

## InfoCentre

NT Minerals and Energy

### *Petroleum Exploration Reports*

This file contains scanned images of hardcopy reports/data submitted to the Northern Territory Government under Petroleum Legislation.

### *Bringing Forward Discovery*

This information is made available to assist future petroleum explorers and may be distributed freely.

### *Scanning information*

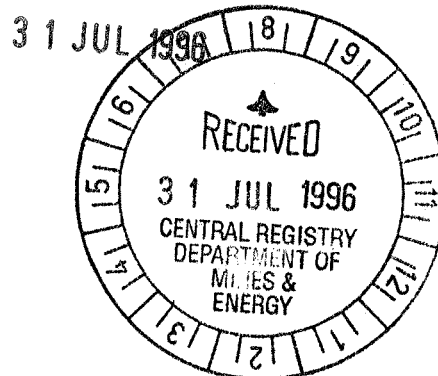
The quality of the scan reflects the condition of the original hardcopy report/data.

### *InfoCentre*

Call: +61 8 8999 6443  
Click: [geoscience.info@nt.gov.au](mailto:geoscience.info@nt.gov.au)  
[www.minerals.nt.gov.au](http://www.minerals.nt.gov.au)  
Visit: 3<sup>rd</sup> floor  
Centrepont Building  
Smith Street Mall  
Darwin  
Northern Territory 0800



**SANTOS - MAGELLAN -  
UNITED OIL AND GAS**



**COMPILED FOR  
SANTOS LIMITED**  
(A.C.N. 007 550 923)

**EAST MEREENIE 41  
RAW DATA REPORT**



**PREPARED BY:  
M. BILEK  
(CONSULTANT)  
JULY, 1996**

# **EAST MEREENIE 41**

## **CONTENTS**

LOCATION MAP

SECTION 1: PRELIMINARY WELL CARD

SECTION 2: DAILY GEOLOGICAL REPORTS

SECTION 3: HYDROCARBON SHOW REPORTS

SECTION 4: FIELD ELECTRIC LOGGING REPORTS

SECTION 5: OPEN HOLE TEST DATA

SECTION 6: HYDROCARBON ANALYSIS

SECTION 7: CORE DATA

(A) CORE DESCRIPTION

(B) CORE ANALYSIS

SECTION 8: CATALOGUE OF WELLSITE SAMPLES

SECTION 9: TIME - DEPTH CURVE

SECTION 10: DIRECTIONAL SURVEY DATA

ENCLOSURES: I 1:200 SCALE MUDLOG

## LOCATION MAP

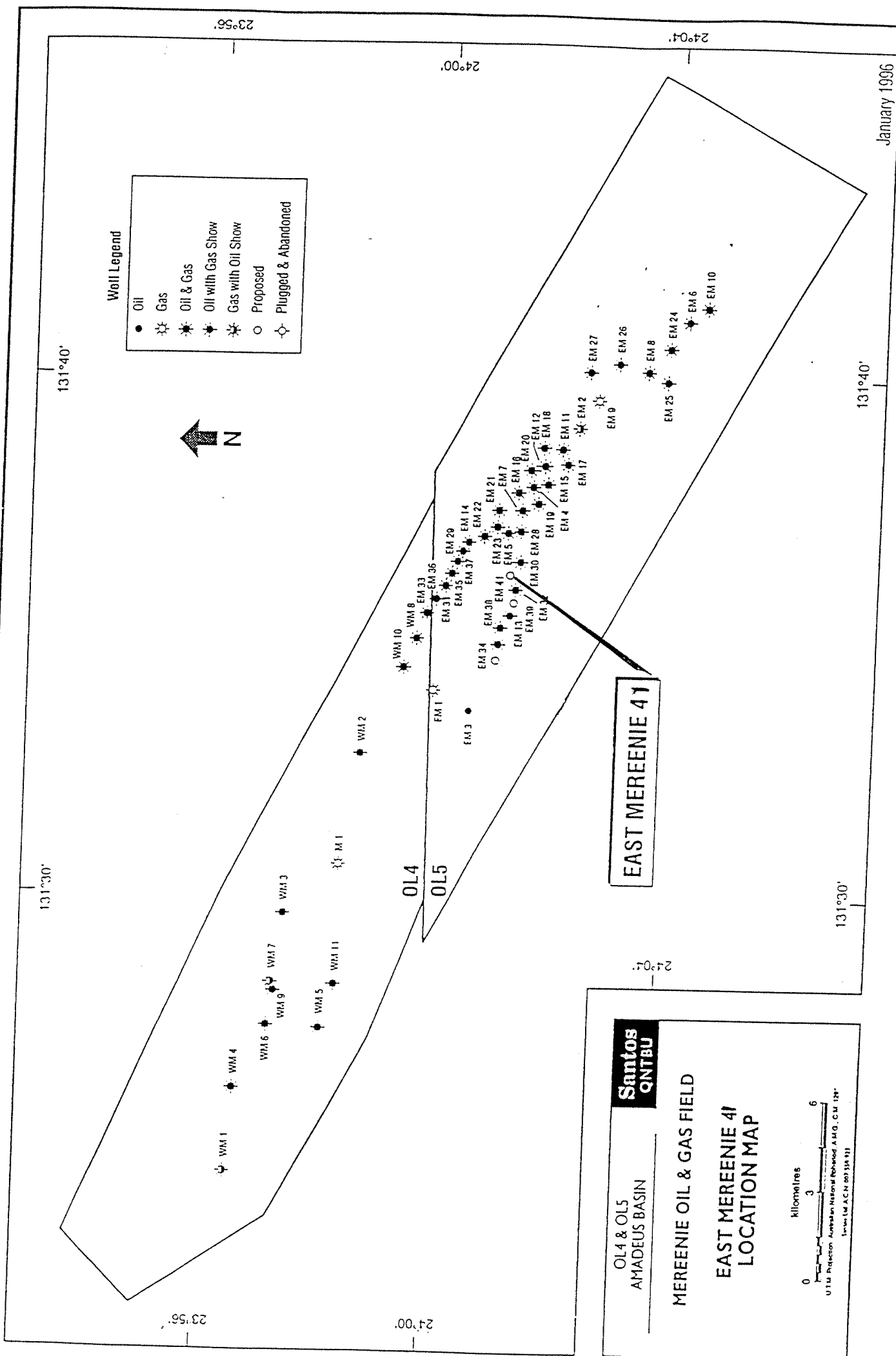


FIGURE 1

## **SECTION 1: PRELIMINARY WELL CARD**

|  |                                  |  |                       |                  |
|--|----------------------------------|--|-----------------------|------------------|
| WELL: EAST MEREENIE 41   | WELL CATEGORY<br>OIL DEVELOPMENT | SPUD: 00:00 hrs, 25/05/96;                 |                       |                  |
|  |                                  | TD REACHED: 13:00 hrs, 15/06/96            |                       |                  |
|  |                                  | RIG RELEASED: 07:00 hrs, 18/06/96          |                       |                  |
|  |                                  | COMPLETED:                                 |                       |                  |
|  |                                  | RIG: MEREENIE RIG 1                        |                       |                  |
| LAT: 24° 01' 21.609" S (prel.) LONG: 131° 36' 01.045" E (prel) |                                  | STATUS: Cased and suspended                |                       |                  |
| SEISMIC STATION: 1250 m ESE of SP 2100, Line M83-20            |                                  | REMARKS:                                   |                       |                  |
| ELEVATION GND: 764.3 m (prel.) KB 770.5 m (prel.)              |                                  | Bottom Hole Location: 257m towards 021.3°. |                       |                  |
| BLOCK/LICENCE: MEREENIE BLOCK, OL 5                            |                                  |  |                       |                  |
| TD 1573 m (Logr Ext) 1573 m (Drlr)                             |                                  |  |                       |                  |
| PBTD m (Logr)  |                                  | CASING                                     | DEPTH                 | TYPE             |
| TYPE STRUCTURE: SW FLANK, MEREENIE ANTICLINE                   |                                  | 10 3/4"                                    | 668.2 m (D) 668.5 (L) | 40.5# Mixed      |
| TYPE COMPLETION:   |                                  |  |                       |                  |
| ZONE(S):   |                                  | 5- 1/2"                                    | 1573 (D)              | 17.0#, L80,LT&C. |

| AGE                    | FORMATION OR ZONE TOPS    | DEPTH (M) |          | TST (M)      | HIGH (+) |
|------------------------|---------------------------|-----------|----------|--------------|----------|
|                        |                           | LOGGERS   | SUBSEA   | (True Strat. | LOW (-)  |
|                        |                           | (MD KB)   | (TVD SS) | Thickness)   |          |
| LATE SILURIAN TO       |                           |           |          |              |          |
| MIDDLE DEVONIAN        | MEREENIE SANDSTONE        | 6.2       | 764.3    | 505.9        |          |
| LATE ORDOVICIAN        | CARMICHAEL SANDSTONE      | 512.0     | 258.5    | 69.4         | -0.7     |
| MID TO LATE ORDOVICIAN | UPPER STOKES SILTSTONE    | 582.0     | 188.6    | 242.2        | 2.4      |
| MIDDLE ORDOVICIAN      | LOWER STOKES SILTSTONE    | 825.0     | -53.1    | 72.6         | 3.3      |
| MIDDLE ORDOVICIAN      | UPPER STAIRWAY SANDSTONE  | 897.8     | -124.3   | 63.3         | 0.3      |
| MIDDLE ORDOVICIAN      | MIDDLE STAIRWAY SANDSTONE | 961.8     | -185.4   | 108.8        | 0.8      |
| MIDDLE ORDOVICIAN      | LOWER STAIRWAY SST (2)    | 1072.6    | -289.6   | 52.4         | -0.4     |
| MIDDLE ORDOVICIAN      | LOWER STAIRWAY SST (1)    | 1126.0    | -339.8   | 28.9         | Not Prog |
| EARLY ORDOVICIAN       | HORN VALLEY SILTSTONE     | 1155.4    | -367.5   | 70.4         | -0.1     |
| EARLY ORDOVICIAN       | PACOOTTA SANDSTONE P1-40  | 1227.0    | -435.1   | 16.2         | -1.0     |
| EARLY ORDOVICIAN       | P1 -60                    | 1243.5    | -450.6   | 5.6          | Not Prog |
| EARLY ORDOVICIAN       | P1-80                     | 1249.2    | -456.0   | 5.9          | Not Prog |
| EARLY ORDOVICIAN       | P1-110                    | 1255.2    | -461.6   | 12.9         | Not Prog |
| EARLY ORDOVICIAN       | P1-120/180                | 1268.3    | -473.9   | 12.3         | Not Prog |
| EARLY ORDOVICIAN       | P1-200                    | 1280.8    | -485.7   | 9.5          | Not Prog |
| EARLY ORDOVICIAN       | P1-210                    | 1290.5    | -494.8   | 4.9          | Not Prog |
| EARLY ORDOVICIAN       | P1-240                    | 1295.5    | -499.5   | 16.1         | Not Prog |
| EARLY ORDOVICIAN       | P1-280                    | 1311.9    | -515.0   | 5.0          | Not Prog |
| EARLY ORDOVICIAN       | P1-310                    | 1317.0    | -519.8   | 12.8         | Not Prog |
| EARLY ORDOVICIAN       | P1-350                    | 1330.0    | -532.1   | 4.7          | Not Prog |
| EARLY ORDOVICIAN       | P2 UNIT                   | 1334.8    | -536.6   | 67.3         | -0.2     |
| EARLY ORDOVICIAN       | P3 -10                    | 1403.0    | -601.4   | 20.0         | -1.4     |
| EARLY ORDOVICIAN       | P3-70                     | 1423.2    | -620.7   | 8.9          | Not Prog |
| EARLY ORDOVICIAN       | P3-90                     | 1432.2    | -629.3   | 5.0          | Not Prog |
| EARLY ORDOVICIAN       | P3-120/130                | 1337.2    | -634.1   | 13.2         | -4.3     |
| EARLY ORDOVICIAN       | P3-150                    | 1450.5    | -646.8   | 14.5         | -3.2     |
| EARLY ORDOVICIAN       | P3-190                    | 1465.1    | -660.8   | 10.8         | -5.7     |
| EARLY ORDOVICIAN       | P3-230/250                | 1476.0    | -671.2   | 9.5          | -4.1     |
| EARLY ORDOVICIAN       | P4                        | 1485.6    | -680.5   | 86.8 +       | -2.2     |
| EARLY ORDOVICIAN       | (P4 RESERVOIR)            | 1498.6    | -692.9   |              | -5.1     |
| EARLY ORDOVICIAN       | TOTAL DEPTH               | 1573.0    | -764.3   |              | -0.1     |

[illegible]

| PERFORATIONS (6 shots/ft) |          |
|---------------------------|----------|
| FORMATION                 | INTERVAL |
|                           | NIL      |

| CORES     |          |  |              |             |
|-----------|----------|--|--------------|-------------|
| FORM      | CORE No. | INTERVAL (metres)                          | CUT (metres) | RECOVERY    |
| PACOOTAP4 | 1        | 1503.0 - 1512.1 (L)<br>1503.0 - 1512.1 (D) | 9.1          | 9.0 m (99%) |
|           |          |  |              |             |

| LOG                     | RUN   | INTERVAL (metres)              | BHT / TIME             |
|-------------------------|-------|--------------------------------|------------------------|
| FMS (SHDT mode) -       | 1 / 1 | 1184.5 - 850                   | 115°F / 7 hrs 35 min   |
| - CAL                   | 1 / 1 | 1184.5 - 850                   |                        |
| - GR-                   | 1 / 1 | 1175.6 - 850                   |                        |
|                         |       |                                |                        |
| <b>PLATFORM EXPRESS</b> |       |                                |                        |
| HALS -                  | 1 / 2 | 1571.2 - 668.5 (casing shoe)   | 132°F / 5 hrs 17 min   |
| - HRMS -                | 1 / 2 | 1568.0 - 894 m                 | 135°F / 8 hrs 30 min   |
| - HGNS -                | 1 / 2 | 1564.0 - 894 m (GR to surface) |                        |
|                         |       |                                |                        |
| - LDL -                 | 2/2   | 1572.7 - 890                   |                        |
| - NGT -                 | 2/2   | 1559.0 - 890                   | 140°F / 17 hrs 30 mins |
| - EPT -                 | 2/2   | 1567.6 - 890                   |                        |



# FORMATION TESTS (OPEN HOLE)

| NO. | INTERVAL<br>(m MD KB) | FORMATION                           | FLOW<br>(mins) | SHUT<br>IN<br>(mins) | BOTTOM<br>GAUGE<br>IP/FP<br>(psia) | SIP  | MAX<br>SURF<br>PRESS<br>(psia) | FLUID<br>TO<br>SURF<br>(mins) | TC/<br>BC | REMARKS        |
|-----|-----------------------|-------------------------------------|----------------|----------------------|------------------------------------|------|--------------------------------|-------------------------------|-----------|----------------|
| 1   | 1162 m L<br>1162 m D  | Lower<br>Stairway Sst               | 60             | N/A                  | N/A                                |      | 107                            | N/A                           | ½"<br>-   | Q = 0.7 MMCFD. |
| 2   | 1256 m L<br>1256 m D  | Pacoota P-110 to<br>Stairway        | 90             | 125                  | N/A                                | 1264 | 679                            | N/A                           | ½"<br>-   | Q = 4.0 MMCFD. |
| 3   | 1353 m L<br>1353 m D  | Pacoota P2 to<br>Stairway           | 73             | N/A                  | N/A                                | N/A  | 895                            | N/A                           | ½"        | Q = 5.3 MMCFD. |
| 4   | 1447 m L<br>1447 m D  | Pacoota P3-120 /<br>130 to Stairway | 87             | N/A                  | N/A                                | N/A  | 873                            | N/A                           | ½"        | Q = 5.2 MMCFD  |
|     |                       |                                     |                |                      |                                    |      |                                |                               | -         |                |

## SUMMARY:

EAST MEREENIE 41, A MEREENIE FIELD (QNTBU) OIL DEVELOPMENT WELL, IS LOCATED 410 m NORTHEAST OF EAST MEREENIE 32 AND 680 m NORTHWEST OF EAST MEREENIE 30. EAST MEREENIE 41 IS THE SEVENTH WELL TO TARGET THE PACOOTA P4 RESERVOIR. ALL SEVEN WELLS ARE ON THE SOUTHWESTERN FLANK OF THE MEREENIE ANTICLINE, LOCATED IN OIL LEASE NO. 5 OF THE NORTHERN TERRITORY.

THE PRIMARY OBJECTIVE OF EAST MEREENIE 41 WAS TO DEVELOP THE PACOOTA P3-230/250, P3-190 AND P4 OIL RESERVOIRS WHICH WERE PROVED PRODUCTIVE BY THE RECENT EAST MEREENIE 38 WELL. SECONDARY OBJECTIVES INCLUDED THE LOWER STAIRWAY SANDSTONE (GAS), THE PACOOTA P1 (GAS), THE PACOOTA P3-120/130 (GAS) AND THE PACOOTA P3-150 (OIL).

AN INTERMEDIATE ELECTRIC LOGGING RUN CONSISTING OF A FMS LOG (SHDT MODE)- GR FROM 1192 m (37 m INTO THE TOP HORN VALLEY SILTSTONE) TO 850 m (MINIMUM RUN) WAS CONDUCTED SO AS TO ENABLE AN ACCURATE REPROJECTION OF THE TARGET TVD AND HORIZONTAL DISPLACEMENT. THE TARGET WAS SUBSEQUENTLY CHANGED

|      |                                 |          |    |          |    |          |
|------|---------------------------------|----------|----|----------|----|----------|
| FROM | INITIAL TVD OF                  | 1448.8 m | TO | 1448.8 m | TO | 1448.8 m |
|      | INITIAL HORIZONTAL DISPLACEMENT | 250 m    | TO | 230 m    | TO | 230 m    |
|      | INITIAL UPDIP DIRECTION OF      | 5°       | TO | 5°       | TO | 20°      |

THE PREDICTED 9° ANGLE OF BED DIP WAS DID NOT CHANGE.

FOUR PRE-LOGGING OPEN HOLE TESTS PRIOR TO MUDDING UP WERE CONDUCTED IN EAST MEREENIE 41. OPEN HOLE TEST 1 AT 1162 m (LGR) TESTED THE LOWER STAIRWAY SANDSTONE (1), FLOWING GAS AT 0.7 MMCFD. OPEN HOLE TEST 2 AT 1256 m (LGR) EFFECTIVELY TESTED THE PACOOTA P1-110 SAND AND UPWARDS INCLUSIVE, RESULTING IN A GAS FLOW RATE OF 4.0 MMCFD. OPEN HOLE TEST 3 AT 1353 m (LGR) WAS CONDUCTED UPON PENETRATION OF THE PACOOTA P2 UNIT AND TESTED THE ENTIRE P1 AND STAIRWAY SECTION RESULTING IN A GAS FLOW RATE OF 5.3 MMCFD. THE PACOOTA P3-120/130 SAND WAS INTERSECTED ABOVE THE FIELD GAS/OIL CONTACT AND TESTED BY OPEN HOLE TEST 4 (WHICH INCLUDED THE GAS RESERVOIRS ALREADY INTERSECTED). THE FLOW RATE OF 5.2 MMCFD PROVED INCONCLUSIVE BY NOT BEING HIGHER THAN THE PREVIOUS TESTS.

AIR DRILLING WAS TERMINATED AT 1447 m AND DRILLING CONTINUED WITH A HIGH CHLORIDES (30000 mg/l) NaCl-PAC MUD SYSTEM TO A DEPTH OF 1503 m. A 9 m CORE WAS CUT (1503 m TO 1512 m) IN THE PACOOTA P4 RESERVOIR TO PROVIDE MORE DATA FOR RESERVOIR ANALYSIS.

EAST MEREENIE 41 REACHED A TOTAL DEPTH OF 1573 m, WITH THE TARGET BEING INTERSECTED WITHIN TOLERANCE AT A TVD OF 1448.8 m, HORIZONTAL DISPLACEMENT OF 231 m AT A BEARING OF 21.5°. THE PRIMARY OBJECTIVE SANDS WERE INTERSECTED CLOSE TO PROGNOSSED ELEVATION WITH THE P3-190 SAND 5.7 m LOW, THE P3-230/250 SAND 4.1 m LOW AND THE P4 RESERVOIR SAND 5.1 m LOW.

THE FINAL ELECTRIC LOGGING SUITE CONSISTED OF A PLATFORM EXPRESS RUN FOLLOWED BY A NGT - EPT - LDL RUN WITH THE LDL BEING USED TO CROSSCHECK DATA FROM THE PLATFORM EXPRESS.

HIGH RESOLUTION LOG DATA WILL BE COMPARED TO THE CORE ANALYSIS TO HELP PROVIDE NET PAY INTERPRETATION.

EAST MEREENIE 41 HAS BEEN CASED AND SUSPENDED.

AUTHOR: M. BILEK

DATE: JULY 1996

## **SECTION 2: DAILY GEOLOGICAL REPORTS**

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 26/05/96 (0600 Hours)

DEPTH: 32M

PROGRESS: 32M

DAYS FROM SPUD: 1

OPERATION: NIPPLING UP ON 16" RISER

NOPE COST (P&A)\$  
(C&S)\$FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$133,485

CASING DEPTH:

RIG: ODE - MJV #1

PROGRAMMED TD: 1584M KELLY BUSHING: 770.5

GROUND LEVEL: 764.3

| MUD DATA<br>(2400 Hours) | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
|                          |       |     |       |     |     |                  |                   |        |      |

| BIT DATA<br>(2400 Hours) | PRESENT<br>LAST | No.<br>1 | Make | Type<br>HAMMER | Size<br>12 1/4" | Hours<br>- | Footage<br>32 | Condition<br>NIL WATER |
|--------------------------|-----------------|----------|------|----------------|-----------------|------------|---------------|------------------------|
|                          |                 |          |      |                |                 |            |               |                        |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

WELL SPUDDED AT 0000 HOURS ON 25/05/96, MAKE UP PILOT HOLE ASSEMBLY, DRILL 12 1/4" PILOT HOLE TO 32M, CLEAN OUT CUTTINGS FROM CELLAR, LAY OUT PILOT ASSEMBLY AND PICK UP HANG OVER ASSEMBLY, OPEN HOLE TO 17 1/2", CHANGE OUT 17 1/2" STABILISER, HANGING UP, OPEN HOLE TO 17 1/2" TO 16M, PICK UP 12" SQUARE DRILL COLLAR, OPEN HOLE TO 28M, CLEAN OUT CUTTINGS FROM CELLAR, OPEN HOLE TO 32M, CLEAN OUT CUTTINGS FROM CELLAR AND MATTING, LAY OUT HAMMER HANG OVER ASSEMBLY AND PICK UP TRICONE ASSEMBLY, REAM RIDGES IN 17 1/2" HOLE TO 32M, CLEAN OUT CUTTINGS FROM CELLAR, PULL OUT OF HOLE, BREAK AND RACK TO AND CEMENT 16" CONDUCTOR WITH 80 SACKS OF CLASS 'A' CEMENT WITH 2% CACL2, WAIT ON CEMENT.

