Texas. Moving operations have begun to transport the rig to the South Culebra Bluff unit to commence drilling operations as soon as feasible. Therefore, we respectfully request your early approval of the plan so that we may proceed to develop the South Culebra Bluff Unit.

Very truly yours,



R. Dale Keadle

RDK/mls



# United States Department of the Interior

GEOLOGICAL SURVEY

P. O. Box 26124  
Albuquerque, New Mexico 87125

APR 14 1978

Delta Drilling Company  
Attention: Mr. Don R. Thomas  
P. O. Box 2012  
Tyler, Texas 75710

*no. 6667*

Gentlemen:

The initial Atoka participating area for the South Culebra Bluff unit agreement, Eddy County, New Mexico, No. 14-03-0901-16067, was approved on this date by the Area Oil and Gas Supervisor, U. S. Geological Survey, effective as of January 27, 1978.

The initial Atoka participating area embraces 320 acres described as the E $\frac{1}{2}$  sec. 23, T. 23 S., R. 28 E., N.M.P.M., and is based on the information obtained by the January 27, 1978 completion of unit well No. 1 in the SW $\frac{1}{4}$ NE $\frac{1}{4}$  of sec. 23 as a well capable of producing unitized substances in paying quantities from the Atoka.

Copies of the approved application are being distributed to the appropriate Federal offices and one approved copy is returned herewith. You are requested to furnish all interested parties with appropriate evidence of this approval.

Sincerely yours,

(ORIG. SGD.) GENE F. DANIEL

Acting Area Oil and Gas Supervisor

Enclosure

cc:  
BLM, Santa Fe (ltr. only)  
NMOCC, Santa Fe (ltr. only) ← This Copy for

**OIL CONSERVATION COMMISSION**

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

April 5, 1978

Delta Drilling Company  
Box 2012  
Tyler, Texas 75710

Attention: Don R. Thomas

Re: Case No. 6117  
South Culebra Bluff Unit  
Initial Atoka Participating  
Area

Gentlemen:

We hereby approve the Designation of Initial Atoka Participating Area for the South Culebra Bluff Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

One approved copy of the Participating Area is returned herewith.

Very truly yours,

JOE D. RAMEY  
Director

JDR/LT/fd  
enc.

cc: U.S.G.S. - Roswell  
Commissioner of Public Lands

C  
O  
P  
Y

# DELTA DRILLING COMPANY

BOX 2012 TELEPHONE 214 595-1011

TYLER, TEXAS 75710

March 31, 1978

United States Department of the Interior  
Geological Survey  
P. O. Drawer 1857  
Roswell, New Mexico 88201

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Land Office Building  
Santa Fe, New Mexico 87501

Re: Designation of Initial Atoka Participating Area  
South Culebra Bluff Unit, Eddy County, New Mexico  
NO. 14-08-0001-16067

Gentlemen:

Reference is made to the Unit Agreement for the South Culebra Bluff Unit Area which has been approved by the New Mexico Oil Conservation Commission and the United States Geological Survey.

Delta Drilling Company, as Unit Operator, has drilled the South Culebra Bluff Unit Well No. 1 at a location 1980' FNL and 1650' FEL of Section 23, T23S, R28E, Eddy County, New Mexico which well was drilled to a depth of 11,769' below the surface and is presently completed as a producing well (open hole) from the Atoka formation.

The subject Unit Agreement provides, in Paragraph 11 thereof, that upon completion of a well capable of producing unitized substances in paying quantities the Unit Operator shall submit for approval a schedule of all land reasonably proved to be productive in paying quantities, such land to constitute a participating area under the terms of such Unit Agreement. Delta submits that the 320 acres of land comprising the E/2 of Section 23, T23S, R28E, Eddy County, New Mexico, has been reasonably proved to be productive of gas in paying quantities and respectfully requests that the New Mexico Oil Conservation Commission and the United States Geological Survey approve such designation effective as of January 27, 1978.

Attached hereto are the following Exhibits:

- (a) Exhibit "A" Plat showing the outline of the 1280 acres included in the South Culebra Bluff Unit, the location of the South Culebra Bluff Unit Well No. 1 and the acreage which, Delta submits, should be designated as the initial Atoka Participating Area for the subject well, being the E/2 of Section 23, T23S, R28E, Eddy County, New Mexico, comprising 320 acres of land.

United States Department of the Interior  
Geological Survey  
New Mexico Oil Conservation Commission  
February 28, 1978  
Page 2

- (b) Exhibit "B" Schedule describing the acreage proposed to be included in such Participating Area and a description of the leases covering such acreage.
- (c) Exhibit "C" Schedule setting forth the allocation of unitized production within such proposed initial Participating Area together with the working ownership thereof.
- (d) Exhibit "D" Summary of engineering data supporting this request.

Your consideration in designating the proposed initial Atoka Participating Area described above as the initial Atoka Participating Area for the subject unit will be appreciated very much.

Very truly yours,

DELTA DRILLING COMPANY

By Don R. Thomas  
Don R. Thomas, Manager  
Land Department

DRT/JH/jb

cc: U.S.G.S.  
505 Marquette, N.W.  
Suite 815  
Albuquerque, New Mexico 87102

Approved.....<sup>4/5</sup>.....1978.

