KELLAHIN and KELLAHIN
ATTORNEYS AT LAW
500 DON GASPAR AVENUE
P. O. BOX 1769
SANTA FE, NEW MEXICO 87501

JASON W. KELLAHIN
W. THOMAS KELLAHIN
KAREN AUBREY

TELEPHONE 982-4285
AREA CODE 505

March 6, 1979

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

Re: Phoenix Resources
Buckhorn Canyon Unit No. 2

Dear Joe:

Please set this matter for hearing on March 28, 1979.

Very truly yours,

W. Thomas Kellahin

CC: Mr. Harvey Case

WTK:kfm

Enclosure

BEFORE THE NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

Case 6504

IN THE MATTER OF THE APPLICATION OF PHOENIX RESOURCES COMPANY FOR APPROVAL OF THE BUCKHORN CANYON UNIT NO. 2, CHAVES COUNTY, NEW MEXICO

A P P L I C A T I O N

COMES NOW PHOENIX RESOURCES COMPANY and applies to the Oil Conservation Division of New Mexico for approval of a Unit Agreement, Chaves County, New Mexico and in support thereof would show:

1. Applicant has formed its Buckhorn Canyon Unit, No. 2, composed of Federal and State acreage consisting of the following lands:

> 23,009.38 acres more or less within Township 19 South, Range 20 East and Township 19 South, Range 19 East, N.M.P.M.

2. Applicant is designated as operator of the proposed unit.

3. The Unit Agreement has been submitted to the United States Geological Survey and the Commissioner of Public Lands of New Mexico for preliminary approval.

4. The said Unit Agreement has been approved by sufficient owners of interests to assure its ultimate effectiveness.

5. The said Unit is being formed for the development of the acreage dedicated to it.

6. The granting of this application will result in the prevention of waste and the protection of correlative rights.

WHEREFORE, Applicant respectfully requests that this matter be set for hearing before the Division's duly appointed Examiner and that after notice and hearing, an order be entered approving the Unit Agreement.

Respectfully submitted,

PHOENIX RESOURCES COMPANY

By _____

Kellahin & Kellahin
P. O. Box 1769
Santa Fe, New Mexico

ATTORNEYS FOR APPLICANT

APPENDIX

Discussion of Previous Drilling Within Proposed Ranch Road Unit

The two wells which have been drilled within the proposed limits of the Ranch Road Unit have been referred to above. The earlier well is the Texas Oil & Gas Federal "A" #1. It was originally completed 6-21-66 as a shut in gas well and has since been plugged and abandoned. On the initial potential test through perforations, from 6071-6213 (overall) the well flowed at a rate of 1609 MCFGPD and 6 BW. The potential was based upon a 72-hour test with a 43/64" choke. Tubing pressure was 34 psi, casing pressure was 150 psi. The well has never been produced. The principal reservoir of the well appears to be a clean Strawn sandstone that occurs from 6070-6104.

The most recent well drilled within the proposed unit area is the Phoenix Resources Company #1 Buckhorn Canyon Unit, drilled in January and February, 1979, That well is currently completing. It was drilled to a depth of 6936' for the purpose of testing the hydrocarbon potential of Lower Pennsylvanian, Mississippian, and Siluro-Devonian reservoirs. Drill stem tests after logging indicated that the Siluro-Devonian, although having good reservoir characteristics, is water bearing. Four successful drill stem tests were run on four different intervals in the Strawn and Atoka formations. One of these tests flowed gas at an estimated rate of 131 MCFPD on 1/4" choke from the interval 5751 to 5913'. That test encouraged Phoenix to run casing and attempt a completion, although

examination of the samples, mud log analysis, and mechanical log analyses of the test interval did not promise encouraging results. In addition to the gas recovery on the drill stem test, it could be seen that part of the test interval is correlative with the gas-bearing sand that had previously been tested in the Texas Oil and Gas #1-A Federal, 1/2 mile east. Those two factors were the basis for the decision to run casing. Two intervals were perforated from 5820 to 5824' and 5829 to 5934'. Additional perforations were made at 5796, 5813, 5842, 5848, 5870, 5888, 5903, 5090, and 5813'. The well was acidized. After swabbing, the well started flowing gas and load water. On March 22, 1979 the field report indicated that the well flowed dry gas at an estimated rate of 2,900 MCFPD with flowing tubing pressure of 850 pounds on 24/64" choke. A production test for the well is in preparation. A detailed log of the completion interval and a summary of completion results to March 22, as well as a summary on all open-hole drill stem tests is attached to this report.

Phoenix Resources Company
Buckhorn Canyon Unit #1 Wildcat
Chaves County, NM
990' FSL and 1980' FEL
Sec. 18, T 19S, R 20E
KB Elevation 4736'

DRILL STEM TESTS

DST #1
6705-6936 Tool open 75 min in two flow periods. Opened with fair blow, incr to strong blow in 1 min, continued building to 10 psi after 51 min. Decr to 8 psi at end of test. Rec. 5217' of fluid as follows: 1909' drilling mud, 3813' MCFW. HP 3414-3414, IFP 2052-2367, ISIP 2473/60 min, FFP 2367-2473, FSIP 2473/180 min.

DST #2
6480-6590 Test Failed

DST #3 and #4 were run with 1 trip in hole.

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DST #4
6330-6440 Tool open 75 min in two flow periods. Rec. 10' gas cut drilling mud. HP 3282-3282, IF 84-101, ISIP 190/30 min, FF 51-74, FSIP 262/180 min.

