

JUN 18 1981

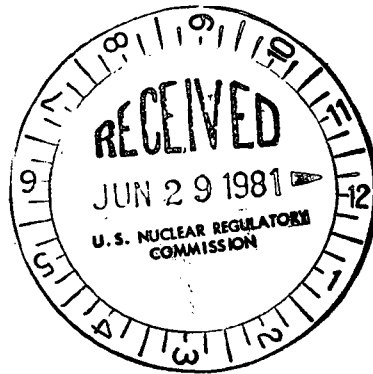
MEMORANDUM FOR: The Atomic Safety and Licensing Board for San Onofre Nuclear
Generating Station, Units 2 and 3
FROM: Darrell G. Eisenhut, Director, Division of Licensing, NRR
SUBJECT: BOARD NOTIFICATION - GEOLOGICAL DATA (BN 81-12)

The enclosed letter from the applicants forwards a report addressing the geology of the area offshore of the San Onofre 2 and 3 facilities. The well data discussed in the enclosed letter are not included. This information is being forwarded to the San Onofre 2 and 3 Licensing Board because it relates to the seismic hearing which is scheduled to begin on June 22, 1981.

Original signed by
Darrell G. Eisenhut.

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation.

Enclosure:
Ltr. from Southern California
Edison Company, dtd. 6/5/81



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A PDR

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OFFICE	DL:LB#3	DL:LB#3	DL:AD/L	DL:DTR	DL:LB#3		
SURNAME	Hood:jb	F. Padilla	R. Tedesco	D. Eisenhut	J. Lee		
DATE	6/16/81	6/16/81	6/17/81	6/18/81	6/16/81		

BOARD NOTIFICATION DISTRIBUTION

Docket File 50- 361/362

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OELD

OI&E (3)

ACRS (16)

HDenton

ECase

PPAS (H. Thompson)

EHughes

bcc: W. J. Dircks

V. Stello



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

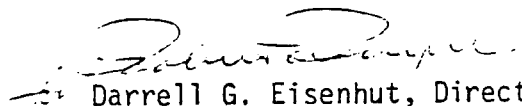
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Office of Nuclear Reactor Regulation

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Ltr. from Southern California
Edison Company, dtd. 6/5/81

BOARD NOTIFICATION DISTRIBUTION

San Onofre

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K. P. BASKIN
MANAGER OF NUCLEAR ENGINEERING,
SAFETY AND LICENSING

June 5, 1981

TELEPHONE
(213) 572-1401

Director, Office of Nuclear Reactor Regulation
Attention: Mr. Frank Miraglia, Branch Chief
Licensing Branch No. 3
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362
San Onofre Nuclear Generating Station
Units 2&3

The purpose of this letter is to transmit SCE's assessment of data from three oil wells drilled in the Capistrano Embayment during the period; 1978-1980. These three wells were previously addressed in a letter from SCE (K. P. Baskin) to the NRC (F. R. Miraglia) dated April 1, 1981.

Please find enclosed, seven copies (NRC Mail Code BU-24) of "Report on Recent Oil Exploration Drilling - Capistrano Embayment Area, Orange County, California" by Mr. Jack C. West, dated May 20, 1981. This report documents Mr. West's attempts to obtain the subject well data and his analysis thereof. For the two wells for which Mr. West was able to obtain data (Arriba de la Estrella "J. W. Ficklin" No. 1 and Santa Fe Energy "Reed-Krum" No. 1) the primary conclusion is that the data does not effect his previous interpretations as documented in "Supplement to the Generalized Subsurface Geological and Geophysical Study, Capistrano Area, Orange, California," 1979, by J. C. West. Although data from the third well (Texaco "O'Neill" No. 3) is not available, this well is very close to a well which produced good data which was utilized in Mr. West's previous reports.

Also enclosed please find seven copies (NRC Mail Code BU-24) of the data from Well No. 1, Arriba de la Estrella, "J. W. Ficklin" No. 1 and Well No. 2, Santa Fe Energy "Reed Krum" No. 1. As indicated in Mr. West's report, the data from Well No. 2 is proprietary to Santa Fe Energy Co. and as discussed with the Regulatory staff, should be held in confidence for internal

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Mr. Frank Miroglia, Branch Chief

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June 5, 1981

review pending receipt of the affidavit and request for withholding the report from public disclosure. An affidavit specifying the basis for designating the material proprietary and a request to withhold the data from public disclosure pursuant to 10 CFR 2.790(b) will be transmitted subsequently.