#### ANTICIPATED OPERATIONS:

PREPARE TO DRILL AHEAD.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 27/05/96 (0600 Hours)

DEPTH: 127M

PROGRESS: 57M

DAYS FROM SPUD: 2

OPERATION: LAYING OUT 5 HEAVY WEIGHTED DRILL PIPES AND PICK UP 5 DRILL COLLARS

NOPE COST (P&A)\$  
(C&S)\$FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$164,870

CASING DEPTH:

RIG: ODE - MJV #1

PROGRAMMED TD: 1584M KELLY BUSHING: 770.5

GROUND LEVEL: 764.3

| MUD DATA<br>(2400 Hours) | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
|                          |       |     |       |     |     |                  |                   |        |      |

| BIT DATA<br>(2400 Hours) | PRESENT<br>LAST | No.<br>3 | Make | Type<br>SMITH H45M2 | Size<br>13 9/16" | Hours<br>5 | Footage<br>57 | Condition<br>IN |
|--------------------------|-----------------|----------|------|---------------------|------------------|------------|---------------|-----------------|
|                          |                 |          |      |                     |                  |            |               |                 |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

WAIT ON CEMENT, CUT OFF CONDUCTOR AND WELD ON RISER, INSTALL SHAFFER ROTATING HEAD, INSTALL BLOOIE LINE, MODIFY BLOOIE LINE TO FIT FLANGE, REMOVE DUST TARP, NIPPLE UP ROTATING HEAD AND RISER, HANG WEIGHTS ON BLOOIE LINE, CLEAN AND MEASURE BOTTOM HOLE ASSEMBLY, LAY OUT 17 1/2" REAMING ASSEMBLY AND MAKE UP 13 9/16" AIR HAMMER DRILLING ASSEMBLY, INSTALL ROTATING HEAD RUBBER AND DRIVE NUT, MIST DRILL 13 9/16" HOLE TO 36M - HAMMER QUIT, PULL OUT OF HOLE AND SERVICE HAMMER, PACKED OFF WITH SAND, MIST DRILL TO 45M - HAMMER QUIT, PULL OUT OF HOLE AND CHECK HAMMER - PISTON JAMMED IN OPEN POSITION, MIST DRILL TO 82M, LAY OUT 5 HEAVY WEIGHTED DRILL PIPES AND PICK UP 5 DRILL COLLARS, MIST DRILL TO 89M - HAMMER QUIT

#### ANTICIPATED OPERATIONS:

AIR HAMMER DRILL.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 28/05/96 (0600 Hours)

DEPTH: 318M

PROGRESS: 222M

DAYS FROM SPUD: 3

OPERATION: FOAM DRILLING 13 1/2" HOLE

NOPE COST (P&A)\$  
(C&S)\$1,412,800FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$186,679

CASING DEPTH: 16" CONDUCTOR SET AT 32M

RIG: ODE - MJV #1

PROGRAMMED TD: 1584M

KELLY BUSHING: 770.5

GROUND LEVEL: 764.3

|                                 |       |     |       |     |     |                  |                   |        |      |
|---------------------------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| <b>MUD DATA</b><br>(2400 Hours) | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|---------------------------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|

|                                 |                 |          |      |                     |                  |             |                |                 |
|---------------------------------|-----------------|----------|------|---------------------|------------------|-------------|----------------|-----------------|
| <b>BIT DATA</b><br>(2400 Hours) | PRESENT<br>LAST | No.<br>3 | Make | Type<br>SMITH H45M2 | Size<br>13 9/16" | Hours<br>21 | Footage<br>279 | Condition<br>IN |
|---------------------------------|-----------------|----------|------|---------------------|------------------|-------------|----------------|-----------------|

|                 |              |              |
|-----------------|--------------|--------------|
| <b>SURVEYS:</b> | 0.25° @ 107M | 0.50° @ 200M |
|-----------------|--------------|--------------|

#### PREVIOUS 24 HOURS OPERATIONS:

HAMMER QUIT - REMOVE ROTATING HEAD AND PULL OUT OF HOLE, CHANGE HAMMERS - REPLACE BROKEN FOOT VALVE IN BIT, RUN IN HOLE AND INSTALL ROTATING HEAD, MIST HAMMER DRILL 13 9/16" HOLE TO 11M, BLOW HOLE AND SURVEY AT 97.69M - MISRUN, MIST HAMMER DRILL TO 120M, BLOW HOLE AND SURVEY AT 107M, MIST HAMMER DRILL TO 129M, LAY OUT 5 HEAVY WEIGHT DRILL PIPE AND PICK UP 5 X DRILL COLLARS, MIST HAMMER DRILL TO 175M, LAY OUT 5 HEAVY WEIGHT DRILL PIPE AND PICK UP 5 X DRILL COLLARS, MIST HAMMER DRILL TO 213M, BLOW HOLE AND SURVEY AT 200M, FOAM HAMMER DRILL TO 311M.

#### ANTICIPATED OPERATIONS:

CONTINUE DRILLING 13 1/2" HOLE.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 29/05/96 (0600 Hours)

DEPTH: 412M

PROGRESS: 101M

DAYS FROM SPUD: 4

OPERATION: FOAM DRILLING 13 1/2" HOLE

NOPE COST (P&amp;A)\$

(C&amp;S)\$1,412,800

FINAL FORECAST COST (P&amp;A)\$

(C&amp;S)\$

COST TO DATE: \$231,480

CASING DEPTH: 16" CONDUCTOR SET AT 32M

RIG: ODE - MJV #1

PROGRAMMED TD: 1584M

KELLY BUSHING: 770.5

GROUND LEVEL: 764.3

#### MUD DATA (2400 Hours)

Type:

Wt:

Visc:

WL:

pH:

K<sup>+</sup>:Cl<sup>-</sup>:

PV/YP:

Rmf:

#### BIT DATA (2400 Hours)

PRESENT  
LASTNo.  
3

Make

Type  
SMITH H45M2Size  
13 9/16"Hours  
21Footage  
280Condition  
IN

#### SURVEYS:

#### PREVIOUS 24 HOURS OPERATIONS:

FOAM DRILL TO 366M, BLOW HOLE AND SURVEY @ 354.67M, FOAM DRILL TO 412M.

#### ANTICIPATED OPERATIONS:

DRILL AHEAD.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 30/05/96 (0600 Hours)

DEPTH: 620M

PROGRESS: 170M

DAYS FROM SPUD: 5

OPERATION: DRILLING IN UPPER STOKES SILTSTONE

NOPE COST (P&amp;A)\$

FINAL FORECAST COST (P&amp;A)\$

COST TO DATE: \$277,356

(C&amp;S)\$1,412,800

(C&amp;S)\$

CASING DEPTH: 16" CONDUCTOR SET AT 32M

RIG: ODE - MJV #1

PROGRAMMED TD: 1584M

KELLY BUSHING: 770.5

GROUND LEVEL: 764.3

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) |       |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make | Type   | Size  | Hours | Footage | Condition |
|--------------|---------|-----|------|--------|-------|-------|---------|-----------|
| (2400 Hours) | LAST    | 5   | HTC  | AT11H  | 13.5" | 6.5   | 74      | IN        |
|              |         | 4   | HTC  | ATJ44H | 13.5" | 17.5  | 163     | 7-8-1/8"  |

| SURVEYS: | MD   | INCLINATION | AZIMUTH (T) | MD  | INCLINATION | AZIMUTH (T) |
|----------|------|-------------|-------------|-----|-------------|-------------|
|          | 499M | 1           | N/A         | 614 | 3           | N/A         |

#### PREVIOUS 24 HOURS OPERATIONS:

AIR DRILLED 13.5" HOLE TO 475M, PULLED OUT OF HOLE TO CHANGE BIT, RAN IN HOLE AND REAMED 461M TO 475M, DRILLED 13.5" HOLE.

#### ANTICIPATED OPERATIONS:

AIR DRILL 13.5" HOLE TO APPROXIMATELY 660M AND PULL OUT OF HOLE TO RUN 10.75" CASING.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 30/05/96 (0600 Hours)

| FORMATION TOPS:        | DEPTH KB<br>M | DEPTH SS<br>M | HIGH/LOW<br>M | RELATIVE TO OFFSET |
|------------------------|---------------|---------------|---------------|--------------------|
| CARMICHAEL SILTSTONE   | 512           | +259          | AS PROG       |                    |
| UPPER STOKES SILTSTONE | 582           | +189          | 3 H           |                    |

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY            | GAS |
|----------|----------------------|-----|
|          | No significant shows |     |

#### GEOLOGICAL SUMMARY

| INTERVAL                           | LITHOLOGY   | GAS |
|------------------------------------|---|-----|
| 450-460<br>7.5 to 12<br>7.6 Av. 8  | SANDSTONE: very light grey, predominantly very fine rare medium grained, subangular to subrounded, moderately sorted, moderate siliceous cement, no visible matrix, rare dark grey to black specks (lithics?), moderately hard to hard, very poor to poor visual porosity, fair inferred porosity in parts, no fluorescence.  | Nil |
| 460-512<br>2.0 to 17<br>Av. 3 to 5 | SANDSTONE WITH MINOR SILTSTONE<br>SANDSTONE: as above, becoming pale pink/brown in parts, rare red/brown with mottled green, predominantly fine to medium occasional coarse grained, subangular to subrounded occasional rounded, poorly sorted, moderate to strong siliceous cement, grain boundaries partially obscured by recrystallisation in parts, moderately hard to hard occasional loose grains, very poor to poor visual porosity, fair inferred porosity in parts, no fluorescence.<br>SILTSTONE: dark red/brown, purple with occasional mottled green, hard, subfissile, siliceous, commonly micromicaceous, very fine arenaceous in parts. | Nil |



# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 30/05/96 (0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL                         | LITHOLOGY  | GAS |
|----------------------------------|--|-----|
| 512-568<br>2.0 to 5.0<br>Av. 3   | <b>CARMICHAEL SANDSTONE</b><br>SANDSTONE WITH MINOR SILTSTONE<br>SANDSTONE: dark orange/brown, predominantly very fine to fine, rate medium grained, subangular to subrounded, moderately sorted, weak to strong siliceous cement, common red/brown argillaceous matrix, occasional dark grey/black lithics/minerals, friable to moderately hard, occasional loose grains, very poor to fair visual porosity, no fluorescence. SILTSTONE: dark orange/brown, moderately hard, subblocky to subfissile, occasionally, argillaceous, commonly very finely arenaceous and grading in parts to matrix supported sandstone.   | Nil |
| 568-585<br>2.1 to 3.2<br>Av. 2.5 | <b>SILTSTONE INTERBEDDED WITH SANDSTONE.</b><br>SILTSTONE: dark red brown, moderately hard, subblocky, argillaceous, commonly very finely arenaceous and grading in parts to matrix supported sandstone, micromicaceous in parts. SANDSTONE: orange, brown, dark brown, green/grey occasional very light grey, very fine to fine rare medium grained, subangular to angular rare subrounded, moderately sorted, weak to moderate siliceous cement, occasional aggregates with string siliceous cement, occasional moderate to abundant brown argillaceous matrix, rare dark grey specks (lithics?), friable to moderately hard, very poor to poor rare fair visual porosity, no fluorescence.      | Nil |
| 582-620<br>1.5 to 3.0<br>Av. 2.5 | <b>UPPER STOKES SILTSTONE</b><br>SILTSTONE WITH MINOR SANDSTONE<br>SILTSTONE: dark red/brown, occasional mottled with grey/green, moderately hard to hard, subblocky, argillaceous, occasionally very finely arenaceous, slightly dolomitic in parts, are dark grey lithics, micromicaceous in parts. SANDSTONE: off white, very light grey, red/brown, green/grey, very fine to fine rare medium grained, subangular to subrounded, moderately sorted, moderate to strong siliceous cement, grain boundaries partially obscured by recrystallisation in parts, occasional minor dolomitic cement, occasional dark grey mica friable to hard, tight to very poor visual porosity, no fluorescence. | Nil |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 31/05/96 (0600 Hours)

DEPTH: 670 m

PROGRESS: 50 m

DAYS FROM SPUD: 6

OPERATION: TOPPING UP CASING ANNULUS WITH ADDITIONAL CEMENT.

NOPE COST (P&amp;A):

(C&amp;S): 1,412,800

FINAL FORECAST COST (P&amp;A)\$

(C&amp;S)\$

COST TO DATE: 307,552

CASING DEPTH: 667.8 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) | AIR   |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make | Type  | Size  | Hours | Metres | Condition  |
|--------------|---------|-----|------|-------|-------|-------|--------|------------|
| (2400 Hours) |         | 6   | HTC  | AT11H | 13.5" | 6.5   | 195    | 3 - 4 - In |

| SURVEYS: | MD    | INCLINATION | AZIMUTH (T) | MD  | INCLINATION | AZIMUTH (T) |
|----------|-------|-------------|-------------|-----|-------------|-------------|
|          | 499 m | 1           | n/a         | 614 | 3           |             |

SEE SEPARATE SHEET FOR MULTISHOT SURVEY DATA.

#### PREVIOUS 24 HOURS OPERATIONS:

AIR DRILLED 13.5" HOLE TO 670 m. PULLED OUT OF HOLE. RAN IN HOLE WITH MONEL AND CONDUCTED MULTISHOT. PULLED OUT OF HOLE, LAID OUT MONEL AND ROTATING HEAD. CUT CONDUCTOR. RAN 58 JOINTS OF MIXED 10.75" CASING TO A DEPTH OF 667.8 m AND CEMENTED IN PLACE. RAN TOP UP JOB.

#### ANTICIPATED OPERATIONS:

RUN ANOTHER TOP UP JOB. INSTALL BOP'S AND PRESSURE TEST. RUN IN HOLE WITH 9-7/8" BIT, DRILL OUT SHOE, CONDUCT FORMATION INTEGRITY TEST AND AIR DRILL 9-7/8" HOLE.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 31/05/96(0600 Hours)

#### FORMATION TOPS:

DEPTH KB m    DEPTH SS m    HIGH / LOW m    RELATIVE TO OFFSETS

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY            | GAS |
|----------|----------------------|-----|
|          | No significant shows |     |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)        | LITHOLOGY  | GAS (Units) |
|------------------------------------|--|-------------|
| 620 - 670<br>1.5 to 5.9<br>av. 3.0 | <p>SILTSTONE WITH OCCASIONAL INTERLAMINATED AND INTERBEDDED MINOR SANDSTONE.</p> <p>SILTSTONE: dark red/brown, occasional mottled with grey/green moderately hard to hard, subblocky to subfissile occasional angular fracture, argillaceous, rare very fine to medium quartz grains, slightly dolomitic in parts, rare dark grey lithics, micromicaceous in parts</p> <p>SANDSTONE: off white, very light grey, red/brown, green/grey, very fine to fine rare medium grained, subangular to subrounded, moderately sorted, moderate to strong siliceous cement, grain boundaries partially obscured by recrystallisation in parts, microsucrosic texture in parts, occasional minor dolomitic cement, occasional dark grey mica friable to hard, tight to very poor visual porosity, no fluorescence.</p> | Nil         |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 01/06/96 (0600 Hours)

DEPTH: 670 m

PROGRESS: NIL

DAYS FROM SPUD: 7

OPERATION:....PREPARING TO PRESSURE TEST BLOW OUT PREVENTERS.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$427,299

CASING DEPTH: 667.8 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) | AIR   |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make | Type | Size | Hours | Metres | Condition |
|--------------|---------|-----|------|------|------|-------|--------|-----------|
| (2400 Hours) |         |     |      |      |      |       |        |           |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

RAN TOP UP JOB. NIPPLED UP BOP'S AND PREPARED TO PRESSURE TEST SAME.

#### ANTICIPATED OPERATIONS:

PRESSURE TEST BOP'S. RUN IN HOLE, DRILL OUT SHOE, CONDUCT FORMATION INTEGRITY TEST AND DRILL AHEAD.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 02/06/96 (0600 Hours)

DEPTH: 832 m

PROGRESS: 162 m

DAYS FROM SPUD: 8

OPERATION: DRILLING IN LOWER STOKES SILTSTONE....

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$465,478

CASING DEPTH: 667.8 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) | AIR   |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make   | Type   | Size   | Hours | Metres | Condition |
|--------------|---------|-----|--------|--------|--------|-------|--------|-----------|
| (2400 Hours) |         | 7   | Hughes | ATJ11H | 9-7/8" | 2     | 36     | In        |

| SURVEYS: | MD    | INCLINATION | AZIMUTH (T) | MD    | INCLINATION | AZIMUTH (T) |
|----------|-------|-------------|-------------|-------|-------------|-------------|
|          | 699.6 | 4.9         | 36          | 728.4 | 5.8         | 35          |
| 757.6    | 6.9   | 34          | 786.5       | 8.1   | 32          |             |
| 815.4    | 9.7   | 30          |             |       |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

PRESSURE TESTED BOP'S. RAN IN HOLE AND DRILLED OUT CASING SHOE. DRILLED TO 672 m  
CONDUCTED FORMATION INTEGRITY TEST (EQUIVALENT TO MUD WEIGHT OF 18.0 ppg). AIR DRILL 9-  
7/8" HOLE WITH SINGLE-SHOT SURVEYS.

#### ANTICIPATED OPERATIONS:

CONTINUE TO DRILL 9-7/8" HOLE.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 02/06/96(0600 Hours)

| FORMATION TOPS:        | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS   |
|------------------------|------------|------------|--------------|-----------------------|
| LOWER STOKES SILTSTONE | 825        | -53 m      | 3 m H        | 25 m higher than EM39 |

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY            | GAS |
|----------|----------------------|-----|
|          | No significant shows |     |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)        | LITHOLOGY  | GAS (Units) |
|------------------------------------|--|-------------|
| 670 - 825<br>1.0 to 20<br>av. 1.5  | <p><b>SILTSTONE WITH MINOR SANDSTONE.</b><br/> <b>SILTSTONE:</b> dark red/brown, occasionally mottled with grey/green, occasionally green/grey, occasionally dark purple/brown, moderately hard to hard, subblocky, argillaceous, occasionally very finely arenaceous, rarely dolomitic, rare dark grey lithics, micromicaceous in parts<br/> <b>SANDSTONE:</b> off white, very light grey, occasional green/grey, very fine occasionally fine grained, moderately sorted, moderate to strong siliceous cement, occasional minor dolomitic cement, grain boundaries commonly partially obscured by recrystallisation, common microsucrosic texture, moderately hard to hard, tight visual porosity, no fluorescence.</p> | No gas      |
| 825 - 832<br>1.0 to 2.7<br>av. 1.5 | <p><b>LOWER STOKES SILTSTONE</b><br/> <b>SILTSTONE WITH MINOR SANDSTONE.</b><br/> <b>SILTSTONE:</b> dark red/brown, occasional green/grey, occasional dark purple/brown, moderately hard to hard, subblocky occasional angular fracture, argillaceous, commonly dolomitic.<br/> <b>SANDSTONE:</b> very light grey, green/grey, very fine grained, well sorted, moderate siliceous and common dolomitic cement, grain boundaries partially obscured by recrystallisation in parts, rare dark grey specks (lithics?), moderately hard to hard, tight, no fluorescence.</p>   | No gas      |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 03/06/96 (0600 Hours)

DEPTH: 999 m

PROGRESS: 167 m

DAYS FROM SPUD: 9

OPERATION: DRILLING IN MIDDLE STAIRWAY SANDSTONE.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$522,259

CASING DEPTH: 667.8 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) | AIR   |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make   | Type   | Size   | Hours | Metres | Condition  |
|--------------|---------|-----|--------|--------|--------|-------|--------|------------|
| (2400 Hours) |         | 8   |        |        |        |       |        |            |
|              |         | 7   | Hughes | ATJ11H | 9-7/8" | 15    | 297    | 8 - 7 - In |

| SURVEYS: | MD    | INCLINATION | AZIMUTH (T) | MD    | INCLINATION | AZIMUTH (T) |
|----------|-------|-------------|-------------|-------|-------------|-------------|
|          | 844.2 | 11          | 27.5        | 873.1 | 13          | 27.5        |
|          | 911.7 | 15.5        | 27          | 950.1 | 18.8        | 24          |

#### PREVIOUS 24 HOURS OPERATIONS:

AIR DRILLED 9-7/8" HOLE WITH SINGLE-SHOT SURVEYS TO 967 m. PULLED OUT OF HOLE TO CHANGE BIT. RAN IN HOLE 910 m, REAMED TO 967 m AND DRILLED AHEAD.

#### ANTICIPATED OPERATIONS:

CONTINUE TO DRILL 9-7/8" HOLE.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 03/06/96(0600 Hours)

| FORMATION TOPS:           | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS   |
|---------------------------|------------|------------|--------------|-----------------------|
| UPPER STAIRWAY SANDSTONE  | 897        | -123.5     | 1 m high     | 24 m higher than EM39 |
| MIDDLE STAIRWAY SANDSTONE | 963        | -186.7     | 0.5 m low    | 25 m higher than EM39 |

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY            | GAS |
|----------|----------------------|-----|
|          | No significant shows |     |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)        | LITHOLOGY   | GAS (Units) |
|------------------------------------|---|-------------|
| 832 - 850<br>1.0 to 1.8<br>av. 1.2 | <p>SILTSTONE WITH MINOR DOLOMITE..</p> <p>SILTSTONE: dark red/brown, occasional green/grey, occasional dark purple/brown, moderately hard to hard, subblocky occasional angular fracture, argillaceous, commonly dolomitic, rare gypsum crystals.</p> <p>DOLOMITE: very light grey, green/grey occasional red/brown to pink brown, moderately hard to hard, subblocky to angular fracture, commonly silty, rarely very finely arenaceous.</p>   | No gas      |
| 850 - 897<br>1.0 to 3.2<br>av. 1.5 | <p>SILTSTONE WITH MINOR DOLOMITE.</p> <p>SILTSTONE: dark purple/brown becoming predominantly medium to dark grey, moderately hard to hard, subblocky to angular fracture, commonly dolomitic, microsucrosic texture in parts, rare gypsum crystals.</p> <p>DOLOMITE: colourless, off white, very light grey, pale pink grey, moderately hard to hard, subblocky occasional angular fracture, commonly microcrystalline occasionally crystalline, silty in parts, rarely argillaceous.</p>                     | No gas      |
| 897 - 910<br>1.5 to 2.7<br>av. 2   | <p><b>UPPER STAIRWAY SANDSTONE</b></p> <p>SILTSTONE WITH MINOR SANDSTONE.</p> <p>SILTSTONE: medium to dark grey, moderately hard, subblocky to angular fracture, argillaceous, slightly dolomitic.</p> <p>SANDSTONE: very light occasional medium grey, grey/green, very fine to fine rare medium grained, subangular to subrounded, moderately sorted, moderate to strong siliceous and dolomitic cement, occasional grey silty matrix, moderately hard to hard, tight visual porosity, no fluorescence.</p> | No gas      |



# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 03/06/96(0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)        | LITHOLOGY   | GAS (Units)  |
|------------------------------------|---|--|
| 910 - 950<br>3.0 to 12<br>av. 6    | <p><b>SANDSTONE WITH MINOR SILTSTONE.</b></p> <p><b>SANDSTONE:</b> light grey to off white, occasional green/grey, occasional colourless and clear to translucent, rare very pale brown, predominantly very fine to fine with rare medium and coarse grained, subangular to subrounded rare rounded, poorly sorted, moderate to strong siliceous and in parts dolomitic cement, rare light to medium grey or brown argillaceous matrix, grain boundaries partially obscured due to recrystallisation, common microsucrosic texture, occasional dark grey and rare red/brown lithics, rare brown mica, occasionally pyritic, moderately hard to hard with occasional loose medium to coarse rounded grains, tight visual porosity, occasional to common dull yellow mineral fluorescence (due to dolomitic cement), no cut.</p> <p><b>SILTSTONE:</b> medium to dark grey, occasional light grey, green/grey, occasional red/brown banding, moderately hard to hard, subblocky, siliceous, argillaceous very finely arenaceous in parts, occasionally micromicaceous, occasional disseminated pyrite, commonly dolomitic.</p> | Trace to 5 U (100% C1) towards the base.                               |
| 950 - 963<br>5.0 to 8.2<br>av. 6   | <p><b>SANDSTONE WITH RARE SILTSTONE.</b></p> <p><b>SANDSTONE:</b> very light grey occasional medium grey, rare green/grey, very fine to fine rare medium grained, well sorted, grain boundaries commonly partially obscured by recrystallisation, moderate to strong siliceous cement, minor dolomitic cement, common microsucrosic texture, occasional very fine dark grey lithics, moderately hard to hard, tight visual porosity occasional very poor inferred porosity (intermittent flare), minor dull yellow mineral fluorescence associated with dolomitic cement.</p> <p><b>SILTSTONE:</b> as above.</p>  | 200 to 550 U<br>(74/19/7)<br>Intermittent gas flare after connections. |
| 963 - 999<br>0.8 to 6.5<br>av. 1.4 | <p><b>MIDDLE STAIRWAY SANDSTONE</b></p> <p><b>SILTSTONE:</b> medium to dark grey, moderately hard to hard, subblocky occasionally subfissile, predominantly argillaceous, rarely very finely arenaceous, micromicaceous in parts.<br/>(Note no cuttings sampled from 967 to 990 m due to blocked valve in blooie line).</p>   | 450 to 1928 U<br>(75/20/4/1)   |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 04/06/96 (0600 Hours)

DEPTH: 1175 m

PROGRESS: 176 m

DAYS FROM SPUD: 10

OPERATION: REAMING AT 1060 m.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$559,188

CASING DEPTH: 667.8 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) | AIR   |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make  | Type  | Size   | Hours | Metres | Condition  |
|--------------|---------|-----|-------|-------|--------|-------|--------|------------|
| (2400 Hours) |         | 9   |       |       |        |       |        |            |
|              |         | 8   | Smith | MF3OD | 9-7/8" | 13.5  | 208    | 4 - 8 1/4" |

| SURVEYS: | MD      | INCLINATION | AZIMUTH (T) | MD      | INCLINATION | AZIMUTH (T) |
|----------|---------|-------------|-------------|---------|-------------|-------------|
|          | 1001.58 | 20.2        | 25          | 1040.08 | 20.0        | 23.5        |
|          | 1078.57 | 20.0        | 22.5        | 1117.1  | 19.7        | 22.5        |
|          | 1155.6  | 19.7        | 21          |         |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

AIR DRILLED 9-7/8" HOLE WITH SINGLE-SHOT SURVEYS TO 1162 m. CONDUCTED OPEN HOLE TEST 1 (Q = 0.7 MMCFD). DRILLED AHEAD TO 1175 m PULLED OUT OF HOLE CHANGED BIT AND STABILISER. RAN IN HOLE TO 944 m AND REAMED TO 1060 m.

