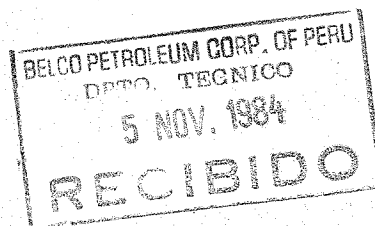
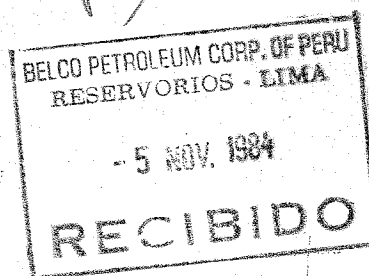


LOBITOS OFFSHORE
LO6-22

TEMPERATURE GRADIENT
RUN # 1 84-10-17

TEMPERATURE GRADIENT
RUN # 2 84-10-17



SUBSURFACE PRESSURE MEASUREMENTS

PAGE 1 OF 2

1. BASIC DATA

COMPANY Belco Petroleum Corp. of Peru Inc. WELL NAME Lobitos Offshore
 ADDRESS Negritos LOCATION I06-22
 FIELD and POOL Lobitos STATUS: OIL ☐ GAS ☐ OTHER SPECIFY
 TYPE OF TEST Temperature Gradient DATE OF TEST 84 10 17 TO
 PRODUCING INTERVAL (CF) FT. PERF. ☐ OH ☒ PRODUCING THROUGH: IN. TUBING 5.5 IN. CASING ☒
 ELEVATION (CF) FT. (KB) FT. (KB) to CF FT. MID-POINT OF PRODUCING (MPP) INTERVAL (CF) FT.
 POOL DATUM FT. (Subsea) DATUM DEPTH OF WELL (FROM CF) FT.
 ELEMENT SERIAL NO. KT- 8230 RANGE 60 - 160°F CLOCK RANGE 3 h ☒ S ☐ D ☐ # 2359 I.H. # 14520
 CALIBRATION EQUATION DATE OF LAST CALIBRATION

2. STATIC TEST

PRESSURE (GAUGE): TUBING PSI. GAUGE ☐ DWG ☐ SHUT-IN DATE @ Not Perforated h
 CASING PSI. GAUGE ☐ DWG ☐ DATE ON BOTTOM 84 10 17 @ 17:02 h
 RUN DEPTH (FROM CF) 5745' MD FT. DATE OFF BOTTOM 84 10 17 @ 17:06 PSI.
 B.H. TEMP °C SURFACE TEMP F MPP PRESSURE (GAUGE) PSI.
 R.D. PRESSURE (GAUGE) PSI. GRADIENT PSI/FT. DATUM PRESSURE (GAUGE) PSI.

3. ACOUSTIC WELL SOUNDER TEST

DEPTH OF TUBING FT. SHUT-IN DATE @ h
 AVERAGE TUBING JOINT LENGTH FT. CURRENT WATER CUT %
 NO. OF JOINTS TO LIQUID CASING PRESSURE (GAUGE) PSI.
 LENGTH OF GAS COLUMN FT. GAS COLUMN PRESSURE (GAUGE) PSI.
 LENGTH OF LIQUID COLUMN FT. LIQUID COLUMN PRESSURE (GAUGE) PSI.
 GAS GRAVITY GAS GRADIENT PSI/FT. MPP PRESSURE (GAUGE) PSI.
 OIL GRAVITY OIL GRADIENT PSI/FT. DATUM DEPTH PRESSURE (GAUGE) PSI.

4. BUILD UP OR DRAWDOWN TEST (Attach Forms 0-12A)

RESERVOIR/WELL PARAMETERS: POROSITY % WELL RADIUS FT. THICKNESS FT. WATER SATURATION %
 B.H. TEMP. °F DATE AND DESCRIPTION OF LAST WELLBORE TREATMENT
 CASING I.D. IN. TUBING I.D. IN. TUBING WEIGHT MASS LBS./FT.
 COMPRESSIBILITY μ Z
 OIL WELLS ONLY: GAS WELLS ONLY:
 OIL VISCOSITY CC GAS VISCOSITY μ Z
 BUBBLE POINT PRESSURE (GAUGE) PSI Z at RESERVOIR CONDITIONS
 B. = $\frac{\text{VOL. AT RES. COND.}}{\text{VOL. AT ST. COND.}}$ RELATIVE DENSITY G
 WELL PRODUCING RATE DURING ☐ PRIOR TO ☐ TEST OIL BBL/D GAS MCF/D WATER BBL/D
 TOTAL PRODUCTION DURING ☐ PRIOR TO ☐ TEST OIL BBL/D GAS MCF WATER BBL.

