Exhibit #1

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
CONOCO INC.	CSF RUBY WELLS	1

Unit Letter	Section	Township	Range	County
F	9	18-N	10-W	McKinley

Actual Footage Location of Well:
1390 feet from the North line and 1720 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
	Entrada	Undesignated	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

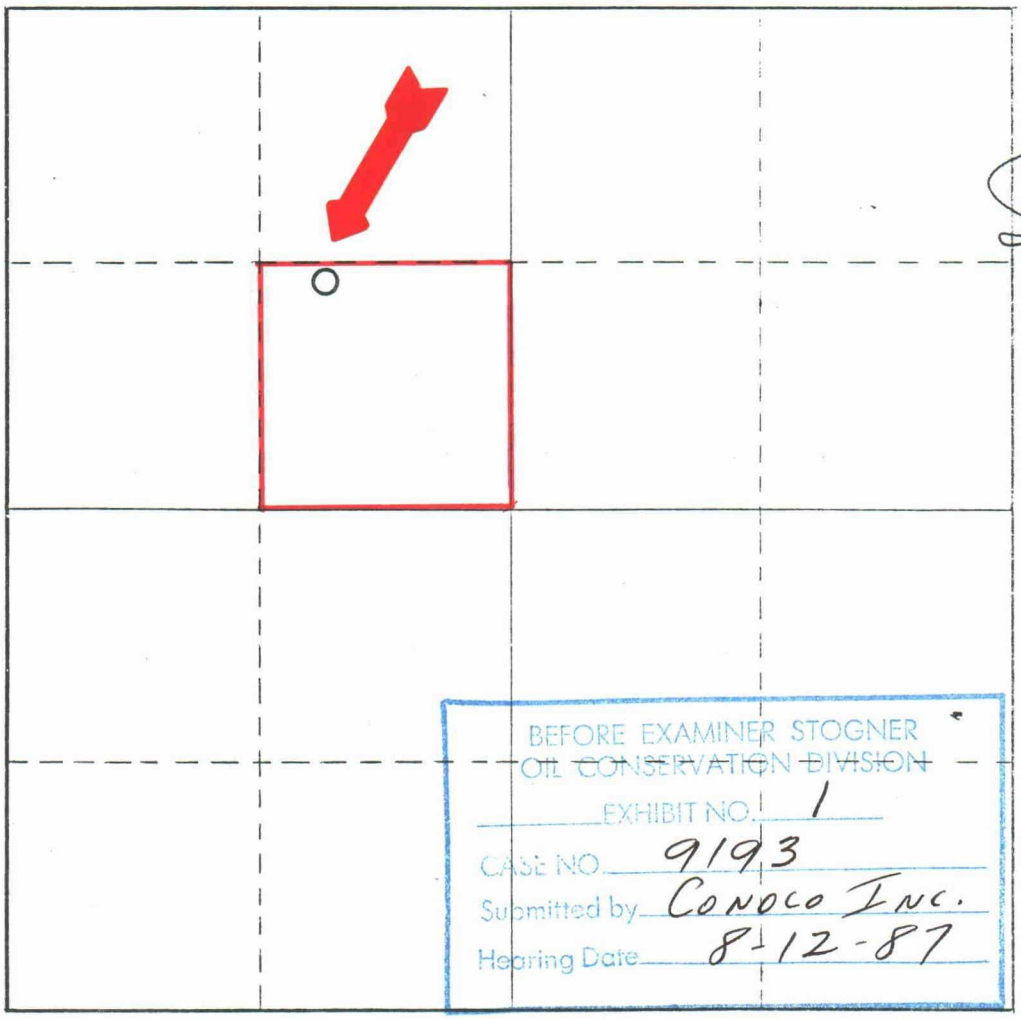
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

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



BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
EXHIBIT NO. 1
CASE NO. 9193
Submitted by CONOCO INC.
Hearing Date 8-12-87

