

# Open File Envelope

**NUMBER 7277/2**

**PPL 6**

**EROMANGA BASIN AND COOPER BASIN**

**GIDGEALPA 38**

**TEST REPORTS**

Submitted by

Santos Ltd  
1995

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**MINES and ENERGY**  
**RESOURCES** SOUTH  
AUSTRALIA



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Mines and Energy Resources South Australia, PO Box 151, Eastwood, SA 5063

**Enquiries: Customer Services**

Mines and Energy Resources South Australia  
191 Greenhill Road, Parkside 5063

Library Telephone: (08) 8274 7522  
General Enquiries Telephone: (08) 8274 7500  
Facsimile: (08) 8272 7597

**ENVELOPE 7277/2**

**TENEMENT:** PPL 6; Eromanga and Cooper Basins

**TENEMENT HOLDER:** Santos Ltd (operator), Delhi Petroleum Pty Ltd, Vamgas Ltd and Sagasco Resources Ltd

**CONTENTS**

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| <b>REPORTS:</b> | <b>Kappler, S. and Lawton, S., 1993.</b> Operator's summary and field testing contractor's results of the clean-up flow and two-rate gas production test, plus flowing bottomhole pressure, 125 hour reservoir pressure buildup and static wellbore pressure gradient surveys, of the Patchawarra Formation gas reservoir perforated intervals 7419-7437 and 7449-7460 feet depth KB, conducted over the period 29/3-9/4/93 (Oilserv Australia Ltd). | <b>MESA NO.</b><br><b>7277/2 R 1</b><br>Pgs 3-26 |
|                 | <b>Buckland, R. and White, D., 1995.</b> Field maintenance contractor's results of the liquids evaluation test plus flowing bottomhole pressure, 96 hour reservoir pressure buildup and static wellbore pressure gradient surveys of the Patchawarra gas reservoir reperforated intervals 7230-7437 feet depth KB, conducted over the period 29/1-5/2/95 (Expertest Pty Ltd).                                                                        | <b>7277/2 R 2</b><br>Pgs 27-40                   |

**END OF CONTENTS**

GIDGEALPA #38SUMMARY OF 2-RATE FLOW AND BUILDUP SURVEY30/3/93 to 8/4/93Rate #1

31/03/93: Opened well on 12/64" choke by-passing separator @ 0800 hrs.  
Slowly increased choke to 17/64" and then to 20/64" @ 0920 hrs.  
Monitored flow for 60 hours on 20/64" choke from 1200 hrs.

|                               |   |        |                     |
|-------------------------------|---|--------|---------------------|
| F.T.H.P. (Final)              | = | 7895   | kPa                 |
| Separator Pressure (Final)    | = | 3103   | kPa                 |
| Separator Temperature (Final) | = | 33     | °C                  |
| Gas Flow Rate                 | = | 72.277 | E3M <sup>3</sup> /d |
| Condensate Flow Rate          | = | 3.740  | m <sup>3</sup> /d   |
| Water Flow Rate               | = | 1.012  | m <sup>3</sup> /d   |
| F.B.H.P. @ 7300' KB (Final)   | = | 1500   | psig                |
| F.B.H.T. @ 7300' KB (Final)   | = | 235    | °F                  |

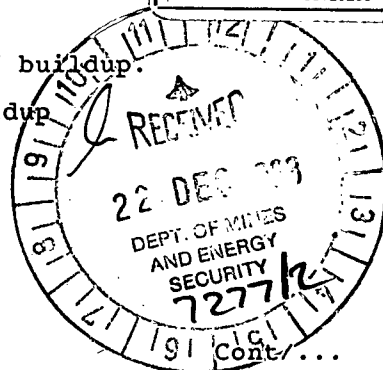
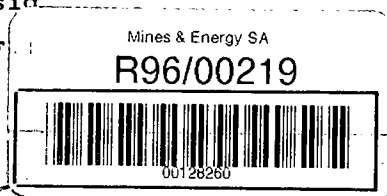
Rate #2

03/04/93: Choke slowly increased to 34/64" @ 0020 hrs for second rate.  
Flow monitored for 28 hours on 34/64" choke from 0200 hrs.

|                               |   |        |                     |
|-------------------------------|---|--------|---------------------|
| F.T.H.P. (Final)              | = | 3606   | kPa                 |
| Separator Pressure (Final)    | = | 1172   | kPa                 |
| Separator Temperature (Final) | = | 36     | °C                  |
| Gas Flow Rate                 | = | 87.534 | E3M <sup>3</sup> /d |
| Condensate Flow Rate          | = | 2.271  | m <sup>3</sup> /d   |
| Water Flow Rate               | = | 1.200  | m <sup>3</sup> /d   |
| F.B.H.P. @ 7300' KB (Final)   | = | 829    | psig                |
| F.B.H.T. @ 7300' KB (Final)   | = | 218    | °F                  |

Buildup Survey

04/04/93: Shut well in @ 0600 hrs for 101 hours of buildup.  
Pressure @ 7300' KB after 101 hours buildup  
= 3069 psig (21158 kPa)  
SIBHT @ 7300' KB = 250°F (121°C)



Static Gradient Survey

Mid Point of Perforations = 7440' KB

08/04/93: Ran in hole @ 1100 hrs to conduct static gradient.

| <u>Depth</u><br><u>('KB)</u> | <u>Pressure</u><br><u>(kPag)</u> | <u>Pressure</u><br><u>(psig)</u> |
|------------------------------|----------------------------------|----------------------------------|
| 7440                         | 21289                            | 3088                             |
| 7300                         | 21203                            | 3075                             |
| 7000                         | 21030                            | 3050                             |
| 6500                         | 20735                            | 3007                             |
| 6000                         | 20439                            | 2964                             |
| 5500                         | 20143                            | 2921                             |
| 5000                         | 19849                            | 2879                             |
| 4000                         | 19244                            | 2791                             |
| 3000                         | 18610                            | 2699                             |
| 2000                         | 17942                            | 2602                             |
| 1000                         | 17213                            | 2496                             |
| Lubricator                   | 16454                            | 2386                             |

Comments

Gas flow rates have been corrected using specific gravity from gas samples taken during test.

## SECTION N01

## TEST RESULTS

By:

OILSERV AUSTRALIA LTD  
23 GROVE AVENUE  
MARLESTON SA 5033

TELEPHONE: (08) 371 2755  
FACSIMILIE: (08) 371 2734

# OILSERV AUSTRALIA LTD : TEST RESULTS

|                                       |                                                    |                    |
|---------------------------------------|----------------------------------------------------|--------------------|
| CLIENT: SANTOS                        | PERFORATIONS: 7419' - 7437' KB<br>7449' - 7460' KB | PAGE: 1 OF 5       |
| WELL NAME: GIDGEALPA #38              |                                                    | DATE: 29 / 03 / 93 |
| TEST TYPE: TWO RATE TEST AND BUILD UP | FORMATION: PATCHAWARRA                             | OPR: S.KAPPLER     |

| TIME  |                              | WELLHEAD DATA         |                      |                    |                    | SEPARATOR DATA         |             | FLOW RATES        |               |                 | CUMULATIVE PRODUCTION |           |             |                       |
|-------|------------------------------|-----------------------|----------------------|--------------------|--------------------|------------------------|-------------|-------------------|---------------|-----------------|-----------------------|-----------|-------------|-----------------------|
| DATE  | FLOW OR SHUT IN TIME (hours) | WELLHEAD PRESS<br>kPa | ANNULUS PRESS<br>kPa | W/HEAD TEMP<br>° C | CHOKE SIZE<br>/64" | SEPARATOR PRESS<br>kPa | TEMP<br>° C | GAS<br>m³ 10³ / d | OIL<br>m³ / d | WATER<br>m³ / d | GAS<br>m³ 10³         | OIL<br>m³ | WATER<br>m³ | L.G.R.<br>m³ / 10⁶ m³ |
| 29/03 |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1630  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1800  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 30/03 |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0600  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1100  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1540  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1610  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1705  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1800  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 31/03 |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0600  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0705  |                              | 17100                 |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0800  | 00.00                        |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0810  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0825  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0850  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 0920  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1000  | 02.00                        | 9046                  |                      | 33                 |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1025  | 02.25                        |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 1200  | 04.00                        | 8943                  | 7915                 | 35                 | 20                 | 2896                   | 30          | 78.598            | 0.000         | 0.000           | 6.545                 | 0.000     | 0.000       |                       |
| 1400  | 06.00                        | 8908                  | 8757                 | 37                 | 20                 | 2896                   | 30          | 68.684            | 2.880         | 0.000           | 12.269                | 0.240     | 0.000       | 0.042                 |
| 1600  | 08.00                        | 8805                  | 9377                 | 38                 | 20                 | 2896                   | 31          | 67.914            | 5.280         | 0.240           | 17.929                | 0.680     | 0.020       | 0.081                 |
| 1800  | 10.00                        | 8695                  | 9805                 | 38                 | 20                 | 3034                   | 31          | 77.007            | 4.560         | 0.360           | 24.346                | 1.060     | 0.050       | 0.064                 |
| 1805  |                              |                       |                      |                    |                    |                        |             |                   |               |                 |                       |           |             |                       |
| 2200  | 14.00                        | 8591                  | 2627                 | 39                 | 20                 | 3137                   | 31          | 75.541            | 4.740         | 0.300           | 36.936                | 1.850     | 0.100       | 67                    |

ARRIVE GIDGEALPA #38 - SPOT CARAVANS  
CREW STANDS DOWN

REPOSITION GIN POLE TO ALLOW RIG UP OF WING VALVE  
SURFACE TESTING EQUIPMENT ARRIVES LESS FRAC TANK DUE TO TRANSPORTATION MISHAP. CONTINUE RIG UP. COMMUNICATIONS UNAVAILABLE UNTIL 1630 hrs.  
FRAC TANK DOES NOT ARRIVE UNTIL LATE AFTERNOON DUE TO RIG MOVE.

WELL SHUT IN  
R.I.H. FOR DRIFT RUN  
TAG P.B.T.D. 7579' KB - NO OBSTRUCTIONS  
IN LUBRICATOR - CREW STANDS DOWN

LAY DOWN WIRELINE  
PRESSURE TEST LINES - NO LEAKS  
OPEN WELL ON 12/64" CHOKE - BYPASS SEPARATOR  
OPEN CHOKE TO 16/64"  
OPEN CHOKE TO 17/64"  
OPEN CHOKE TO 18/64"  
OPEN CHOKE TO 20/64"  
TRIM FLOW THROUGH SEPARATOR

BLEED DOWN ANNULUS TO 1724 kpa

# OILSERV AUSTRALIA LTD : TEST RESULTS

CONTINUATION SHEET

WELL NAME: GIDGEALPA #38

PAGE: 2 OF 5

DATE: 01 / 04 / 93

| TIME  |                              | WELLHEAD DATA                                                           |                   |                |                 | SEPARATOR DATA      |         | FLOW RATES    |           |             | CUMULATIVE PRODUCTION |        |          |                   |
|-------|------------------------------|-------------------------------------------------------------------------|-------------------|----------------|-----------------|---------------------|---------|---------------|-----------|-------------|-----------------------|--------|----------|-------------------|
| DATE  | FLOW OR SHUT IN TIME (hours) | WELLHEAD PRESS kPa                                                      | ANNULUS PRESS kPa | W/HEAD TEMP °C | CHOKE SIZE /64" | SEPARATOR PRESS kPa | TEMP °C | GAS m³ 10³ /d | OIL m³ /d | WATER m³ /d | GAS m³ 10³            | OIL m³ | WATER m³ | L.G.R. m³ /10⁶ m³ |
| 01/04 |                              |                                                                         |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 0200  | 18.00                        | 8502                                                                    | 3103              | 39             | 20              | 3185                | 31      | 74.484        | 3.600     | 1.050       | 49.350                | 2.450  | 0.275    | 62                |
| 0600  | 22.00                        | 8419                                                                    | 3448              | 40             | 20              | 3379                | 32.5    | 75.454        | 4.650     | 0.900       | 61.926                | 3.225  | 0.425    | 74                |
| 0800  | 24.00                        | 8398                                                                    | 3620              | 41             | 20              | 3379                | 35      | 74.818        | 2.700     | 2.700       | 68.160                | 3.450  | 0.650    | 72                |
| 1000  | 26.00                        | 8377                                                                    | 3744              | 41             | 20              | 3344                | 35      | 74.774        | 3.720     | 1.800       | 74.391                | 3.760  | 0.800    | 74                |
| 1200  | 28.00                        | 8322                                                                    | 3847              | 42             | 20              | 3172                | 35      | 74.442        | 3.120     | 0.600       | 80.595                | 4.020  | 0.850    | 50                |
| 1303  | 29.03                        | Engage Amerada stylus & clock.                                          |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1320  | 29.20                        | Rig up E/line.                                                          |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1330  | 29.30                        | Stab on lubricator.                                                     |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1338  | 29.38                        | Hang gauges in lubricator at atmospheric pressure for 1 hour.           |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1400  | 30.00                        | 8274                                                                    | 3965              | 42             | 20              | 3034                | 35      | 74.041        | 3.060     | 0.720       | 86.765                | 4.275  | 0.910    | 51                |
| 1438  | 30.38                        | Pressure up lubricator. F.W.H.P. = 8288 Kpa.                            |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1538  | 31.38                        | Depressure lubricator.                                                  |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1600  | 32.00                        | 8308                                                                    | 4054              | 42             | 20              | 2965                | 35      | 72.721        | 3.120     | 0.600       | 92.825                | 4.535  | 0.960    | 51                |
| 1638  | 32.38                        | Pressure up lubricator & R.I.H.                                         |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1800  | 34.00                        | 8322                                                                    | 4096              | 42             | 20              | 3034                | 33      | 72.203        | 3.060     | 0.720       | 98.842                | 4.790  | 1.020    | 52                |
| 1800  | 34.00                        | Conduct CCL run through B.H.A.                                          |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1827  | 34.27                        | Hang gauges @ 7300' K.B.                                                |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 2200  | 38.00                        | 8281                                                                    | 4213              | 42             | 20              | 3068                | 32      | 71.716        | 3.060     | 0.660       | 110.795               | 5.300  | 1.130    | 52                |
| 02/04 |                              |                                                                         |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 0200  | 42.00                        | 8198                                                                    | 4275              | 41             | 20              | 3034                | 30      | 71.251        | 3.900     | 2.400       | 122.670               | 5.950  | 1.530    | 88                |
| 0600  | 46.00                        | 8109                                                                    | 4385              | 40             | 20              | 3068                | 29      | 70.332        | 3.900     | 1.320       | 134.392               | 6.600  | 1.750    | 74                |
| 0800  | 48.00                        | 8102                                                                    | 0                 | 41             | 20              | 3068                | 29      | 70.332        | 4.200     | 0.360       | 140.253               | 6.950  | 1.780    | 65                |
| 0800  |                              | Bleed annulus to 0 kPa.                                                 |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1000  | 50.00                        | 8088                                                                    | 0                 | 42             | 20              | 3275                | 33      | 70.163        | 7.560     | 0.000       | 146.100               | 7.580  | 1.780    | 108               |
| 1200  | 52.00                        | 8067                                                                    | 69                | 42             | 20              | 3275                | 37      | 69.821        | 2.160     | 0.360       | 151.918               | 7.760  | 1.810    | 36                |
| 1400  | 54.00                        | 8053                                                                    | 90                | 43             | 20              | 3068                | 37      | 70.012        | 4.080     | 0.120       | 157.752               | 8.100  | 1.820    | 60                |
| 1600  | 56.00                        | 8019                                                                    | 117               | 43             | 20              | 3068                | 37      | 69.625        | 1.200     | 3.000       | 163.554               | 8.200  | 2.070    | 60                |
| 1700  | 57.00                        | 7998                                                                    | 172               | 43             | 20              | 3137                | 37      | 68.924        | 6.000     | 0.480       | 166.426               | 8.450  | 2.090    | 94                |
| 1700  |                              | Collect first set of H.P. samples. Condensate # PDE 119, Gas # SPE 273. |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |
| 1800  | 58.00                        | 7971                                                                    | 193               | 42             | 20              | 3137                | 35      | 69.287        | 1.200     | 0.720       | 169.313               | 8.500  | 2.120    | 28                |
| 1800  |                              | Collect second set of H.P. samples. Condensate # PDE 122, Gas #         |                   |                |                 |                     |         |               |           |             |                       |        |          |                   |

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# OILSERV AUSTRALIA LTD : TEST RESULTS

