P H I L L I P S P E T R O L E U M C O M P A N Y

GEOLOGIC REPORT

OF THE

PROPOSED SUNLAND PARK UNIT

DONA ANA COUNTY, NEW MEXICO

J. L. Liszak

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July 20, 1984

BEFORE EXAMINER
OIL CONSERVATION DIVISION
7-25-84 EXHIBIT 1
CASE NO. 8268

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DONA ANA COUNTY, NEW MEXICO

Location

The proposed Sunland Park Unit is located in southwestern Dona Ana County, New Mexico, about 15 miles west of El Paso, Texas (see Exhibit "A"). The unit area consists of 22,473.69 acres in T26S, R1E and R1W, and T27S, R1E and R1W (see Exhibit "B", heavy dashed outline). The proposed 22,500' wildcat test drillsite is in NW/4 Section 4, T27S, R1E.

Discussion

The Sunland Park Unit is situated in a large structural trap in the foreland area of the Laramide Thrust Belt, within a block faulted basin of the Rio Grande Rift. This block faulted basin, known as Las Cruces Basin, is illustrated in a generalized regional cross section on Exhibit "C". The structure is defined seismically as a closed anticline with approximately 2400' of closure. The contours on Exhibit "B" express Jurassic structure in the unit. Areal extent of the unit was determined by enclosing the 2.700 second contour which is considered the lowest level of closure, or the depth below which water may be expected. The feature is bounded on the west by a large vertical fault downthrown to the west and extending to the surface.

Based on studies of the Grimm et al No. 1 Mobil 32, a 21,760' test in Section 32, T25S, R1E, the Paleozoic section of this unit is stratigraphically similar to that of the Permian Basin, and the Mesozoic section is stratigraphically similar to that of the western Gulf Basin. The primary targets are the Silurian Fusselman and Ordovician Montoya and El Paso (Ellenburger) carbonates. Secondary targets to be tested include Cretaceous limestone, Permian dolomite, Permian to Mississippian limestones, and Devonian Percha (Woodford) shale. Based on the Grimm well, a 22,500' test should penetrate all of the prospective pay zones and bottom in the Ordovician - El Paso (Ellenburger).

Expected tops are as follows:

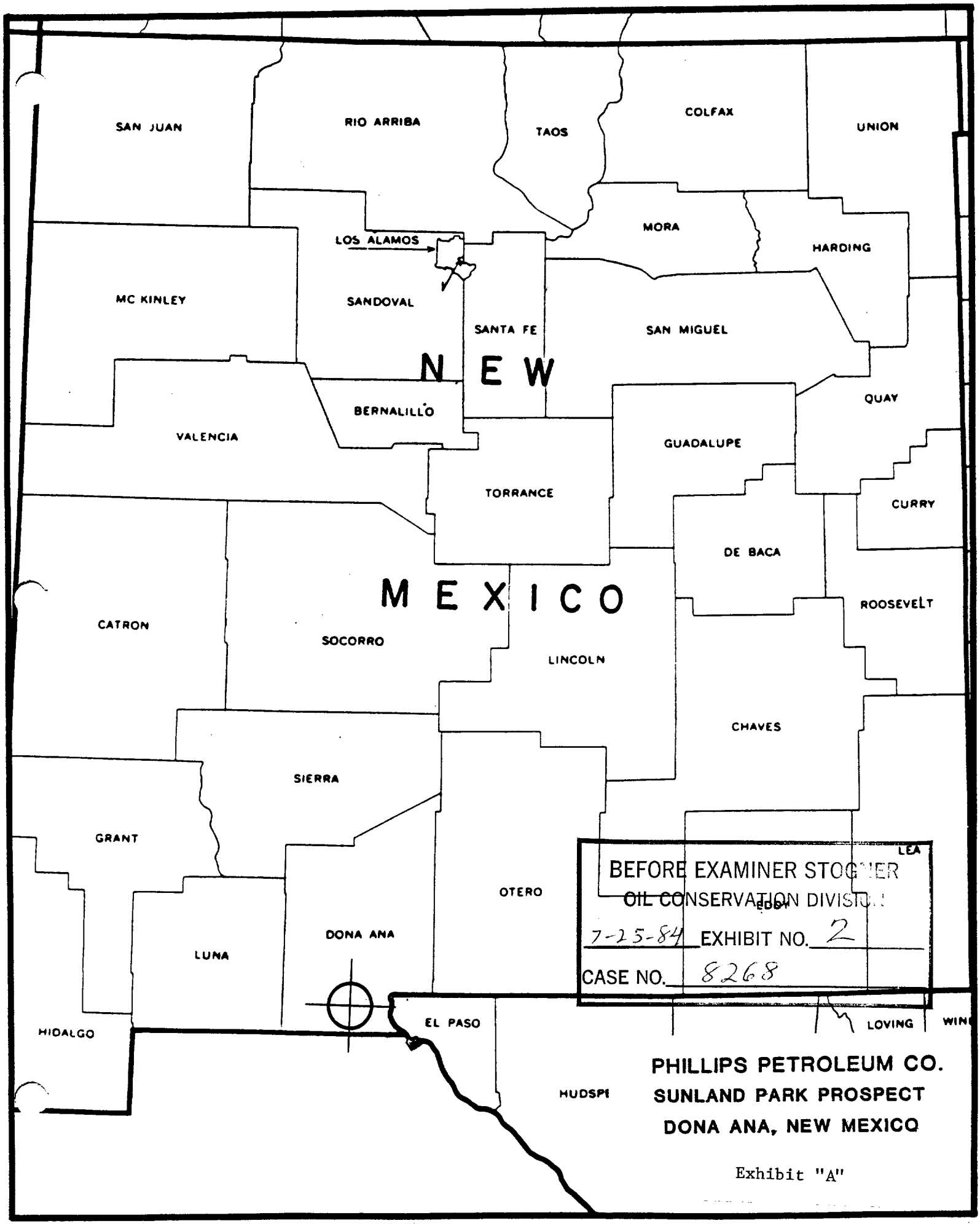
Cretaceous	12,800'
Jurassic	14,100'
Wolfcamp	15,500'
Pennsylvanian	18,600'
Mississippian	20,400'
Devonian-Percha	20,600'
Silurian-Fusselman	20,900'
Ordovician-Montoya	21,500'
Ordovician-El Paso	22,000'

Shows indicated in the Grimm et al No. 1 Mobil 32 and a Geochem Laboratories, Inc. study of well cuttings indicate that production from the primary objective should be dry gas. Dry gas is also anticipated in the Devonian-Percha. Jurassic through Mississippian zones may have wet gas and condensate, whereas the Cretaceous may produce oil.