DST #5 and DST #6 were run with 1 trip in hole

DST #5
6025-6187 Tool open 75 min in two flow periods. Rec. 800' HGCM. HP 3056-3056, IF 259-158, ISIP 316/30 min, FF 148-160, FSIP 755/180 min.

DST #6
5751-5913 Tool open 90 min in two flow periods. Rec. 859' HGCM, Sample Chamber rec 350 cc GCM. Well flowed at rate of 131 MCFPD on $\frac{1}{4}$" choke. HP 2902-2902, IF 352-432, ISIP 1519/30 min, FF 411-422, FSIP 1741/225 min.

Appendix B 2

CHRONOLOGICAL WELL HISTORY

03-01-79 DST #1 - 6705' - 6936' Devonian Fair blow, No. GTS. IH 3489, FH 3489, IF 2203-2369, FF 2369-2515, ISI 2515, FSI 2515

03-02-79 DST #2 - 6865' - 6880'. Packer failed.

03-03-79 DST #3 - 6480' - 6590'. IH 3406, FH 3344, IF 84-84, FF 8484, ISI 422, FSI 1180

DST #4 - 6330' - 6440'. IH 3306, FH 3220, IF 106-84, FF 148-84, ISI 190, FSI 270

03-04-79 DST #5 - 6025' - 6187'. IH 3075, FH 3056, IF 158-158, FF 148-160, ISI 316, FSI 755. Sampler 350 cc GCM.

DST #6 - 5751' - 5913'. IH 2902, FH 2902, IF 352-432, FF 411-422, ISI 1519, FSI 1741. Sampler 350 cc GCM.

03-09-79 Perforated Atoka, 6070' - 6073'. (4 holes), 6054' - 6058' (5 holes) After 7 min. very very light blow. died 30 min. Left well open overnight.

03-10-79 Treated Atoka. 500 gall NESE acid SIFN.

03-11-79 PBD 6005. TP 0. Recovered small amount of gas and acid. Perf. Strawn 5820'-24' and 5829'-33'. (10 holes). Shut down for 38 hrs.

03-12-79 S D F Sunday.

03-13-79 TP 600 PSI. Bled to 0 in 5 min. Small amount of gas. Treated Strawn 500 gall. 15% NESE acid. Press. increased to 3200 PSI and broke back to 13-0 PSI. Made 3 swab runs, well started flowing. TP 1200 psi, 3/4" CHOKE, TP decreased to 75 PSI, leveled off for 1 hr. then decreased to 75-0 in 1 hr. Well died - SI 13 hrs. SIP 600 psi.

03-14-79 TP 600 psi - blew down in 10 min. shut-in. Released completion unit.

03-15-79 SITP 525 psi. Open on 3/4" choke, pressure 0 in 4 min. SI, after 4 hrs. SITP 75 psi, perforating

03-16-79 SITP 290 psi - perf. w/one shot of following depths: 5913, 5909, 5903, 5888, 5870, 5848, 5870, 5848, 5842, 8813, 5796, After perf. SITP 125 psi. SI on.

03-17-79 SITP 300 psi - Open well bled to 0 in 2 min. 1 PSI after 1 hr. SI. 25 psi after 2 hrs, 35 psi, after 3 hrs.

03-18-79 SITP 200 psi

03-19-79 SI, SDF Sunday, will acidize

03-20-79 SITP 525 psi. Open well bled to 0 in 3 min. SI

3-21-79 SI, no report

03-22-79 RU swab - made two runs and well started flowing gas and unloading salt water. Acidize Strawn perfs. w/3000 gall. FTP 400-500 psi on 1/2" choke while unloading. Well cleaned up, and flow. dry gas 350 psi FTP on 1/2" choke

PHOENIX
RESOURCES COMPANY
3555 N.W. 58, Suite 300, Oklahoma City, Oklahoma 73112 (405) 947-8690

March 26, 1979

Director
United States Geological Survey
Department of Interior
Federal Building
Roswell, New Mexico 88201

Re: Application for Designation of Area and Depth
Proposed Ranch Road Unit
Phoenix Resources Company - Unit Proponent

Dear Sir:

This letter, along with the enclosures as noted, should be considered Phoenix Resources Company's application to have the following described area designated by you as an area logically subject to unitization in accord with the authority granted you by the Mineral Leasing Act of February 25, 1920, as amended:

Chaves County, New Mexico:

Township 19 South, Range 20 East, NMPM
All of Sections: 2, 3, 4, 5, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 31

Township 19 South, Range 19 East, NMPM
All of Sections: 25, 36

Containing 17,254.40 acres.

A list of the Federal serial numbers of all Federal leases covering lands within the above described area is furnished in the right margin of land ownership map, which is enclosed and should be considered as part of this application.

Phoenix Resources Company, as proponent of this Unit, proposes to drill or cause to be drilled a test well to a depth to fully evaluate the total Pennsylvanian section and the top 50 feet of the Mississippian formation or 6,700 feet, whichever depth is the lesser.

In support of our application, we have enclosed a separate geological report, which we hereby request to be kept confidential. Attached as enclosures to the geological report are the following:

1. Exhibit I - Mississippian Chester Structure Map
2. Exhibit II - Strawn Formation Structure Map
3. Exhibit III - Strawn Formation Net Sandstone Isopach Map
4. Exhibit IV - Strawn Prospect and Proposed Ranch Road Unit Boundary
5. Exhibit V - Stratigraphic Cross Section A-A' (Datum-Top Canyon)
6. Appendix A and B

As is indicated in the geologic report, the Unit area boundaries have been established by including all full sections in which the greater part of each lies above the -1700 foot contour on the Strawn Structure map and which have greater than 5 feet of mapped porous sandstone.

