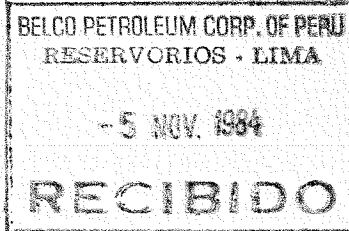


LOBITOS OFFSHORE
LO6-21

B.H.P.FLOWING GRADIENT
84-10-28

STATIC GRADIENT
84-10-28

Lima
File
WGR



SUBSURFACE PRESSURE MEASUREMENTS

PAGE 01 OF 04

1. BASIC DATA

COMPANY **Belco Petroleum Corp. of Peru Inc.** WELL NAME **Lobitos Offshore**
 ADDRESS **Negritos** LOCATION **L06-21**
 FIELD and POOL **Lobitos** STATUS: OIL ☒ GAS ☐ OTHER SPECIFY _____
 TYPE OF TEST **B.H.P. Flowing Gradient** DATE OF TEST **84 10 28** TO **84 10 28**
 PRODUCING INTERVAL (CF) **3976 - 5100** FT. PERF. ☒ HOH ☐ PRODUCING THROUGH: **2 7/8** IN. TUBING ☒ IN. CASING ☐
 ELEVATION (CF) _____ FT. (KB) _____ FT. (KB) to CF _____ FT. MID-POINT OF PRODUCING (MPP) INTERVAL (CF) **4538** FT.
 POOL DATUM _____ FT. (subsea) _____ FT. DATUM DEPTH OF WELL (FROM CF) _____ FT.
 ELEMENT SERIAL NO. **22534N** RANGE **0 - 1000** PSI. CLOCK RANGE **3** h s ☒ d ☐ # **31881** I.H. # **14520**
 CALIBRATION EQUATION **PC = 508.02 D + (-0.01)** DATE OF LAST CALIBRATION **84 04 06**

2. STATIC TEST

PRESSURE (GAUGE): TUBING **40** PSI. GAUGE ☒ DWG ☐ SHUT-IN DATE **84 10 28** @ **12:35** h
 CASING _____ PSI. GAUGE ☐ DWG ☐ DATE ON BOTTOM **84 10 28** @ **11:25** h
 RUN DEPTH (FROM CF) **3606.97 (3860' MD)** FT. DATE OFF BOTTOM **84 10 28** @ **12:55** 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 **84 10 28** @ _____ 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_o = $\frac{\text{VOL. AT RES. COND.}}{\text{VOL. AT ST. COND.}}$ 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/D

5. CHART READINGS AND CALCULATIONS

DATE			DEPTH BELOW CF FT.	ACC. TIME h	TIME h	DEFLECTION IN	CALCULATED PRESSURE PSIG	CORRECTION DEVIATION PSI	CORRECTED PRESSURE PSIG	GRADIENT PSI/FT.
YR	MO	DAY								
84	10	28	Surface		11:08	0.5600			285	
			Tool on bottom (3860') at		11:25		84-10-28			
			Opened well gas lift gas at		11:26		84-10-28			
			Opened well to production at		11:28		84-10-28			
84	10	28	3606.97	3860.00	11:25	0.7030			357	
84	10	28	3606.97	3860.00	11:26	0.7040			358	

REMARKS

CHF 33' J.40 at 1677' BK1 at 3864' PKR at 3901' F.Collar at 5210'
 T.V.D. Perf. N 3711.45 - 4734.74' MPP.: 4223.10 FT. T.V.D.

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

Belco Petroleum Corp. of Peru Inc.

Lobitos Offshore L06-21

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY Belco Petroleum Corp. of Peru