5. CHART READINGS AND CALCULATIONS

DATE			DEPTH BELOW CF FT.	ACC. TIME h	TIME h	DEFLECTION IN	CALCULATED PRESSURE PSIG	CORRECTION DEVIATION PSI	TEMPERAT. °F	GRADIENT PSI/FT.
YR	MO	DAY								
84	10	17	Surface		16:00	0.2460			71.14	
			1000		16:07	0.5850			84.40	
			1500		16:13	0.7590			92.59	
			2000		16:19	0.8300			96.35	
			2500		16:25	0.8780			98.82	
			3000		16:31	0.9170			100.83	
			3500		16:37	0.9880			104.48	
			4000		16:43	1.0330			106.73	
			4500		16:49	1.0540			107.77	
84	10	17	5000		16:55	1.1080			110.45	

REMARKS

Cement job finished at 08:30 84-10-17

I.F.V. at 5806

Run # 1

Go Well Services

R.Saldarriaga

SURVEY COMPANY

TEST BY

COMPUTED BY

CHECKED BY

COMPANY

Belco Petroleum Corp. of Peru Inc.

WELL NAME & UNIQUE IDENTIFIER

Lobitos Offshore I06-22

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY Belco Petroleum corp. of Peru

WELL NAME Lobitos Offshore

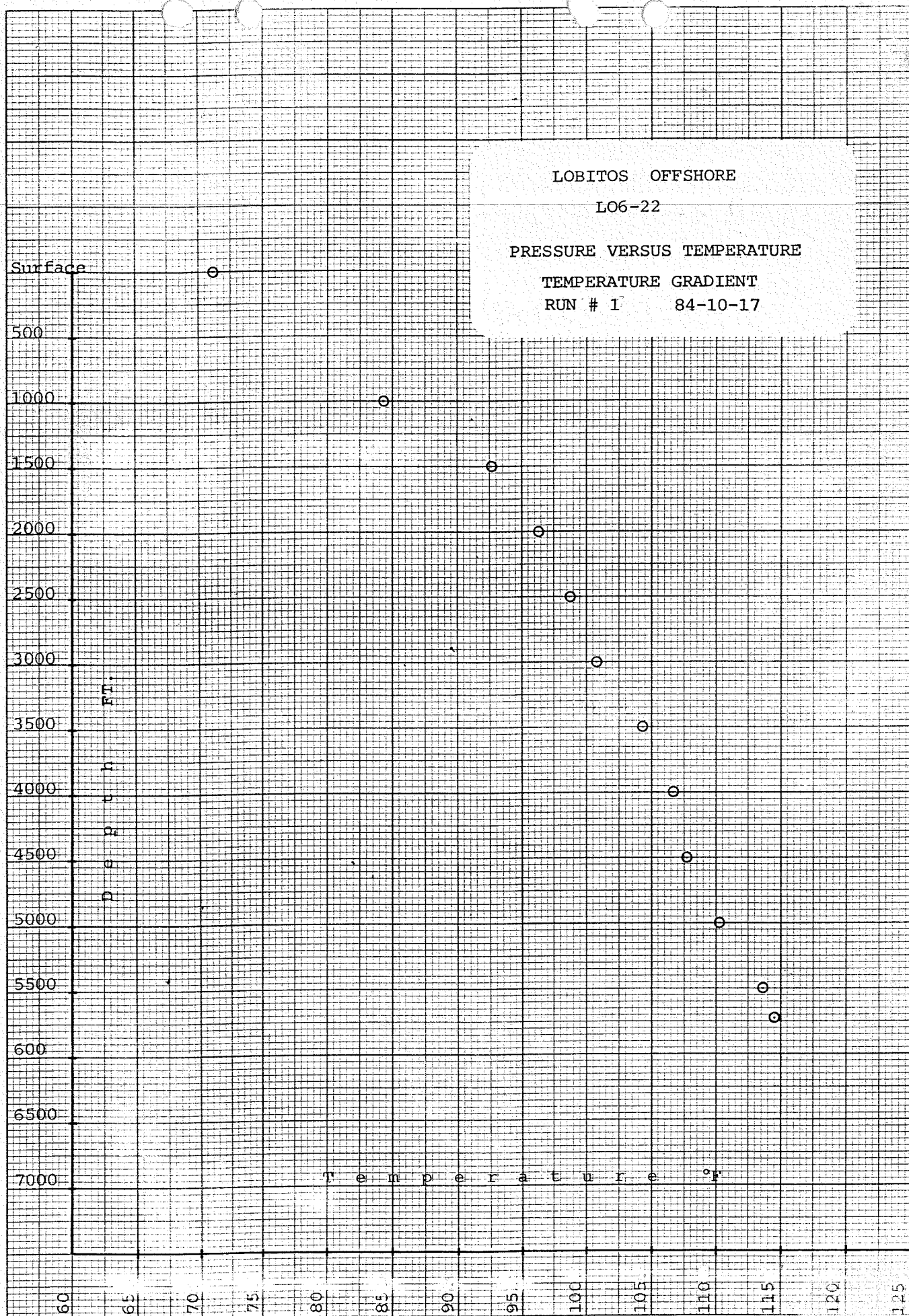
DATE OF TEST 84 10 17 TO
YR. MO. DAY YR. MO. DAY

LOCATION _____

CHART READINGS AND CALCULATIONS

PAGE 2 of 2

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SUBSURFACE PRESSURE MEASUREMENTS

