

PEIROTECH
PERIANA S.A



FINAL INFORMATION

WELL : LO6 - 25
AFE : 2210306
CONTRAT : PEPESA
RIG : P-48

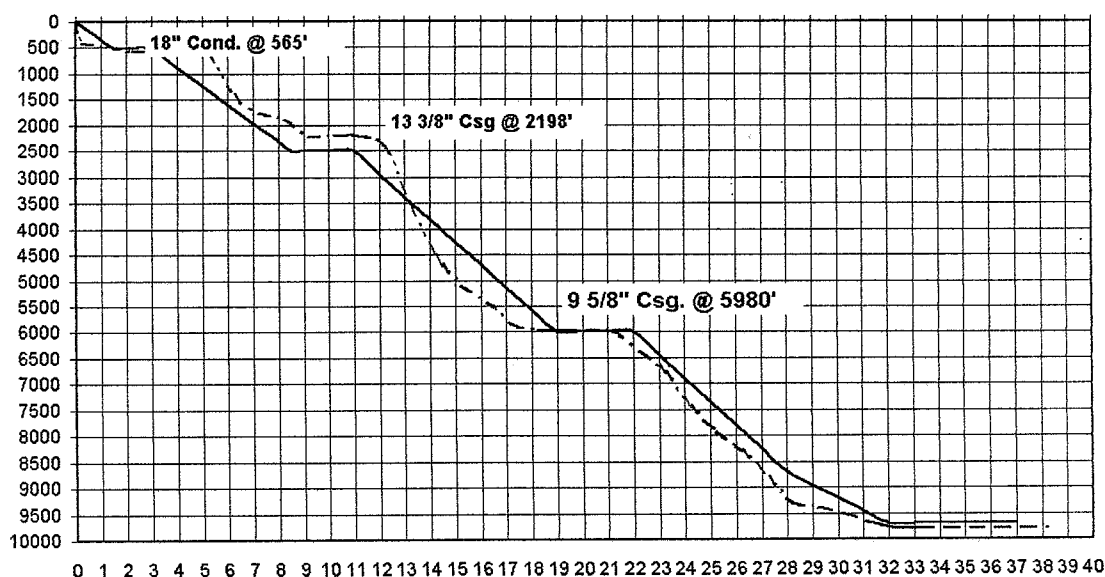
WELL DATA

TYPE OF WELL : DEVELOPMENT
WATER DEPTH : 335'
OBJETIVE FORM : BASAL SALINA
SPUD IN DATE : MARCH 13-2001
DATE T.D. REACH : APRIL 15-2001
DRLG DAYS : 32.5
T.D (MD) : 9790'
T.D (VD) : 7946
MAX. ANGLE : 56.30°
FINAL ANGLE : 12°
DIRECTION : S 41.6° W

TOTAL COST : 1'098,911 **
F.T. COST : 112.25

PETRO-TECH
DRILLING
DRILLING TIME PROGNOSIS

WELL: LO6-25	RIG: P-48	CONTRACTOR: PEPESA	LOCATION: LOBITOS
OBJETIVE: B. SALINA	ESTIMATE DEPTH: 9,700'	DAYS ESTIM: 32	REAL: 32.5 API: 2210306
SPUD DATE: MAR. 13. 2001	DATE TD. REACH: APR. 15-2001	FINAL DEP.: 9790'	RELEASED: APR. 20-2001

DEVELOPMENT WELL


— PROGNOSIS - - - - ACTUAL

Mar 13. Spud to drill 16:30 hrs. Ran 18" conductor to 391'; attached at base. M/U 17" bit + lateral jet and BHA. RIH. Drilled to 396' POOH. Made trip w/ magnet (recovered 2.5 kgs. of junk) Drilled to 405; ran conductor to 399. Drilled to 466 w/ high torq. Made 3 trips w/magnet (recovered 4" x 8" bar greating + 3.5 kg of junk) Reamed from 450 to 466 and attempted drilled-negative due to high torq. Recovered 8 kgs of junk in 3 runs w/magnet. RIH conductor to 409 (10'). Made 3 runs w/magnet-recovered 7 kgs of junk). RIH 12 1/4" Mill and worked from 466 to 468. POOH. W/magnet recovered 8 kg. Of junk. RIH 17" bit. Drilled to 565 w/high torq. POOH. M/U Assy. to enlarge hole. RIH to 44' enlarged hole reaming to 565. POOH. RIH conductor to 565; attached conductor at 1st. Deck base. N/U 21 1/2" Bop's. RIH w/17" bit and rotated on bottom then made 2 runs w/magnet-recovered 2 kgs. of junk and w/basket recovered 1 kg. RIH opened end Dp. to 565'; closed Bop's and cemented 18" conductor. WOC.

Gyro Data took Gyro survey's in wells: **LO6-17, LO6-22, LO6-8, LO6-9, LO6-14, LO6-13, LO6-18, LO6-19**

W.O Taking Gyro multishot survey's in hole; welded flowline. Drilled out cement and 2' fm. POOH. M/U J.Basket worked and made trip w/magnet (recovered little piece of junk). Drilled to 576. POOH. M/U Motor-(**GTX-C1**)bit; repaired rotary table chain. RIH drilled to 630 changed filter in # 2 mud pump engine. Drilled to 650 changed packing in # 2 mud pump cylinder head. Drilled to 889; changed cylinder head packing in # 2 mud pump. Drilled to 1076 (29.8°-S40°W) wiper trip 5 stands. Drilled 1704 (52°-S40°W) POOH changed nozzles bit and bent housing angle. RIH tag at 1316; washed to bottom. Drilled to 1857(49.7°-S43.7°W) changed liner packing in #1 mud pump Drilled to 1898' checked mud pumps: # 1 has washed out cylinder head and # 2 has washed out cylinder head and broke pony rod. POOH w/difficulty to repaired mud pumps. RIH tag at 1598; washed to bottom. Drilled to 2135 (52°-S41°W) changed packing liner in # 1 mud pump. Dilled to 2201 (51°-S45.8°W) POOH. L/D Motor. P/U BHA. RIH tag at 1654 reamed to 1755; continue RIH circulating to 1912 then in stands to bottom. Circ. Short trip to shoe-Ok. POOH. Ran and Cemented 13 3/8" Csg. WOC. Cut off conductor, welded 18"x13 3/8" ring adapter and Cgs Head. Tested w/1200 psi. N/U Bop's welded flowline. Tested blind rams and choke manifold w/