#### ANTICIPATED OPERATIONS:

REAM TO 1175 m AND DRILL 9-7/8" HOLE TO 1191 m. MUD-UP, KILL THE WELL AND PULL OUT OF THE HOLE. RUN FMS (SHDT mode) AND GR (MINIMUM RUN OF 305 m).

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 04/06/96(0600 Hours)

| FORMATION TOPS:              | DEPTH KB m | DEPTH SS m | HIGH / LOW m  | RELATIVE TO OFFSETS   |
|------------------------------|------------|------------|---------------|-----------------------|
| LOWER STAIRWAY SANDSTONE (2) | 1080       | -296.8     | 7.6 L         | 18 m higher than EM39 |
| LOWER STAIRWAY SANDSTONE (1) | 1125       | -339.1     | not prognosed | 25 m higher than EM39 |
| HORN VALLEY                  | 1156       | -368.3     |               | 23 m higher than EM39 |

### HYDROCARBON SHOW SUMMARY

| INTERVAL    | LITHOLOGY  | GAS   |
|-------------|--|---|
| 1135 - 1147 | LOWER STAIRWAY SANDSTONE (1) - TESTED BY OPEN HOLE TEST 1. - Q = 0.7 MMCFD | 500 U increasing to 4000 U at 1139 m with a continuous flare at the blooie line.<br>(61/16/13/10) |

### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)          | LITHOLOGY  | GAS (Units)               |
|--------------------------------------|--|---------------------------|
| 999 - 1080<br>1.5 to 3.9<br>av. 2    | SILTSTONE WITH MINOR SANDSTONE INTERBEDS.<br>SILTSTONE: medium to dark grey, moderately hard to hard, subblocky occasionally subfissile, predominantly argillaceous, rarely very finely arenaceous, micromicaceous in parts.<br>SANDSTONE: very light grey to medium grey, predominantly very fine with occasional fine grained, well sorted, moderate to strong siliceous cement and occasional minor dolomitic cement, grain boundaries partially obscured by recrystallisation in parts, rare sparse grey to brown argillaceous matrix, occasional dark grey to black lithics (becoming more common towards the base), occasional disseminated pyrite, occasional dark mica, moderately hard to hard, tight visual porosity, no fluorescence.         | 400 to 600 U<br>(78/18/4) |
| 1080 - 1092<br>2.0 to 3.0<br>av. 2.5 | <b>LOWER STAIRWAY SANDSTONE (2)</b><br>SILTSTONE INTERBEDDED WITH MINOR SANDSTONE.<br>SILTSTONE: medium to dark grey, hard, subblocky occasionally subfissile, argillaceous, very finely arenaceous in parts, occasionally micromicaceous, occasionally pyritic.<br>SANDSTONE: off white to very light grey occasionally medium grey, predominantly very fine to fine grained, occasional medium to coarse grained, subangular to subrounded, poorly sorted, strong siliceous cement, minor dolomitic cement, grain boundaries partially obscured in parts by recrystallisation, occasional sparse dark grey silty matrix, occasional dark grey lithics, moderately hard to hard occasional loose medium grains, tight visual porosity, no fluorescence. | 500 to 600 U<br>(85/10/5) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 04/06/96(0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)             | LITHOLOGY   | GAS (Units)   |
|---|---|---|
| 1092 - 1125<br>1.5 to 4.5<br>av. 2 to 3 | <p>SILTSTONE INTERBEDDED WITH SANDSTONE.</p> <p>SILTSTONE: medium to dark grey, moderately hard to hard, subblocky, argillaceous, arenaceous in parts with occasional very fine to medium quartz grains, occasional pyrite.</p> <p>SANDSTONE: very light grey, fine to medium with occasional coarse and very coarse grains and quartz shards, poorly sorted, moderate to strong siliceous cement, rare dolomitic cement in parts, occasional sparse light to medium grey argillaceous matrix, occasional dark grey lithics, rare very dark grey to black distorted lines (styolites?), moderately hard to hard with occasional loose medium to coarse grains of colourless clear to opaque quartz grains, tight poor visual porosity, no fluorescence.</p> | 500 to 600 U<br>(85/10/5)   |
| 1125 - 1135<br>1.9 to 2.5<br>av. 2.0    | <p><b>LOWER STAIRWAY SANDSTONE (1)</b></p> <p>SILTSTONE WITH MINOR SANDSTONE.</p> <p>SILTSTONE: medium to dark grey, moderately hard to hard, subblocky occasional splintery fracture, commonly very fine to finely arenaceous, argillaceous in parts, occasionally micromicaceous, occasional disseminated pyrite.</p> <p>SANDSTONE: very light to medium grey, very fine to fine with rare medium to coarse grains, subangular to rounded, poorly sorted, moderate to strong siliceous cement rare dolomitic cement in parts, sparse to moderate medium to dark grey silty matrix in parts, occasional dark grey lithics, occasionally pyritic, moderately hard to tight visual porosity, no fluorescence.</p>  | 500 U<br>(84/10/6)  |
| 1135 - 1147<br>8 to 12<br>av. 7         | <p>SANDSTONE INTERBEDDED WITH MINOR SILTSTONE.</p> <p>SANDSTONE: predominantly very light grey, occasionally colourless and clear to opaque, fine to medium grained with occasional coarse grained, subangular to angular occasional subrounded, moderately sorted, generally loose grains, occasional aggregates with moderate to strong siliceous cement, rare dark grey lithics and pyrite, loose occasionally moderately hard to hard, very poor visual porosity from aggregates, poor inferred porosity (0.7 MMCFD from flow test) no fluorescence.</p> <p>SILTSTONE: as above</p>   | 500 U increasing to 4000 U at 1139 m with a continuous flare at the blooie line.<br><br>(61/16/13/10) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 04/06/96(0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)          | LITHOLOGY  | GAS (Units)            |
|--------------------------------------|--|------------------------|
| 1147 - 1156<br>2.9 to 4.0<br>av. 3.5 | <p><b>SILTSTONE WITH MINOR SANDSTONE.</b><br/> <b>SILTSTONE:</b> dark grey, moderately hard to hard, subblocky, commonly very finely arenaceous, argillaceous in parts, occasionally micromicaceous, rarely pyritic.<br/> <b>SANDSTONE:</b> very light grey, light brown/grey, predominantly very fine to fine rare medium to coarse grains, poorly sorted, moderate to strong siliceous cement, occasional sparse to moderate brown/grey argillaceous matrix, common recrystallisation partially obscuring grain boundaries, rare pyrite, tight visual porosity, trace very dull orange mineral fluorescence, no cut, no reaction with 32% HCl.</p> | 3800 U<br>(63/16/13/8) |
| 1156 - 1175<br>1.8 to 6.8<br>av. 3   | <p><b>HORN VALLEY SILTSTONE.</b><br/> <b>SILTSTONE WITH MINOR DOLOMITE.</b><br/> <b>SILTSTONE:</b> dark grey, moderately hard to hard, subblocky occasionally subfissile, argillaceous, rare very fine quartz grains, slightly dolomitic in parts, occasionally disseminated pyrite<br/> <b>DOLOMITE:</b> colourless, opaque, pale brown, moderately hard to hard, microcrystalline to crystalline, very finely arenaceous in parts.</p>   | 2400 U<br>(59/22/12/7) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 05/06/96 (0600 Hours)

DEPTH: 1192 m

PROGRESS: 17 m

DAYS FROM SPUD: 11

OPERATION: RUNNING IN HOLE WITH 8-1/2" BIT.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$605,987

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

#### MUD DATA

|          |      |       |     |     |                  |                   |         |             |
|----------|------|-------|-----|-----|------------------|-------------------|---------|-------------|
| Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf:        |
| NaCl Pac | 10.9 | 61    | 12  | 9.0 |                  | 14000             | 17 / 31 | 0.29 @ 75°F |

(2400 Hours)

#### BIT DATA

|              | PRESENT | No. | Make  | Type  | Size   | Hours | Metres | Condition     |
|--------------|---------|-----|-------|-------|--------|-------|--------|---------------|
| (2400 Hours) |         | 9   | Smith | F40D  | 9-7/8" | 1     | 17     | 3 - 5 - 1/32" |
|              |         | 8   | Smith | MF30D | 9-7/8" | 13.5  | 208    | 8 - 7 1/4"    |

#### SURVEYS:

|           |                    |                    |           |                    |                    |
|-----------|--------------------|--------------------|-----------|--------------------|--------------------|
| <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> | <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> |
| 1184.5    | 19.3               | 19.5               |           |                    |                    |

#### PREVIOUS 24 HOURS OPERATIONS:

REAMED TO 1275 m AND AIR DRILLED 9-7/8" HOLE TO 1192 m. KILLED WELL AND PULLED OUT OF HOLE. RIGGED UP SCHLUMBERGER. CABLE CAME OFF SHEAVE AND KINKED. REPAIRED CABLE. RAN IN HOLE AND RAN FMS (SHDT mode) - GR. RIGGED DOWN SCHLUMBERGER. FAXED ELECTRIC LOGS.

#### TARGET TRAJECTORY

TARGET DISTANCE  
TARGET DEPTH (TVD)  
UPDIP DIRECTION  
DIP OF BEDS

#### PREVIOUS

230 m  
1448.8 m  
5°  
9°

#### REVISED

230 m (NO CHANGE)  
1448.8 m (NO CHANGE)  
20°  
9° (NO CHANGE)

LAI D OUT 9-7/8" BHA. MADE UP 8-1/2" BIT ASSEMBLY AND RAN IN HOLE.

#### ANTICIPATED OPERATIONS:

CONTINUE TO RUN IN HOLE. AIR DRILL 8-1/2" HOLE

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 05/06/96(0600 Hours)

|                 |            |            |              |                     |
|-----------------|------------|------------|--------------|---------------------|
| FORMATION TOPS: | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS |
|-----------------|------------|------------|--------------|---------------------|

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY | GAS |
|----------|-----------|-----|
|          |           |     |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)                                     | LITHOLOGY  | GAS (Units)           |
|---|--|-----------------------|
| 1175 - 1192<br>2.5 to 3.9<br>(data taken from<br>rig geolograph | No samples collected due to blocked sample valve | 1900 U<br>(69/16/8/7) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 06/06/96 (0600 Hours)

DEPTH: 1295 m

PROGRESS: 103 m

DAYS FROM SPUD: 12

OPERATION: PULLING OUT OF HOLE TO CHANGE BIT.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$649,943

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

|                 |       |     |       |     |     |                  |                   |        |      |
|-----------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| <b>MUD DATA</b> | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
| (2400 Hours)    | AIR   |     |       |     |     |                  |                   |        |      |

|                 |         |     |       |      |        |       |        |           |
|-----------------|---------|-----|-------|------|--------|-------|--------|-----------|
| <b>BIT DATA</b> | PRESENT | No. | Make  | Type | Size   | Hours | Metres | Condition |
| (2400 Hours)    |         | 10  | Smith | F50D | 8-1/2" | 6     | 74     | In        |

|                 |           |                    |                    |           |                    |                    |
|-----------------|-----------|--------------------|--------------------|-----------|--------------------|--------------------|
| <b>SURVEYS:</b> | <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> | <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> |
|                 | 1220.4    | 19.3               | 18.5               | 1258.9    | 19.9               | 18.5               |
|                 | 1287.7    | 19.8               | 17                 |           |                    |                    |

#### PREVIOUS 24 HOURS OPERATIONS:

RAN IN HOLE AND AIR DRILLED 8-1/2" HOLE TO 1256 m WITH SINGLESLOT SURVEYS. RAN OPEN HOLE TEST 2 AT 1256 m - FLOWED 4.0 MMCFD. MONITORED BUILD UP PRESSURE TO 1264 psi. BLED OFF GAS. DRILLED TO 1292 m. KILLED WELL AND PULL OUT OF HOLE FOR BIT TRIP.

#### ANTICIPATED OPERATIONS:

CONTINUE TO PULL OUT OF HOLE TO REPLACE BIT. RUN IN HOLE AND CONTINUE TO AIR DRILL 8-1/2" HOLE.



# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 06/06/96(0600 Hours)

| FORMATION TOPS:         | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS     |
|-------------------------|------------|------------|--------------|-------------------------|
| PACOOTTA SANDSTONE (P1) | 1229       | -436.9     | 2.8 L        | 22.4 m higher than EM39 |

#### HYDROCARBON SHOW SUMMARY

| INTERVAL    | LITHOLOGY  | GAS    |
|-------------|--|--------|
| 1251 - 1256 | Pacootta P1 sandstone - tested OH2 - Q = 4.0 MMCFD | 5000 U |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)          | LITHOLOGY   | GAS (Units)   |
|--------------------------------------|---|---|
| 1192 - 1226<br>2.0 to 5.0<br>av. 2.5 | <p>SILTSTONE WITH MINOR SANDSTONE AND LIMESTONE.</p> <p>SILTSTONE: medium to dark grey, moderately hard to hard, subblocky to subfissile, argillaceous, rare very fine quartz grains, slightly dolomitic in parts, commonly pyritic, rare shell fragments and shell imprints, rare pyritised infilled tubes (worm burrows?).</p> <p>LIMESTONE: pale brown, brown/grey, opaque, moderately hard to hard, angular to irregular fracture, microcrystalline to crystalline, very finely arenaceous in parts, slightly dolomitic.</p> <p>SANDSTONE: light to medium grey, very fine occasional fine to medium grained subangular to subrounded, moderately sorted, moderate siliceous and in parts dolomitic/calcareous cement, occasional pyritic cement, occasional moderate to abundant grey argillaceous/silty matrix, rare dark grey lithics, tight visual porosity, no fluorescence.</p> | 700 to 1500 U<br>(84/11/4/tr)<br>intermittent flare |
| 1226 - 1229<br>4 to 5                | <p>LIMESTONE: brown/grey, moderately hard to hard, angular fracture, microcrystalline to crystalline, dolomitic in parts, slightly silty and in parts pyritic.</p>  | 1230 U<br>(72/14/9/5)<br>intermittent flare         |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 06/06/96(0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)        | LITHOLOGY   | GAS (Units)                                  |
|------------------------------------|---|--|
| 1229 - 1238<br>3.5 to 4            | <p><b>PACOOTA P1 SANDSTONE.</b></p> <p>SILTSTONE WITH MINOR SANDSTONE.</p> <p>SILTSTONE: dark grey, moderately hard to hard. Subblocky, argillaceous, rarely very finely arenaceous, occasional micromicaceous.</p> <p>SANDSTONE: light grey, very fine grained, moderately sorted, strong siliceous cement, minor dolomitic cement, occasional black to very dark green glauconite, hard, tight, no fluorescence.</p>  | 1220 U<br>(75/14/9/3)<br>intermittent flare  |
| 1238 - 1251<br>2.5 to 4.5<br>av. 3 | <p>SILTSTONE INTERBEDDED WITH SANDSTONE.</p> <p>SILTSTONE: medium to dark grey, moderately hard to hard, subblocky to subfissile, argillaceous, very finely arenaceous in parts, commonly micromicaceous, rarely pyritic.</p> <p>SANDSTONE: very light to occasionally medium grey, occasional brown/grey, predominantly very fine to fine occasional medium grained, poorly sorted, moderate to strong siliceous cement, rare pyritic cement, grain boundaries commonly partially obscured by recrystallisation, occasional sparse to moderate grey silty matrix, occasional moderate very light grey argillaceous matrix, occasional to common black to very dark green glauconite, moderately hard to hard, rare loose grains, tight visual porosity, no fluorescence.</p> | 1200 U<br>(74/13/10/3)<br>intermittent flare |
| 1251 - 1264<br>4.1 to 5.8          | <p>SANDSTONE WITH MINOR SILTSTONE.</p> <p>SANDSTONE: very light to occasionally medium grey, predominantly very fine to fine occasional medium and rare coarse grained, subangular to angular; poorly sorted, moderate to strong siliceous cement, rare minor pyritic cement, grain boundaries commonly partially obscured by recrystallisation, occasional sparse to moderate grey/brown silty matrix, rare black to very dark green glauconite, moderately hard to hard, rare loose grains, tight visual porosity, fair inferred porosity in parts (continuous flare OHT 2 with Q = 4.0 MMCFD), no fluorescence</p> <p>SILTSTONE: as above.</p>   | 5000 U<br>continuous flare<br>(59/16/14/11)  |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 06/06/96(0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)       | LITHOLOGY  | GAS (Units)                     |
|-----------------------------------|--|---------------------------------|
| 1264 - 1284<br>2.5 to 5<br>av. 3  | <p>SILTSTONE WITH MINOR SANDSTONE.</p> <p>SILTSTONE: medium to dark grey, moderately hard to hard, subblocky to subfissile, argillaceous, occasional disseminated pyrite, occasionally micromicaceous.</p> <p>SANDSTONE: very light to occasional medium grey, very fine to fine rare medium grained, subangular to subrounded, moderately sorted, strong siliceous cement, grain boundaries partially obscured by recrystallisation in parts,, occasional sparse to moderate grey argillaceous matrix, rare glauconite, hard, tight visual porosity, no fluorescence.</p> | 5000 U<br>(61/16/14/10)         |
| 1284 - 1295<br>3.2 to 17<br>av. 5 | <p>SANDSTONE INTERBEDDED WITH SILTSTONE.</p> <p>SANDSTONE: off white, very light grey, fine to medium occasional very fine and coarse grained, subangular to angular, poorly sorted, strong siliceous cement, rare pyritic cement, grain boundaries commonly partially obscured by recrystallisation, hard, occasional loose grains, tight visual porosity, no fluorescence.</p>   | 4000 to 5000 U<br>(59/16/15/10) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MERREENIE 41

DATE: 07/06/96 (0600 Hours)

DEPTH: 1373 m

PROGRESS: 78 m

DAYS FROM SPUD: 13

OPERATION: DRILLING IN PACOOTA P2.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$686,205

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) | AIR   |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make  | Type | Size   | Hours | Metres | Condition     |
|--------------|---------|-----|-------|------|--------|-------|--------|---------------|
| (2400 Hours) |         | 11  | Smith | F5OD | 8-1/2" | 8     | 57.8   | In            |
|              |         | 10  | Smith | F5OD | 8-1/2" | 9     | 103    | 4 - 4 - 1/32" |

| SURVEYS: | MD     | INCLINATION | AZIMUTH (T) | MD      | INCLINATION | AZIMUTH (T) |
|----------|--------|-------------|-------------|---------|-------------|-------------|
|          | 1326.2 | 19.2        | 16.5        | 1364.67 | 18.7        | 16.0        |

#### PREVIOUS 24 HOURS OPERATIONS:

PULLED OUT OF HOLE. REPLACED BIT AND RAN IN HOLE TO 1263 m. REAMED TO 1295 m AND DRILLED TO 1353 m. RAN OPEN HOLE TEST 3 AT 1353 m TO TEST ENTIRE PACOOTA P1 SECTION UPWARDS. Q = 5.33 MMCFD. BLED OFF GAS AND RESUMED AIR DRILLING

#### ANTICIPATED OPERATIONS:

CONTINUE TO AIR DRILL 8-1/2" HOLE.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 07/06/96(0600 Hours)

| FORMATION TOPS:        | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS   |
|------------------------|------------|------------|--------------|-----------------------|
| PACOOTA SANDSTONE (P2) | 1339       | -541       | 4.6 L        | 21 m higher than EM39 |

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY | GAS |
|----------|-----------|-----|
|          |           |     |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)         | LITHOLOGY   | GAS (Units)                    |
|-------------------------------------|---|--------------------------------|
| 1295 - 1308<br>3.1 to 8<br>av. 6    | SANDSTONE INTERBEDDED WITH SILTSTONE.<br>SANDSTONE: off white, very light grey, very fine to fine occasional medium rare coarse grained, subangular to subrounded, poorly sorted, strong siliceous cement, rare pyritic cement, grain boundaries commonly partially obscured by recrystallisation, hard, occasional loose grains, tight visual porosity, no fluorescence.<br>SILTSTONE: dark grey, moderately hard, subblocky, argillaceous, very finely arenaceous in parts, occasional disseminated pyrite.   | 2100 to 2400 U<br>(60/19/13/8) |
| 1308 - 1313<br>2.5 to 4.0<br>av. 3  | SILTSTONE WITH MINOR SANDSTONE.<br>SILTSTONE: medium to dark grey, moderately hard, subblocky, commonly very finely arenaceous and grading in parts to very fine sandstone, argillaceous in parts, occasional disseminated pyrite.<br>SANDSTONE: as above, becoming medium to dark grey in parts, very fine to fine grained, subangular, moderately sorted, moderate siliceous cement, common sparse to abundant grey silty matrix, moderately hard, tight visual porosity, no fluorescence.  | 2200 to 2400 U<br>(58/19/16/7) |
| 1313 - 1339<br>3.0 to 15.5<br>av. 7 | SANDSTONE INTERBEDDED WITH SILTSTONE.<br>SANDSTONE: very light grey, colourless, clear to translucent, fine to medium rare coarse quartz grains and shards, subangular to angular, moderately sorted, occasional aggregates with moderate to strong siliceous cement, grain boundaries partially obscured by recrystallisation, moderately hard to hard with occasional fracturing through grains, common loose grains and shards, very poor visual porosity, fair inferred porosity in parts (increased gas), no fluorescence.<br>SILTSTONE: dark grey, moderately hard to hard, subblocky, rare subfissile, argillaceous, micromicaceous, rarely pyritic. | 2600 to 5000<br>(60/19/15/6)   |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 07/06/96(0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)            | LITHOLOGY   | GAS (Units)                    |
|--|---|--------------------------------|
| 1339 - 1373<br>5.0 to 19<br>av. 2 to 8 | <p><b>PACOOTTA SANDSTONE P2</b></p> <p>SILTSTONE INTERBEDDED WITH MINOR SANDSTONE.</p> <p>SILTSTONE: medium to very dark grey, moderately hard to hard, subblocky to subfissile, argillaceous, commonly micromicaceous, arenaceous in parts with occasional very fine to medium quartz grains, common disseminated pyrite.</p> <p>SANDSTONE: light to medium grey, very fine to fine occasional medium grained, subangular, rare coarse subrounded grains, poorly sorted, moderate to strong siliceous cement, common quartz overgrowths, grain boundaries partially obscured by recrystallisation in parts, rare grey silty to argillaceous matrix, moderately hard to hard, occasional loose grains, very poor visual porosity, no fluorescence.</p> <p>Note: very little sample obtained at blooie line - resulting in limited quality interpretation.</p> | 1740 to 2900 U<br>(61/18/13/8) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 08/06/96 (0600 Hours)

DEPTH: 1414 m

PROGRESS: 41 m

DAYS FROM SPUD: 14

OPERATION: REPAIRING LEAK IN ROTARY HEAD FLANGE.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$720,234

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type: | Wt: | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP: | Rmf: |
|--------------|-------|-----|-------|-----|-----|------------------|-------------------|--------|------|
| (2400 Hours) | AIR   |     |       |     |     |                  |                   |        |      |

| BIT DATA     | PRESENT | No. | Make  | Type | Size   | Hours | Metres | Condition     |
|--------------|---------|-----|-------|------|--------|-------|--------|---------------|
| (2400 Hours) |         | 12  | Smith | F50D | 8-1/2" | 0.5   | 2      | In            |
|              |         | 11  | Smith | F50D | 8-1/2" | 13    | 96     | 7 - 5 - 1/16" |

| SURVEYS: | MD     | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|--------|-------------|-------------|----|-------------|-------------|
|          | 1403.2 | 17.6        | 17          |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

DRILLED TO 1391 m. KILLED WELL AND PULL OUT OF HOLE. REPLACED BIT AND RUN IN HOLE TO 1302 m. REAMED 1302 m TO 1391 m AND DRILLED TO 1412 m, REPAIRED LEAK IN ROTARY HEAD FLANGE. DRILLED TO 1414 m AND ATTEMPTED TO REPAIR LEAK IN ROTARY HEAD FLANGE.

