

PETRO-TECH PERUANA S. A.

## InterOffice Memorandum

PTP-PROD-010-98  
PTP-IDPR-008-98  
January 08<sup>th</sup>, 1998

|                                                |  |                       |                                |
|------------------------------------------------|--|-----------------------|--------------------------------|
| Post-it <sup>TM</sup> Transmisión por Fax 7671 |  | FECHA/<br>DATE Jan. 9 | Nº DE PAGINAS/<br># OF PAGES 6 |
| PARA/TO M. A. Raey                             |  | DE/FROM J. W. Meyers  |                                |
| COMPANIA/CO.                                   |  | COMPANIA/CO.          |                                |
| DEPARTAMENTO/DEPT.                             |  | TELEFONO/PHONE #      |                                |
| FAX                                            |  | FAX                   |                                |

TO: James Hunt

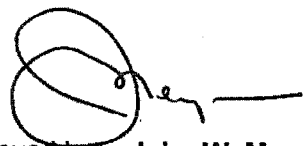
FROM: John W. Meyers

SUBJECT: COMPLETION PROGRAM LO16-23 WELL  
LOBITOS OFFSHORE AREA

Please find attached program to perforate and evaluate Basal Salina formation in LO16-23 well. This is the first well drilled in 1998. We expect to obtain an average production of 500 BOPD for the first month.

Proposed by:  Ricardo Corman R.  
Product. Engineer

Revised by:  Rigoberto Francia G.  
Production Eng. Head

  
Approved by: John W. Meyers  
Production Manager

RCR/rvg  
xc: OPRO  
Crono./Well File



**WELL: Z-2B-21-57-D-LO16 (LO16-23)****PROGRAM JOB**

1. Run temperature survey to check cement top between eight next hours after finished cementing job.
2. Nipple down BOP's and nipple up tubing head and shooting valve.
3. Install 5 1/2" lubricator and run GR-CCL log from 9500' to 7500'.
4. 24 hours after finished cementing job, test 5 1/2" casing and shooting valve with 5000 psi.
5. Test lubricator with 3000 psi.
6. Perforate interval 9444' to 9392' (Lower Basal Salina Fm.) according attachment # 1, take initial pressure and evaluate formation fluids, use packer and hydrospring if it is necessary.
  - a) If well produces oil go to step # 7.
  - b) If well produces gas or water isolate interval with BP at 9100'. Go to step # 7.
7. Perforate interval 8932'- to 8890' and test, as per attachment # 2. Frac program to be confirmed. Go to step # 8 (Take initial pressure).
8. Close well for 6 hours to allow Gel Breaking and fracture close.
9. Open well at wide open for two hours. Then choke to 1/2" to evaluate production performance.
10. According results a new recommendation will be submitted.

**Note:** - Use tree saver for fracture.  
- Use 4" OD gun with DML-XXIII or equivalent charge and 4 spf.

RCR/rvg

## PRODUCTION ENGINEERING

## ATTACHMENT # 1

| <b>SHOOTING AND FRACTURING PROGRAM</b>      |      |                                   |                                  |         |  |                                 |    |                          |                      |                          |
|---------------------------------------------|------|-----------------------------------|----------------------------------|---------|--|---------------------------------|----|--------------------------|----------------------|--------------------------|
| <b>Z-2B-21-57-D-LO16</b><br>OFFICIAL NUMBER |      |                                   | <b>LO16 - 23</b><br>WELL NUMBER  |         |  | <b>LOBITOS OFFSHORE</b><br>AREA |    |                          | <b>1 st</b><br>STAGE |                          |
| <b>LOWER BASAL SALINA</b><br>FORMATION      |      |                                   | <b>9444' - 9392'</b><br>INTERVAL |         |  | <b>22 PM</b><br>NET SAND        |    | <b>18 PV</b><br>NET SAND |                      | <b>80</b><br>TOTAL SHOTS |
| <b>SHOOTING PROGRAM</b>                     |      |                                   |                                  |         |  |                                 |    |                          |                      |                          |
|                                             | FROM | TO                                | FEET                             | # SHOTS |  | FROM                            | TO | FEET                     | # SHOTS              |                          |
|                                             | 9444 | 9439                              | 5                                | 20      |  |                                 |    |                          |                      |                          |
|                                             | 9410 | 9400                              | 10                               | 40      |  |                                 |    |                          |                      |                          |
|                                             | 9397 | 9392                              | 5                                | 20      |  |                                 |    |                          |                      |                          |
|                                             |      |                                   |                                  |         |  |                                 |    |                          |                      |                          |
|                                             |      |                                   |                                  |         |  |                                 |    |                          |                      |                          |
|                                             |      |                                   |                                  |         |  |                                 |    |                          |                      |                          |
|                                             |      |                                   |                                  |         |  |                                 |    |                          |                      |                          |
|                                             |      |                                   |                                  |         |  | <b>TOTAL</b>                    |    | <b>60</b>                | <b>180</b>           |                          |
| <b>GUNS TO USED</b>                         |      | <b>4" O.D. GUNS (4 Shots/Ft).</b> |                                  |         |  |                                 |    | Type<br>Jets             | <b>DML XII</b>       |                          |

## ATTACHMENT # 2

## PRODUCTION ENGINEERING

| <b>SHOOTING AND FRACTURING PROGRAM</b>      |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
|---------------------------------------------|-------------|-------------------------------------|----------------------------------|---------------------------------|--|--------------------------|---------------------------------|----------------------------|----------------------|---------------------------|--|
| <b>Z-2B-21-57-D-LO16</b><br>OFFICIAL NUMBER |             |                                     |                                  | <b>LO16 - 23</b><br>WELL NUMBER |  |                          | <b>LOBITOS OFFSHORE</b><br>AREA |                            | <b>2 nd</b><br>STAGE |                           |  |
| <b>LOWER BASAL SALINA</b><br>FORMATION      |             |                                     | <b>8932' - 8890'</b><br>INTERVAL |                                 |  | <b>43 PM</b><br>NET SAND |                                 | <b>35 PV</b><br>NET SAND   |                      | <b>152</b><br>TOTAL SHOTS |  |
| <b>SHOOTING PROGRAM</b>                     |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
|                                             | <b>FROM</b> | <b>TO</b>                           | <b>FEET</b>                      | <b># SHOTS</b>                  |  | <b>FROM</b>              | <b>TO</b>                       | <b>FEET</b>                | <b># SHOTS</b>       |                           |  |
|                                             | 8932        | 8924                                | 8                                | 32                              |  |                          |                                 |                            |                      |                           |  |
|                                             | 8920        | 8890                                | 30                               | 120                             |  |                          |                                 |                            |                      |                           |  |
|                                             |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
|                                             |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
|                                             |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
|                                             |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
|                                             |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
|                                             |             |                                     |                                  |                                 |  |                          |                                 |                            |                      |                           |  |
| <b>GUNS TO USED</b>                         |             | <b>4" O.D. GUNS ( 4 Shots/Ft ).</b> |                                  |                                 |  |                          |                                 | <b>Type</b><br><b>Jets</b> |                      | <b>DML XIII</b>           |  |