1200 psi-Ok. RIH Slick Assy-(ATX-C1) bit. Drilled cemen and formation (2216). POOH. M/U Stabilizar Assy.-(S91PX) bit. Drilled to 2284; changed packing in cylinder head of # 2 mud pump. Drilled to 2440 (56.3°-S45.8°W) POOH changed BHA (relocated Stb). RIH tag at 2370'; washed to bottom. Drilled to 2511' (55.8°-S45.8°W) welded leak in discharge of # 2 mud pump. Drilled to 3010' (53.3°-S45.1°W) short trip to shoe-Ok. Drilled to 3512' (49°-S45°W) short trip (POOH to shoe) RIH reamed tight hole from 2574 to 2772 and washed from 3472' to bottom. Drilled to 4016 (47.6°-S44.4°W) short trip 11 stands. Drilled to 4517' (45°-S46.5°W) POOH (tight hole from 2503' to 2300'). M/U new BHA. RIH. Drilled to 4833 (44°-S45.8°W) repaired weight indicator. Drilled to 4954 (43.3°-S45.1°W) stopped engines due to small fire in exhaust pipe of # 1 engine. Drilled to 5022' short trip 6 stands. Drilled to 5429' (40°-S44.4°W) POOH w/ difficulty. M/U new BHA. RIH tag at 4750'; RIH w/Circ. to 4850' and in stands to bottom. Drilled to 5500' (39.4°-S44.4°W) changed cylinder head liner in #2 mud pump. Drilled to 5510; changed liner in # 1 mud pump. Drilled to 5854(32.5°-S45.1°W) short trip 6 stands. Drilled 5980 (29.1°-S42.3°W) Circ. and increased mud wt. from 9.4 to 9.7 ppg. POOH w/diffulty from 5282' to 3842. L/D Monels. Trip; circulated and conditined hole. Ran and Cemented 9 5/8" Cgs. WOC.Cut off flowline; set csg. Slips. N/U Csg. Spool and Bop's. Tested blind rams and chocke manifold w/1500 psi-Ok. RIH w/Slick Assy. to 5849. Tested pipe rams w/1500 psi and annular w/950 psi. Drilled out cement and 15' Fm. POOH. M/U Stabilizar ASSY.-(BD-536) bit. RIH. Drilling to 6262, 6326 and 6357 (attempted take survey-negative) POOH changed Slim-1. RIH to shoe; cutter 85' of drilling line. RIH to bottom. Drilled to 6640 (27°-S40.2°W) repaired transmisin chain. Drilled to 6797; check drop pressure in stand pipe. POOH (1st. Five stands w/high drag); found washout in joint # 49. RIH. Drilled to 6879 (25.1°-S38°W) repaired rotary table chain. Drilled to 7298 (23.2°-S35.2°W) short trip to shoe. Drilled to 7572(22.1°-S34.5°W) gas cut mud wt. from 9.9 to 9.7 ppg (2550 gas units) Circ and increased mud wt. to 10.5 ppg. Drilled to 7625 (21.8°-S33.8°W) increased mud wt. to 10.6 ppg. Drilled to 7923 (21°-S31.7°W) Circ and increased mud wt. to 11.0 ppg. POOH; L/D Monels. RIH to 7883 and washed to bottom. Drilled to 8240; repaired rotary table chain. Drilled to 8504; short trip 8 stands. Drilled to 8692'; repaired rotary table chain. Drilled to 9161'; short trip 8 stands; changed diaphragam of left cat head. Drilled to 9303'. POOH change bit (GTM-20) RIH to 9237 and washed to bottom. Drilled to 9309; Circ and increased mud wt. To 11.6 ppg by gas presence. Drilled to 9472; check drop pressure, found washout in joint # 31. RIH. Drilled to 9475; showing gas, Circ and increased mud wt. to 11.9 ppg. Drilled to 9502; check drop pressure, found washout in joint # 26. Drilling at 9655; changed drawworks chain transmission trip 5 dp's to calibrate hole (Max. pull 360K lbs) Circ. Drilled to 9675. POOH; changed bit (GHP51AKPR) RIH at shoe; cut 80' drilling line, continued RIH tag at 9636; reamed to bottom. Drilled to 9692; checked drop pressure. POOH (1st. two Dp's w/ circulation, then stands) found washout in joint # 39. Drilled to 9742; checked pump and surface lines. POOH (1st. nine jts, max pull 360K lbs, then stands) found washout in joint # 76; put kelly and tested pump-Ok. RIH tag at 9746; washed to bottom. Drilled to 9790; drop pressure POOH found washout in joint # 39; put kelly, tested pressure, continue POOH; found washout in joint # 138. POOH to changed bit M/U new bit (GT-09) RIH (Bit/Nbstb/F.J/SNMDC/Stb/SDC/Stb/7Dc's/Xo/Hw's - total: 340'); closed Bop's annular pressure 1100 psi. Put kelly; observed well (leaked between flanges: Annular-5" Rams) closed pipe rams w/difficulty. Pressure increased to 1800 psi bled off well, flow to tank 140 bls of crude oil w/1800psi. Attempted control well pumped mud - mud pump pressure insufficient; bled off well closed well pressure 2000 psi. Plumbers make up surface lines. At 11:00 (16 Apr.) Production personal monitoring well Lay Down drill pipe. M & R cut off heavy weight (w/ mechanic cutter) and made standard thread. Put sub and lower kelly cock valve. Rigging Down

MOVING	ROTATE	TRIPS	REL. DRLG	M & R	COMPL.	STUCK PIPE	DOWNTIME
31.5	301	256	211.5	31	173		

BIT RECORD & FOOT COST (US\$)

