

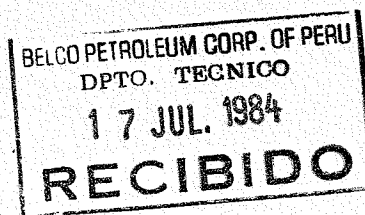
BELCO PETROLEUM
CORPORATION OF PERU
(SUCURSAL DEL PERU)

WELL FILE

MAR July 17/84
JC ✓
Mch 20/11/84

Teléf. - Negritos
863 - 864 - 865

Apartado No. 1
Talara - Perú



June 25, 1984
E - 09 - 84

TO : Drilling Superintendent
FROM : Engineering
SUBJECT : Drilling Prognosis for the well Z2A-21-565-CD-L06
File — (L06-16) Lobitos Offshore

Please, attached you will find the Drilling Prognosis for the well in reference to be drilled by Rig III to 6700 feet as total depth.

This program is based on the Geologic Prognosis and data gathered from correlation wells, L06-13X and L04-9.

This second well from platform L06 is confirmatory in Rio Bravo sands.

Jorge Perez
by Jorge Perez
Drlg. & Compl. Eng.

V°B° : *C. A. Valdizan*
Asstt. Supt. P. E.

Thomas O Mohr
Thomas O Mohr : Approved
Drill. Superintendent

C. E. Myers
Approved: C. E. Myers
Eng. Superintendent

NC' rvg
c.c.: Oper. Mang. Negritos
Lima Tech.
Petroperu Lima
Drill. Supte. (4)
S.M.D.Co.
Well Site
Finance
Well File



DRILLING PROGNOSIS

WELL	Z2A-21-565-CD OFFICIAL NUMBER	L06-16 BELCO NUMBER	LOBITOS AREA	CONFIRMATORY TYPE OF WELL	AFE No.
OBJETIVE	PRIMARY RIO BRAVO SECONDARY -				
RIG :III	NATIONAL 55-A DRAWWORKS	GARD. DENVER PY-7 PUMP No. 1		GARD. DENVER PY-7 PUMP No. 2	
DIRECTION OF DEVIATED WELL	N 14° W	ESTIMATED DEVIATION (MAX ANGLE)	36°	ELEVATIONS	K.B. 50'
CONDUCTOR SIZE AND ANGLE	18° Vertical	RECOMMENDED K. O. P.	1000'		☒ WATER DEPTH 335'
ESTIMATED TOTAL DEPTH	6700'	ESTIMATED TO REACH T.D.	28 days		☐ GROUND LEVEL
SURFACE HOLE PROGRAM		BIT SIZE 12 1/4" - 17"		CASING POINT 700'	
CASING 13 3/8", J-55, 54.5 #/Ft, LT & C FLOATING EQUIPMENT Guide shoe I.F.V. CENTRALIZERS One on each of the bottom two joints (3)		CEMENT SLURRY 1 780 sxs of neat cement with 2% CaCl ₂ SLURRY 2 - SLURRY-1 SLURRY-2 DENSITY (lb/gal) 15.6 YIELD (ft ³ /sx) 1.18 WAT. REQ (gal/sx) 5.2 T.T. (hr. min) 2.0		REMARKS - Estimated hole 20" - Estimated cement top at surface	
INTERMEDIATE HOLE PROGRAM		BIT SIZE 12 1/4"		CASING POINT 1800'	
CASING 9 5/8", J-55, 40#/Ft LT & C FLOATING EQUIPMENT Guide shoe I.F.V. CENTRALIZERS One on each of the bottom, every two joints (6)		CEMENT SLURRY 1 500 sxs of 4% Gel cement SLURRY 2 200 sxs of neat cement. SLURRY-1 SLURRY-2 DENSITY (lb/gal) 14.1 15.6 YIELD (ft ³ /sx) 1.55 1.18 WAT. REQ. (gal/sx) 7.8 5.2 T.T. (hr. min) 2:34 3:00		REMARKS - Estimated hole 14 1/2" - Estimated cement top at surface.	
PRODUCTION HOLE PROGRAM		BIT SIZE 7 7/8"		CASING POINT 6700'	
CASING 5 1/2", J-55, 17 #/Ft, LT & C FLOATING EQUIPMENT Guide shoe Diff. fill float collar CENTRALIZERS On the pay zone		CEMENT SLURRY 1 4% Gel cement SLURRY 2 Neat cement in front of R. Bravo. SLURRY-1 SLURRY-2 DENSITY (lb/gal) 14.1 15.6 YIELD (ft ³ /sx) 1.55 1.18 WAT. REQ. (gal/sx) 7.8 5.2 T.T. (hr. min) 1:32 + 1:40+		REMARKS - The final casing, cement and centralizer program will be submitted according with the actual well conditions. - Cement top will be + 1000' above the top of Rio Bravo for mation.	
WELLHEAD	SIZE : 13 3/8" x 9 5/8" x 5 1/2" x 2 7/8" WORKING PRESSURE : 3000 - 5000 P.S.I. ASSEMBLY :				