In addition, we hereby request your approval of our proposed form of Unit Agreement which follows the 1968 reprint and is in the same form as contained in 30 CFR 226.12 with modifications currently being used, together with the required modifications for State of New Mexico lands, which State modifications were taken from Exhibit 11 of the Geological Survey release CDM 645.1 of February 26, 1976. As there are no deviations in form or content from that which we understand to be an approved form, we submit no comments in support of our request for your approval of this form of agreement.

Thank you for your consideration of this application.

Respectfully,

PHOENIX RESOURCES COMPANY

George R. Reddy

George R. Reddy
Authorized Agent

GRR:blr

Enclosures

PHOENIX
RESOURCES COMPANY
3555 N.W. 58, Suite 300, Oklahoma City, Oklahoma 73112 (405) 947-8690

CONFIDENTIAL

Geological Report

Proposed Ranch Road Unit

Location:

Township 19 South, Ranges 19 and 20 East

Chaves County, New Mexico

Prospective Formations:

Primary - Strawn

Secondary - Cisco, Canyon, Atoka, Morrow

Introduction:

The Ranch Road Unit is proposed as a result of subsurface mapping by Phoenix Resources Company of the lower Strawn formation over approximately 150 square miles in northwestern Eddy and southwestern Chaves Counties, New Mexico in portions of Townships 18 through 20 South and Ranges 19 through 21 East. Purpose of the proposed Unit is to test the hydrocarbon potential of the Pennsylvanian rocks, particularly the clastic reservoirs of the Strawn, Atoka, and Morrow formations.

General Geological Discussion:

The proposed Ranch Road Unit Area (the "Unit") lies in a sparsely drilled portion of Chaves County. San Andres formation of Permian (Guadalupian) Age crops out over the entire area of the proposed unit. The Unit's southern boundary lies approximately six miles north of the northwesterly striking Huapache monocline and its western boundary is approximately nine miles southeast of the Y-O fault zone.

The Unit is west of and adjacent to the Gardner Draw Unit in which Morrow gas production has been discovered in early 1978.

The deepest structural horizon mapped for this report is that of the Mississippian Chester (Exhibit I). That formation is considered to be economic basement for this prospect at this time. The Chester is one of the most reliable log markers in the area and, where it has not been removed by early Pennsylvanian erosion, is easily recognized on well logs. It is present in both the wells that lie within the proposed limits of the Unit.

The most recent well drilled within the general area is the Phoenix Resources Company No. 1 Buckhorn Canyon Unit, located in SE¼ Sec. 18, T 19S, R 20 E. The results of that well have indicated that the Chester structure is more complex than has previously been envisioned. Whereas this location had previously been mapped approximately 50 feet high to the Texas Oil and Gas No. 1-A Federal, one half mile east, the top of Chester was found 302 feet high. Excellent dipmeter data indicate

12 degree northeast dip at the Chester horizon. These differences have led to a re-evaluation of gravity data available in the Unit area. It is upon this stronger reliance of gravity information that the enclosed structural interpretation is based. Rather than the broad, simple, southeastward plunging nose that was previously envisioned the Chester structure within the unit area is believed to be a southeastward plunging anticline separated from the Texas Oil and Gas and Phoenix wells by a southeastward plunging syncline. Those wells lie on the east flank of a separate closure that lies partially within the proposed unit.

The Strawn structure map is shown on Exhibit II. Within the propsoed unit it is drawn as a broad southeastward plunging nose over most of the area. That feature, as well, is separated from the Texas Oil and Gas and Phoenix wells by a southeastward plunging syncline.

Distribution of porous Strawn sandstone is indicated by the Net Sandstone Isopach Map (Exhibit III). For purposes of netting reservoir-quality sandstones a porosity cut-off of ten percent was used.

The Strawn sandstones are believed to be thickest, and thus most prospective, in those areas that were topograhically low during their deposition and which today are structurally high to the lowest strucutural contour that closes against the edge of the sandstone deposit. That structural contour lies at approximately -1700' and is shown on the Strawn Structure Map (Exhibit II).

The Ranch Road Strawn Prospect and the Proposed Ranch Road Unit boundary are shown on Exhibit IV. The Ranch Road Prospect is defined as that area in Township 19 South, Ranges 19 and 20 East which lies above the -1700' contour on the Strawn Structure map and which has greater than five feet of mapped porous sandstone.

Lowermost Atoka and Morrow rocks are present in Northwestern Eddy County only in those areas which were topographically low during their deposition. That scattered occurrences of those rocks are also present in southwestern Chaves County is likely. In cross section A-A' (Exhibit V) the Morrow clastic facies is interpreted to extend west of Gardner Draw unit into the Ranch Road Area. It is for this reason that we propose that a test well be drilled through the full Pennsylvanian section at the Ranch Road Unit.

Using an assumed surface elevation of 4725' above mean sea level, the expected formation tops are as follows:

Formation Top	Expected Depth
San Andres	Surface
Abo	3150
Cisco **	5320
Canyon **	5720
Strawn *	6070
Atoka **	6400
Morrow **	6590
Mississippian Chester	6650

Total depth will be approximately 50' below the top of Mississippian.