WELL : LO6 - 25

SPUD IN DATE : MAR. 13. 2001

MUD TYPE : FLO-DRILL

RIG : PEPESA # 48

T. D. REACHED : APR. 15. 2001

MAX. ANGLE : 56.3°

BIT	SIZE	TYPE	MFG	SERIAL	JETS	DEPTH		FOOT.	HOURS		ROP	TRIP	BIT		WOB	RPM	PUMP		MUD WT.	DULL COND.	FORMATION
						IN	OUT		ROT.	CUM			COST	\$/FL			PRESS	GPM			
1RR	17	GTX-1	HTC	L21CT	2x16-14	391	565	174	7.5	7.5	23.2	0.8	0	18.8	15/20	100	500	511	8.3	4-4-1/8	
2RR	17	GTX-1	HTC	L21CT	2x16-14	565	567	2	0.5	8	4.0	0.9	0	276.5	15/20	100	450	419	8.7	3-3-1/16	
3	17	GTX-C1	HTC	W52CL	4x18	567	1704	1137	31	39	36.7	2.6	10,000	20.5	20/25	PP/60	1800	700	9.1	2-2-1	TALARA
3RR	17	GTX-C1	HTC	W52CL	3x18-22	1704	2201	497	20	59	24.9	3.3	0	18.5	40/45	PP/60	2050	716	9.5	2-2-1	TALARA
4RR	12 1/4	ATX-C1	HTC	A33CD	3x16-18	2201	2216	15	0.5	59.5	30.0	3.3	0	100.1							CMT
5RR	12 1/4	S91PX	STC	JR8589	5x16-2x18	2216	2440	224	3.5	63	64.0	3.7	0	12.7	10/12	120	1100	691	9		CHACRA
5RR	12 1/4	S91PX	STC	JR8589	5x16-2x18	2440	4517	2077	28.5	91.5	72.9	6.8	0	6.7	10/12	120	1450	691	9.6		CHACRA
5RR	12 1/4	S91PX	STC	JR8589	4x18-3x16	4517	5429	912	18	109.5	50.7	8.1	0	11.3	15/20	90/100	1300	615	9.5		RIO BRAVO
5RR	12 1/4	S91PX	STC	JR8589	4x18-3x16	5429	5980	551	25	134.5	22.0	9	0	24.4	20/25	110	1350	615	9.6		RIO BRAVO
6RR	8 1/2	GTX-C1	HTC	L2GCW	3x24	5980	5995	15	0.5	135	30.0	9	0	250.2	20	100	600	580	9.4	3-3-1/16	CMT-R. BRAVO
7RR	8 1/2	BD536	HTC	0402096	6x16	5995	6357	362	9	144	40.2	9.5	0	20.2	20	120	1200	500	9.3		PALEGREDA
7RR	8 1/2	BD536	HTC	0402096	6x16	6357	7923	1566	45.5	189.5	34.4	11.9	0	14.5	25	90	1700	500	11		MOGOLLON
7RR	8 1/2	BD536	HTC	0402096	6x16	7923	9303	1380	51	240.5	27.1	14	0	18.6	30	90	1850	499	11.4		B. SALINA
8	8 1/2	GTM-20	HTC	W36CS	3x22	9303	9676	373	41.5	282	9.0	14.5	4,854	72.3	40	80	1600	412	11.9		B. SALINA
9RR	8 1/2	EHP51AKPR	HVC	LX8008	2x24-22	9676	9790	114	18	300	6.3	14.7	0	113.3	40	80	1650	429	11.9		B. SALINA
NOTE: PDC BIT PERFORMANCE													18.90								

	FOOTAGE	HOURS
S91PX (JR8589)	5,966	137.5
BD536 (0402096)	9,195	278.5

Drill Stem:	PIPE		TOOL JOINT WEIGHT		
	O.D	I.D	O.D	I.D	lbs/pie
Drill pipe "G-105"	5.00	4.28	6.25	3.25	19.50
Heavy weight	5.00	3.00	6.25	2.875	53.00
Drill collar (two size)	8.00	3.00	6.25	2.813	150 / 92

HYDRAULIC ANALYSIS

WELL : LO6 - 25

TYPE BIT	INTERVAL		BIT size	NOZZLES							FLOW gpm	PRESSURE(psi)		VELOCITY (ft/min)			HSI hp/plg2	J. VEL. ft/seg	IMPACT FORCE	ROP ft/hr	ECD lbs/gl	TYPE Motor	BHA
	FROM	TO		J-1	J-2	J-3	J-4	J-5	J-6	J-7		Bit	Systems	D.p	D.c	Critical							
GTX-1(rr)	391	565	17.00	16	16	14					511	611	869	47	45	289	0.8	302	629	23.2	8.3		1
GTX-1(rr)	565	567	17.00	16	16	14					419	431	648	39	37	292	0.5	248	444	4.0	8.7		2
GTX-C1	567	1704	17.00	18	18	18	18				700	375	1572	65	61	284	0.7	226	708	36.7	9.1	P.P	3
GTX-C1(rr)	1704	2201	17.00	18	18	18	22				716	325	1805	66	63	277	0.6	206	688	24.9	9.5	P.P	4
ATX-C1(rr)	2201	2216	12.25	16	16	16	18				615	412	1110	119	107	318	1.3	236	655	30.0	9.2		CMT
S91PX(rr)	2216	2440	12.25	16	16	16	16	16	18	18	691	163	1048	134	120	320	0.6	150	458	64.0	9.0		5
S91PX(rr)	2440	4517	12.25	16	16	16	16	16	18	18	691	174	1435	134	120	286	0.6	150	489	72.9	9.6		6
S91PX(rr)	4517	5429	12.25	18	18	18	18	16	16	16	615	119	1250	119	107	312	0.4	125	358	50.7	9.5		7
S91PX(rr)	5429	5980	12.25	18	18	18	18	16	16	16	615	120	1327	119	107	310	0.4	125	362	22.0	9.6		8
GTX-C1(rr)	5980	5995	8.50	24	24	24					580	150	1335	292	221	369	0.9	140	376	30.0	9.7		CMT
BD536(rr)	5995	6357	8.50	16	16	16	16	16	16		500	139	1212	251	190	371	0.7	136	311	40.2	9.5		9
BD536(rr)	6357	7923	8.50	16	16	16	16	16	16		500	165	1603	251	190	334	0.8	136	368	34.4	11.2		10
BD536(rr)	7923	9303	8.50	16	16	16	16	16	16		499	170	1853	251	190	327	0.9	136	380	27.1	11.6		11
GTM-20	9303	9676	8.50	22	22	22					412	146	1485	207	157	304	0.6	119	308	9.0	13.0		12
EHP51AKPR(rr)	9676	9790	8.50	24	24	22					429	126	1613	216	163	301	0.6	110	301	6.3	13.2		12

BHA

B / Xo (lateral jet) / 2Dc's1 / Xo / 8Dc's / Xo / 5 Hw's

(1)

B / Xo / 2Dc'1 / Xo / 8Dc's / Xo / 8Hw's

(2)