CONTINUATION SHEET

WELL NAME: GIDGEALPA #38

PAGE: 3 OF 5

DATE: 03 / 04 / 93

| TIME  |                                                                                                                                | WELLHEAD DATA                                  |                   |                |                 | SEPARATOR DATA      |         | FLOW RATES                            |                       |                         | CUMULATIVE PRODUCTION              |                    |                      |                                                       |
|-------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------|----------------|-----------------|---------------------|---------|---------------------------------------|-----------------------|-------------------------|------------------------------------|--------------------|----------------------|-------------------------------------------------------|
| DATE  | FLOW OR SHUT IN TIME (hours)                                                                                                   | WELLHEAD PRESS kPa                             | ANNULUS PRESS kPa | W/HEAD TEMP °C | CHOKE SIZE /64" | SEPARATOR PRESS kPa | TEMP °C | GAS m <sup>3</sup> 10 <sup>3</sup> /d | OIL m <sup>3</sup> /d | WATER m <sup>3</sup> /d | GAS m <sup>3</sup> 10 <sup>3</sup> | OIL m <sup>3</sup> | WATER m <sup>3</sup> | L.G.R. m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> |
| 2000  | 60.00                                                                                                                          | 7936                                           | 221               | 42             | 20              | 3137                | 33.5    | 69.159                                | 3.600                 | 1.800                   | 175.076                            | 8.800              | 2.270                | 78                                                    |
| 2200  | 62.00                                                                                                                          | 7915                                           | 241               | 42             | 20              | 3103                | 33      | 68.812                                | 3.300                 | 1.500                   | 180.810                            | 9.075              | 2.395                | 70                                                    |
| 2400  | 64.00                                                                                                                          | 7895                                           | 269               | 42             | 20              | 3103                | 33      | 68.812                                | 3.300                 | 1.500                   | 186.544                            | 9.350              | 2.520                | 70                                                    |
| 03/04 |                                                                                                                                |                                                |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0001  | Increase choke to 30/64 ths for second rate.                                                                                   |                                                |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0020  | Increase choke to 34/64 ths.                                                                                                   |                                                |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
|       | Unable to achieve 6 mmscf/d as per program, set choke to achieve sufficient pressure spread for downhole & surface conditions. |                                                |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0110  | Install 2.000" orifice plate.                                                                                                  |                                                |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0200  | 66.00                                                                                                                          | 3903                                           | 352               | 43             | 34              | 1310                | 33      | 92.010                                | 4.080                 | 0.600                   | 194.212                            | 9.690              | 2.570                | 51                                                    |
| 0600  | 70.00                                                                                                                          | 3813                                           | 324               | 43             | 34              | 1214                | 34      | 88.211                                | 1.710                 | 0.900                   | 208.914                            | 9.975              | 2.820                | 30                                                    |
| 0800  | 72.00                                                                                                                          | 3799                                           | 331               | 44             | 34              | 1241                | 35      | 88.211                                | 1.260                 | 0.960                   | 216.265                            | 10.080             | 2.800                | 25                                                    |
| 1000  | 74.00                                                                                                                          | 3792                                           | 345               | 45             | 34              | 1241                | 38      | 87.934                                | 1.080                 | 1.200                   | 223.593                            | 10.170             | 2.900                | 26                                                    |
| 1200  | 76.00                                                                                                                          | 3792                                           | 345               | 45             | 34              | 1241                | 40      | 87.599                                | 1.200                 | 2.160                   | 230.893                            | 10.270             | 3.080                | 38                                                    |
| 1400  | 78.00                                                                                                                          | 3751                                           | 331               | 46             | 34              | 1241                | 42      | 87.269                                | 2.160                 | 1.200                   | 238.165                            | 10.450             | 3.180                | 39                                                    |
| 1600  | 80.00                                                                                                                          | 3744                                           | 338               | 46             | 34              | 1241                | 41      | 87.032                                | 3.480                 | 1.200                   | 245.418                            | 10.470             | 3.280                | 54                                                    |
| 1800  | 82.00                                                                                                                          | 3710                                           | 345               | 46             | 34              | 1207                | 38      | 85.539                                | 2.760                 | 1.080                   | 252.546                            | 10.970             | 3.370                | 45                                                    |
| 2200  | 86.00                                                                                                                          | 3661                                           | 262               | 45             | 34              | 1207                | 37      | 85.298                                | 3.060                 | 1.020                   | 266.762                            | 11.480             | 3.540                | 48                                                    |
| 04/04 |                                                                                                                                |                                                |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0200  | 90.00                                                                                                                          | 3634                                           | 248               | 45             | 34              | 1207                | 36.5    | 84.974                                | 2.790                 | 1.110                   | 280.924                            | 11.945             | 3.725                | 46                                                    |
| 0600  | FL = 94                                                                                                                        | 3606                                           | 207               | 45             | 34              | 1172                | 35.5    | 83.546                                | 2.370                 | 1.470                   | 294.848                            | 12.340             | 3.970                | 46                                                    |
| 0600  | 00.00                                                                                                                          | Shut in well at wing valve for build up period |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0615  | S/I=.25                                                                                                                        | 10632                                          | 207               | 34             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0630  | 00.50                                                                                                                          | 12135                                          | 165               | 30             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0645  | 00.75                                                                                                                          | 12907                                          | 0                 | 26             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0700  | 01.00                                                                                                                          | 13283                                          | 0                 | 25             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0715  | 01.25                                                                                                                          | 13459                                          | 0                 | 23             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0730  | 01.50                                                                                                                          | 13569                                          | 0                 | 23             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0745  | 01.75                                                                                                                          | 13611                                          | 0                 | 24             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0800  | 02.00                                                                                                                          | 13651                                          | 0                 | 24             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0815  | 02.25                                                                                                                          | 13687                                          | 0                 | 26             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0830  | 02.50                                                                                                                          | 13735                                          | 0                 | 26             |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |

0008



# OILSERV AUSTRALIA LTD : TEST RESULTS

CONTINUATION SHEET

WELL NAME: GIDGEALPA #38

PAGE: 4 OF 5

DATE: 04 / 04 / 93

| TIME  |                              | WELLHEAD DATA      |                   |                |                 | SEPARATOR DATA      |         | FLOW RATES                            |                       |                         | CUMULATIVE PRODUCTION              |                    |                      |                                                       |
|-------|------------------------------|--------------------|-------------------|----------------|-----------------|---------------------|---------|---------------------------------------|-----------------------|-------------------------|------------------------------------|--------------------|----------------------|-------------------------------------------------------|
| DATE  | FLOW OR SHUT IN TIME (hours) | WELLHEAD PRESS kPa | ANNULUS PRESS kPa | W/HEAD TEMP °C | CHOKE SIZE /64" | SEPARATOR PRESS kPa | TEMP °C | GAS m <sup>3</sup> 10 <sup>3</sup> /d | OIL m <sup>3</sup> /d | WATER m <sup>3</sup> /d | GAS m <sup>3</sup> 10 <sup>3</sup> | OIL m <sup>3</sup> | WATER m <sup>3</sup> | L.G.R. m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> |
| 04/04 |                              |                    |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0845  | 02.75                        | 13769              | 0                 | 27             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0900  | 03.00                        | 13797              | 0                 | 29             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0915  | 03.25                        | 13831              | 0                 | 29             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0930  | 03.50                        | 13852              | 0                 | 30             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0945  | 03.75                        | 13887              | 0                 | 30             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1000  | 04.00                        | 13914              | 0                 | 31             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1400  | 08.00                        | 14369              | 0                 | 42             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1800  | 12.00                        | 14590              | 0                 | 33             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 2200  | 16.00                        | 14790              | 0                 | 21             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 05/04 |                              |                    |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0200  | 20.00                        | 14948              | 0                 | 18             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0600  | 24.00                        | 15079              | 0                 | 17             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1000  | 28.00                        | 15176              | 0                 | 32             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1400  | 32.00                        | 15321              | 0                 | 45             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1800  | 36.00                        | 15424              | 0                 | 35             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 2200  | 40.00                        | 15521              | 0                 | 24             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 06/04 |                              |                    |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0200  | 44.00                        | 15603              | 0                 | 20             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0600  | 48.00                        | 15686              | 0                 | 18             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1000  | 52.00                        | 15741              | 0                 | 30             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1400  | 56.00                        | 15817              | 0                 | 37             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1800  | 60.00                        | 15893              | 0                 | 28             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 2200  | 64.00                        | 15955              | 0                 | 22             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 07/04 |                              |                    |                   |                |                 |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0200  | 68.00                        | 16024              | 0                 | 17             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 0600  | 72.00                        | 16079              | 0                 | 14             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1000  | 76.00                        | 16141              | 0                 | 29             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1400  | 80.00                        | 16203              | 0                 | 47             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 1800  | 84.00                        | 16279              | 0                 | 32             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |
| 2200  | 88.00                        | 16307              | 0                 | 21             | S/I             |                     |         |                                       |                       |                         |                                    |                    |                      |                                                       |

# OILSERV AUSTRALIA LTD : TEST RESULTS

CONTINUATION SHEET

WELL NAME: GIDGEALPA #38

PAGE: 5 OF 5

DATE: 08 / 04 / 93

| TIME         |                                       | WELLHEAD DATA                                       |                         |                      |                       | SEPARATOR DATA            |            | FLOW RATES                               |                          |                            | CUMULATIVE PRODUCTION                 |                       |                         |                                                           |
|--------------|---------------------------------------|-----------------------------------------------------|-------------------------|----------------------|-----------------------|---------------------------|------------|------------------------------------------|--------------------------|----------------------------|---------------------------------------|-----------------------|-------------------------|-----------------------------------------------------------|
| DATE<br>TIME | FLOW OR<br>SHUT IN<br>TIME<br>(hours) | WELLHEAD<br>PRESS<br>kPa                            | ANNULUS<br>PRESS<br>kPa | W/HEAD<br>TEMP<br>°C | CHOKE<br>SIZE<br>/64" | SEPARATOR<br>PRESS<br>kPa | TEMP<br>°C | GAS<br>m <sup>3</sup> 10 <sup>3</sup> /d | OIL<br>m <sup>3</sup> /d | WATER<br>m <sup>3</sup> /d | GAS<br>m <sup>3</sup> 10 <sup>3</sup> | OIL<br>m <sup>3</sup> | WATER<br>m <sup>3</sup> | L.G.R.<br>m <sup>3</sup> / 10 <sup>6</sup> m <sup>3</sup> |
| 08/04        |                                       |                                                     |                         |                      |                       |                           |            |                                          |                          |                            |                                       |                       |                         |                                                           |
| 0200         | 92.00                                 | 16348                                               | 0                       | 16                   | S/I                   |                           |            |                                          |                          |                            |                                       |                       |                         |                                                           |
| 0600         | 96.00                                 | 16389                                               | 0                       | 15                   | S/I                   |                           |            |                                          |                          |                            |                                       |                       |                         |                                                           |
| 1000         | 100.00                                | 16437                                               | 0                       | 27                   | S/I                   |                           |            |                                          |                          |                            |                                       |                       |                         |                                                           |
| *1100        | 101.00                                | R.I.H. To conduct static gradient, END OF BUILD UP. |                         |                      |                       |                           |            |                                          |                          |                            |                                       |                       |                         |                                                           |

0010

**SECTION N02****GAS FLOW CALCULATIONS**

By:

**OILSERV AUSTRALIA LTD**  
**23 GROVE AVENUE**  
**MARLESTON SA 5033**

**TELEPHONE: (08) 371 2755**  
**FACSIMILIE: (08) 371 2734**

# OILSERV AUSTRALIA LTD : GAS FLOW CALCULATIONS

|                                       |                                                    |                    |
|---------------------------------------|----------------------------------------------------|--------------------|
| CLIENT: SANTOS                        | PERFORATIONS: 7419' - 7437' KB<br>7449' - 7460' KB | PAGE: 1 OF 3       |
| WELL NAME: GIDGEALPA #38              |                                                    | DATE: 31 / 03 / 93 |
| TEST TYPE: TWO RATE TEST AND BUILD UP | FORMATION: PATCHAWARRA                             | OPR: S.KAPPLER     |

|                           |                                         |                                   |
|---------------------------|-----------------------------------------|-----------------------------------|
| ORIFICE MTR TYPE: DANIELS | STATIC PRESSURE RANGE: 0 - 1500 psig    | GAS SPECIFIC GRAVITY (SG) = 0.904 |
| METRE RUN SIZE: 3.826     | DIFFERENTIAL PRESS RANGE: 0 - 200 in/hw | FG = $\sqrt{(1/SG)}$ = 1.0518     |
| SEPARATOR No: TS-02-04    | STANDARD CONDITIONS: 14.73 psi @ 60°F   | CO <sub>2</sub> % = 12%           |

| DATE<br>TIME | FLOW<br>TIME<br>(hr) | CHOKE<br>SIZE<br>/64" | STATIC<br>PRESS<br>(psia) | DIFF<br>PRESS<br>in/hw | GAS<br>FLOW<br>TEMP<br>(°C) | ORIF<br>PLATE<br>SIZE<br>(in) | $\sqrt{(P_F \times H_w)}$ | $C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$ |                 |                 |                | TOTAL<br>GAS<br>PROD<br>(m <sup>3</sup> 10 <sup>3</sup> ) | C<br>(C <sub>1</sub> x C <sub>2</sub> ) | GAS FLOW RATE<br>$Q = \sqrt{(P_F \times H_w)} \times C$ |                                   |
|--------------|----------------------|-----------------------|---------------------------|------------------------|-----------------------------|-------------------------------|---------------------------|----------------------------------------------------|-----------------|-----------------|----------------|-----------------------------------------------------------|-----------------------------------------|---------------------------------------------------------|-----------------------------------|
|              |                      |                       |                           |                        |                             |                               |                           | F <sub>B</sub>                                     | F <sub>TF</sub> | F <sub>PV</sub> | Y <sub>2</sub> |                                                           |                                         | MMSCFD                                                  | m <sup>3</sup> 10 <sup>3</sup> /d |
| 31/03        |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 0800         | 00.0                 |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 0810         |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 0825         |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 0850         |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 0920         |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 1000         | 02.0                 | 20                    |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
|              |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 1200         | 04.0                 | 20                    | 435                       | 118                    | 30                          | 1.50                          | 226.4909                  | 462.2694                                           | 0.9759          | 1.0798          | 1.0018         | 6.545                                                     | 513.2187                                | 2.790                                                   | 78.598                            |
| 1400         | 06.0                 | 20                    | 435                       | 114                    | 30                          | 1.50                          | 201.0951                  | 462.2694                                           | 0.9759          | 1.0624          | 1.0021         | 12.269                                                    | 505.1194                                | 2.438                                                   | 68.684                            |
| 1600         | 08.0                 | 20                    | 435                       | 112                    | 31                          | 1.50                          | 199.3233                  | 462.2694                                           | 0.9743          | 1.0616          | 1.0020         | 17.929                                                    | 503.8958                                | 2.411                                                   | 67.914                            |
| 1800         | 10.0                 | 20                    | 455                       | 108                    | 31                          | 1.50                          | 221.6097                  | 462.2694                                           | 0.9743          | 1.0832          | 1.0015         | 24.346                                                    | 513.9011                                | 2.733                                                   | 77.007                            |
| 1805         |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 2200         | 14.0                 | 20                    | 470                       | 100                    | 31                          | 1.50                          | 216.7326                  | 462.2694                                           | 0.9743          | 1.0867          | 1.0014         | 36.936                                                    | 515.4674                                | 2.681                                                   | 75.541                            |
| 01/04        |                      |                       |                           |                        |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |
| 0200         | 18.0                 | 20                    | 475                       | 96                     | 31                          | 1.50                          | 213.4809                  | 462.2694                                           | 0.9743          | 1.0879          | 1.0013         | 49.350                                                    | 515.9883                                | 2.644                                                   | 74.484                            |
| 0600         | 22.0                 | 20                    | 505                       | 92                     | 32                          | 1.50                          | 215.4882                  | 462.2694                                           | 0.9727          | 1.0937          | 1.0012         | 61.926                                                    | 517.8418                                | 2.678                                                   | 75.454                            |
| 0800         | 24.0                 | 20                    | 505                       | 92                     | 35                          | 1.50                          | 215.4882                  | 462.2694                                           | 0.9680          | 1.0898          | 1.0012         | 68.160                                                    | 513.4773                                | 2.656                                                   | 74.818                            |
| 1000         | 26.0                 | 20                    | 500                       | 93                     | 35                          | 1.50                          | 215.5804                  | 462.2694                                           | 0.9680          | 1.0887          | 1.0012         | 74.391                                                    | 512.9580                                | 2.654                                                   | 74.774                            |
| 1200         | 28.0                 | 20                    | 475                       | 98                     | 35                          | 1.500                         | 215.6932                  | 462.2694                                           | 0.9680          | 1.0831          | 1.0013         | 80.595                                                    | 510.4126                                | 2.642                                                   | 74.442                            |
| 1400         | 30.0                 | 20                    | 455                       | 102                    | 35                          | 1.500                         | 215.3659                  | 462.2694                                           | 0.9680          | 1.0788          | 1.0014         | 86.765                                                    | 508.4356                                | 2.628                                                   | 74.041                            |
| 1600         | 32.0                 | 20                    | 445                       | 101                    | 35                          | 1.500                         | 211.9380                  | 462.2694                                           | 0.9680          | 1.0767          | 1.0015         | 92.825                                                    | 507.4441                                | 2.581                                                   | 72.721                            |
| 1800         | 34.0                 | 20                    | 455                       | 96                     | 33                          | 1.500                         | 208.9356                  | 462.2694                                           | 0.9711          | 1.0810          | 1.0014         | 98.842                                                    | 511.0697                                | 2.563                                                   | 72.203                            |
| 2200         | 38.0                 | 20                    | 460                       | 93                     | 32                          | 1.500                         | 206.7726                  | 462.2694                                           | 0.9727          | 1.0832          | 1.0013         | 110.795                                                   | 512.9390                                | 2.545                                                   | 71.716                            |