MUD PROGRAM

SEA WATER LIGNOSULFONATE

MUD TYPE

DEPTH (ft.)	MUD WEIGHT (lb/ft)	FUNNEL VISCOSITY (sec)	PLAST VISC. (CP)	YIELD POINT (lb/100ft ²)	FLUID LOSS (cc)	SOLIDS (o/o)	OIL (o/o)
0- 700	9 - 9.2	45-50		No Control Spud Mud			
700-1800	9.2- 9.6	38-40	12-14		Below 7-9	10	6
1800-4000	9.6-10.2	40-42	14-16		Below 6-8	10-12	5
4000-6700	10.2-10.5	40-42	16-18		Below 6	11-15	4-6

REMARKS - Maintain PH around 10.5

- The Mud conditions should be change as well conditions require.

HYDRAULIC PROGRAM

DEPTH (ft)	BIT SIZE (in)	NOZZLESS CONVINATION (32 nd)	PUMP PRESS (psi)	PUMP LINER (in)	PUMP RATE (gpm)	ANN PRESS LOSS VEL (FPM)	BIT (psi)
0- 700	17	14-14-14	800	* 6	420	42	720
700-1800	12 1/4	12-12-13	1200	5 1/2	360	90	920
1800-4000	7 7/8	10-10-10	1500	5 1/2	240	160	1150
4000-6700	7 7/8	11-11-10	1550	5 1/2	240	160	1000

REMARKS * Use two pumps in Parallel

BIT PROGRAM

BIT No.	BIT SIZE (in)	BIT TYPE (1 ADC Code)	DEPTH OUT (ft)	FEET (ft)	ROT. TIME (hrs)	WEIGHT ON BIT (1000 lbs)	ROTARY SPEED (RPM)
* 1	17	RI	700	315	8	15-20	80-100
** 2-3	12 1/4	1-1-4	1800	1100	60	25-35	100-120
4-8	7 7/8	1-1-4	4000	2200	145	25-35	100-120
		1-3-6					
9-14	7 7/8	1-1-4	6700	2700	190	35-45	90-110
		4-3-7					

