PETRO - TECH
PERUANA S.A.

GEOSCIENCES
Central File
DEC 26, 2003
DATE

FINAL GEOLOGICAL REPORT

Z – 2B – 24 – 090 – D – LO16

LO16 – 25

1. Summary

In order to continue the development of the Rio Bravo formation in a faulted block of approximately 425 acres it was recommended to drill the extended reach well **LO16- 25** with a maximum vertical angle of 62 degrees, N 58.5° W as programmed direction and an estimated final total depth of 8400 feet (Figs. 1 & 2).

The well LO16- 25 was spudded on September 2, 2002 from LO16 platform in the Lobitos area, with a maximum vertical angle of 65.8° at 1828', setting the 13 3/8" casing at 1916'. Continue drilling to 5202' and conditioning hole to set intermediate casing. The 9 5/8" casing did not pass below 3289', and due to bad hole conditions, the casing was recovered and a cement plug was set from 2522 to 1662 feet to by pass the hole.

The by pass was initiated at 1916' on September 23 and drilled to 4505', setting the 9 5/8" casing. Continue drilling to 6647' and while making a short trip, stuck pipe at 6292'. After several attempts working string to get free without success a fish of 169.05' (8 ½" PDC bit, mud motor, cross over, Float sub, stabilizer, pony monel, UBHO, 2 monel, 2 drill collars) was left in the hole. A cement plug from 4837 to 3805 feet was set in order to drill a second by pass.

Due to hole problems experienced while drilling the original and first by pass holes, Geosciences Management suggested to drop the vertical angle and drill through the Rio Bravo Sandy section with approximately 48 degrees, expecting a new total depth of 6500' MD (-3950' VSS).

The second by pass was initiated at 4505' on October 12 and drilled stopped on October 18 at 6894' in a shaly section of Rio Bravo formation. While conditioning hole to run electrical logs, pulling drill pipe from 6008 to 5538' with 220,000 pounds, based on that the logging operation was cancelled and set two abandon cement plugs (5100'-4809' & 1034'-879').

According to ditch sample analysis and chromatographic readings, the stratigraphic correlation of the Rio Bravo indicates a drastic sedimentary facies change compared to the produced well LO16-26 and those drilled from LO6 platform (Fig. 3).

A total of 100 feet of fine-grained sandstone (in three different intervals, about 30 feet each) with fair oil shows but with poor reservoir characteristics were penetrated. However, these sands did not justify a well completion.

The geology of the area will be revised to determine remaining drilling potential of the western Lobitos field.

2. Conclusions

- This well was located 500 meters from good producer well LO16-26, which encountered 201feet of net sand, and had an IPR of 1244 BOPD.
- Unexpected drilling problems were experienced while drilling the 8 ½" hole through the Rio Bravo shaly section prior to entering the Rio Bravo massive sands (well objective).
- In addition, a facies change reduced drastically the amount of net sand at the LO16-25 location. The well encountered only about 100 feet of net sand (in the thin separated intervals) which did not justify expending about 200 M$ for well completion.

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3. Results

Main Objective: *Rio Bravo*	Compl. Fm.	Top (Ft.)		Gross Int. (Ft.)	Net Sand (Ft.)	Net Pay (Ft.)	Exp. IPR (BOPD)	Actual IPR (BOPD)	AFE Cost (M$)	Actual Cost (M$)
		MD	VSS	VSS	VSS	VSS				
Expected	Aband.	6700	-3750	850	250	--	450	--	1393	1503
Results		5100	-3290	890	90	--				

Mario Chavez/ Hugo Cornejo
October 2002.