# OILSERV AUSTRALIA LTD : GAS FLOW CALCULATIONS

CONTINUATION SHEET

WELL NAME: GIDGEALPA #38

PAGE: 2 OF 3

DATE: 02 / 04 / 93

| ORIFICE MTR TYPE: DANIELS                                                                                                      |                      |                                                                        |                                               | STATIC PRESSURE RANGE: 0 - 1500 psig    |                             |                               |                           | GAS SPECIFIC GRAVITY (SG) = 0.904                  |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------|-----------------------------|-------------------------------|---------------------------|----------------------------------------------------|-----------------|-----------------|----------------|-----------------------------------------------------------|-----------------------------------------|---------------------------------------------------------|-----------------------------------|--|
| METRE RUN SIZE: 3.826                                                                                                          |                      |                                                                        |                                               | DIFFERENTIAL PRESS RANGE: 0 - 200 in/hw |                             |                               |                           | FG = $\sqrt{(1/SG)}$ = 1.0518                      |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| SEPARATOR No: TS-02-04                                                                                                         |                      |                                                                        |                                               | STANDARD CONDITIONS: 14.73 psi @ 60°F   |                             |                               |                           | CO <sub>2</sub> % = 12%                            |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| DATE<br>TIME                                                                                                                   | FLOW<br>TIME<br>(hr) | CHOKE<br>SIZE<br>/64"                                                  | STATIC<br>PRESS<br>(psia)                     | DIFF<br>PRESS<br>in/hw                  | GAS<br>FLOW<br>TEMP<br>(°C) | ORIF<br>PLATE<br>SIZE<br>(in) | $\sqrt{(P_F \times H_W)}$ | $C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$ |                 |                 |                | TOTAL<br>GAS<br>PROD<br>(m <sup>3</sup> 10 <sup>3</sup> ) | C<br>(C <sub>1</sub> x C <sub>2</sub> ) | GAS FLOW RATE<br>$Q = \sqrt{(P_F \times H_W)} \times C$ |                                   |  |
|                                                                                                                                |                      |                                                                        |                                               |                                         |                             |                               |                           | F <sub>B</sub>                                     | F <sub>TF</sub> | F <sub>PV</sub> | Y <sub>2</sub> |                                                           |                                         | mmscfd                                                  | m <sup>3</sup> 10 <sup>3</sup> /d |  |
| 02/04                                                                                                                          |                      |                                                                        |                                               |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| 0200                                                                                                                           | 42                   | 20                                                                     | 455                                           | 92                                      | 30                          | 1.500                         | 204.5365                  | 462.2694                                           | 0.9759          | 1.0844          | 1.0013         | 122.670                                                   | 515.1825                                | 2.529                                                   | 71.251                            |  |
| 0600                                                                                                                           | 46                   | 20                                                                     | 460                                           | 88                                      | 29                          | 1.500                         | 201.1374                  | 462.2694                                           | 0.9775          | 1.0868          | 1.0012         | 134.392                                                   | 517.1305                                | 2.496                                                   | 70.332                            |  |
| 0800                                                                                                                           | 48                   | 20                                                                     | 460                                           | 88                                      | 29                          | 1.500                         | 201.1374                  | 462.2694                                           | 0.9775          | 1.0868          | 1.0012         | 140.253                                                   | 517.1305                                | 2.496                                                   | 70.332                            |  |
| 1000                                                                                                                           | 50                   | 20                                                                     | 490                                           | 83                                      | 33                          | 1.500                         | 201.6125                  | 462.2694                                           | 0.9711          | 1.0889          | 1.0011         | 146.100                                                   | 514.6715                                | 2.490                                                   | 70.163                            |  |
| 1200                                                                                                                           | 52                   | 20                                                                     | 490                                           | 84                                      | 37                          | 1.500                         | 202.8234                  | 462.2694                                           | 0.9648          | 1.0841          | 1.0011         | 151.918                                                   | 509.1048                                | 2.478                                                   | 69.821                            |  |
| 1400                                                                                                                           | 54                   | 20                                                                     | 460                                           | 91                                      | 37                          | 1.500                         | 204.5371                  | 462.2694                                           | 0.9648          | 1.0778          | 1.0013         | 157.752                                                   | 506.2209                                | 2.485                                                   | 70.012                            |  |
| 1600                                                                                                                           | 56                   | 20                                                                     | 460                                           | 90                                      | 37                          | 1.500                         | 203.4102                  | 462.2694                                           | 0.9648          | 1.0778          | 1.0013         | 163.554                                                   | 506.2138                                | 2.471                                                   | 69.625                            |  |
| 1700                                                                                                                           | 57                   | 20                                                                     | 470                                           | 86                                      | 37                          | 1.500                         | 200.9895                  | 462.2694                                           | 0.9648          | 1.0799          | 1.0012         | 166.426                                                   | 507.1515                                | 2.446                                                   | 68.924                            |  |
| 1700                                                                                                                           |                      | COLLECT FIRST SET OF H.P. SAMPLES, CONDENSATE= #PDE-19, GAS= #SPE-273. |                                               |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| 1800                                                                                                                           | 58                   | 20                                                                     | 470                                           | 86                                      | 35                          | 1.500                         | 200.9895                  | 462.2694                                           | 0.9680          | 1.0820          | 1.0012         | 169.313                                                   | 509.8226                                | 2.459                                                   | 69.287                            |  |
| 1800                                                                                                                           |                      | COLLECT SECOND SET OF H.P. SAMPLES, CONDENSATE= #PDE-122, GAS= #       |                                               |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| 2000                                                                                                                           | 60                   | 20                                                                     | 470                                           | 85                                      | 33.5                        | 1.500                         | 199.8175                  | 462.2694                                           | 0.9703          | 1.0837          | 1.0012         | 175.076                                                   | 511.8624                                | 2.455                                                   | 69.159                            |  |
| 2200                                                                                                                           | 62                   | 20                                                                     | 465                                           | 85                                      | 33                          | 1.500                         | 198.7512                  | 462.2694                                           | 0.9711          | 1.0832          | 1.0012         | 180.810                                                   | 512.0289                                | 2.442                                                   | 68.812                            |  |
| 2400                                                                                                                           | 64                   | 20                                                                     | 465                                           | 85                                      | 33                          | 1.500                         | 198.7512                  | 462.2694                                           | 0.9711          | 1.0832          | 1.0012         | 186.544                                                   | 512.0289                                | 2.442                                                   | 68.812                            |  |
| 03/04                                                                                                                          |                      |                                                                        |                                               |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| 0001                                                                                                                           |                      | 30                                                                     | INCREASE CHOKE TO 30/64 THS. FOR SECOND RATE. |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           | UNCORRECTED RATE*1                      |                                                         |                                   |  |
| 0020                                                                                                                           |                      | 34                                                                     | INCREASE CHOKE TO 34/64 THS.                  |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           | Q <sub>g</sub> : 2.551 71.879           |                                                         |                                   |  |
| Unable to achieve 6 mmscf/d as per program, set choke to achieve sufficient pressure spread for downhole & surface conditions. |                      |                                                                        |                                               |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| 0110                                                                                                                           |                      | 34                                                                     | Install 2.000" orifice plate.                 |                                         |                             |                               |                           |                                                    |                 |                 |                |                                                           |                                         |                                                         |                                   |  |
| 0200                                                                                                                           | 66                   | 34                                                                     | 205                                           | 112                                     | 33                          | 2.000                         | 151.4258                  | 849.4091                                           | 0.9711          | 1.0324          | 1.0033         | 194.212                                                   | 898.6174                                | 3.266                                                   | 92.010                            |  |
| 0600                                                                                                                           | 70                   | 34                                                                     | 195                                           | 109                                     | 34                          | 2.000                         | 145.6900                  | 849.4091                                           | 0.9695          | 1.0304          | 1.0033         | 208.914                                                   | 895.4371                                | 3.131                                                   | 88.211                            |  |
| 0800                                                                                                                           | 72                   | 34                                                                     | 195                                           | 109                                     | 35                          | 2.000                         | 145.6900                  | 849.4091                                           | 0.9695          | 1.0304          | 1.0033         | 216.265                                                   | 895.4371                                | 3.131                                                   | 88.211                            |  |
| 1000                                                                                                                           | 74                   | 34                                                                     | 195                                           | 110                                     | 38                          | 2.000                         | 146.3568                  | 849.4091                                           | 0.9633          | 1.0291          | 1.0034         | 223.593                                                   | 888.5518                                | 3.121                                                   | 87.934                            |  |
| 1200                                                                                                                           | 76                   | 34                                                                     | 195                                           | 110                                     | 40                          | 2.000                         | 146.3568                  | 849.4091                                           | 0.9602          | 1.0284          | 1.0034         | 230.893                                                   | 885.1678                                | 3.109                                                   | 87.599                            |  |
| 1400                                                                                                                           | 78                   | 34                                                                     | 195                                           | 110                                     | 42                          | 2.000                         | 146.3568                  | 849.4091                                           | 0.9571          | 1.0278          | 1.0034         | 238.165                                                   | 881.8302                                | 3.097                                                   | 87.269                            |  |
| 1600                                                                                                                           | 80                   | 34                                                                     | 195                                           | 109                                     | 41                          | 2.000                         | 145.6900                  | 849.4091                                           | 0.9587          | 1.0281          | 1.0033         | 245.418                                                   | 883.4661                                | 3.089                                                   | 87.032                            |  |

001

# OILSERV AUSTRALIA LTD : GAS FLOW CALCULATIONS

CONTINUATION SHEET

WELL NAME: GIDGEALPA #38

PAGE: 3 OF 3

DATE: 03 / 04 / 93

|                                                 |           |                                         |              |                                   |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |
|-------------------------------------------------|-----------|-----------------------------------------|--------------|-----------------------------------|---------------|-----------------|---------------------------|----------------------------------------------------|-----------------|-----------------|----------------|-----------------------------------|------------------------------------|---------------|-----------------------------------|
| ORIFICE MTR TYPE: DANIELS                       |           | STATIC PRESSURE RANGE: 0 - 1500 psig    |              | GAS SPECIFIC GRAVITY (SG) = 0.904 |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |
| METRE RUN SIZE: 3.826                           |           | DIFFERENTIAL PRESS RANGE: 0 - 200 in/hw |              | FG = $\sqrt{(1/SG)}$ = 1.0518     |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |
| SEPARATOR No: TS-02-04                          |           | STANDARD CONDITIONS: 14.73 psi @ 60°F   |              | CO <sub>2</sub> % = 12 %          |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |
| DATE                                            | FLOW TIME | CHOKE SIZE                              | STATIC PRESS | DIFF PRESS                        | GAS FLOW TEMP | ORIF PLATE SIZE | $\sqrt{(P_F \times H_W)}$ | $C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$ |                 |                 |                | TOTAL GAS PROD                    | C                                  | GAS FLOW RATE |                                   |
| TIME                                            | (hr)      | /64"                                    | (psia)       | in/hw                             | (°C)          | (in)            |                           | F <sub>B</sub>                                     | F <sub>TF</sub> | F <sub>PV</sub> | Y <sub>2</sub> | (m <sup>3</sup> 10 <sup>3</sup> ) | (C <sub>1</sub> x C <sub>2</sub> ) | mmscfd        | m <sup>3</sup> 10 <sup>3</sup> /d |
| 03/04                                           |           |                                         |              |                                   |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |
| 1800                                            | 82        | 34                                      | 190          | 107                               | 38            | 2.000           | 142.4820                  | 849.4091                                           | 0.9633          | 1.0283          | 1.0034         | 252.546                           | 887.8568                           | 3.036         | 85.539                            |
| 2200                                            | 86        | 34                                      | 190          | 106                               | 37            | 2.000           | 141.8146                  | 849.4091                                           | 0.9648          | 1.0286          | 1.0033         | 266.762                           | 889.5290                           | 3.028         | 85.298                            |
| 04/04                                           |           |                                         |              |                                   |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |
| 0200                                            | 90        | 34                                      | 190          | 105                               | 36.5          | 2.000           | 141.1441                  | 849.4091                                           | 0.9656          | 1.0287          | 1.0033         | 280.924                           | 890.3555                           | 3.016         | 84.974                            |
| 0600                                            | 94        | 34                                      | 185          | 104                               | 35.5          | 2.000           | 138.6071                  | 849.4091                                           | 0.9672          | 1.0282          | 1.0034         | 294.848                           | 891.4132                           | 2.965         | 83.546                            |
| SHUT IN WELL AT WING VALVE, END OF FLOW PERIOD. |           |                                         |              |                                   |               |                 |                           |                                                    |                 |                 |                | UN-CORRECTED RATE <sup>2</sup>    |                                    |               |                                   |
|                                                 |           |                                         |              |                                   |               |                 |                           |                                                    |                 |                 |                | Q <sub>g</sub> : 3.090 87.054     |                                    |               |                                   |
| * SAMPLE SG = 0.894                             |           |                                         |              |                                   |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |
| NEW FG = 1.0576 (OLD FG = 1.0518)               |           |                                         |              |                                   |               |                 |                           |                                                    |                 |                 |                |                                   |                                    |               |                                   |

0014

**SECTION N03****LIQUID PRODUCTION**

By:

