

BELCO PETROLEUM

CORPORATION OF PERU
(SUCURSAL DEL PERU)

TELEF. -- NEGROS
843-884-885

APARTADO No. 1
TALARA - PERU

WELL FILE

October 10, 1984.-
E- 95, 1984.-

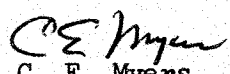
To : Drilling Superintendent
From : Engineering
Ref : Drilling Prognosis for the well
Z2A-21-584-CD-L06 (L06-17)
Lobitos Offshore

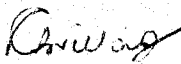
You will find attached the Drilling Prognosis for the well in the reference to be drilled by Rig III to 6850 feet of total depth.

The program is based on the Geologic Prognosis and data gathered from the correlation wells.

The Rio Bravo formation is the objective of this well and 26 days are estimated to reach to total depth. The open hole logging program calls for : DLL-MSFL-GR and FDC-CNL-GR.

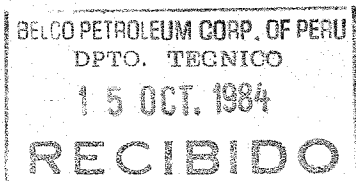

José Zamalloa V.
Pet. Engineering

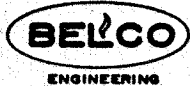

Approved by: C. E. Myers
Eng. Supt.


Approved by : Gordon Villanueva
Drilling Supt.


CEO/rzz

cc: O.M.
Lima Tech.
PetroPeru-Lima
Drlg. Spt. (3)
Geology
S.M.D.Co.
Finance
Well file





DRILLING PROGNOSIS

WELL	Z2A-21-584-CD-L06 OFFICIAL NUMBER	L06-17 BELCO NUMBER	Lobitos AREA	Confirmatory TYPE OF WELL	02456 AFE No.
OBJETIVE	PRIMARY Rio Bravo Sandy SECONDARY				
RIG: III	National 55-A DRAWWORKS	Gardner Denver PY-7 PUMP No. 1		Gardner Denver PY-7 PUMP No. 2	
DIRECTION OF DEVIATED WELL	N 83° W	ESTIMATED DEVIATION (MAX ANGLE)		ELEVATIONS	K.B. 50 ft.
CONDUCTOR SIZE AND ANGLE	18" Vert.	RECOMMENDED K. O. P.			☒ WATER DEPTH 335
ESTIMATED TOTAL DEPTH	6850 ft.	ESTIMATED TO REACH T. D.			☐ GROUND LEVEL
SURFACE HOLE PROGRAM			BIT SIZE 17"	CASING POINT 500	
CASING 13 3/8", J-55, 54.5#/ft LT&C FLOATING EQUIPMENT Guide shoe Insert float valve CENTRALIZERS		CEMENT SLURRY 1 300 sx 4% SLURRY 2 100 sx net cmt. SLURRY-1 SLURRY-2 DENSITY (lb/gal) 14.1 15.6 YIELD (ft³/sx) 1.55 1.18 WAT. REQ (gal/sx) 7.8 5.2 T.T. (hr. min) 1:30 2:00		REMARKS Cement return is expected.	
INTERMEDIATE HOLE PROGRAM			BIT SIZE 12 1/4"	CASING POINT 2300'	
CASING 9 5/8", J-55, 40#/ft, LT&C FLOATING EQUIPMENT Guide shoe Insert float valve CENTRALIZERS One on each of the bottom every two joints.		CEMENT SLURRY 1 800 sx 4% Gel SLURRY 2 100 sx net cmt. SLURRY-1 SLURRY-2 DENSITY (lb/gal) 14.1 15.6 YIELD (ft³/sx) 1.55 1.18 WAT. REQ. (gal/sx) 7.8 5.2 T.T. (hr. min) +2.30		REMARKS Estimated hole 14"	
PRODUCTION HOLE PROGRAM			BIT SIZE 7 7/8"	CASING POINT 6850'	
CASING 5 1/2", J-55, 17#/ft(3500-surf). 5 1/2", N-80, 17#/ft(6900-3500) FLOATING EQUIPMENT 3500) Guide shoe Diff. fill float collar. CENTRALIZERS On pay zone		CEMENT * SLURRY 1 SLURRY 2 SLURRY-1 SLURRY-2 DENSITY (lb/gal) YIELD (ft³/sx) WAT. REQ. (gal/sx) T.T. (hr. min)		REMARKS * Casing and cement program will be provided after inspection of open hole logs.	
WELLHEAD	SIZE : 9 5/8" x 5 1/2" x 2 7/8" WORKING PRESSURE : 3000 - 5000 psi ASSEMBLY :				

MUD PROGRAM		SALT SATURATED MUD					
		MUD TYPE					
DEPTH	MUD WEIGHT	FUNNEL VISCOSITY	PLAST VISC.	YIELD POINT	FLUID LOSS	SOLIDS	OIL
(ft.)	(lb/ft)	(sec)	(CP)	(lb/100ft ²)	(cc)	(o/o)	(o/o)
0-500	9.0	45-50	Spud mud.	No control			
500-2300	9.0-9.5	40-45	6-7	9-10	7	8-9	4-5
2300-4000	9.5-10.0	38-40	9-10	14-16	5-7	10	5
4000-6850	10.0-10.5	38-40	12-14	18-20	4	10-11	5
REMARKS Maintain ph around 11.0 control mud filtrat. if gas cut mud is experienced circulate the well (+ 30') and increase the mud weight if necessary. Change the mud properties according to well conditions requirements.							

