H. Carnejo

PETRO-TECH
PERUANA S.A.

EDM-060-98

INTEROFFICE MEMO

TO: Jim Hunt

FROM: Marco A. Raez

RE.: **EVALUATION LOWER BASAL SALINA - WELL LO16-24**

DATE: April 1, 1998

As per our conversation this AM, we continue reviewing the initial tests of the Lower Basal Salina of the reference well. Facts as follows:

a) Well showed excellent sands and oil shows and pressure with live oil indications in drilling mud while drilling. Chromatograph analysis confirmed it.
b) First opened interval at 10,796' - 10,792', recorded no pressure in well head, which indicate it is tight or pressures are lower than diesel column.
c) Second interval perforations failed. Decided to open uppermost 3rd interval at 10,756' - 10,742'. Pressure reached 1,800 psi in well head.
d) Proceed to perforate second interval at 10,770' - 10,764', pressure did not change. This suggested pressures in second interval are similar than 3rd. interval.
e) Well was set on production and pressure declined to 40-50 psi, while producing gas and diesel with minor amounts of water (227 x 4 in 18.5 hr.). Water production increased to near 100% this AM, at a rate of 12-14 BW/hr.

Based on the above, we conclude that the first opened interval (10,796' - 10,792) might be tight and possibly wet. The second interval (10,770' - 10, 764') in spite of good oil shows, could be also tight and possibly wet. The third and uppermost interval (10,756' - 10,742'), showed the best oil shows and also live oil in mud pits while drilling at 10,760. This is an excellent indication that it is oil bearing. Therefore, considering that well LO16-24 is a confirmatory well of a huge area for Basal Salina in SW Lobitos Offshore, we recommend the following:

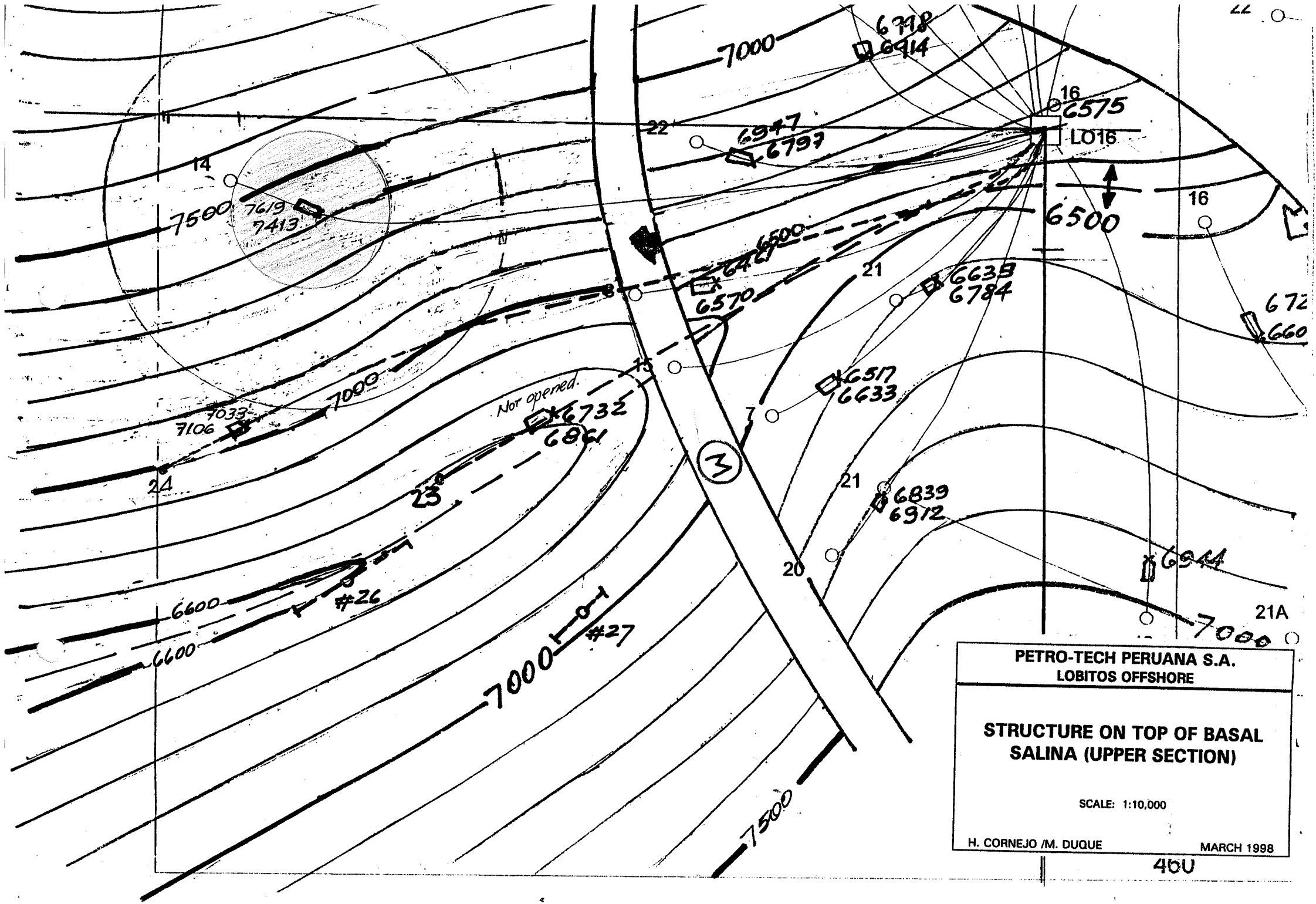
- Ran a CBL-VDL log all through the upper and lower Basal Salina
- Depending on the above, proceed to squeeze cement.
- If cement is good, isolate the first and second interval and proceed to evaluate only the third interval (10,756' - 10,742').