**OILSERV AUSTRALIA LTD  
23 GROVE AVENUE  
MARLESTON SA 5033**

**TELEPHONE: (08) 371 2755  
FACSIMILIE: (08) 371 2734**

# OILSERV AUSTRALIA LTD : LIQUID PRODUCTION

|                                       |                                                    |                    |
|---------------------------------------|----------------------------------------------------|--------------------|
| CLIENT: SANTOS LTD.                   | PERFORATIONS: 7419' - 7437' KB<br>7449' - 7460' KB | PAGE: 1 OF 2       |
| WELL NAME: GIDGEALPA #38              |                                                    | DATE: 31 / 03 / 93 |
| TEST TYPE: TWO RATE TEST AND BUILD UP | FORMATION: PATCHAWARRA                             | OPR: S.KAPPLER     |

|                              |                                                                      |                                                             |                                  |
|------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------|
| TANK #1 = A<br>NUMBER #2 = B | TANK #1 = 7.850 m <sup>3</sup><br>CAPACITY #2 = 7.850 m <sup>3</sup> | TANK #1 = CALIBRATED LITRES<br>SCALE #2 = CALIBRATED LITRES | OIL API GRAVITY @ 60°F<br>= 52.8 |
|------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------|

| DATE    | FLOW TIME | TANK USED | TOTAL TANK DIP (litres) | OIL/CONDENSATE PRODUCTION |                                   |                               |                                         | WATER PRODUCTION        |                                   |                               |                                         |
|---------|-----------|-----------|-------------------------|---------------------------|-----------------------------------|-------------------------------|-----------------------------------------|-------------------------|-----------------------------------|-------------------------------|-----------------------------------------|
|         |           |           |                         | TANK DIP (litres)         | TANK PRODUCTION (m <sup>3</sup> ) | FLOW RATE (m <sup>3</sup> /d) | CUMULATIVE PRODUCTION (m <sup>3</sup> ) | TOTAL TANK DIP (litres) | TANK PRODUCTION (m <sup>3</sup> ) | FLOW RATE (m <sup>3</sup> /d) | CUMULATIVE PRODUCTION (m <sup>3</sup> ) |
| 31/03   |           |           |                         |                           |                                   |                               |                                         |                         |                                   |                               |                                         |
| 1000    | 02.00     | 1         | 000                     | 000                       | 0.000                             | 0.000                         | 0.000                                   | 000                     | 0.000                             | 0.000                         | 0.000                                   |
| ↓ 1200  | 04.00     | 1         | 000                     | ↓ 000                     | 0.000                             | 0.000                         | 0.000                                   | ↓ 000                   | 0.000                             | 0.000                         | 0.000                                   |
| 1400    | 06.00     | 1         | 240                     | 240                       | 0.240                             | 2.880                         | 0.240                                   | ↓ 000                   | 0.000                             | 0.000                         | 0.000                                   |
| 1600    | 08.00     | 1         | 700                     | 680                       | 0.440                             | 5.280                         | 0.680                                   | 020                     | 0.020                             | 0.240                         | 0.020                                   |
| 1800    | 10.00     | 1         | 1110                    | 1060                      | 0.380                             | 4.560                         | 1.060                                   | 050                     | 0.030                             | 0.360                         | 0.050                                   |
| 2200    | 14.00     | 1         | 1950                    | 1850                      | 0.790                             | 4.740                         | 1.850                                   | 100                     | 0.050                             | 0.300                         | 0.100                                   |
| 01/04   |           |           |                         |                           |                                   |                               |                                         |                         |                                   |                               |                                         |
| 0200    | 18.00     | 1         | 2725                    | 2450                      | 0.600                             | 3.600                         | 2.450                                   | 275                     | 0.175                             | 1.050                         | 0.275                                   |
| 0600    | 22.00     | 1         | 3650                    | 3225                      | 0.775                             | 4.650                         | 3.225                                   | 425                     | 0.150                             | 0.900                         | 0.425                                   |
| 0800    | 24.00     | 1         | 4100                    | 3450                      | 0.225                             | 2.700                         | 3.450                                   | 650                     | 0.225                             | 2.700                         | 0.650                                   |
| 1000    | 26.00     | 1         | 4560                    | 3760                      | 0.310                             | 3.720                         | 3.760                                   | 800                     | 0.150                             | 1.800                         | 0.800                                   |
| 1200    | 28.00     | 1         | 4870                    | 4020                      | 0.260                             | 3.120                         | 4.020                                   | 850                     | 0.050                             | 0.600                         | 0.850                                   |
| 1400    | 30.00     | 1         | 5185                    | 4275                      | 0.255                             | 3.060                         | 4.275                                   | 910                     | 0.060                             | 0.720                         | 0.910                                   |
| 34 1600 | 32.00     | 1         | 5495                    | 4535                      | 0.260                             | 3.120                         | 4.535                                   | 960                     | 0.050                             | 0.600                         | 0.960                                   |
| 1800    | 34.00     | 1         | 5810                    | 4790                      | 0.255                             | 3.060                         | 4.790                                   | 1020                    | 0.060                             | 0.720                         | 1.020                                   |
| 2200    | 38.00     | 1         | 6430                    | 5300 (53)                 | 0.510                             | 3.060                         | 5.300                                   | ↓ 130 (13)              | 0.110                             | 0.660                         | 1.130                                   |
| 2200    | 38.00     | 2         | 000                     | ↓ 000                     | 0.000                             | 0.000                         | 5.300                                   | ↓ 000                   | 0.000                             | 0.000                         | 1.130                                   |
| 02/04   |           |           |                         |                           |                                   |                               |                                         |                         |                                   |                               |                                         |
| 0200    | 42.00     | 2         | 1050                    | 650                       | 0.650                             | 3.900                         | 5.950                                   | 400                     | 0.400                             | 2.400                         | 1.530                                   |
| 0600    | 46.00     | 2         | 1920                    | 1300                      | 0.650                             | 3.900                         | 6.600                                   | 620                     | 0.220                             | 1.320                         | 1.750                                   |
| 0800    | 48.00     | 2         | 2300                    | 1650                      | 0.350                             | 4.200                         | 6.950                                   | 650                     | 0.030                             | 0.360                         | 1.780                                   |
| 1000    | 50.00     | 2         | 2930                    | 2280                      | 0.630                             | 7.560                         | 7.580                                   | 650                     | 0.000                             | 0.000                         | 1.780                                   |
| 1200    | 52.00     | 2         | 3150                    | 2460                      | 0.180                             | 2.160                         | 7.760                                   | 690                     | 0.030                             | 0.360                         | 1.810                                   |
| 1400    | 54.00     | 2         | 3500                    | 2800                      | 0.340                             | 4.080                         | 8.100                                   | 700                     | 0.010                             | 0.120                         | 1.820                                   |
| 1600    | 56.00     | 2         | 3850                    | 2900                      | 0.100                             | 1.200                         | 8.200                                   | 950                     | 0.250                             | 3.000                         | 2.070                                   |
| 1700    | 57.00     | 2         | 4120                    | 3150                      | 0.250                             | 6.000                         | 8.450                                   | 970                     | 0.020                             | 0.480                         | 2.090                                   |

0016



## OILSERV AUSTRALIA LTD : LIQUID PRODUCTION

CONTINUATION SHEET

WELL NAME: GIDGEALPA #38

**PAGE: 2 OF 2**

DATE: 02 / 04 / 93

[illegible]

0117

**SECTION N01****SEQUENCE OF EVENTS**

By:

**OILSERV AUSTRALIA LTD  
23 GROVE AVENUE  
MARLESTON SA 5033**

**TELEPHONE: (08) 371 2755  
FACSIMILIE: (08) 371 2734**

## OILSERV AUSTRALIA LIMITED

0019

## OPERATIONS LOG

CLIENT : SANTOS LTD.  
WELL NAME : GIDGEALPA #38

FIELD : GIDGEALPA  
DATE : 29/03/93

| DATE     | TIME | ACTIVITY                                                                                                                                                                                          |
|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 29/03/93 | 1630 | Arrive location from Wancoocha #2, and commence to spot equipment.                                                                                                                                |
|          | 1800 | Stand down for evening.                                                                                                                                                                           |
| 30/03/93 | 0600 | Spot E/line unit and commence rigging up for drift run.                                                                                                                                           |
|          | 1100 | Assist with rigging up of separator and surface test equipment.                                                                                                                                   |
|          | 1500 | Pressure test wire line equipment to SIWHP. All ok.                                                                                                                                               |
|          | 1600 | Pressure up lubricator.                                                                                                                                                                           |
|          | 1610 | R.I.H. c/w rope socket, 3' weight bar, knuckle joint, 5' weight bar, knuckle joint, 5' weight bar, knuckle joint, spang jars and 1.750" gauge cutter.                                             |
|          | 1705 | Tag 7579' kb, no obstructions.                                                                                                                                                                    |
|          | 1712 | P.O.O.H.                                                                                                                                                                                          |
|          | 1800 | In lubricator.                                                                                                                                                                                    |
|          | 1806 | Depressure lubricator and stand down for evening.                                                                                                                                                 |
| 31/03/93 | 0600 | Redress G.I.H. and B.O.P. for E/line.                                                                                                                                                             |
|          | 1800 | Stand down for evening.                                                                                                                                                                           |
| 01/04/93 | 0600 | Rig up E/line to R.I.H.                                                                                                                                                                           |
|          | 1330 | Stab on lubricator.                                                                                                                                                                               |
|          | 1338 | Hang gauges at atmosphere for 1 hour.                                                                                                                                                             |
|          | 1438 | Pressure up lubricator for 1 hour.                                                                                                                                                                |
|          | 1538 | Depressure lubricator and hang gauges at atmosphere for 1 hour.                                                                                                                                   |
|          | 1635 | Pressure up lubricator.                                                                                                                                                                           |
|          | 1638 | R.I.H. c/w cable head, CCL, GRC quartz gauge s/n 85019, 3' weight bar, knuckle joint, 5' weight bar, knuckle joint, 5' weight bar, knuckle joint and RPG-Amerada with 180 hour clock s/n H-25513. |
|          | 1800 | Conduct CCL run over BHA, 4' out, adjust accordingly and RIH to 7300' kb, survey depth.                                                                                                           |
|          |      | Monitor flow.                                                                                                                                                                                     |
| 02/04/93 |      | Monitor flow.                                                                                                                                                                                     |
|          | 1700 | Collect 1st set of samples.                                                                                                                                                                       |
|          | 1800 | Collect 2nd set of samples.                                                                                                                                                                       |
| 03/04/93 | 0000 | Adjust choke to 30/64". Start 2nd Rate.                                                                                                                                                           |
|          | 0020 | Increase choke to 34/64".                                                                                                                                                                         |
|          |      | Monitor Flow.                                                                                                                                                                                     |
| 04/04/93 | 0000 | Well shut in @ wing valve. Start build up survey.                                                                                                                                                 |
| 05/04/93 |      | Monitor build up.                                                                                                                                                                                 |
| 06/04/93 |      | Monitor build up.                                                                                                                                                                                 |
| 07/04/93 |      | Monitor build up.                                                                                                                                                                                 |
| 08/04/93 | 1100 | Shut down SRO and R.I.H. End build up survey.                                                                                                                                                     |
|          | 1109 | Hang @ 7440' KB M.P.P. Start static gradient survey.                                                                                                                                              |
|          | 1129 | P.O.O.H.                                                                                                                                                                                          |
|          | 1137 | @ 7300' KB Hang depth.                                                                                                                                                                            |
|          | 1200 | P.O.O.H.                                                                                                                                                                                          |
|          | 1210 | @ 7000' KB.                                                                                                                                                                                       |
|          | 1221 | P.O.O.H.                                                                                                                                                                                          |
|          | 1231 | @ 6500' KB.                                                                                                                                                                                       |
|          | 1242 | P.O.O.H.                                                                                                                                                                                          |
|          | 1254 | @ 6000' KB.                                                                                                                                                                                       |
|          | 1305 | P.O.O.H.                                                                                                                                                                                          |

| DATE     | TIME | ACTIVITY                                    |
|----------|------|---------------------------------------------|
| 08/04/93 | 1318 | @ 5500' KB.                                 |
|          | 1331 | P.O.O.H.                                    |
|          | 1343 | @ 5000' KB.                                 |
|          | 1355 | P.O.O.H.                                    |
|          | 1411 | @ 4000' KB.                                 |
|          | 1426 | P.O.O.H.                                    |
|          | 1441 | @ 3000' KB.                                 |
|          | 1457 | P.O.O.H.                                    |
|          | 1516 | @ 2000' KB.                                 |
|          | 1527 | P.O.O.H.                                    |
|          | 1545 | @ 1000' KB.                                 |
|          | 1557 | P.O.O.H.                                    |
|          | 1627 | In lubricator at surface.                   |
|          | 1633 | Depressure lubricator. Gauge to atmosphere. |
|          | 1730 | Pressure up lubricator.                     |
|          | 1830 | Depressure lubricator. Gauge to atmosphere. |
|          | 1930 | End static gradient survey.                 |
|          |      | Hang in lubricator overnight.               |
| 09/04/93 | 0600 | Rig down wireline unit.                     |
|          |      | Move to Gidgealpa #39.                      |

0021

Plot starting date: 4/ 1/93  
time: 13: 38: 30

Gauge S/N 85019

Company: OILSERV AUSTRALIA LTD

Client: SANTOS LTD

Well name: GIDGEALPA

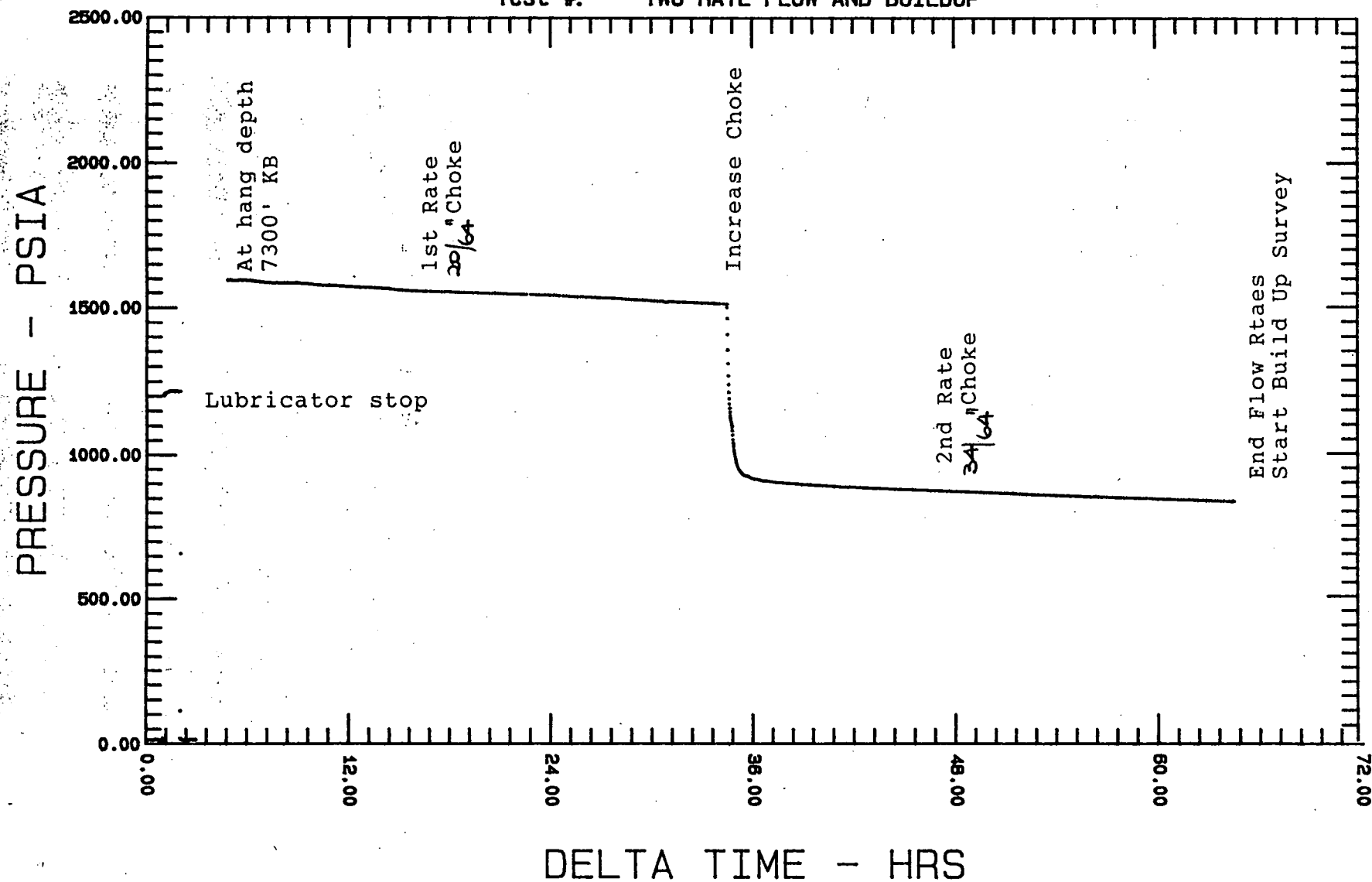
Well #: 38

Test #: TWO RATE FLOW AND BUILDUP

Location: COOPER BASIN

Operator: S.LAWTON

Comments: TWO RATE FLOW



0022

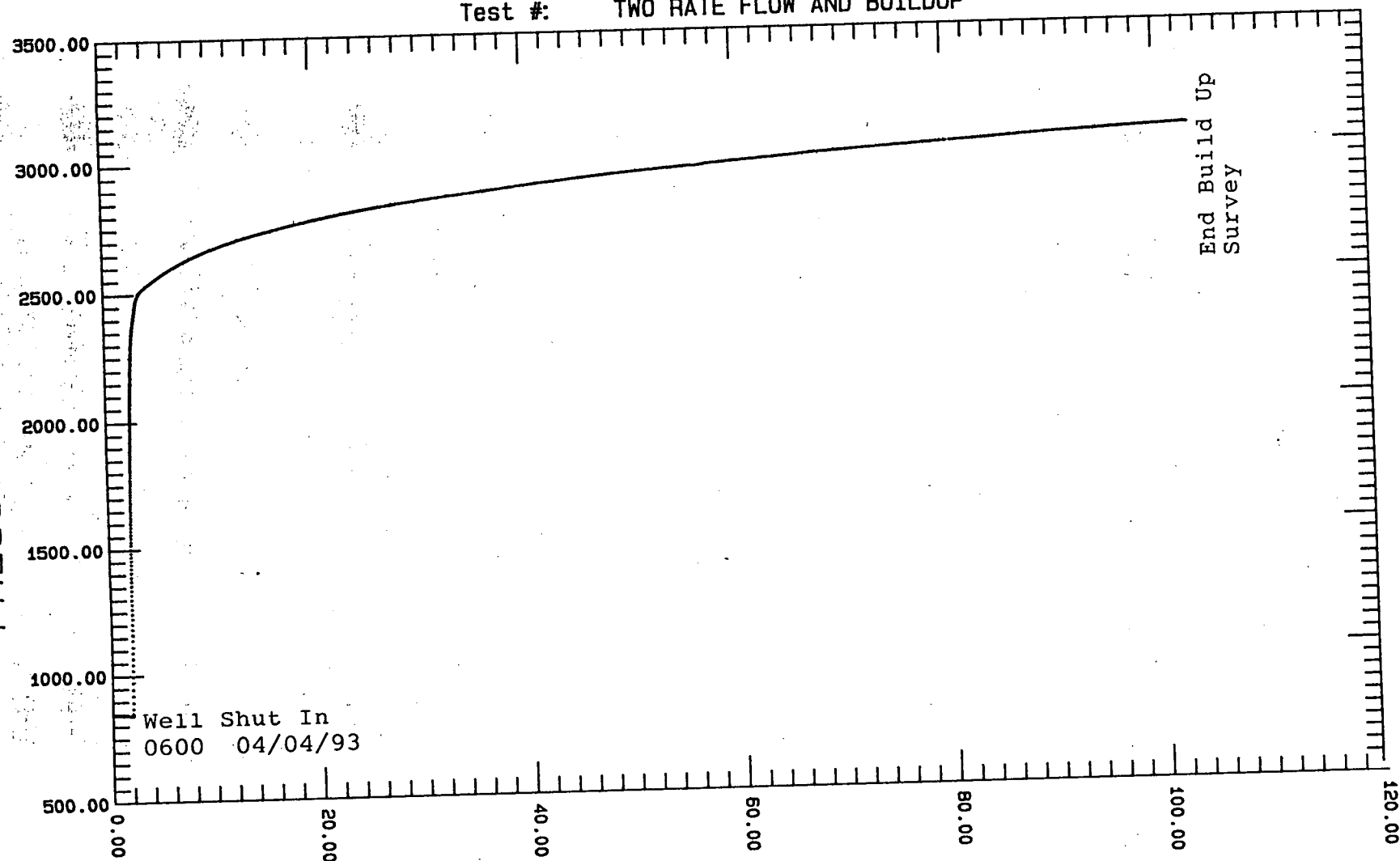
Plot starting date: 4/ 4/93  
time: 4:19: 6

