



**INTEROFFICE MEMO**

EEM-025-95

**TO:** John D. Norrod  
**FROM:** Marco A. Raez  
**SUBJECT:** WELL LO6-22R  
**DATE:** January 30, 1996

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Attached please find the reference prognosis to be drilled with rig Petrex 114.

Well should be started from 5 1/2" casing shoe at 5883', which is an abandoned Rio Bravo.

The slim hole would have a total of 3420' with a maximum angle of 60°; objectives are the Upper and Lower Basal Salina.

Estimated oil reserves for the Lower Basal Salina is 480,000 BO with IPR's of 1,200 BOPD.

The Upper Basal Salina is expected to be in the flanks of the best developed sands and is an excellent workover for the future.

We are working on the second slim hole for this platform, which could be the LO6-14R or the LO6-21R. These wells are also projected for the Lower Basal Salina; however, the Upper Basal Salina should be located in the best developed sands trend.

  
Marco A. Raez

MAR/mts  
Att.

cc: C. Valdizán  
J. Hunt  
J. Meyers  
R. Samaniego  
F. Majocha  
J. Mego  
A. Erazo  
Geology Negritos  
Well File  
200.2.1

PETRO-TECH PERUANA S.A.				GEOLOGIC PROGNOSIS	
AREA LOBITOS OFFSHORE		OFFICIAL WELL NUMBER Z-2B-21-029-D-LO6		PETRO-TECH N° LO6-22R	
OBJECTIVE		PRIMARY: BASAL SALINA		TYPE OF WELL DEVELOPMENT	
				RIG N° PETREX 114	
SURFACE COORDINATES (UTM)				TARGET COORDINATES (UTM)	
9'509,025.64mN; 459,297.11mE				9'507,974.08mN; 458,519.87mE	
E L E V A T I O N	KB:	DIRECTION OF DEVIATED WELL		T	DRILLED DEPTH:
	50 FT.	S 37° W		A	8,000 FT.
	WATER DEPTH	(INITIAL) CONDUCTOR ANGLE FROM VERTICAL		R	VERTICAL DEPTH:
	335 FT.	-----		G	6,370 FT.
	GROUND LEVEL	RECOMMENDED DEPTH OF K.O.P. (5 ½" CSG)		E	HORIZONTAL DRIFT:
		FT.		T	4,300 FT.
ESTIMATED DRILLING TIME TO T. D. -----		BUILD UP ANGLE AT -----		TARGET LIMITS (DIAMETER):	
				TOP: 400 FT. BASE: 600 FT.	
S T R A T I G R A P H I C  S E Q U E N C E	FM/MEMBER	DRILLED TOP	SUBSEA TOP	OBSERVATIONS	
	PALEGREDA	5,900	5,000		
	MOGOLLON	6,200	5,350		
	SAN CRISTOBAL	6,700	5,600		
	BASAL SALINA	8,000	6,320	OBJECTIVE	
	BALCONES	9,100	6,850		
	TD	9,300	6,950		
C O N T R O L  L O G G I N G  E V A L U A T I O N	BIT SAMPLES TO BE TAKEN		EVERY - 30 FT. FROM SURF. TO --- AND EVERY 10 FT. FROM 6000' TO TOTAL DEPTH		
	RECOMMENDED FOR PALEO-PALYNOLOGY		FROM 5900 FT.		
	RECOMMENDED OPEN HOLE		Not recommended due to high angle of the well		
	RECOMMENDED AFTER CASING		GR-N-CCL		
	NEARBY WELLS FOR CORRELATION		LO6-14, LO6-20, LO7-14, LO7-25		
	SIDEWALL CORES		SWC <input type="checkbox"/> HRCT <input type="checkbox"/>		
	CONVENTIONAL CORES		NOT CONSIDERED		
	GAS LOGGER		NOT CONSIDERED		
	FORMATION TESTING		NOT CONSIDERED		
RECOMMENDED BY:				APPROVED BY:	
DATE				DATE	
1996.01.26				1996.01.26	
H. CORNEJO				MARCO A. RAÉZ	

5 ½" CSG @ 5883 FT.

ESTIMATED SECTION TO BE  
DRILLED BY SLIM HOLE 3417 FT.



**PROPOSED WELL LO6-22R**

**RESERVOIR ANALYSIS AND ECONOMIC EVALUATION**

The main objective of the well LO6-22R is the Lower Basal Salina. As proposed, the objective sand will be in an isolated reservoir, to the West of the LO6-LO7 Basal Salina reservoir. It is expected to reach the sand at 6630 ft.- SS (8000 ft.-MD). The oil/water contact is inferred at 6850 ft. -ss in this reservoir block.

Log analysis in the neighbor LO6-LO7 Lower Basal Salina reservoir, show 80 ft. of vertical net sands with an average porosity of 8.6%. Since there are not porosity logs for Sw calculation in the only two wells producing oil from this reservoir, an average Sw of 50% is assumed for the oil zone. Using these reservoir parameters and considering a recovery factor of 20% of the OOIP, the volumetric reserves for the reservoir block proposed for development are estimated in 660 Mbbls.

Otherwise, from the analysis of the production decline curve of wells producing from the Lower Basal Salina Reservoirs in the area, it is estimated an ultimate oil recovery, average per well, of 480 MSTB in ten years of productive life, with an initial production of 1200 BOPD.

This well should be the only one producer of the reservoir. It is expected to find an initial formation pressure gradient of 0.60 psi/ft.