#### ANTICIPATED OPERATIONS:

CONTINUE TO REPAIR LEAK IN ROTARY HEAD FLANGE. AIR DRILL 8-1/2" HOLE TO 1450 m (APPROXIMATELY 3 m ABOVE FIELD GAS-OIL CONTACT OF -649 m (TVD 1420 m). CONDUCT OPEN HOLE TEST TO EVALUATE P3-120/130 AND P3-150 SANDS. KILL WELL AND RESUME DRILLING WITH MUD

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 08/06/96(0600 Hours)

**FORMATION TOPS:**

PACOOTTA P3 SANDSTONE

DEPTH KB m

1408

DEPTH SS m

-606

HIGH / LOW m

6 L

RELATIVE TO OFFSETS

27.9 higher than EM39

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY | GAS |
|----------|-----------|-----|
|----------|-----------|-----|

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)       | LITHOLOGY  | GAS (Units)                    |
|-----------------------------------|--|--------------------------------|
| 1373 - 1380<br>7 to 11<br>av. 8   | <p>SILTSTONE INTERBEDDED WITH MINOR SANDSTONE.</p> <p>SILTSTONE: medium to very dark grey, moderately hard to hard, subblocky, argillaceous, commonly micromicaceous, arenaceous in parts with occasional very fine to medium quartz grains, common disseminated pyrite.</p> <p>SANDSTONE: light to medium grey, fine to medium occasional coarse grained, angular to subangular, rare subrounded grains, poorly sorted, moderate to strong siliceous cement, common quartz overgrowths, grain boundaries partially obscured by recrystallisation in parts, rare grey silty to argillaceous matrix, moderately hard to hard, common loose grains, tight visual porosity, no fluorescence.</p> <p>Note: very little sample obtained at blooie line - resulting in limited quality interpretation.</p> | 1600 U<br>(83/11/6)            |
| 1380 - 1408<br>4.5 to 11<br>av. 7 | <p>SANDSTONE INTERBEDDED WITH MINOR SILTSTONE.</p> <p>SANDSTONE: very light to medium grey/brown, very fine to fine occasional medium and coarse grained, subangular to rounded, poorly sorted, moderate to strong siliceous cement in parts, occasional grey/brown silty to argillaceous matrix, occasionally glauconitic, rare pyrite and dark grey lithics, moderately hard to hard, common loose grains, very poor visual porosity, no fluorescence.</p> <p>SILTSTONE: very dark grey, moderately hard to hard, subblocky occasionally subfissile, argillaceous, abundantly micromicaceous in parts, arenaceous in parts with occasional very fine to medium quartz grains.</p>  | 1400 to 3700 U<br>(66/12/14/8) |



# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 08/06/96(0600 Hours)

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)         | LITHOLOGY   | GAS (Units)                     |
|-------------------------------------|---|---------------------------------|
| 1408 - 1414<br>11 to 15.5<br>av. 13 | <b>PACOOTA SANDSTONE P3</b><br><br>SANDSTONE: colourless, clear to translucent, very light grey, rare pink/brown, medium to coarse grained, subangular to rounded, occasional very fine to fine grained aggregates with strong siliceous cement and occasional glauconite (cavings?), poorly sorted, generally loose occasional strong siliceous cement, occasional quartz overgrowths, rare red/brown silty matrix, hard in parts generally loose grains, tight visual porosity (increased gas - poor to fair inferred porosity), no fluorescence. | 3000 to 4700 U<br>(58/15/14/13) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 09/06/96 (0600 Hours)

DEPTH: 1447 m

PROGRESS: 33 m

DAYS FROM SPUD: 15

OPERATION: REAMING AT 1320 m.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$770,954

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.9 | 64    | 4.2 | 9.0 | -                | 30 K              | 23 / 34 | n/a  |

| BIT DATA     | PRESENT | No. | Make  | Type | Size   | Hours | Metres | Condition  |
|--------------|---------|-----|-------|------|--------|-------|--------|------------|
| (2400 Hours) |         | 13  | Smith | F50D | 8-1/2" |       |        | In         |
|              |         | 12  | Smith | F50D | 8-1/2" | 9.5   | 56     | 5 - 4 - In |

| SURVEYS: | MD      | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|---------|-------------|-------------|----|-------------|-------------|
|          | 1437.15 | 16.8        | 18          |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

DRILLED TO 1447 m. RAN OPEN HOLE TEST 4 - Q = 5.2 MMCFD. KILLED WELL AND PULL OUT OF HOLE. CHANGED BOTTOM HOLE ASSEMBLY (TO ENSURE CORE BARREL RUN DOES NOT REQUIRE EXCESSIVE REAMING). RAN IN HOLE TO 1254 m AND REAMED TO 1320 m.

#### ANTICIPATED OPERATIONS:

CONTINUE TO REAM TO 1447 m. DRILL TO CORE POINT AT APPROXIMATELY 1500 m. PULL OUT OF HOLE, RUN IN HOLE WITH JUNK SUB TO CLEAN OUT HOLE AND PULL OUT OF HOLE TO RUN CORE BARREL AND CUT 10 m OF CORE IN PACOOTTA P4 RESERVOIR SECTION.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 09/06/96(0600 Hours)

| FORMATION TOPS: | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS |
|-----------------|------------|------------|--------------|---------------------|
|-----------------|------------|------------|--------------|---------------------|

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY | GAS |
|----------|-----------|-----|
|----------|-----------|-----|

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)        | LITHOLOGY   | GAS (Units)                     |
|------------------------------------|---|---------------------------------|
| 1414 - 1424<br>8.8 to 14<br>av. 11 | SANDSTONE WITH MINOR SILTSTONE<br>SANDSTONE: very light grey, colourless, rare pink/brown haematite staining, fine to medium occasional coarse grained, subangular to angular occasional rounded coarse grains, generally loose, occasional aggregates with strong siliceous cement, rare red/brown argillaceous matrix, loose occasionally hard, occasional fair inferred porosity (increased gas values), no fluorescence.<br>SILTSTONE: dark grey, hard, subblocky top subfissile, argillaceous, commonly micromicaceous. ALSO: dark red/brown, hard, subblocky to subfissile, argillaceous, micromicaceous.<br>(note abundant caving contamination in samples 1414 to 1419 after well had been shut in for repairs) | 4000 to 5000 U<br>(58/15/14/13) |
| 1424 - 1447<br>5.6 to 13<br>av. 8  | SANDSTONE WITH MINOR SILTSTONE.<br>SANDSTONE: very light grey, colourless, clear to translucent, becoming commonly red/brown with common haematite staining, very fine to fine with common medium and rare coarse grains and quartz shards, minor aggregates with strong siliceous cement and quartz overgrowths, generally loose occasional hard aggregates, fair inferred porosity in parts, no fluorescence.<br>SILTSTONE: as above.   | 4000 to 5000 U<br>(68/14/12/6)  |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 10/06/96 (0600 Hours)

DEPTH: 1482 m

PROGRESS: 35 m

DAYS FROM SPUD: 16

OPERATION: DRILLING IN PACOOTA P3.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$798,861

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.8 | 58    | 4.2 | 9.2 | -                | 30 K              | 21 / 35 | n/a  |

| BIT DATA     | PRESENT | No. | Make  | Type | Size   | Hours | Metres | Condition |
|--------------|---------|-----|-------|------|--------|-------|--------|-----------|
| (2400 Hours) |         | 13  | Smith | F50D | 8-1/2" | 13.5  | 23     | In        |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

REAMED TO 1447 m. DRILLED 8-1/2" HOLE TO 1482 m WITH MUD.

#### ANTICIPATED OPERATIONS:

DRILL TO CORE POINT AT APPROXIMATELY 1500 m. PULL OUT OF HOLE, RUN IN HOLE WITH JUNK SUB TO CLEAN OUT HOLE AND PULL OUT OF HOLE TO RUN CORE BARREL AND CUT 10 m OF CORE IN PACOOTA P4 RESERVOIR SECTION.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 10/06/96(0600 Hours)

| FORMATION TOPS: | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS |
|-----------------|------------|------------|--------------|---------------------|
|-----------------|------------|------------|--------------|---------------------|

#### HYDROCARBON SHOW SUMMARY

| INTERVAL    | LITHOLOGY   | GAS                              |
|-------------|---|----------------------------------|
| 1452 - 1482 | <p>SANDSTONE INTERBEDDED WITH SILTSTONE.</p> <p>SANDSTONE: very fine to fine rare medium grained, grain boundaries partially obscured by recrystallisation, moderate to strong siliceous cement, occasional sparse to moderate red/brown argillaceous matrix, tight to very poor visual porosity, trace to 10% dull to moderately bright blue patchy to pinpoint fluorescence, very weak crush cut, very thin to moderate ring residue.</p> | <p>20 to 95 U<br/>(55/18/27)</p> |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)                | LITHOLOGY  | GAS (Units)                      |
|--|--|----------------------------------|
| <p>1447 - 1452<br/>27 to 70<br/>av. 30</p> | <p>SANDSTONE INTERBEDDED WITH SILTSTONE (heavily contaminated with cavings after trip)</p> <p>SANDSTONE: very light grey, colourless, occasional red/brown, fine to medium rare coarse grained, moderately poorly sorted, grain boundaries partially obscured by recrystallisation, strong siliceous cement, tight visual porosity, no fluorescence.</p> <p>SILTSTONE: dark grey, subblocky to subfissile occasional splintery fracture, argillaceous. ALSO: dark red/brown, hard, subblocky to subfissile, argillaceous, occasionally micromicaceous.</p>   | <p>30 U<br/>(80/11/9)</p>        |
| <p>1452 - 1482<br/>16 to 49<br/>av. 30</p> | <p>SANDSTONE INTERBEDDED WITH SILTSTONE.</p> <p>SANDSTONE: very light grey, colourless, red/brown, pale pink, very fine to fine rare medium grained, grain boundaries partially obscured by recrystallisation, moderate to strong siliceous cement, occasional sparse to moderate red/brown argillaceous matrix, rare dark grey specks (lithics? minerals?), tight to very poor visual porosity, trace to 10% dull to moderately bright blue patchy to pinpoint fluorescence, very weak crush cut, very thin to moderate ring residue.</p> <p>SILTSTONE: dark red/brown, dark purple/brown, moderately hard to hard, brittle in parts, subblocky to splintery fracture, argillaceous, occasionally very finely arenaceous.</p> | <p>20 to 95 U<br/>(55/18/27)</p> |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 11/06/96 (0600 Hours)

DEPTH: 1503 m

PROGRESS: 21 m

DAYS FROM SPUD: 17

OPERATION: REAMING AT 1320 m.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$838,456

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 11.0 | 58    | 4.2 | 9.0 | -                | 30 K              | 20 / 37 | n/a  |

| BIT DATA     | PRESENT | No. | Make  | Type | Size   | Hours | Metres | Condition     |
|--------------|---------|-----|-------|------|--------|-------|--------|---------------|
| (2400 Hours) |         | 14  | Smith | F50D | 8-1/2" |       |        | In            |
|              |         | 13  | Smith | F50D | 8-1/2" | 29.5  | 56     | 7 - 5 - 1/16" |

| SURVEYS: | MD      | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|---------|-------------|-------------|----|-------------|-------------|
|          | 1480.21 | 16.5        | 19          |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

DRILLED TO 1503 m. CIRCULATED OUT SAMPLE. PULLED OUT OF HOLE (STRAPPED OUT - OK).  
CHANGED BOTTOM HOLE ASSEMBLY. RAN IN HOLE TO 1244 m AND REAMED TO 1320 m.

#### ANTICIPATED OPERATIONS:

CONTINUE TO REAM TO BOTTOM. WORK JUNK SUB AND PULL OUT OF HOLE TO RUN CORE BARREL  
AND CUT 10 m OF CORE IN PACOOTTA P4 RESERVOIR SECTION.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 11/06/96(0600 Hours)

| FORMATION TOPS: | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS   |
|-----------------|------------|------------|--------------|-----------------------|
| PACOOTTA P4     | 1495.5     | -690       | 11.7 L       | 21 m higher than EM39 |

#### HYDROCARBON SHOW SUMMARY

| INTERVAL                            | LITHOLOGY   | GAS                       |
|-------------------------------------|---|---------------------------|
| 1482 - 1495.5<br>18 to 44<br>av. 30 | SANDSTONE INTERBEDDED WITH SILTSTONE.<br>SANDSTONE: very fine to fine with occasional medium and rare coarse grained, poorly sorted, strong siliceous cement, occasional sparse to moderate red/brown argillaceous matrix, tight visual porosity, 10 to 20% dull to moderately bright blue patchy to pinpoint fluorescence, very weak crush cut, thin to moderate ring residue. | 30 to 150 U<br>(55/18/27) |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)         | LITHOLOGY   | GAS (Units)               |
|-------------------------------------|---|---------------------------|
| 1482 - 1495.5<br>18 to 44<br>av. 30 | SANDSTONE INTERBEDDED WITH SILTSTONE.<br>SANDSTONE: very light grey, colourless, red/brown, very fine to fine with occasional medium and rare coarse grained, subangular to subrounded, poorly sorted, strong siliceous cement, occasional sparse to moderate red/brown argillaceous matrix, common haematite staining, occasional dark grey to black specks (minerals? Lithics?), rare fine grained aggregates with abundant dark mica (biotite?) towards the base, tight visual porosity, 10 to 20% dull to moderately bright blue patchy to pinpoint fluorescence, very weak crush cut, thin to moderate ring residue.<br>SILTSTONE: dark red/brown, red/brown, hard, subblocky, argillaceous in parts, commonly very finely arenaceous and grading in parts to very fine sandstone. | 30 to 150 U<br>(55/18/27) |
| 1495.5 - 1503<br>18 to 48<br>av. 25 | <b>PACOOTTA P4</b><br>SANDSTONE: very light grey, colourless, rd/brown, fine to medium occasional coarse grained, subangular to subrounded, poorly sorted, occasional medium to coarse fractured quartz grains and shards, strong siliceous cement, grain boundaries partially obscured by recrystallisation in parts, occasional haematite staining, hard, tight, 10% dull to moderately bright blue patchy to pinpoint fluorescence, crush cut, thin ring residue.  | 14 U<br>(85/10/5)         |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 12/06/96 (0600 Hours)

DEPTH: 1503 m

PROGRESS: 0 m

DAYS FROM SPUD: 18

OPERATION: STARTED CORING AT 1503 m.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$878,952

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.8 | 56    | 4.2 | 9.4 | -                | 30 K              | 20 / 38 | n/a  |

| BIT DATA     | PRESENT | No. | Make  | Type     | Size   | Hours | Metres  | Condition     |
|--------------|---------|-----|-------|----------|--------|-------|---------|---------------|
| (2400 Hours) |         | 15  |       | DB CB303 | 8-1/2" |       |         | In            |
|              |         | 14  | Smith | F50D     | 8-1/2" |       | Reaming | 3 - 2 - 1/32" |

| SURVEYS: | <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> | <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> |
|----------|-----------|--------------------|--------------------|-----------|--------------------|--------------------|
|          |           |                    |                    |           |                    |                    |

#### PREVIOUS 24 HOURS OPERATIONS:

REAMED FROM 1320 m TO 1503 m. WORKED JUNK SUB. PULLED OUT OF HOLE. MADE UP CORE ASSEMBLY FOR CORE 1. RAN IN HOLE TO 1457 m AND REAMED / WORKED TO 1503 m. STARTED CORING.

#### ANTICIPATED OPERATIONS:

CUT 9 m OF CORE IN PACOOTA P4. PULL OUT OF HOLE, RECOVER CORE, RUN IN HOLE AND CONTINUE TO DRILL 8-1/2" HOLE TO A TOTAL DEPTH OF APPROXIMATELY 1584 m.



# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 13/06/96 (0600 Hours)

DEPTH: 1512.1m

PROGRESS: 9.1 m

DAYS FROM SPUD: 19

OPERATION: PULL OUT OF HOLE WITH CORE 1.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$915,760

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.9 | 57    | 4.0 | 8.8 | -                | 30 K              | 21 / 38 | n/a  |

| BIT DATA     | PRESENT | No. | Make | Type  | Size   | Hours | Metres | Condition |
|--------------|---------|-----|------|-------|--------|-------|--------|-----------|
| (2400 Hours) |         | 15  | DB   | CB303 | 8-1/2" | 18.5  | 7      | In        |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

CUT 9.1 m OF CORE FROM 1503 m TO 1512.1 m. PULLED OUT OF HOLE.

#### ANTICIPATED OPERATIONS:

CONTINUE TO PULL OUT OF HOLE. RECOVER CORE. RUN IN HOLE AND DRILL TO TOTAL DEPTH OF APPROXIMATELY 1584 m.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 13/06/96(0600 Hours)

**FORMATION TOPS:**

DEPTH KB m    DEPTH SS m    HIGH / LOW m    RELATIVE TO OFFSETS

**HYDROCARBON SHOW SUMMARY**

| INTERVAL | LITHOLOGY | GAS |
|----------|-----------|-----|
|          |           |     |

**GEOLOGICAL SUMMARY**

| INTERVAL (m)<br>ROP (min/m) | LITHOLOGY                              | GAS (Units)             |
|-----------------------------|--|-------------------------|
| 1503 - 1512.1<br>68 to 324  | CORED INTERVAL - Description to follow | 2 to 9.5 U<br>(81/11/8) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 14/06/96 (0600 Hours)

DEPTH: 1534 m

PROGRESS: 22 m

DAYS FROM SPUD: 20

OPERATION: DRILLING AHEAD IN THE PACOOTTA P4.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$974,960

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.9 | 57    | 4.4 | 9.2 | -                | 30 K              | 21 / 30 | n/a  |

| BIT DATA     | PRESENT | No. | Make  | Type  | Size   | Hours | Metres | Condition  |
|--------------|---------|-----|-------|-------|--------|-------|--------|------------|
| (2400 Hours) |         | 16  | Smith | F50D  | 8-1/2" | 5     | 11     | In         |
|              |         | 15  | DB    | CB303 | 8-1/2" | 21    | 9.1    | 1/4" under |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

PULLED OUT OF HOLE. RECOVERED CORE (9 m FROM 9.1 m CUT - 99% RECOVERY). RAN IN HOLE TO 1493 AND REAMED TO 1512 m. DRILLED TO 1534 m.

#### ANTICIPATED OPERATIONS:

CONTINUE TO DRILL TO A TOTAL DEPTH OF APPROXIMATELY 1584 m WITH POSSIBLE BIT TRIP LATE TODAY.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 14/06/96(0600 Hours)

| FORMATION TOPS: | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS |
|-----------------|------------|------------|--------------|---------------------|
|-----------------|------------|------------|--------------|---------------------|

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY  | GAS           |
|----------|--|---------------|
| 1510 m   | From core: SANDSTONE: very fine to coarse grained, subangular to subrounded, poorly sorted, moderate to strong siliceous cement, moderately hard, very poor to poor visual porosity, 80% dull to moderately bright blue patchy fluorescence, very slow streaming cut, moderate ring residue. | 6 U (85/10/5) |

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)       | LITHOLOGY  | GAS (Units)             |
|-----------------------------------|--|-------------------------|
| 1503 - 1512<br>68 to 324          | SANDSTONE: very light grey with mottled red/brown, very fine to fine occasional medium and coarse grained, angular to subrounded, moderately to poorly sorted, moderate to strong siliceous cement, occasional patchy iron oxide staining, grain boundaries partially obscured by recrystallisation in parts, rare dark grey to black grains (submetallic lustre - possibly detrital ilmenite?), moderately hard to hard, generally tight occasional very poor to poor visual porosity, trace to 100% dull to moderately bright blue patchy fluorescence, very slow streaming cut, moderate to thick ring residue. | 2 to 9.5 U<br>(81/11/8) |
| 1512 - 1534<br>17 to 61<br>av. 30 | SANDSTONE: very light grey to red/brown, fine to coarse grained, subangular to rounded, poorly sorted, strong siliceous cement, grain boundaries partially obscured by recrystallisation in parts, minor iron oxide staining, , rare dark grey to black grains (as above), hard occasional loose coarse rounded grains, tight visual porosity and inferred porosity, , trace to 10% dull to moderately bright blue patchy fluorescence, weak crush cut, thin ring residue. Note: from 1530 m the fluorescence becomes dull to moderately bright yellow pinpoint with a weak crush cut and very thin ring residue.. | 5 to 58 U<br>(84/9/7)   |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 15/06/96 (0600 Hours)

DEPTH: 1563 m

PROGRESS: 29 m

DAYS FROM SPUD: 21

OPERATION: DRILLING AHEAD IN THE PACOOTA P4.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$1,002,151

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.9 | 54    | 4.0 | 9.2 | -                | 30 K              | 19 / 34 | n/a  |

| BIT DATA     | PRESENT | No.   | Make  | Type | Size   | Hours | Metres | Condition     |
|--------------|---------|-------|-------|------|--------|-------|--------|---------------|
| (2400 Hours) |         | 14 RR | Smith | F50D | 8-1/2" | 2.5   | 3      | In            |
|              |         | 16    | Smith | F50D | 8-1/2" | 20.5  | 38     | 8 - 6 - 1/16" |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

DRILLED TO 1550 m. PULLED OUT OF HOLE, CHANGED BIT AND RAN IN HOLE. DRILLED.

#### ANTICIPATED OPERATIONS:

CONTINUE TO DRILL TO A TOTAL DEPTH OF APPROXIMATELY 1574 m (EQUIVALENT TO A TRUE VERTICAL DEPTH OF 1535 m - SAME AS PROGNOSSED FOR TOTAL DEPTH).

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 15/06/96(0600 Hours)

| FORMATION TOPS: | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS |
|-----------------|------------|------------|--------------|---------------------|
|-----------------|------------|------------|--------------|---------------------|

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY | GAS |
|----------|-----------|-----|
|----------|-----------|-----|

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)       | LITHOLOGY   | GAS (Units)           |
|-----------------------------------|---|-----------------------|
| 1534 - 1550<br>17 to 61<br>av. 30 | SANDSTONE: very light grey to red/brown, fine to coarse grained, subangular to rounded, poorly sorted, strong siliceous cement, minor dolomitic cement in parts, grain boundaries partially obscured by recrystallisation in parts, minor iron oxide staining, , rare dark grey to black grains (as above), hard occasional loose coarse rounded grains, tight visual porosity and inferred porosity, , trace to 10% dull to moderately bright blue patchy fluorescence, weak crush cut, thin ring residue. Note: from 1530 m the fluorescence becomes dull to moderately bright yellow pinpoint with a weak crush cut and very thin ring residue.. | 5 to 58 U<br>(84/9/7) |
| 1550 - 1563<br>25 to 52<br>av. 35 | SANDSTONE: very light grey, red/brown, rare very light grey/green, very fine to medium with rare coarse grained, subangular to subrounded, strong siliceous cement, minor dolomitic cement in parts, common grain boundaries partially obscured by recrystallisation, minor iron oxide staining in parts, minor very dark grey to black grains as above, hard with common fracturing across grain boundaries, rare loose grains, tight visual porosity, 10% decreasing to trace fluorescence as above.  | 2 to 3 U<br>(83/12/5) |

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 16/06/96 (0600 Hours)

DEPTH: 1573 m T.D. PROGRESS: 10 m DAYS FROM SPUD: 22

OPERATION: RUNNING WIRELINE LOGS (RUN 2: EPT - NGT - LDL).

|                  |                             |                           |
|------------------|-----------------------------|---------------------------|
| NOPE COST (P&A): | FINAL FORECAST COST (P&A)\$ | COST TO DATE: \$1,028,271 |
| (C&S):           | (C&S)\$                     |                           |

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#) RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m KELLY BUSHING: 771 m GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf:         |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|--------------|
| (2400 Hours) | NaCl PAC | 10.9 | 54    | 3.8 | 9.2 | -                | 30 K              | 20 / 31 | 0.134 @ 75°F |

| BIT DATA     | PRESENT | No.   | Make  | Type | Size   | Hours | Metres | Condition     |
|--------------|---------|-------|-------|------|--------|-------|--------|---------------|
| (2400 Hours) |         | 14 RR | Smith | F50D | 8-1/2" | 23    | 15     | 7 - 5 - 1/16" |

| SURVEYS: | <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> | <u>MD</u> | <u>INCLINATION</u> | <u>AZIMUTH (T)</u> |
|----------|-----------|--------------------|--------------------|-----------|--------------------|--------------------|
|----------|-----------|--------------------|--------------------|-----------|--------------------|--------------------|

#### PREVIOUS 24 HOURS OPERATIONS:

DRILLED TO 1573 m. REACHED TOTAL DEPTH AT 1300 HOURS, 15/06/96. CIRCULATED OUT SAMPLE, RAN SINGLE-SHOT SURVEY. PULLED OUT OF HOLE TO RUN ELECTRIC LOGS SUITE 2. RUN 1: PLATFORM EXPRESS. RUN 2: LDL - EPT - NGT.