HYDRAULIC PROGRAM							
DEPTH	BIT SIZE	NOZZLESS CONVINATION	PUMP PRESS	PUMP LINER	PUMP RATE	ANN PRESS LOSS VEL	BIT
(ft)	(in)	(32 nd)	(psi)	(in)	(gpm)	(FPM)	(psi)
0-500	17	14-14-14	500-800	*6	400	42	650
500-2300	12 1/4	12-12-12	1200	*6	350	75	970
2300-4000	7 7/8	10-10-10	1400-1600	5 1/2	245	145	1070
4000-6850	7 7/8	10-10-10	1600	5 1/2	245	145	1140
REMARKS * Use both pumps in parallel.							

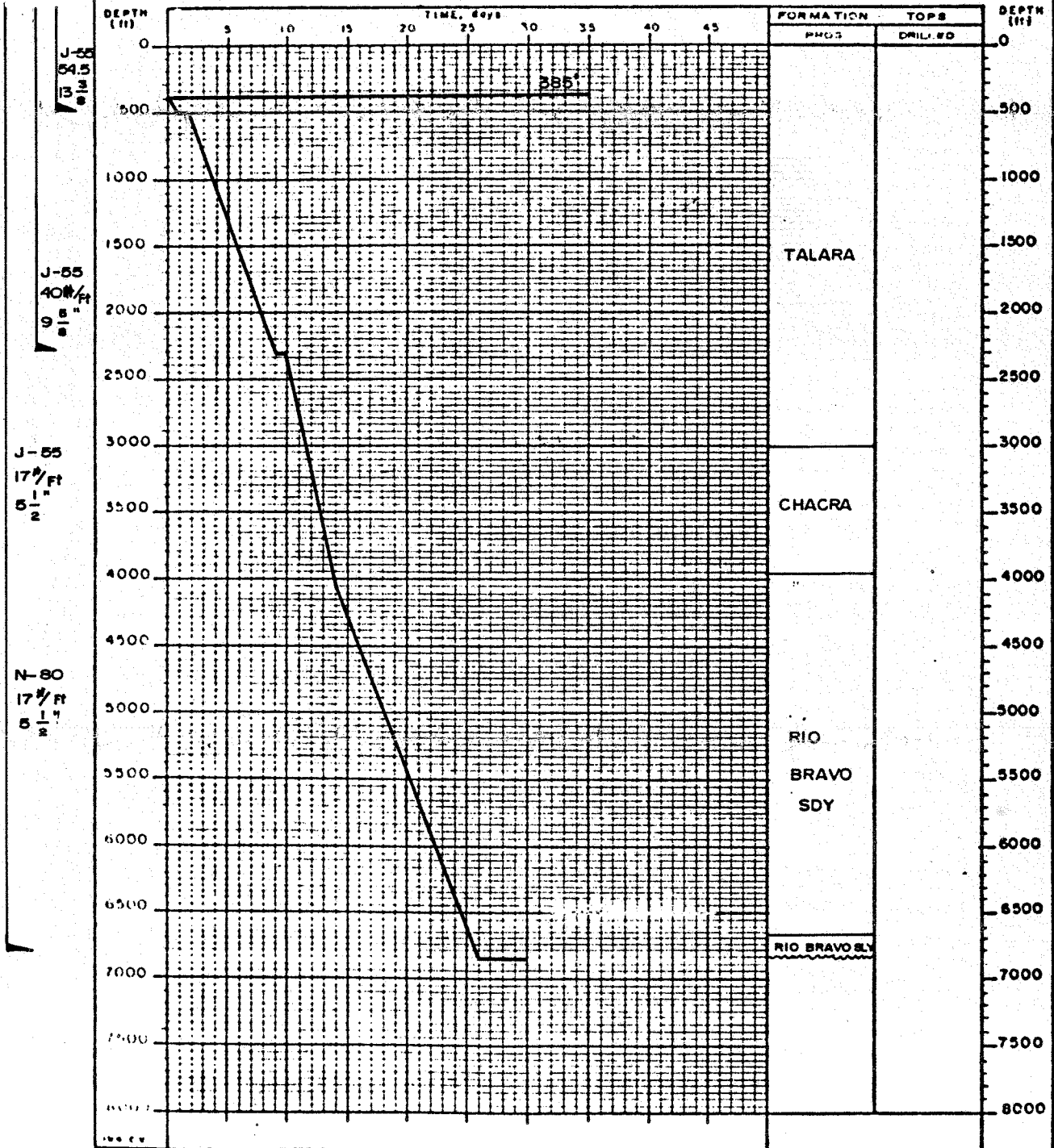
BIT PROGRAM							
BIT No.	BIT SIZE	BIT TYPE	DEPTH OUT	FEET	ROT. TIME	WEIGHT ON BIT	ROTARY SPEED
	(in)	(1 ADC Code)	(ft)	(ft)	(hrs)	(1000 lbs)	(RPM)
1	17	1-1-1	500	115	6	10-15	120
2-4	12 1/4	1-1-1	2300	1800	51	20-25	100-120
5-7	7 7/8	1-1-4	4000	1700	75	35-40	100
8-13	7 7/8	1-3-6	6850	2850	138	40	80-100
REMARKS							

Oct. 10, 84	César Espíritu O.		
DATE	PETROLEUM ENGINEERING	CHIEF ENGINEER	DRILLING SUPT

BELCO

DRILLING TIME PROGNOSIS

WELL	Z2A-21-584-CD-LO6	LO6-17	LOBITOS	CONFIRMATORY	02456
OBJECTIVE	PRIMARY RIO BRAVO SDY SECONDARY				
RIG	III	NATIONAL SS-A	G. DENVER PY-7	G. DENVER PY-7	



DATE: OCT, 10, 84

PREPARED BY: CEO