Best regards,

April 2 - Set bridge plug at 10,780'. CBL-VDL didn't work (Halli)
Prod. 152 BW, no oil, 40 psi, in 8.5 hrs (bypass setting plug) (cancelled).

Marco A. Raez

MAR/HC/AEV:kvh


7000
6798
6914
16
6575
LO16
22
6947
6797
14
7500
7619
7413
6500
16
6500
6427
21
6638
6784
6570
6600
15
7
6517
6633
7000
7033
7106
Not opened.
6732
6851
3
24
23
21
6839
6912
20
6944
#26
#27
6600
7000
21A
7000
7500
PETRO-TECH PERUANA S.A.
LOBITOS OFFSHORE
STRUCTURE ON TOP OF BASAL SALINA (UPPER SECTION)
SCALE: 1:10,000
H. CORNEJO /M. DUQUE
MARCH 1998
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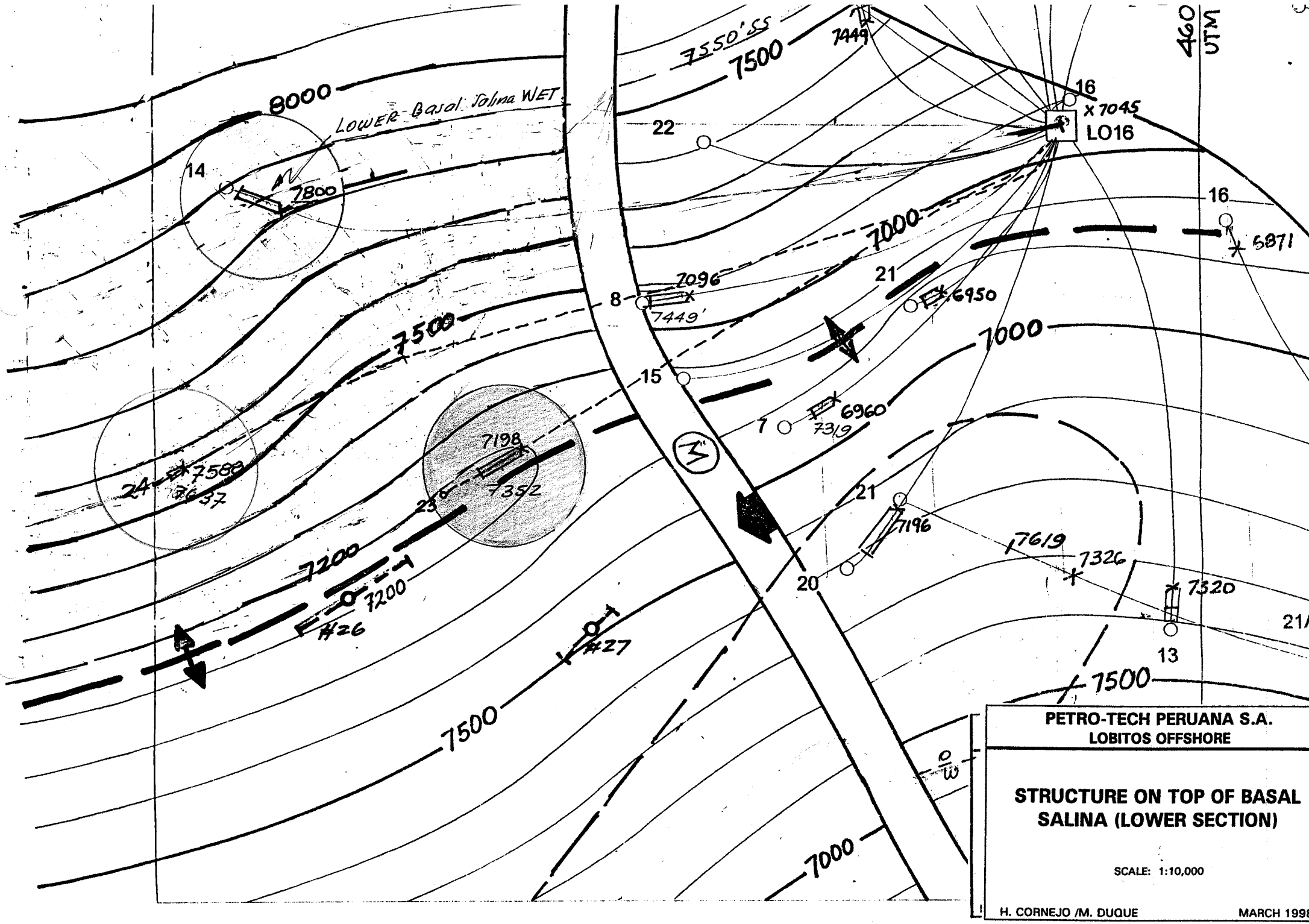