* - Primary Objectives

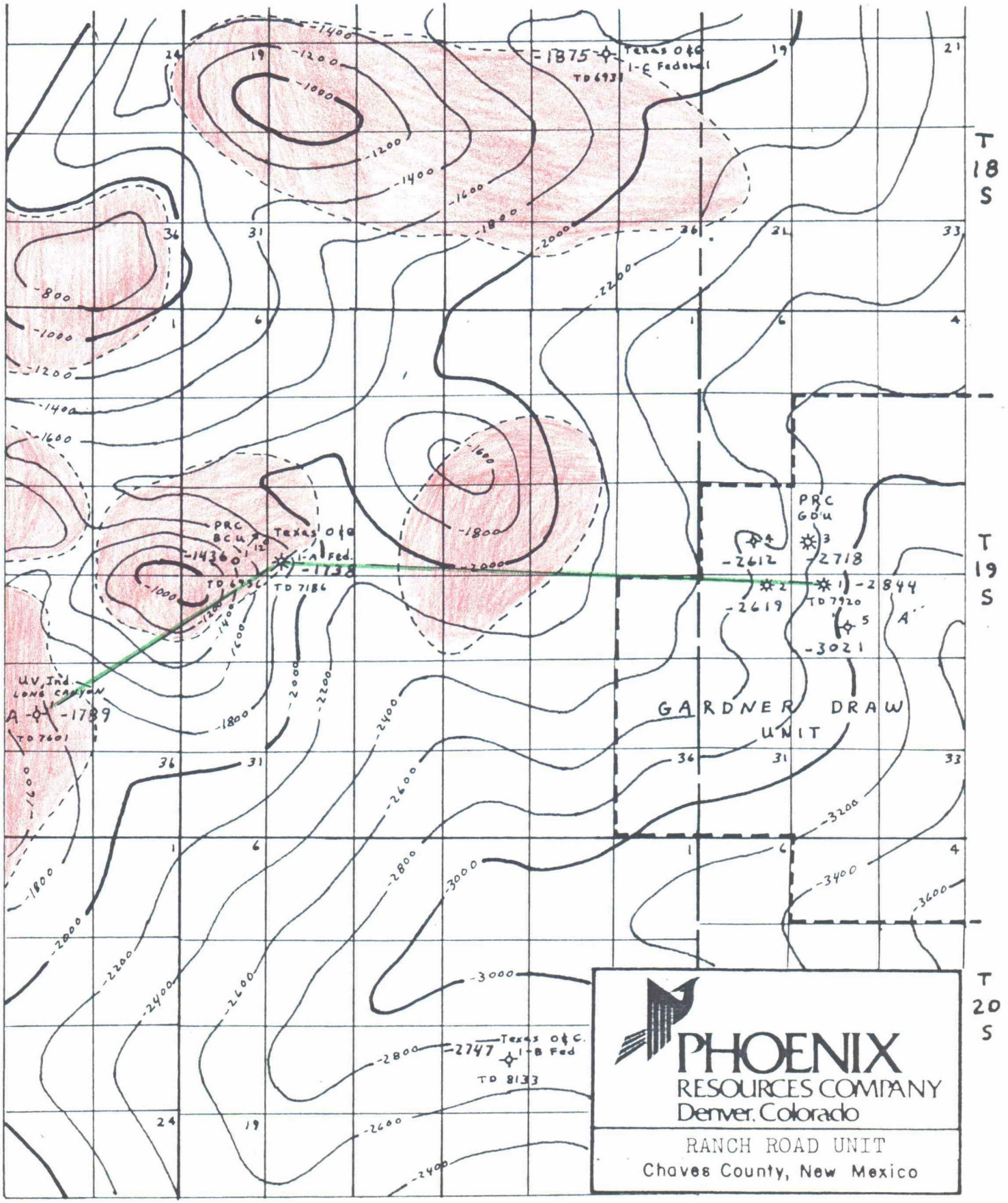
** - Secondary Objectives

Enclosures:

Exhibit I	Mississippian Chester Structure Map
Exhibit II	Strawn Formation Structure Map
Exhibit III	Strawn Formation Net Sandstone Isopach Map
Exhibit IV	Strawn Prospect and Proposed Ranch Road Unit Boundary
Exhibit V	Stratigraphic Cross Section A-A' (Datum-Top Canyon)
Appendix	A. Discussion of Previous Drilling Within Proposed Ranch Road Unit
	B. Test and Completion Data for Phoenix Resources Co. No. 1 Buckhorn Canyon Unit.

1. Summary of Drill Stem Tests
2. Chronological Well History 3-1-79 to 3-22-79
3. Partial Detail log Showing test and perforation intervals of Strawn formation