ANTICIPATED OPERATIONS: CONTINUE RUNNING LDL - EPT - NGT.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 16/06/96(0600 Hours)

| FORMATION TOPS: | DEPTH KB m | DEPTH SS m | HIGH / LOW m | RELATIVE TO OFFSETS |
|-----------------|------------|------------|--------------|---------------------|
|-----------------|------------|------------|--------------|---------------------|

#### HYDROCARBON SHOW SUMMARY

| INTERVAL | LITHOLOGY | GAS |
|----------|-----------|-----|
|----------|-----------|-----|

#### GEOLOGICAL SUMMARY

| INTERVAL (m)<br>ROP (min/m)       | LITHOLOGY   | GAS (Units)           |
|-----------------------------------|---|-----------------------|
| 1563 - 1571<br>31 to 40<br>av. 35 | SANDSTONE: very light grey, red/brown, rare very light grey/green, very fine to medium with rare coarse grained, subangular to subrounded, strong siliceous cement, minor dolomitic cement in parts, common grain boundaries partially obscured by recrystallisation, minor iron oxide staining in parts, minor very dark grey to black grains as above, hard with common fracturing across grain boundaries, rare loose grains, tight visual porosity, trace dull yellow patchy fluorescence, weak crush cut, thin ring residue. | 3 to 9 U<br>(83/12/5) |
| 1571 - 1573<br>51 - 61            | SANDSTONE: as above, becoming predominantly very light to medium grey, very fine to fine rare medium grained, subangular to subrounded, strong siliceous and in parts strong dolomitic cement, occasional minor iron oxide staining, grain boundaries commonly partially obscured by recrystallisation, hard, tight, no fluorescence.   | 9 U<br>(80/16/4)      |



|                        |                                  |                                 |                       |                  |
|------------------------|----------------------------------|---------------------------------|-----------------------|------------------|
| WELL: EAST MEREENIE 41 | WELL CATEGORY<br>OIL DEVELOPMENT | SPUD: 00:00 hrs, 25/05/96;      |                       |                  |
|                        |                                  | TD REACHED: 13:00 hrs, 15/06/96 |                       |                  |
|                        |                                  | RIG RELEASED:                   |                       |                  |
|                        |                                  | COMPLETED:                      |                       |                  |
|                        |                                  | RIG: MEREENIE RIG 1             |                       |                  |
|                        |                                  | STATUS:.                        |                       |                  |
|                        |                                  | REMARKS:                        |                       |                  |
|                        |                                  |                                 |                       |                  |
|                        |                                  |                                 |                       |                  |
|                        |                                  | CASING                          | DEPTH                 | TYPE             |
|                        |                                  | 10 3/4"                         | 668.2 m (D) 668.5 (L) | 40.5# ,H40, LT&C |
|                        |                                  |                                 |                       |                  |
|                        |                                  | 5- 1/2"                         |                       | 17.0#, L80,LT&C. |

| AGE                    | FORMATION OR ZONE TOPS    | DEPTH (M) |          | TST (M)      | HIGH (+) |
|------------------------|---------------------------|-----------|----------|--------------|----------|
|                        |                           | LOGGERS   | SUBSEA   | (True Strat. | LOW (-)  |
|                        |                           | (MD KB)   | (TVD SS) | Thickness)   |          |
| LATE SILURIAN TO       |                           |           |          |              |          |
| MIDDLE DEVONIAN        | MEREENIE SANDSTONE        | 0.0       |          |              |          |
| LATE ORDOVICIAN        | CARMICHAEL SANDSTONE      | 503.0     |          |              |          |
| MID TO LATE ORDOVICIAN | UPPER STOKES SILTSTONE    | 582.0     |          |              |          |
| MIDDLE ORDOVICIAN      | LOWER STOKES SILTSTONE    | 824.0     |          |              |          |
| MIDDLE ORDOVICIAN      | UPPER STAIRWAY SANDSTONE  | 898.0     |          |              |          |
| MIDDLE ORDOVICIAN      | MIDDLE STAIRWAY SANDSTONE | 962.0     |          |              |          |
| MIDDLE ORDOVICIAN      | LOWER STAIRWAY SST (2)    | 1073.0    |          |              |          |
| MIDDLE ORDOVICIAN      | LOWER STAIRWAY SST (1)    | 1126.0    |          |              |          |
| EARLY ORDOVICIAN       | HORN VALLEY SILTSTONE     | 1155.0    |          |              |          |
| EARLY ORDOVICIAN       | PACOOTTA SANDSTONE        | 1227.0    |          |              |          |
| EARLY ORDOVICIAN       | P1 -60                    | 1243.5    |          |              |          |
| EARLY ORDOVICIAN       | P1-80                     | 1249.2    |          |              |          |
| EARLY ORDOVICIAN       | P1-110                    | 1255.2    |          |              |          |
| EARLY ORDOVICIAN       | P1-120/180                | 1268.3    |          |              |          |
| EARLY ORDOVICIAN       | P1-200                    | 1280.9    |          |              |          |
| EARLY ORDOVICIAN       | P1-210                    | 1290.5    |          |              |          |
| EARLY ORDOVICIAN       | P1-240                    | 1295.5    |          |              |          |
| EARLY ORDOVICIAN       | P1-280                    | 1312.0    |          |              |          |
| EARLY ORDOVICIAN       | P1-310                    | 1317.0    |          |              |          |
| EARLY ORDOVICIAN       | P1-350                    | 1330.0    |          |              |          |
| EARLY ORDOVICIAN       | P2 UNIT                   | 1334.0    |          |              |          |
| EARLY ORDOVICIAN       | P3 -10                    | 1403.0    |          |              |          |
| EARLY ORDOVICIAN       | P3-70                     | 1423.1    |          |              |          |
| EARLY ORDOVICIAN       | P3-90                     | 1432.2    |          |              |          |
| EARLY ORDOVICIAN       | P3-120/130                | 1440.8    |          |              |          |
| EARLY ORDOVICIAN       | P3-150                    | 1450.5    |          |              |          |
| EARLY ORDOVICIAN       | P3-190                    | 1460.0    |          |              |          |
| EARLY ORDOVICIAN       | P3-230/250                | 1477.0    |          |              |          |
| EARLY ORDOVICIAN       | P4                        | 1487.5    |          |              |          |
| EARLY ORDOVICIAN       | (P4 RESERVOIR)            | 1499.0    |          |              |          |
| EARLY ORDOVICIAN       | TOTAL DEPTH               | 1573.0    |          |              |          |

[illegible]

| PERFORATIONS (6 shots/ft) |          |
|---------------------------|----------|
| FORMATION                 | INTERVAL |

| CORES     |          |  |              |             |
|-----------|----------|--|--------------|-------------|
| FORM      | CORE No. | INTERVAL (metres)                          | CUT (metres) | RECOVERY    |
| PACOOTAP4 | 1        | 1503.0 - 1512.1 (L)<br>1503.0 - 1512.1 (D) | 9.1          | 9.0 m (99%) |
|           |          |  |              |             |

[illegible]

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 17/06/96 (0600 Hours)

DEPTH: 1573 m

T.D.

PROGRESS: NIL

DAYS FROM SPUD: 23

OPERATION: RUNNING 5-1/2" PRODUCTION CASING.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$1,102,682

CASING DEPTH: 668.2 m (10.75" MIXED H40 AND K55 CASING - 40.5#)

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.9 | 55    | 3.8 | 9.2 | -                | 30 K              | 20 / 31 |      |

| BIT DATA     | PRESENT | No. | Make | Type | Size | Hours | Metres | Condition |
|--------------|---------|-----|------|------|------|-------|--------|-----------|
| (2400 Hours) |         |     |      |      |      |       |        |           |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

CONTINUED TO RUN EPT - GR LOG. RIGGED DOWN SCHLUMBERGER. RAN IN HOLE WITH DRILL PIPE AND COLLARS. LAY OUT DRILL PIPE AND COLLARS. CHANGED OUT RAMS FOR 5-1/2". RAN 5-1/2" PRODUCTION CASING.

#### ANTICIPATED OPERATIONS:

CONTINUE RUNNING 5-1/2" PRODUCTION CASING. CEMENT IN PLACE. NIPPLE DOWN BOP'S AND RELEASE RIG.

# Santos

A.C.N. 007 550 923

## WELL PROGRESS REPORT

### EAST MEREENIE 41

DATE: 17/06/96 (0600 Hours)

DEPTH: 1573 m

T.D.

PROGRESS: NIL

DAYS FROM SPUD: 24

OPERATION: NIPPLING DOWN BLOW OUT PREVENTORS.

NOPE COST (P&A):  
(C&S):FINAL FORECAST COST (P&A)\$  
(C&S)\$

COST TO DATE: \$1,249,155

CASING DEPTH: 5-1/2" SET AT 1573m.

RIG: O.D. &amp; E. / MJV 1

PROGRAMMED TD: 1584 m

KELLY BUSHING: 771 m

GROUND LEVEL: 764 m

| MUD DATA     | Type:    | Wt:  | Visc: | WL: | pH: | K <sup>+</sup> : | Cl <sup>-</sup> : | PV/YP:  | Rmf: |
|--------------|----------|------|-------|-----|-----|------------------|-------------------|---------|------|
| (2400 Hours) | NaCl PAC | 10.9 | 58    | 4.0 | 9.0 | -                | 30 K              | 20 / 31 |      |

| BIT DATA     | PRESENT | No. | Make | Type | Size | Hours | Metres | Condition |
|--------------|---------|-----|------|------|------|-------|--------|-----------|
| (2400 Hours) |         |     |      |      |      |       |        |           |

| SURVEYS: | MD | INCLINATION | AZIMUTH (T) | MD | INCLINATION | AZIMUTH (T) |
|----------|----|-------------|-------------|----|-------------|-------------|
|          |    |             |             |    |             |             |

#### PREVIOUS 24 HOURS OPERATIONS:

CONTINUE RUNNING 5-1/2" CASING, RAN A TOTAL OF 134 JOINTS OF 17#, L80 5-1/2" CASING TO 1573M, HOOK UP CEMENT HEAD AND SURFACE LINES, CIRCULATE, PREPARE 'GASSTOP' MIX WATER, PREPARE AND PUMP 'GASSTOP' PREFLUSH, CEMENT CASING WITH 750 SX CLASS G NEAT, DISPLACE WITH 119 BBLS WATER, SET CASING SLIPS, 49,000 LB, NIPPLE DOWN BLOW OUT PREVENTORS, FLUSH BLOW OUT PREVENTORS AND LINES, RIG DOWN CEMENTING EQUIPMENT, RIG DOWN ROTATING HEAD, LIFT BLOW OUT PREVENTORS, CUT CASING AT 8", SET DOWN BLOW OUT PREVENTORS, EXTRACT RAM BLOCKS, REMOVE CHOKE AND KILL LINES, SPLIT AND LAY OUT ANNULAR/RAMS/SPOOLS, DUMP AND CLEAN MUD TANKS, RIG RELEASED 07:00 HOURS 18TH JUNE 1996.

#### ANTICIPATED OPERATIONS:

### **SECTION 3: HYDROCARBON SHOW REPORTS**

## OIL SHOW EVALUATION REPORT

WELL: EAST MEREENIE 41

GEOLOGIST: M. BILEK

DEPTH: Top: 1452 m

DATE: 10/06/96

DEPTH: Bottom: 1482 m

|                            |             |                   |              |                   |                       |               |                    |           |                |         |
|----------------------------|-------------|-------------------|--------------|-------------------|-----------------------|---------------|--------------------|-----------|----------------|---------|
| C1 ppm                     | 5k          | 10k               | 20k          | 30k               | 40k                   | 50k           | 100k               | 150k      | 200k           | >250k   |
| C2+ ppm                    | 500         | 750               | 1k           | 2k                | 3k                    | 4k            | 5k                 | 7.5k      | 10k            | >15k    |
| Porosity Ø                 | tight       |                   |              | poor              |                       | fair          |                    | good      |                |         |
| % with fluorescence        | trace       | 10                | 20           | 30                | 40                    | 50            | 60                 | 70        | 80             | >90     |
| Fluorescence appearance    | trace       |                   | spotted      |                   |                       | streaked      |                    | patchy    |                | solid   |
| Brightness of fluorescence | v. dull     |                   | dull         |                   |                       | dim           |                    | bright    | v. bright      | glowing |
| Type of cut                | trace       | v. slow crush cut | crush cut    | instant crush cut | v. slow streaming cut | slow stream   | moderate streaming | streaming | fast streaming | instant |
| Residue on spot plate      | trace       | heavy trace       | v. thin ring | thin ring         | thick ring            | v. thick ring | thin film          | thin film | thick film     | solid   |
| Show rating                | trace       |                   | poor         |                   | fair                  |               | good               |           |                |         |
| Comments:                  | PACOOTTA P3 |                   |              |                   |                       |               |                    |           |                |         |

## OIL SHOW EVALUATION REPORT

WELL: EAST MEREENIE 41

GEOLOGIST: M. BILEK

DEPTH: Top: 1482 m

DATE: 10/06/96

DEPTH: Bottom: 1503 m

|                            |         |                   |              |                   |                       |               |                    |           |                |         |
|----------------------------|---------|-------------------|--------------|-------------------|-----------------------|---------------|--------------------|-----------|----------------|---------|
| Cl ppm                     | 5k      | 10k               | 20k          | 30k               | 40k                   | 50k           | 100k               | 150k      | 200k           | >250k   |
| C2+ ppm                    | 500     | 750               | 1k           | 2k                | 3k                    | 4k            | 5k                 | 7.5k      | 10k            | >15k    |
| Porosity Ø                 | tight   |                   |              | poor              |                       | fair          |                    | good      |                |         |
| % with fluorescence        | trace   | 10                | 20           | 30                | 40                    | 50            | 60                 | 70        | 80             | >90     |
| Fluorescence appearance    | trace   |                   | spotted      |                   |                       | streaked      |                    | patchy    |                | solid   |
| Brightness of fluorescence | v. dull |                   | dull         |                   | dim                   |               |                    | bright    | v. bright      | glowing |
| Type of cut                | trace   | v. slow crush cut | crush cut    | instant crush cut | v. slow streaming cut | slow stream   | moderate streaming | streaming | fast streaming | instant |
| Residue on spot plate      | trace   | heavy trace       | v. thin ring | thin ring         | thick ring            | v. thick ring | thin film          | thin film | thick film     | solid   |
| Show rating                | trace   |                   | poor         |                   | fair                  |               | good               |           |                |         |
| Comments:                  |         |                   |              |                   |                       |               |                    |           |                |         |

## OIL SHOW EVALUATION REPORT

WELL: EAST MEREEENIE 41

GEOLOGIST: M. BILEK

DEPTH: Top: 1503 m

DATE: 10/06/96

DEPTH: Bottom: 1512 m

| C1 ppm                     | 5k      | 10k               | 20k          | 30k               | 40k                   | 50k           | 100k               | 150k      | 200k           | >250k   |
|----------------------------|---------|-------------------|--------------|-------------------|-----------------------|---------------|--------------------|-----------|----------------|---------|
| C2+ ppm                    | 500     | 750               | 1k           | 2k                | 3k                    | 4k            | 5k                 | 7.5k      | 10k            | >15k    |
| Porosity Ø                 | tight   |                   |              | poor              |                       | fair          |                    | good      |                |         |
| % with fluorescence        | trace   | 10                | 20           | 30                | 40                    | 50            | 60                 | 70        | 80             | >90     |
| Fluorescence appearance    | trace   |                   | spotted      |                   |                       | streaked      |                    | patchy    |                | solid   |
| Brightness of fluorescence | v. dull |                   | dull         |                   | dim                   |               |                    | bright    | v. bright      | glowing |
| Type of cut                | trace   | v. slow crush cut | crush cut    | instant crush cut | v. slow streaming cut | slow stream   | moderate streaming | streaming | fast streaming | instant |
| Residue on spot plate      | trace   | heavy trace       | v. thin ring | thin ring         | thick ring            | v. thick ring | thin film          | thin film | thick film     | solid   |
| Show rating                | trace   |                   | poor         |                   | fair                  |               | good               |           |                |         |
| Comments:                  | CORE 1  |                   |              |                   |                       |               |                    |           |                |         |



## **SECTION 4: FIELD ELECTRIC LOGGING REPORTS**

## SANTOS / MAGELLAN / UNITED OIL AND GAS

**WELL:** EAST MEREENIE 41  
**LOCATION:** AMADEUS BASIN  
**STATE:** Northern Territory

|                         |                   |                           |                       |
|-------------------------|-------------------|---------------------------|-----------------------|
| <b>FIELD</b>            | East Mereenie     | <b>PERMIT</b>             | OL5                   |
| <b>SEISMIC LINE</b>     | M83-20            | <b>SEISMIC SP</b>         | 1250 m ESE of SP 2100 |
| <b>LATITUDE</b>         | 24°01'21.609"S    | <b>LONGITUDE</b>          | 131°36'01.045"E       |
| <b>GROUND LEVEL</b>     | 764 m             | <b>K. B.</b>              | 771 m                 |
| <b>DRILLERS DEPTH</b>   | 1192 m            | <b>LOGGERS DEPTH</b>      | 1185 m                |
| <b>HOLE SIZE 17.5"</b>  | 32 m              | <b>HOLE SIZE 13-9/16"</b> | 312 m                 |
| <b>HOLE SIZE 13.5"</b>  | 770 m             |                           |                       |
| <b>CASING TYPE</b>      | 10-3/4" H40, ST&C | <b>CASING WEIGHT</b>      | 40.5 (id 10.05")      |
| <b>CSG DEPTH (Drl)</b>  | 668.2 m           | <b>CSG DEPTH (Lgr)</b>    | 668.5 m               |
| <b>HOLE SIZE 9-7/8"</b> | 1192 m            | <b>HOLE SIZE 8-1/2"</b>   |                       |
|                         |                   |                           |                       |

SUITE: 1

### MUD PROPERTIES

|                  |             |                        |       |                         |       |
|------------------|-------------|------------------------|-------|-------------------------|-------|
| <b>MUD TYPE</b>  | NaCl / PACR | <b>WEIGHT (ppg)</b>    | 10.9  | <b>VISCOSITY (secs)</b> | 61    |
| <b>pH</b>        | 9.0         | <b>FLUID LOSS (ml)</b> | 12    | <b>Chlorides (mg/l)</b> | 13500 |
| <b>Rm @ 75°F</b> | 0.418       | <b>Rmf @ 75°F</b>      | 0.290 | <b>Rmc @ 75°F</b>       | 0.609 |

**HRS CIRC PRIOR TO POH:** CIRC STOPPED AT: 14:45, 04/06/95  
**WIPER TRIP ?-.** No

### LOGS REQUIRED

| LOG               | RUN | INTERVAL                         |
|-------------------|-----|----------------------------------|
| FMS (SHDT mode) - | 1/1 | TD (1192 m) to 887 (minimum run) |
| - GR              | 1/1 |                                  |
|                   |     |                                  |

### COMMENTS:

Cable jumped off sheave when picking up tools. Damaged cable cut off and reconnected to head.

Wax build-up on cable (wax from immersion in crude oil). Depth discrepancy at tool zero and casing shoe of 2.5 m. Log depths corrected with plus 2.5 m and applied for prints/file.

Difference of driller's depth to logger's depth of 7 m is excessive. Formation tops, and casing shoe all within tolerance once tool zero correction applied. Possible fill of 7 m (not common in the field).

**Geologist:** M. Bilek  
**Engineer:** J. Wootten

**WELL:** EAST MEREEENIE 41

**LOGS ACTUALLY ACQUIRED**

| LOG             | RUN | INTERVAL     | BHT / TIME           |
|-----------------|-----|--------------|----------------------|
| FMS (SHDT mode) | 1   | 1184.5 - 850 | 115°F / 7 hrs 35 min |
| -GR             |     | 1175.6 - 850 |                      |
|                 |     |              |                      |
|                 |     |              |                      |
|                 |     |              |                      |

**SERVICE SUMMARY**

|                                  |                     |
|----------------------------------|---------------------|
| Time logging crew on site:       |                     |
| Time driller out of hole         | 18:30 hrs, 04/05/96 |
| Time logger rigged up main cable | 18:45 hrs           |
| Finished Run 1 and Rigged down   | 24:00 hrs, 04/05/96 |
| <b>LOST TIME</b>                 | 2 hrs               |
| <b>TOTAL TIME</b>                | <b>5 hrs 45 min</b> |

**RUN 1 FMS (SHDT MODE) - GR - CAL**

| OPERATION                | TIME                |
|--------------------------|---------------------|
| TIME CIRCULATION STOPPED | 14:45 hrs, 04/06/96 |
| RIG UP                   | 18:45 hrs, 04/06/96 |
| RIH / TOOL CHECKS        | 21:15 hrs, 04/06/96 |
| ON BOTTOM FOR MAIN PASS  | 22:20 hrs, 04/06/96 |
| RIG DOWN                 | 24:00 hrs, 04/06/96 |
| <b>TOTAL TIME</b>        | <b>5 hrs 45 min</b> |

Lost time due to cable repair after it had jumped off the sheave and kinked during initial rig up.

# SANTOS / MAGELLAN / UNITED OIL AND GAS

WELL: EAST MEREENIE 41  
 LOCATION: AMADEUS BASIN  
 STATE: Northern Territory

|                  |                   |                    |                       |
|------------------|-------------------|--------------------|-----------------------|
| FIELD            | East Mereenie     | PERMIT             | OL5                   |
| SEISMIC LINE     | M83-20            | SEISMIC SP         | 1250 m ESE of SP 2100 |
| LATITUDE         | 24°01'21.609"S    | LONGITUDE          | 131°36'01.045"E       |
| GROUND LEVEL     | 764 m             | K. B.              | 771 m                 |
| DRILLERS DEPTH   | 1573 m            | LOGGERS DEPTH      | 1573.5                |
| HOLE SIZE 17.5"  | 32 m              | HOLE SIZE 13-9/16" | 312 m                 |
| HOLE SIZE 13.5"  | 770 m             |                    |                       |
| CASING TYPE      | 10-3/4" H40, ST&C | CASING WEIGHT      | 40.5 (id 10.05")      |
| CSG DEPTH (Drl)  | 668.2 m           | CSG DEPTH (Lgr)    | 668.5 m               |
| HOLE SIZE 9-7/8" | 1192 m            | HOLE SIZE 8-1/2"   | 1573 m                |
|                  |                   |                    |                       |

## SUITE: 2

### MUD PROPERTIES

|           |             |                 |       |                  |       |
|-----------|-------------|-----------------|-------|------------------|-------|
| MUD TYPE  | NaCl / PACR | WEIGHT (ppg)    | 10.9  | VISCOSITY (secs) | 55    |
| pH        | 9.4         | FLUID LOSS (ml) | 3.6   | Chlorides (mg/l) | 30000 |
| Rm @ 75°F | 0.198       | Rmf @ 75°F      | 0.134 | Rmc @ 75°F       | 0.396 |

HRS CIRC PRIOR TO POH: 15 hrs CIRC STOPPED AT: 15:00 hrs, 15/06/96

### LOGS REQUIRED

| LOG              | RUN | INTERVAL                         |
|------------------|-----|----------------------------------|
| PLATFORM EXPRESS |     |                                  |
| DLL HALS         | 1/2 | TD - CSG (668 m) HI RES          |
| MSFL MCFL        | 1/2 | TD - 890 m (top Stairway) HI RES |
| CAL HCAL         | 1/2 | TD - CSG HI RES                  |
| GR HGR           | 1/2 | TD - SURFACE HI RES              |
|                  |     |                                  |
| LDL              | 2/2 | TD - 890 (top Stairway) HI RES   |
| NGT              | 2/2 | TD - 890 (top Stairway) HI RES   |
| EPT              | 2/2 | TD - 890 (top Stairway)          |
|                  |     |                                  |

### COMMENTS:

Repeat section 1530 m to 1470 m

Note High resolution data acquired for HGR, HALS, HCAL and HMCFL but not presented - will be presented if required by Santos. LDL high resolution data also acquired from run 2. Will be made available at Santos's request.

