

LOBITOS OFFSHORE
LO6-18

TEMPERATURE GRADIENT
RUN # 01 84-12-14

TEMPERATURE GRADIENT
RUN # 02 84-12-14

Well 519

SUBSURFACE PRESSURE MEASUREMENTS

PAGE 01 OF 02

1. BASIC DATA

COMPANY **Belco Petroleum Corp. of Peru Inc.** WELL NAME **Lobitos Offshore**
 ADDRESS **Negritos** LOCATION **L06-18**
 FIELD and POOL **Lobitos** STATUS: OIL ☐ GAS ☐ OTHER SPECIFY _____
 TYPE OF TEST **Temperature Gradient** DATE OF TEST **84 12 14** TO **84 12 14**
 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 ☐ # **31882** I.H. # **14519**
 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 12 14** @ **17:37** h
 RUN DEPTH (FROM CF) **(6197' MD)** FT. DATE OFF BOTTOM **84 12 14** @ **17:38** 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 _____ FT. 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 _____
 B₀ = VOL. AT RES. COND. _____ RELATIVE DENSITY G _____
 VOL. AT ST. COND. _____
 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/D

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	12	14	Surface		16:29	0.2650			71.90	
			500		16:35	0.3990			77.16	
			1000		16:41	0.4910			80.66	
			1500		16:47	0.5580			83.32	
			2000		16:53	0.5870			84.48	
			2500		16:59	0.6420			86.85	
			3000		17:05	0.9430			102.17	
			3500		17:11	1.0300			106.59	
			4000		17:17	1.0760			108.86	
84	12	14	4500		17:23	1.1600			113.02	

REMARKS **5.5" Casing**
Cement job finished at 10:30 84-12-14
Float collar at 6234' Shoe at 6197'
Run # 01
 SURVEY COMPANY **Go Well Services** TEST BY **O. García** COMPUTED BY _____ CHECKED BY _____

COMPANY

Belco Petroleum Corp. of Peru Inc.

WELL NAME & UNIQUE IDENTIFIER

Lobitos Offshore L06-18

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY Belco Petroleum Corp.of Peru Inc. WELL NAME Lobitos Offshore

DATE OF TEST

84	12	14
YR	MO	DAY

 TO

YR	MO	DAY

LOCATION LO6-18

CHART READINGS AND CALCULATIONS

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46 1242

20 X 20 TO THE INCH • 7 X 10 INCHES
K&E KEUFFEL & ESSER CO. MADE IN U.S.A.

LOBITOS OFFSHORE
LO6-18

Surface

DEPTH VERSUS TEMPERATURE

TEMPERATURE GRADIENT
RUN # 01 84-12-14

500

1000

1500

2000

2500

3000

3500

4000

4500

5000

5500

6000

6500

7000

FT.

H

P

D

T e m p e r a t u r e ° F

70

75

80

85

90

95

100

105

110

115

120

125

130

SUBSURFACE PRESSURE MEASUREMENTS

PAGE 01 OF 02

1. BASIC DATA

COMPANY Belco Petroleum Corp. of Peru Inc. WELL NAME Lobitos Offshore
 ADDRESS Negritos LOCATION LO6-18
 FIELD and POOL Lobitos STATUS: OIL ☐ GAS ☐ OTHER SPECIFY ☐
 TYPE OF TEST Temperature Gradient DATE OF TEST 84 12 14 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 ☐ # 31882 I.H.# 14519
 CALIBRATION EQUATION DATE OF LAST CALIBRATION

2. STATIC TEST

PRESSURE (GAUGE): TUBING PSI. GAUGE ☐ DWG ☐ SHUT-IN DATE @ Not Perforated
 CASING PSI. GAUGE ☐ DWG ☐ DATE ON BOTTOM 84 12 14 @ 18:37 h
 RUN DEPTH (FROM CF) (3500' MD) FT. DATE OFF BOTTOM 84 12 14 @ 18:38 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.
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 OIL WELLS ONLY: GAS WELLS ONLY:
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 TOTAL PRODUCTION DURING ☐ PRIOR TO ☐ TEST OIL BBL/D GAS MCF WATER BBL/D

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	12	14	Surface		17:58	0.2280			70.42	
			1000		18:02	0.3700			76.03	
			1300		18:05	0.4330			78.45	
			1600		18:08	0.5380			82.52	
			1900		18:12	0.5660			83.64	
			2100		18:18	0.5930			84.72	
			2300		18:20	0.6130			85.57	
			2500		18:24	0.6380			86.67	
			2700		18:28	0.9150			100.72	
84	12	14	2900		18:32	1.0100			105.60	

REMARKS 5.5" Casing
Cement job finished at 10:30 84-12-14
Float collat at 6234' Shoe at 6197'
Run # 02

SURVEY COMPANY Go Well Services TEST BY O. Garcia COMPUTED BY CHECKED BY

COMPANY

Belco Petroleum Corp. of Peru Inc.

WELL NAME & UNIQUE IDENTIFIER

Lobitos Offshore LO6-18

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY Belco Petroleum Corp.of Peru Inc. WELL NAME Lobitos Offshore

DATE OF TEST TO
YR MO DAY YR. MO. DAY

LOCATION L06-18

CHART READINGS AND CALCULATIONS

PAGE 02 of 02

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KEUFFEL & ESSER CO. MADE IN U.S.A.

LOBITOS OFFSHORE
LO6-18

Surface

DEPTH VERSUS TEMPERATURE

250

TEMPERATURE GRADIENT

RUN # 02

84-12-14

500

750

1000

1250

1500

1750

2000

2250

2500

2750

3000

3250

3500

4000

4250

4500

FT.

h

t

p

e

D

T e m p e r a t u r e ° F

60

65

70

75

80

85

90

95

100

105

110

115

120