Gauge S/N 85019

Company: OILSERV AUSTRALIA LTD  
Client: SANTOS LTD  
Well name: GIDGEALPA  
Well #: 38  
Test #: TWO RATE FLOW AND BUILDUP

Location: COOPER BASIN  
Operator: S.LAWTON  
Comments: BUILD UP SURVEY

PRESSURE - PSIA



DELTA TIME - HRS

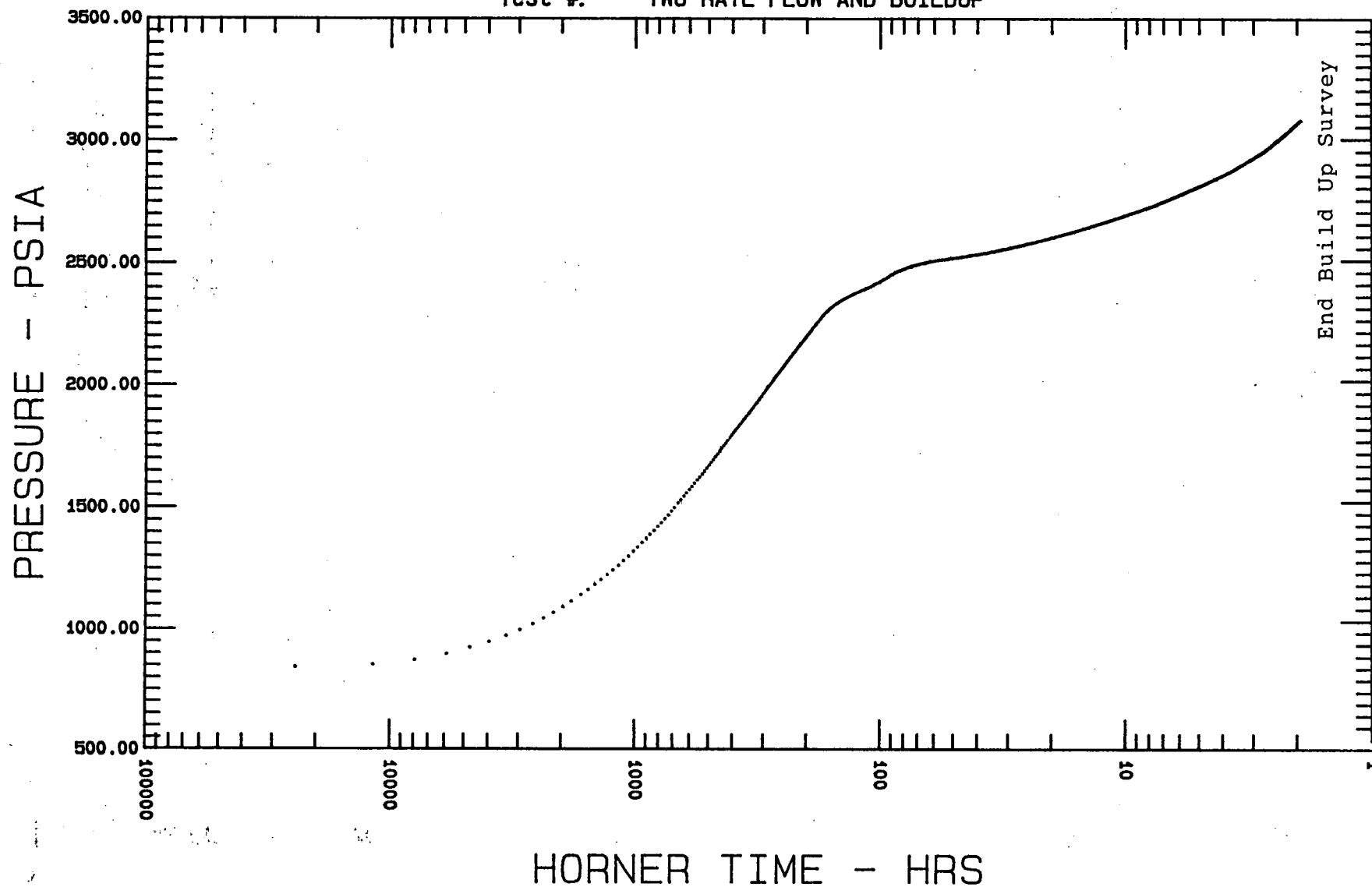
0023

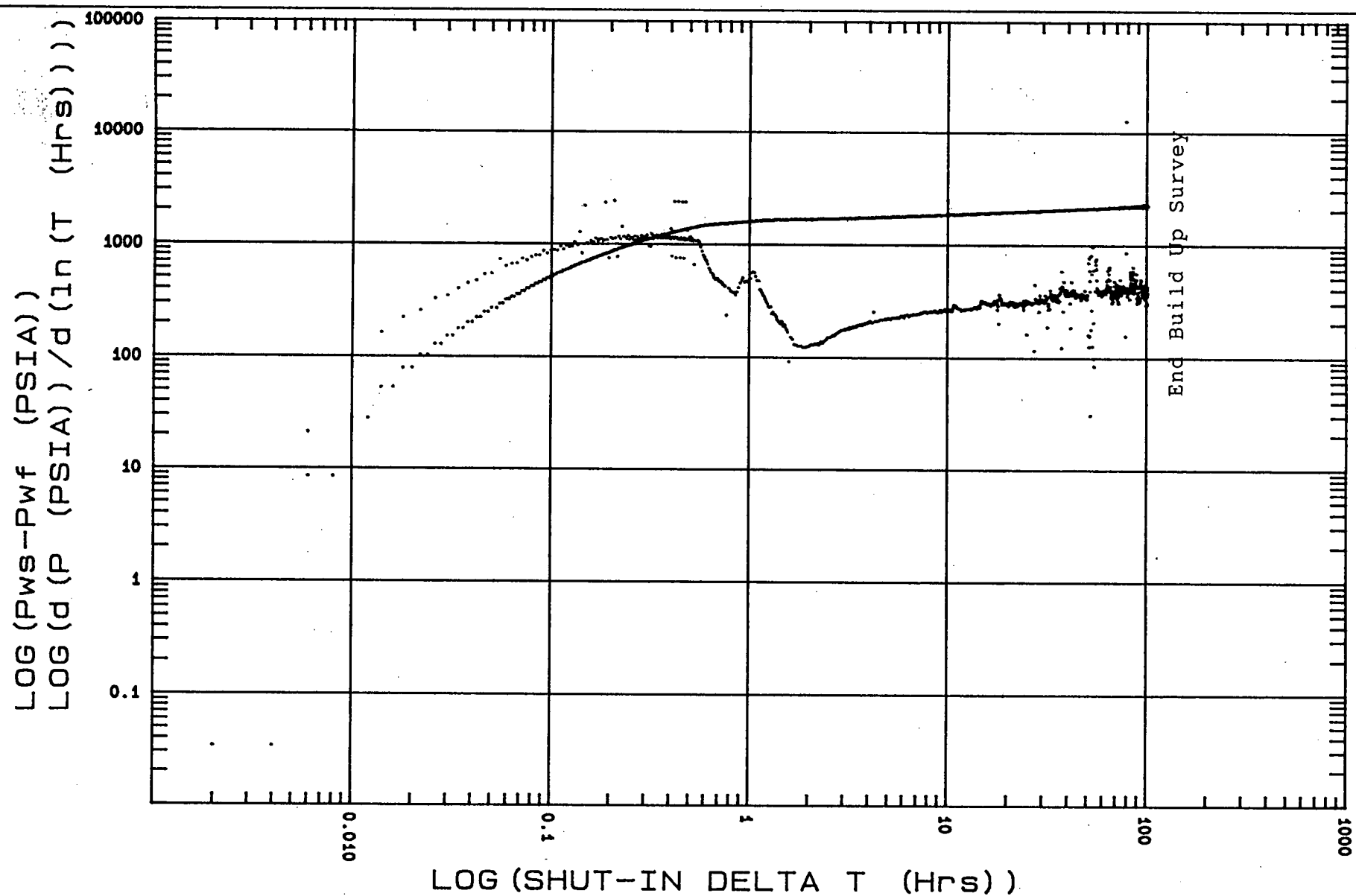
Plot starting date: 4/ 4/93  
time: 6: 0: 5

Gauge S/N 85019  
Flow time: 94.000 HRS

Company: OILSERV AUSTRALIA LTD  
Client: SANTOS LTD  
Well name: GIDGEALPA  
Well #: 38  
Test #: TWO RATE FLOW AND BUILDUP

Location: COOPER BASIN  
Operator: S.LAWTON  
Comments: BUILD UP SURVEY





OILSERV AUSTRALIA LTD. - PRESSURE BUILDUP & DERIVATIVE Pwf=843.37 PSIA

CLIENT: SANTOS

DATA START: 04-04-1993 05:00:07

WELL: GIDGEALPA #38

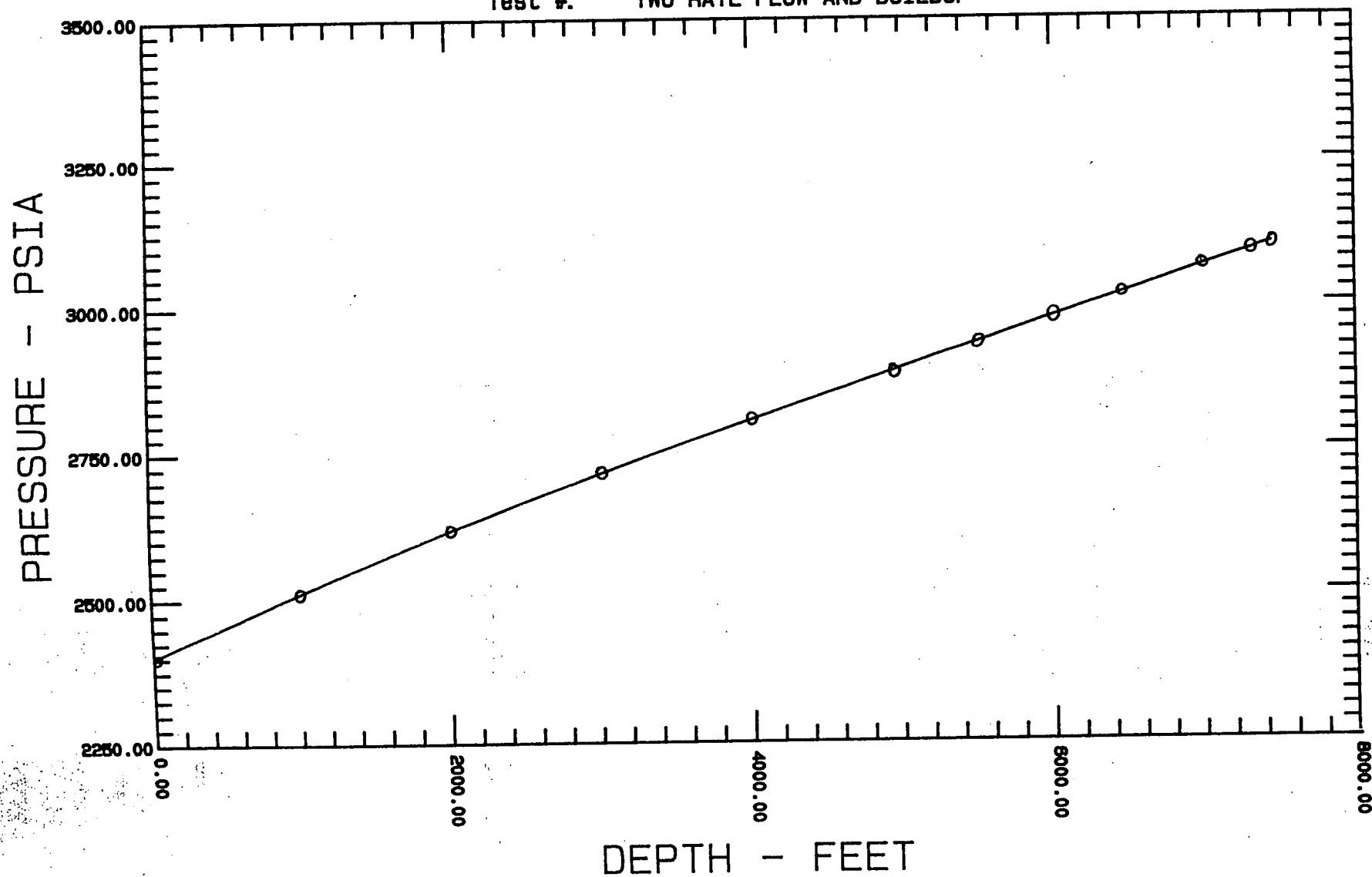
TEST:



Plot starting date: 4/ 8/93  
time: 15:26:28  
Gauge S/N 85019

Company: OILSERV AUSTRALIA LTD  
Client: SANTOS LTD  
Well name: GIDGEALPA  
Well #: 38  
Test #: TWO RATE FLOW AND BUILDUP

