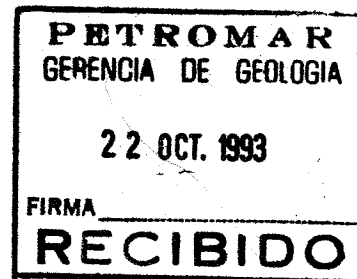


22/oct/93. J. Jari

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RECTANGULAR DLS
COORDINATES Deg/100'

MEASURED DEPTH	INCL.	DIRECTION	VERTICAL DEPTH	VERTICAL SECTION				
2815.00	32.75	S 40.50 E	2677.95	640.24	417.78 S	555.64 E	1.59	
2907.00	35.00	S 40.00 E	2754.33	690.72	456.92 S	588.77 E	2.46	
BHA Nº 6.								
3042.00	35.25	S 41.00 E	2864.74	767.13	515.98 S	639.22 E	.46	
3259.00	34.75	S 40.00 E	3042.50	889.56	610.62 S	720.05 E	.35	
3475.00	34.25	S 36.50 E	3220.51	1010.66	706.69 S	795.78 E	.95	
3724.00	32.75	S 34.00 E	3428.14	1147.53	818.91 S	875.09 E	.82	
3943.00	32.75	S 35.00 E	3612.33	1265.66	916.55 S	942.19 E	.25	
4192.00	31.75	S 31.50 E	3822.91	1398.31	1027.64 S	1015.03 E	.85	
4439.00	31.50	S 31.00 E	4033.23	1527.80	1138.37 S	1082.22 E	.15	
BHA Nº 7.								
4757.00	30.75	S 29.50 E	4305.45	1692.17	1280.36 S	1155.03 E	.34	
5005.00	30.25	S 26.50 E	4519.13	1817.94	1391.48 S	1224.11 E	.65	
5281.00	29.00	S 26.50 E	4759.05	1954.09	1513.58 S	1284.99 E	.45	
BHA Nº 8.								
5420.00	28.75	S 26.00 E	4880.77	2021.06	1573.78 S	1314.68 E	.25	
5574.00	29.75	S 25.50 E	5015.13	2096.09	1641.55 S	1347.37 E	.67	
BHA Nº 9. FASE 8 1/2".								
5711.00	28.50	S 19.50 E	5134.80	2162.14	1703.13 S	1372.87 E	2.32	
5865.00	29.00	S 21.50 E	5269.82	2235.17	1772.50 S	1398.81 E	.70	
6017.00	29.25	S 19.50 E	5402.50	2308.10	1841.80 S	1424.72 E	.66	
6172.00	29.75	S 19.00 E	5537.51	2383.06	1913.85 S	1449.88 E	.36	
6421.00	30.75	S 15.00 E	5752.60	2505.19	2033.79 S	1486.55 E	.90	
6632.00	30.75	S 15.00 E	5933.93	2609.34	2137.99 S	1514.47 E	0	
6791.00	31.75	S 14.00 E	6069.86	2688.77	2217.85 S	1535.12 E	.71	
BHA Nº 10.								
7038.00	30.00	S 12.00 E	6281.85	2809.89	2341.34 S	1563.63 E	.82	
7408.00	30.00	S 11.00 E	6602.28	2985.19	2522.63 S	1600.51 E	.13	
BHA # 11								
8150.00	23.50	S 9.50 E	7264.52	3299.08	2851.08 S	1659.91 E	.88	
Survey a 8176 es Proyección al Fondo del Pozo								
8176.00	23.35	S 9.43 E	7288.37	3308.75	2861.28 S	1661.61 E	.59	
PROFUNDIDAD FINAL @ 8176'								

Final location: 3308.75 feet at S 30.14 E
Plane of Vertical Section: 149.87 degrees