Conclusion

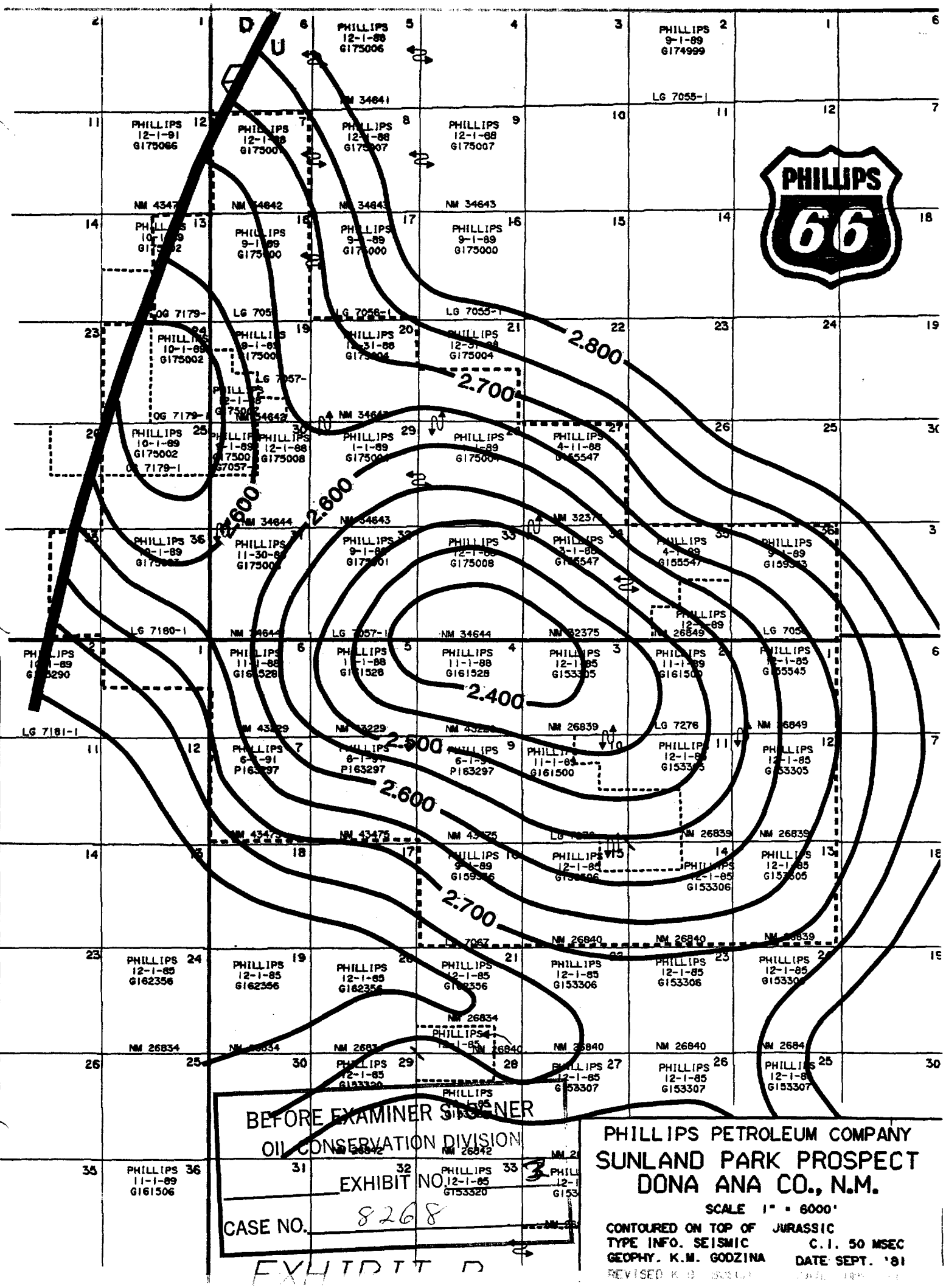
The Sunland Park Unit is defined by a large anticline which consists of a Paleozoic section stratigraphically similar to that of the Permian Basin and a Mesozoic section stratigraphically similar to that of the western Gulf Basin. Shows in the nearby Grimm et al No. 1 Mobil 32 test indicate hydrocarbons may be present in several zones. The unit appears to be in the best locale to test the basin, being in a large structure, but removed from the major fault which may have contributed to intrusives and other problems encountered in the Grimm et al No. 1 Mobil 32 test.

JLL:mwr



PHILLIPS PETROLEUM CO.
SUNLAND PARK PROSPECT
DONA ANA, NEW MEXICO

Exhibit "A"



PHILLIPS PETROLEUM COMPANY

SUNLAND PARK PROSPECT

DONA ANA CO., N.M.

SCALE 1" = 6000'

CONTOURED ON TOP OF JURASSIC

TYPE INFO. SEISMIC C.I. 50 MSEC

GEOPHY. K.M. GODZINA DATE SEPT. '81

REVISED