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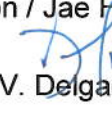
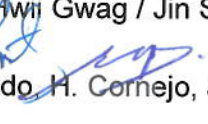
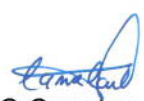
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**INTEROFFICE MEMORANDUM
DEVN-013-2014**

To:  Pedro Alarcon /  Jae Hwij Gwag / Jin Seok Yi

From:  H. Janampa,  V. Delgado,  H. Cornejo,  J.C. Muñoz, C. Canales, E. Borda

Date: 28th February 2014

Subject: Proposal to Drill Development Well LO16-31D

It is recommended to drill the proposed well LO16-31D to develop 237 MBO of reserves in Basal Salina Formation in the northwest of LO16 platform. Programmed TD is 10803' MD (-8400' VSS) and well cost estimated is 5,129 MU\$ (Figures 1, 2, 3, 4).

LO16-31D is proposed as a directional well; with a maximum vertical angle of 44° towards N 71° W (Figure 1). The chance of success (COS) is 80% (table A)

The proposed location LO16-31D for Basal Salina is located 400 meters of last well completed LO16-27D which had an IPR of 553 BOPD. Other well as the LO16-14 completed in Upper Basal Salina located 750 meters towards southeast in other reservoir block has an accumulate of and 880 MBO. The proposed well LO16-31D, is located in a good trend of sands with 80 feet of vertical gross sand thickness in upper Basal Salina (Fig. 7)

The depositional model of the Basal Salina, based on cores and sedimentary studies, indicates that this formation was deposited as Turbidity submarine fans. Lithologically, the Basal Salina formation is composed of medium to coarse grained sandstones and conglomerates, interbedded with thin shale breaks, and according to sedimentary deposition trend, it is expected to find lithological characteristics similar to well LO16-14 with porosities ranging from 7.5 to 8.5%.

The Mogollon formation is considered as a secondary objective where the most recent wells completed in this formation LO6-27D, LO6-29D and LO6-34D had an initial rate of 219 BOPD, 834 BOPD and 465 BOPD respectively (Fig. 2, 4, 8, 10)

For a complete evaluation, better understanding and modeling of Basal Salina reservoirs, it is recommended a full logging set of gamma ray, resistivity, neutron-density, and Pressure test points in Basal Salina sands (Fig. 3)

The main risks associated with this well location are:

- Lateral sedimentary changes that could reduce the net sand thickness and petrophysics properties.

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ECONOMIC SUMMARY

CASE	IP (BOPD)	EUR (MBO)	CAPEX (MUS\$)	NPV 10.5% (M\$)	PAY OUT (YRS)	AT PIR	ROR (%)
LOW	300	109	5,129	1,152	3.42	0.22	30
BASE	650	237	5,129	6,996	0.75	1.36	>100
HIGH	1,280	466	5,129	17,514	0.50	3.41	>100

CONSIDERATIONS

Net Revenue Interest %	84%
Discount Rate %	10.5%
Tax	30%
Variable Cost, US\$/BL	0.91
Fixed MUS\$/Year	36.6
Cost MUS\$	5,129
Oil Price according Portfolio MTP 2012: 100 US\$/BL from 2014 to 2023	

Base case reserves and IPR for this well are estimated 237 MBO & 650 BOPD respectively, the drilling cost estimated is US\$ 5,129 M, and NPV is US\$ 6,996 M using portfolio parameters with discount rate of 10.5%

(Figures 11, 12 & Tables A & B)

Proposed well is supported with AFE N° 2214296, EIA with Directorial Resolution N° 444-2009-MEM/AAE and risks evaluation according to SIMOP procedure.

Cc:

J. Duarte	J. Chuyes	V. Peralta
J. Garzon	R. Gilabert	E. Borda
B. Kim	A. Agurto	E. Gonzales
G. Idiaquez	C. Ramírez	K. Valencia
C. Valdizan	F. Paredes	Central File

Attached Documents

- Fig.1: Top Basal Salina Fm., showing the proposed well LO16-31D
- Fig.2: Top Mogollon Fm., showing the proposed well LO16-31D
- Fig.3: Geological Prognosis
- Fig.4: 3D Seismic Line showing the proposed well LO16-31D
- Fig 5: 3D Seismic Arbitrary Line – Geomage PSTM - Proposed well LO16-31D
- Fig 6: NW-SE Structural Cross Section for proposed well LO16-31D
- Fig.7: Basal Salina Fm. Gross Sand Map for proposed well LO16-31D
- Fig.8: Mogollon Fm. Gross Sand Map for proposed well LO16-31D
- Fig.9: S-N Stratigraphic section showing the proposal well LO16-31D - BS
- Fig.10: NE-SW Stratigraphic section showing the proposal well LO16-31D - MOG
- Fig 11: Bubble Map of Basal Salina Formation - Estimated oil production and reserves.
- Fig 12: Drilling and Cost Time-Depth Chart of well LO16-31D
- Table A: Economic Summary and Oil rate forecast for well LO16-31D
- Table B: AFE for Proposed well LO16-31D