Report of Survey

Radius of Curvature Method

MEASURED DEPTH	INCL.	DIRECTION	VERTICAL DEPTH	VERTICAL SECTION	RECTANGULAR COORDINATES		DLS Deg/100'
0	0	N 0.00 E	0	0	0	0	
BHA Nº 1 y 2. FASE 17"							
501.00	.25	N 17.50 E	501.00	-.74	1.05 N	.33 E	.05
562.00	2.25	S 70.00 E	561.98	-.66	1.58 N	1.40 E	3.73
592.00	3.25	S 75.00 E	591.94	.40	1.14 N	2.77 E	3.42
652.00	6.00	S 66.00 E	651.74	4.08	.47 S	7.33 E	4.73
682.00	7.50	S 60.00 E	681.53	7.04	2.07 S	10.47 E	5.52
742.00	11.00	S 63.00 E	740.75	15.27	6.67 S	18.94 E	5.89
BHA Nº 3.							
882.00	9.00	S 87.00 E	878.61	32.38	12.91 S	42.25 E	3.27
1002.00	10.00	S 84.50 E	996.96	43.56	14.38 S	62.00 E	.90
1155.00	14.50	S 81.50 E	1146.44	63.15	18.34 S	94.21 E	2.97
1250.00	15.25	S 88.00 E	1238.26	77.26	20.57 S	118.48 E	1.92
BHA Nº 2A.							
1294.00	15.25	S 78.00 E	1280.71	84.24	21.98 S	129.95 E	5.97
1356.00	15.25	S 73.00 E	1340.53	95.69	26.06 S	145.74 E	2.12
1389.00	15.50	S 66.50 E	1372.34	102.43	29.08 S	153.94 E	5.27
1421.00	16.00	S 64.00 E	1403.14	109.53	32.72 S	161.83 E	2.63
BHA Nº 4.							
1564.00	18.00	S 52.00 E	1539.89	146.42	54.83 S	197.22 E	2.82
BHA Nº 5. FASE 12 1/4"							
1722.00	17.75	S 46.50 E	1690.26	192.22	86.48 S	233.94 E	1.08
1817.00	20.00	S 49.00 E	1780.15	221.51	107.14 S	256.69 E	2.52
1943.00	21.25	S 47.00 E	1898.07	263.75	136.84 S	289.67 E	1.14
2076.00	23.00	S 46.50 E	2021.27	311.75	171.16 S	326.15 E	1.32
2190.00	23.75	S 42.50 E	2125.91	355.55	203.41 S	357.85 E	1.54
2315.00	25.75	S 44.50 E	2239.43	406.46	241.37 S	393.87 E	1.73
2409.00	26.25	S 44.50 E	2323.91	446.38	270.76 S	422.75 E	.53
2562.00	28.00	S 42.50 E	2460.08	514.24	321.35 S	470.76 E	1.29
2719.00	31.25	S 41.00 E	2596.54	590.25	379.24 S	522.43 E	2.12