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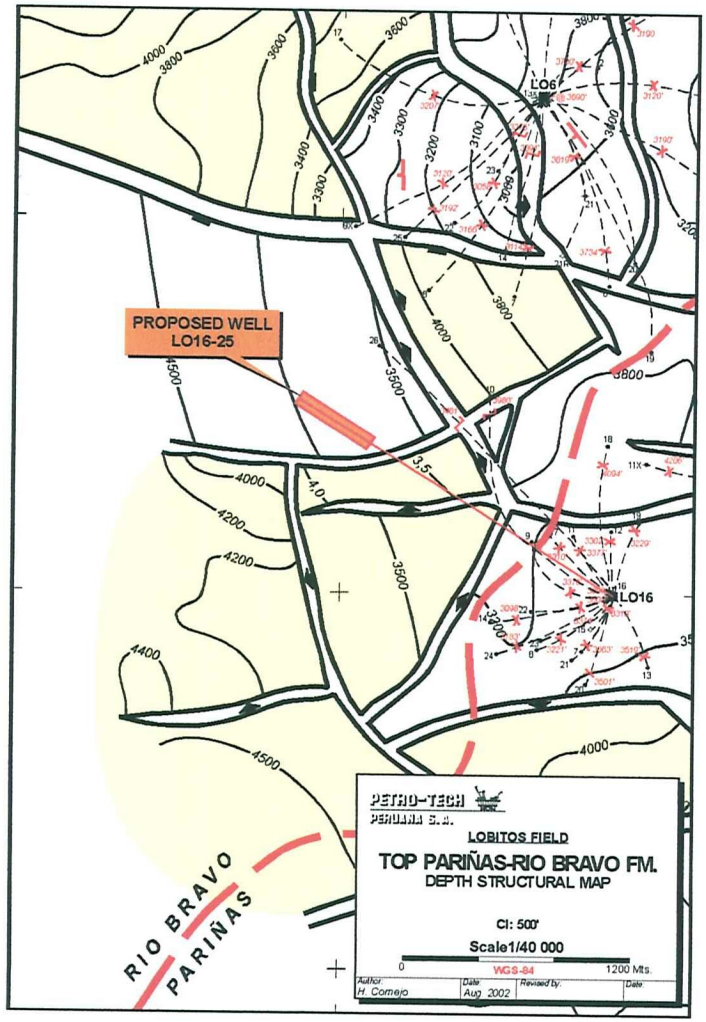
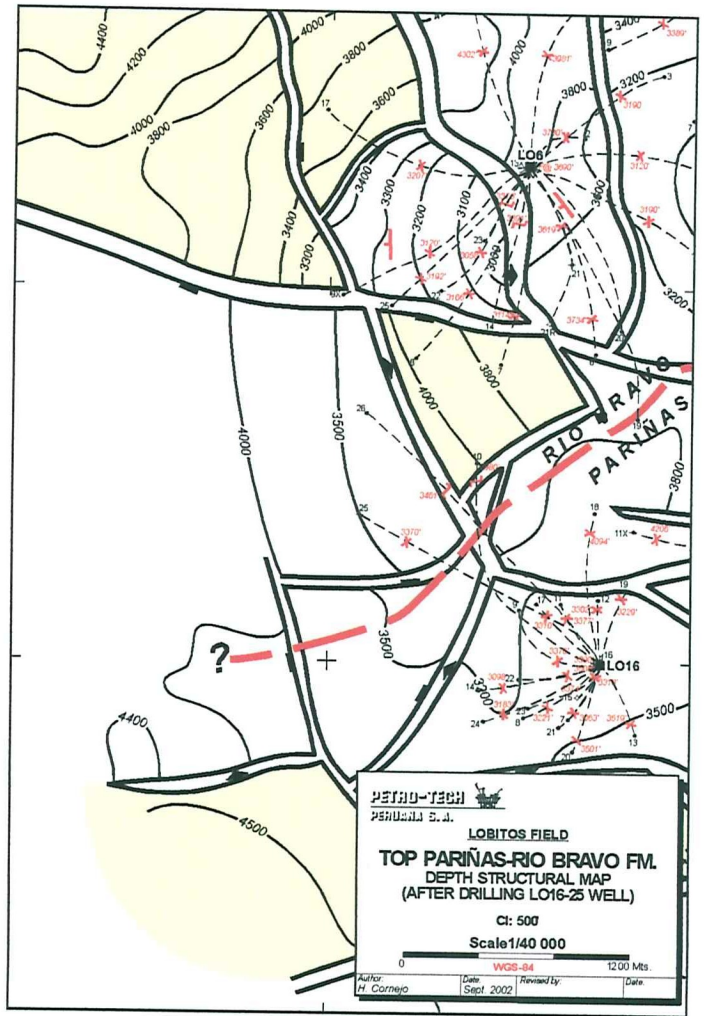
