

PR64-51

# Santos

## STATIC GRADIENT SURVEY

### EAST MEREENIE 1T

**Distribution:**

|                                  |   |
|----------------------------------|---|
| Magellan Petroleum Australia Ltd | 1 |
| NT Department Mines & Energy     | 1 |
| Santos - Library                 | 1 |
| Santos - Mereenie                | 1 |
| Santos - Well File               | 1 |

June 1994

DEPT. OF MINES & ENERGY  
DO NOT REMOVE



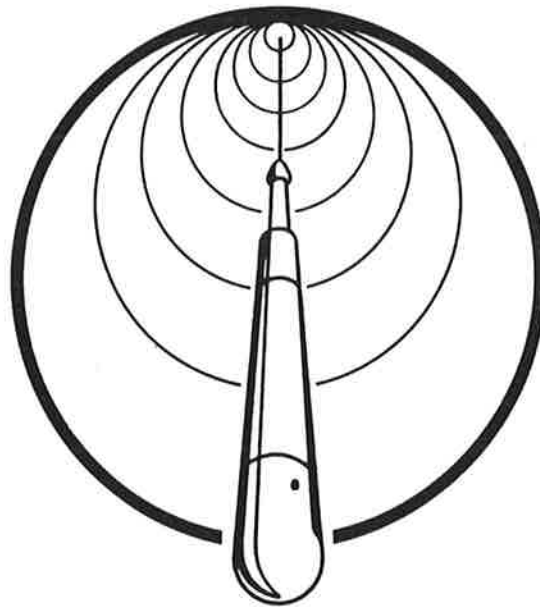
P01056

ORIGINAL

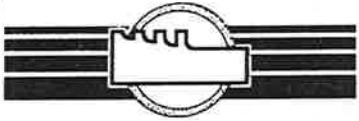
28 JUN 1994

# EXPERTEST PTY LTD

## ELECTRIC WIRELINE SERVICE



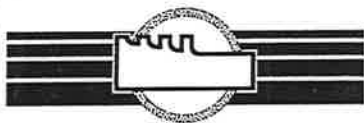
Customer: SANTOS LTD  
Well: EM #1  
Formation:  
Test Type: STATIC GRADIENT SURVEY  
Date: 04/06/94



**SEQUENCE OF EVENTS**

|                             |                             |                   |
|-----------------------------|-----------------------------|-------------------|
| CUSTOMER : SANTOS LTD.      | PERFORATIONS: 4246'-4380'KB | PAGE: 1 OF 1      |
| WELL NAME: EM #1            | FORMATION :                 | DATE: 04/06/94    |
| TEST TYPE : STATIC GRADIENT |                             | OPR : I. KURASIAK |

| DATE/TIME | DESCRIPTION OF EVENTS  |
|-----------|--|
|           | This report has been generated by CARS Version 1.01 User No. 016.  |
|           | For further information, please call Dave Hawkes on (08) 354-0488. |
| 04/06/94  |  |
| 09:00     | ARRIVE ON LOCATION AND RIG IN WIRELINE UNIT.                       |
| 09:40     | RUN IN HOLE WITH 1.75" B. BOX.                                     |
| 10:00     | TAG OBSTRUCTION AT 4063'KB (OTIS XA S/SLEEVE)                      |
| 10:20     | PULL OUT OF HOLE.  |
| 10:30     | ARRIVE IN LUBRICATOR. ADVISED SANTOS SUPERVISOR.                   |
| 11:10     | RUN IN HOLE WITH 1.75" LIB.  |
| 11:20     | TAKE IMPRESSION AT 4063'KB OF FISHING NECK.                        |
| 11:21     | PULL OUT OF HOLE.  |
| 11:30     | ARRIVE IN LUBRICATOR.  |
| 11:45     | RIG DOWN WIRELINE UNIT AND MOVE OUT OF LOCATION.                   |
| 11/06/94  |  |
| 13:00     | ARRIVE ON LOCATION AND RIG IN WIRELINE UNIT.                       |
| 13:40     | RUN IN HOLE WITH EMP GAUGE AND ONE AMERADA GAUGE.                  |
| 14:11     | ON BOTTOM STOP AT 4055'KB.   |
| 14:21     | PULL OUT OF HOLE.  |
| 14:30     | ARRIVE IN LUBRICATOR AND RIG DOWN WIRELINE UNIT.                   |
| 15:00     | MOVE OUT OF LOCATION.  |
|           |  |
|           |  |
|           |  |
|           |  |



CUSTOMER : SANTOS LTD

PERFORATIONS:

PAGE: 1 OF 1

WELL NAME: EM #1

FORMATION :