B / Xo / P.P / F. Sub / SNMDC / UBHO / 2NMDC / Dc1 / Xo / 3Dc's / 3Hw's / Jar / 7Hw's

(3)

B / Xo / P.P / Stb / F. Sub / SNMDC / UBHO / 2NMDC / Dc1 / Xo / 6Dc's / 3Hw's / Jar / 12Hw's

(4)

B / NbStb / F. Sub / UBHO / NMDC / SNMDC / Stb / NMDC / Stb / Dc1 / Xo / 3Dc's / Xo / 3Hw's / Jar / 12 Hw's

(5)

B / NbStb / F. Sub / SNMDC / Stb / UBHO / NMDC / SNMDC / Stb / NMDC / Dc1 / Xo / 3Dc's / Xo / 3Hw's / Jar / 12 Hw's

(6)

B / Stb / F. Sub / SNMDC / Stb / UBHO / NMDC / SNMDC / Stb / NMDC / Dc1 / Xo / 3Dc's / Xo / 3Hw's / Jar / 12 Hw's

(7)

B / BSub / F.Sub / UBHO / NMDC / SNMDC / Stb / NMDC / Stb / Dc1 / Xo / 3Dc's / Xo / 3Hw's / Jar / 12 Hw's

(8)

B / NbStb / F.Sub / SNMDC / Stb / UBHO / NMDC / SNMDC / NMDC / 6Dc's / Xo / 3Hw's / Jar / 12 Hw's

(9)

B / NbStb / F.Sub / SNMDC / Stb / UBHO / NMDC / SNMDC / Stb / NMDC / 6Dc's / Xo / 3Hw's / Jar / 12 Hw's

(10)

B / NbStb / F.Sub / SNMDC / Stb / Dc / Stb / 7Dc's / Xo / 3Hw's / Jar / 15Hw's

(11)

B / NbStb / F.Sub / SNMDC / Stb / Dc / Stb / 7Dc's / Xo / 6Hw's / Jar / 9Hw's / Xo / 9 Hw's (4 1/2")

(12)

DRILLING MUD RECAP

WELL : LO6 -25

RIG: PEPESA #48

DATE	DEPTH ft	W.T lb/gl	FUN.VISC Sec/gat API	PLAST. VISC cps	YIELD POINT lb/100ft2	GELS 10"/10' lb/100ft2	FILTR. API cc	CAKE 1/32	SOLIDS % by vol	SAND %by vol	MBT lbs/bl	PH	ALKALINITY Pm Pf / Mf		CHLORIDE mg/lts	CALCIUM mg/lts	POTASIUM mg/lts	REMARKS
13-Mar	405																	
14-Mar	466	8.5	80															
15-Mar	565	8.5	50															
16-Mar	565	8.4																
17-Mar	567	8.7	52	12	19	8 / 11	6.6	1	4	TRZ	7.5	10.0	0.45	.28 / 6	13,000	280		
18-Mar	639	8.7	53	13	26	8 / 14	6.0	1	5	0.30	7.5	9.8	0.40	.24 / 6	13,000	260		
19-Mar	1420	9.1	60	16	32	10 / 17	6.0	1	6	0.50	17.5	10.0	0.15	.08 / 3	15,000	280	13,200	
20-Mar	1764	9.1	55	15	30	9 / 14	6.2	1	5	0.30	17.5	10.0	0.15	.09 / 3	17,000	280	17,600	Add high concentration KCL
21-Mar	1888	9.4	56	16	30	9 / 16	6.0	1	6	0.40	18	10.0	0.38	.12 / 35	23,000	300	17,200	High concentration Lube 100
22-Mar	2201	9.5	57	17	32	10 / 17	6.2	1	8	0.40	22.5	10.0	0.25	.12 / 35	28,000	320	14,200	Dilution
23-Mar	2201	9.6	53	14	22	8 / 14	6.0	1	8	0.30	22.5	10.0	0.25	.1 / 3	27,000	300	13,600	
24-Mar	2201	9.2	55	14	26	7 / 10	6.4	1	6	0.25	15	10.0	0.10	.05 / 2	22,000	200	20,800	
25-Mar	2440	9	51	14	22	6 / 9	6.0	1	5	0.25	12	11.0	0.10	.6 / 9	28,000	100	19,000	Install Swaco Equipment
26-Mar	3512	9.5	52	16	24	8 / 12	5.8	1	7	0.30	20	9.8	0.15	.09 / 3	28,000	280	17,600	High Dilution
27-Mar	4517	9.6	54	20	29	8 / 14	5.6	1	8	0.40	22.5	9.8	0.12	.08 / 2	27,000	200	16,400	
28-Mar	5084	9.5	53	18	29	8 / 15	4.8	1	7	0.30	17.5	9.6	0.12	.07 / 3	27,000	200	15,800	
29-Mar	5429	9.5	52	18	30	8 / 14	4.6	1	7	0.30	17.5	9.5	0.12	.07 / .25	28,000	200	18,800	
30-Mar	5835	9.4	53	17	27	7 / 13	4.8	1	7	0.50	17.5	9.2	0.09	.04 / 35	24,000	120	16,400	
31-Mar	5980	9.6	53	18	29	8 / 14	5.0	1	9	0.50	20	9.2	0.10	.06 / 3	22,000	120	15,800	Show Gas
1-Apr	5980	9.7	53	19	30	8 / 15	5.0	1	9	0.40	20	9.4	0.10	.06 / 25	20,000	120	14,600	
2-Apr	5980	9.6	55	17	28	7 / 12	5.4	1	7	0.25	17.5	9.0	0.10	1.2 / 1.8	24,000	120	18,600	
3-Apr	5995	9.4	52	17	26	7 / 12	5.4	1	7	0.30	17.5	12.0	2.50	.2 / .65	25,000	380	18,600	
4-Apr	6357	9.3	52	16	27	7 / 13	5.2	1	6	0.30	15	11.0	0.45	.06 / .35	16,000	120	16,800	
5-Apr	6797	9.6	53	16	26	7 / 12	5.0	1	8	0.30	15	9.6	0.12	.05 / 45	24,000	200	18,200	
6-Apr	7450	9.9	52	17	26	7 / 11	5.2	1	10	0.25	15	9.2	0.10	.05 / 5	22,000	120	16,400	Increased concentration Lube 1000
7-Apr	7923	11	54	20	28	8 / 16	4.8	1	14	0.30	17.5	9.5	0.01	.05 / 5	19,000	200	14,600	Show Gas
8-Apr	8300	11	53	21	30	8 / 16	4.8	1	14	0.30	17.5	9.5	0.02	.05 / 45	13,500	160	14,500	
9-Apr	8795	11	53	20	29	9 / 15	5.0	1	14	0.30	18	9.5	0.01	.05 / 5	18,000	160	13,800	
10-Apr	9303	11.4	55	23	30	8 / 17	5.0	1	16	0.30	17.5	9.5	0.01	.12 / 5	18,000	160	13,200	Treatement w/Shale Check - Baranex
11-Apr	9374	11.6	54	22	29	8 / 15	5.0	1	17	0.30	19	10.0	0.25	.12 / 7	18,000	200	12,600	
12-Apr	9510	11.9	55	22	30	8 / 15	4.8	1	18	0.40	20	10.4	0.03	.15 / 9	18,000	160	11,800	
13-Apr	9676	11.9	53	23	28	8 / 15	4.8	1	18	0.40	19	10.4	0.30	.16 / 9	17,000	160	11,400	
14-Apr	9728	11.9	54	22	29	8 / 15	4.8	1	17	0.35	19	10.0	0.35	.15 / 9	17,000	160	11,400	
15-Apr	9780	11.9	53	23	26	8 / 16	4.8	1	17	0.35	19	10.4	0.35	.12 / 8	17,000	160	11,200	
16-Apr	9780	13.1	52	24	26	7 / 10	5.2	1	21	0.50	20	10.2	0.30	.12 / 8	9,500	160	9,800	Clean 2 tanks of mud - Bled off well
17-Apr	9780	13.1	52	24	26	7 / 10	5.2	1	21	0.50	20	10.2	0.30	.12 / 8	9,500	160	9,800	Well Producer

