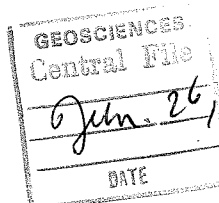


PETRO - TECH
PERUANA S.A.



INTEROFFICE MEMO
GEOSC -175 - 02

To: Pedro Alarcon
From: Hugo Cornejo, Victor Peralta
Ref: **Proposed well LO16 - 26 (Rio Bravo)**
Date: June 25, 2002

Based on 3D seismic interpretation and well control it is recommended to drill the well **LO16-26** from LO16 platform having as objective the Rio Bravo formation in an isolated faulted block of approximately 320 acres towards northwest of platform LO16 (Fig. 1).

The well **LO16-26** will penetrate about 1400 feet of the Upper Rio Bravo sands, horizons A+ B that correspond to main productive sands (Fig. 2). Total OOIP for this block has been estimated in 12.1 MMSTB, assuming a 9% of recovery factor, estimated recoverable reserves would be 1.1 MMBO. The success of the proposed well will justify developing three more prospects for Rio Bravo reservoir.

The objective Rio Bravo is expected at 6900 ft. MD (-4000 ft. VSS). The estimated final total depth is 8300 feet, with a maximum vertical angle of 60 degrees and N 42° W as programmed direction (Figs. 1 & 2).

It is expected to find 250 feet of vertical net sand at the proposed location with reservoir quality similar to that encountered in wells drilled from LO6 platform (Fig. 3).

The production performance (to May 2002) of the Rio Bravo in the LO6 area ranges from 23 MBO (LO6-13X) to 353 MBO (LO6-22) and depends of the total section and quality of sands completed. Total cumulative production for the LO6-22 faulted block is about 900 MBO, which represents about 9% of the original oil in place (Figs. 4, 5 & 6).

Due to well geometry, it is recommended to register the GR using MWD tool from 6500'.

According to present evaluation, the reserves assigned to **LO16-26** well are 400 MBO and 450 BOPD, of IPR are expected at this location.

ECONOMIC SUMMARY

Investment MU\$	1411
Reserves, MBO	400
Present Worth, at 15%MU\$	3165
AROR, %	>100
Pay out, years/\$	0.62