WELL NAME Lobitos Offshore

DATE OF TEST 84 10 28 TO
YR MO DAY YR MO DAY

LOCATION L06-21

CHART READINGS AND CALCULATIONS

PAGE 02 of 04

DATE			DEPTH BELOW CFFT.	ACC. TIME h	TIME h	DEFLECTION IN.	CALCULATED PRESSURE PSIG	CORRECTION DEVIATION PSI	CORRECTED PRESSURE PSIG	GRADIENT PSI/FT.
YR	MO	DAY								
84	10	28								
			Injection rate started at 11:26				84-10-28			
84	10	28	3606.97	3860.00	11:27	0.7100			361	
84	10	28	3606.97	3860.00	11:28	0.7275			369	
			Injection rate stopped at 11:28				84-10-28			
84	10	28	3606.97	3860.00	11:29	0.6340			322	
					11:30	0.5800			295	
					11:31	0.5580			283	
					11:32	0.5570			283	
					11:33	0.5610			285	
					11:34	0.5680			289	
					11:35	0.5750			292	
					11:36	0.5820			296	
					11:37	0.5860			298	
					11:38	0.5890			299	
					11:39	0.5915			300	
					11:40	0.5945			302	
					11:41	0.5960			303	
					11:42	0.5975			304	
					11:43	0.5985			304	
					11:44	0.6000			305	
					11:45	0.6015			306	
84	10	28	3606.97	3860.00	11:46	0.6035			307	
			Injection rate started at 11:46				84-10-28			
84	10	28	3606.97	3860.00	11:47	0.6435			327	
					11:48	0.6915			351	
					11:49	0.7270			369	
84	10	28	3606.97	3860.00	11:50	0.7440			378	
			Injection rate stopped at 11:50				84-10-28			
84	10	28	3606.97	3860.00	11:51	0.7395			376	
					11:52	0.6650			338	
					11:53	0.5520			280	
					11:54	0.5200			264	
					11:55	0.5000			254	
					11:56	0.4975			253	
					11:57	0.5000			254	
					11:58	0.5050			257	
					11:59	0.5140			261	
					12:00	0.5270			268	
					12:01	0.5380			273	
84	10	28	3606.97	3860.00	12:02	0.5470			278	

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY Belco Petroleum Corp. of Peru

WELL NAME Lobitos Offshore

DATE OF TEST 84 10 28 TO
YR MO DAY YR MO DAY

LOCATION LO6-21

CHART READINGS AND CALCULATIONS

PAGE 03 of 04

DATE			DEPTH BELOW CFFT	ACC. TIME h	TIME h	DEFLECTION IN.	CALCULATED PRESSURE PSIG	CORRECTION DEVIATION PSI	CORRECTED PRESSURE PSIG	GRADIENT PSI/FT
YR	MO	DAY								
84	10	28	3606.97	3860.00	12:03	0.5530			281	
					12:04	0.5560			282	
					12:05	0.5585			284	
84	10	28	3606.97	3860.00	12:06	0.5600			285	
			Injection rate started at			12:06	84-10-28			
84	10	28	3606.97	3860.00	12:07	0.5815			295	
					12:08	0.6240			317	
					12:09	0.6415			326	
84	10	28	3606.97	3860.00	12:10	0.6435			327	
			Injection rate stopped at			12:10	84-10-28			
84	10	28	3606.97	3860.00	12:11	0.6435			327	
					12:12	0.6420			326	
					12:13	0.6000			305	
					12:14	0.5320			270	
					12:15	0.5100			259	
					12:16	0.4930			251	
					12:17	0.4880			248	
					12:18	0.4885			248	
					12:19	0.4935			251	
					12:20	0.5020			255	
					12:21	0.5160			262	
					12:22	0.5290			269	
					12:23	0.5380			273	
					12:24	0.5440			276	
					12:25	0.5480			278	
84	10	28	3606.97	3860.00	12:26	0.5530			281	
			Injection rate started at			12:26	84-10-28			
84	10	28	3606.97	3860.00	12:27	0.5780			294	
					12:28	0.6210			315	
84	10	28	3606.97	3860.00	12:29	0.6355			323	
			Injection rate stopped at			12:29	84-10-28			
84	10	28	3606.97	3860.00	12:30	0.6350			323	
					12:31	0.6350			323	
					12:32	0.6330			322	
					12:33	0.5945			302	
					12:34	0.5200			264	
					12:35	0.4930			251	
					12:36	0.4820			245	
					12:37	0.4875			248	
84	10	28	3606.97	3860.00	12:38	0.5035			256	

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY Belco Petroleum Corp. of Peru

WELL NAME Lobitos Offshore

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

LOCATION L06-21

CHART READINGS AND CALCULATIONS

PAGE 04 of 04

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SUBSURFACE PRESSURE MEASUREMENTS