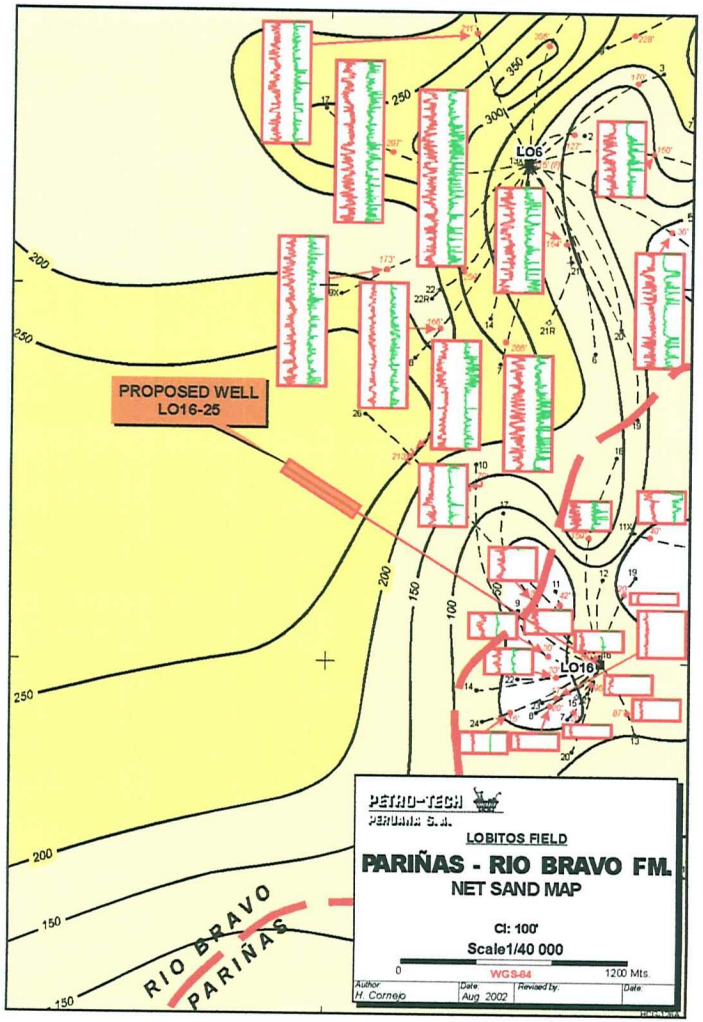
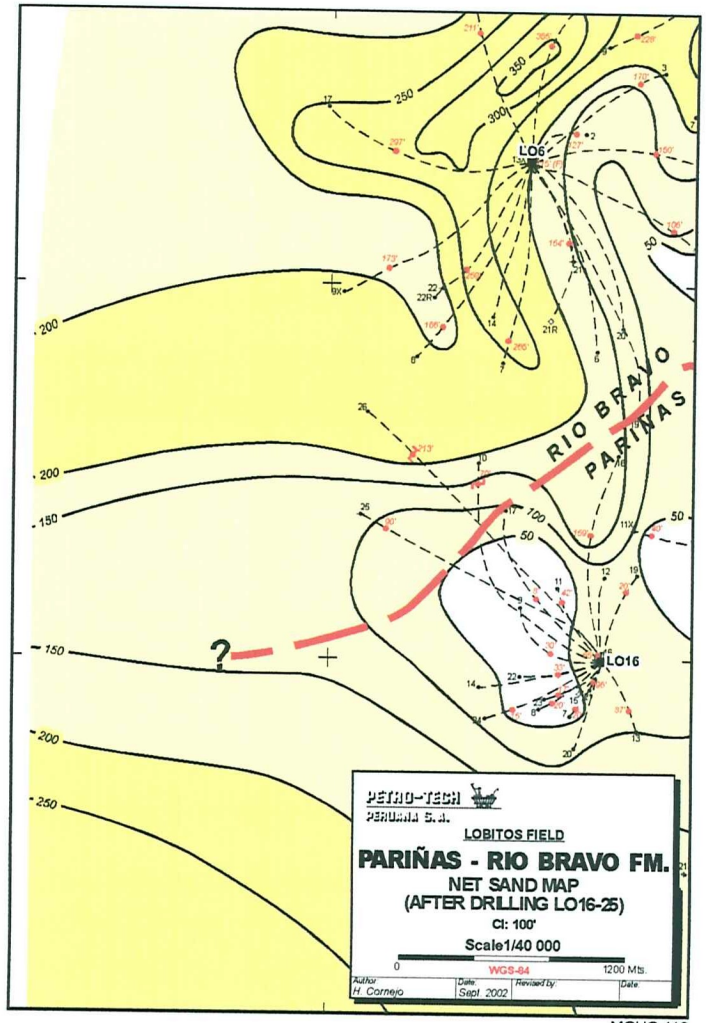