Cc. W. Kallop
O. Nieto

F. Thorndike
G. Ruesta

L. Chan
C. Montes

B. Bruce
M. Chavez

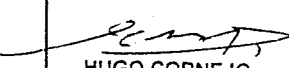
B. Smith
File

C. Valdizan
Geology Negritos



Rio Bravo

GEOLOGIC PROGNOSIS

AREA LOBITOS		OFFICIAL WELL NUMBER Z2B - 24 - 089 - D - LO16		PETRO-TECH N° LO16 - 26		TYPE OF WELL DEVELOPMENT		RIG N° PEPESA - 48	
PRIMARY OBJECTIVE RIO BRAVO					SECONDARY OBJECTIVE				
SURFACE COORDINATES (WGS-84) 9°505,990.43 mN 459,452.05 mE					TARGET COORDINATES (WGS-84) 9°507,135.00 mN 458,430.00 mE				
E L E V A T.	KB: 50 FT		DIRECTION OF DEVIATE WELL N 42° W		T DRILLED DEPTH 6900 FT		T ESTIMATED FINAL 8300 FT		
	WATER DEPTH 335 FT		E ANGLE CONDUCTOR FROM VERTICAL Vert.		R VERTICAL DEPTH 4050 FT		O HORIZONTAL DRIFT 6300 FT		
	GROUND LEVEL FT		L RECOMMENDED DEPTH OF K.O.P. 600 FT.		G HORIZONTAL DRIFT 5100 FT		D MAX. ANGLE 60°		
			BUILD UP ANGLE AT 5.5° / 100 FT.		T LIMITS (DIAMETER)				
					TOP: 200 FT.		BASE: 200 FT.		
S T R A T I G R A P H I C S E Q U E N C E	FORMATION / MEMBER				DRILLED TOP (MD/FT)	VERT. TOP (VD/FT)	SUBSEA TOP (SS/FT)	OBSERVATIONS	
	TALARA				AT SEA BOTTOM				
	CHACRA				3400	2350	-2300		
	RIO BRAVO				6900	4050	-4000	PAY ZONE	
	TOTAL DEPTH				8300	4800	-4750		
C BIT SAMPLES TO BE TAKEN		EVERY 30 FT. FROM SEA BOTTOM TO 6000'. EVERY 10' FROM 6000' TO TD.						REMARKS (*) Due to well geometry, it is recommended using MWD- GR tool. Keep the vertical angle according geologic prognosis.	
N RECOMMENDED FOR		PALEONTOLOGY EVERY 120' FROM SURFACE TO 6000' PALEONTOLOGY EVERY 60' FROM 6000' TO TOTAL DEPTH PALYNOLOGY AT A REQUEST OF LIMA OFFICE							
R. PALEO-PALYNOLOGY									
L RECOMMENDED OPEN HOLE		DLL-MSFL-GR, FDC-CNL-GR (*)							
G RECOMMENDED AFTER CASING		GR-CCL							
I NEARBY WELLS FOR									
G CORRELATION		LO6-8, LO6-7, LO6-22, LO16-10							
E SIDEWALL CORES		NOT CONSIDERED							
A CONVENTIONAL CORES		NOT CONSIDERED							
U GAS LOGGER		MUD LOGGING UNIT							
T. FORMATION TESTING		NOT CONSIDERED							
RECOMMENDED BY  HUGO CORNEJO		DATE: June 2002		REVIEWED BY  MARIO CHAVEZ		DATE: June 2002		APPROVED BY  PEDRO ALARCON	
								DATE: JUNE 2002	

PETRO-TECH PERUANA S.A.
RESERVOIR MANAGEMENT

ECONOMIC EVALUATION

PROJECT: WELL LO16-26
(IPR = 450 BOPD)

THOUSAND OF U.S. DOLLARS											
YEAR	OIL PRODUCTION (BOPD)		TOTAL INVESTMENT (US \$)	OPERATING COST	TOTAL REVENUE	AMORTIZ. INTANGIBLE	DEPREC. TANGIBLE	TAXABLE INCOME	TAXES .	CASH FLOW	
	TOTAL	PETRO-TECH SHARE (1)								CURRENT	DISCOUNTED
1	350	294	1411	25	2684	1411	0	1248	374	873	760
2	245	206	0	25	1878	0	0	1853	556	1297	1740
3	180	151	0	25	1380	0	0	1355	406	948	2364
4	139	117	0	25	1065	0	0	1040	312	728	2780
5	87	73	0	25	666	0	0	641	192	448	3003
6	40	34	0	25	307	0	0	282	84	197	3088
7	24	20	0	25	184	0	0	159	48	112	3130
8	17	14	0	25	129	0	0	104	31	73	3154
9	9	8	0	25	71	0	0	46	14	32	3163
10	5	4	0	25	38	0	0	13	4	9	3165
TOTAL			1411	250	8401	1411	0	6136	1841	4718	

BASIC PARAMETERS :

OIL RESERVES,MSTB	400
TOTAL INVESTMENT,MUS\$	1411
OIL PRICE,\$/STB	
PETRO-TECH	25
RATE OF DISCOUNT,%	15
TAX RATE,%	30

ECONOMIC EVALUATION :