PRODUCTS USED SUMMARY

7200 Bbls of mud build

	COST UNIT	QUANTITY	COST
BARANEX	37.87	85	3,218.95
BARITINE	6.40	3800	24,320.00
CALCIUM CARBONATE	2.08	180	374.40
CAUSTIC POTASH (KOH)	22.24	171	3,803.04
CONTROL I-100	15.56	40	622.40
IDF-FLR-XL	118.50	136	16,116.00
INDUSTRIAL WATER (bbl)	1.05	5800	6,090.00
FLOVIS	221.73	258	57,206.34
GLO SLICK	969.00	12	11,628.00
KLA-GARD	758.79	35	26,557.65
LUBE 100	408.00	32	13,056.00
MICA FINE	18.00	50	900.00
MI GEL	7.28	125	910.00
MIX II FINE	29.85	40	1,194.00
MSP-4	29.85	14	417.90
PAC PLUS R	137.35	169	23,212.15
POTASSIUM CHLORIDE	20.64	868	17,915.52
SHALE CHECK	40.63	140	5,688.20
SODIUM BICARBONATE	10.12	54	546.48
X-CIDE 207	69.74	24	1,673.76

Total Product Cost 215,450.79

Cost per foot 22.03

Cost per bbl 29.92

CASING AND CEMENTING POINTS

WELL : LO6 - 25

CASING SIZE O.D	DESCRIPTION	POINT (ft)	CENTRA- LIZERS	SLURRY	DATE	RETURN (bbls)
18"	Pipe steel weld: 70.59 #/ft (Thickness 0.3750)	565'		240 sx neat cmt + 2% CaCl ₂ + 0.5 gl/ 10bls FP-6L (15.6 ppg)	Mar.05.01	
13 3/8"	K-55; 53.5 #/Ft, STC	F.C: 2152' Shoe: 2198'	12	900sx cmt (6% Gel) + 0.5 gl/10bls FP-6L (13.5 ppg) 950sx cmt + 0.5 gl/ 10bls FP-6L + 1% CaCl ₂ (15.6 ppg)	Mar.24.01	58
9 5/8"	N-80; 43.5 #/ft, LTC	F.C: 5883' Shoe: 5980'	25	950 sx cmt (6% Gel) + 0.5 gl/ 10bls FP-6L 13.5 ppg 700sx neat cmt+ 0.5 gl/ 10bls FP-6L (15.6 ppg)	Apr.02.01	30

DOWN HOLE MOTOR CONTROL

WELL : LO6 - 25

RIG : PEPESA 48

WELL TYPE: DEVELOPMENT

SPUD IN DATE : MAR. 13. 2001

T.D. : 9790'

T.D. REACHED : APR. 12. 2001

SLIM 1 Hrs.: 351.25

RUN N°	DOWN HOLE MOTOR TYPE	DEPTH			FOOT	CUM FOOT.	ROT HRS	OTHER HRS	CUM HRS.	BIT				PUMP PRESS.	GPM	FORMT.	REMARK
		SIZE	IN	OUT						SIZE	TYPE	WOB	RPM				
2	A800XP	8	576	1704	1128	1128	31	2.5	33.5	17	GTX-C1	20/25	60	1800	700	TALARA	End of curve
3	A800XP	8	1704	2201	497	1625	20	7.5	61.0	17	GTX-C1	40/45	60	2050	716	TALARA	Run 13 3/8" Csg.

8" XP PP MOTOR (1.86° ABH, 16 3/16" Brg Stb)

8" XP PP MOTOR (1.59° ABH, 16 3/16" Brg Stb)

DRILLING RECORD DRILLED WELL SUMMARY

WELL : LO6 - 25	CONTRACTOR : PEPESA	RIG : P-48	LOCATION : LOBITOS	API : 2210306
WELL TYPE : DEVELOPMENT	TOTAL DEPTH : 9790'			
OBJETIVE : BASAL SALINA	DATE TD REACH : APR-15.2001	PENET. RATE (ft/hr) : 32	COMPLET. DATE:	ESTIM. COST : \$ 1'543,580
SPUD IN DATE : MAR. 13. 2001	DAYS : 32.5	FT/DAY : 490'	RELEASED RIG: APR. 20. 2001	ACTUAL COST : \$ 1'098,911