PAGE 01 OF 01

1. BASIC DATA

COMPANY **Belco Petroleum Corp. of Peru Inc.** WELL NAME **Lobitos Offshore**
 ADDRESS **Negritos** LOCATION **LO6-21**
 FIELD and POOL **Lobitos** STATUS: OIL ☒ GAS ☐ OTHER SPECIFY _____
 TYPE OF TEST **Static Gradient** DATE OF TEST **84 10 28** TO **84 10 28**
 PRODUCING INTERVAL (CF) **3976 - 5100** FT. PERF. ☒ OH ☐ PRODUCING THROUGH: **2 7/8** IN. TUBING ☒ IN. CASING ☐
 ELEVATION (CF) _____ FT. (KB) _____ FT. (KB) to CF _____ FT. MID-POINT OF PRODUCING (MPP) INTERVAL (CF) **4538** FT.
 POOL DATUM _____ FT. (subsea) _____ FT. DATUM DEPTH OF WELL (FROM CF) _____ FT.
 ELEMENT SERIAL NO. **22534N** RANGE **0 - 1000** PSI. CLOCK RANGE **3** h S ☒ O ☐ # **31881** I.H. # **14520**
 CALIBRATION EQUATION **PC = 508.02 D + (-0.01)** DATE OF LAST CALIBRATION **84 04 06**

2. STATIC TEST

PRESSURE (GAUGE): TUBING **m. 40** PSI. GAUGE ☒ DWG ☐ SHUT-IN DATE **84 10 28** @ **12:35** = **0.83** h
 CASING _____ PSI. GAUGE ☐ DWG ☐ DATE ON BOTTOM **84 10 28** @ **13:00** h
 RUN DEPTH (FROM CF) **3282.95 (3500' MD)** FT. DATE OFF BOTTOM **84 10 28** @ **13:25** PSI.
 B.H. TEMP. _____ °C SURFACE TEMP. _____ F MPP PRESSURE (GAUGE) **372** PSI.
 R.D. PRESSURE (GAUGE) **259** PSI. GRADIENT **0.0788** 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 _____ μZ
 OIL WELLS ONLY: GAS WELLS ONLY:
 OIL VISCOSITY _____ CC GAS VISCOSITY _____ μZ
 BUBBLE POINT PRESSURE (GAUGE) _____ PSI. Z at RESERVOIR CONDITIONS _____
 B_o = $\frac{VOL. AT RES. COND.}{VOL. AT ST. COND.}$ 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/D

5. CHART READINGS AND CALCULATIONS

DATE			DEPTH BELOW CF FT.	ACC. TIME h	TIME h	DEFLECTION IN	CALCULATED PRESSURE PSIG	CORRECTION DEVIATION PSI	CORRECTED PRESSURE PSIG	GRADIENT PSI/FT.
YR	MO	DAY								
84	10	28	Surface	Surface	13:25	0.4132			210	0.0000
			500	500.00	13:24	0.4030			205	-0.0103
			999.17	1000.00	13:20	0.3955			201	0.0000
			1474.10	1500.00	13:16	0.3870			197	0.0000
			1932.95	2000.000	13:12	0.3800			193	0.0000
			2387.79	2500.00	13:08	0.3710			189	-0.0101
			2836.61	3000.00	13:04	0.4030			205	0.0362
84	10	28	3282.95	3500.00	13:00	0.5092			259	0.1207

REMARKS MPP.: 4223.10 FT. 940.15ft x 0.1207psi/ft = 113.48psi = 372psig.
 CHE 33' J.40 at 1677' BK1 at 3864' PKR at 3901' F.Collar at 5210'
 T.V.D.Perf.: 3711.45' - 4734.74 MPP.: 4223.10 FT.T.V.D.