George R. Reddy
Consulting Geologist
Box 778
Roswell, New Mexico 88201



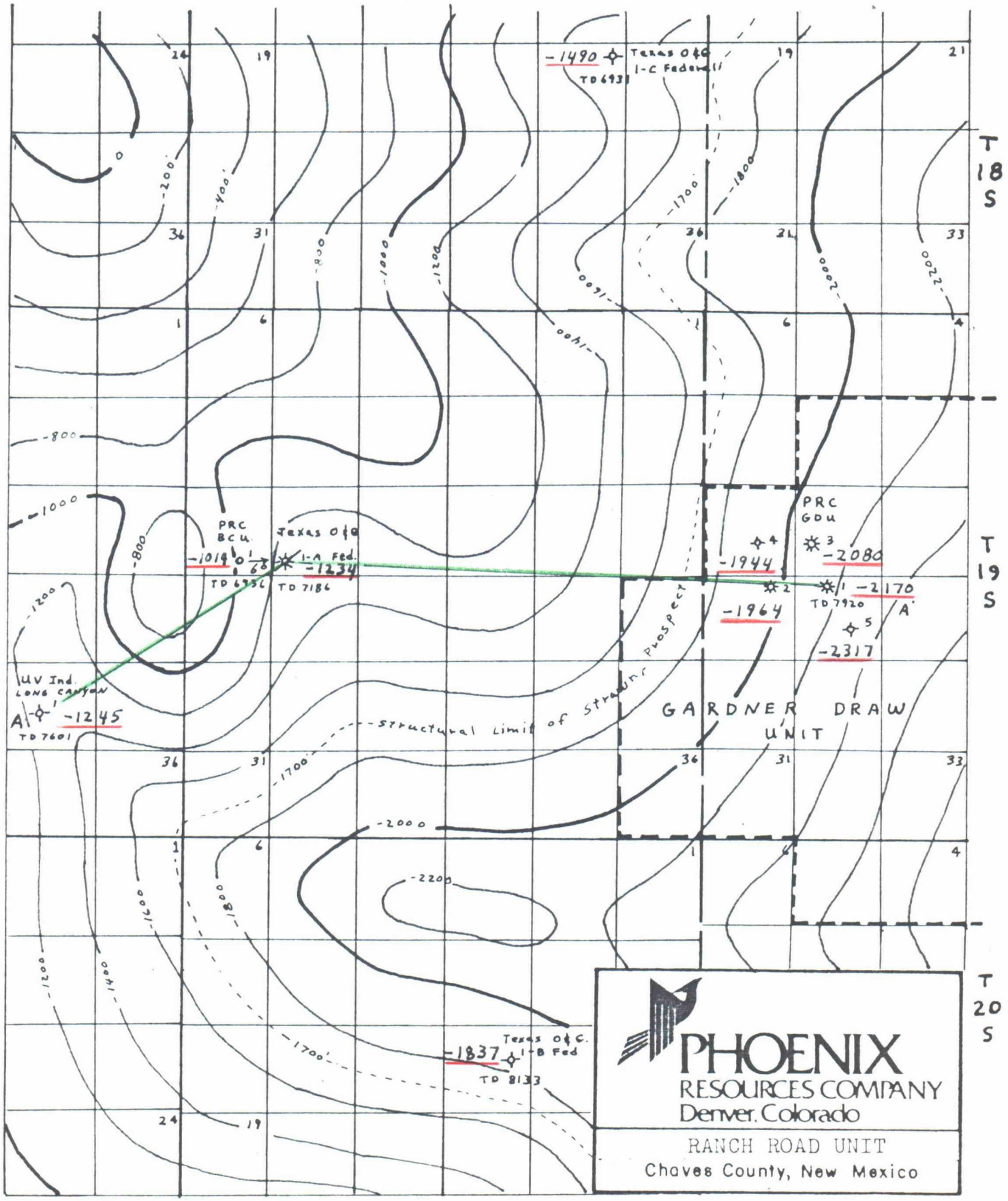
MISSISSIPPIAN CHESTER
STRUCTURE MAP

Scale: 1" = ~3000' CI = 200'
Positive Gravity Anomalies shown in Red

G. R. Reddy

EXHIBIT I

March 24, 1979



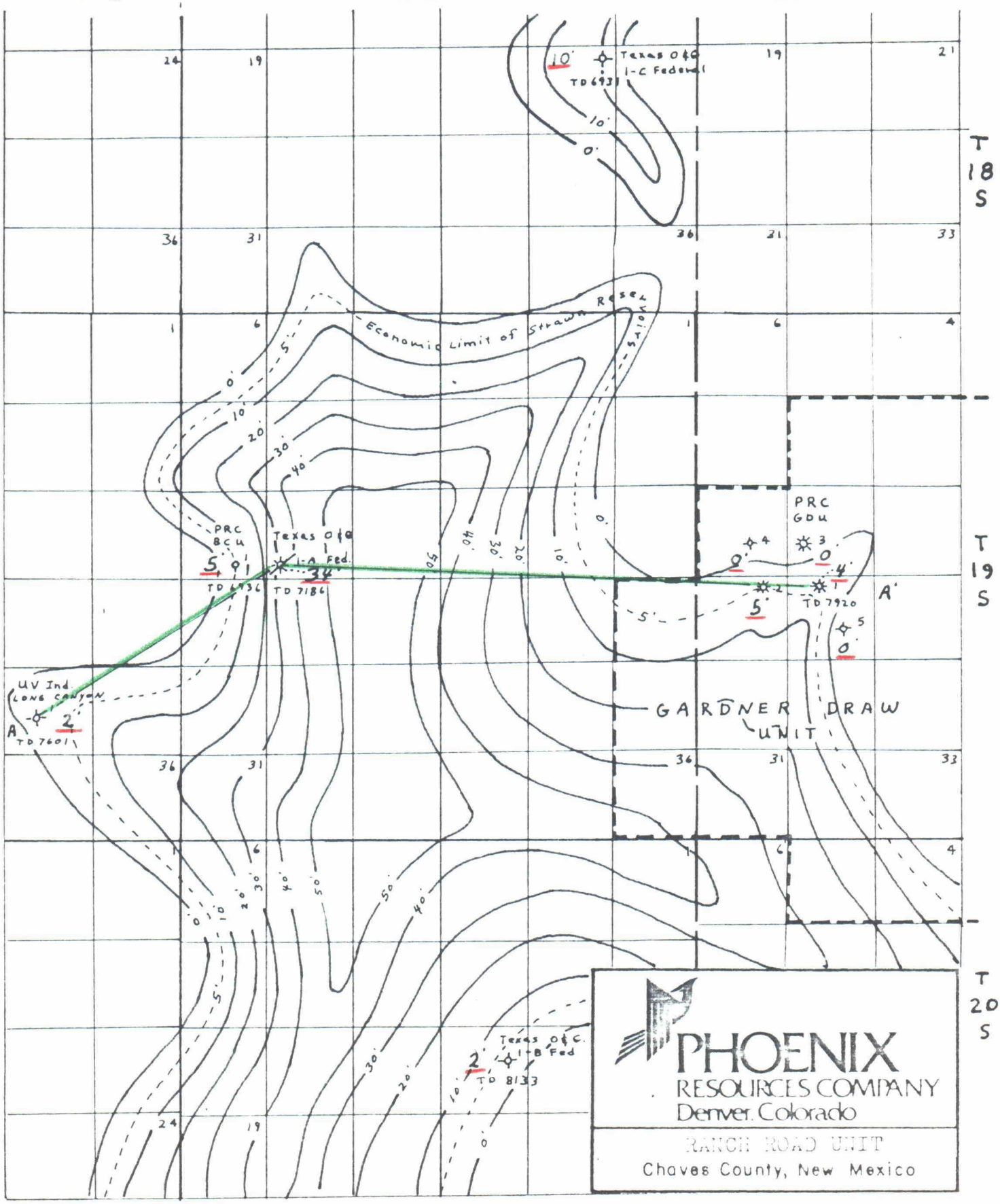