PRESENT WORTH AT 15%,MUS\$	3,165
AROR,%	> 100
PAY OUT,YEARS	0.62
P/I RATIO,DISCOUNTED,\$/\$	2.24

(1) 84 % OF TOTAL OIL PRODUCTION

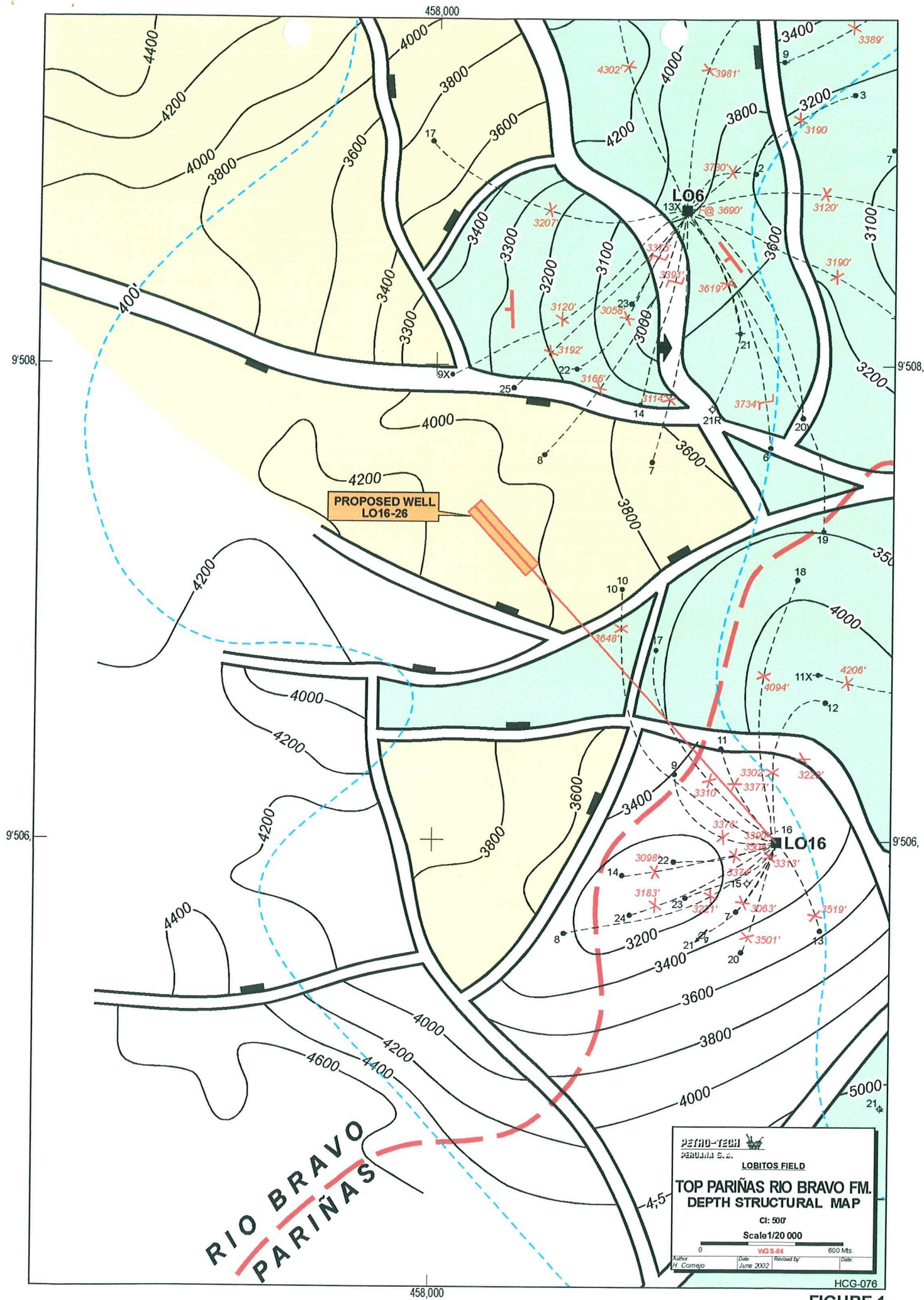


FIGURE 1

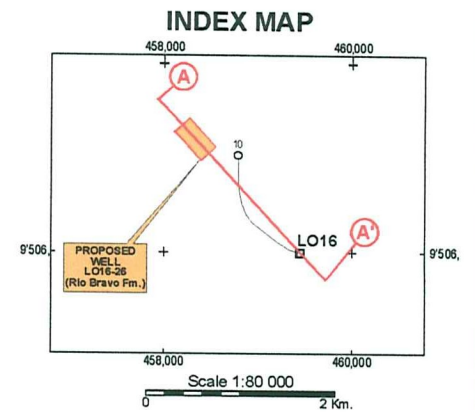
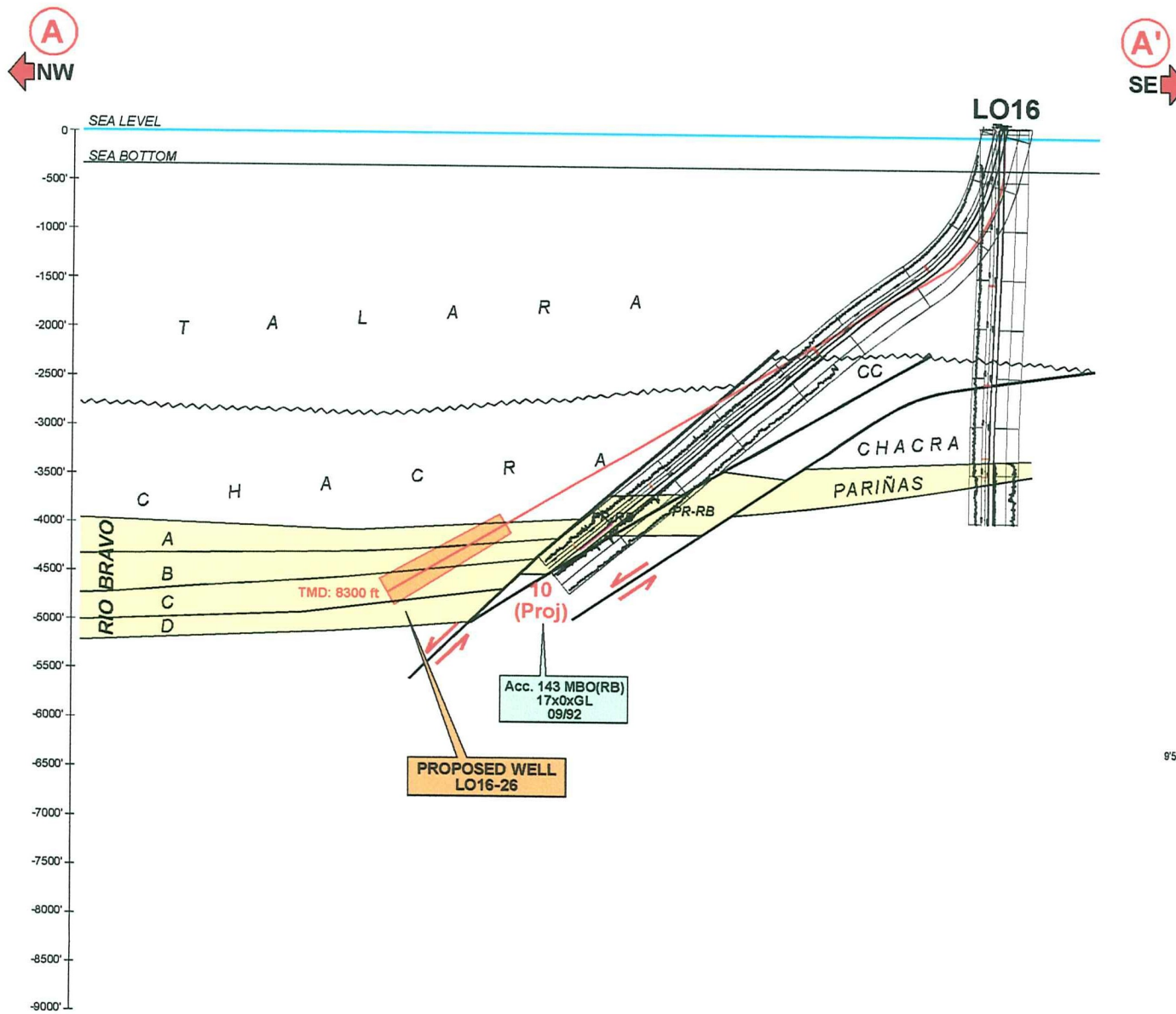