Figure 1

Figure 2

GEOLOGIC PROGNOSIS							
AREA	OFFSHORE		LOBITOS OFFSHORE	OFFICIAL WELL NUMBER	SAVIA PERU SA.	TYPE OF WELL	RIG N°
				LO16 - 31D	DEVELOPMENT		PEPESA-44
PRIMARY OBJECTIVE				SECONDARY OBJECTIVE			
BASAL SALINA				MOGOLLON			
SURFACE COORDINATES (UTM)		(WGS-84)	TARGET COORDINATES (UTM)		(WGS-84)		
9'505,993.11 MN		459,448.91 ME	9'506,565.00 MN		457,708.30 ME		
E KB:	L 50 FT	W DIRECTION OF DEVIATE WELL	N 71.3° W	A DRILLED DEPTH	10075 FT	O ESTIMATED FINAL	10,803 FT
V WATER DEPTH	309 FT	E ANGLE CONDUCTOR FROM VERTICAL	VERT.	R VERTICAL DEPTH	7775 FT	D HORIZONTAL DRIFT	6,303 FT
A GROUND LEVEL	FT	L RECOMMENDED DEPTH OF K.O.P.	550	E HORIZONTAL DRIFT	6011 FT	P MAX. ANGLE	44.2°
T BUILD UP ANGLE AT Drop vert. Angle	3.5"/100 ft.	LIMITS (DIAMETER) TO MAIN OBJECTIVE (LOW BS) TOP: 100 ft. BASE: 100ft.					
FORMATION / MEMBER				DRILLED TOP (MD/FT)	VERT. TOP (VD/FT)	SUBSEA TOP (SS/FT)	OBSERVATIONS
TALARA				AT SEA BOTTOM			
CHACRA				2934	2,500	2,450	
PARIÑAS				3771	3,100	3,050	
PALEGREDA				4,231	3,430	3,580	
MOGOLLON				6,142	4,800	4,750	SECONDARY OBJECTIVE
SAN CRISTOBAL				7,997	6,130	6,080	
BASAL SALINA				10,075	7,775	7,725	MAIN OBJECTIVE
BALCONES				10,652	8,300	8,250	
TD				10,803	8,450	8,400	
C BIT SAMPLES TO BE TAKEN	EVERY 30 FT.FROM SURFACE TO 6000 EVERY 10 FT. FROM 6000' TO TOTAL DEPTH			REMARKS At 8385' MD., drop vertical angle 1"/100 ft. To reach 20° to TD.			
N RECOM MENDED FOR PALEO-PALYNOLGY	PALEONTOLOGY AT REQUEST BY LEADER OFFICE						
L RECOM MENDED OPEN HOLE	GR-RESISTIVIDAD-DEN-NEU-SONIO CONVENCIONAL Pressure Test (10 Points in Basal Salina) opcional						
G RECOM MENDED AFTER CASING	GR-CCL						
I NEARBY WELLS FOR CORRELATION	L06-25BP , L06-22R, LO16-14, LO16-22,L016-27D ,L06-27D						
E SIDEWALL CORES	SWC * NOT CONSIDERED						
A CONVENTIONAL LOGGER FORMATION TESTING	NOT CONSIDERED						
RECOMMENDED BY DATE				REVISED BY DATE	APPROVED BY DATE		
H.Cornejo / J.C. Muñoz/ E. Borda Feb. 2014				V.Delgado / Hugo Janampa Feb. 2014		P. ALARCÓN Feb. 2014	