STRAWN FORMATION
STRUCTURE MAP

Scale: 1" = ~8000' CI = 200'

G. R. Reddy

EXHIBIT II

March 24, 1979

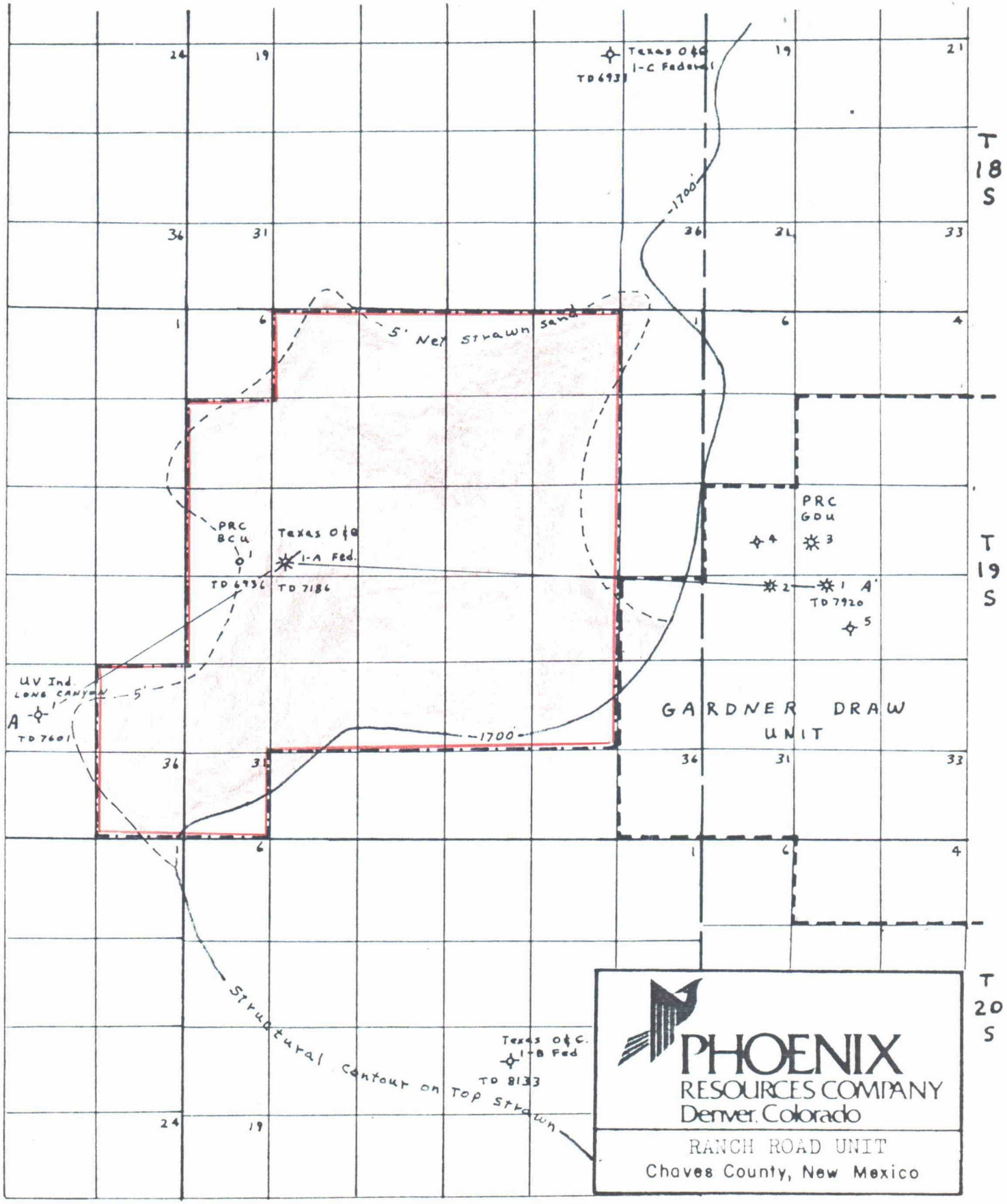


STRAWN FORMATION
NET SANDSTONE ISOPACH MAP
Net Feet of Sandstone Having greater
than Ten Percent Porosity
Scale: 1" = ~3000' CI = 10'