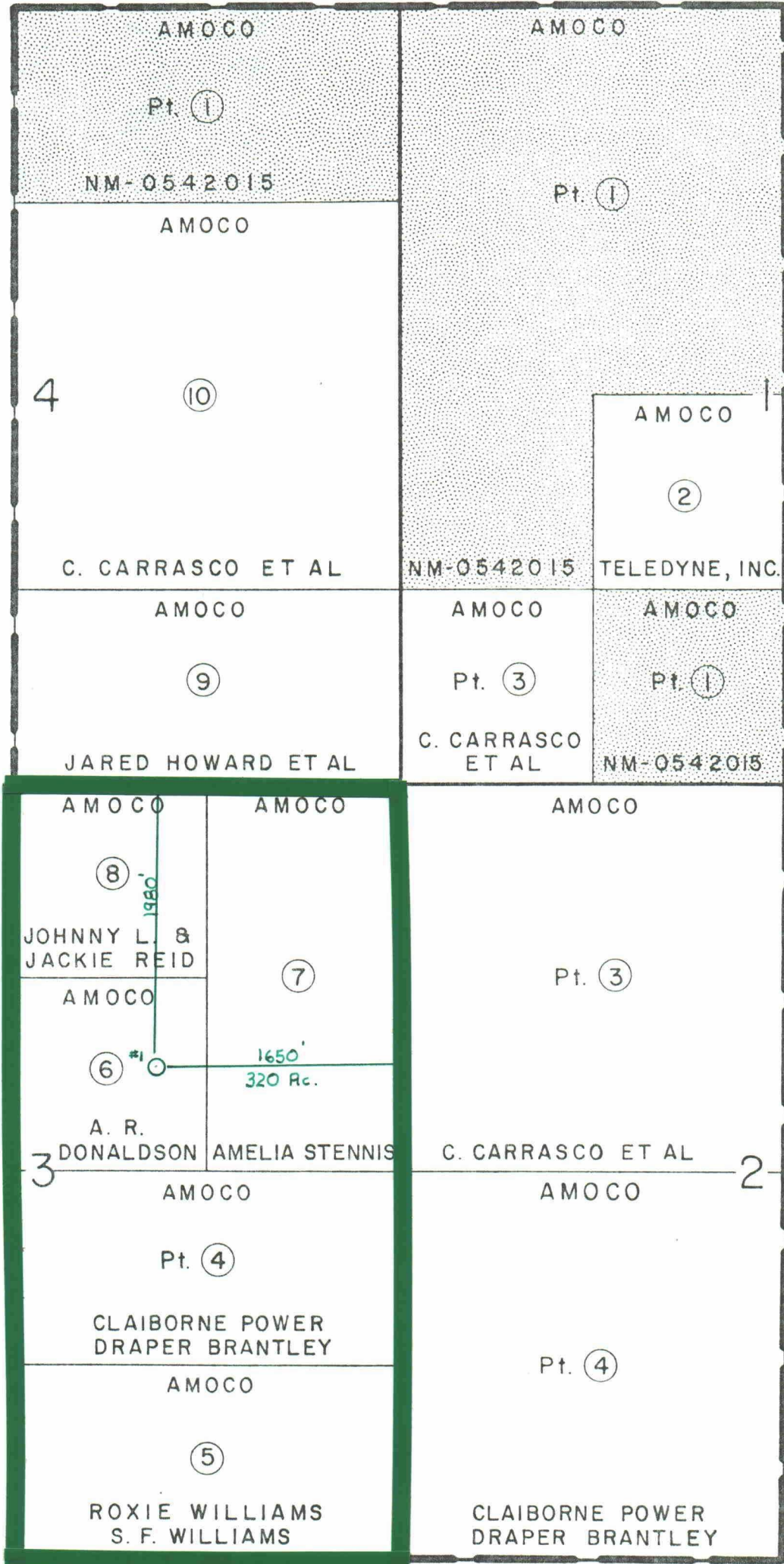
John J. Honey  
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION  
DIVISION

THIS DOCUMENT CONTAINS NEITHER RECOMMENDATIONS NOR APPROVALS  
OF THE U.S. GEOLOGICAL SURVEY OR THE U.S. DEPARTMENT OF THE INTERIOR  
EXCEPT WHERE SHOWN OTHERWISE. THE U.S. GEOLOGICAL SURVEY IS AN  
EQUAL OPPORTUNITY AGENCY.







T  
23  
S



FEDERAL  
LEASE  
NM-0542015

LEGEND

-  FEDERAL LAND
-  FEE LAND
-  TRACT NUMBER
-  UNIT BOUNDARY

NOTE:

TOTAL FEDERAL ACREAGE--- 320  
 TOTAL FEE ACREAGE----- 960  
 TOTAL ACRES IN UNIT----- 1280

 Participating Area

EXHIBIT "A"

TO ACCOMPANY  
 SOUTH CULEBRA BLUFF UNIT AGREEMENT  
 EDDY COUNTY, NEW MEXICO  
 SCALE: 1" = 1000'

PROPOSED PARTICIPATING AREA  
 SOUTH CULEBRA BLUFF UNIT  
 EDDY COUNTY, NEW MEXICO

UNIT TRACT NO.	ACREAGE DESCRIPTION	LEASE DESCRIPTION	PARTICIPATING ACRES
4 (part)	T23S, R28E Sec. 23: N/2 of SE/4	Oil & Gas Lease dated March 30, 1973, executed by Clatborne M. Power, et al, to Clifton Wilderspin, recorded in Volume 100, Page 405, Miscellaneous Records, Eddy County, New Mexico	80 Acres
5	T23S, R28E Sec. 23: S/2 of SE/4	Oil & Gas Lease dated April 3, 1973, executed by S. F. Williams to Clifton Wilderspin, recorded in Volume 98, Page 62, Miscellaneous Records, Eddy County, New Mexico	80 Acres
6	T23S, R28E Sec. 23: SW/4 of NE/4	Oil & Gas Lease dated April 3, 1973, executed by Roxie L. Williams to Clifton Wilderspin, recorded in Volume 99, Page 127, Miscellaneous Records, Eddy County, New Mexico	40 Acres
7	T23S, R28E Sec. 23: E/2 of NE/4	Oil & Gas Lease dated March 27, 1973, executed by Arthur R. Donaldson et al to Clifton Wilderspin, recorded in Volume 98, Page 52, Miscellaneous Records, Eddy County, New Mexico	80 Acres

UNIT TRACT NO.	ACREAGE DESCRIPTION	LEASE DESCRIPTION	PARTICIPATING ACRES
8	T23S, R28E Sec. 23: NW/4 of NE/4	Oil & Gas Lease dated March 22, 1973, executed by Johnny L. Reid et al to Clifton Wilderspin, recorded in Volume 98, Page 34, Miscellaneous Records, Eddy County, New Mexico	40 Acres