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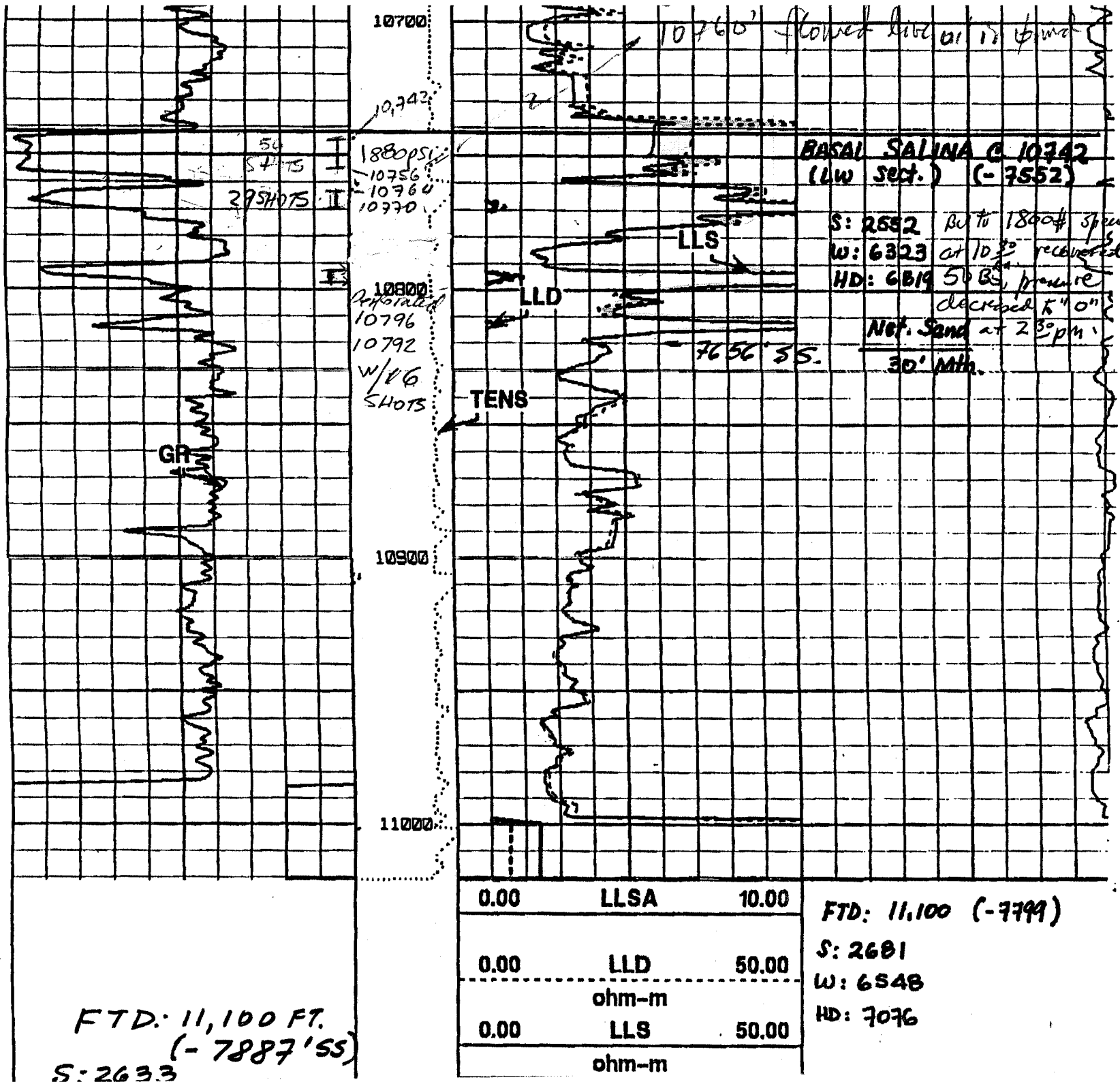
LOBITOS OFFSHORE