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

COMPANY

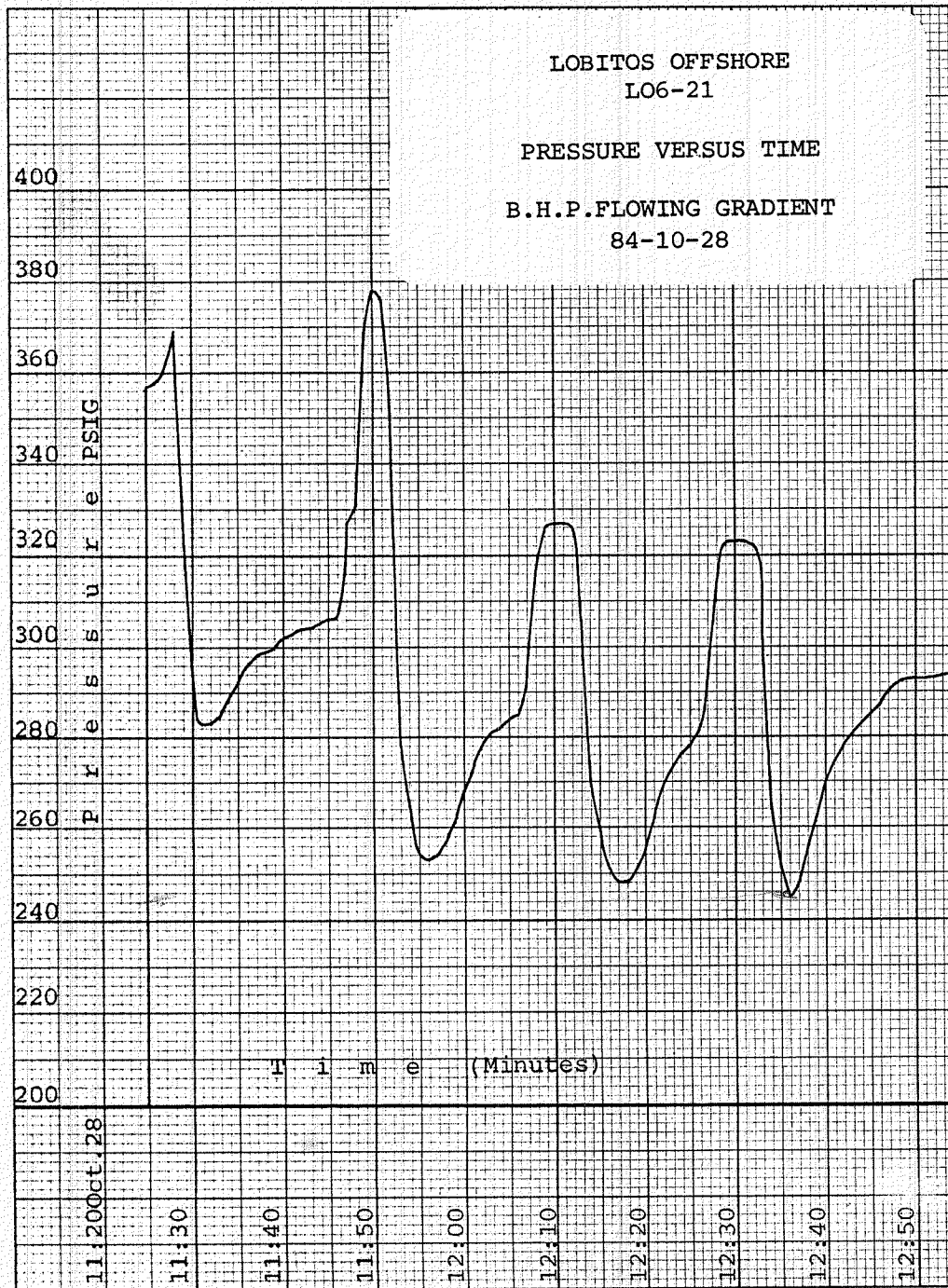
Belco Petroleum Corp. of Peru Inc.

WELL NAME & UNIQUE IDENTIFIER

Lobitos Offshore LO6-21

LOBITOS OFFSHORE
LO6-21

PRESSURE VERSUS TIME
B.H.P. FLOWING GRADIENT
84-10-28



Surface

300

600

900

1200

1500

1800

2100

2400

2700

3000

3300

Depth (FT. T.V.D.)

Pressure (PSIG)

LOBITOS OFFSHORE
LO6-21
DEPTH VERSUS PRESSURE
STATIC GRADIENT
84-10-28