EXHIBIT "B"

ALLOCATION SCHEDULE  
 SOUTH CULEBRA BLUFF UNIT  
 (Proposed Atoka Participating Area)

TRACT NO.	DESCRIPTION	PARTICIPATING ACRES	% OF PARTICIPATING AREA	WORKING INTEREST OWNER
4 (pt)	T23S, R28E Sec. 23: N/2 of SE/4	80	25%	* Delta Drilling Company 100%
5	T23S, R28E Sec. 23: S/2 of SE/4	80	25%	* Delta Drilling Company 100%
6	T23S, R28E Sec. 23: SW/4 of NE/4	40	12.5%	* Delta Drilling Company 100%
7	T23S, R28E Sec. 23: E/2 of NE/4	80	25%	* Delta Drilling Company 100%
8	T23S, R28E Sec. 23: NW/4 of NE/4	40	12.5%	* Delta Drilling Company 100%

\* Effective March 1, 1978 this interest owned by Delta Drilling Company (50%) and Amoco Production Company (50%).

EXHIBIT "C"

EXHIBIT "D"

SUMMARY OF ENGINEERING DATA

SOUTH CULEBRA BLUFF UNIT WELL NO. 1

EDDY COUNTY, NEW MEXICO

The South Culebra Bluff Unit Well No. 1 has produced an estimated 2.1 billion cubic feet of gas between January 27, 1978, and March 29, 1978, with flow rates declining from approximately 40 MMCF/D to 30 MMCF/D during this period. Including estimates of losses, the gas-in-place by decline curve analysis would be between 8 and 12 billion cubic feet. The thickness of pay is estimated to be approximately 15 feet.

The original bottom hole pressure is estimated at 9300 psig with a gas compressibility factor of 1.343 under original conditions. Porosity has been estimated at 18% of rock volume, connate water at 20% of pore space, and the bottom hole temperature at 195 degrees Fahrenheit. These factors indicate a gas-in-place per volume of rock of 2.349 million cubic feet per acre foot.

The Delta Drilling Company Donaldson Com A No. 1, 1320 feet west of the subject well, has penetrated the entire Atoka section. Based on cutting sample analyses and gas shows, the Atoka section encountered in such well does not appear to be comparable to the corresponding section of the South Culebra Bluff Unit Well No. 1, and it is not expected that additional information will be obtained from such well which would be of assistance in the determination of a participating area of the South Culebra Bluff Unit Well No. 1

Based on the above data, it is submitted that the E/2 of Section 23, T23S, R28E, comprised of 320 acres of land, has been reasonably proved to be productive of gas in paying quantities.



# United States Department of the Interior

## GEOLOGICAL SURVEY

P. O. Box 26124  
Albuquerque, New Mexico 87125

MAR 22 1978

Delta Drilling Company  
Attention: Mr. Carl E. Haskett  
P. O. Box 2012  
Tyler, Texas 75710

Gentlemen:

Your letter of March 8, 1978, advises that as unit operator of the South Culebra Bluff unit, Eddy County, New Mexico, you have determined that unit well No. 1, located in the S1/2E1/4, sec. 23, T. 23 S., R. 28 E., N.M.P.M., on fee acreage, is capable of producing unitized substances in paying quantities from the Atoka.

Unit well No. 1 began sales to the pipeline on January 27, 1978, and one months operation produced 1,100,000 MCF of gas from the approximate Atoka interval 11,754 to 11,769 feet.

The New Mexico Oil Conservation Commission approved your determination on March 7, 1978, and this office hereby concurs that said unit well is capable of producing unitized substances in paying quantities from the Atoka pursuant to Section 9 of the unit agreement.

Sincerely yours,

(ORIG. S&D.) GENE F. DANIEL

GENE F. DANIEL  
Acting Area Oil & Gas Supervisor

cc:  
BLM, Santa Fe (1tr. only)  
NMOCC, Santa Fe (1tr. only)

MAKE THIS COPY FOR

# DELTA DRILLING COMPANY

Box 2012 TELEPHONE 214 595-1911

TYLER, TEXAS 75710

August 1, 1979

ADDRESS REPLY TO

R. D. Keadle  
Delta Drilling Company  
P. O. Box 3467  
Midland, Texas 79702

Supervisor  
U. S. Geological Survey  
Drawer 1857  
Roswell, New Mexico 88201

6/17

Director  
Oil Conservation Division  
Energy and Minerals Department  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Revised Exhibits 'A' & 'B'  
South Culebra Bluff Unit, October 10, 1977  
Contract Number 14-08-0001-16067  
Township 23 South, Range 28 East, N.M.P.M.  
Eddy County, New Mexico

Gentlemen:

Section 2 of the captioned Unit Agreement provides for the revision of Exhibits 'A' and 'B' whenever changes in the unit area render such revision necessary.

With the assignments of certain rights from Amoco to Delta, changes in ownership of minerals underlying certain tracts, and acquisition of new leases within the unit area, it is now proper to revise such exhibits in accordance with the Unit Agreement.

Enclosed are six (6) copies of such revised exhibits for the U.S.G.S. and three copies for the NMOCD which reflect current ownership to the extent known to the operator.