L06-20 EQUIPO No 6
ANADRILL SCHLUMBERGER
PETROMAR S.A.
Survey Propuesto v/s Real





PETROMAR

CONTROL DIARIO DE PERFORAC

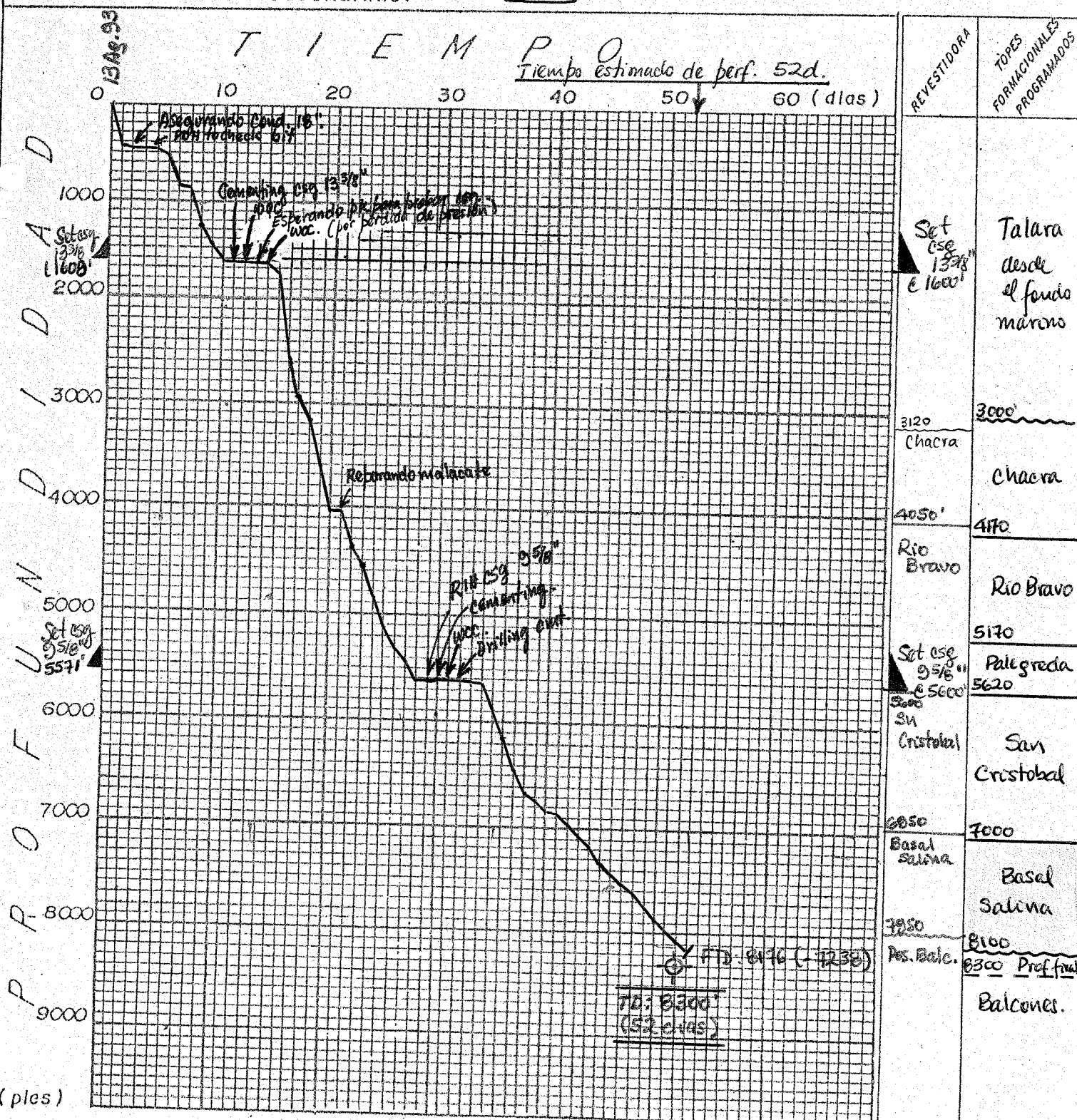
AREA GEOLOGIA LIMA

AREA	NUMERO OFICIAL DEL POZO	Nº DE PETROMAR	TIPO DEL POZO	EQUIPO
LOBITOS COSTAFUERA	22A-21-829-D-LOG	LOG-20	DESARROLLO	VI

OBJE TIVO

PRIMARIO: BASAL SALINA

SECUNDARIO: _____



Gerencia de Logística

HALLIBURTON

TELEFAX

ENERGY SERVICES

TO : JOSE JES / JULIO NEGRO PETROMAR	FROM : CARLOS ELIAS NAVARRI HALLIBURTON ENERGY SERVICES BOLIVIA FAX No. (591) (3) 525418 SANTA CRUZ
OO : CARLOS CARRION	Number of Pages : _____ Fax No. : HLS/BOL _____ (Including this cover page)
FAX No. 00-51-14-419430	DATE Oct, 09 1993

LES ENVIÓ INTERPRETACION PRELIMINAR DEL POZO LOG-20.
LOS PARAMETROS DE EVALUACION UTILIZADOS SON:

$$R_w = 0.34$$

$$a = 1.0$$

$$m = 1.71$$

$$n = 1.71$$

ESTOS VALORES FUERON PROPORCIONADOS POR UDS. PARA EVALUAR
EL POZO DE LA PASTORAL LOG.

FAVOR INDICAR SI ESTAN DE ACUERDO CON ESTOS VALORES
SABAS

CARLOS

Ing° M. Duque.

well File : LOG-20

J. Jeri°PETROMAR
GERENCIA DE GEOLOGIA

11 OCT. 1993

FIRMA 9.15 a.m
RECIBIDO