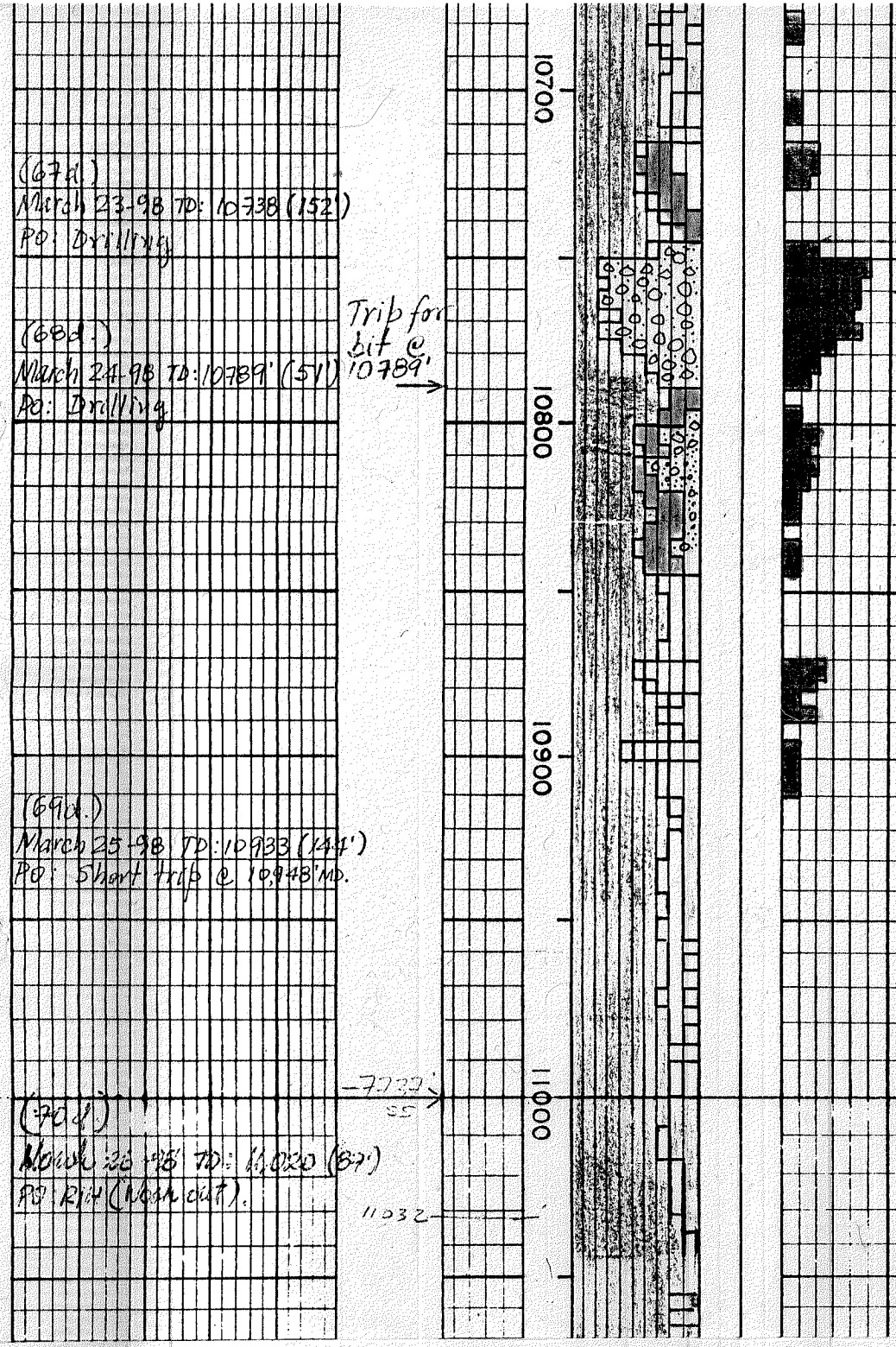
STRUCTURE ON TOP OF BASAL SALINA (LOWER SECTION)

SCALE: 1:10,000

H. CORNEJO /M. DUQUE

MARCH 199


10700
10742
10800
10900
11000
GR
TENS
LLS
LLD
50 SHOTS I
1880psi
10756
10760
10770
29 SHOTS II
I
Perforated
10796
10792
W/16 SHOTS
10760' flowed fluid at 1½ bpm
BASAL SALINA C 10742
(LW sect.) (-7552)
S: 2582 Built to 1800# spud
W: 6323 at 10⅞ recovered
HD: 6819 50 BS, pressure
decreased 5" 0"
Net. Sand at 2⅜ bpm
30' Mth.
7656 55.
0.00 LLSA 10.00
0.00 LLD 50.00
ohm-m
0.00 LLS 50.00
ohm-m
FTD: 11,100 (-7799)
S: 2681
W: 6548
HD: 7076
FTD: 11,100 FT.
(-7887'55)
S: 2633



Paleo 10640-10700: Pg-Sn f. abnt + Balc rwk f. traces

Paleo 10700-10720: Pg-Sn f. c+ Balc rwk f. traces.