PROPOSED WELL
LO16-25
LO6
LO16
RIO BRAVO
PARIÑAS
PETRO-TECH
PERUANA S.A.
LOBITOS FIELD
TOP PARIÑAS-RIO BRAVO FM.
DEPTH STRUCTURAL MAP
CI: 500'
Scale1/40 000
0
WGS-84
1200 Mts.
Author
H. Cornejo
Date
Aug. 2002
Revised by:
Date


?
LO6
LO16
RIO BRAVO
PARIÑAS
PETRO-TECH
PERUANA S.A.
LOBITOS FIELD
TOP PARIÑAS-RIO BRAVO FM.
DEPTH STRUCTURAL MAP
(AFTER DRILLING LO16-25 WELL)
CI: 500'
Scale1/40 000
0
WGS-84
1200 Mts.
Author
H. Cornejo
Date
Sept. 2002
Revised by:
Date

MCHC-118





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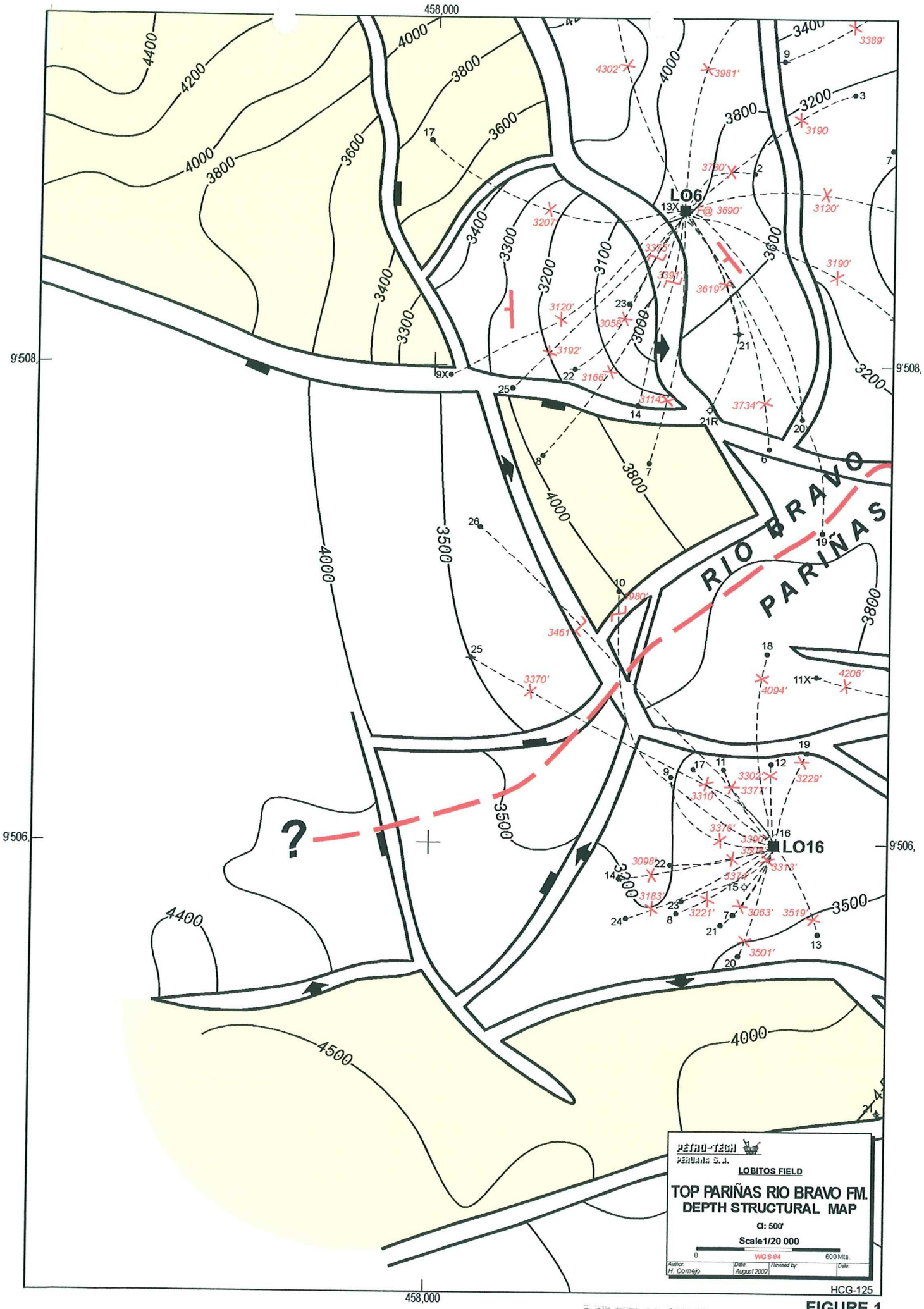