RECEIVED  
OIL CONSERVATION DIVISION  
SANTA FE

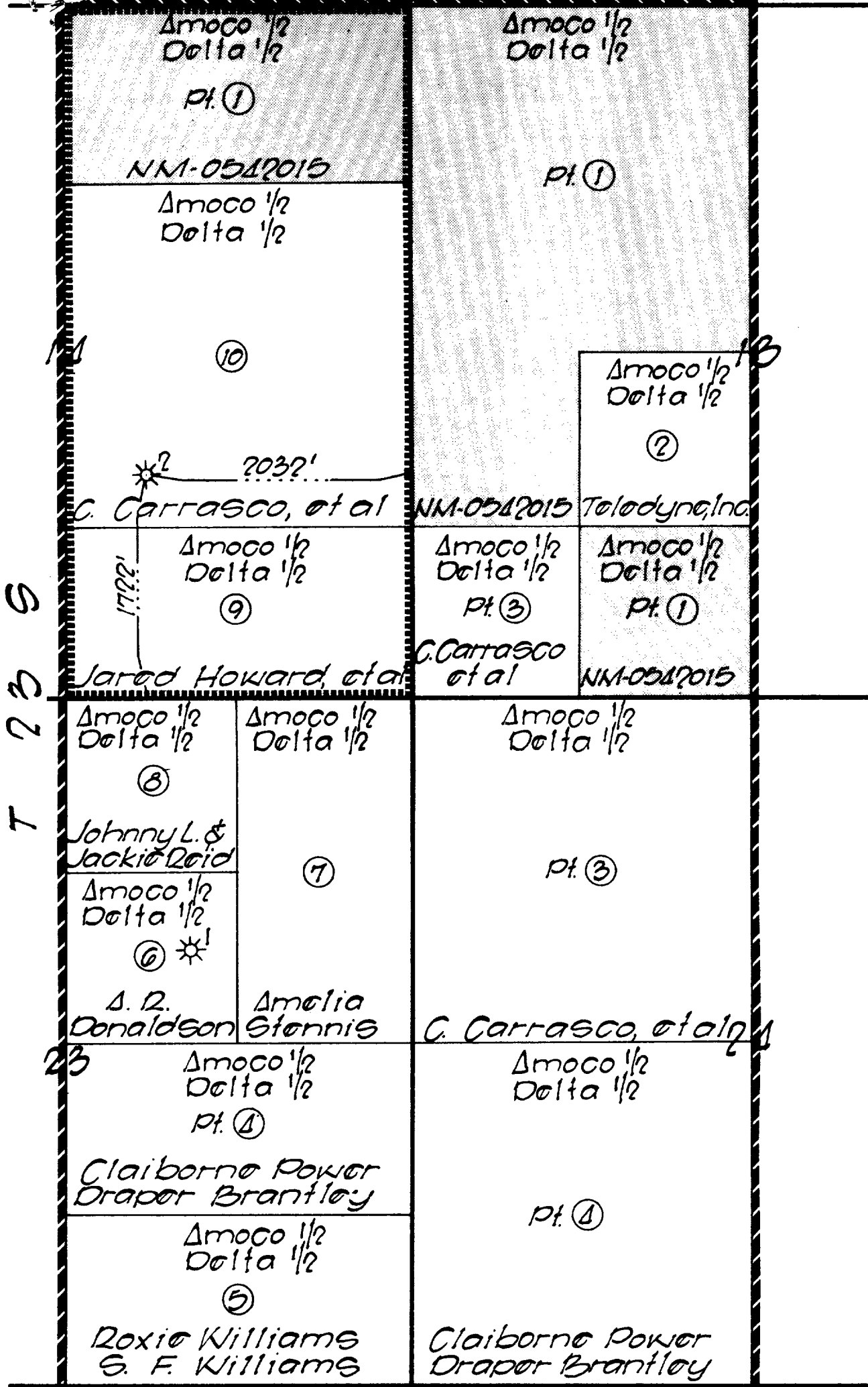
Very truly yours,

*R. D. Keadle*  
R. D. Keadle

RKD:gk

Enclosure

*Approved  
Aug 20  
1979  
[Signature]*



1" = 1000' ft.

M  
S  
T  
23

LEGEND

- Federal Land
- Fee Land
- ⑤ - Tract Number
- Unit Boundary
- Participating Area
- NM-0542015 - Federal Lease

NOTE:

Total Federal Acreage 320  
 Total Fee Acreage 960  
 Total Acreage in Unit 1280

EXHIBIT 'A'

SOUTH CULEBRA BLUFF  
 UNIT, EDDY COUNTY,  
 NEW MEXICO



EXHIBIT "B"  
SOUTH CULEBRA BLUFF UNIT AGREEMENT  
EDDY COUNTY, NEW MEXICO  
T 23 S, R 28 E

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. AND EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY AND OWNERSHIP PERCENTAGE	WORKING INTEREST AND OWNERSHIP PERCENTAGE	RECORDED BOOK-PAGE
FEDERAL LANDS								
T23S R28E								
1	Sec. 13: NW/4, NW/4 SW/4, SE/4 SW/4 Sec. 14: N/2 NE/4	320	NM0542015 3-18-78	USA .1250	Amoco Production & Delta Drilling Co.	H.P. McIlish et ux Margot - .0625 Chas. W. Hicks et ux Margie H - .0625	Amoco-50% (522287) Delta-50%	143-323
FEDERAL LANDS								
ONE TRACT 320 ACRES 25% OF UNIT								
FEE LANDS								
2	Sec. 13: NE/4 SW/4	40	3-14-79	Teledyne, Inc. .18750	Amoco Production & Delta Drilling Company	None	Teledyne-12.50% Amoco-37.50% (536330) Delta-50%	114-909
3	Sec. 13: SW/4 SW/4 Sec. 24: NW/4	200	7-19-81	Candelario Carrasco et ux .046875	Amoco Production & Delta Drilling Company	None	Amoco-50% (522076) Delta 50%	153-450 & 153-454
			11-1-78	Aguila Cattle Co. .046875				152-388
			11-24-80	Saul Baker, et ux .062500				151-789
			10-24-80	Crocker National Bank, Trustee for Albert Berger; and Ella Cohn dealing in separate property .027777				151-831