1. BASIC DATA

PAGE 1 OF 2

COMPANY Belco Petroleum corp. of Peru Inc.		WELL NAME Lobitos Offshore	
ADDRESS Negritos		LOCATION L06-22	
FIELD and POOL Lobitos		STATUS: OIL ☐ GAS ☐ OTHER SPECIFY ☐	
TYPE OF TEST Temperature Gradient		DATE OF TEST 84 10 17 TO ☐ ☐ ☐	
PRODUCING INTERVAL (CF) ☐ FT. PERF. ☒ OH		PRODUCING THROUGH: ☐ IN. TUBING ☐ 5.5 IN. CASING ☒	
ELEVATION (CF) ☐ FT. (KB) ☐ FT. (KB) to CF ☐ FT.		MID-POINT OF PRODUCING (MPP) INTERVAL (CF) ☐ FT.	
POOL DATUM ☐ FT. (subsea) ☐ FT.		DATUM DEPTH OF WELL (FROM CF) ☐ FT.	
ELEMENT SERIAL NO. KT - 8230 RANGE 60 - 160 °F		CLOCK RANGE 3 h ☒ S ☐ D ☐ # 2359 I.H. # 14520	
CALIBRATION EQUATION ☐		DATE OF LAST CALIBRATION ☐ ☐ ☐	

2. STATIC TEST

PRESSURE (GAUGE): TUBING ☐ PSI. GAUGE ☐ DWG ☐	SHUT-IN DATE ☐ ☐ ☐ @ Not Perforated h
CASING ☐ PSI. GAUGE ☐ DWG ☐	DATE ON BOTTOM 84 10 17 @ 18:32 h
RUN DEPTH (FROM CF) 4500' MD FT.	DATE OFF BOTTOM 84 10 17 @ 18:35 PSI.
B.H. TEMP ☐ °C SURFACE TEMP ☐ F	MPP PRESSURE (GAUGE) ☐ PSI.
R.D. PRESSURE (GAUGE) ☐ PSI. GRADIENT ☐ PSI/FT.	DATUM PRESSURE (GAUGE) ☐ PSI.