If you have any questions concerning this matter, please contact me.

Very truly yours,

KP Basim / JY (Murray)

Enclosures

cc: USGS, Menlo Park, CA (Dr. J. Andrews)
USGS, Reston, VA (J. F. Devine)
California Division of Mines and Geology (P. Animoto)
D. B. Slemmons

JACK C. WEST
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May 20, 1981

REPORT ON RECENT OIL EXPLORATION
DRILLING--CAPISTRANO EMBAYMENT AREA
ORANGE COUNTY, CALIFORNIA

This report sets forth the results of a study of the available basic data obtained from three recent holes drilled within the San Juan Capistrano embayment.

- No. 1 Arriba de la Estrella "J.W. Ficklin" No. 1
Elevation - 1180' ground, 1191' Kelly Bushing
Spud 12/5/78; Abandoned 12/29/78; Total Depth 3856'
Location 1390' South, 220' East from Northwest corner
Section 24, T6S, R7W
The location of this hole is plotted on Exhibit B--
Generalized contours on Base Tertiary--Top Cretaceous,
Revised November 1978.
The following data was obtained from the State Division
of Oil and Gas
- A. Electrical Surveys
 - 1. Dual Induction laterolog
 - 2. Compensated Neutron Formation Density Log
 - 3. Formation Factor Log
 - 4. Dipmeter Plot and Tabulations
 - B. Well Summary Report and History

- C. Miscellaneous Operational Reports between Operator and DOG
- D. Schlumberger Wire Line Formation tests

The hole spudded in beds near the top of the Santiago formation (Eocene). No paleontological report was made on the sediments penetrated by the hole. The following formation contacts have been determined by electric log correlation with other wells and partly by projection of regional thickness of sub-surface formation members.

- 1110 - Base Santiago (Eocene)/Top Silverado (Palescone)
- 1660 - Top Cretaceous (Pleasants member of Williams formation)
Good development of sandstone within the Pleasants member was found between 2100 and 2375 feet
- 3828 - Total depth--in shales near the base of the Pleasants member

Dipmeter was run only in the interval 2000' to 3000' where the approximate average dips varied between 15° to 20° South 52 to 72° West.

The hole is located approximately 2000' feet west of the Mission Viejo fault, which in this vicinity is about parallel to but four miles east of the Cristianitos fault. No evidence of oil or gas is indicated from the electrical surveys or wire line formation tests. The abandonment report, however, did mention a gas show on the ditch at 2130', which in this hole is the top of the sandstone unit in the Pleasants member.

No evidence of faulting was found in the hole and the above formation contacts indicate that the structural interpretation is about as shown on Exhibit B referred to above.

No. 2 Santa Fe Energy "Reed-Krum" No. 1
 Elevation 657' Kelly Bushing (645' ground)
 Location 2900' North, 450' East from the Southwest
 corner Section 9, T6S, R7W
 Spud 5/15/80; Abandoned 12/19/80; TD 6609'

Information on this hole has not been released to the
 public by the operator. However, the operator has re-
 leased the following data for the exclusive use by
 Southern California Edison Company and the Nuclear
 Regulatory Commission.

A. Electrical Surveys

1. Dual Induction-Laterolog
2. Bore Hole Compensated Sonic Log
3. Dipmeter Plot

B. Mud and Ditch Sample Log

C. Paleontological Report

D. Well Summary and History

This hole is located about 4500' southwest of the surface
 trace of the Forster branch of the Cristianitos fault. It falls
 about on line with structure section C-B by Jack C. West dated
 July 1975 and revised December 1978, approximately 1400' south-
 west of Northlope "University of California" No. 1.

The hole spudded in the Capistrano Formation. The following
 formation contacts have been determined from the above data.

- 1300 - Base Capistrano/Top Monterey Formation
- 2240 - Base Monterey/Top San Onofre Breccia
- 2505 - Base San Onofre Breccia/Top Topanga-SESPE
 (undifferentiated)
- 3900+ Top Santiago-Silverado (Eocene-Paleocene)
 (undifferentiated)
- 6609 - Total Depth (in Paleocene) according to Paleontological
 Report

The data from the upper part of this hole (to 3500'±) indicate no significant change in the sub-surface geologic interpretation of the Miocene and younger beds as shown on structure section C-B and on Exhibit A-1, generalized contours near the top of the Monterey by Jack C. West dated December 1978.