G. R. Reddy

EXHIBIT III

March 24, 1979



STRAWN PROSPECT
AND
PROPOSED RANCH ROAD UNIT BOUNDARY

Scale: 1" = ~3000'

G. R. Reddy

EXHIBIT IV

March 24, 1979

APPENDIX

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The two wells which have been drilled within the proposed limits of the Ranch Road Unit have been referred to above. The earlier well is the Texas Oil & Gas Federal "A" #1. It was originally completed 6-21-66 as a shut in gas well and has since been plugged and abandoned. On the initial potential test through perforations, from 6071-6213 (overall) the well flowed at a rate of 1609 MCFGPD and 6 BW. The potential was based upon a 72-hour test with a 43/64" choke. Tubing pressure was 34 psi, casing pressure was 150 psi. The well has never been produced. The principal reservoir of the well appears to be a clean Strawn sandstone that occurs from 6070-6104.

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examination of the samples, mud log analysis, and mechanical log analyses of the test interval did not promise encouraging results. In addition to the gas recovery on the drill stem test, it could be seen that part of the test interval is correlative with the gas-bearing sand that had previously been tested in the Texas Oil and Gas #1-A Federal, 1/2 mile east. Those two factors were the basis for the decision to run casing. Two intervals were perforated from 5820 to 5824' and 5829 to 5934'. Additional perforations were made at 5796, 5813, 5842, 5848, 5870, 5888, 5903, 5090, and 5813'. The well was acidized. After swabbing, the well started flowing gas and load water. On March 22, 1979 the field report indicated that the well flowed dry gas at an estimated rate of 2,900 MCFPD with flowing tubing pressure of 850 pounds on 24/64" choke. A production test for the well is in preparation. A detailed log of the completion interval and a summary of completion results to March 22, as well as a summary on all open-hole drill stem tests is attached to this report.

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Buckhorn Canyon Unit #1 Wildcat
Chaves County, NM
990' FSL and 1980' FEL
Sec. 18, T 19S, R 20E
KB Elevation 4736'

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DST #2
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DST #3 and #4 were run with 1 trip in hole.

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03-18-79 SITP 200 psi

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DST #2
6480-6590 Test Failed

DST #3 and #4 were run with 1 trip in hole.

DST #3
6480-6590 Tool open 75 min in two flow periods. Rec. 50' drilling mud. HP 3354-3354, IF 51-51, ISIP 386/30 min, FF 42-42/60, FSIP 1142/180 min.

DST #4
6330-6440 Tool open 75 min in two flow periods. Rec. 10' gas cut drilling mud. HP 3282-3282, IF 84-101, ISIP 190/30 min, FF 51-74, FSIP 262/180 min.

DST #5 and DST #6 were run with 1 trip in hole

DST #5
6025-6187 Tool open 75 min in two flow periods. Rec. 800' HGCM. HP 3056-3056, IF 259-158, ISIP 316/30 min, FF 148-160, FSIP 755/180 min.

DST #6
5751-5913 Tool open 90 min in two flow periods. Rec. 859' HGCM, Sample Chamber rec 350 cc GCM. Well flowed at rate of 131 MCFPD on $\frac{1}{4}$" choke. HP 2902-2902, IF 352-432, ISIP 1519/30 min, FF 411-422, FSIP 1741/225 min.

CHRONOLOGICAL WELL HISTORY

03-01-79 DST #1 - 6705' - 6936' Devonian Fair blow, No. GTS. IH 3489, FH 3489, IF 2203-2369, FF 2369-2515, ISI 2515, FSI 2515

03-02-79 DST #2 - 6865' - 6880'. Packer failed.

03-03-79 DST #3 - 6480' - 6590'. IH 3406, FH 3344, IF 84-84, FF 8484, ISI 422, FSI 1180

DST #4 - 6330' - 6440'. IH 3306, FH 3220, IF 106-84, FF 148-84, ISI 190, FSI 270

03-04-79 DST #5 - 6025' - 6187'. IH 3075, FH 3056, IF 158-158, FF 148-160, ISI 316, FSI 755. Sampler 350 cc GCM.

DST #6 - 5751' - 5913'. IH 2902, FH 2902, IF 352-432, FF 411-422, ISI 1519, FSI 1741. Sampler 350 cc GCM.

03-09-79 Perforated Atoka, 6070' - 6073'. (4 holes), 6054' - 6058' (5 holes) After 7 min. very very light blow. died 30 min. Left well open overnight.

03-10-79 Treated Atoka. 500 gall NESE acid SIFN.

03-11-79 PBD 6005. TP 0. Recovered small amount of gas and acid. Perf. Strawn 5820'-24' and 5829'-33'. (10 holes). Shut down for 38 hrs.

03-12-79 S D F Sunday.

03-13-79 TP 600 PSI. Bled to 0 in 5 min. Small amount of gas. Treated Strawn 500 gall. 15% NESE acid. Press. increased to 3200 PSI and broke back to 13-0 PSI. Made 3 swab runs, well started flowing. TP 1200 psi, 3/4" CHOKE, TP decreased to 75 PSI, leveled off for 1 hr. then decreased to 75-0 in 1 hr. Well died - SI 13 hrs. SIP 600 psi.