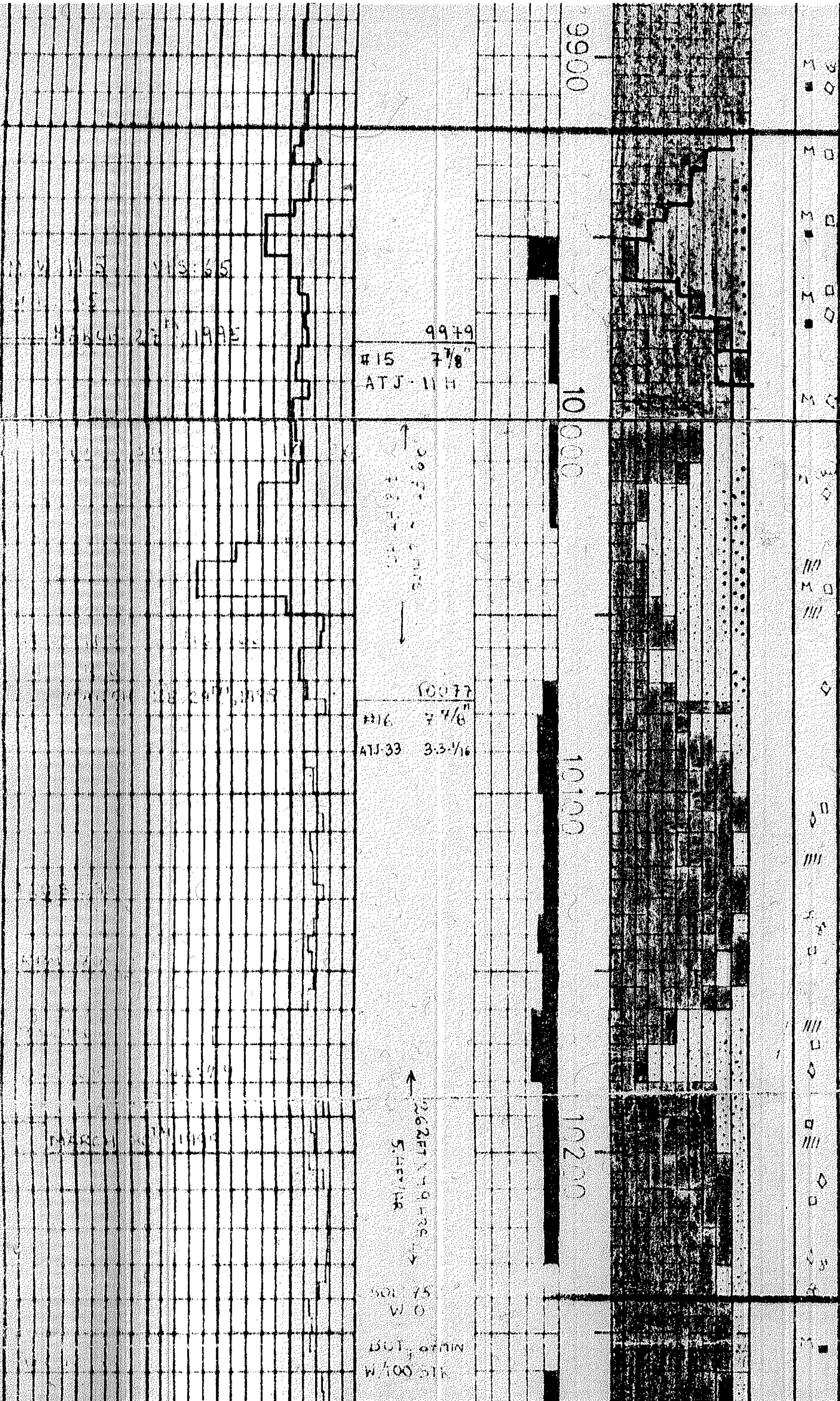
TVD: 6831.