REMARKS * A 12 1/4" RR bit to open hole for 17" bit

** Use 12 1/4" RR bits for this section

Jun.20.84
DATEN. Carrascal
PETROLEUM ENGINEERING

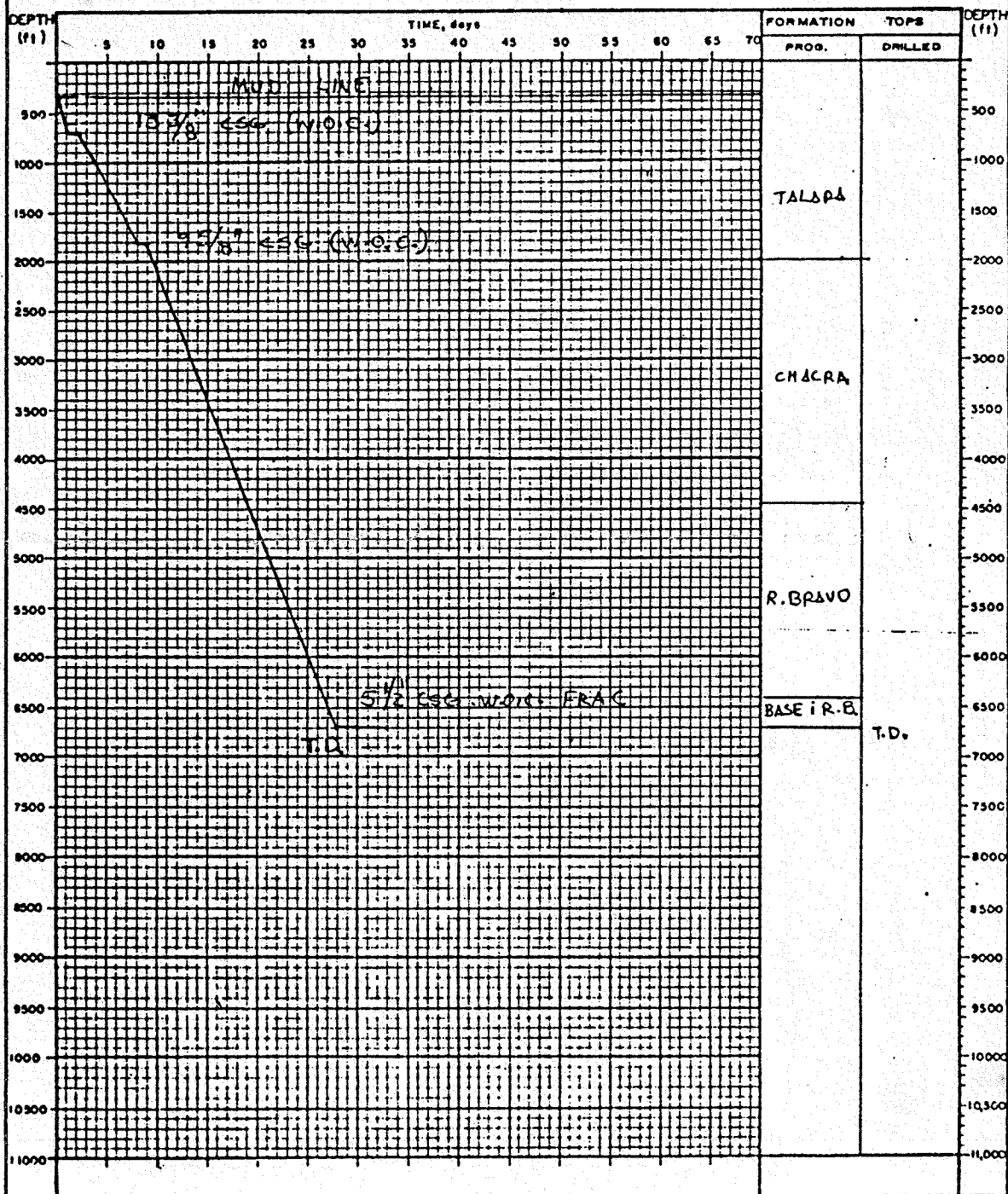
CHIEF ENGINEER

DRILLING SUPT



DRILLING TIME PROGNOSIS

WELL	22A-21-565.CD OFFICIAL NUMBER	406-16 BELCO NUMBER	LOBITOS AREA	CONFIRMATORY TYPE OF WELL	AFE N°
OBJETIVE	PRIMARY RIO BRAVO SECONDARY				
RIG: III	NATIONAL 55-A DRAWWORKS	GARD. DENVER PY. 7 PUMP N° 1	GARD. DENVER PY. 7 PUMP N° 2		



DATE: JUNE 20- 84

PREPARED BY: N.C.