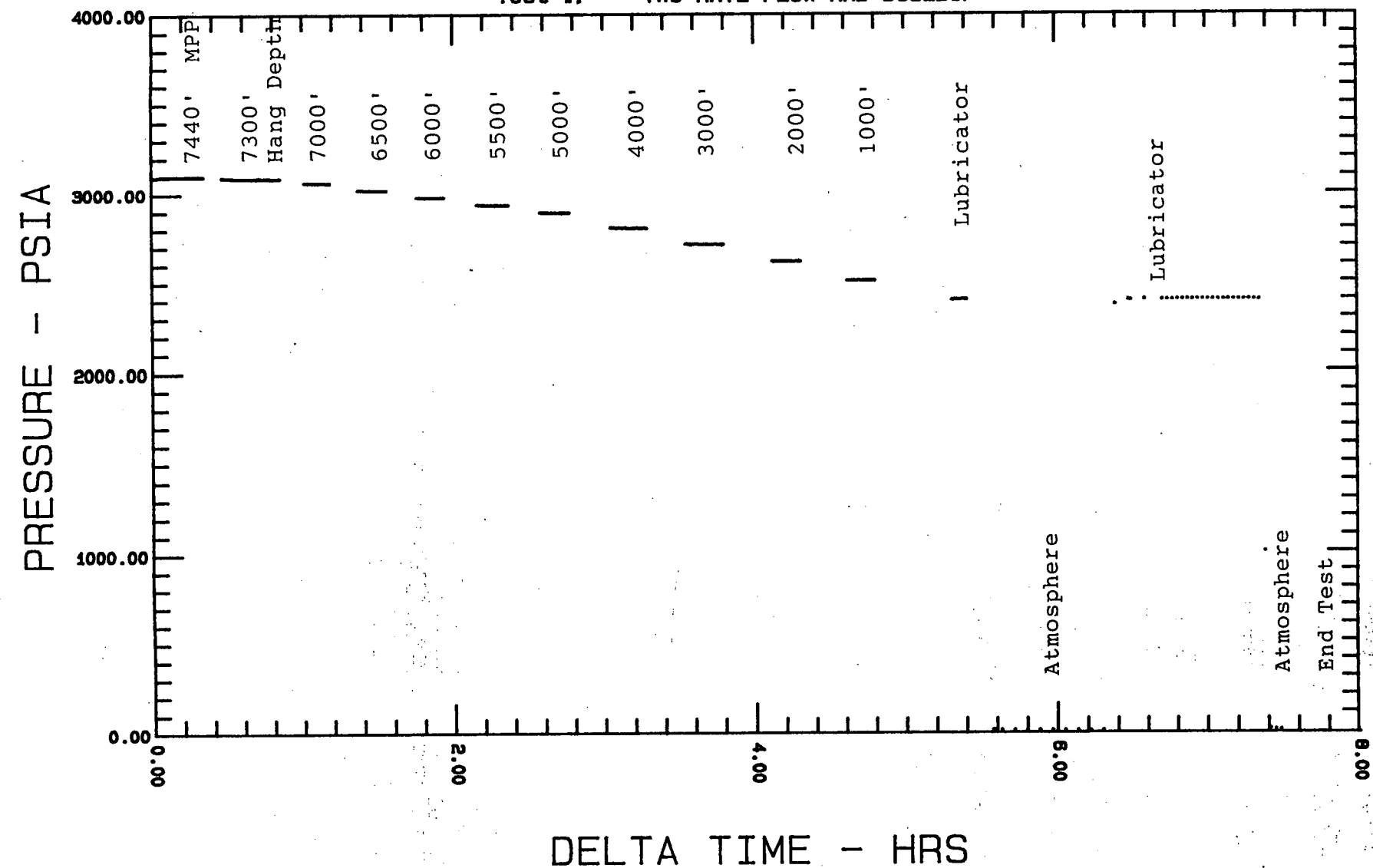
Location: COOPER BASIN  
Operator: S.LANTON  
Comments: STATIC GRADIENT SURVEY



Plot starting date: 4/ 8/93  
time: 11: 9:28  
Gauge S/N 85019

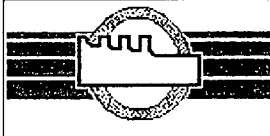
Company: OILSERV AUSTRALIA LTD  
Client: SANTOS LTD  
Well name: GIDGEALPA  
Well #: 38  
Test #: TWO RATE FLOW AND BUILDUP

Location: COOPER BASIN  
Operator: S.LAWTON  
Comments: STATIC GRADIENT SURVEY



12 MAY 1995

0027

**EXPERTEST PTY. LTD.**

A.C.N. 008 034 062

**Production Testing  
Report****Test Details**

|                |                      |
|----------------|----------------------|
| Customer       | SANTOS LTD.          |
| Well Name      | GIDGEALPA 38         |
| Formation      | PATCHAWARRA          |
| Perforations   | 7230'-7437'          |
| Type Of Test   | L.E.T. B.H.P.        |
| Operator       | BUCKLAND.            |
| Date Of Test   | 29/01/95 to 05/02/95 |
| Reference Date | 30/01/95             |
| Reference Time | 1100                 |
| Control No.    | 170204               |

72 77/002

2

| EXPERTEST PTY. LTD.                                                              |      | SEQUENCE OF EVENTS                                            |                      |               |               |
|----------------------------------------------------------------------------------|------|---------------------------------------------------------------|----------------------|---------------|---------------|
|  |      | Customer:                                                     | SANTOS LTD.          | Well Name     | GIDGEALPA 38  |
|                                                                                  |      | Perforations:                                                 | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. |
|                                                                                  |      | Date Of Test:                                                 | 29/01/95 to 05/02/95 | Formation:    | PATCHAWARRA   |
|                                                                                  |      |                                                               |                      | Operator:     | BUCKLAND.     |
|                                                                                  |      |                                                               |                      | Control No.:  | 170204        |
| Date                                                                             | Time | Description Of Events                                         |                      |               |               |
| 29/01/95                                                                         | 1520 | S.I.W. INSTALL SWAB VALVE.                                    |                      |               |               |
| 29/01/95                                                                         | 1530 | B.O.L.                                                        |                      |               |               |
| 29/01/95                                                                         | 1600 | R.I.H. 1.75" BLIND BOX.                                       |                      |               |               |
| 29/01/95                                                                         | 1630 | ARRIVE AT 7487' K.B. SLIGHT OBSTRUCTION AT 7460' KB. P.O.O.H. |                      |               |               |
| 29/01/95                                                                         | 1705 | AT SURFACE CONTINUE RIG IN OF PIPEWORK.                       |                      |               |               |
| 29/01/95                                                                         | 1800 | DEPART LOCATION FOR MOOMBA.                                   |                      |               |               |
| 30/01/95                                                                         | 0700 | PICK UP CALIBRATED RECORDER FOR SEPARATOR 459                 |                      |               |               |
| 30/01/95                                                                         | 0900 | DEPART MOOMBA.                                                |                      |               |               |
| 30/01/95                                                                         | 0945 | ARRIVE LOCATION CONTINUE RIG UP.                              |                      |               |               |
| 30/01/95                                                                         | 1030 | PRESSURE TEST LINES.                                          |                      |               |               |
| 30/01/95                                                                         | 1045 | PRESSURE TEST SEPARATOR.                                      |                      |               |               |
| 30/01/95                                                                         | 1100 | COMMENCE TEST 1.25" ORIFICE PLATE IN SERVICE.                 |                      |               |               |
| 30/01/95                                                                         | 1800 | COMPRESSOR SHUT DOWN AT SATELITE.                             |                      |               |               |
| 31/01/95                                                                         | 1005 | PREPARE GAUGES FOR BHP SURVEY.                                |                      |               |               |
| 31/01/95                                                                         | 1108 | PRESSURE LUB WITH GAUGES INSTALLED.                           |                      |               |               |
| 31/01/95                                                                         | 1123 | RUN IN HOLE WITH GAUGES.                                      |                      |               |               |
| 31/01/95                                                                         | 1146 | ARRIVE AT HANG DEPTH OF 7334'KB.                              |                      |               |               |
| 31/01/95                                                                         | 1210 | COMPRESSOR SHUT DOWN AT SATELITE.                             |                      |               |               |
| 31/01/95                                                                         | 1310 | COMPRESSOR BROUGHT BACK ON LINE GRADUALLY.                    |                      |               |               |
| 1/02/95                                                                          | 0900 | END LET SHUT WELL IN AT WING VALVE COMMENCE 96 HOUR BUILD UP. |                      |               |               |
| 1/02/95                                                                          | 1145 | COMPLETE RIG OUT OF SEPARATOR, MOVE OFF LOCATION.             |                      |               |               |
| 2/02/95                                                                          | 0600 | READING N/A                                                   |                      |               |               |
| 5/02/95                                                                          | 0900 | END BHP COMMENCE SGS.                                         |                      |               |               |
| 5/02/95                                                                          | 1024 | ARRIVE AT SURFACE PRESSURE LUB 15 MINUTES.                    |                      |               |               |
| 5/02/95                                                                          | 1041 | DEPRESSURE LUB.                                               |                      |               |               |
| 5/02/95                                                                          | 1051 | DISENGAGE STYLUS.                                             |                      |               |               |
| 5/02/95                                                                          | 1058 | DISENGAGE BATTERY.                                            |                      |               |               |
| 5/02/95                                                                          | 1100 | COMMENCE DOWN LOAD EMR.                                       |                      |               |               |
| 5/02/95                                                                          | 1230 | COMPLETE DOWN LOAD EMR.                                       |                      |               |               |
| 5/02/95                                                                          | 1245 | COMMENCE RIG DOWN WIRELINE UNIT.                              |                      |               |               |
| 5/02/95                                                                          | 1330 | COMPLETE RIG DOWN.                                            |                      |               |               |



## FIELD READINGS

Customer: SANTOS LTD.

Well Name: GIDGEALPA 38

Formation: PATCHAWARRA

Perforations: 7230'-7437'

Type Of Test: L.E.T. B.H.P.

Operator: BUCKLAND.

Date Of Test: 29/01/95 to 05/02/95

Control No.: 170204

| TIME     |      |                      | WELLHEAD DATA |        |       |                |            |      | SEPARATOR DATA |                      |             |                 |                       | LIQUID PRODUCTION |         |              |         |           |           |                         |
|----------|------|----------------------|---------------|--------|-------|----------------|------------|------|----------------|----------------------|-------------|-----------------|-----------------------|-------------------|---------|--------------|---------|-----------|-----------|-------------------------|
| Date     | Time | Elapsed Time (Hours) | Pressures     |        |       | Well-Head Temp | Choke Size |      | BS &W (%)      | Orifice Plate (Inch) | Spec. Grav. | Static Pressure | Differential Pressure | Gas Temp          | Tnk No. | Total Liquid | Oil Dip | Water Dip | Dip Units | Oil API Gravity @ 60° F |
|          |      |                      | Tubing        | Casing | Units |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 29/01/95 | 1520 | -19.6667             | 313           |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 30/01/95 | 0700 | -4.0000              |               |        |       |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 30/01/95 | 1030 | -0.5000              | 308           | 4      | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 30/01/95 | 1045 | -0.2500              | 308           | 4      | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 30/01/95 | 1100 | 0.0000               |               |        |       |                |            |      |                | 0.75                 |             |                 |                       | 1                 | 8.00    | 4.62         | 3.38    | Inches    |           |                         |
| 30/01/95 | 1200 | 1.0000               | 329           | 2      | PSI   | 47 °C          | 100        | Perc |                | 1.250                | 0.75        | 314 PSI         | 114 In WC             | 47 °C             | 1       | 8.00         | 4.62    | 3.38      | Inches    |                         |
| 30/01/95 | 1400 | 3.0000               | 306           |        | PSI   | 43 °C          | 100        | Perc |                | 1.250                | 0.75        | 300 PSI         | 124 In WC             | 43 °C             | 1       | 8.00         | 4.62    | 3.38      | Inches    |                         |
| 30/01/95 | 1600 | 5.0000               | 296           |        | PSI   | 44 °C          | 100        | Perc |                | 1.250                | 0.75        | 274 PSI         | 128 In WC             | 42 °C             | 1       | 9.00         | 5.50    | 3.50      | Inches    |                         |
| 30/01/95 | 1800 | 7.0000               | 371           |        | PSI   | 45 °C          | 100        | Perc |                | 1.250                | 0.75        | 352 PSI         | 74 In WC              | 44 °C             | 1       | 9.50         | 5.50    | 4.00      | Inches    |                         |
| 31/01/95 | 0600 | 19.0000              | 272           |        | PSI   | 41 °C          | 100        | Perc |                | 1.250                | 0.75        | 249 PSI         | 146 In WC             | 38 °C             | 1       | 12.00        | 6.50    | 5.50      | Inches    |                         |
| 31/01/95 | 0800 | 21.0000              | 266           |        | PSI   | 40 °C          | 100        | Perc |                | 1.250                | 0.75        | 242 PSI         | 148 In WC             | 38 °C             | 1       | 12.50        | 6.75    | 5.75      | Inches    |                         |
| 31/01/95 | 1000 | 23.0000              | 271           |        | PSI   | 41 °C          | 100        | Perc |                | 1.250                | 0.75        | 251 PSI         | 146 In WC             | 40 °C             | 1       | 13.00        | 6.75    | 6.25      | Inches    |                         |
| 31/01/95 | 1123 | 24.3833              | 279           |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 31/01/95 | 1146 | 24.7667              | 278           |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 31/01/95 | 1200 | 25.0000              | 279           |        | PSI   | 44 °C          | 100        | Perc |                | 1.250                | 0.75        | 253 PSI         | 144 In WC             | 42 °C             | 1       | 14.00        | 7.50    | 6.50      | Inches    |                         |
| 31/01/95 | 1400 | 27.0000              | 467           |        | PSI   | 47 °C          | 100        | Perc |                | 1.250                | 0.75        | 460 PSI         | 72 In WC              | 45 °C             | 1       | 14.00        | 7.50    | 6.50      | Inches    |                         |
| 31/01/95 | 1600 | 29.0000              | 314           |        | PSI   | 49 °C          | 100        | Perc |                | 1.250                | 0.75        | 292 PSI         | 126 In WC             | 46 °C             | 1       | 14.50        | 8.00    | 6.50      | Inches    |                         |
| 31/01/95 | 1800 | 31.0000              | 291           |        | PSI   | 50 °C          | 100        | Perc |                | 1.250                | 0.75        | 275 PSI         | 134 In WC             | 45 °C             | 1       | 15.25        | 8.25    | 7.00      | Inches    |                         |
| 1/02/95  | 0600 | 43.0000              | 253           |        | PSI   | 41 °C          | 100        | Perc |                | 1.250                | 0.75        | 229 PSI         | 160 In WC             | 40 °C             | 1       | 18.50        | 10.50   | 8.00      | Inches    |                         |
| 1/02/95  | 0800 | 45.0000              | 262           |        | PSI   | 40 °C          | 100        | Perc |                | 1.250                | 0.75        | 238 PSI         | 148 In WC             | 40 °C             | 1       | 19.00        | 10.50   | 8.50      | Inches    |                         |
| 1/02/95  | 0900 | 46.0000              | 270           |        | PSI   | 41 °C          | 100        | Perc |                | 1.250                | 0.75        | 250 PSI         | 148 In WC             | 40 °C             | 1       | 19.25        | 10.75   | 8.50      | Inches    |                         |
| 1/02/95  | 0915 | 46.2500              | 943           |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 1/02/95  | 0930 | 46.5000              | 1295          |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 1/02/95  | 0945 | 46.7500              | 1486          |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 1/02/95  | 1000 | 47.0000              | 1602          |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 1/02/95  | 1030 | 47.5000              | 1740          |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |
| 1/02/95  | 1100 | 48.0000              | 1730          |        | PSI   |                |            |      |                |                      |             |                 |                       |                   |         |              |         |           |           |                         |

|                                                                                   |                |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|----------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               | FIELD READINGS |                      |               |               |              |             |
|  | Customer:      | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations:  | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test:  | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |                |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|----------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               | FIELD READINGS |                      |               |               |              |             |
|  | Customer:      | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations:  | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test:  | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |               |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|---------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               |               | FIELD READINGS       |               |               |              |             |
|  | Customer:     | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations: | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test: | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |               |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|---------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               |               | FIELD READINGS       |               |               |              |             |
|  | Customer:     | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations: | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test: | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |               |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|---------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               |               | FIELD READINGS       |               |               |              |             |
|  | Customer:     | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations: | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test: | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |                |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|----------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               | FIELD READINGS |                      |               |               |              |             |
|  | Customer:      | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations:  | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test:  | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |                |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|----------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               | FIELD READINGS |                      |               |               |              |             |
|  | Customer:      | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations:  | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test:  | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |                |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|----------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               | FIELD READINGS |                      |               |               |              |             |
|  | Customer:      | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations:  | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test:  | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |                |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|----------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               | FIELD READINGS |                      |               |               |              |             |
|  | Customer:      | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations:  | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test:  | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

|                                                                                   |                |                      |               |               |              |             |
|-----------------------------------------------------------------------------------|----------------|----------------------|---------------|---------------|--------------|-------------|
| EXPERTEST PTY. LTD.                                                               | FIELD READINGS |                      |               |               |              |             |
|  | Customer:      | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
|                                                                                   | Perforations:  | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
|                                                                                   | Date Of Test:  | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