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. AND EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY AND OWNERSHIP PERCENTAGE	WORKING AND OWNERSHIP INTEREST PERCENTAGE	RECORDED BOOK-PAGE
4	Sec. 23: N/2 SE/4 Sec. 24: E/2 SW/4, SW/4 SW/4, S/2 NW/4 SW/4, NE/4 NW/4 SW/4	230	3-31-81 3-30-78	Merland, Inc. .049342 J. Draper Brantley, Jr. .084498 Claiborne M. Power .084498	Amoco Production & Delta Drilling Company	None	Amoco-50% (521936) Delta-50%	156-418 & 156-420 99-149
4-A	Sec. 24: NW/4 NW/4 SW/4	10	3-30-78	J. Draper Brantley, Jr. .09375 Claiborne M. Power .09375	Amoco Production & Delta Drilling Company	None	Amoco-50% (521936) Delta-50%	99-149 100-405
5	Sec. 23: S/2 SE/4	80	4-3-81	Roxie Williams .09375 S. F. Williams .09375	Amoco Production & Delta Drilling Company	None	Amoco-50% (521919) Delta-50%	99-127 98-62
6	Sec. 23: SW/4 NE/4	40	3-27-81	A.R. Donaldson .18750	Amoco Production & Delta Drilling Company	None	Amoco-50% (521914) Delta-50%	98-52
7	Sec. 23: E/2 NE/4	80	4-9-78	Amelia Stennis .18750	Amoco Production & Delta Drilling Company	None	Amoco-50% (521962) Delta-50%	100-441
8	Sec. 23: NW/4 NE/4	40	3-22-81	Johnny L. Reid et ux Jackie .18750	Amoco Production & Delta Drilling Company	None	Amoco-50% (521899) Delta-50%	98-34

TRACT NO.	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. AND EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY AND OWNERSHIP PERCENTAGE	WORKING AND OWNERSHIP PERCENTAGE	RECORDED BOOK-PAGE
9	Sec. 14: S/2 SE/4	80	4-13-81	Jared Howard .0117187 Freida Howard .0234375 Seaborn W. Price & Estate of Beula K. Price-.046875 Betty R. Howard & Estate of Reginald G. Howard-.046875 Harvey R. Hicks, et ux .046875 David Howard .0117187	Amoco Production & Delta Drilling Company	None	Amoco-50% (521953) Delta-50%	100-415 100-417 155-553
10	Sec. 14: S/2 NE/4, N/2 SE/4	160	7-19-78	Candelario Carrasco .046875	Amoco Production & Delta Drilling Company	None	Amoco-50% (522077) Delta-50%	105-512
			11-1-78	Aguila Cattle Co. .046875				152-388
			11-24-80	Saul Baker, et ux .062500				151-789
			10-24-80	Crocker National Bank, Trustee for Albert Berger; and Ella Cohn dealing in seperate property. .027777				151-831

FEE LANDS      9 TRACTS      960 ACRES      75% OF UNIT

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Case 6117

March 7, 1978

Delta Drilling Company  
P. O. Box 2012  
Tyler, Texas

Re: Determination of Discovery  
South Culebra Bluff Unit  
Eddy County, New Mexico

Gentlemen:

Reference is made to the Unit Agreement for the South Culebra Bluff Unit Area and the letter of March 7, 1978, from Delta Drilling Company, as unit operator of the South Culebra Bluff Unit, requesting confirmation that the South Culebra Bluff Unit Well No. 1 and the South Culebra Bluff Unit be designated as capable of producing unitized substances in paying quantities as defined in said Unit Agreement.

This letter will confirm our determination that

- (a) the South Culebra Bluff Unit Well No. 1, located 1980' FNL and 1650' FEL of Section 23, Township 23 North, Range 28 East, Eddy County, New Mexico, has been drilled to the Atoka at which depth unitized substances have been discovered which can be produced in paying quantities; and
- (b) such well is capable of producing unitized substances in paying quantities.

C

O

P

Y

-2-

Letter to Delta Drilling Company  
March 7, 1978

We accordingly approve the designation of the South Culebra Bluff Unit Well No. 1 and the South Culebra Bluff Unit as capable of producing unitized substances in paying quantities as defined in said Unit Agreement.

Yours very truly,

JOE D. RAMEY  
Director

JDR/fd

# DELTA DRILLING COMPANY

Box 2012 TELEPHONE 214 595-1911

TYLER, TEXAS 75710

March 7, 1978

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Land Office Building  
Santa Fe, New Mexico 87501

Re: Determination of Discovery  
South Culebra Bluff Unit,  
Eddy County, New Mexico

Gentlemen:

Reference is made to the Unit Agreement for the South Culebra Bluff Unit Area (the "Unit") which has been approved by the New Mexico Oil Conservation Commission and the United States Geological Survey.

The Unit consists of 1,280 acres comprised of 320 acres of Federal land and 960 acres of fee land. No lands owned by the State of New Mexico are included in such Unit. Paragraph 9 of said Unit Agreement provides for the drilling of a well on the Unit Area to a depth at which unitized substances are discovered which can be produced in paying quantities. Delta Drilling Company, as Unit Operator, has drilled the South Culebra Bluff Unit Well No. 1 on fee acreage within the Unit Area at a location 1,980' FNL and 1,650' FEL of Section 23, T23S, R28E, Eddy County, New Mexico and such well is presently completed (open hole) as a producing well from the Atoka formation. Delta Drilling Company respectfully requests that such well, and the South Culebra Bluff Unit, be designated as capable of producing unitized substances in paying quantities as defined in said Unit Agreement.

The South Culebra Bluff Unit Well No. 1 was drilled to a depth of 11,769' below the surface (approximately 15 feet into the Atoka formation) and commenced deliveries of gas as a flowing well on January 27, 1978. Gas produced from such well is 0.573 density (air=1) and is comprised of methane (97%), inert gases (1%) and ethanes and heavier (2%). Such gas is free of hydrogen sulfide, non-corrosive, and of pipeline quality in situ (liquids are separated mechanically from such gas at the well). The B.T.U. value of such gas is 1,018 per MCF with a fluid content of approximately 2.5 bbls/mmcf.

Casing (9-5/8") has been set to 6,355' below the surface and such well is producing as an open hole completion. Information available indicates that the Atoka section from which such production is being obtained consists of approximately nineteen feet of pay with a porosity of 18% and connate water saturation of 20%. Original reservoir pressure is estimated as 9,300 p.s.i.g.