PHASE	18" CONDUCTOR	SURFACE (13 3/8")	INTERMED (9 5/8")	PRODUCTION (5 1/2")	TOTALS
WELL DATA					
DEPTH ESTIM / REAL	565 565	2500 2201	6000 5980	9700 9790	9700 9790
DAYS ESTIM / REAL	1.5 2	6.5 7.25	10.5 9	13.5 14	32 32.25
AVG. FT/DAY ESTIM / REAL	160 120	387 328	438 630	370 381	388 490
COND TOP - GUIDE SHOE	565	2198	5980		
BITS USED - 17 1/2" N/RR	1RR	2RR			2RR
BITS USED - 12 1/4" N/RR			2RR		2RR
BITS USED - 8 1/2" N/RR				3RR / 1N	3RR / 1N
GPM - PRESSURE - HSI INITIAL		700 1572 0.7	615 1110 1.3	500 1212 0.7	
GPM - PRESSURE - HSI FINAL	511 869 0.8	716 1802 0.6	615 1327 0.4	429 1613 0.6	
FORMATIONS	TALARA	TALARA	CHACRA - R. BRAVO	R. BR-PALG-MOG-B.SAL	
MUD COMP	SEA WATER	M.I. - GEL	FLO-DRILL	FLO-DRILL	
WT - VISC - FILT (INIT/FINAL)	8.5 50	8.7-9.4 52-57 6	9.5-9.6 57-53 6-5	9.6-13.1 55 5	
PV - YP - PH (INIT/FINAL)		12-17 19-32 10	17-18 32-39 9.5	19-24 30-26 9.5-10.2	
PM - PF - SOLIDS (INIT/FINAL)		45-.25 0.12 4-8	0.1 0.8 8-9	0.35 0.12 14-21	
TOTAL MUD COST	3,750	50,129	81,155	80,416.79	215,450.79
MUD COST BY FOOT	6.64	30.64	21.48	21.11	22.01
ANGLE - DIRECT DEPTH (INIT)		2.3 S68.7W 601	51 S45.8W 2217	27.9 S43.7W 6024	
ANGLE - DIRECT DEPTH (FINAL)	1.1 S34.3E 540	52.2 S41.2W 2096	32.5 S45.1W 5790	12 S20W 9790	
SIZE - TYPE - CSG. WT	18 Pipeline 70.59	13 3/8 K-55 53.5	9 5/8 N-80 43.5	Producer open hole	
CMT sx - CENTRLIZ - RET BBLs	240 2	1850 12 58	1650 25 30		
TIME BREAKDOWN (HRS)					
MOVING	31.5 21.5				31.5 21.5
ROTATING	7.5 45 3	52.5 51.5 8.5	75.5 62 16	165.5 97.5 15	301 256 42.5
REAMING	4	2 9	5	5	16 9
CEMENT	2.5 3 5	5.5 19.5 6	4.5 10.5 8		12.5 53 19
CUT CABLE			1.5 2	3.5 3	5 5
PLUGS		0.5	1.5	1.5	3.5
MILL CSG	1	23.5		173	173 24.5
REPAIRS		16.5 2	3 1	4.5 4	24 7
TOTAL HOURS	124.0	197.0	190.5	492.5	1004.0
OTHERS					
WORKING W/DOWN HOLE MOTOR (HRS)		61			61
WORKING W/SLIM 1 (HRS)		102.25	149	100	351.25
MAX ANGLE	1.1	54.1	56.3	34.5	

Survey Report - Standard

Report Date: 23-Apr-2001	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: Petro-Tech Peruana S.A.	Vertical Section Azimuth: 221.930°
Field: Lobitos	Vertical Section Origin: N 0.000 ft, E 0.000 ft
Structure / Slot: Platform LO6 (WGS84) / Slot #25	TVD Reference Datum: KB
Well: Well LO6-25	TVD Reference Elevation: 50.000 ft relative to MSL
Borehole: Borehole LO6-25	Sea Bed / Ground Level Elevation: 0.000 ft relative to MSL
UWI / API#:	Magnetic Declination: +1.525°
Survey Name / Date: LO6-25 Anadrill MWD Survey / April 16, 2001	Total Field Strength: 28878.768 nT
Tort / AHD / DDI / ERD ratio: 128.572° / 5019.56 ft / 5.900 / 0.632	Magnetic Dip: 14.826°
Grid Coordinate System: UTM Zone 17S - WGS84, Meters	Declination Date: April 16, 2001
Location Lat / Long: S 4 26 42.813, W 81 22 8.781	Magnetic Declination Model: BGGM 2000
Location Grid N/E Y/X: N 9508648.860 m, E 459050.200 m	North Reference: True North
Grid Convergence Angle: +0.02860833°	Total Corr Mag North -> True North: +1.525°
Grid Scale Factor: 0.99962076	Local Coordinates Referenced To: Well Head