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## TEST RESULTS



|               |                      |               |               |              |             |
|---------------|----------------------|---------------|---------------|--------------|-------------|
| Customer:     | SANTOS LTD.          | Well Name:    | GIDGEALPA 38  | Formation:   | PATCHAWARRA |
| Perforations: | 7230'-7437'          | Type Of Test: | L.E.T. B.H.P. | Operator:    | BUCKLAND.   |
| Date Of Test: | 29/01/95 to 05/02/95 |               |               | Control No.: | 170204      |

| TIME     |      |              | WELLHEAD DATA   |                  |               |            | SEPARATOR |      | FLOW RATES                          |                     |                     | CUMULATIVE PRODUCTION             |                   |                   | L.G.R.                                                 |  |
|----------|------|--------------|-----------------|------------------|---------------|------------|-----------|------|-------------------------------------|---------------------|---------------------|-----------------------------------|-------------------|-------------------|--------------------------------------------------------|--|
| Date     | Time | Elapsed Time | Tubing Pressure | Annulus Pressure | Wellhead Temp | Choke Size | Pressure  | Temp | Gas Flow Rate                       | Oil Flow Rate       | Water Flow Rate     | Gas                               | Oil               | Water             | L.G.R.                                                 |  |
|          |      | (Hours)      | (kPa)           | (kPa)            | (°C)          | (64ths)    | (kPa)     | (°C) | (m <sup>3</sup> 10 <sup>3</sup> /D) | (m <sup>3</sup> /D) | (m <sup>3</sup> /D) | (m <sup>3</sup> 10 <sup>3</sup> ) | (m <sup>3</sup> ) | (m <sup>3</sup> ) | (m <sup>3</sup> )/<br>10 <sup>6</sup> m <sup>3</sup> ) |  |
| 29/01/95 | 1520 | -19.6667     | 2158            |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 30/01/95 | 1030 | -0.5000      | 2124            | 28               |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 30/01/95 | 1045 | -0.2500      | 2124            | 28               |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 30/01/95 | 1200 | 1.0000       | 2268            | 14               | 47            | 100        | 2165      | 47   | 47.963                              | 0.00                | 0.00                | 2.00                              | 0.00              | 0.00              |                                                        |  |
| 30/01/95 | 1400 | 3.0000       | 2110            |                  | 43            | 100        | 2068      | 43   | 49.267                              | 0.00                | 0.00                | 6.10                              | 0.00              | 0.00              |                                                        |  |
| 30/01/95 | 1600 | 5.0000       | 2041            |                  | 44            | 100        | 1889      | 42   | 47.927                              | 2.85                | 0.39                | 10.10                             | 0.24              | 0.03              |                                                        |  |
| 30/01/95 | 1800 | 7.0000       | 2558            |                  | 45            | 100        | 2427      | 44   | 41.163                              | 0.00                | 1.62                | 13.53                             | 0.24              | 0.17              |                                                        |  |
| 31/01/95 | 0600 | 19.0000      | 1875            |                  | 41            | 100        | 1717      | 38   | 49.201                              | 0.54                | 0.81                | 38.13                             | 0.51              | 0.57              |                                                        |  |
| 31/01/95 | 0800 | 21.0000      | 1834            |                  | 40            | 100        | 1669      | 38   | 48.847                              | 0.81                | 0.81                | 42.20                             | 0.57              | 0.64              |                                                        |  |
| 31/01/95 | 1000 | 23.0000      | 1868            |                  | 41            | 100        | 1731      | 40   | 49.210                              | 0.00                | 1.62                | 46.30                             | 0.57              | 0.77              |                                                        |  |
| 31/01/95 | 1123 | 24.3833      | 1924            |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 31/01/95 | 1146 | 24.7667      | 1917            |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 31/01/95 | 1200 | 25.0000      | 1924            |                  | 44            | 100        | 1744      | 42   | 48.879                              | 2.43                | 0.81                | 50.37                             | 0.78              | 0.84              |                                                        |  |
| 31/01/95 | 1400 | 27.0000      | 3220            |                  | 47            | 100        | 3172      | 45   | 46.579                              | 0.00                | 0.00                | 54.26                             | 0.78              | 0.84              |                                                        |  |
| 31/01/95 | 1600 | 29.0000      | 2165            |                  | 49            | 100        | 2013      | 46   | 48.718                              | 1.62                | 0.00                | 58.31                             | 0.91              | 0.84              |                                                        |  |
| 31/01/95 | 1800 | 31.0000      | 2006            |                  | 50            | 100        | 1896      | 45   | 48.857                              | 0.81                | 1.62                | 62.39                             | 0.98              | 0.98              |                                                        |  |
| 1/02/95  | 0600 | 43.0000      | 1744            |                  | 41            | 100        | 1579      | 40   | 49.262                              | 1.21                | 0.54                | 87.02                             | 1.59              | 1.25              |                                                        |  |
| 1/02/95  | 0800 | 45.0000      | 1806            |                  | 40            | 100        | 1641      | 40   | 48.267                              | 0.00                | 1.62                | 91.04                             | 1.59              | 1.38              |                                                        |  |
| 1/02/95  | 0900 | 46.0000      | 1862            |                  | 41            | 100        | 1724      | 40   | 49.451                              | 1.62                | 0.00                | 93.10                             | 1.65              | 1.38              |                                                        |  |
| 1/02/95  | 0915 | 46.2500      | 6502            |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 1/02/95  | 0930 | 46.5000      | 8929            |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 1/02/95  | 0945 | 46.7500      | 10246           |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 1/02/95  | 1000 | 47.0000      | 11045           |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 1/02/95  | 1030 | 47.5000      | 11997           |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 1/02/95  | 1100 | 48.0000      | 11928           |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |
| 1/02/95  | 1130 | 48.5000      | 11721           |                  |               |            |           |      |                                     |                     |                     |                                   |                   |                   |                                                        |  |





|                      |                      |                      |               |                     |             |
|----------------------|----------------------|----------------------|---------------|---------------------|-------------|
| <b>Customer:</b>     | SANTOS LTD.          | <b>Well Name:</b>    | GIDGEALPA 38  | <b>Formation:</b>   | PATCHAWARRA |
| <b>Perforations:</b> | 7230'-7437'          | <b>Type Of Test:</b> | L.E.T. B.H.P. | <b>Operator:</b>    | BUCKLAND.   |
| <b>Date Of Test:</b> | 29/01/95 to 05/02/95 |                      |               | <b>Control No.:</b> | 170204      |

[illegible]



[illegible]**Formation: PATCHAWARRA**

Operator: BUCKLAND.

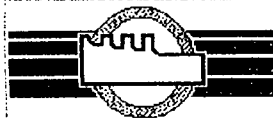
|             |        |
|-------------|--------|
| Control No. | 170204 |
|-------------|--------|

| Tank | Unit No. | Capacity | Cap. Units | Scale  | Scale Units |
|------|----------|----------|------------|--------|-------------|
| 1    | 131      | 60.007   | Cu. m      | 0.2699 | Cu. m/in    |
| 2    | 0        | 0        | 0          | 0      | 0           |

| Tank | Unit No. | Capacity | Cap. Units | Scale | Scale Units |
|------|----------|----------|------------|-------|-------------|
| 3    | 0        | 0        | 0          | 0     | 0           |
| 4    | 0        | 0        | 0          | 0     | 0           |

[illegible]

## GRAPHICAL SUMMARY

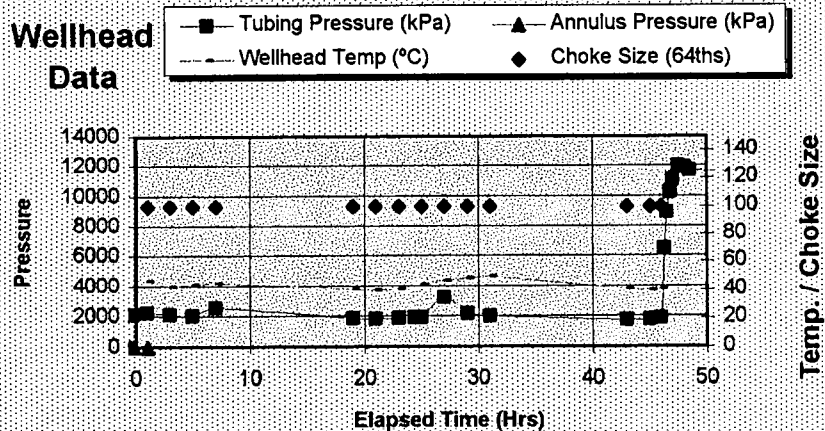


Customer: SANTOS LTD.  
 Perforations: 7230'-7437'  
 Date Of Test: 29/01/95 to 05/02/95

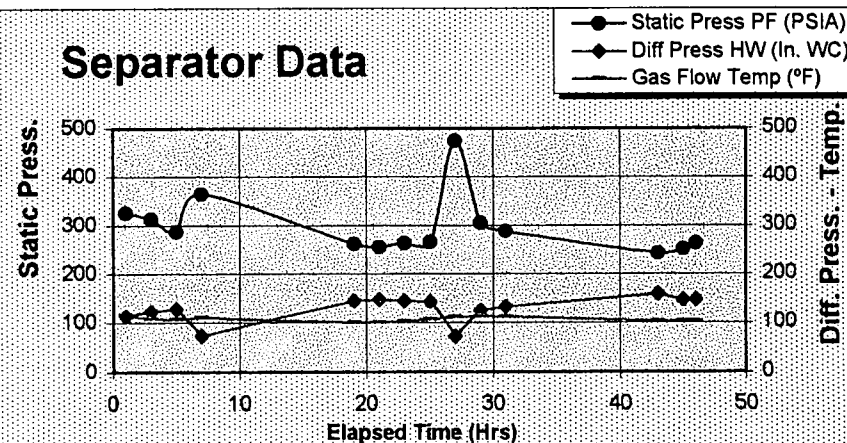
Well Name: GIDGEALPA 38  
 Type Of Test: L.E.T. B.H.P.

Formation: PATCHAWARRA  
 Operator: BUCKLAND.  
 Control No.: 170204

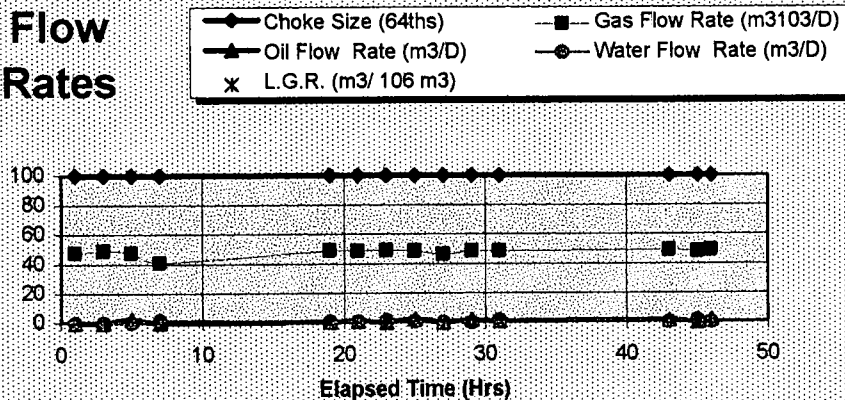
## Wellhead Data



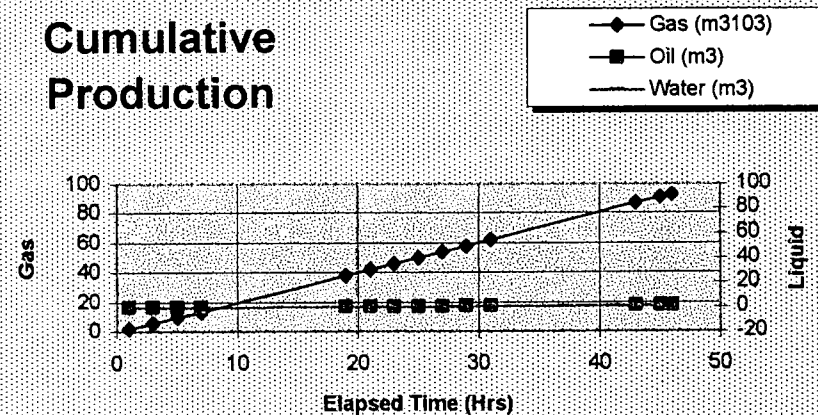
## Separator Data



## Flow Rates

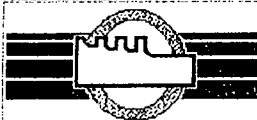


## Cumulative Production





# SAMPLING DATA



Customer: SANTOS LTD.

Well Name: GIDGEALPA 38

Formation: PATCHAWARRA

Perforations: 7230'-7437'

Type Of Test: L.E.T. B.H.P.

Operator: BUCKLAND.

Date Of Test: 29/01/95 to 05/02/95

Control No.: 170204

## SAMPLE #

| Time Sample Collected | Cylinder Serial Number | Cylinder Volume (cc) | Sample Type | Sampling Duration (Mins) | Cylinder Initially Filled With | Outage (cc) | Volume of Fill Remaining with Sample (cc) | Sample Point | Sample Press (kPa) | Sample Temp (°C) | Ambient Press (kPa) | Ambient Temp (°C) |
|-----------------------|------------------------|----------------------|-------------|--------------------------|--------------------------------|-------------|-------------------------------------------|--------------|--------------------|------------------|---------------------|-------------------|
| 0900                  | 1                      | 500                  | H2O         | 1                        |                                |             |                                           | Test Tank    |                    |                  |                     | 27                |

### WELLHEAD DATA

### SEPARATOR DATA

### GRAVITIES

### FLOW RATES

### RATIOS

### BOTTOM HOLE

| Tubing Press (kPa) | Wellhead Temp (°C) | Choke Size | BS&W (%) | Separator Press (kPa) | Separator Temp (°C) | FPV    | Gas Specific Gravity | Oil API Grav @ 60°F | Gas (m <sup>3</sup> /10 <sup>3</sup> /D) | Oil (m <sup>3</sup> /D) | Water (m <sup>3</sup> /D) | LGR (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> ) | Pressure (kPa) | Temp (°C) |
|--------------------|--------------------|------------|----------|-----------------------|---------------------|--------|----------------------|---------------------|------------------------------------------|-------------------------|---------------------------|-------------------------------------------------------|----------------|-----------|
| 1862               | 41                 | 100        |          | 1724                  | 40                  | 1.0261 | 0.75                 |                     | 49.45                                    | 1.62                    | 0                         | 32.76                                                 |                |           |

Remarks:

## SAMPLE #

| Time Sample Collected | Cylinder Serial Number | Cylinder Volume (cc) | Sample Type | Sampling Duration (Mins) | Cylinder Initially Filled With | Outage (cc) | Volume of Fill Remaining with Sample (cc) | Sample Point | Sample Press (kPa) | Sample Temp (°C) | Ambient Press (kPa) | Ambient Temp (°C) |
|-----------------------|------------------------|----------------------|-------------|--------------------------|--------------------------------|-------------|-------------------------------------------|--------------|--------------------|------------------|---------------------|-------------------|
| 0900                  | 2                      | 500                  | H2O         | 1                        |                                |             |                                           | Test Tank    |                    |                  |                     | 27                |

### WELLHEAD DATA

### SEPARATOR DATA

### GRAVITIES

### FLOW RATES

### RATIOS

### BOTTOM HOLE

| Tubing Press (kPa) | Wellhead Temp (°C) | Choke Size | BS&W (%) | Separator Press (kPa) | Separator Temp (°C) | FPV    | Gas Specific Gravity | Oil API Grav @ 60°F | Gas (m <sup>3</sup> /10 <sup>3</sup> /D) | Oil (m <sup>3</sup> /D) | Water (m <sup>3</sup> /D) | LGR (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> ) | Pressure (kPa) | Temp (°C) |
|--------------------|--------------------|------------|----------|-----------------------|---------------------|--------|----------------------|---------------------|------------------------------------------|-------------------------|---------------------------|-------------------------------------------------------|----------------|-----------|
| 1862               | 41                 | 100        |          | 1724                  | 40                  | 1.0261 | 0.75                 |                     | 49.45                                    | 1.62                    |                           | 32.76                                                 |                |           |

Remarks:

## SAMPLE #

| Time Sample Collected | Cylinder Serial Number | Cylinder Volume (cc) | Sample Type | Sampling Duration (Mins) | Cylinder Initially Filled With | Outage (cc) | Volume of Fill Remaining with Sample (cc) | Sample Point | Sample Press (kPa) | Sample Temp (°C) | Ambient Press (kPa) | Ambient Temp (°C) |
|-----------------------|------------------------|----------------------|-------------|--------------------------|--------------------------------|-------------|-------------------------------------------|--------------|--------------------|------------------|---------------------|-------------------|
|                       |                        |                      |             |                          |                                |             |                                           |              |                    |                  |                     |                   |