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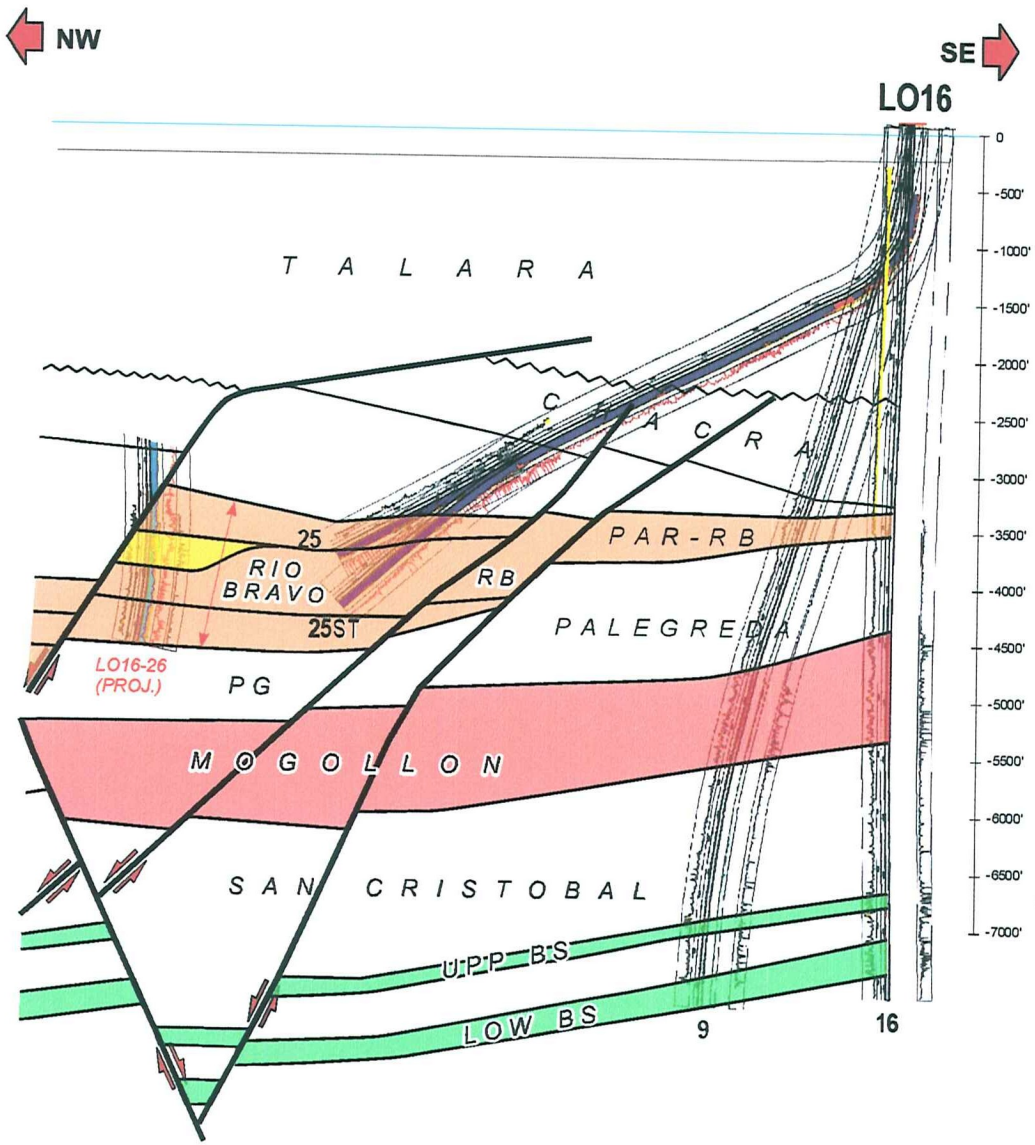
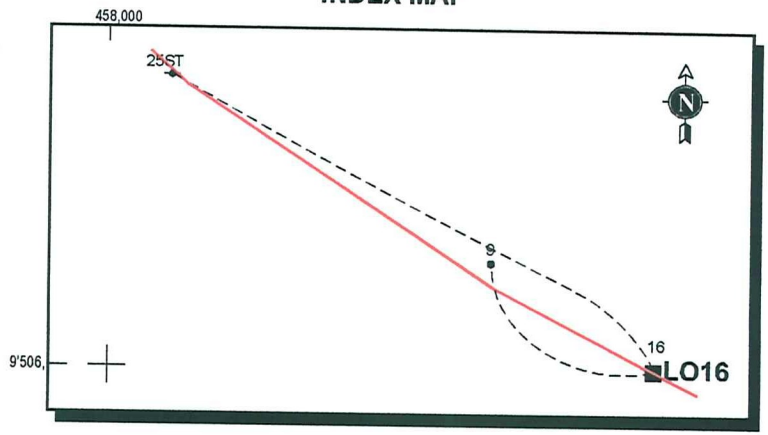
FIGURE 1



INDEX MAP



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LOBITOS FIELD

STRUCTURAL CROSS SECTION
LO16-25ST
(NW-SE)