CERTIFICATION

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

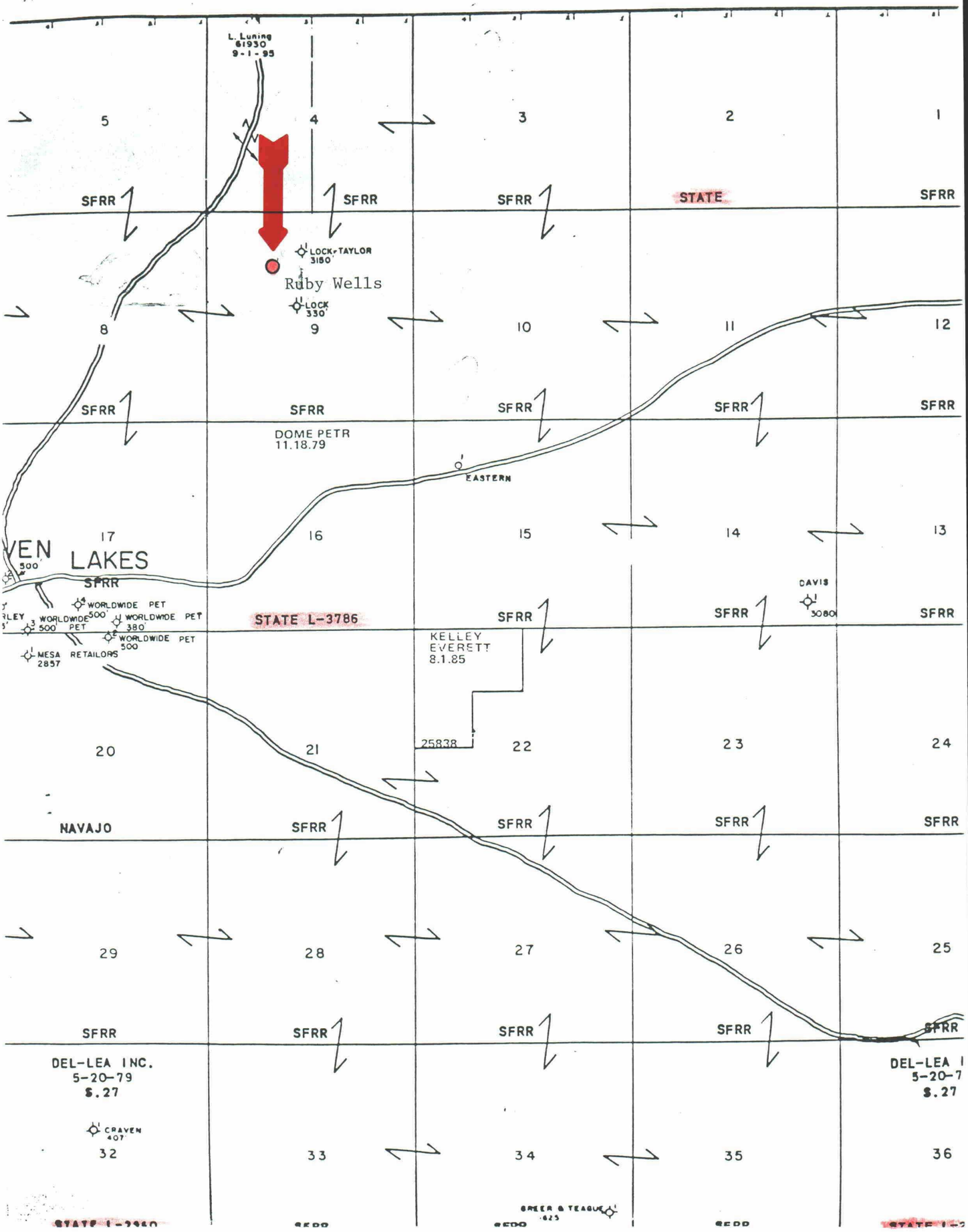
Name: Hugh Ingram
Position: Conservation Coordinator
Company: Conoco Inc.
Date: July 24, 1987

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.



BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION

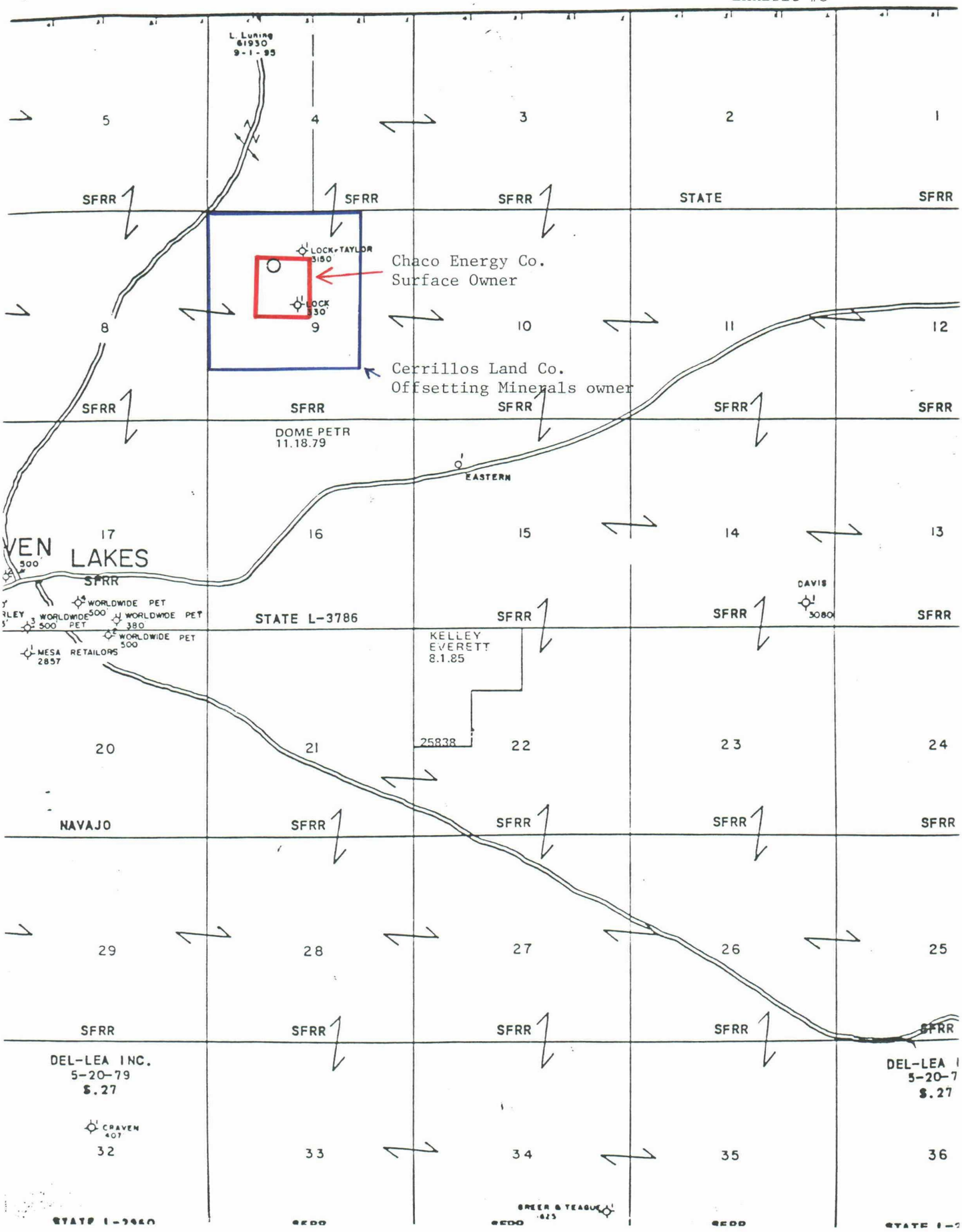
EXHIBIT NO. 2

CASE NO. 9193

Submitted by Conoco Inc.