GEOLOGIST: Milan Bilek ENGINEER: Stirling Hookway

WELL: EAST MEREEENIE 41

**LOGS ACTUALLY ACQUIRED**

| LOG                     | RUN   | INTERVAL (metres)              | BHT / TIME             |
|-------------------------|-------|--------------------------------|------------------------|
| FMS (SHDT mode) -       | 1 / 1 | 1184.5 - 850                   | 115°F / 7 hrs 35 min   |
| - CAL                   | 1 / 1 | 1184.5 - 850                   |                        |
| - GR-                   | 1 / 1 | 1175.6 - 850                   |                        |
|                         |       |                                |                        |
| <b>PLATFORM EXPRESS</b> |       |                                |                        |
| HALS -                  | 1 / 2 | 1571.2 - 668.5 (casing shoe)   | 132°F / 5 hrs 17 min   |
| - HRMS -                | 1 / 2 | 1568.0 - 894 m                 | 135°F / 8 hrs 30 min   |
| - HGNS -                | 1 / 2 | 1564.0 - 894 m (GR to surface) |                        |
|                         |       |                                |                        |
| - LDL -                 | 2/2   | 1572.7 - 890                   |                        |
| - NGT -                 | 2/2   | 1559.0 - 890                   | 140°F / 17 hrs 30 mins |
| - EPT -                 | 2/2   | 1567.6 - 890                   |                        |

**SERVICE SUMMARY**

|                                  |                      |
|----------------------------------|----------------------|
| Time logging crew on site:       | 15:15 hrs, 15/06/96  |
| Time driller out of hole         | 18:15 hrs            |
| Safety Meeting                   | 18:30 hrs            |
| Time logger rigged up main cable | 18:45 hrs            |
| Finished Logging and Rigged down | 10:15 hrs, 16/06/96  |
| <b>LOST TIME</b>                 | <b>3 hrs 30 mins</b> |
| <b>TOTAL TIME</b>                | <b>15 hrs</b>        |

**RUN 1                  PLATFORM EXPRESS**

| OPERATION  | TIME                                    |
|--|---|
| Time Circulation Stopped                           | 15:00 hrs, 15/06/96 stopped circulating |
| Rig Up   | 18:45 hrs                               |
| RIH / Tool Checks                                  | 19:30 hrs                               |
| On Bottom - Logging (Caliper Not Working Properly) | 20:20 hrs                               |
| On Bottom - Logging (After Replacing Bridle)       | 23:20 hrs                               |
| Rigged Down  | 02:00 hrs, 16/06/96                     |
| LOST TIME (minus GR acquired to surface)           | 2 hrs                                   |
| <b>TOTAL TIME</b>                                  | <b>7 hrs 15 min</b>                     |

**RUN 2                  LDL - EPT - NGT**

| OPERATION  | TIME  |
|--|---|
| Time Circulation Stopped                               | 15:00 hrs, 15/06/96 stopped circulating                       |
| Rig Up   | 02:00 hrs, 16/06/96   |
| RIH / Tool Checks                                      | 03:30 hrs   |
| On Bottom For Main Pass (EPT Not Working Below 1175 M) | 04:15 hrs (log up from 1175 m to 890 m then POH)              |
| On Bottom For Main Pass                                | 08:30 hrs (checked tool at surface - added bow spring)        |
| Rigged Down  | 10:15 hrs, 16/06/96   |
| LOST TIME (high res LDL already acquired)              | 1 hr 30 mins  |
| <b>TOTAL TIME</b>                                      | <b>8 hrs 15 min (note: slow because hi res data acquired)</b> |

## WELLSITE LOG QUALITY CONTROL CHECKS

| LOG TYPE                  | HGR | HCAL | HALS | MCFL | TLD | HGNS |
|---------------------------|-----|------|------|------|-----|------|
| CASING CHECK              |     | OK   |      |      |     |      |
| SCALE CHECK               | OK  | OK   | OK   | OK   | OK  | OK   |
| DEPTH Casing Total        |     | OK   | OK   |      |     |      |
| CALIBRATIONS OK           |     |      |      |      |     |      |
| REPEATABILITY             | OK  | OK   | OK   | OK   | OK  | OK   |
| LOGGING SPEED             | OK  |      |      |      |     |      |
| OFFSET WELL Repeatability | OK  |      | OK   |      |     |      |
| NOISY / MISSING DATA      |     |      |      |      |     |      |
| CURVES/LOGS Depth Matched |     |      |      |      |     |      |
| Rm MEASUREMENT            |     |      |      |      |     |      |
| LLS / LLD / CHECK         |     |      |      |      |     |      |
| PERF / RHOB CHECK         |     |      |      |      |     |      |
| LOG HEADER / TAIL         | OK  |      |      |      |     |      |
| PRINT/FILM QUALITY        |     |      |      |      |     |      |

### COMMENTS:

Caliper was stuck open on Platform Express - logged out of hole acquiring GR to surface at 3600' per hour. Changed out bridle, ran in hole and acquired data from TD to casing shoe. GR spliced to main log.

TNPHI - all corrections applied (bar formation salinity which corrupts the output curve).

EPT did not work from TD to 1175 m - then started working - logged to 890 m. Ran back in the hole EPT did not work from TD to 1190 m - then started working. Another attempt with similar results occurred. The tool was brought to surface and inspected for faulty "O" rings - all ok.. Change tool string eccentricisation and ran in hole. EPT data successfully acquired - logged from TD to 1170 m.

PEF not displayed on screen during log run due to presentation set up difficulties. Prints indicate that the PEF on LDL - EPT - NGT run not reading correctly (baryte problem?). LDL not reading correctly in parts due to hole rugosity - hole ok on caliper but highly rugose and washed out on Platform Express caliper. Both LDL and PEF repeat ok. LDL readings in reservoir section similar to Platform Express data.

ENGINEERS COMMENTS (If this report has not been discussed with the Engineer state reason)

## **SECTION 5: OPEN HOLE TEST DATA**

# Santos

A.C.N. 007 550 923

## OPEN HOLE TEST REPORT

**WELL:** EAST MEREEENIE 41      **OHT NO:** 1      **DATE:** 03/06/96  
**DEPTH:** 1162 m      **FORMATION:** Lower Stairway Sandstone 1  
**GEOLOGIST:** M. Bilek

| Time<br>min | Pressure<br>psi | Comments   |
|-------------|-----------------|------------|
| 0           | 4               |            |
| 2           | 11              |            |
| 4           | 19              |            |
| 6           | 27              |            |
| 10          | 44              |            |
| 13          | 55              |            |
| 15          | 61              |            |
| 20          | 73              |            |
| 30          | 89              |            |
| 33          | 92              | gas sample |
| 35          | 95              | gas sample |
| 36          | 96              |            |
| 40          | 100             |            |
| 50          | 105             |            |
| 60          | 107             |            |

### REMARKS

### SURFACE FLOW SUMMARY

| CHOKE SIZE<br>(IN) | FLUID TO<br>SURFACE<br>(MIN) | FLOWING<br>TIME | MAXIMUM<br>SURFACE<br>PRESSURE | FINAL GAS<br>RATE<br>(MMCFD) | FINAL<br>LIQUIDS<br>RATE | FIELD GAS<br>ANALYSIS | FIELD LIQUIDS<br>ANALYSIS |
|--------------------|------------------------------|-----------------|--------------------------------|------------------------------|--------------------------|-----------------------|---------------------------|
| 0.5"               | N/A                          | 60              | 107                            | 0.7                          | N/A                      | 61/16/13/10           | N/A                       |

No build up data acquired as flow less than 1.0 MMCFD

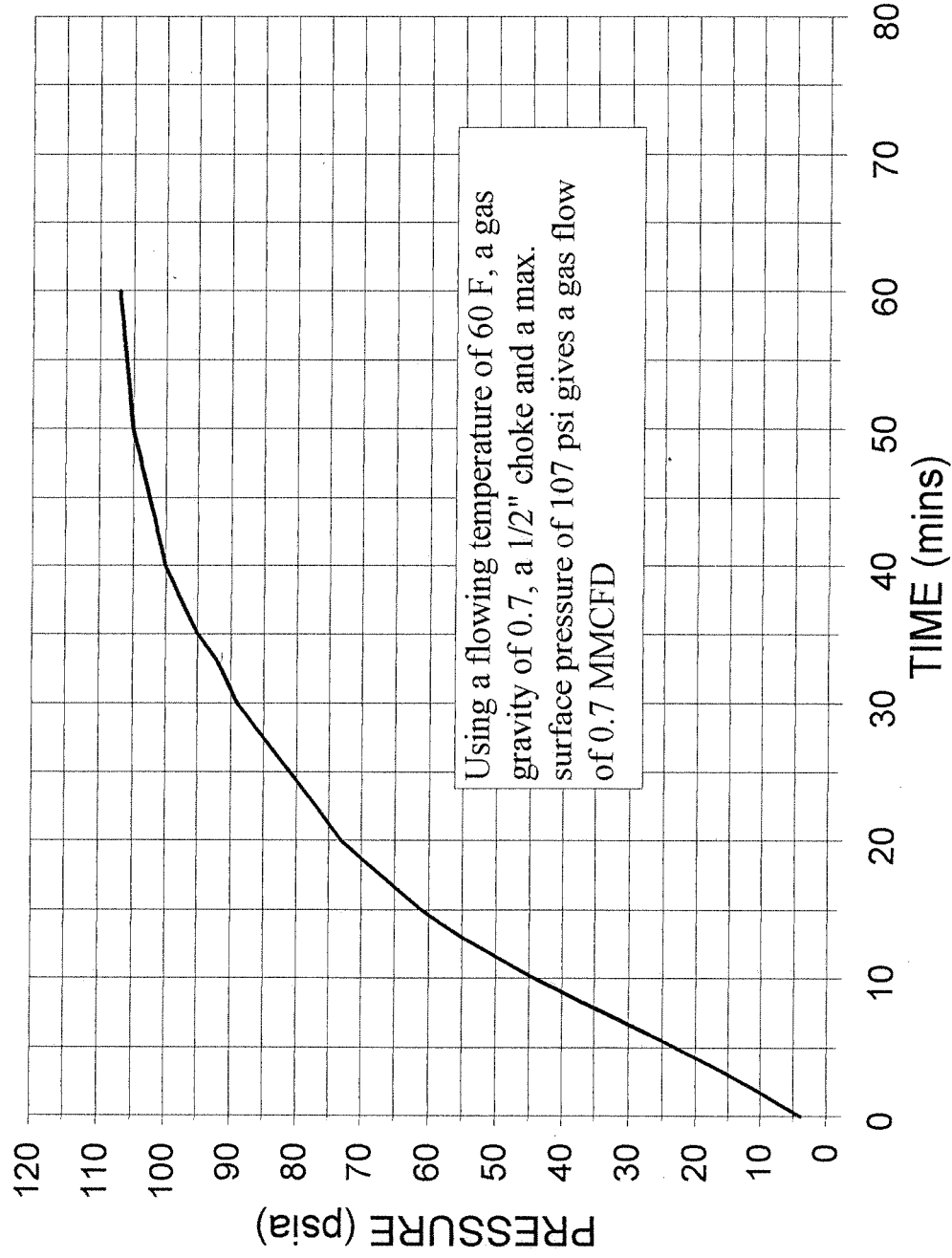
Sample 1      Gas at 92 psi (60°F)      (serial no. - EX242)  
Sample 2      Gas at 95 psi (60°F)      (serial - no. EX005)

(Both taken from rig manifold)



# EAST MERREENIE 41

Open Hole Test 1 @ 1162 m



# Santos

A.C.N. 007 550 923

## OPEN HOLE TEST REPORT

**WELL:** EAST MERREENIE 41      **OHT NO:** 2      **DATE:** 05/06/96  
**DEPTH:** 1256 m      **FORMATION:** Pacoota Sandstone P1  
**GEOLOGIST:** M. Bilek

| TIME<br>(mins) | PRESS<br>(psi) | TIME<br>(mins) | PRESS<br>(psi) | TIME<br>(mins) | PRESS<br>(psi) |
|----------------|----------------|----------------|----------------|----------------|----------------|
| 0              | 68             | 80             | 665            | 108            | 946            |
| 2              | 95             | 85             | 674            | 109            | 957            |
| 4              | 140            | 90             | 679 (shut in)  | 110            | 967            |
| 6              | 184            | 91             | 701            | 115            | 1014           |
| 8              | 223            | 92             | 719            | 120            | 1052           |
| 10             | 260            | 93             | 737            | 125            | 1083           |
| 18             | 376            | 94             | 754            | 130            | 1107           |
| 20             | 399            | 95             | 771            | 135            | 1124           |
| 22             | 425            | 96             | 787            | 140            | 1138           |
| 25             | 457            | 97             | 802            | 150            | 1157           |
| 30             | 491            | 98             | 817            | 160            | 1175           |
| 35             | 521            | 99             | 832            | 170            | 1192           |
| 40             | 548            | 100            | 844            | 180            | 1209           |
| 46             | 575            | 101            | 860            | 190            | 1225           |
| 51             | 594            | 102            | 874            | 200            | 1241           |
| 55             | 604            | 103            | 886            | 215            | 1264           |
| 60             | 620            | 104            | 893            |                |                |
| 65             | 632            | 105            | 912            |                |                |
| 70             | 645            | 106            | 924            |                |                |
| 75             | 657            | 107            | 935            |                |                |
|                |                |                |                |                |                |

### REMARKS

### SURFACE FLOW SUMMARY

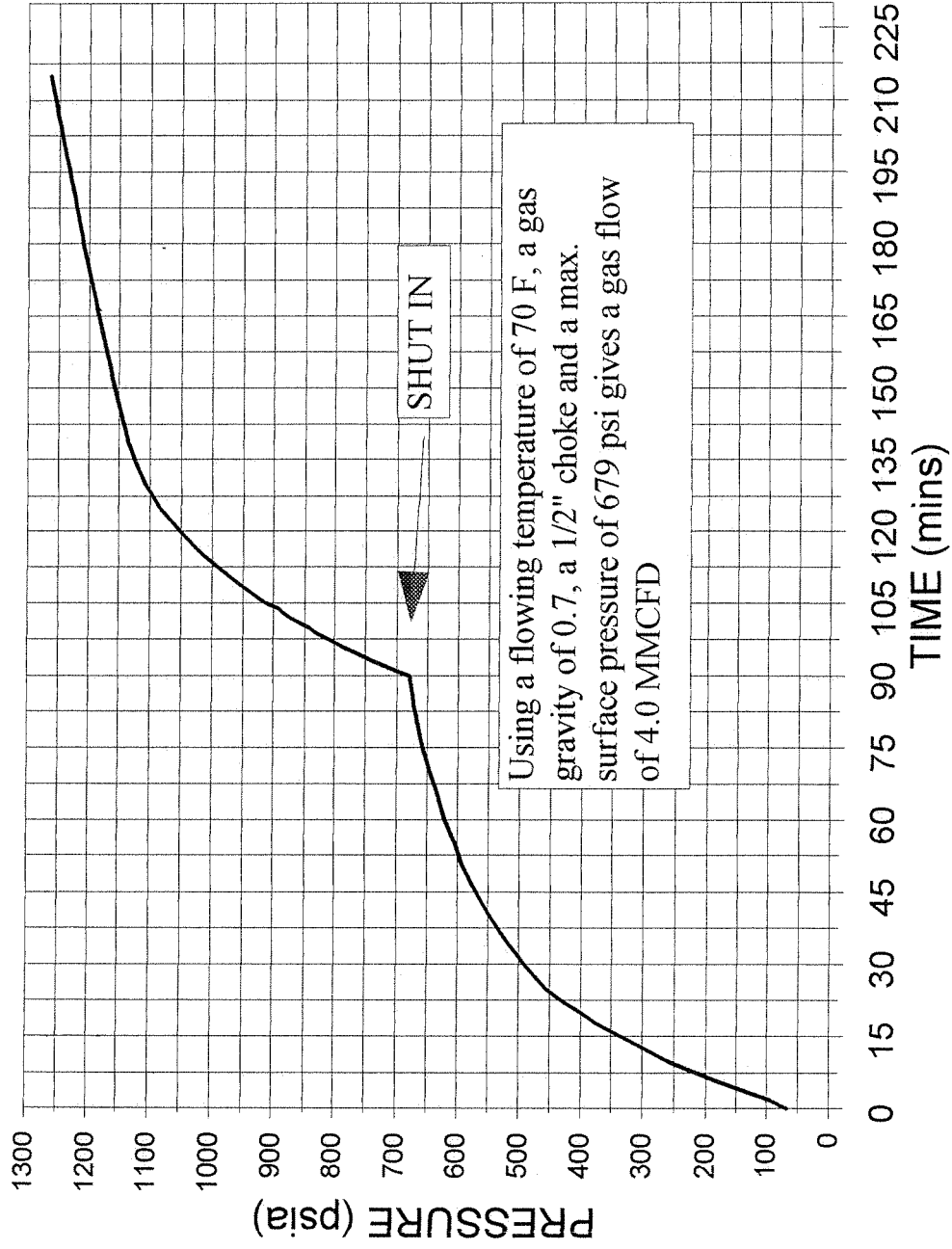
| CHOKE SIZE<br>(IN) | FLUID TO<br>SURFACE<br>(MIN) | FLOWING<br>TIME | MAXIMUM<br>SURFACE<br>PRESSURE | FINAL GAS<br>RATE<br>(MMCFD) | FINAL<br>LIQUIDS<br>RATE | FIELD GAS<br>ANALYSIS | FIELD LIQUIDS<br>ANALYSIS |
|--------------------|------------------------------|-----------------|--------------------------------|------------------------------|--------------------------|-----------------------|---------------------------|
| 0.5"               | N/A                          | 90              | 679                            | 4.0                          | N/A                      | 59/16/14/11           | N/A                       |

Sample 1      Gas at 560 psi (70°F)      (serial no. - EX084)  
Sample 2      Gas at 570 psi (70°F)      (serial - no. EX002)

(Both taken from rig manifold)

# EAST MEREENIE 41

## Open Hole Test 2 @ 1256 m



# Santos

A.C.N. 007 550 923

## OPEN HOLE TEST REPORT

**WELL:** EAST MERREENIE 41      **OHT NO:** 3      **DATE:** 06/06/96  
**DEPTH:** 1353 m      **FORMATION:** Lower Stairway Sandstone 1  
**GEOLOGIST:** M. Bilek

| TIME<br>(mins) | PRESS<br>(psi) | TIME<br>(mins) | PRESS<br>(psi) |
|----------------|----------------|----------------|----------------|
|                |                |                |                |
| 0              | 90             | 31             | 762            |
| 1              | 138            | 36             | 794            |
| 2              | 181            | 41             | 817            |
| 3              | 220            | 46             | 838            |
| 4              | 260            | 51             | 854            |
| 5              | 297            | 56             | 867            |
| 6              | 332            | 61             | 878            |
| 11             | 475            | 66             | 887            |
| 16             | 583            | 71             | 892            |
| 21             | 663            | 73             | 895            |
| 26             | 720            |                |                |

### REMARKS

### SURFACE FLOW SUMMARY

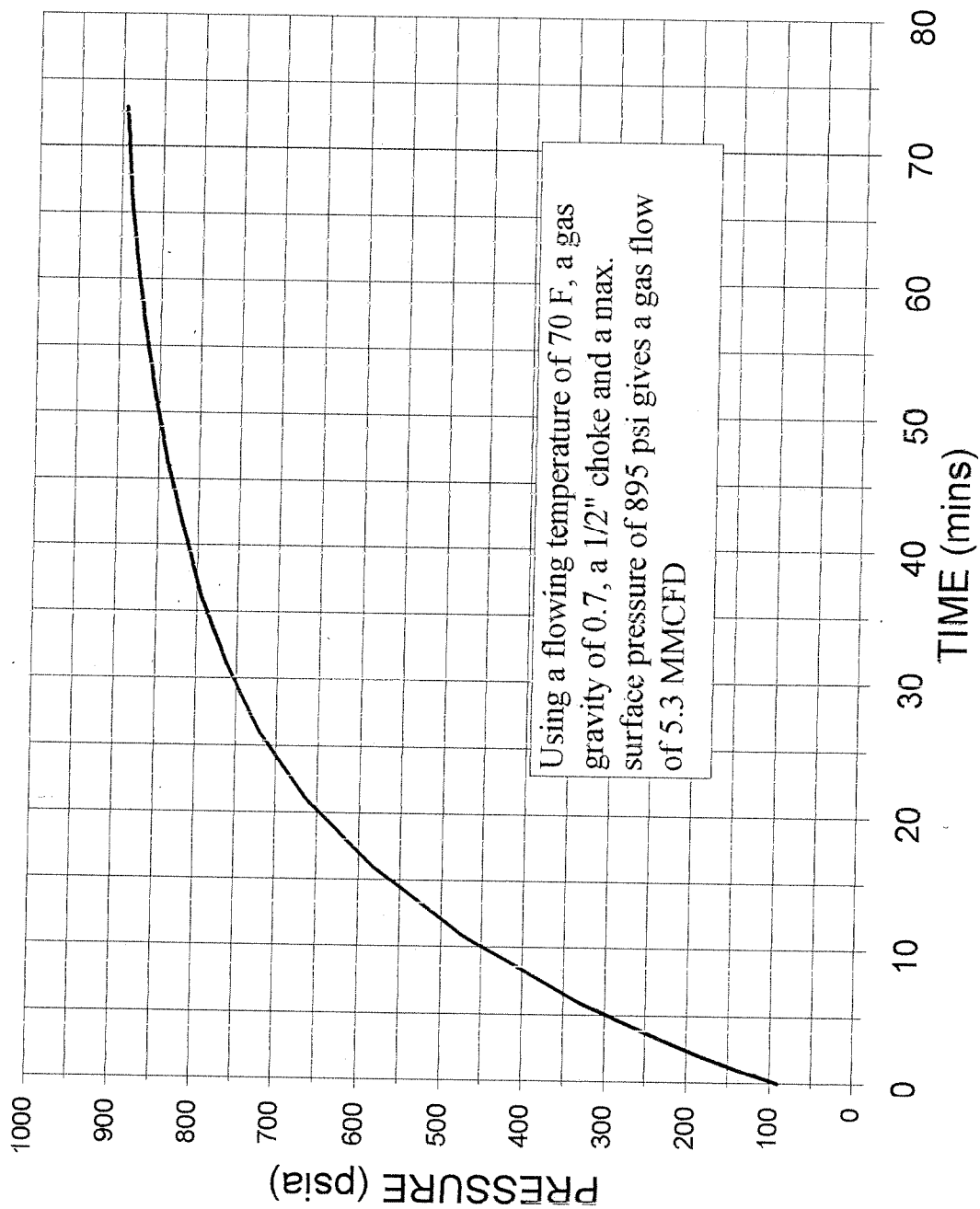
| CHOKE SIZE<br>(IN) | FLUID TO<br>SURFACE<br>(MIN) | FLOWING<br>TIME | MAXIMUM<br>SURFACE<br>PRESSURE | FINAL GAS<br>RATE<br>(MMCFD) | FINAL<br>LIQUIDS<br>RATE | FIELD GAS<br>ANALYSIS | FIELD LIQUIDS<br>ANALYSIS |
|--------------------|------------------------------|-----------------|--------------------------------|------------------------------|--------------------------|-----------------------|---------------------------|
| 0.5"               | N/A                          | 73              | 895                            | 5.3                          | N/A                      | 60/19/15/6            | N/A                       |

No build up data required.

No gas samples required.