Scale 1/20 000

Author	Date	Revised by:	Date
H. Cornejo	Oct. 2002		

HCG-169

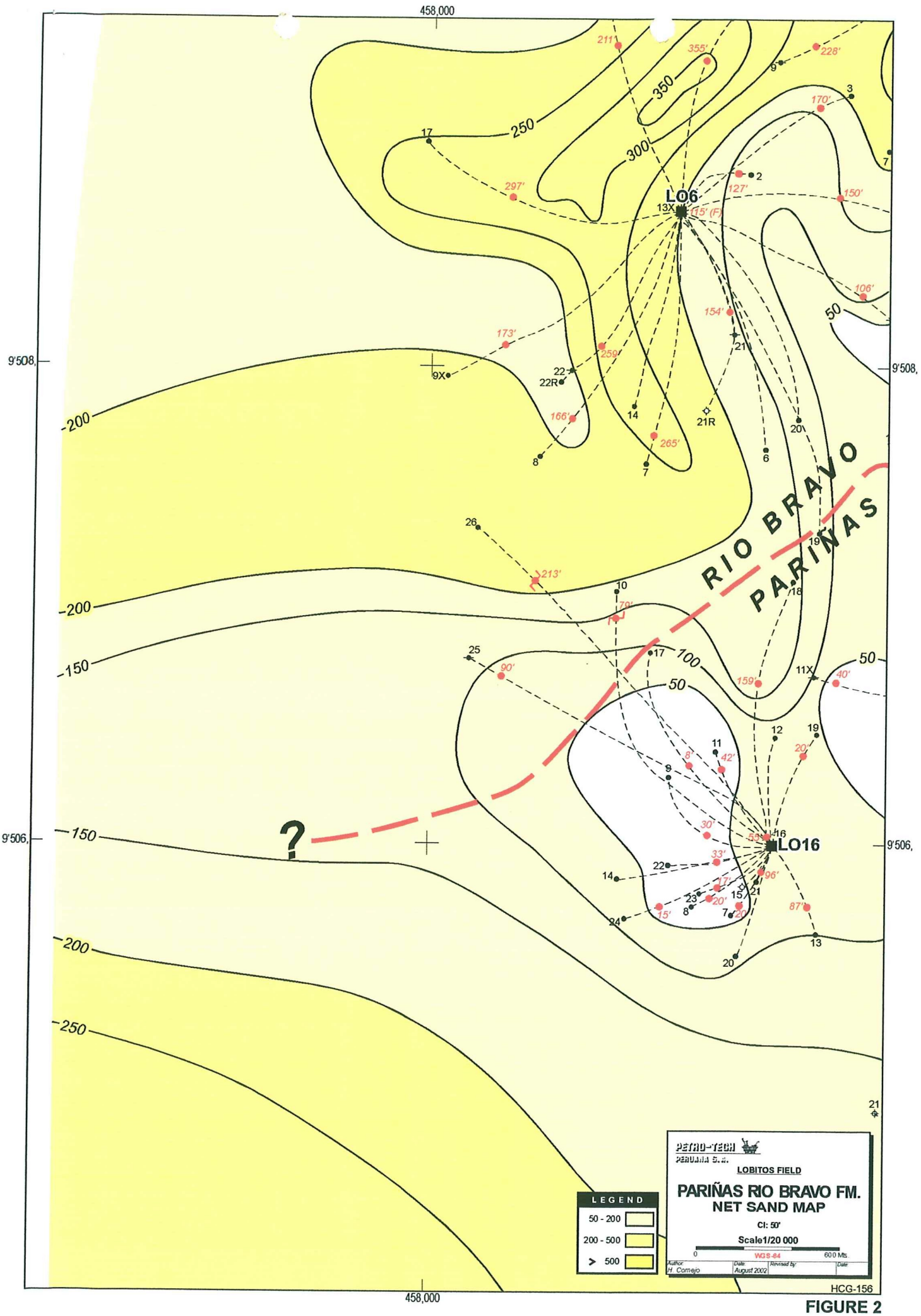
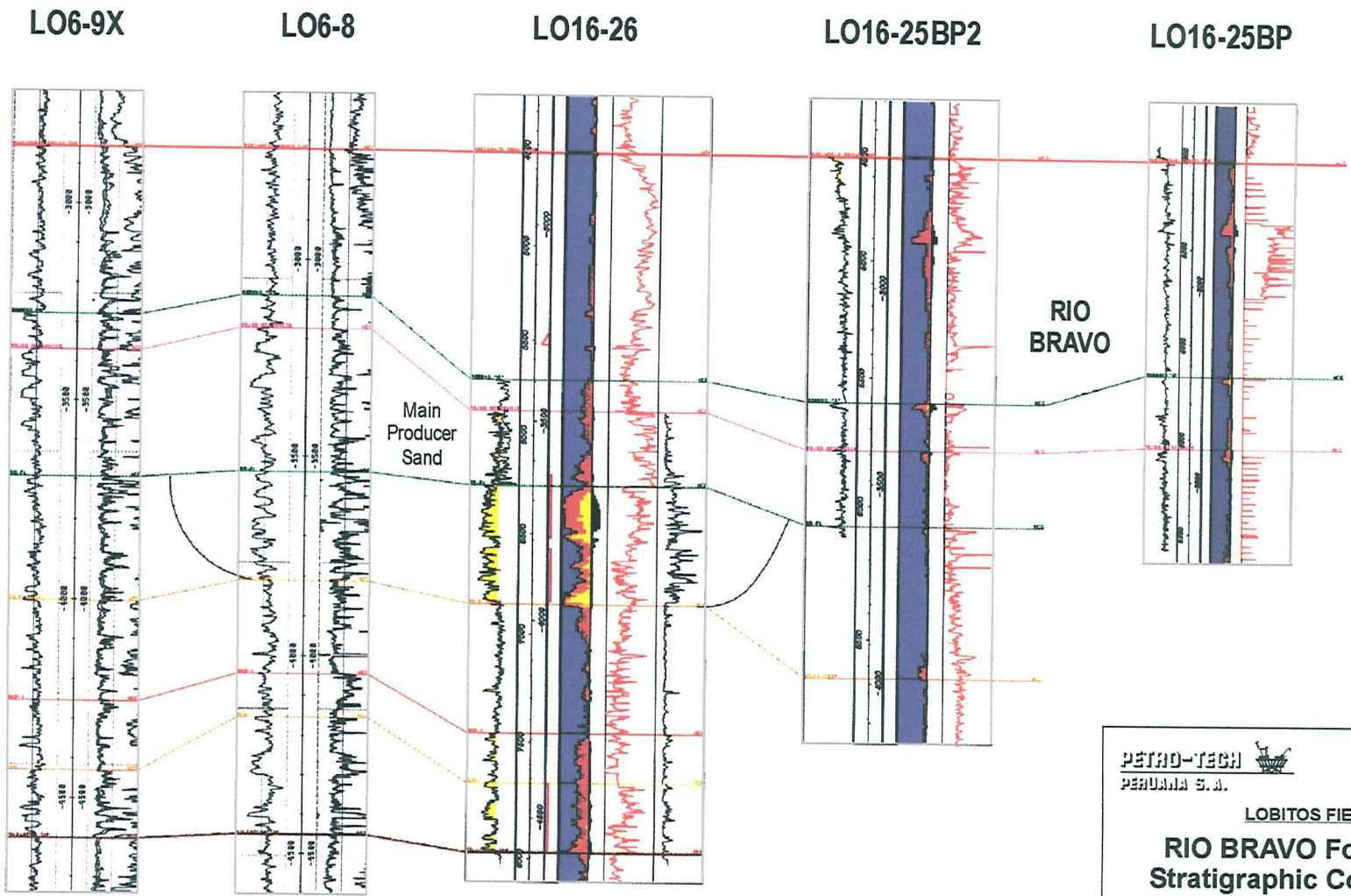

458,000
9'508,
9'506,
LO6
LO16
RIO BRAVO
PARIÑAS
?
350
250
300
200
150
100
50
LEGEND
50 - 200
200 - 500
> 500
PETRO-TECH
PERUANA S.A.
LOBITOS FIELD
PARIÑAS RIO BRAVO FM.
NET SAND MAP
CI: 50'
Scale1/20 000
0
600 Mts.
WGS-84
Author: H. Cornejo
Date: August 2002
Revised by:
Date:
HCG-156

FIGURE 2



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LOBITOS FIELD

RIO BRAVO Formation
Stratigraphic Correlation
LO16-25 BP2 well

Author:	Date:	Revised by:	Date:
M. Chávez	Oct. 2002		

MCHC-091

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