Hearing Date 8/12/87

Exhibit #3



BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
EXHIBIT NO. 3
CASE NO. 9193
Submitted by Conoco Inc.
Hearing Date 8/12/89

(CONOCO)

Conoco Inc.
P.O. Box 2197
Houston, TX 77252

July 8, 1987

Mr. George R. Wagner
Cerrillos Land Company
6200 Uptown Blvd. N.E., Suite 400
Alberquerque, New Mexico 87125

Gentlemen:

Re: Unorthodox Well Location Waiver

Conoco Inc. and Santa Fe Energy Company have agreed upon the following location for the drilling of a 3,900' Entrada test well:

1,720' FWL and 1,390' FNL
Section 9, T18N-R10W
McKinley County, New Mexico

This location , however, is considered an unorthodox well location by the New Mexico Oil Conservation Division as it is not 330' from the quarter-quarter lines.

It is requested that Cerrillos Land Company, as offset operator, waive any objections to this unorthodox well location.

If you are in agreement with the foregoing please indicate so by signing below and returning one (1) copy of this letter to me and forwarding the original on to the New Mexico Oil Conservation Division, Attn: Mr. Vic Lyon, P. O. Box 2088, Santa Fe, New Mexico, 87501.

Thank you for your cooperation in this matter.

Sincerely,

Christopher D. Fling
Land Director
Houston Division Exploration

wb

Accepted and agreed to this 10th day of July, 1987 by:

George R. Wagner, President
Cerrillos Land Company.

cc: Mr. Duke Rousch - Santa Fe Energy Company

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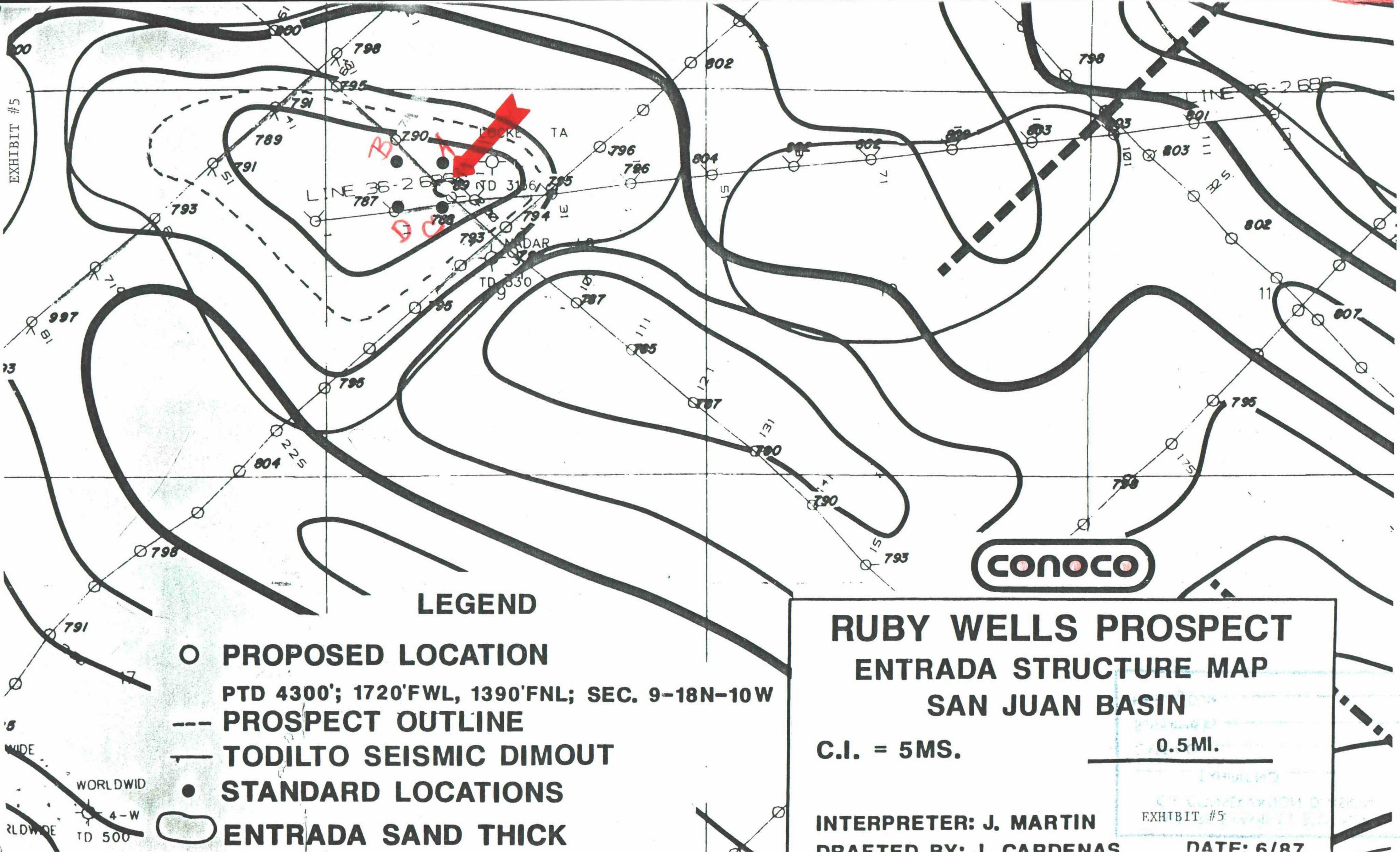
EXHIBIT #5
LEGEND
PROPOSED LOCATION
PTD 4300'; 1720'FWL, 1390'FNL; SEC. 9-18N-10W
PROSPECT OUTLINE
TODILTO SEISMIC DIMOUT
STANDARD LOCATIONS
ENTRADA SAND THICK
conoco
RUBY WELLS PROSPECT
ENTRADA STRUCTURE MAP
SAN JUAN BASIN
C.I. = 5MS.
0.5MI.
INTERPRETER: J. MARTIN
DRAFTED BY: J. CARDENAS
DATE: 6/87
EXHIBIT #5
LINE 36-2686
A
B
C
D

BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION

EXHIBIT NO. 5

CASE NO. 9193

Submitted by Conoco Inc.

Hearing Date 8/12/89

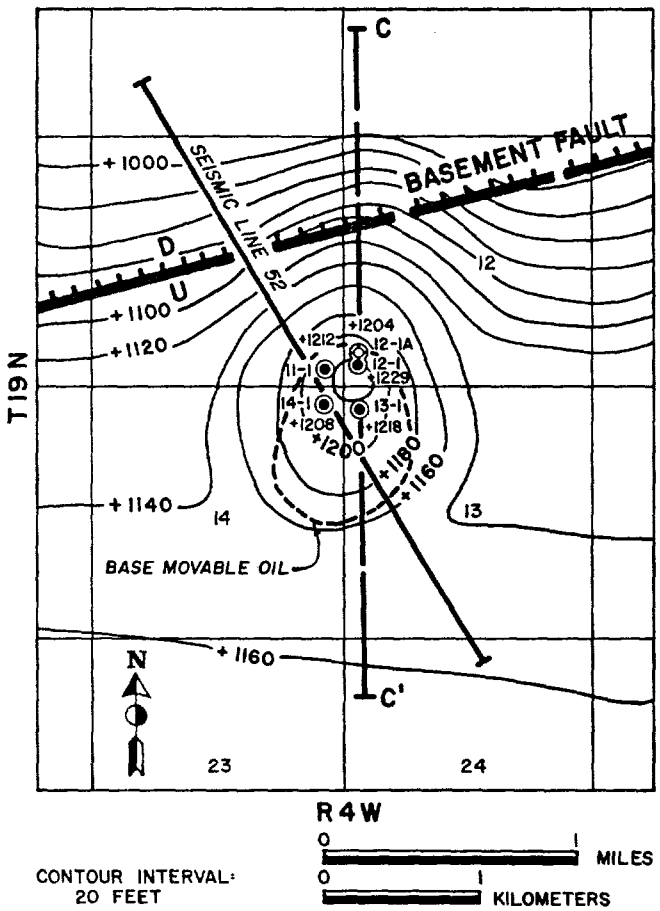

FIG. 19—Structure map on top of Entrada Sandstone at Eagle Mesa field. Structural values are based on seismic and well control.