Figure 3

Block Z-2B

3D Seismic Line showing the proposed well LO16-31D
E.Borda
Feb 2014

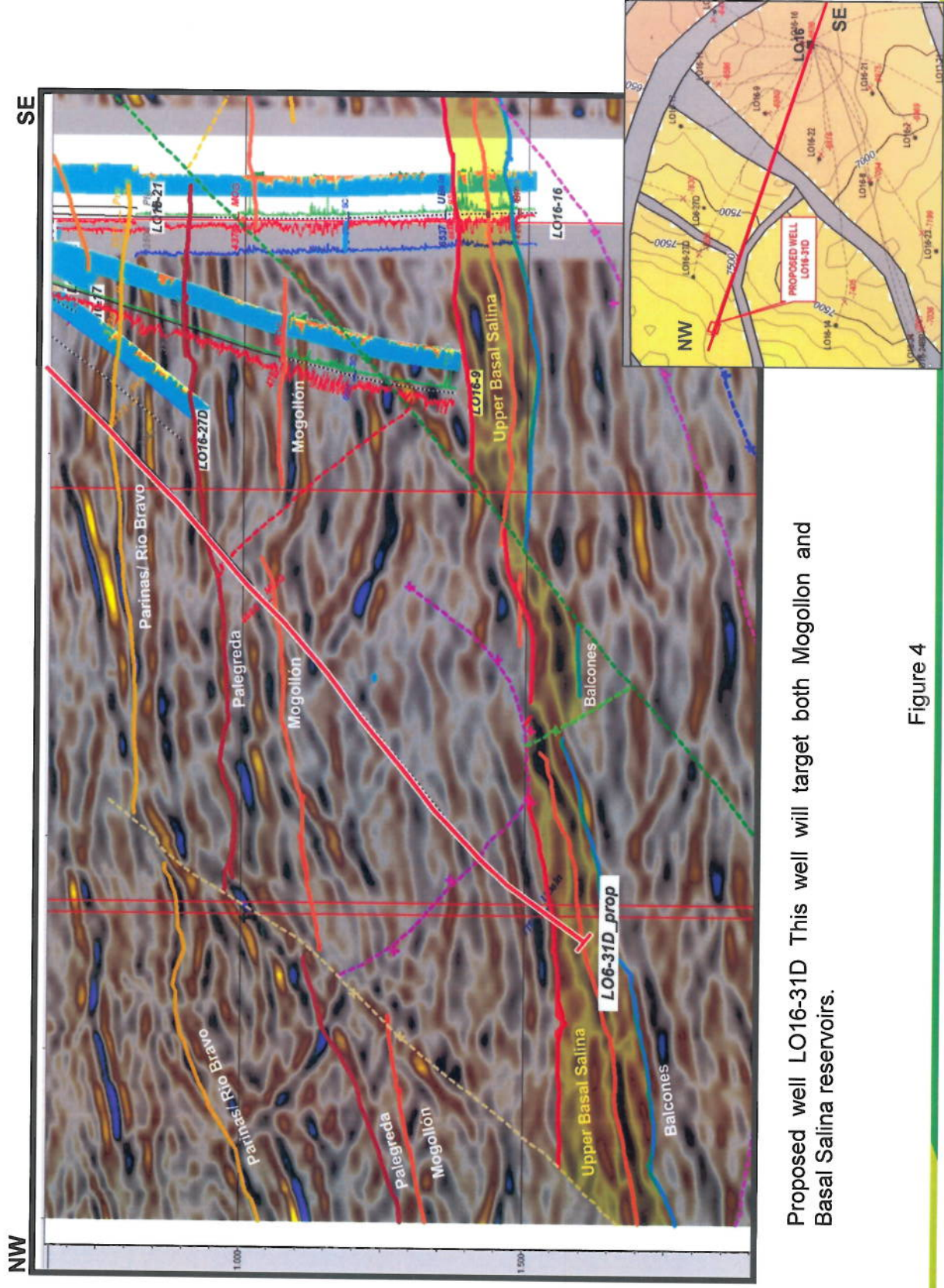
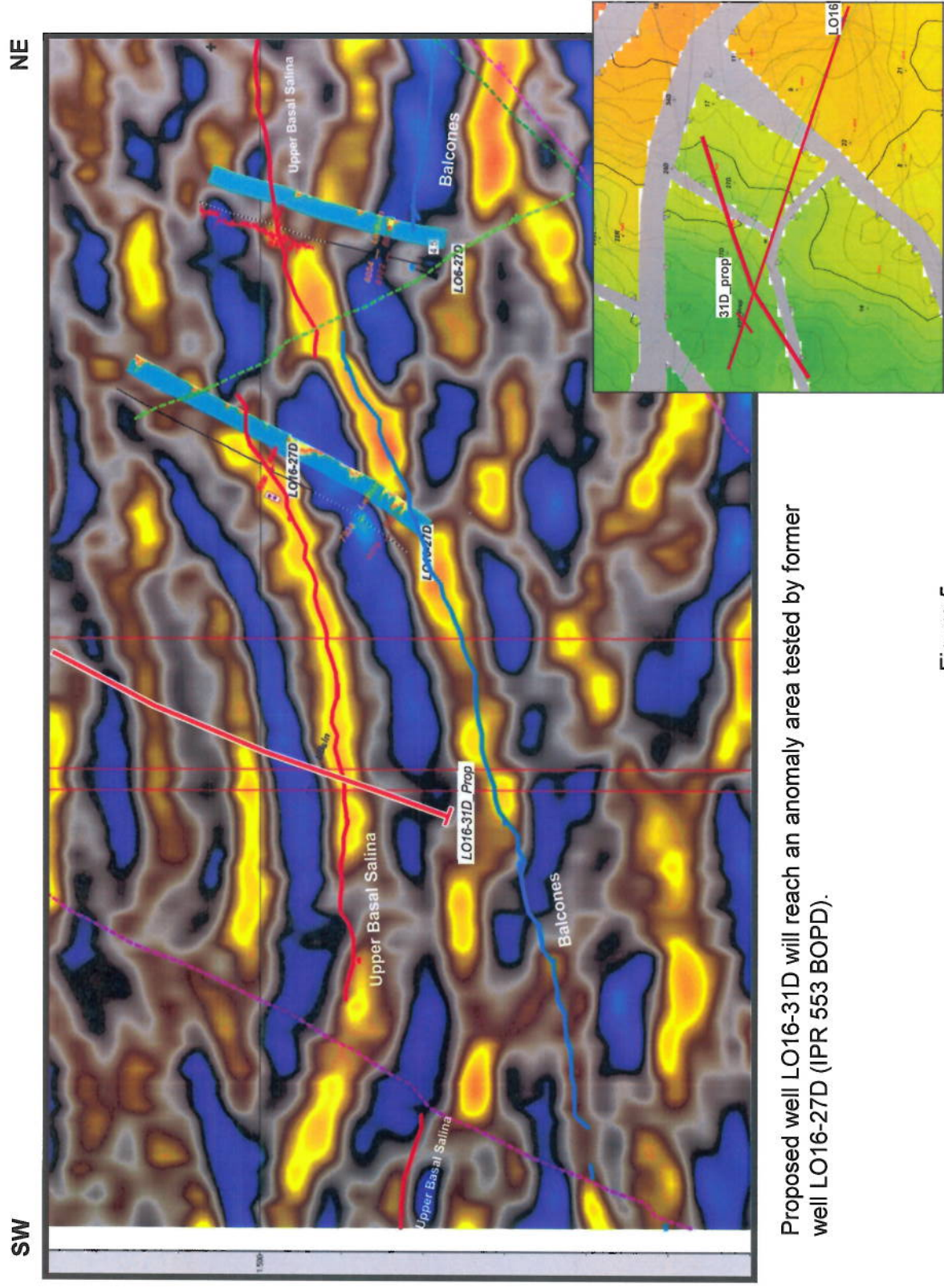


Figure 4



Proposed well LO16-31D will reach an anomaly area tested by former well LO16-27D (IPR 553 BOPD).