In addition, the Upper Basal Salina will also be drilled by the proposed well. This sand could be a good prospect for future workover.


In the economic evaluation, it is only considered the expected production of the lower reservoir. A summary of the result is as follows:

	Prod. w/o Risk	Break even Point
Oil Reserves, MBO	480	110
Total Investment, MUS\$ (*)	600	600
Present Worth at 15%, MUS\$	2,155	0
Rate of Return, %	>100	15
Pay Out, years	0.30	10
P/I Ratio (Discounted), \$/\$	5.58	0

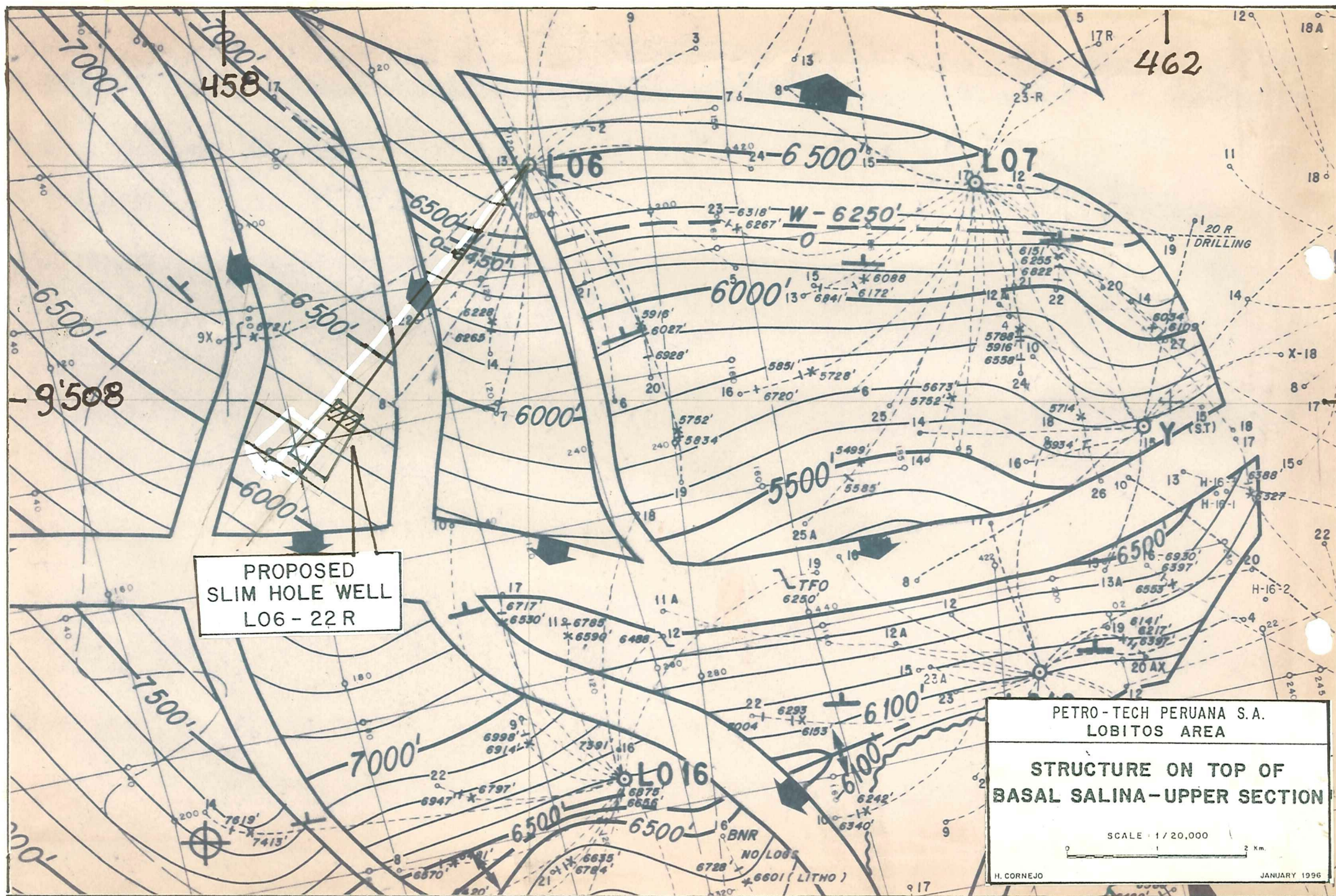
(\*) Cost estimated by Operations-Negritos

**Parameters for economic evaluation:**

Oil Price, \$/Bbl	15.00
Rate of Discount, %	12
Tax Rate, %	30
Operating Cost, M\$/Well/Year	110
Production Share, %	84

  
H. Chang  
Jan. 29, 1996











S37° W

Sea level  
Sea bottom

LOG

NE ■

$$T \quad A \quad L \quad A \quad | \quad R \quad A$$

C H A C R A

*RIO BRAVO*

RIO BRAVO

22  
MOGOLLO, N

22 5 1/2" CSG @  
5883'

Upper Bs. Sn.

*Lower Bs. Sn.*

SAN CRISTOBAL

**TMD,  
9500'**

Poss. O/W contact  
@ - 6,850'

PROPOSED  
SLIM HOLE WELL  
L06 - 22 R

**PETRO-TECH PERUANA S. A.**  
**LOBITOS OFFSHORE**

**SW - NE STRUCTURAL CROSS SECTION  
FOR PROPOSED WELL**

**Z2B-21-030-D-L06 (L06-22R)**

SCALE 1 : 20,000

HC/JAC

**JAN. 96**