# EAST MEREENIE 41

Open Hole Test 3 @ 1353 m



# Santos

A.C.N. 007 550 923

## OPEN HOLE TEST REPORT

**WELL:** EAST MERREENIE 41      **OHT NO:** 4      **DATE:** 08/06/96  
**DEPTH:** 1447 m      **FORMATION:** Pacoota P3  
**GEOLOGIST:** M. Bilek

| TIME<br>(mins) | PRESS<br>(psi) |
|----------------|----------------|
|                |                |
| 0              | 172            |
| 1              | 216            |
| 2              | 260            |
| 3              | 302            |
| 4              | 340            |
| 5              | 380            |
| 6              | 411            |
| 7              | 444            |
| 12             | 573            |
| 17             | 662            |
| 27             | 763            |
| 37             | 810            |
| 47             | 835            |
| 57             | 851            |
| 67             | 860            |
| 77             | 868            |
| 87             | 873            |

### REMARKS

### SURFACE FLOW SUMMARY

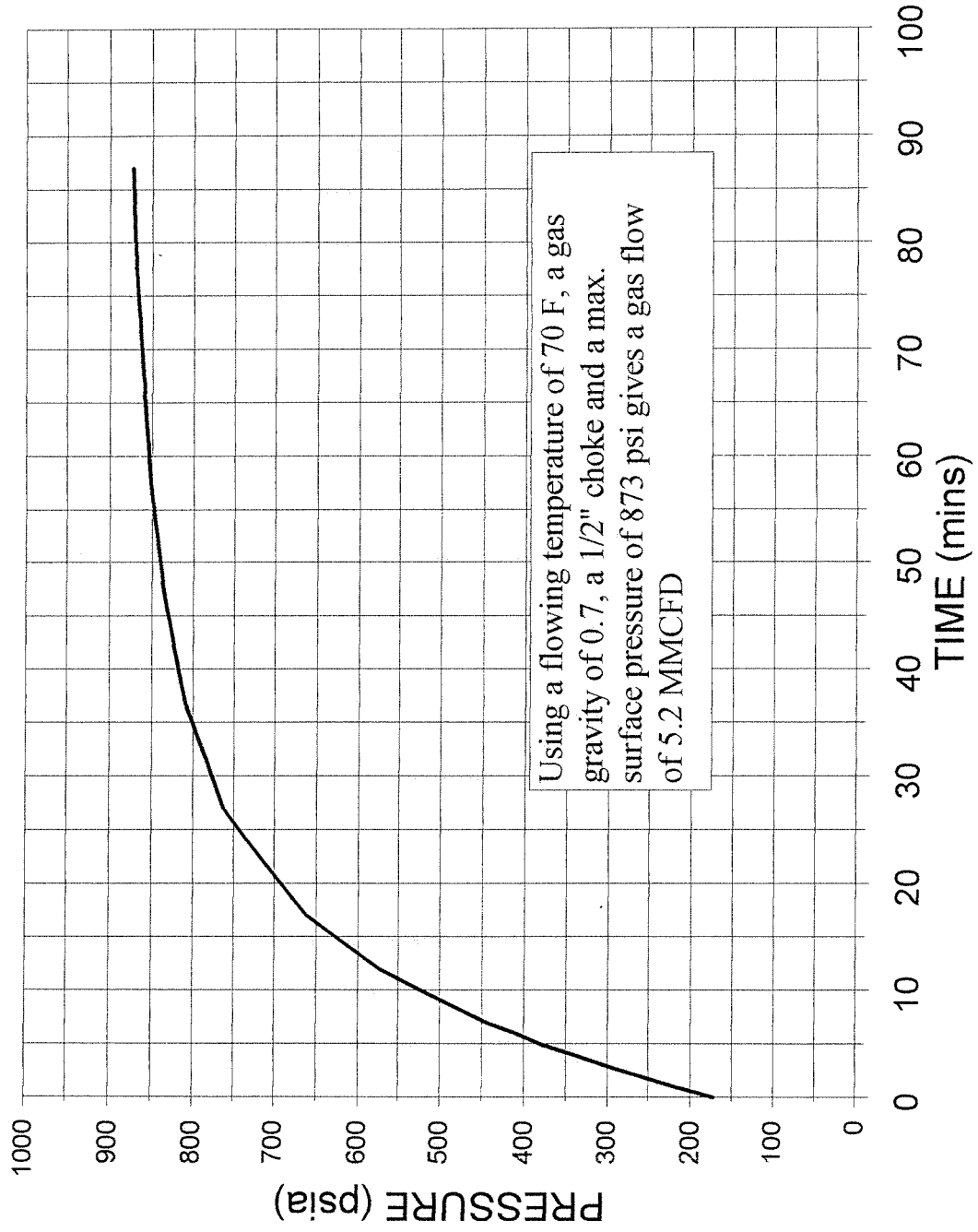
| CHOKE SIZE<br>(IN) | FLUID TO<br>SURFACE<br>(MIN) | FLOWING<br>TIME | MAXIMUM<br>SURFACE<br>PRESSURE | FINAL GAS<br>RATE<br>(MMCFD) | FINAL<br>LIQUIDS<br>RATE | FIELD GAS<br>ANALYSIS | FIELD LIQUIDS<br>ANALYSIS |
|--------------------|------------------------------|-----------------|--------------------------------|------------------------------|--------------------------|-----------------------|---------------------------|
| 0.5"               | N/A                          | 87              | 873                            | 5.2                          | N/A                      | 68/14/12/6            | N/A                       |

No build up data required.

No gas samples required.

# EAST MEREENIE 41

## Open Hole Test 4 @ 1447 m



## **SECTION 6: HYDROCARBON ANALYSIS**



**SANTOS LIMITED  
GAS ANALYSIS FOR  
EAST MERREENIE NO. 41**

**GAS ANALYSIS**

CLIENT: SANTOS LIMITED  
WELL: EAST MEREENIE NO. 41 DST #: OHT 1  
DATE: 03/06/96 TIME: \_\_\_\_\_ FORMATION: LOWER STAIRWAY SST  
DEPTH: 1162m PRESSURE: 95 PSI/60°F  
FLOW RATE: 0.7 MMCFD RECOVERY: \_\_\_\_\_  
SAMPLE TAKEN FROM: MANIFOLD ANALYSIS TEMP.: 21 0 °C  
CYLINDER ID EX 005

**ANALYSIS**

| GAS                 | MOLE %         |
|---------------------|----------------|
| METHANE.....        | <u>78.4157</u> |
| ETHANE.....         | <u>12.3542</u> |
| PROPANE.....        | <u>3.8612</u>  |
| ISO BUTANE.....     | <u>0.4214</u>  |
| BUTANE.....         | <u>1.1179</u>  |
| ISO PENTANE.....    | <u>0.2728</u>  |
| PENTANE.....        | <u>0.3590</u>  |
| NEO PENTANE.....    | <u>0.0078</u>  |
| HEXANE.....         | <u>0.2355</u>  |
| HEPTANE.....        | <u>0.0501</u>  |
| OCTANE +.....       | <u>0.0825</u>  |
| CARBON DIOXIDE..... | <u>0.0380</u>  |
| NITROGEN.....       | <u>2.7838</u>  |
| OXYGEN.....         | _____          |
| .....               | _____          |
| .....               | _____          |

AVERAGE MOLECULAR WEIGHT = 20.50CALCULATED GAS DENSITY: 0.7076 (RELATIVE TO AIR = 1)CALORIFIC VALUE GROSS: 1209.10 BTU/CU. FT. 45.05 MJ/CU. M.CALORIFIC VALUE NETT: 1095.82 BTU/CU. FT. 40.83 MJ/CU. M.

2.255

2.562 Ethane

3.583 Nitrogen

3.973 Methane

~~6.417~~ Iso Butane~~6.673~~ Butane

6.217 Propane

~~7.455~~ Iso Pentane~~7.79~~ Pentane

8.528

9.29 Hexane

9.74

10.235 Hexane

~~11.247~~~~11.537~~

11.915

~~12.815~~~~13.308~~

13.578

13.875

~~14.586~~~~14.658~~

15.415

16.408

17.285

17.718

18.117

~~18.688~~~~18.688~~

19.313

~~20.075~~~~20.308~~

20.925

21.242

21.708

~~21.919~~~~22.446~~~~22.708~~~~23.733~~~~23.987~~

24.96

26.253

26.645

27.598

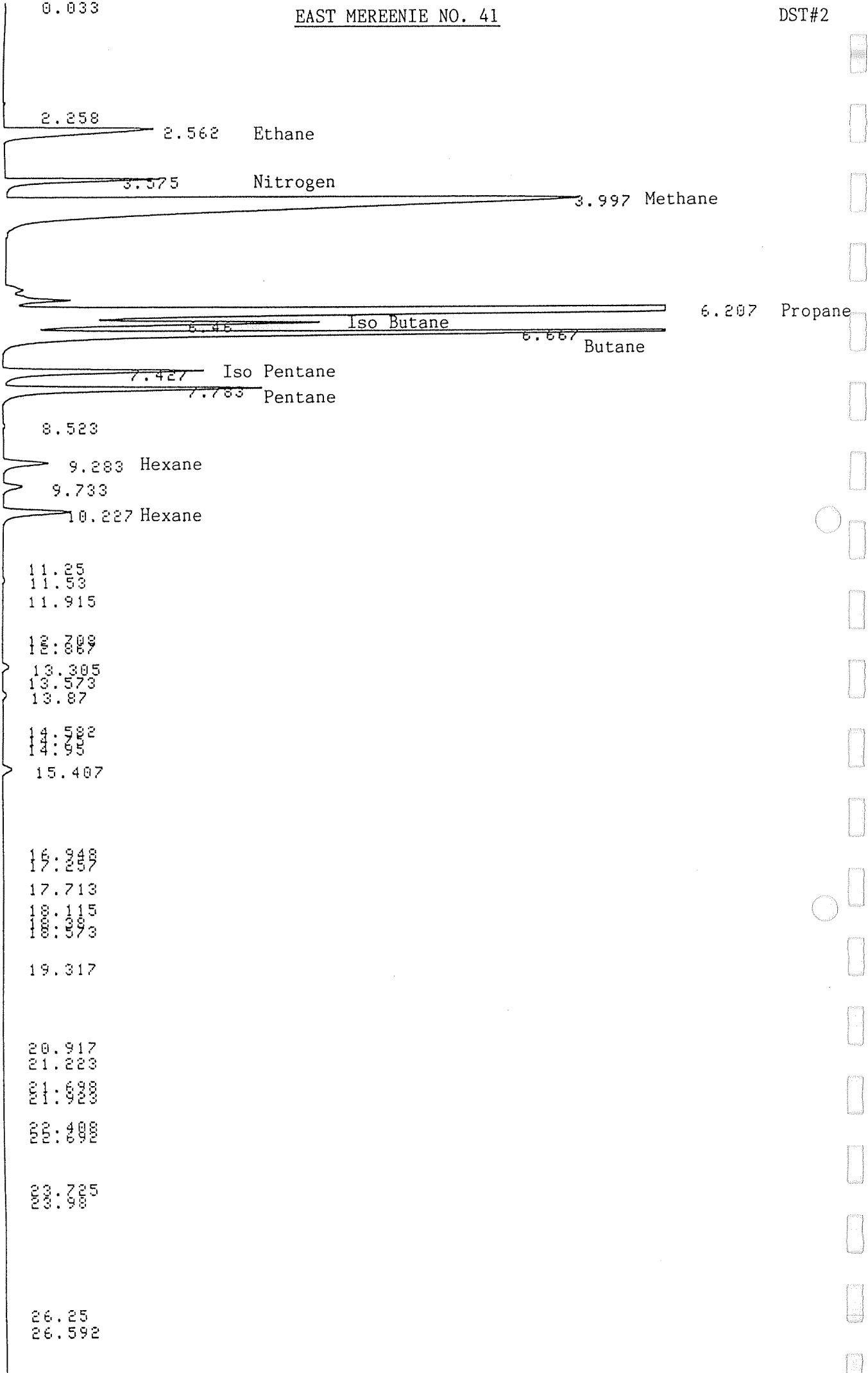
**GAS ANALYSIS**CLIENT: SANTOS LIMITEDWELL: EAST MEREENIE NO. 41DST #: OHT 2DATE: 05/06/96 TIME: \_\_\_\_\_FORMATION: PACOOTTA P1DEPTH: 1256mPRESSURE: 570 PSI/70°FFLOW RATE: 4.0 MMCFD

RECOVERY: \_\_\_\_\_

SAMPLE TAKEN FROM: MANIFOLDANALYSIS TEMP: 21.0 °CCYLINDER ID EX 002**ANALYSIS**

| GAS                  | MOLE %         |
|----------------------|----------------|
| METHANE .....        | <u>73.9751</u> |
| ETHANE .....         | <u>13.3585</u> |
| PROPANE .....        | <u>4.1410</u>  |
| ISO BUTANE .....     | <u>0.4031</u>  |
| BUTANE .....         | <u>1.1542</u>  |
| ISO PENTANE .....    | <u>0.2464</u>  |
| PENTANE .....        | <u>0.3386</u>  |
| NEO PENTANE .....    | <u>0.0054</u>  |
| HEXANE .....         | <u>0.1828</u>  |
| HEPTANE .....        | <u>0.0312</u>  |
| OCTANE + .....       | <u>0.0500</u>  |
| CARBON DIOXIDE ..... | <u>0.0759</u>  |
| NITROGEN .....       | <u>6.0380</u>  |
| OXYGEN .....         | _____          |
| .....                | _____          |
| .....                | _____          |

AVERAGE MOLECULAR WEIGHT = 21.01CALCULATED GAS DENSITY: 0.7254 (RELATIVE TO AIR = 1)CALORIFIC VALUE GROSS: 1182.28 BTU/CU. FT. 44.05 MJ/CU. M.CALORIFIC VALUE NETT: 1071.90 BTU/CU. FT. 39.94 MJ/CU. M.



## SECTION 7: CORE DATA

**SECTION 7 (a): CORE DESCRIPTION**

# SANTOS LIMITED

## CORE DESCRIPTION

Date: JULY 4TH, 1996  
 Well Name: EAST MEREENIE - 41  
 Location: Latitude: 24° 1' 21.61" South  
 Longitude: 131° 36' 1.05" East  
 Elevation: G.L: 764.3m. KB: 770.5m RT: m.  
 Geologist: L.E.L.BURGESS

Page 1 of 3  
**CORE No: 1**

Interval: 1503 - 1512m  
 Cut: 9-1/4" M Recovery: 9 m ( 99 %)  
 Formation /Sand: PACOOTTA/ P4 SAND  
 Age: EARLY ORDOVICIAN

| CORE ANALYSIS |       |     | DEPTH (m) | SAMPLES FOR ANALYSIS | ROP (min/m) | VISUAL Ø | FLUOR | LITH-OLOGY | DESCRIPTION  |
|---------------|-------|-----|-----------|----------------------|-------------|----------|-------|------------|--|
| Ø             | K     | SO  |           |                      |             |          | gfpt  |            | LEGEND:<br>SCAL - special core analysis sample, P- plug, G-good, F- fair, PR- poor, TR- trace, T- tight.<br>XBG- cross bedding, CBG- current bedding, PBG- parallel bedding, FBG- flazer bedding, RPG- ripple bedding, BD- banded, MSV- massive, SCF- scour and fill, LDS- load structures, cmt- cement, frctr- fracture   |
| 6.5           | 0.35  | 0.0 | 1503      | P                    | -           | T        |       | XBG        | 1503-1504.05m SANDSTONE: mottled and banded red-brown and off-white to cream; quartz grains are clear and translucent to off-white and red brown and rarely pale orange; fine to very fine grained to occasionally medium and locally coarse with thin coarse laminae; angular to subrounded and rounded in parts, moderately sorted, strong silica cement, occasional silica overgrowths, patchy iron oxide staining, traces of red argillaceous matrix and cement; occasional dark grey to black inclusions (possibly ilmenite), hard, tight(porosity. FLUORESCENCE: 20% , dull to moderately bright blue, patchy, very slow streaming cut, moderate to thick residue ring |
| 3.5           | 0.099 | 0.0 |           | P                    | 292         | T        |       | MSV        |  |
|               |       |     |           |                      |             |          |       | XBG        |  |
| 7.6           | 6.4   | 4.1 | 0.5       | P                    | -           | T        |       | BD         | 1504.05- 1504.32m SANDSTONE: as above but generally off-white to cream.<br>1504.32- 1504.8m SANDSTONE: dominantly red-brown and becoming medium to coarse with depth. Composition as above with traces of biotite. Tight to poor visual porosity.  |
|               |       |     |           |                      |             |          |       | LDS        |  |
|               |       |     |           |                      |             |          |       | MSV        |  |
| 7.5           | 0.822 | 0.0 | 1504      | P                    | 196         | T        |       | BD         | 1504.8- 1505.6m: mottled red-brown and off-white beds. SANDSTONE: clear, off-white, translucent and red-brown; medium to very fine grained to occasionally coarse, moderate to poorly sorted; well cemented by silica; subangular to subrounded ; hard, tight. FLUORESCENCE: 20-100-% as above with very slow streaming cut and moderate residue ring.   |
| 6.5           | 3.8   | 1.2 |           | P                    | 124         | T        |       | MSV        |  |
|               |       |     |           |                      |             |          |       | XBG        |  |
| 8.8           | 1.4   | 4.3 | 0.5       | P                    | -           | FR       |       | LDS        | 1505.6- 1506.1m: generally pale cream and higher energy sediments with current bedding features and thin coarse stringers. SANDSTONE: off-white to cream, translucent and clear; medium to very fine grained and occasionally coarse; poorly sorted; sub angular to rounded; strong silica cement; rare argillaceous matrix; hard; trace to tight visual porosity. FLUORESCENCE: trace as above.   |
| 4.4           | 0.896 | 0.9 |           | P                    | 144         | T        |       |            |  |
|               |       |     |           |                      |             |          |       |            |  |
| 4.0           | 0.104 | 1.1 | 1505      | P                    | -           | T        |       | LDS        | 1506.1- 1507.71m: predominantly sandstone red beds with INTERLAMINATED subordinate off-white sandstone stringers. SANDSTONE: clear, translucent, off-white, medium red-brown, orange in parts; predominantly fine to very fine grained with laminae of medium and occasional coarse grains; poorly to moderately well sorted; subangular to subrounded with occasional sub-elongate and well rounded grains; strong silica cement with occasional overgrowths; hard; tight to limited good visual porosity FLUORESCENCE: trace to 40%, dull to moderately bright blue, patchy to pinpoint, very slow streaming cut, thick residue ring.                                      |
| 5.4           | 0.458 | 1.8 |           | P                    | 324         | T        |       | MSV        |  |
|               |       |     |           |                      |             |          |       |            |  |
| 6.2           | 0.899 | 0.9 | 0.5       | P                    | -           | T        |       | LDS        | 1507.71- 1508.1m: generally pale cream and higher energy sediments with current bedding features and thin coarse stringers. SANDSTONE: off-white to cream, translucent and clear; medium to very fine grained and occasionally coarse; poorly sorted; sub angular to rounded; strong silica cement; rare argillaceous matrix; hard; trace to tight visual porosity. FLUORESCENCE: trace as above.  |
|               |       |     |           |                      |             |          |       | SCF        |  |
|               |       |     |           |                      |             |          |       | CBG        |  |
| 2.2           | 0.213 | 0.0 | 1506      | P                    | -           | TR       |       | LDS        | 1508.1- 1509.1m: generally pale cream and higher energy sediments with current bedding features and thin coarse stringers. SANDSTONE: off-white to cream, translucent and clear; medium to very fine grained and occasionally coarse; poorly sorted; sub angular to rounded; strong silica cement; rare argillaceous matrix; hard; trace to tight visual porosity. FLUORESCENCE: trace as above.   |
| 3.4           | 0.326 | 0.0 |           | P                    | 100         | TR       |       | frctr      |  |
|               |       |     |           |                      |             |          |       | BD         |  |
| 3.9           | 0.224 | 0.0 | 0.5       | P                    | -           | TR       |       | FBG        | 1509.1- 1510.1m: generally pale cream and higher energy sediments with current bedding features and thin coarse stringers. SANDSTONE: off-white to cream, translucent and clear; medium to very fine grained and occasionally coarse; poorly sorted; sub angular to rounded; strong silica cement; rare argillaceous matrix; hard; trace to tight visual porosity. FLUORESCENCE: trace as above.   |
|               |       |     |           |                      |             |          |       | LDS        |  |
|               |       |     |           |                      |             |          |       |            |  |
| 3.9           | 0.235 | 0.0 | 1507      | P                    | -           | TR       |       | cmt spots  | 1510.1- 1511.1m: generally pale cream and higher energy sediments with current bedding features and thin coarse stringers. SANDSTONE: off-white to cream, translucent and clear; medium to very fine grained and occasionally coarse; poorly sorted; sub angular to rounded; strong silica cement; rare argillaceous matrix; hard; trace to tight visual porosity. FLUORESCENCE: trace as above.   |



## SANTOS LIMITED CORE DESCRIPTION

**Date:** JULY 4TH, 1996  
**Well Name:** EAST MEREENIE - 41  
**Location:** Latitude: 24° 1' 21.61" South  
Longitude: 131° 36' 1.05" East  
**Elevation:** G.L: 764.3m, KB: 770.5m RT: m.  
**Geologist:** L.E.L.BURGESS

Page 2 of 3

**CORE No: 1**

**Interval:** 1503 - 1512m  
**Cut:** 9 m **Recovery:** 9 m ( 64 % )

**Formation /Sand: PACOOTA/ P4 SAND**  
**Age: EARLY ORDOVICIAN**

| CORE ANALYSIS |       |     | DEPTH<br>(m) | SAMPLES<br>FOR ANALYSIS | ROP (min/m) | VISUAL Ø | FLUOR | LITH-<br>OLOGY | DESCRIPTION   |
|---------------|-------|-----|--------------|-------------------------|-------------|----------|-------|----------------|---|
| Ø             | K     | SO  |              |                         |             |          | g/pt  |                | <b>LEGEND:</b><br>SCAL - special core analysis sample, P- plug, G-good, F- fair, PR-poor, TR- trace, T- tight<br>XBG- cross bedding, CBG- current bedding, PBG- parallel bedding,<br>FBG- flaser bedding, BD- banded, MSV- massive, SCF- scour and fill, LDS- load structures, cmt- cement  |
| 8.7           | 12    | 0.8 | 1507         | P                       | -           | G        |       | BD             | <u>1507.71-1507.92m</u> : pale green to off-white current bedded sandstone with prominent dark olive grey chlorite ? clasts.  |
|               |       |     |              |                         | 108         | T        |       | MSV            | <u>SANDSTONE</u> : translucent, off-white, clear, occasional pale orange and scattered pink, mauve and yellow quartz;   |
| 1.9           | 0.034 | 3.2 | 0.5          | P                       | -           | T        |       |                | generally fine to very fine grained but commonly medium coarse with occasional thin very coarse laminae; sub angular to well rounded; moderately well to poorly sorted; strong silica and local iron cement; traces of dusky yellow argillaceous matrix and laminae; abundant green clasts (up to 10mm long) of massive chlorite?and bands of granular chlorite?; hard; trace to tight visual porosity.                         |
| 4.7           | 0.102 | 0.0 |              | P                       | 72          |          |       | LDS            | FLUORESCENCE: 40% decreasing to trace as above .  |
|               |       |     | 1508         |                         | -           |          |       | CBG            |   |
|               |       |     |              |                         |             |          |       | MSV            |   |
| 2.2           | 0.058 | 0.0 |              | P                       | 68          | T        |       | BD             | <u>1507.92- 1508.24m</u> : pale pink to off-white massive and banded <u>SANDSTONE</u> : clear, translucent to moderately light orange pink; medium to fine grained and locally coarse;  |
| 3.1           | 0.092 | 0.0 | 0.5          | P                       | -           | T        |       | SCF            | poorly sorted; sub angular to rounded; clean; strong silica cement; hard; tight visual porosity. FLUORESCENCE: trace.   |
|               |       |     |              |                         |             |          |       | LDS            |   |
|               |       |     |              |                         |             |          |       | MSV            | <u>1508.24- 1508.32m</u> : red-brown sandstone with scour and fill interfaces. <u>SANDSTONE</u> : as above with common red stained quartz; fine to very fine grained; strong silica cement; hard.   |
| 1.4           | 0.033 | 0.0 |              | P                       | 72          | T        |       | XBG            |   |
| 2.0           | 0.028 | 0.0 | 1509         | P                       | -           | T        |       | MSV            |   |
|               |       |     |              |                         |             |          |       | BD             |   |
| 0.7           | 0.016 | 0.0 |              | P                       | 120         | TR       |       | RPG            | <u>1508.32- 1509.24m</u> : occasional red-brown bands and local yellow argillaceous laminae in pale pink trough and current bedded sandstones. <u>SANDSTONE</u> : clear, off-white,   |
|               |       |     |              |                         |             |          |       | PBG            | translucent and red-brown; mainly fine to very fine grained to occasional medium and coarse banding; moderate to poorly sorted; subangular to subrounded; well cemented by silica; rare disseminated pyrite and scattered dark lithics;   |
| 2.7           | 0.077 | 0.0 | 0.5          | P                       | -           | T        |       | BD             | thin red and yellow argillaceous partings; hard; tight; no fluorescence.  |
|               |       |     |              |                         |             |          |       | CBG            |   |
|               |       |     |              |                         | 84          |          |       | PBG            |   |
| 3.9           | 0.567 | 1.3 | 1510         |                         | -           | T        |       | LDS            | <u>1509.24- 1510.05m</u> : dark red-brown sandstone with graded steep current bedding. <u>SANDSTONE</u> : clear, translucent, pale pink and moderate red-brown quartz; fine to very fine grained with thin moderately well sorted medium to coarse bands showing common iron oxide staining and matrix; sub angular to rounded and occasional well rounded; strong silica cement; hard; tight visual porosity; no fluorescence. |
| 6.7           | 1.3   | 0.0 |              | P                       | 52          | TR       |       | PBG            |   |
|               |       |     |              |                         |             |          |       | BD             |   |
| 6.1           | 0.186 | 0.0 | 0.5          | P                       | -           | FR       |       | MSV            | <u>1510.05- 10.42m</u> : high energy red-brown sandstones grading down to off-white fine grained sandstone.   |
|               |       |     |              |                         |             |          |       | MSV            | <u>SANDSTONE</u> : as above with strong to moderately strong siliceous cement; trace red argillaceous matrix; hard; fair to tight; visual porosity. FLUORESCENCE: 80% dull to bright blue, patchy, very slow streaming cut, moderately thick residue ring   |
| 8.1           | 13    | 5.3 | 1511         | P                       | -           | G        |       | cmt spots      |   |