Figure 5

Figure 6

Figure 7

Z-2B LOBITOS FIELD

MOGOLLON FM. - GROSS SAND MAP

C. Canales / E. Coronado

Feb 2014

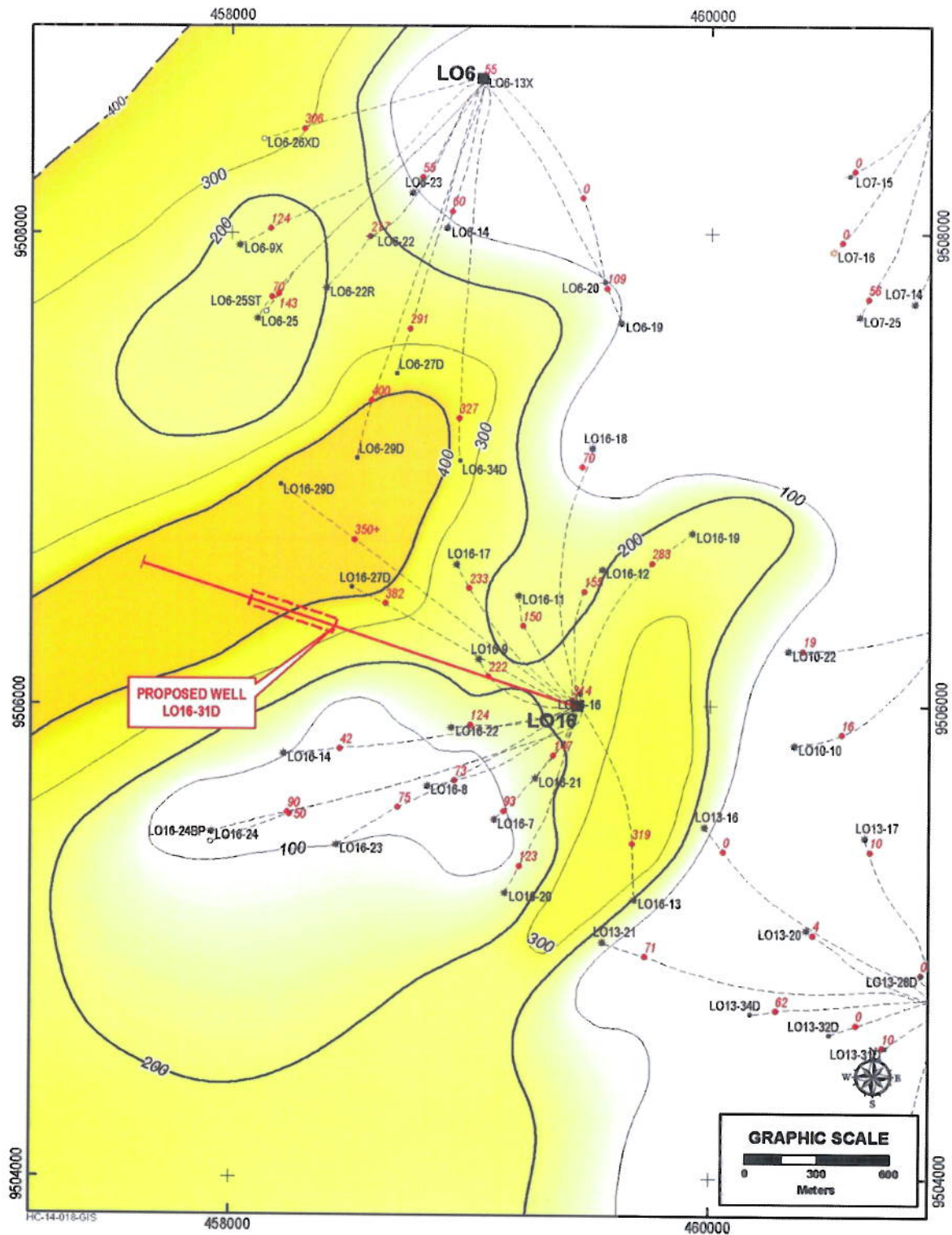


Figure 8



S-N STRATIGRAPHIC SECTION SHOWING THE PROPOSAL WELL LO16-31D – BASAL SALINA FM

Graphic Scale

H. Cornejo

Feb. 2014

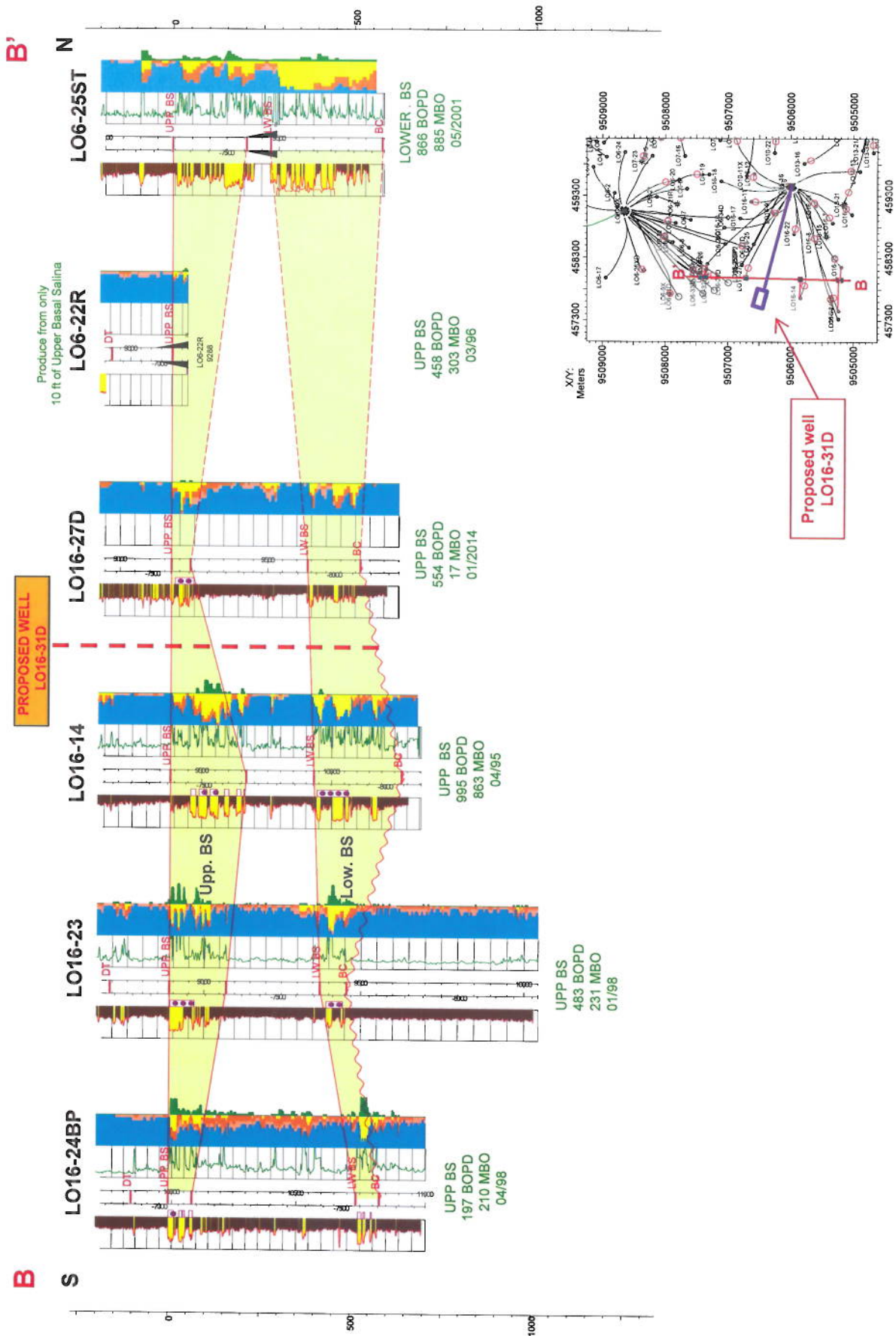