FIGURE 2

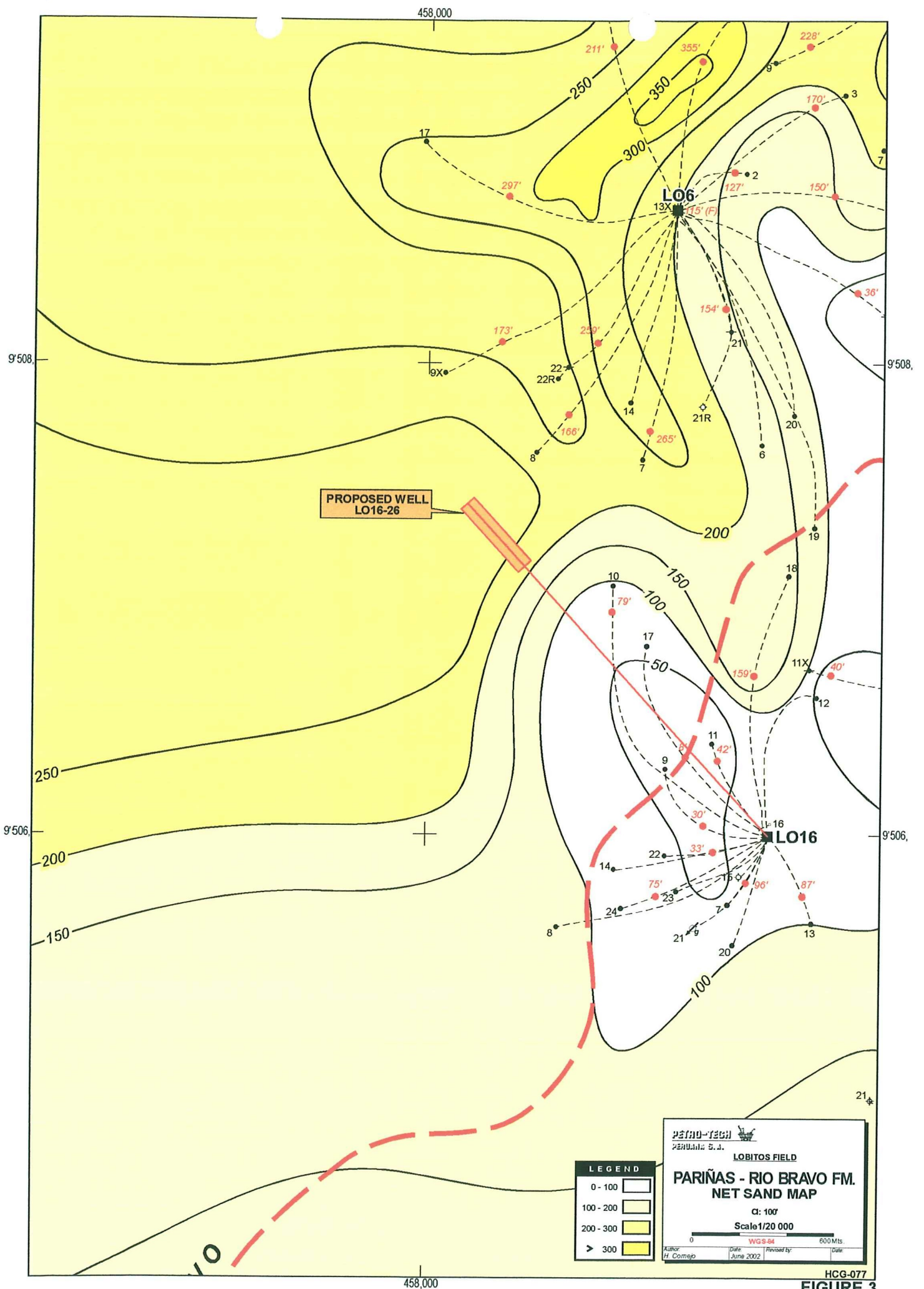