DATE: 11/06/94

TEST TYPE : STATIC GRADIENT SURVEY

OPR : I. KURASIAK

| GAUGE DATA                   |              | UPPER PRESSURE GAUGE | LOWER PRESSURE GAUGE | TEMPERATURE GAUGE | RUN DATA                               |   |           | TIME (HOURS) | TUBING PRESSURE (PSI/KPa) | ANNULUS PRESSURE (PSI/KPa) |
|------------------------------|--------------|----------------------|----------------------|-------------------|--|---|-----------|--------------|---------------------------|----------------------------|
| ELEMENT SERIAL NO.           | EMP 520      | 24708                |                      |                   | DATE                                   | : | 11/06/94  |              |                           |                            |
| ELEMENT RANGE                | 5000         | 3300                 |                      |                   | PRESSURE LUBRICATOR                    | : |           | 13:28        | 1463                      | 517                        |
| RECORDING SECTION SERIAL NO. |              | 12960                |                      |                   | RUN IN HOLE                            | : |           | 13:40        | 1462                      | 517                        |
| DATE OF CALIBRATION:         | 21/04/94     | 1/2/94               |                      |                   | ON DEPTH AT                            | : | 4055 FT/M | 14:11        | 1462                      | 517                        |
| CLOCK/BATTERY SERIAL NO.     | 25           | 25509                |                      |                   | DATE                                   | : | 11/06/94  |              |                           |                            |
| CLOCK/BATTERY RANGE          |              | 3                    |                      |                   | PULL OUT OF HOLE                       | : |           | 14:21        | 1462                      | 517                        |
| LEAD SCREW/BATTERY TYPE      |              | 15                   |                      |                   | AT SURFACE                             | : |           | 14:30        | 1463                      | 517                        |
|                              |              |                      |                      |                   | DEPRESSURE LUBRICATOR                  | : |           | 14:40        | 1463                      | 517                        |
| ENGAGE STYLUS/BATTERY        | DATE 11/6/94 | TIME 13:21           | 13:21                |                   | MAXIMUM BHT AT 4055 FT/M =139.79 °F/C  |   |           |              |                           |                            |
| DISENGAGE STYLUS/BATTERY     | DATE 11/6/94 | TIME 15:04           | 15:04                |                   | N.B. ALL DEPTHS ARE MEASURED FROM K.B. |   |           |              |                           |                            |

| DATE | TIME | REMARKS |
|------|------|---------|
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GENERAL INFORMATION:

Customer: SANTOS LTD  
 Location: EM #1  
 Formation:  
 Perforations: 4246'-4380' KB  
  
 Type of Test: Static Gradient Survey  
 Date of Test: 11/06/94  
 Remarks:

GAUGE DATA:

|                    |                       |                       |
|--------------------|-----------------------|-----------------------|
| TOP GAUGE<br>----- | MIDDLE GAUGE<br>----- | BOTTOM GAUGE<br>----- |
| PRESSURE           | NONE                  | NONE                  |
| Serial No: 520     | Serial No:            | Serial No:            |
| Range: 5000        | Range:                | Range:                |

TABLE OF RESULTS:

| TIME  | TOP GAUGE  |                  | MIDDLE GAUGE    |               | BOTTOM GAUGE  |               |        |
|-------|------------|------------------|-----------------|---------------|---------------|---------------|--------|
|       | DEPTH FEET | PRESSURE KB PSIG | GRADIENT PSI/FT | NONE GRADIENT | NONE GRADIENT | NONE GRADIENT |        |
| 11:40 | 0.0        | 1471.9           | 0.0000          | 0.0           | 0.0000        | 0.0           | 0.0000 |
| 11:45 | 1000.0     | 1511.4           | 0.0395          | 0.0           | 0.0000        | 0.0           | 0.0000 |
| 13:50 | 2000.0     | 1559.6           | 0.0482          | 0.0           | 0.0000        | 0.0           | 0.0000 |
| 17:55 | 3000.0     | 1609.7           | 0.0501          | 0.0           | 0.0000        | 0.0           | 0.0000 |
| 14:00 | 3500.0     | 1635.2           | 0.0510          | 0.0           | 0.0000        | 0.0           | 0.0000 |
| 14:11 | 4055.0     | 1663.0           | 0.0500          | 0.0           | 0.0000        | 0.0           | 0.0000 |
| 14:21 | 0.0        | 1481.9           | 0.0000          | 0.0           | 0.0000        | 0.0           | 0.0000 |

EXPERT EST PTY. LTD.  
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GENERAL INFORMATION:

Customer: SANTOS LTD  
Location: EM #1  
Formation:  
Perforations: 4246'-4380' KB

Type of Test: Static Gradient Survey  
Date of Test: 11/06/94  
Remarks:

GAS LIFT VALVES:

Number of GLVs installed: 0  
Mid-Point of Perforations: 2123.0 FEET KB

TUBING PRESSURES & TEMPERATURES:

Surface:

|      | T.H.P  | T.H.T     |
|------|--------|-----------|
| In:  | 0 PSIG | 0.0 DEG F |
| Out: | 0 PSIG | 0.0 DEG F |

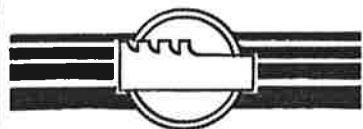
Mid-Point of Perforations:

B.H.P.