Electric log correlation and the paleontological report indicate, however, that the Cretaceous was not reached in this hole. This data along with comparison of the dipmeter in this hole with the Northlode hole suggest the presence of older faulting-leaving the area of the Santa Fe hole at Cretaceous depth in a structurally low fault block. The direction of this older faulting probably trends northwest similar to other old faulting in this regional area. This older fault block is about one mile west of the Cristianitos fault and has no relation to the younger and more north trending Cristianitos Fault Zone.

The strongest oil and gas shows encountered in this hole occur at the following depths:

4360 - 4380'

4550 - 4600'

6465 - 6500'

Casing was run in this hole and the well history confirms that the lower show was perforated, acidized, and tested by pumping. The test recovered no formation fluids of any kind, which indicates a very hard and impermeable reservoir. The writer was informed verbally by the operator that the upper shows were also later tested in a like manner with the same results prior to abandonment.

No. 3 Texaco Inc. "O'Neill" No. 3
Elevation 390, Kelly Bushing
Location 1700' South, 100 East, from the Northwest
corner Section 23, T6S, R7W
Spud 10/27/80; Total Depth 4500'; Redrilled from 1800'
to 4487' Total Depth; Ran casing and completed well;
minor production reported; well shut in; Operator reports
"evaluating area".

The surface location of this well falls on the line of structure section H-G, by Jack C. West dated July 1975, revised December 1978. It is located approximately 400' northeasterly of Texaco "O'Neill Estate NCT No. 1-1", and approximately 750' southwesterly of the most westerly branch of the surface trace of the Cristianitos Fault Zone. Texaco has informed the writer in writing that the original hole, total depth 4500', was a straight hole, and that the redrill, total depth 4487' (4437' vertical depth) was directed westerly with the bottom hole coordinates 61' south - 545' west from the surface location. Thus, the redrill is practically a twin to Texaco "Estate NCT No. 1-1" at the depths 3500'_± to 4487'.

The writer has discussed with the operator (Texaco) at considerable length the release of all the basic data from this well for the exclusive use by the Southern California Edison Company and the Nuclear Regulatory Commission. Texaco will not release this data at this time mainly because of industry competition which involves land lease problems, additional evaluation in preparation for more possible drilling, and the trading value of their data with competitors. Texaco is aware of the writer's interpretation of the Cristianitos fault in the vicinity

of their wells and they have verbally informed the writer that their new data does not reflect any structural change that would suggest any type, magnitude, or timing of fault movement along the Cristianitos Fault Zone different from that shown on Section H-G.

In regard to questions regarding recent drilling in the vicinity of the Cristianitos fault the writer summarizes the results of the above drilling as follows:

No. 1 Arriba de la Estrella "J.W.Ficklin" No. 1

This hole is located about four miles east of the Cristianitos fault. The data from this hole shows no faulting and does not effect the present geologic interpretation of the Cristianitos fault.

No. 2 Santa Fe Energy "Reed-Krum" No. 1

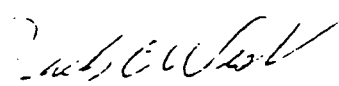
This hole is located about one mile west of the Cristianitos fault. The data from this hole indicates no faulting that cuts the bore hole and that the upper beds, Lower Pliocene-Oligocene, in age are normal in structural position and thickness to a depth of 3500'±. Below this depth to total depth, 6609', the beds are thicker than normal and the paleontological report indicates that Cretaceous was not reached. This condition and other well data mentioned above suggests older faulting--not related to the Cristianitos fault as discussed above.

Accordingly, the writer believes that data from this hole does not effect the present interpretation of the Cristianitos fault.

No. 3 Texaco "O'Neill" No. 3

This well is located about 750' west of the Cristianitos fault. As explained above the data from this well, other than its redrilled position is not available at this time and probably will not be available for six months or a year. However, as discussed above, it is very close to a well where we have good data that provides substantial information toward the present geologic interpretation of the Cristianitos fault. The operator has verbally informed the writer that there is no new data from this new well that would change the present interpretation of the Cristianitos fault.

Of the three new holes, the Texaco "O'Neill" No. 3 is the only well that recovered any oil--which is a minor amount. In the writer's opinion, hydrocarbon withdrawal from any future oil or gas discovery along or near the Cristianitos fault would have no effect on movement along or near this fault zone.


JACK C. WEST