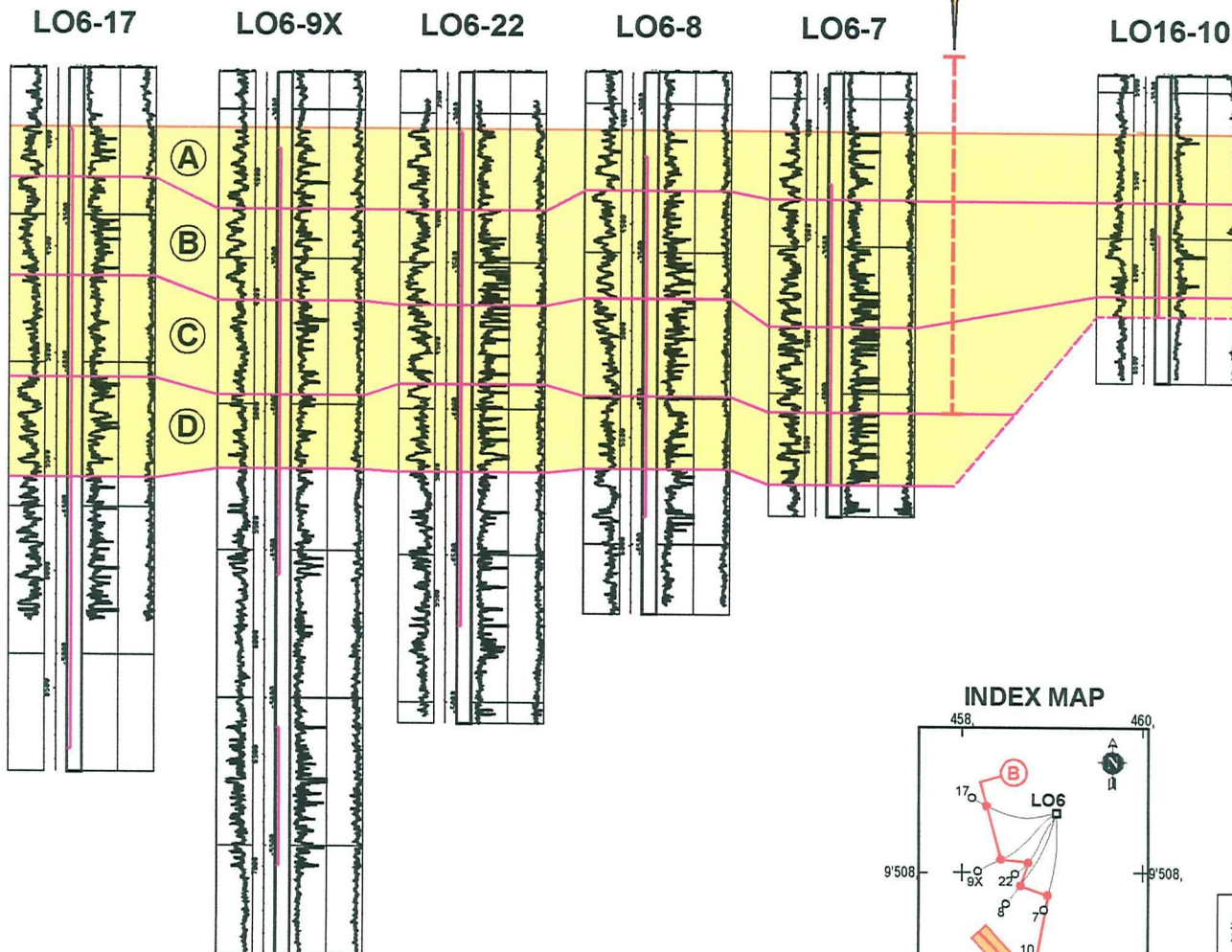