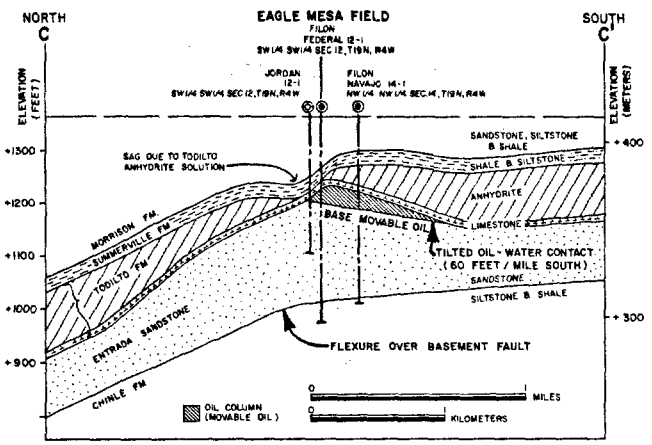

FIG. 20—Structural cross section CC through Eagle Mesa field. Location of cross section is shown on Figure 19.

which trends west-southwest to east-northeast beneath the Entrada topographic high, has caused the regional dip at the Entrada level to steepen to about 2° where the Entrada drapes over the downthrown side of the basement fault. Conversely, the regional dip at the Entrada level flattens to less than 1/3° on the upthrown block at the point where the Entrada topographic ridge terminates on the south. This local flattening of dip has preserved 70 ft (21 m) of structural closure out of the 105 ft (32 m) of original topographic relief.

That rapid variations in the topographic relief on top of the Entrada highs can occur was established at Eagle Mesa by the drilling of the 12-1A well, located only 225 ft (69 m) north of the discovery well for the field. The original discovery well, the Filon Federal 12-1, although containing a 30-ft (9 m) column of movable oil, had a disappointing production history, in that the initial water cut averaged 96% and never improved. Believing that the high water cut might be due to uncorrectable mechanical problems, a redrill was proposed at the 12-1A location. Much to the chagrin of the supporters of this test, primarily the writers of this paper, the well came in 25 ft (8 m) low structurally to the 12-1 well at the top of the Entrada and the well was subsequently plugged and abandoned. Although the well did not penetrate the entire Entrada section, internal correlations within the Entrada and isopach and structural data from overlying units indicate that the major loss in structural elevation was due to topographic relief on top of the Entrada. The Entrada is 214 ft (65 m) thick in the 12-1 well but only approximately 193 ft (59 m) thick in the 12-1A well. This loss of 21 ft (6 m) of sand over a lateral distance of only 225 ft (69 m) indicates a dip of 5°. Had this well, rather than the original 12-1 well, been the first test drilled at Eagle Mesa, the field might never have been developed.

As with all Entrada oil wells drilled, after a period of initial flush production, all of the wells at Eagle Mesa experienced a rapid increase in water production which averaged 95% for the wells in the field after 1 year of production. This high rate of water production is largely due to the excellent vertical permeability in the Entrada, which causes rapid coning of water into the well bore from beneath the oil/water contact. Several things can improve the economics of this situation. The first is to drill an Entrada well which has low-permeability streaks separating the oil zone from the underlying water. Several wells in various fields have encountered this situation, most notably the Dome Petroleum Navajo 15-4 in the Papers Wash field. This well, which produced 120,000 bbl of oil during its first year of production, had a water cut of only 60% at the end of that time. Low porosity (14 to 16%), and low-permeability sand streaks near the base of the oil column in this well are apparently very effective in restricting water production.

Another solution to the problem of high water cuts would be to drill a well with an oil column of 50 to 60 ft (15 to 18 m). Unfortunately, no geologic or geophysical techniques have been developed to accurately predict the presence of tight streaks or thick oil columns in the Entrada. Therefore, the other solution is to utilize high-volume pumps capable of lifting 2,000 to 5,000 bbl of fluid per day. Such pumps at Eagle Mesa have enabled the field to produce a cumulative total of 745,000 bbl of oil as of November 1, 1980, and three wells in the field are currently producing at a combined rate of 335 bbl of

LINE 37-26-86

RUBY WELLS PROSPECT

NW

PROP. LOC.

B & D are on another shot line

SE

41 51 61 71 81 91 101 111 121