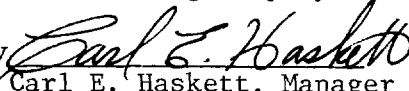
New Mexico Oil Conservation Commission  
March 7, 1978  
Page 2

The estimated cost of drilling and completing a well to the Atoka formation is \$1,023,000.00. Gas from the subject well is being sold to El Paso Natural Gas Company at a price of \$1.44 per MCF (with adjustments). Initial flowing rate (on January 27, 1978) was approximately 43.6 mmcf per day and the flowing rate on February 27, 1978, was approximately 34.4 mmcf per day. During the period of time beginning January 27, 1978, to February 27, 1978, (one month) said well produced 1,188,000 MCF of gas which generated to the working interest approximately \$1,351,000.00. Present information indicates economic reserves of not less than 12 BCF in place. Estimated payout is approximately 24 days with a return of 13.34 times investment.

Your consideration in issuing a letter confirming this discovery will be appreciated.

Very truly yours,

Delta Drilling Company

By   
Carl E. Haskett, Manager  
Corporate Engineering and Research

CEH/JH/jb

cc: U.S.G.S.  
Drawer 1857  
Federal Building  
Roswell, New Mexico 88201

U.S.G.S.  
505 Marquette, N.W.  
Suite 815  
Albuquerque, New Mexico 87102



# United States Department of the Interior

GEOLOGICAL SURVEY  
P. O. Drawer 1857  
Roswell, New Mexico 88201

December 30, 1977

Amoco Production Company  
Attention: Mr. Greg S. Allen  
P. O. Box 3092  
Houston, Texas 77001

*Yr. 6117*

Gentlemen:

Three approved copies of the South Culebra Bluff unit agreement, Eddy County, New Mexico with Delta Drilling Company as unit operator are returned herewith. Such agreement has been assigned No. 14-08-0001-16067 and is effective as of the date of approval.

You are requested to furnish the New Mexico Oil Conservation Commission and all other interested principals with evidence of this approval.

Sincerely yours,

*Carl C. Traywick*

CARL C. TRAYWICK  
Acting Area Oil & Gas Supervisor

Enclosures

cc:  
NMOCC, Santa Fe (ltr. only)





**Amoco Production Company**

500 Jefferson Building  
P.O. Box 3092  
Houston, Texas 77001

January 10, 1978

Re: EA 48,921  
West Teledyne Area  
South Culebra Bluff Unit  
Eddy County, New Mexico

*File  
Case no. 6117*

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, NM 87501

Attention: Mr. Daniel Nutter

Gentlemen:

Attached is a letter from the geological survey approving the South Culebra Bluff Unit Agreement designating Delta Drilling Company as unit operator. The agreement has been assigned number 14-08-0001-16067 and is effective as of December 30, 1977.

Very truly yours,

Greg S. Allen  
Landman

GSA/aw  
2/1892  
Attachments

cc: Delta Drilling Company  
P. O. Box 2012  
Tyler, TX 75701  
Attention: Don Thomas  
w/Attachments



United States Department of the Interior

GEOLOGICAL SURVEY  
P. O. Drawer 1857  
Roswell, New Mexico 88201

December 30, 1977

Amoco Production Company  
Attention: Mr. Greg S. Allen  
P. O. Box 3092  
Houston, Texas 77001

Gentlemen:

Three approved copies of the South Culebra Bluff unit agreement, Eddy County, New Mexico with Delta Drilling Company as unit operator are returned herewith. Such agreement has been assigned No. 14-08-0001-16067 and is effective as of the date of approval.

You are requested to furnish the New Mexico Oil Conservation Commission and all other interested principals with evidence of this approval.

Sincerely yours,

*Carl C. Traywick*  
CARL C. TRAYWICK  
Acting Area Oil & Gas Supervisor

Enclosures

*rec'd*  
DEC 30 1977  
WTD-HOUSTON





**Amoco Production Company**

500 Jefferson Building  
P.O. Box 3092  
Houston, Texas 77001

J. M. Brown  
Division Engineering  
Manager

December 14, 1977

6117

File: DBF-986.51NM-5463

Re: Request for Emergency Order and Hearing  
South Culebra Bluff Unit  
T-23-S, R-28-E  
Eddy County, New Mexico

New Mexico Oil Conservation Commission (3)  
P. O. Box 2088  
Santa, Fe, NM 87501

Attention: Mr. Joe D. Ramey

Dear Sir:

Confirming telephone conversation between Mr. Pease and Miss Teschendorf, Amoco Production Company requests an Emergency Order and placement on the January 4, 1978 Examiner Hearing Docket for approval of the South Culebra Bluff Unit. The unit comprises 1280 acres of Federal and Fee lands all in T-23-S, R-28-E, Eddy County, New Mexico.

Copies of the proposed unit and operating agreements and three geological exhibits are attached. Amoco originally owned 100% working interest in the proposed unit area and because of expiring leases in the area of the proposed unit and the scarcity of drilling rigs of the proper size for this 13,300' test well, the test well for the proposed unit, South Culebra Unit No. 1, was spudded on November 6, 1977 and is expected to reach the objective Pennsylvanian zone on January 3, 1978. Amoco has elected to farm-out a portion of its interest in the proposed unit to Delta Drilling Company, who have assumed operation of the test well, but Amoco has retained the responsibility for formation of the unit.

The United States Geological Survey designated the area as "a logical unit area" by letter dated October 12, 1977. They have determined that final approval must be received prior to the test well penetrating the objective formation and your approval is also required prior to final approval. They have agreed to consider granting formal approval based on the above

New Mexico Oil Conservation Commission  
File: DBF-986.51NM-5463  
December 14, 1977  
Page 2

requested Emergency Order, which we ask be made effective December 21, 1977. All royalty owners and overriding royalty owners have been supplied a copy of the unit agreement and given an opportunity to ratify the unit agreement.

We appreciate your assistance on this matter. If you have any questions, please direct them to Mr. Jim Pease, phone 713-652-5461.