3. ACOUSTIC WELL SOUNDER TEST

DEPTH OF TUBING ☐ FT.	SHUT-IN DATE ☐ ☐ ☐ @ ☐ h
AVERAGE TUBING JOINT LENGTH ☐ FT.	CURRENT WATER CUT ☐ %
NO. OF JOINTS TO LIQUID ☐	CASING PRESSURE (GAUGE) ☐ PSI.
LENGTH OF GAS COLUMN ☐ FT.	GAS COLUMN PRESSURE (GAUGE) ☐ PSI.
LENGTH OF LIQUID COLUMN ☐ FT.	LIQUID COLUMN PRESSURE (GAUGE) ☐ PSI.
GAS GRAVITY ☐	MPP PRESSURE (GAUGE) ☐ PSI.
GAS GRADIENT ☐ PSI/FT.	DATUM DEPTH PRESSURE (GAUGE) ☐ PSI.
OIL GRAVITY ☐	
OIL GRADIENT ☐ PSI/FT.	

4. BUILD UP OR DRAWDOWN TEST (Attach Forms 0-12A)

RESERVOIR/WELL PARAMETERS: POROSITY ☐ % WELL RADIUS ☐ FT. THICKNESS ☐ FT. WATER SATURATION ☐ %
B.H. TEMP. ☐ °F DATE AND DESCRIPTION OF LAST WELLBORE TREATMENT ☐
CASING I.D. ☐ IN. TUBING I.D. ☐ IN. TUBING WEIGHT MASS ☐ LBS./FT.
COMPRESSIBILITY ☐ μZ
OIL WELLS ONLY: ☐
OIL VISCOSITY ☐ CC
GAS WELLS ONLY: ☐
GAS VISCOSITY ☐ μZ
BUBBLE POINT PRESSURE (GAUGE) ☐ PSI. Z at RESERVOIR CONDITIONS ☐
B. = VOL. AT RES. COND. ☐ RELATIVE DENSITY G ☐
WELL PRODUCING RATE DURING ☐ PRIOR TO ☐ TEST OIL ☐ BBL/D GAS ☐ MCF/D WATER ☐ BBL/D
TOTAL PRODUCTION - DURING ☐ PRIOR TO ☐ TEST OIL ☐ BBL/D GAS ☐ MCF WATER ☐ BBL

5. CHART READINGS AND CALCULATIONS

DATE			DEPTH BELOW CF FT.	ACC. TIME h	TIME h	DEFLECTION IN	CALCULATED PRESSURE PSIG	CORRECTION DEVIATION PSI.	TEMPERAT. °F	GRADIENT PSI/FT.
YR	MO	DAY								
84	10	17	Surface		17:42	0.2580			71.62	
			1000		17:47	0.5810			84.24	
			1500		17:51	0.7390			91.51	
			2000		17:55	0.8820			99.02	
			2500		17:59	0.9460			102.32	
			3000		18:03	1.0020			105.20	
			3200		18:09	1.0820			109.16	
			3400		18:15	1.0810			109.11	
			3600		18:21	1.1480			112.43	
84	10	17	3800		18:27	1.1000			110.05	

REMARKS **Cement job finished at 08:30 hrs. 84-10-17.**

I.F.V. at 5806'

Run # 2

SURVEY COMPANY **Go Well Services** TEST BY **R. Saldarriaga** COMPUTED BY ☐ CHECKED BY ☐

COMPANY

Belco Petroleum Corp. of Peru Inc.

WELL NAME & UNIQUE IDENTIFIER

Lobitos Offshore L06-22

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY Belco Petroleum Corp. of Peru

WELL NAME Lobitos Offshore

DATE OF TEST 84 10 17 TO
YR. MO. DAY YR. MO. DAY

LOCATION L06-22

CHART READINGS AND CALCULATIONS

PAGE 2 of 2

[illegible]

Surface

LOBITOS OFFSHORE

L06-22

PRESSURE VERSUS TEMPERATURE

TEMPERATURE GRADIENT

RUN # 2 84-10-17

250

500

750

1000

1250

1500

1750

2000

2250

2500

2750

3000

3250

3500

3750

4000

4250

4500

4750

FT.

h

t

b

e

d

e

t

h

Temperature °F

60

65

70

75

80

85

90

95

100

105

110

115

120