Station ID	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	VSec (ft)	N-S (ft)	E-W (ft)	Closure (ft)	at Azim (°)	DLS (°/100ft)	TF (°)
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		145.7 M
18" cond set @ 565'	540.00	1.10	145.70	539.97	1.23	-4.28	2.92	5.18	145.70	0.20	-111.3 M
KOP 576'	601.00	2.30	248.70	600.95	2.47	-5.21	2.11	5.62	157.95	4.53	-116.6 M
	632.00	3.30	243.40	631.91	3.85	-5.84	0.73	5.88	172.84	3.33	-133.2 M
	694.00	6.90	226.80	693.66	9.23	-9.19	-3.58	9.86	201.29	6.22	-15.1 G
	757.00	11.20	220.90	755.86	19.12	-16.40	-10.35	19.39	212.24	6.97	-12.4 G
	820.00	15.50	217.40	817.15	33.63	-27.72	-19.47	33.88	215.08	6.94	-3.2 G
	883.00	19.80	216.70	877.17	52.66	-42.97	-30.97	52.97	215.78	6.83	1.9 G
	944.00	23.50	217.00	933.85	75.07	-60.97	-44.46	75.46	216.10	6.07	-1.4 G
	1007.00	27.20	216.80	990.78	101.94	-82.54	-60.65	102.43	216.31	5.87	31.8 G
	1070.00	29.80	220.00	1046.14	131.93	-106.07	-79.35	132.46	216.80	4.78	25.1 G
	1133.00	33.10	222.80	1099.88	164.79	-130.69	-101.10	165.23	217.73	5.73	15.2 G
	1196.00	35.00	223.70	1152.08	200.05	-156.38	-125.28	200.37	218.70	3.12	10.9 G
	1258.00	37.20	224.40	1202.17	236.55	-182.63	-150.68	236.76	219.52	3.61	30.2 G
	1321.00	39.40	226.40	1251.61	275.52	-210.03	-178.49	275.62	220.36	4.01	-39.7 G
	1385.00	41.00	224.40	1300.49	316.75	-239.04	-207.89	316.79	221.01	3.21	-14.1 G
	1448.00	42.90	223.70	1347.35	358.83	-269.31	-237.16	358.85	221.37	3.11	-16.1 G
	1479.00	44.60	223.00	1369.74	380.26	-284.90	-251.88	380.27	221.48	5.70	-4.4 G
	1510.00	46.50	222.80	1391.45	402.39	-301.11	-266.94	402.40	221.56	6.15	-23.9 G
	1573.00	49.80	220.90	1433.48	449.30	-336.07	-298.23	449.31	221.59	5.70	-15.4 G
	1604.00	51.80	220.20	1453.07	473.32	-354.32	-313.84	473.33	221.53	6.68	39.3 G
	1721.00	54.10	222.50	1523.56	566.68	-424.39	-375.54	566.69	221.51	2.51	172.3 G
	1815.00	51.20	223.00	1580.58	641.39	-479.26	-426.26	641.39	221.65	3.11	160.4 G
	1876.00	49.70	223.70	1619.43	688.40	-513.46	-458.54	688.41	221.77	2.61	0.0 G
	2002.00	51.70	223.70	1699.23	785.86	-583.95	-525.90	785.86	222.01	1.59	-76.5 G
	2096.00	52.20	221.20	1757.17	859.87	-638.57	-575.85	859.87	222.04	2.16	109.8 G
13 3/8" shoe @ 2198'	2217.00	51.00	225.80	1832.35	954.61	-707.34	-641.07	954.62	222.19	3.14	-6.5 G
	2279.00	52.40	225.60	1870.78	1003.16	-741.32	-675.89	1003.19	222.36	2.27	-13.4 G
	2342.00	54.10	225.10	1908.47	1053.55	-776.80	-711.80	1053.60	222.50	2.77	0.0 G
	2373.00	54.80	225.10	1926.49	1078.73	-794.60	-729.67	1078.80	222.56	2.25	2.2 G
	2430.00	56.30	225.80	1958.74	1125.64	-827.57	-763.16	1125.74	222.68	2.82	180.0 G

	2587.00	55.80	225.80	2046.42	1255.58	-918.37	-856.53	1255.80	223.00	0.32	155.6 G
	2743.00	54.90	226.30	2135.11	1383.58	-1007.43	-948.92	1383.97	223.29	0.63	-136.1 G
	2898.00	53.90	225.10	2225.34	1509.33	-1095.45	-1039.12	1509.89	223.49	0.90	180.0 G
	3055.00	53.30	225.10	2318.51	1635.51	-1184.65	-1128.63	1636.21	223.61	0.38	180.0 G
	3211.00	52.30	225.10	2412.83	1759.57	-1272.36	-1216.65	1760.43	223.72	0.64	171.1 G
	3369.00	51.30	225.30	2510.53	1883.54	-1359.85	-1304.75	1884.56	223.82	0.64	-172.7 G
	3526.00	50.10	225.10	2609.97	2004.83	-1445.45	-1390.96	2006.01	223.90	0.77	180.0 G
	3683.00	49.30	225.10	2711.52	2124.38	-1529.97	-1475.77	2125.73	223.97	0.51	167.9 G
	3840.00	48.60	225.30	2814.62	2242.59	-1613.40	-1559.78	2244.10	224.03	0.46	-146.5 G
	3998.00	47.60	224.40	2920.14	2360.03	-1696.77	-1642.72	2361.68	224.07	0.76	180.0 G
	4154.00	46.50	224.40	3026.43	2474.11	-1778.35	-1722.61	2475.86	224.09	0.71	180.0 G
	4342.00	46.10	224.40	3156.31	2609.90	-1875.46	-1817.71	2611.78	224.10	0.21	116.9 G
	4436.00	45.60	225.80	3221.79	2677.24	-1923.06	-1865.48	2679.21	224.13	1.19	140.6 G
	4562.00	45.00	226.50	3310.42	2766.56	-1985.11	-1930.06	2768.72	224.19	0.62	-129.3 G
	4657.00	44.60	225.80	3377.83	2833.31	-2031.48	-1978.34	2835.62	224.24	0.67	180.0 G
	4782.00	44.00	225.80	3467.29	2920.42	-2092.35	-2040.93	2922.89	224.29	0.48	-145.6 G
	4940.00	43.30	225.10	3581.61	3029.27	-2168.85	-2118.65	3031.93	224.33	0.54	-141.7 G
	5128.00	42.70	224.40	3719.11	3157.33	-2259.90	-2208.91	3160.14	224.35	0.41	113.1 G
	5316.00	42.50	225.10	3857.49	3284.42	-2350.28	-2298.50	3287.38	224.36	0.27	-169.8 G
	5477.00	40.00	224.40	3978.53	3390.44	-2425.65	-2373.24	3393.53	224.37	1.58	180.0 G
	5508.00	39.40	224.40	4002.38	3410.22	-2439.79	-2387.09	3413.33	224.37	1.94	180.0 G
	5602.00	37.20	224.40	4076.15	3468.42	-2481.42	-2427.85	3471.58	224.37	2.34	180.0 G
	5696.00	34.50	224.40	4152.33	3523.42	-2520.75	-2466.37	3526.63	224.38	2.87	169.4 G
	5790.00	32.50	225.10	4230.71	3575.24	-2557.60	-2502.88	3578.51	224.38	2.17	-171.9 G
9 5/8" shoe @ 5980'	6024.00	27.90	223.70	4432.90	3692.79	-2641.60	-2585.28	3696.18	224.38	1.99	0.0 G
	6087.00	27.90	223.70	4488.58	3722.26	-2662.91	-2605.65	3725.65	224.38	0.00	-109.9 G
	6214.00	27.80	223.10	4600.87	3781.57	-2706.02	-2646.41	3784.97	224.36	0.23	-125.9 G
	6277.00	27.60	222.50	4656.65	3810.85	-2727.50	-2666.31	3814.25	224.35	0.54	-101.7 G
	6371.00	27.40	220.20	4740.03	3854.24	-2760.08	-2694.98	3857.59	224.32	1.15	53.0 G
	6466.00	27.90	221.60	4824.18	3898.32	-2793.40	-2723.85	3901.59	224.28	0.86	-73.4 G
	6497.00	28.00	220.90	4851.57	3912.85	-2804.32	-2733.43	3916.10	224.27	1.11	180.0 G
	6560.00	27.70	220.90	4907.27	3942.27	-2826.57	-2752.70	3945.48	224.24	0.48	-155.6 G
	6654.00	27.00	220.20	4990.76	3985.45	-2859.38	-2780.78	3988.58	224.20	0.82	-158.9 G
	6748.00	26.20	219.50	5074.81	4027.51	-2891.69	-2807.75	4030.55	224.16	0.91	-142.8 G
	6842.00	25.80	218.80	5159.30	4068.66	-2923.64	-2833.77	4071.60	224.11	0.54	-154.2 G
	6937.00	25.10	218.00	5245.08	4109.41	-2955.63	-2859.13	4112.22	224.05	0.82	180.0 G
	7031.00	24.70	218.00	5330.34	4148.89	-2986.82	-2883.49	4151.58	223.99	0.43	-162.6 G
	7125.00	23.80	217.30	5416.05	4187.39	-3017.38	-2907.08	4189.95	223.93	1.01	-126.6 G
	7218.00	23.20	215.20	5501.33	4224.29	-3047.28	-2929.01	4226.70	223.87	1.11	152.9 G
	7312.00	22.60	216.00	5587.93	4260.64	-3077.02	-2950.30	4262.90	223.80	0.72	-131.9 G
	7465.00	22.10	214.50	5729.43	4318.42	-3124.53	-2983.88	4320.44	223.68	0.50	-139.2 G
	7654.00	21.80	213.80	5904.73	4388.42	-3182.99	-3023.54	4390.13	223.53	0.21	-137.2 G
Last Survey	7843.00	21.00	211.70	6080.70	4456.49	-3240.97	-3060.86	4457.89	223.36	0.59	-165.3 G
Projection To T.D.	9790.00	12.00	200.00	7946.09	4988.81	-3729.12	-3314.00	4988.88	221.63	0.49	---