Yours very truly,

*J. M. Branger*

JEP:sam

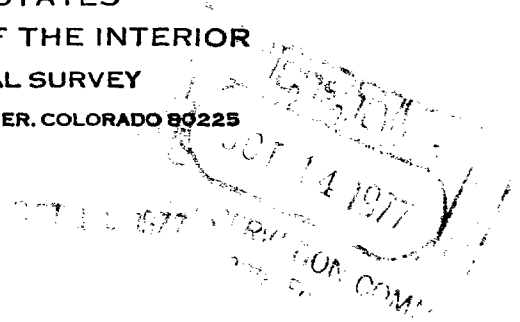
cc: Area Oil and Gas Supervisor  
United States Geological Survey  
Federal Building  
Roswell, NM 88201





IN REPLY REFER TO:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
FEDERAL CENTER, DENVER, COLORADO 80225



Amoco Production Company  
Attention: Mr. C. N. Menninger  
P. O. Box 3092  
Houston, Texas 77001

6117

Gentlemen:

Your application of September 29, 1977, filed with the Assistant Area Oil and Gas Supervisor, Roswell, New Mexico, requests the designation of the South Culebra Bluff unit area embracing 1,280.00 acres, more or less, Eddy County, New Mexico, as logically subject to exploration and development under the unitization provisions of the Mineral Leasing Act as amended.

Pursuant to unit plan regulations 30 CFR 226, the land requested as outlined on your plat marked "Exhibit 'A' South Culebra Bluff Unit Agreement", is hereby designated as a logical unit area.

The unit agreement submitted for the area designated should provide for a well to test the entire Morrow Section or to a depth of 13,300 feet. Your proposed use of the Form of Agreement for Unproved Areas will be accepted with the modifications requested in your application.

If conditions are such that further modification of said standard form is deemed necessary, three copies of the proposed modifications with appropriate justification must be submitted to this office through the Oil and Gas Supervisor for preliminary approval.

In the absence of any other type of land requiring special provisions or of any objections not now apparent, a duly executed agreement identical with said form, modified as outlined above, will be approved if submitted in approvable status within a reasonable period of time. However, notice is hereby given that the right is reserved to deny approval of any executed agreement submitted which, in our opinion, does not have the full commitment of sufficient lands to afford effective control of operations in the unit area.

When the executed agreement is transmitted to the Supervisor for approval, include the latest status of all acreage. In preparation of Exhibits "A" and "B", follow closely the format of the sample exhibits attached to the 1968 reprint of the aforementioned form.

Sincerely yours,



Regional Conservation Manager  
For the Director

cc:  
NMOCC, Santa Fe, NM

EX-1000-110-000-001

ATWOOD, MALONE, MANN & COOTER

A PROFESSIONAL ASSOCIATION  
LAWYERS

JEFF D. ATWOOD [1883-1960]  
ROSS L. MALONE [1910-1974]

P. O. DRAWER 700  
SECURITY NATIONAL BANK BUILDING  
ROSWELL, NEW MEXICO 88201  
[505] 622-6221

CHARLES F. MALONE  
RUSSELL D. MANN  
PAUL A. COOTER  
BOB F. TURNER  
ROBERT A. JOHNSON  
JOHN W. BASSETT  
ROBERT E. SABIN  
R. E. THOMPSON

RANDAL W. ROBERTS

December 27, 1977

Mr. Joe D. Ramey  
Secretary-Director  
Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico 87501

RE: Examiner Hearing January 4, 1978

Dear Joe:

We would appreciate your filing the enclosed  
Entries of Appearance for Amoco Production Company in  
Case Nos. 6117 and 6114.

Thank you and with regards, I am,

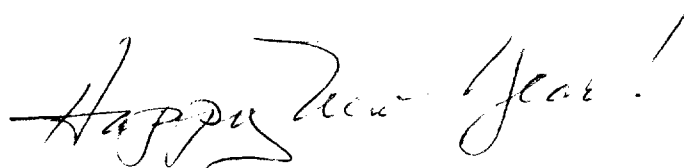
Very truly yours,



Charles F. Malone

CFM:sgs  
Enc.

cc: Guy Buell, Esquire





BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION )  
OF AMOCO PRODUCTION COMPANY FOR )  
UNIT AGREEMENT, SOUTH CULEBRA BLUFF )  
UNIT AREA, EDDY COUNTY, NEW MEXICO. ) No. 6117

ENTRY OF APPEARANCE

The undersigned hereby enter their appearance herein  
for the Applicant, Amoco Production Company, with Guy Buell  
and Richard Merrill of Houston, Texas.

ATWOOD, MALONE, MANN & COOTER, P.A.

By   
Post Office Drawer 700  
Roswell, New Mexico 88201

Attorneys for Amoco Production Company

Before the OCC  
of the State of N.M.

In the matter of the emergency  
approval of an Amoco Production  
Company unit agreement, Eddy  
County, New Mexico.

Emergency Order No. E-31

Now, on this \_\_\_\_\_ day of December,  
1977, the NMOCCE, a quorum being  
present, having considered the necessity,  
for the emergency approval of the South  
Culebra Bluff Unit Area, and being  
fully advised in the premises:

FINDS:

(1) That Amoco Production Company has  
applied to the U.S.G.S. for approval  
of its South Culebra Bluff unit area,  
comprising 1280 acres, more or less, of  
federal and fee lands in T23S,  
R28E, Eddy County, N.M.

(2) That the U.S.G.S. designated this  
~~unit~~<sup>area</sup> as a "logical unit area" by  
letter dated Oct. 12, 1977.

(3) That Amoco Production Co. has  
submitted its unit agreement,  
in a form prescribed by the Code of  
Federal Regulations, to the U.S.G.S.

(4) That Amoco has begun  
drilling in said unit to prevent  
certain leases from expiring.

(5) That according to the unit  
agreement, the drill bit cannot

penetrate the objective horizon prior to approval of the agreement.

(6) That the U.S.G.S. requires OCC approval before it will grant ~~the~~ its own approval of the agreement.

(7) That the date projected for penetrating the Pennsylvanian formation is Jan. 3, 1978.