Figure 9

NE-SW STRATIGRAPHIC SECTION SHOWING THE PROPOSAL WELL LO16-31D MOGOLLON FM

Graphic Scale

H. Cornejo

Feb. 2014

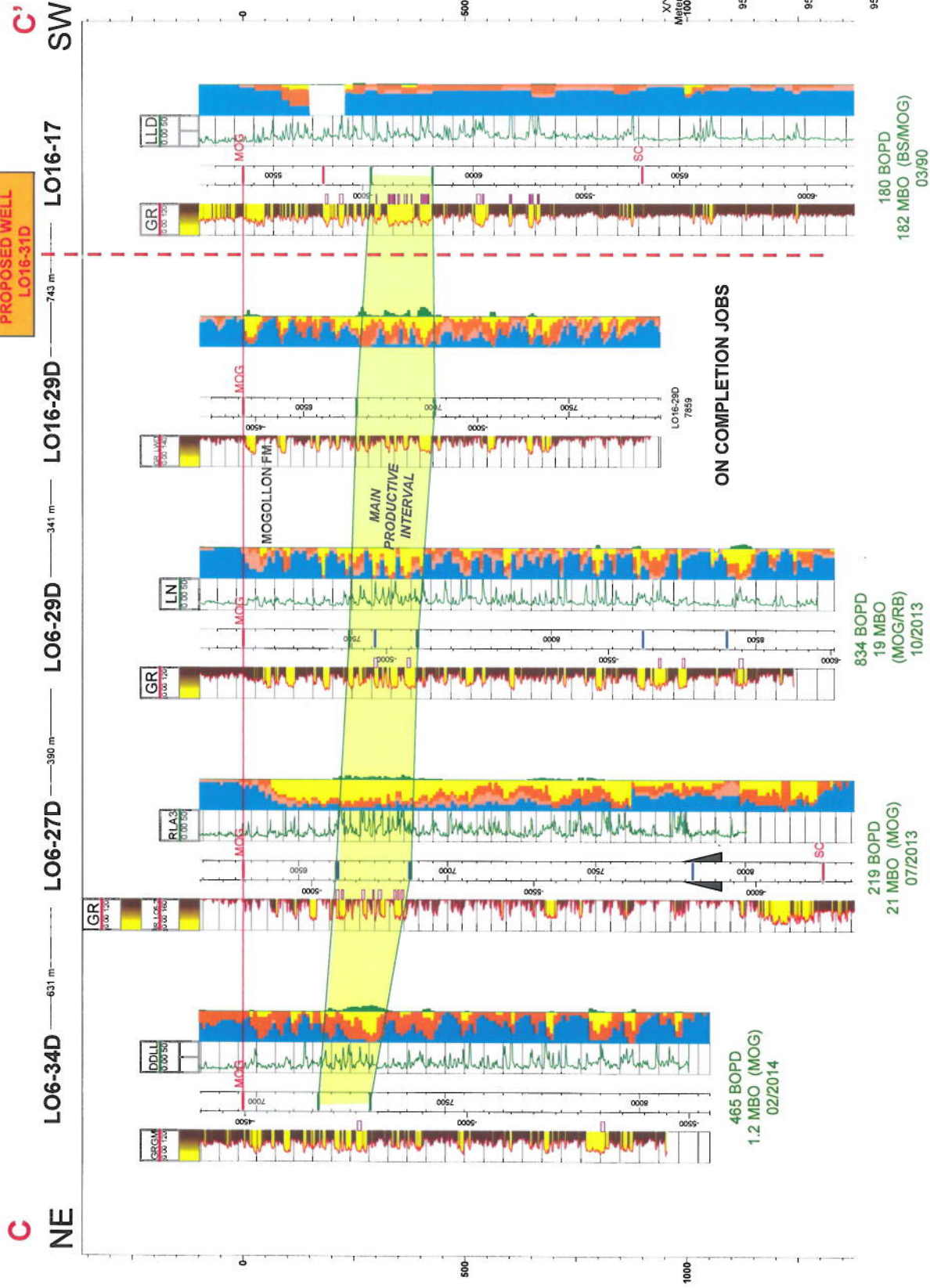


Figure 10

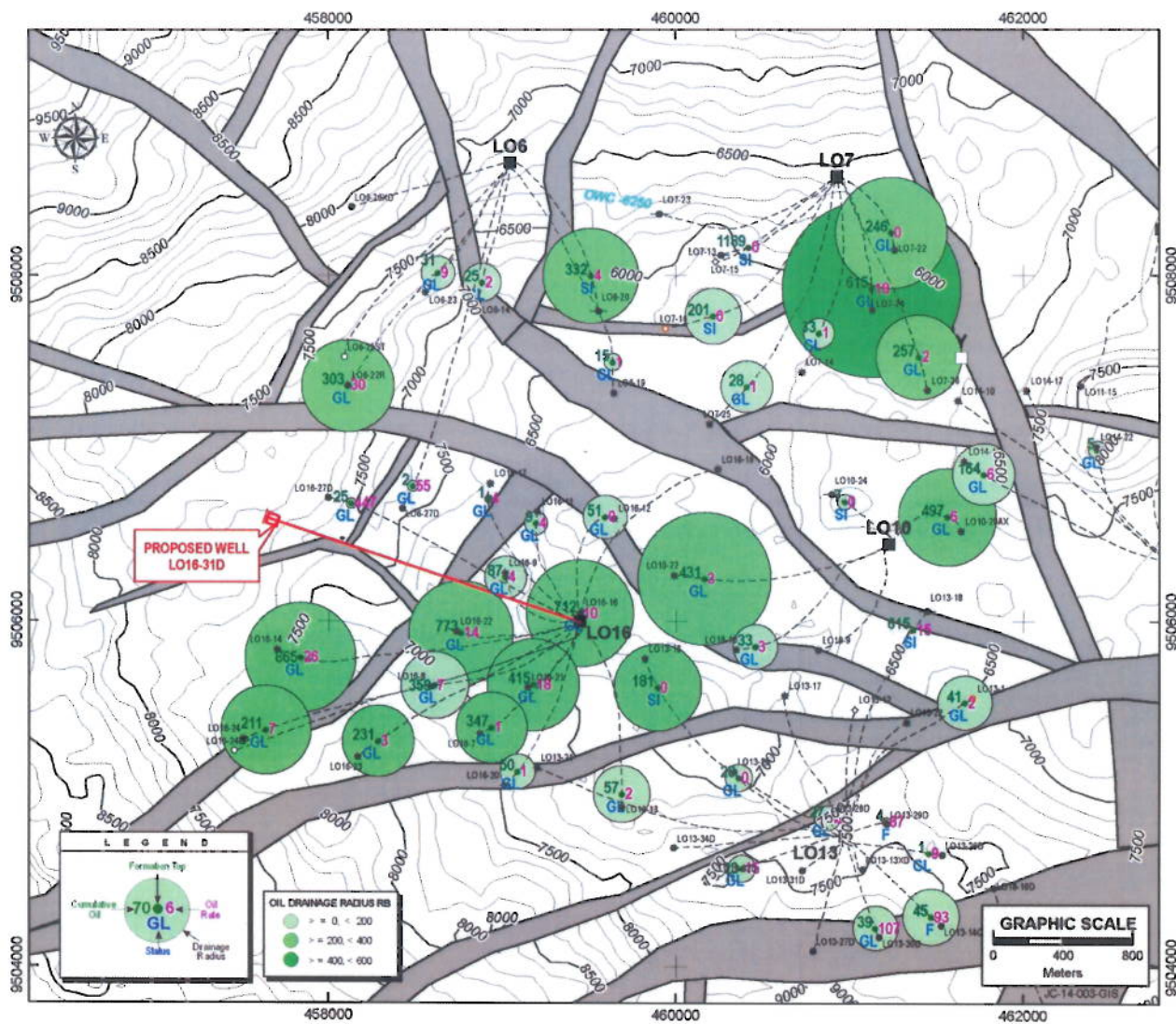
Z-2B LOBITOS FIELD

BUBBLE MAP – BASAL SALINA FORMATION

ESTIMATED OIL PRODUCTION AND RESERVES

J. MUÑOZ

Feb 2014



ETAPA	BASE ft	TOPE ft	Fm.	Pr inic. psi	Pr act. psi	Depl. %	EUR Mbbls	Qo bopd
LOW	8300	7775	BASAL SALINA	4501	4340	4%	109	300
BASE	8300	7775	BASAL SALINA	4501	4340	4%	237	650
HIGH	8300	7775	BASAL SALINA	4501	4340	4%	466	1280

Figure 11

Z-2B LOBITOS FIELD
DRILLING AND COST TIME-DEPTH CHART
 Drilling Department Feb 2014