B.H.T. 0.0 DEG F

EXPERTEST PTY. LTD.

STATIC GRADIENT SURVEY



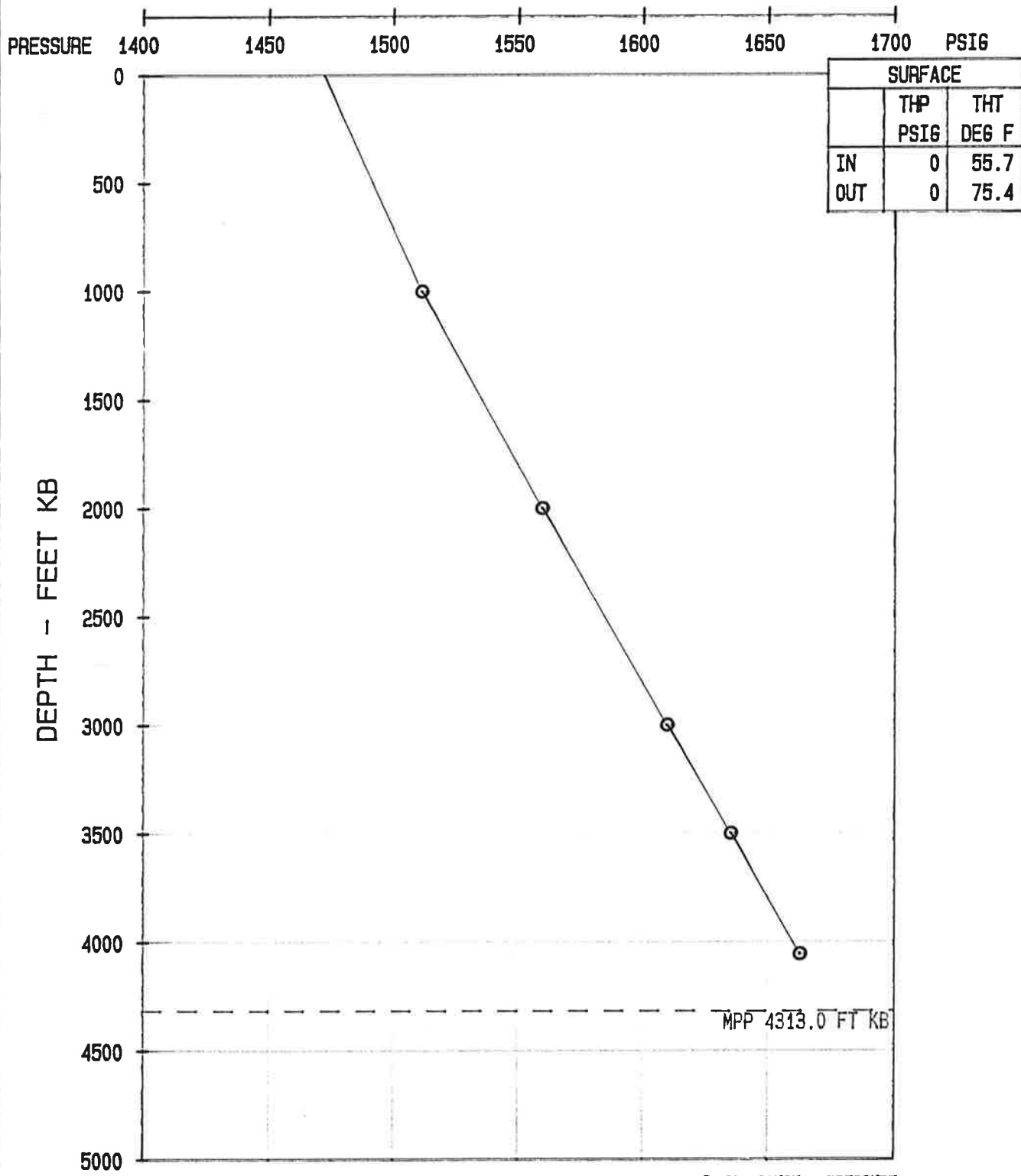
CUSTOMER: SANTOS LTD

PERFORATIONS: 4246'--4380'KB

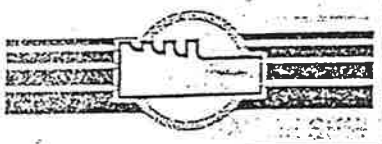
WELL NAME: EM #1

FORMATION:


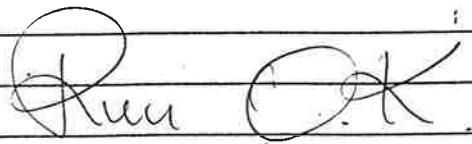
DATE: 11/06/94



○ TOP GAUGE - PRESSURE  
SERIAL No: 520  
RANGE: 5000



|                             |                              |                          |
|-----------------------------|------------------------------|--------------------------|
| CUSTOMER: <b>SANTOS LTD</b> | PERFORATIONS:                | PAGE: <b>1</b> OF        |
| WELL NAME: <b>EM 1</b>      | FORMATIONS:                  | DATE: <b>11.06.94</b>    |
| TEST TYPE: <b>SGS</b>       | GAUGE SERIAL No.: <b>520</b> | OPR: <b>J. KURASIAK.</b> |

| INSTRUMENT DEPARTMENT REPORT               | DATE            | LAB. COND.      | GAUGE RESPONSE | GAUGE FREQUENCY | FIELD OPERATOR REPORT                                   | TIME (HOURS)  | PRESSURE WELL SITE | PRESSURE GAUGE |
|--|-----------------|-----------------|----------------|-----------------|---|---|--------------------|----------------|
| PRE-JOB LAB. CHECK / PERFORMED BY          | <b>25/5/94</b>  | <b>L. H</b>     |                |                 | DATE : <b>11.06.94</b>                                  |   |                    |                |
| PRESS PSI A/G                              |                 | <b>0</b>        | <b>0.056</b>   |                 | ATMOSPHERIC CHECK                                       | <b>1321</b>   | <b>0</b>           | <b>12.46</b>   |
| TEMP °F/°C                                 |                 | <b>77</b>       | <b>77.10</b>   |                 | PRESSURE LUBRICATOR                                     | <b>1340</b>   | <b>1462</b>        | <b>1474.44</b> |
| PRE-JOB CAL. CHECK / PERFORMED BY          | <b>25/5/94</b>  | <b>L. H</b>     |                |                 | DATE : <b>11.06.94</b>                                  |   |                    |                |
| PRESS PSI A/G                              |                 | <b>1066.725</b> | <b>1065.92</b> |                 | MAX. RECORDED BHP                                       |   | <b>1663.142</b>    | <b>PSI</b>     |
| TEMP °F/°C                                 |                 | <b>149.00</b>   | <b>149.06</b>  |                 | MAX. RECORDED BHT                                       |   | <b>134.74</b>      | <b>°F</b>      |
| POST-JOB LAB. CHECK / PERFORMED BY         |                 |                 |                |                 | DATE : <b>11.06.94</b>                                  |   |                    |                |
| PRESS PSI A/G                              |                 |                 |                |                 | DEPRESSURE LUBRICATOR                                   | <b>1439</b>   | <b>1463</b>        | <b>1481.00</b> |
| TEMP °F/°C                                 |                 |                 |                |                 | ATMOSPHERIC CHECK                                       | <b>1503</b>   | <b>0</b>           | <b>14.30</b>   |
|  |                 |                 |                |                 | TOTAL DURATION  | <b>1.7hrs</b>   |                    |                |
| POST-JOB REDRESS CAL. CHECK / PERFORMED BY |                 |                 |                |                 | FIELD OPERATOR'S SIGNATURE                              |   |                    |                |
| PRESS PSI A/G                              |                 |                 |                |                 | COMMENTS:   |  |                    |                |
| TEMP °F/°C                                 |                 |                 |                |                 |   |   |                    |                |
| CALIBRATION DATE                           | <b>21/4/94</b>  |                 |                |                 |   |   |                    |                |
| BATTERY SERIAL No.: <b>#25</b>             |                 |                 |                |                 |   |   |                    |                |
| PRE-JOB VOLTS: <b>10.70</b>                | <b>11.06.94</b> |                 |                |                 |   |   |                    |                |
| POST-JOB VOLTS: <b>10.75</b>               | <b>11.06.94</b> |                 |                |                 |   |   |                    |                |
| (PRE-JOB) TOTAL HOURS: <b>357</b>          |                 |                 |                |                 | This sheet is submitted as "Original" and is not typed. |   |                    |                |
|  |                 |                 |                |                 | Field staff please note units of measure.               |   |                    |                |