(8) That the earliest hearing date available before the OCC is Jan. 4, 1978.

IT IS THEREFORE ORDERED:

(1) That the <sup>Umoco Production Co.</sup> unit agreement for the South Culebra Bluff Unit Area, comprising 1280 acres, more or less, of federal and fee lands in T 23S, R 28E, Eddy County, N.M., is hereby approved.

(2) That this order shall become effective at 2:01 A.M. MST, Dec. 27, 1977, and shall remain in effect for not more than 15 days.



**Amoco Production Company**

500 Jefferson Building  
P.O. Box 3092  
Houston, Texas 77001

J. M. Brown  
Division Engineering  
Manager

December 14, 1977

File: DBF-986.51NM-5463

Re: Request for Emergency Order and Hearing  
South Culebra Bluff Unit  
T-23-S, R-28-E  
Eddy County, New Mexico

New Mexico Oil Conservation Commission (3)  
P. O. Box 2088  
Santa Fe, NM 87501

Attention: Mr. Joe D. Ramey

Dear Sir:

Confirming telephone conversation between Mr. Pease and Miss Teschendorf, Amoco Production Company requests an Emergency Order and placement on the January 4, 1978 Examiner Hearing Docket for approval of the South Culebra Bluff Unit. The unit comprises 1280 acres of Federal and Fee lands all in T-23-S, R-28-E, Eddy County, New Mexico.

Copies of the proposed unit and operating agreements and three geological exhibits are attached. Amoco originally owned 100% working interest in the proposed unit area and because of expiring leases in the area of the proposed unit and the scarcity of drilling rigs of the proper size for this 13,300' test well, the test well for the proposed unit, South Culebra Unit No. 1, was spudded on November 6, 1977 and is expected to reach the objective Pennsylvanian zone on January 3, 1978. Amoco has elected to farm-out a portion of its interest in the proposed unit to Delta Drilling Company, who have assumed operation of the test well, but Amoco has retained the responsibility for formation of the unit.

The United States Geological Survey designated the area as "a logical unit area" by letter dated October 12, 1977. They have determined that final approval must be received prior to the test well penetrating the objective formation and your approval is also required prior to final approval. They have agreed to consider granting formal approval based on the above

New Mexico Oil Conservation Commission  
File: DBF-986.51NM-5463  
December 14, 1977  
Page 2

requested Emergency Order, which we ask be made effective December 21, 1977. All royalty owners and overriding royalty owners have been supplied a copy of the unit agreement and given an opportunity to ratify the unit agreement.

We appreciate your assistance on this matter. If you have any questions, please direct them to Mr. Jim Pease, phone 713-652-5461.

Yours very truly,



JEP:sam

cc: Area Oil and Gas Supervisor  
United States Geological Survey  
Federal Building  
Roswell, NM 88201



**Amoco Production Company**

500 Jefferson Building  
P.O. Box 3092  
Houston, Texas 77001

J. M. Brown  
Division Engineering  
Manager

December 14, 1977

File: DBF-986.51NM-5463

Re: Request for Emergency Order and Hearing  
South Culebra Bluff Unit  
T-23-S, R-28-E  
Eddy County, New Mexico

New Mexico Oil Conservation Commission (3)  
P. O. Box 2088  
Santa Fe, NM 87501

Attention: Mr. Joe D. Ramey

Dear Sir:

Confirming telephone conversation between Mr. Pease and Miss Teschendorf, Amoco Production Company requests an Emergency Order and placement on the January 4, 1978 Examiner Hearing Docket for approval of the South Culebra Bluff Unit. The unit comprises 1280 acres of Federal and Fee lands all in T-23-S, R-28-E, Eddy County, New Mexico.

Copies of the proposed unit and operating agreements and three geological exhibits are attached. Amoco originally owned 100% working interest in the proposed unit area and because of expiring leases in the area of the proposed unit and the scarcity of drilling rigs of the proper size for this 13,300' test well, the test well for the proposed unit, South Culebra Unit No. 1, was spudded on November 6, 1977 and is expected to reach the objective Pennsylvanian zone on January 3, 1978. Amoco has elected to farm-out a portion of its interest in the proposed unit to Delta Drilling Company, who have assumed operation of the test well, but Amoco has retained the responsibility for formation of the unit.

The United States Geological Survey designated the area as "a logical unit area" by letter dated October 12, 1977. They have determined that final approval must be received prior to the test well penetrating the objective formation and your approval is also required prior to final approval. They have agreed to consider granting formal approval based on the above

New Mexico Oil Conservation Commission  
File: DBF-986.51NM-5463  
December 14, 1977  
Page 2

requested Emergency Order, which we ask be made effective December 21, 1977. All royalty owners and overriding royalty owners have been supplied a copy of the unit agreement and given an opportunity to ratify the unit agreement.

We appreciate your assistance on this matter. If you have any questions, please direct them to Mr. Jim Pease, phone 713-652-5461.

Yours very truly,

A handwritten signature in cursive script, appearing to read "J. W. Branger".

JEP:sam

cc: Area Oil and Gas Supervisor  
United States Geological Survey  
Federal Building  
Roswell, NM 88201

# DELTA DRILLING COMPANY

Box 2012 TELEPHONE 214 595-1911

TYLER, TEXAS 75710

February 13, 1978

State of New Mexico  
Oil Conservation Commission  
P. O. Box 2088  
Land Office Bldg.  
Santa Fe, New Mexico 87501

Attn: Ms. Florene Davidson

Dear Ms. Davidson:

We are enclosing copies of Exhibits which were loaned to us on the January 4, 1978 hearing. We originally mailed this package on February 2, 1978 certified. Judging from the package we received back in our office today, these exhibits got all the way to Santa Fe and then rerouted back to Tyler. I am enclosing all data we received back from Santa Fe to assure you that we did mail this on February 2 in order for us to meet the 2 week deadline.

We are terribly sorry for this inconvenience.

Yours truly,



Linda Hunter  
Secretary to Carl Haskett

lh

Enclosures