LO16-31D Well
Depth and Cost Vs. Days

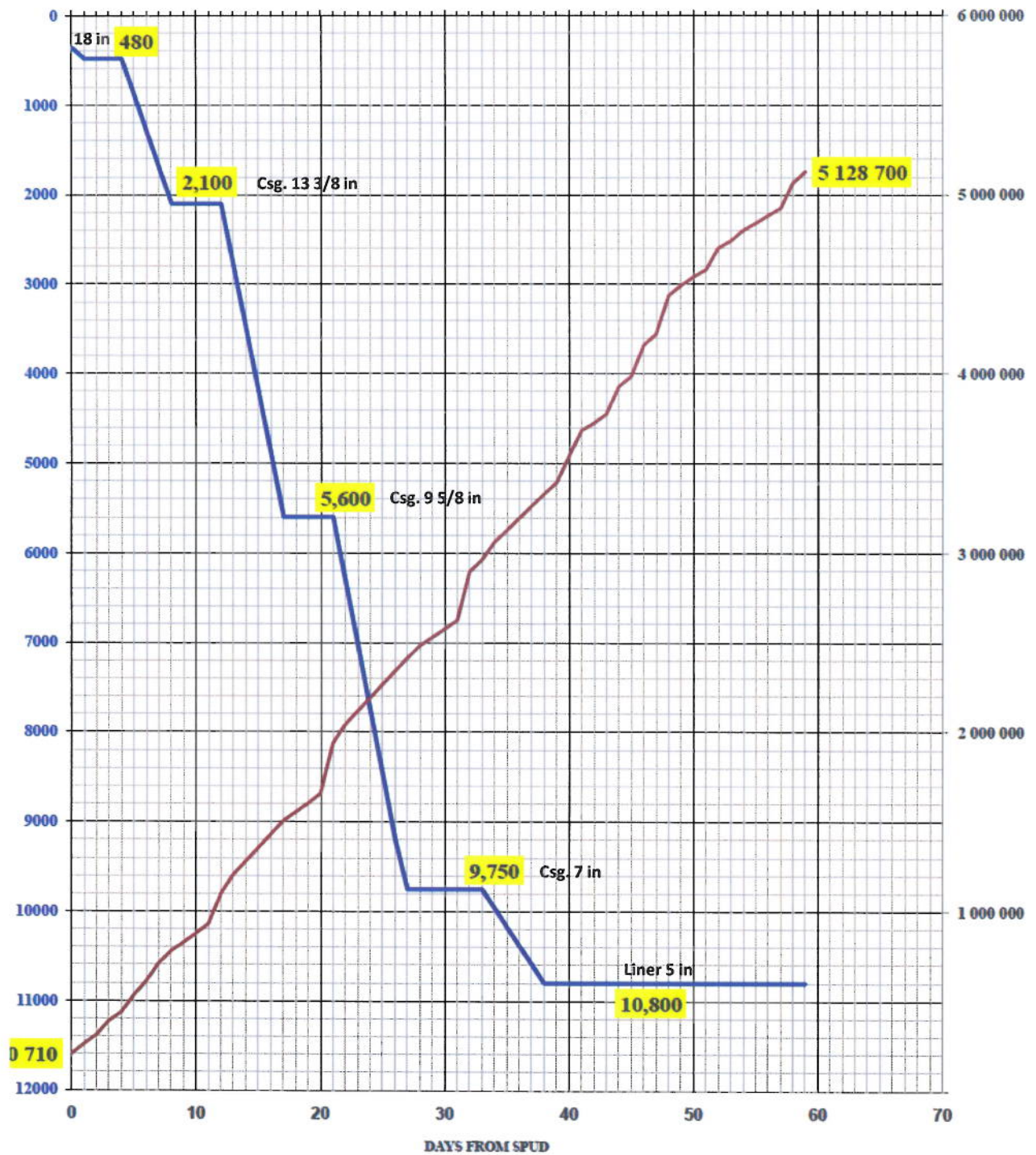


Figure 12

Z-2B LOBITOS FIELD

ECONOMIC SUMMARY AND OIL RATE FORECAST

J. Muñoz

Feb 2014



Economic Summary (Savia)												
LO16_31D_BASE												
(Nominal values)												
Interests & Settings				Economic Indicators								
Net Revenue	Net Expt	Net Dev	Net Opex	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR	DFPI	AT ME	AT IE	
Company (% of Total)	84.00	0.00	100.00	100.00	(%)	(M\$)	(fraction)	(fraction)	(fraction)	(M\$)	(fraction)	
Company (% of Contr)	100.00	0.00	100.00	100.00	0.00	14,184.00	9,432.00	2.77	1.84	2.84	-5,129.00	1.84
Partner (% of Contr)	0.00	0.00	0.00	0.00	10.00	11,076.00	7,084.00	2.15	1.38	2.38	0.00	0
Contr	84.00	0.00	100.00	100.00	10.50	10,960.00	6,996.00	2.14	1.36	2.36	-5,129.00	1.36
NOC	0.00	0.00	0.00	0.00	11.1	10,824.00	6,993.00	2.11	1.34	2.34	0	0
Model	Peru License R Fact (2003)											
Global Params	Savia Peru											
Escalation Date	2014/01											
Discount Date	2014/01											
Economic Limit	2023/12											
					AT ROR (%)	>800.00	>800.00	>800.00	Contr Take (%)	52.49		
					AT Payoff months	9.00	9.00	9.00	NOC Take (%)	0.00		
					FAD (\$/BOE)	25.80	25.80	25.80	Gov't Take (%)	47.51		
					Lifting Costs (\$/BOE)	2.03	2.06	2.03				
Cash Flow Breakdown				Reserves and Investments								
	(M\$)	(\$/BOE)	(M\$) @10.5 %	(\$/BOE) @10.5 %	(%)	Oil	(MSTB)	237.00	199.00	237.00	199.00	
Net Revenue	19,982.00	100.00	16,620.00	83.59	100.00	Gas	(MMSCFP)	0.00	0.00	0.00	0.00	
Less:						NGL	(MSTB)	0.00	0.00	0.00	0.00	
Bonuses & Fees	9.00	0.00	0.00	0.00	0.00	Tax	(MSTB)	0.00	0.00	0.00	0.00	
Operating Costs	569.00	2.86	415.00	2.09	2.86	Total	(MBOE)	237.00	199.00	237.00	199.00	
Tariffs	0.00	0.00	0.00	0.00	0.00							
Prod & Asset Taxes	0.00	0.00	0.00	0.00	0.00							
Capital Costs	5,129.00	25.80	5,129.00	25.80	25.80							
Plus: Other Income/Expense	0.00	0.00	0.00	0.00	0.00							
Before Tax Cash Flow	14,184.00	71.34	11,076.00	55.71	71.34	Acquisition	(M\$)	0.00	0.00	NOC	Company	
Less Income Tax	4,752.00	23.90	3,952.00	20.08	23.90	Exploration	(M\$)	0.00	0.00	0.00	0.00	
After Tax Cash Flow	9,432.00	47.44	7,084.00	35.63	47.44	Development	(M\$)	5,129.00	5,129.00	0.00	5,129.00	
						Abandonment	(M\$)	0.00	0.00	0.00	0.00	
						Total	(M\$)	5,129.00	5,129.00	0.00	5,129.00	
Comp Cash Flow												
All values are Company (Comp) Share unless specified otherwise												
	Sales Volume	Price Oil	Net Revenue Oil	Sales Volume	Net Price [BOE]	Net Revenue [BOE]	(-) Operating Costs	(-) Capital Costs	Amortization	Taxable Income	(=) Before Tax Cash Flow	(-) Income Taxes
Date	MSTB	\$/Bbl	M\$	MBOE	\$/BOE	M\$	M\$	M\$	M\$	M\$	M\$	M\$
2014/12	83.00	100.00	6,996.00	83.00	66.67	6996	100.00	5,129.00	1805	591	1768	1705
2015/12	49.00	100.00	4,118.00	49.00	100.00	4118	81.00	—	1062	2975	4017	3041
2016/12	28.00	100.00	2,310.00	28.00	100.00	2310	62.00	—	596	1653	2249	1695
2017/12	19.00	100.00	1,587.00	19.00	100.00	1587	54	—	412	1131	1543	1164
2018/12	14.00	100.00	1,215.00	14.00	100	1215	50	—	313	852	1165	890
2019/12	12.00	100.00	977.00	12.00	100	977	47	—	252	678	930	727
2020/12	10.00	100.00	815.00	10.00	100	816	45	—	210	560	771	583
2021/12	8.00	100.00	689.00	8.00	100	689	44	—	180	475	655	496
2022/12	7.00	100.00	611.00	7.00	100	611	43	—	160	410	568	430
2023/12	6.00	100.00	542.00	6.00	100	542	42	—	140	360	499	379
Total	237.00	100.00	19,882.00	237.00	—	19,882.00	569.00	5,129.00	5129	14184	14184	4752
Peep Version 2009.1												