Basal Salina Lw Sect. @ 10715' (-7539), S: 2550, W: 6337.
SD: hial wh, smky idk grains, hd, clean, 10% f-m, 80% c-vc, 10% vc-pebbles
Fl: yellow bri, milky yellow bri in res ring, mod-slow cut,
mud sample @ 10760': 30% oil, fast strng cut yellow milky bri
Paleo 10720-10789: Pg-Sn faune traces. // in cut.

Paleo 10789-10840: Pg-Sn faune very poor.

Paleo 10,840-10,870 Pg-Sn fauna V2:g Poor

Paleo 10,870-10,960 Pg-Sn fauna + Balc rwk Vp.



SL YEL'SH WH FLUOR, NO CUT, SLOW WK MKY WH ON CRUSHED SPL, FK RES FIN.

NO FLUOR

GY, PLTY, FIS, NON CALC, MICRMIC, V MNR MICR CARB, WXY IN PT, MOD FRM

ACC: FW MICROS & MASS CALC

SD HYAL WH-MKY WH QTZ, 30% F, 30% M, 20% C, 20% V C, TR GRNL GRS, SBANG, P SRTD, V HCKLY, FW DK GY, GN, LT RD GRS.

SD. HYAL WH - MKY WH QTZ, 10% F, 30% M, 40% C, 20% V C GRS, PRED SBANG, P SRTD, HCKLY, 1 OCC W/ MICRPYR INCL, FW DK GY, SMOKY & TR GN, RS

SS SLTY [illegible], GY'SH WH, 100% V F GR, SLTY & ARG MTX, SL CALC, OCC MIC, DK GY GRS INC, MOD HD - HD, V P VIS POR

ACC [illegible] MASS PYR, FW MASS CALC.

SD [illegible]

NOTE AT 10042 [illegible]

[illegible]

NOTE: MUD SAMPLES TAKEN AT [illegible]

AT 10040 AND 10050: ABDT ANHY, SAND [illegible] W/ ANHY [illegible]

SD HYAL WH, MNR MKY WH QTZ, [illegible]

FR GRTD, SBRND, [illegible], MOD CLEAN, XMG [illegible]

ACC FW MASS CALC, PYR & ANHY

SS SL GY'SH WH, 60% VF, 30% F, 10% M GR, [illegible], SB ANG, [illegible] & OCC KAO MTX, SL CALC, FRI TO MOD HD IN PT, [illegible] RND, SLTY SS IN PT, SL DRTY, [illegible] IN PT, [illegible]

ACC FW [illegible], AMBR DK GLAUC, MASS PYR & ANHY

NOTE: MUD SAMPLES TAKEN AT 10180 MD; NO SHOWS

SD [illegible] WH, MNR MKY WH QTZ, 30% F, 50% M, [illegible] SRTD, SBRND, MNR SB ANG, [illegible]

ACC FW MASS CALC, PYR & ANHY.

SS CREAM'SH WH & MNR BEIGE, [illegible] F, 20% M, [illegible] MNR SBRND, [illegible] CALC, HD, MOD [illegible] SANDY LIMESTONE (MOD-SUPPORTED), OCC W/ DK & GN GRS, [illegible] & SL GY'SH WH SS, MOSTLY VF [illegible]

ACC FW MASS [illegible], AMBR [illegible]

SH [illegible] MNR GRN'SH [illegible], MICRMIC, SERICITE, MOD MICR CARB, FRM, COMPACT

SD HYAL WH, MNR MKY WH QTZ, [illegible]