### WELLHEAD DATA

### SEPARATOR DATA

### GRAVITIES

### FLOW RATES

### RATIOS

### BOTTOM HOLE

| Tubing Press (kPa) | Wellhead Temp (°C) | Choke Size | BS&W (%) | Separator Press (kPa) | Separator Temp (°C) | FPV | Gas Specific Gravity | Oil API Grav @ 60°F | Gas (m <sup>3</sup> /10 <sup>3</sup> /D) | Oil (m <sup>3</sup> /D) | Water (m <sup>3</sup> /D) | LGR (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> ) | Pressure (kPa) | Temp (°C) |
|--------------------|--------------------|------------|----------|-----------------------|---------------------|-----|----------------------|---------------------|------------------------------------------|-------------------------|---------------------------|-------------------------------------------------------|----------------|-----------|
|                    |                    |            |          |                       |                     |     |                      |                     |                                          |                         |                           |                                                       |                |           |

|                                                                                  |                                 |                                    |                            |                      |
|----------------------------------------------------------------------------------|---------------------------------|------------------------------------|----------------------------|----------------------|
|  | GAUGE RUN SHEET                 |                                    |                            | 170204               |
|                                                                                  | CUSTOMER: <b>SANTOS</b>         | PERFORATIONS: <b>7230' - 7437'</b> | PAGE: <b>1</b> OF <b>1</b> |                      |
|                                                                                  | WELL NAME: <b>GIDGEALPA #38</b> | FORMATIONS: <b>PATCHAWARRA</b>     | DATE: <b>5/2/95</b>        |                      |
| TEST TYPE: <b>LET BHP</b>                                                        |                                 |                                    |                            | OPR: <b>D. white</b> |

| GAUGE DATA                                 | TOP<br>GAUGE | BOTTOM<br>GAUGE |
|--------------------------------------------|--------------|-----------------|
| ELEMENT SERIAL NO.                         | 520          | 29386           |
| ELEMENT RANGE PSI                          | 5000         | 2975            |
| ELEMENT TYPE                               | EMP-S        | RP63            |
| DATE OF CALIBRATION:                       | 20-6-94      | 7-2-94          |
| CLOCK SERIAL NO.                           |              | F15296          |
| CLOCK RANGE HOURS                          |              | 120             |
| ENGAGE BATTERY/STYLUS DATE: 31.1.95 TIME   | 10:18        | 10:35           |
| DISENGAGE BATTERY/STYLUS DATE: 5.2.95 TIME | 10:58        | 10:51           |
| GAUGE RUN TIME HOURS                       | 2618         |                 |
| TEST DURATION HOURS                        | 120.7        |                 |

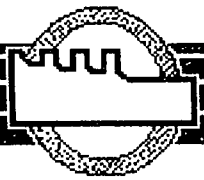
| GAUGE CHECKS                   | COND.     | GAUGE  |
|--------------------------------|-----------|--------|
| PRE-JOB CHECK/PERFORMED BY     | B. Wilson |        |
| DATE: 28-1-95 PRESS PSI #/G    | 0         | -1.35  |
| TEMP °F                        | 82.4      | 81.39  |
| POST-JOB CHECK/PERFORMED BY    | B. Wilson |        |
| DATE: 6-2-95 PRESS PSI #/G     | 0         | -0.875 |
| TEMP °F                        | 69.8      | 71.07  |
| CALIBRATION CHECK/PERFORMED BY | L. Harvey |        |
| DATE: 22-7-94 PRESS PSI #/G    | 2489      | 2487   |
| TEMP °F                        | 284       | 283    |

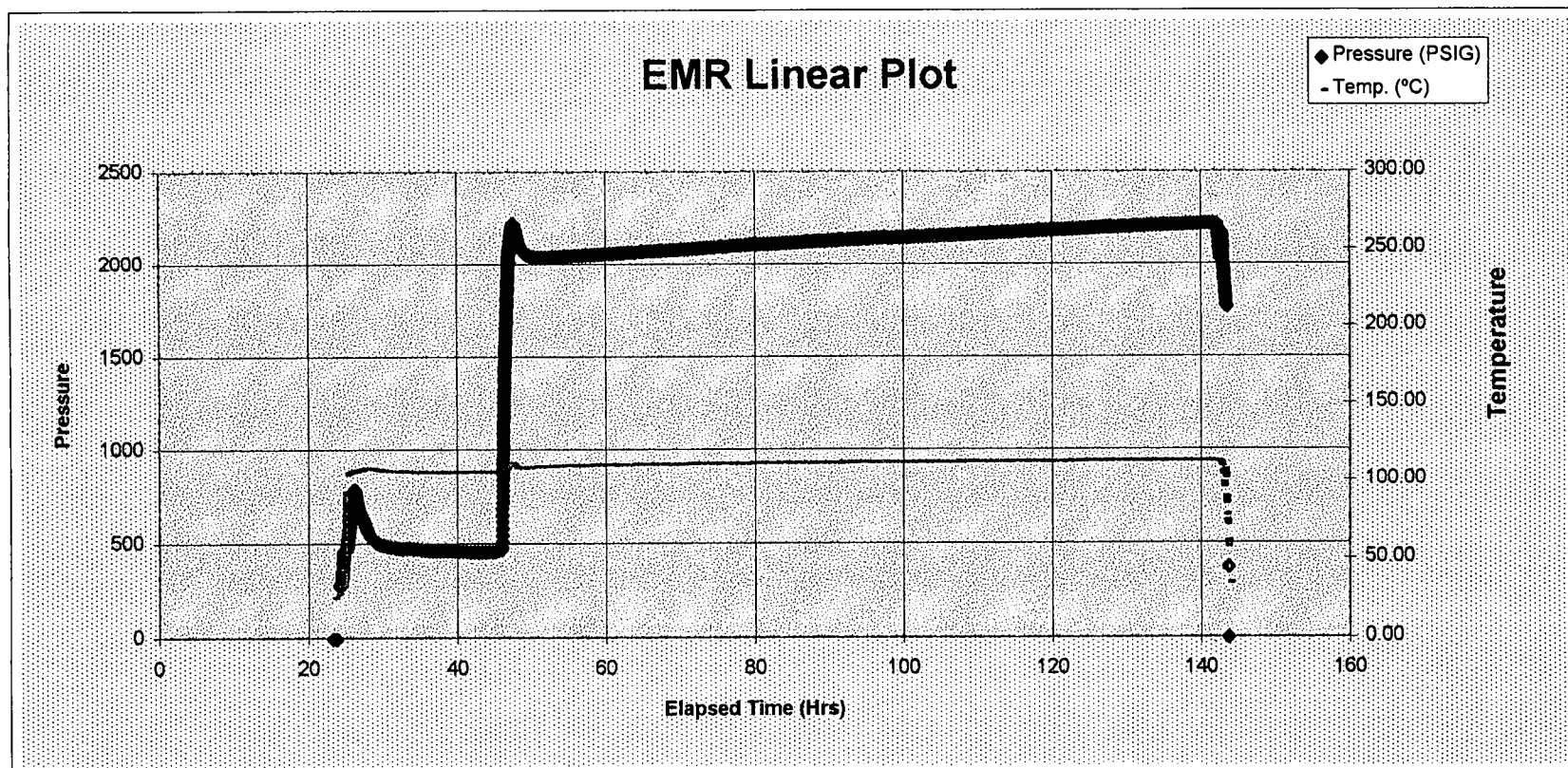
| RUN DATA                             | TIME<br>(HOURS) | TUBING<br>PRESSURE<br>(PSI/KPa) | GAUGE<br>RESPONSE<br>(PSI/KPa) |
|--------------------------------------|-----------------|---------------------------------|--------------------------------|
| DATE                                 | 31.1.95         |                                 |                                |
| PRESSURE LUBRICATOR                  | 11:08           | 279                             | 277.465                        |
| RUN IN HOLE                          | 11:23           | 279                             |                                |
| ON DEPTH AT 7334 FT/M                | 11:46           | 278                             |                                |
| MAX. RECORDED BHP PSI                |                 |                                 | 2223.07                        |
| MAX. RECORDED BHT °C/F               |                 |                                 | 235.04                         |
| DATE                                 | 5/2/95          |                                 |                                |
| PULL OUT OF HOLE                     | 09:00           | 1769                            |                                |
| DEPRESSURE LUBRICATOR                | 10:41           | 1775                            | 1769.083                       |
| NB: ALL DEPTHS ARE MEASURED FROM KB. |                 |                                 |                                |

| BATTERY DATA            | SERIAL NO. | SERIAL NO. | DATE    |
|-------------------------|------------|------------|---------|
|                         | 4929       |            | 29-1-95 |
| PRE-JOB PBU/BHP CYCLES: | 0          |            |         |
| PRE-JOB SGS/FGS CYCLES: | 0          |            |         |
| PRE-JOB LOADED VOLTS:   | 10.56      |            | 29-1-95 |
| POST-JOB LOADED VOLTS   | 10.79      |            | 6-2-95  |

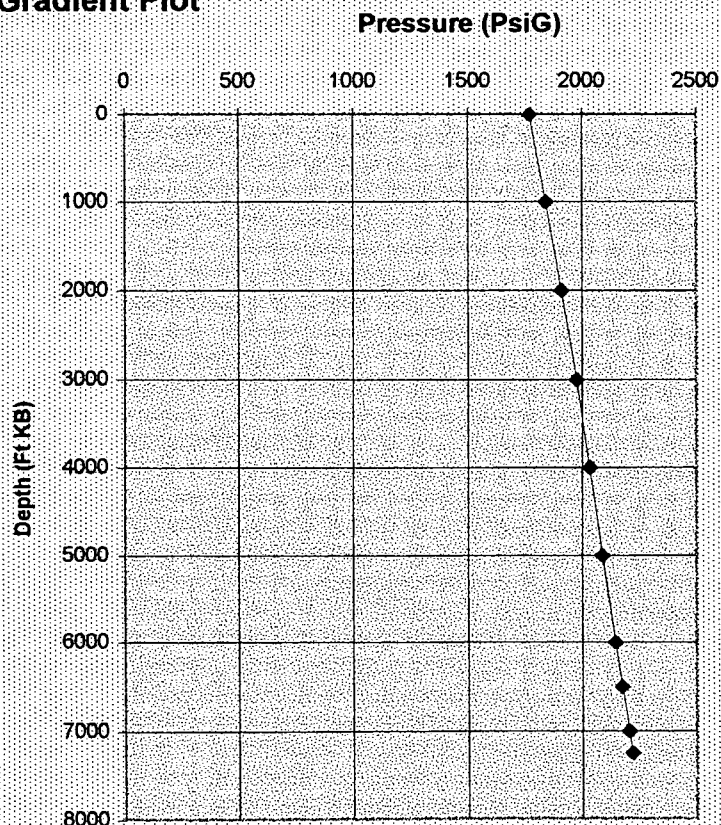
|                                                        |
|--------------------------------------------------------|
| OPERATOR'S SIGNATURE                                   |
| This sheet is submitted as 'Original' and is Not typed |

|           |
|-----------|
| COMMENTS: |
|-----------|

|                                                                                   |                                 |                                                 |                                      |                                  |            |             |
|-----------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------|--------------------------------------|----------------------------------|------------|-------------|
| <b>EXPERTEST PTY. LTD.</b>                                                        |                                 | <b>Electronic Memory Recorder - Linear Plot</b> |                                      |                                  |            |             |
|  | Customer:                       | SANTOS LTD.                                     | Well Name:                           | GIDGEALPA 38                     | Formation: | PATCHAWARRA |
|                                                                                   | Perforations:                   | 7230'-7437'                                     | Type Of Test:                        | L.E.T. B.H.P.                    | Operator:  | BUCKLAND.   |
|                                                                                   | Date Of Test:                   | 29/01/95 to 05/02/95                            |                                      | Control No.: 170204              |            |             |
|                                                                                   | McAllister File Ref: GIDG38.PRN |                                                 |                                      | EMP Serial Number: 80-520        |            |             |
|                                                                                   | EMP Calibration I.D.: 599-14171 |                                                 |                                      | Full Scale Pressure: 5000.0 PSIA |            |             |
| Probe Started: 31/01/95 @ 10:18:00                                                |                                 |                                                 | Data Filter: 1800 Secs; 5 PSI Window |                                  |            |             |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | <b>STATIC Gradient Report</b>        |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------|----------|--------------|----------|---------|----------|-------|----------|---------|-------|----------|-------|------|-------|--------|-------|---------|---------|----------|--------|--|--|-------|---------|---------|----------|--------|-------|--|-------|---------|---------|----------|--------|-------|--|-------|---------|---------|----------|--------|-------|--|-------|---------|---------|----------|--------|-------|--|-------|---------|---------|----------|--------|-------|--|-------|----------|---------|----------|--------|-------|--|-------|----------|---------|----------|--------|-------|--|-------|----------|---------|----------|--------|-------|--|-------|----------|------|----------|-------|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Well Name .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          | GIDGEALPA 38                         |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Location .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          | PATCHAWARRA                          |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Expertest Pty Ltd File Reference ..... GIDG38                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                                      |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Representative ..... D.WHITE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Recorder Depth (KB) ..... 7334.00 ft |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Test Type ..... L.E.T. B.H.P.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          | Recorder Position ..... TOP          |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Date of Test ..... 31/1/95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          | Serial # ..... 520                   |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Battery Connected ..... 31/01/95 10:18:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |                                      |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Reading Time</th> <th>Depth</th> <th>Pressure</th> <th>Temp.</th> <th>Gradient</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>MM/DD</th> <th>hh:mm:ss</th> <th>Ft KB</th> <th>PsiG</th> <th>Deg F</th> <th>Psi/ft</th> </tr> </thead> <tbody> <tr><td>02/05</td><td>9:05:32</td><td>7250.00</td><td>2215.622</td><td>234.53</td><td></td><td></td></tr> <tr><td>02/05</td><td>9:13:00</td><td>7000.00</td><td>2200.804</td><td>233.51</td><td>0.059</td><td></td></tr> <tr><td>02/05</td><td>9:21:32</td><td>6000.00</td><td>2143.851</td><td>231.99</td><td>0.057</td><td></td></tr> <tr><td>02/05</td><td>9:31:40</td><td>5000.00</td><td>2087.020</td><td>223.65</td><td>0.057</td><td></td></tr> <tr><td>02/05</td><td>9:39:40</td><td>4000.00</td><td>2030.466</td><td>210.72</td><td>0.057</td><td></td></tr> <tr><td>02/05</td><td>9:50:20</td><td>6500.00</td><td>2169.928</td><td>216.71</td><td>0.056</td><td></td></tr> <tr><td>02/05</td><td>10:02:36</td><td>3000.00</td><td>1974.035</td><td>202.60</td><td>0.056</td><td></td></tr> <tr><td>02/05</td><td>10:11:08</td><td>2000.00</td><td>1908.506</td><td>171.46</td><td>0.066</td><td></td></tr> <tr><td>02/05</td><td>10:19:08</td><td>1000.00</td><td>1842.280</td><td>146.40</td><td>0.066</td><td></td></tr> <tr><td>02/05</td><td>10:35:44</td><td>0.00</td><td>1769.790</td><td>98.80</td><td>0.072</td><td></td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> |          |                                      |          | Reading Time |          | Depth   | Pressure | Temp. | Gradient | Remarks | MM/DD | hh:mm:ss | Ft KB | PsiG | Deg F | Psi/ft | 02/05 | 9:05:32 | 7250.00 | 2215.622 | 234.53 |  |  | 02/05 | 9:13:00 | 7000.00 | 2200.804 | 233.51 | 0.059 |  | 02/05 | 9:21:32 | 6000.00 | 2143.851 | 231.99 | 0.057 |  | 02/05 | 9:31:40 | 5000.00 | 2087.020 | 223.65 | 0.057 |  | 02/05 | 9:39:40 | 4000.00 | 2030.466 | 210.72 | 0.057 |  | 02/05 | 9:50:20 | 6500.00 | 2169.928 | 216.71 | 0.056 |  | 02/05 | 10:02:36 | 3000.00 | 1974.035 | 202.60 | 0.056 |  | 02/05 | 10:11:08 | 2000.00 | 1908.506 | 171.46 | 0.066 |  | 02/05 | 10:19:08 | 1000.00 | 1842.280 | 146.40 | 0.066 |  | 02/05 | 10:35:44 | 0.00 | 1769.790 | 98.80 | 0.072 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reading Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          | Depth                                | Pressure | Temp.        | Gradient | Remarks |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MM/DD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | hh:mm:ss | Ft KB                                | PsiG     | Deg F        | Psi/ft   |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9:05:32  | 7250.00                              | 2215.622 | 234.53       |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9:13:00  | 7000.00                              | 2200.804 | 233.51       | 0.059    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9:21:32  | 6000.00                              | 2143.851 | 231.99       | 0.057    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9:31:40  | 5000.00                              | 2087.020 | 223.65       | 0.057    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9:39:40  | 4000.00                              | 2030.466 | 210.72       | 0.057    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9:50:20  | 6500.00                              | 2169.928 | 216.71       | 0.056    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10:02:36 | 3000.00                              | 1974.035 | 202.60       | 0.056    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10:11:08 | 2000.00                              | 1908.506 | 171.46       | 0.066    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10:19:08 | 1000.00                              | 1842.280 | 146.40       | 0.066    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02/05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10:35:44 | 0.00                                 | 1769.790 | 98.80        | 0.072    |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                                      |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                                      |          |              |          |         |          |       |          |         |       |          |       |      |       |        |       |         |         |          |        |  |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |         |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |         |          |        |       |  |       |          |      |          |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Gradient Plot****Gradient Plot**