Z-2B LOBITOS FIELD

AFE

Drilling Department

Feb 2014



LO16-31D

CIA	ACD	BUDGET ITEM
06		

AFE No.
2214296

FU	WELL DESCRIPTION	OFICIAL NUMBER	MM / DD / AA
18	LO16-31D	SAVIA-Z2B-24-LO16-31D	

FU	TYPE OF WELL	MOV / COND	DRILLING	COMPLETION	EST. FOOTAGE	AREA
19	DEVELOPMENT	5	38	21	10800	LOBITOS

FU	GEN	CC	AREA
20		061	

WELL COST BREAKDOWN

SUB	DESCRIPTION	QUANTITY	UNIT COST	SUB-TOTAL	TOTAL US\$
OUTSIDE SERVICES:					
201	DRILLING RIG	26	38		1 366 000
203	DIRECTIONAL DRILLING				399 520
204	MUD LOGGING	39	1600		62 400
205	MUD ENGINEERING				225 780
206	CEMENT CONDUCTOR				13 990
206	CEMENT, SURF. CSG (13 3/8")				22 060
206	CEMENT, INTERM. CSG (9 5/8")				22 890
206	CEMENT, OTHERS				17 150
206	CEMENT 7" CSG.				16 750
206	CEMENT, 5" LINER				21 990
207	ELECTRIC LOGGING				220 000
208	PERFORATING				150 000
209	STIMULATION				40 000
211	TUBULAR INSPECTION				13 250
212	HYDRAULIC TONGS				58 950
213	DIVING				21 000
219	WELL TESTING				8 000
221	TOOL SERVICES				37 500
224	METALIC STRUCTURES CUT & WELD				6 500
228	MACHINE WORK				7 500
229	BARGE OPERATIONS				288 000
231	BOAT OPERATIONS				396 800
237	MATER. & EQUIP. TRANSP.				22 400
240	WATER FURNISHING				5 000
243	CHARTER				0
244	TOOLS RENTAL				108 610
248	CATERING				61 440
249	CONSULTING				41 600
252	ENVIRONMENTAL PROTECTION				9 500
	TOTAL OUTSIDE SERVICES:				3 664 560
MATERIALS & SUPPLIES:					
301	FITTING SCREWED				210
303	VALVES AND PARTS				800
304	API FLANGES & RING GASKET				800
306	HARDWARE				1 000
325	BITS				113 400
326	TOOLS FOR DRILLING				63 790
327	COMPLETION EQUIPMENT				129 500
328	FLOATING EQUIPMENT - CMT.				24 260
329	PRODUCTION FACILITIES EQUIP.				3 000
335	OTHERS TUBULAR CONNECTIONS				12 000
336	STRUCTURAL CONST. MAT.				10 000
340	WELDING MATERIAL				700
341	MAT. CMT. CONDUCT.				2 400
341	MAT. CMT. SURF. CSG. (13 3/8")				15 330
341	MAT. CMT. INTERM. CSG. (9 5/8")				30 000
341	MAT. CMT. 7" CSG.				37 800
341	MAT. CMT. 5" LINER				14 150
341	MAT. CMT. OTHERS				5 640
342	STIMULATION MATERIAL				40 000
343	DRILLING / COMPLETION FLUIDS				66 900
344	CONDUCTORS	480	37.50		18 000
344	SURFACE CSG. (13 3/8")	2100	35.00		73 500
344	INTERM. CSG. (9 5/8")	5600	28.00		156 800
344	7" CSG.	9750	18.00		175 500
344	5" LINER	1310	12.00		15 720
344	4.5" LINER	0	18.70		0
344	2 7/8" TUBING	9500	5.90		56 050
346	DIESEL-FUEL				389 390
347	OIL & GRASES				7 500
	TOTAL MATERIALS & SUPPLIES:				1 464 140
TOTAL PROJECT COST US \$					5 128 700

TABLE B