Survey Error Model: Wolff & deWardt 1.0000 sigma

Surveying Programme:

MD From (ft)

0.00

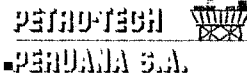
MD To (ft) EOU Freq Survey Tool Type

9790.00 Act-Stns Anadrill MWD

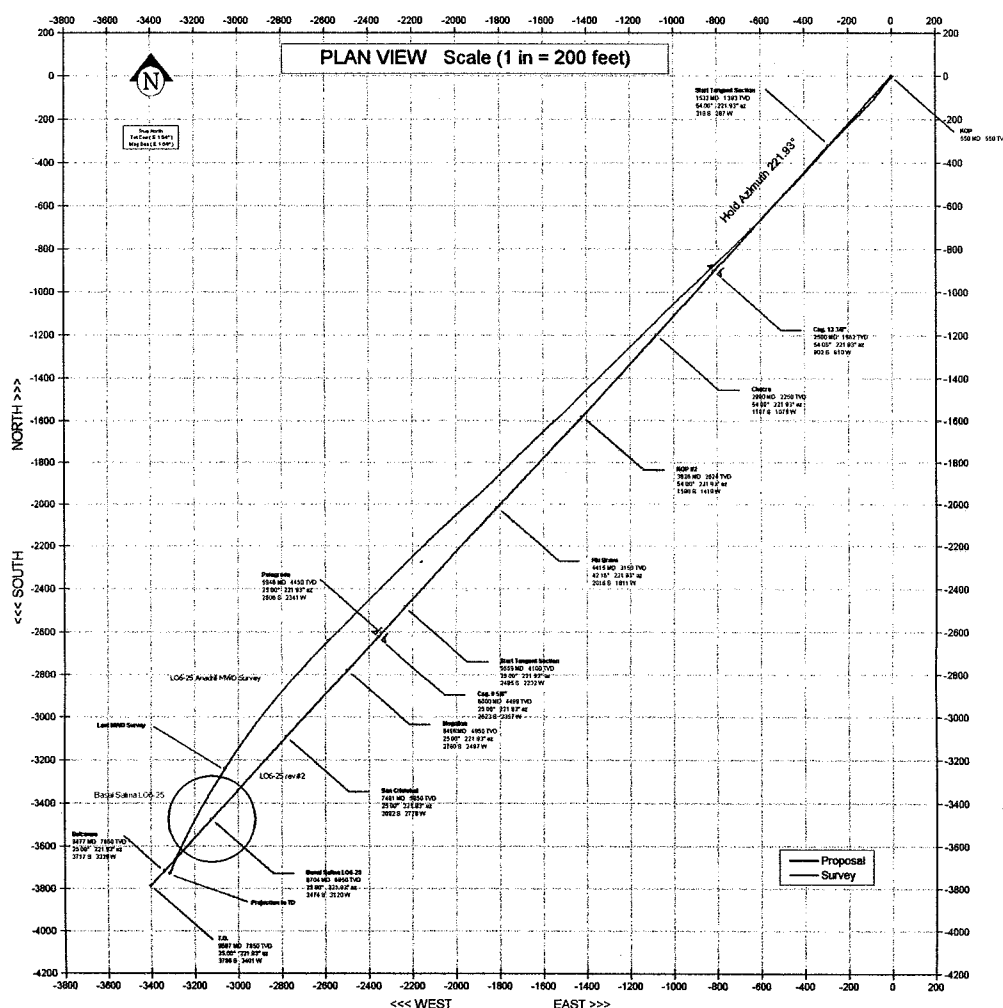
Quality Control
 Drawn by: Juan Rodríguez L.
 Checked by: John Taylor
 Client OK:

Schlumberger

Petro-Tech Peruana S.A.



WELL	FIELD	STRUCTURE
LO6-25	Lobitos	Platform LO6
Magnetic Parameters Model: GSCM 2008 Dip: 14.83° Mag Dec: 1.33° Date: March 05, 2001 FS: 26665.0 nT		
Surface Location Lat: S4 26 42.813 Lon: W01 22 8 781 UTM Zone: 17S - YG584, Meters Northing: 5205658.95 m Easting: 450850.20 m Grid Conv. Scale Fact: +0.0380833 Scale Fact: 0.9992016		
Miscellaneous Sea: Sea #25 Plan #: LO6-25 rev#2 TVD Ref: RB (50.00ft above MSL) Date Drawn: 10:36:54AM 18-Apr-2001		



Quality Control
Drawn by: Juan Rodriguez L
Checked by: John Taylor
Client OK:
Date Drawn: 18-Apr-2001