03-14-79 TP 600 psi - blew down in 10 min. shut-in. Released completion unit.

03-15-79 SITP 525 psi. Open on 3/4" choke, pressure 0 in 4 min. SI, after 4 hrs. SITP 75 psi, perforating

03-16-79 SITP 290 psi - perf. w/one shot of following depths: 5913, 5909, 5903, 5888, 5870, 5848, 5870, 5848, 5842, 8813, 5796, After perf. SITP 125 psi. SI on.

03-17-79 SITP 300 psi - Open well bled to 0 in 2 min. 1 PSI after 1 hr. SI. 25 psi after 2 hrs, 35 psi, after 3 hrs.

03-18-79 SITP 200 psi

03-19-79 SI, SDF Sunday, will acidize

03-20-79 SITP 525 psi. Open well bled to 0 in 3 min. SI

3-21-79 SI, no report

03-22-79 RU swab - made two runs and well started flowing gas and unloading salt water. Acidize Strawn perfs. w/3000 gall. FTP 400-500 psi on 1/2" choke while unloading. Well cleaned up, and flow. dry gas 350 psi FTP on 1/2" choke
SION

Appendix B 3

Schlumberger

SIMULTANEOUS

COMPENSATED NEUTRON-FORMATION DENSITY

COUNTY CHAVES
FIELD WILDCAT
LOCATION
WELL BUCKHORN CANYON #1
COMPANY PHOENIX RESOURCES

COMPANY PHOENIX RESOURCES COMPANY

WELL BUCKHORN CANYON #1

FIELD WILDCAT

COUNTY CHAVES STATE NEW MEXICO

LOCATION 190'FSL & 1980'FEL

API SERIAL NO	SEC	TWP	RANGE
	18	19-S	20-E

Other Services:
DLL/MSFL

Permanent Datum: G.L. ; Elev.: 4724
Log Measured From K.B., 12 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 4736
D.F.
G.L. 4724

Date	2-23-79			
Run No.	ONE			
Depth—Driller	6936			
Depth—Logger	6936			
Btm. Log Interval	6935			
Top Log Interval	SURF.			
Casing—Driller	8 5/8 @ 1790	@	@	@
Casing—Logger	1756			
Bit Size	7 7/8			
Type Fluid in Hole	POLYBRINE			
Dens. / Visc.	9.3 / 36	/	/	/
pH / Fluid Loss	8.4 / 4.2 ml	/ ml	/ ml	/ ml
Source of Sample	PIT			
R_m @ Meas. Temp.	.36 @ 78 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.31 @ 75 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	C /	/	/	/
R_m @ BHT	.23 @ 125 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	1800			
TIME Logger on Bottom	2300			
Max. Rec. Temp.	125 °F	°F	°F	°F
Equip. / Location	8075 / HOBBS	/	/	/
Recorded By	NEUMANN			
Witnessed By Mr.	HANSON			

Appendix B 3

Schlumberger

SIMULTANEOUS

COMPENSATED NEUTRON-FORMATION DENSITY

COUNTY CHAVES
FIELD WILDCAT
LOCATION
WELL BUCKHORN CANYON #1
COMPANY PHOENIX RESOURCES

COMPANY PHOENIX RESOURCES COMPANY

WELL BUCKHORN CANYON #1

FIELD WILDCAT

COUNTY CHAVES STATE NEW MEXICO

LOCATION 190'FSL & 1980'FEL

API SERIAL NO	SEC	TWP	RANGE
	18	19-S	20-E

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Log Measured From K.B., 12 Ft. Above Perm. Datum
Drilling Measured From K.B.

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D.F.
G.L. 4724

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Depth—Logger	6936			
Btm. Log Interval	6935			
Top Log Interval	SURF.			
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Casing—Logger	1756			
Bit Size	7 7/8			
Type Fluid in Hole	POLYBRINE			
Dens. / Visc.	9.3 / 36			
pH / Fluid Loss	8.4 / 4.2 ml	ml	ml	ml
Source of Sample	PIT			
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Rmf @ Meas. Temp.	.31 @ 75 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Source: Rmf / Rmc	C			
Rm @ BHT	.23 @ 125 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	1800			
TIME Logger on Bottom	2300			
Max. Rec. Temp.	125 °F	°F	°F	°F
Equip. / Location	8075 / HOBBS			
Recorded By	NEUMANN			
Witnessed By Mr.	HANSON			

The well name, location and borehole reference data were furnished by the customer.

Appendix B 3

Schlumberger

SIMULTANEOUS

COMPENSATED NEUTRON-FORMATION DENSITY

COUNTY CHAVES
FIELD WILDCAT
LOCATION
WELL BUCKHORN CANYON #1
COMPANY PHOENIX RESOURCES

COMPANY PHOENIX RESOURCES COMPANY

WELL BUCKHORN CANYON #1

FIELD WILDCAT

COUNTY CHAVES STATE NEW MEXICO

LOCATION 190'FSL & 1980'FEL

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Source of Sample	PIT			
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Rmf @ Meas. Temp.	.31 @ 75 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Source: Rmf / Rmc	C			
Rm @ BHT	.23 @ 125 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	1800			
TIME Logger on Bottom	2300			
Max. Rec. Temp.	125 °F	°F	°F	°F
Equip. / Location	8075 / HOBBS			
Recorded By	NEUMANN			
Witnessed By Mr.	HANSON			