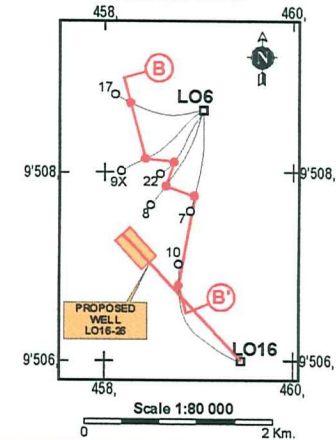
FIGURE 3

B ← NW

SE → **B'**



INDEX MAP



PETRO-TECH
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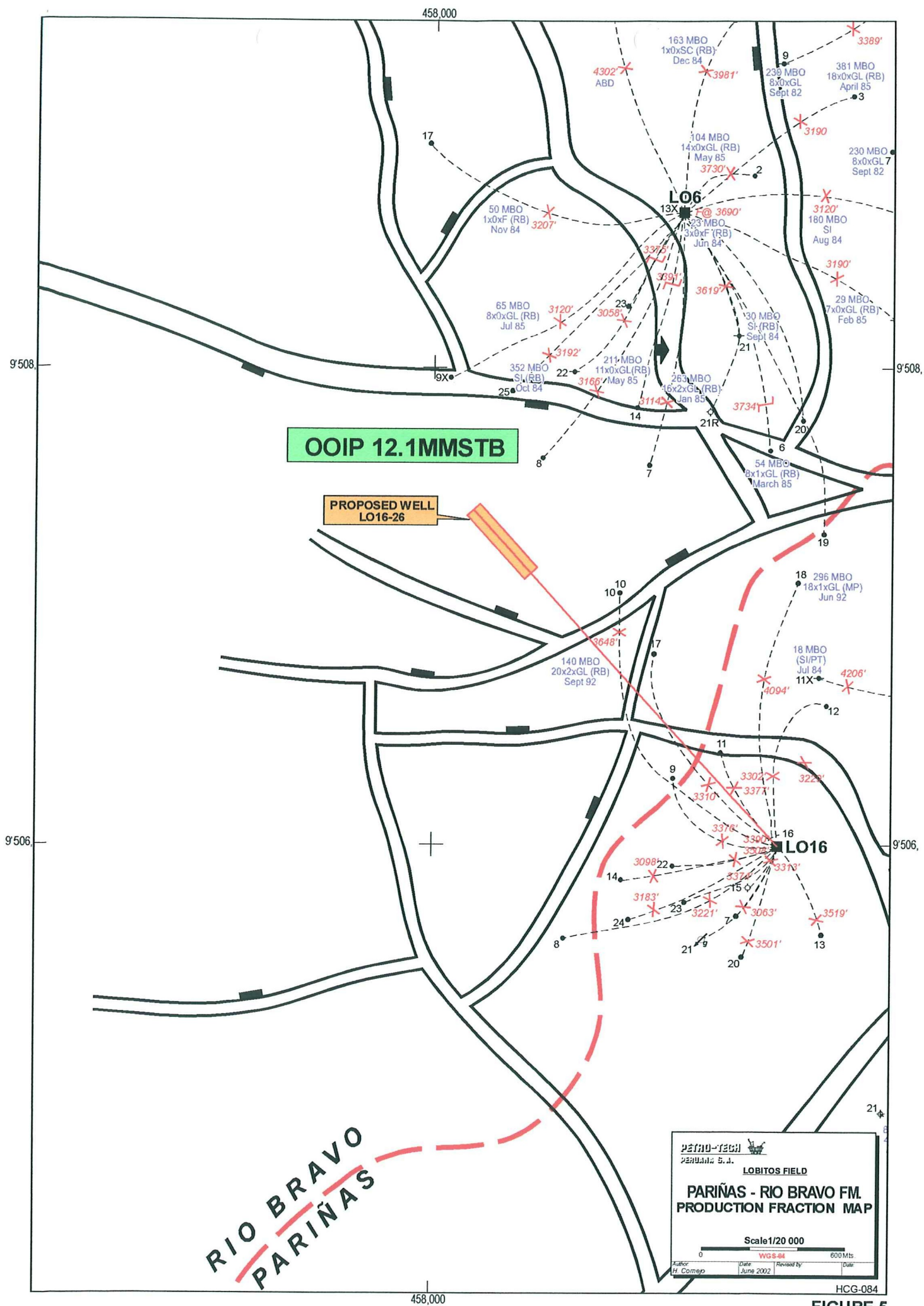
LOBITOS FIELD

NW-SE STRATIGRAPHIC CROSS SECTION B-B'
SHOWING THE CORRELATION OF THE LAYERS A - B - C - D
AND PROPOSED WELL LO16-RB

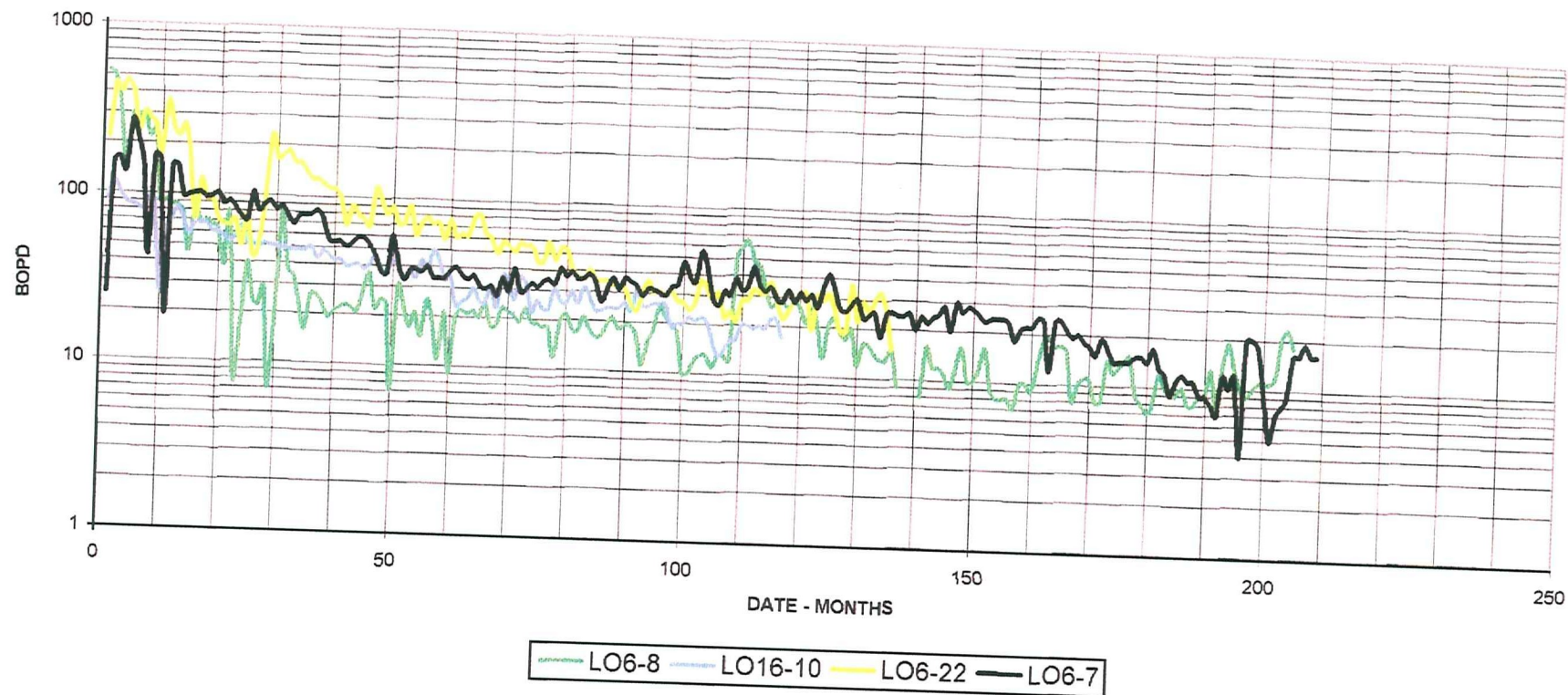
Graphic Scale

Author: H. Cornejo F. Rodríguez | Date: Sept. 2001 | Revised by: | Date:

FIGURE 4



RIO BRAVO FORMATON - PRODUCTION PERFORMANCE



NOTE: An average IPR for Rio Bravo is 300 BOPD. However, the new well LO6-26 will drill a high angle well in Rio Bravo
Estimated IPR is 450 BOPD

FIGURE 6