# SANTOS LIMITED




## CORE DESCRIPTION

Date: JULY 4TH, 1996  
 Well Name: EAST MEREENIE - 41  
 Location: Latitude: 24° 1' 21.61" South  
 Longitude: 131° 36' 1.05" East  
 Elevation: G.L: 764.3m. KB: 770.5m RT: m.  
 Geologist: L.E.L.BURGESS

Page 3 of 3  
 CORE No: 1

Interval: 1503 - 1512m  
 Cut: 9' | n Recovery: 9 m ( 99%)

Formation /Sand: PACOOTTA/ P4 SAND  
 Age: EARLY ORDOVICIAN

| CORE ANALYSIS |       |     | DEPTH<br>(m) | SAMPLES<br>FOR ANALYSIS | ROP (min/m) | VISUAL Ø | FLUOR | LITH-<br>OLOGY   | DESCRIPTION   |
|---------------|-------|-----|--------------|-------------------------|-------------|----------|-------|--|---|
| Ø             | K     | SO  |              |                         |             |          | gfpt  |  | LEGEND:<br>P- plug, G-good, F- fair, PR- poor, TR- trace, T- tight<br>XBG- cross bedding, CBG- current bedding, PBG- parallel bedding,<br>FBG- flaser bedding, BD- banded, MSV- massive, SCF- scour and<br>fill, LDS- load structures, frcts- fractures, clsts- clasts.   |
| 3.8           | 0.110 | 1.3 | 1511         | P                       | -           | TR       |       |   | SCF 1510.42- 1511.3m: dark red-brown sandstone with common horizontal banding and ripples. SANDSTONE: red-brown to clear, orange in parts; medium to very fine grained and occasionally coarse in laminae and lenses; weak to strong silica cement; firm to hard; clean; good to poor visual porosity. FLUORESCENCE: 60% as above, moderately thick residue ring. |
|               | 0.025 | 0.0 | 0.5          | P                       | -           | T        |       |   | BD frcts  |
| 0.9           | 0.014 | 0.0 |              | P                       | 112         | T        |       |  | XBG   |
|               |       |     | 1512         |                         | -           |          |       |  | clsts<br>MSV<br>LDS<br>BD<br>LDS  |
|               |       |     |              |                         |             |          |       |  | 1511.3- 1512m: pale fine to very fine grained sandstone with occasional coarse grained lenses becoming dark red-brown with depth, common flaser bedding. SANDSTONE: medium to very fine grained; poorly sorted; well cemented with silica; clean with large red-brown claystone clasts up to 15mm and rare disseminated pyrite, tight porosity; hard.             |

## **SECTION 7 (b): CORE ANALYSIS**

## CORE ANALYSIS RESULTS

Company SANTOS LIMITED Formation PACOOTTA-P4 File CD-SA-476  
II EAST MEREENIE NO. 41 Date Report 18-06-96  
Development DEVELOPMENT Analysts DS, SO  
Location AMADEUS BASIN  
te NORTHERN TERRITORY

## Lithological Abbreviations

SD DOLOMITE — DOL ANHYDRITE — ANHY SANDY — SDY FINE — FN CRYSTALLINE — XLN BROWN — BRN FRACTURED — FRAC SLIGHTLY — SLI  
SH CHERT — CH CONGLOMERATE — CONG SHALY — SHY MEDIUM — MED GRAIN — GRN GRAY — GY LAMINATION — LAM VERY — VI  
LM GYPSUM — GYP FOSSILIFEROUS — FOSS LIMY — LMY COARSE — CSE GRANULAR — GRNL VUGGY — VGY STYLOLITIC — STY WITH — WI

| DEPTH   | PERMEABILITY<br>MILLIDARCYS<br>K.A. | POROSITY<br>% | RESIDUAL SATURATION<br>% PORE |       | GRAIN<br>DENSITY | VERT<br>PERM | SAMPLE DESCRIPTIONS<br>AND REMARKS  |
|---------|-------------------------------------|---------------|-------------------------------|-------|------------------|--------------|---|
|         |                                     |               | OIL                           | WATER |                  |              |   |
| 1503.01 | 0.350                               | 6.5           | 0.0                           | 40.4  | 2.66             |              | SST:Clr-wht fine bands and patchy mod red, vf-f occ med grn, v hd, mod sort, patchy red arg mtx, mod-well silica cmtd, subang-subrnd occ round. Scat fine dark lithics, occ weathered felds.            |
| 1503.30 | 0.099                               | 3.5           | 0.0                           | 46.5  | 2.64             |              | SST:Clr-wht, vf-crse grn, v hd, mod sorted, tr-red arg mtx, well sil cmtd, subang-rnd. Scat yell rnd qtz grns, lithics, feldspars and biotite?  |
| 1503.60 | 6.4                                 | 7.6           | 4.1                           | 31.3  | 2.65             |              | SST:Clr-wht, f-crse grn, v hd, mod sort, patchy red arg mtx, mod sil cmtd, subang-rnd. Scat vf dk lithics, occ weathered felds, occ red silty arg inclusions.   |
| 1503.90 | 0.822                               | 7.5           | 0.0                           | 31.7  | 2.66             |              | SST:Clr-wht, dom fine-v r med and crse grn, v hd, well sort, patchy red arg mtx, mod sil cmtd, subang-rnd. As above, occ weak gy arg lams.  |
| 1504.20 | 3.8                                 | 6.5           | 1.2                           | 29.0  | 2.66             | .094         | SST:Clr-wht and banded lt mod orange pink, lensed vf-f and vf-crse grn, v hd, poorly sort, rare arg mtx, mod-well sil cmtd, subang-rnd. Scat dk carb? lithics, biotite.                                 |
| 1504.50 | 1.4                                 | 8.8           | 4.3                           | 41.2  | 2.68             |              | SST:Clr-wht mod redish brn, vf-f occ med with lens of crse grn, hd, poorly sorted, red arg mtx, lt-mod sil cmtd, subang-rnd. Crse lens have no red mtx, but silica cmtd, rare dk lithics, rare biotite. |
| 1504.80 | 0.896                               | 4.4           | 0.9                           | 28.5  | 2.66             |              | SST:Clr-wht v pl mod orange pink, vf-med-occ crse grn, v hd, poorly sorted, tr-minor red and occ wht arg mtx, well sil cmtd, subang-subrnd. Scat vf dk lithic particles, rare biotite.                  |
| 1505.10 | 0.104                               | 4.0           | 1.1                           | 33.1  | 2.68             |              | As above but with increased mtx.  |
| 1505.30 | 0.458                               | 5.4           | 1.8                           | 48.7  | 2.64             |              | SST:Clr-wht-mod redish orange, vf-f and lenses of crse md grns v hd, poorly sort, common red arg mtx, well sil cmtd, subang-subrnd. As above, with occ v weak red arg lams.                             |
| 1505.70 | 0.899                               | 6.2           | 0.9                           | 45.2  | 2.65             | .089         | SST:Clr-off wht, vf-med occ crse grn, v hd, poorly sort, rare arg mtx, mod-well sil cmtd, subang-rnd. Rare dk lithic particles.   |
| 1506.0  | 0.213                               | 2.2           | 0.0                           | 39.2  | 2.64             |              | SST:Clr-off wht, vf-med occ crse grn, v hd, poorly sort, r-tr redish arg mtx, mod-well sil cmtd, subang-rnd. Rare dk lithic particles.  |

**CORE ANALYSIS RESULTS**

Company SANTOS LIMITED Formation PACOOTA-P4 File CD-SA-476  
Well EAST MEREENIE NO. 41 Date Report 8-06-96  
Field DEVELOPMENT Analysts DS, SO  
State NORTHERN TERRITORY Location AMADEUS BASIN

**Lithological Abbreviations**

AND — SD DOLOMITE — DOL ANHYDRITE — ANHY SANDY — SDY FINE — FN CRYSTALLINE — XLN BROWN — BRN FRACTURED — FRAC SLIGHTLY —  
TALE — SH CHERT — CH CONGLOMERATE — CONG SHALY — SHY MEDIUM — MED GRAIN — GRN GRAY — GY LAMINATION — LAM VERY — VI  
ME — LM GYPSUM — GYP FOSSILIFEROUS — FOSS LIMY — LMY COARSE — CSE GRANULAR — GRNL VUGGY — VGY STYLOLITIC — STY WITH — WI

| SAMPLE NO. | DEPTH   | PERMEABILITY MILLIDARCYS K.A. | POROSITY % | RESIDUAL SATURATION % PORE |       | GRAIN DENSITY | VERT PERM | SAMPLE DESCRIPTIONS AND REMARKS   |
|------------|---------|-------------------------------|------------|----------------------------|-------|---------------|-----------|---|
|            |         |                               |            | OIL                        | WATER |               |           |   |
| 2          | 1506.30 | 0.326                         | 3.4        | 0.0                        | 37.6  | 2.68          |           | SST:Clr-off wht-mottled med redish brn, f-crse grn, hd, poorly sort, comm red arg mtx, mod sil cmt, subang-rnd. Occ scat vf dk lithic particles.  |
| 3          | 1506.60 | 0.224                         | 3.9        | 0.0                        | 43.6  | 2.64          |           | As above but banded and well cmt in band  |
| 4          | 1506.90 | 0.235                         | 3.9        | 0.0                        | 31.4  | 2.64          |           | SST:Clr-mottled mod redish brn, vf-dom fine oc med and r crse grn, v hd, poorly sorted, mottled red arg mtx, mod-occ well sil cmt, subang-rnd. Occ scat vf dk lithics.  |
| 5          | 1507.20 | 12                            | 8.7        | 0.8                        | 50.0  | 2.65          | 0.343     | SST:Clr-dom mod reddish brn, vf-fine rare med grn, hd, mod-well sorted, red arg mtx, mod sil cmt, subang-dom subrnd. Common qtz overgrowths, rare scat vf dk lithics.   |
| 6          | 1507.50 | 0.034                         | 1.9        | 3.2                        | 46.4  | 2.64          |           | SST:Lt mod orange pink and mod red brn, vf-fine grn, v hd, well sort, local mod arg red mtx, well sil cmt, subang-subrnd. Tr rare scat dk lithics.  |
| 7          | 1507.80 | 0.102                         | 4.7        | 0.0                        | 67.1  | 2.65          |           | SST:Clr-off wht-lt olive gy, f-dom crse grn, v hd poorly sort, occ olive gy and wht arg mtx, mod sil cmt, subang-subrnd occ rnd. Occ lt olive gy argill weak lams and partings, rare scat dk lithics comm yellowish qtz grns. |
| 8          | 1508.10 | 0.058                         | 2.2        | 0.0                        | 60.2  | 2.64          |           | SST:Clr-v lt mod orange pink, f-med occ crse grn, v hd, poor-mod sort, tr red arg mtx, well sil cmt, subang-rnd. Scat rare dk lithic frags.   |
| 9          | 1508.40 | 0.092                         | 3.1        | 0.0                        | 35.3  | 2.66          |           | As above.   |
| 10         | 1508.70 | 0.033                         | 1.4        | 0.0                        | 61.7  | 2.64          | 0.024     | As above with rare red silty partings.  |
| 11         | 1509.00 | 0.028                         | 2.0        | 0.0                        | 67.5  | 2.64          |           | As above but vf-fine rare med and vr crse grn and w rare pyrite v fine dissem.  |
| 12         | 1509.30 | 0.016                         | 0.7        | 0.0                        | 74.0  | 2.64          |           | SST:Clr-v pl mod orange pink vf-fine occ crser qtz grns, v hd, well sort, nil mtx, v well sil cmt, subang-rnd in crser grns. Rare dk lithics.   |
| 13         | 1509.60 | 0.077                         | 2.7        | 0.0                        | 61.3  | 2.65          |           | SST:Clr-v pl mod redish brn, banded vf-f and f-crse grn, v hd, well sorted in bands, minor redish arg mtx, well sil cmt, subang-rnd. Rare vf disseminated pyrite.   |

**CORE ANALYSIS RESULTS**

Company SANTOS LIMITED  
 Well EAST MEREENIE NO. 41  
 Field DEVELOPMENT  
 State NORTHERN TERRITORY

Formation PACOOTA-P4  
 Location AMADEUS BASIN

File CD-SA-476  
 Date Report 18-06-96  
 Analysts DS, SO

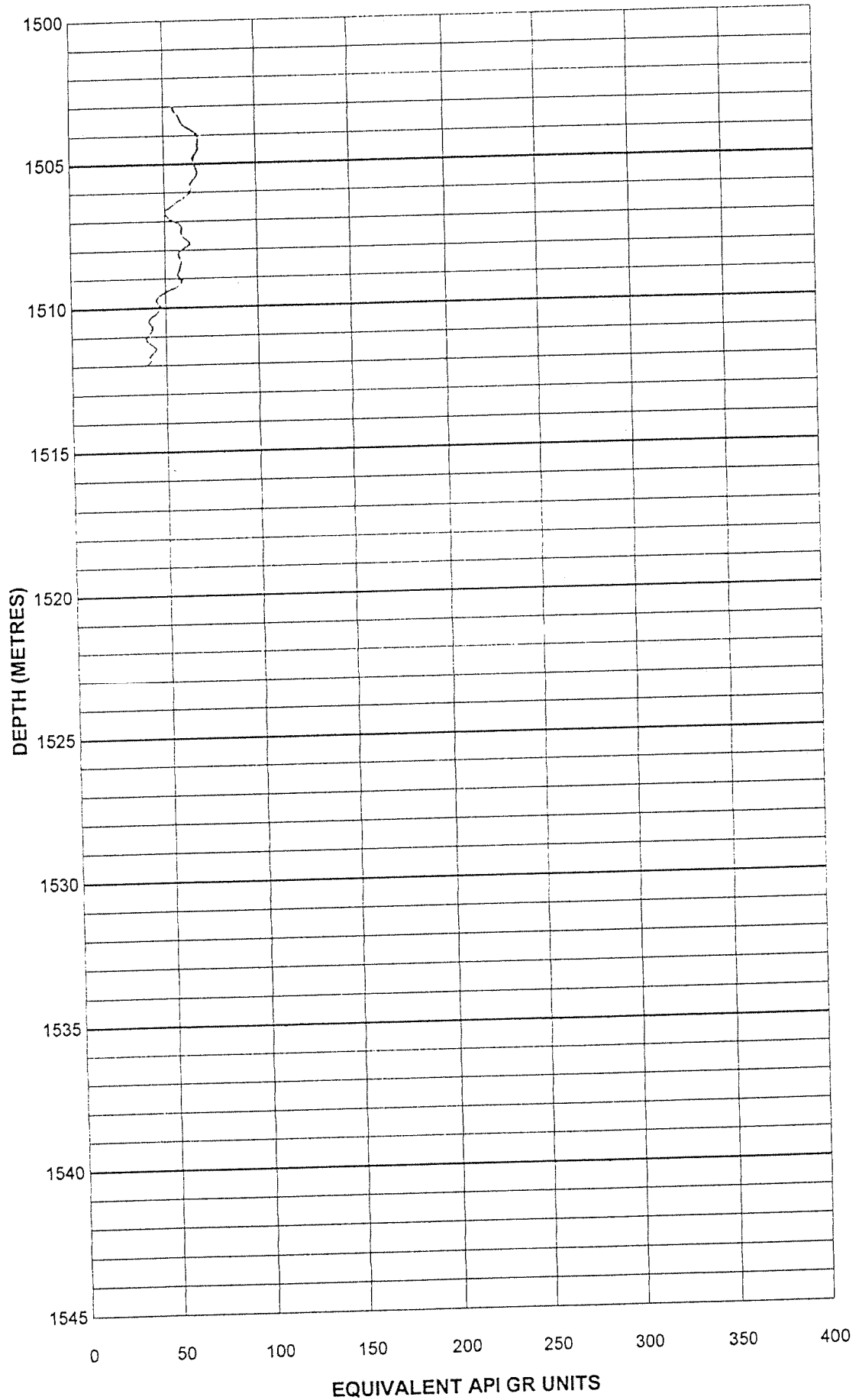
**Lithological Abbreviations**

|                              |  |   |  |   |   |   |  |   |
|------------------------------|--|---|--|---|---|---|--|---|
| DO — SD<br>LE — SH<br>E — LM | DOLOMITE — DOL<br>CHERT — CH<br>GYPSUM — GYP | ANHYDRITE — ANHY<br>CONGLOMERATE — CONG<br>FOSSILIFEROUS — FOSS | SANDY — SDY<br>SHALY — SHY<br>LIMY — LMY | FINE — FN<br>MEDIUM — MED<br>COARSE — CSE | CRYSTALLINE — XLN<br>GRAIN — GRN<br>GRANULAR — GRNL | BROWN — BRN<br>GRAY — GY<br>VUGGY — VGY | FRACTURED — FRAC<br>LAMINATION — LAM<br>STYLOLITIC — STY | SLIGHTLY — SL<br>VERY — VI<br>WITH — WI |
|------------------------------|--|---|--|---|---|---|--|---|

| DEPTH   | PERMEABILITY<br>MILLIDARCY<br>K.A. | POROSITY<br>% | RESIDUAL SATURATION<br>% PORE |       | GRAIN<br>DENSITY | VERT<br>PERM | SAMPLE DESCRIPTIONS<br>AND REMARKS  |
|---------|------------------------------------|---------------|-------------------------------|-------|------------------|--------------|---|
|         |                                    |               | OIL                           | WATER |                  |              |   |
| 1509.90 | 0.567                              | 3.9           | 1.3                           | 46.9  | 2.65             |              | SST: Clr-v pl mod redish brn, f-med rarely crse gm, v hd, mod-well sorted, increased red arg mtx, decreased sil cmt, subang-rnd. Common qtz overgrowths.  |
| 1510.20 | 1.3                                | 6.7           | 0.0                           | 64.4  | 2.65             | 0.136        | SST: Clr pl mod redish orange, vf-fine occ med and crse in lenses, v hd, poorly sorted minor red arg mtx, mod-well sil cmt, subang-rnd. Occ weak redish arg silty lams.                             |
| 1510.50 | 0.186                              | 6.1           | 0.0                           | 66.1  | 2.64             |              | SST: Clr-wht pl mod redish brn, vf-f r med gm, v hd, mod sort, variable redish and red brn arg mtx, mod sil cmt, subang-rnd. Rare scat vf dk lithics, comm yellowish orange qtz grains.             |
| 1510.80 | 13                                 | 8.1           | 5.3                           | 34.1  | 2.64             |              | SST: V pl redish brn to clear, vf-med r crse grnd, v hd, mod sort, tr-minor arg mtx, mod sil cmt, subang-rnd. Scat rare dk grns, v rare biotite.  |
| 1511.10 | 0.110                              | 3.8           | 1.3                           | 36.0  | 2.64             |              | SST: V pl redish brn to clear, vf-med and crse gm w crse lenses, v hd, mod sort, tr-minor arg mtx, v well sil cmt, subang-rnd. As above.  |
| 1511.40 | 0.025                              | 2.1           | 0.0                           | 41.4  | 2.64             |              | SST: Clr-wht mod redish orange, vf-crse gm, v hd, mod sorted, mod red arg mtx, well sil cmt, subang-rnd in coarser grns. Large red claystone clasts, scat dk lithics and rare fine dissemin pyrite. |
| 1511.70 | 0.014                              | 0.9           | 0.0                           | 60.0  | 2.65             | 0.015        | SST: Pl mod orange pink with dk redish brn band, vf-med gm in band, v hd, well sort, nil-comm dk red arg mtx, very well sil cmt subang-rnd. As above, no claystone clasts sl increase in py.        |

# EAST MEREENIE NO. 41

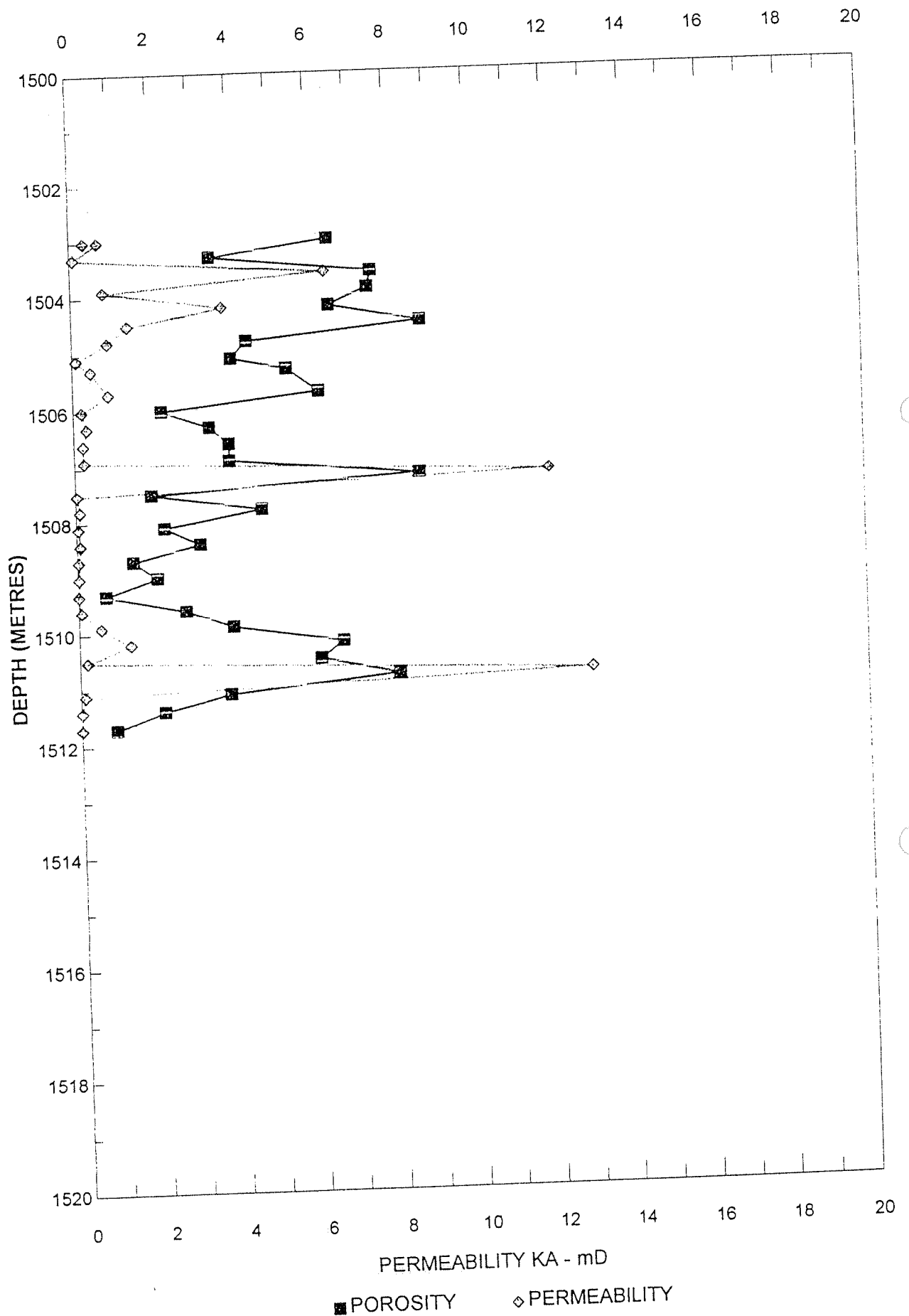
GAMMA RAY (PACOOTTA-P4)



# EAST MEREENIE NO. 41

## POROSITY/PERMEABILITY vs DEPTH

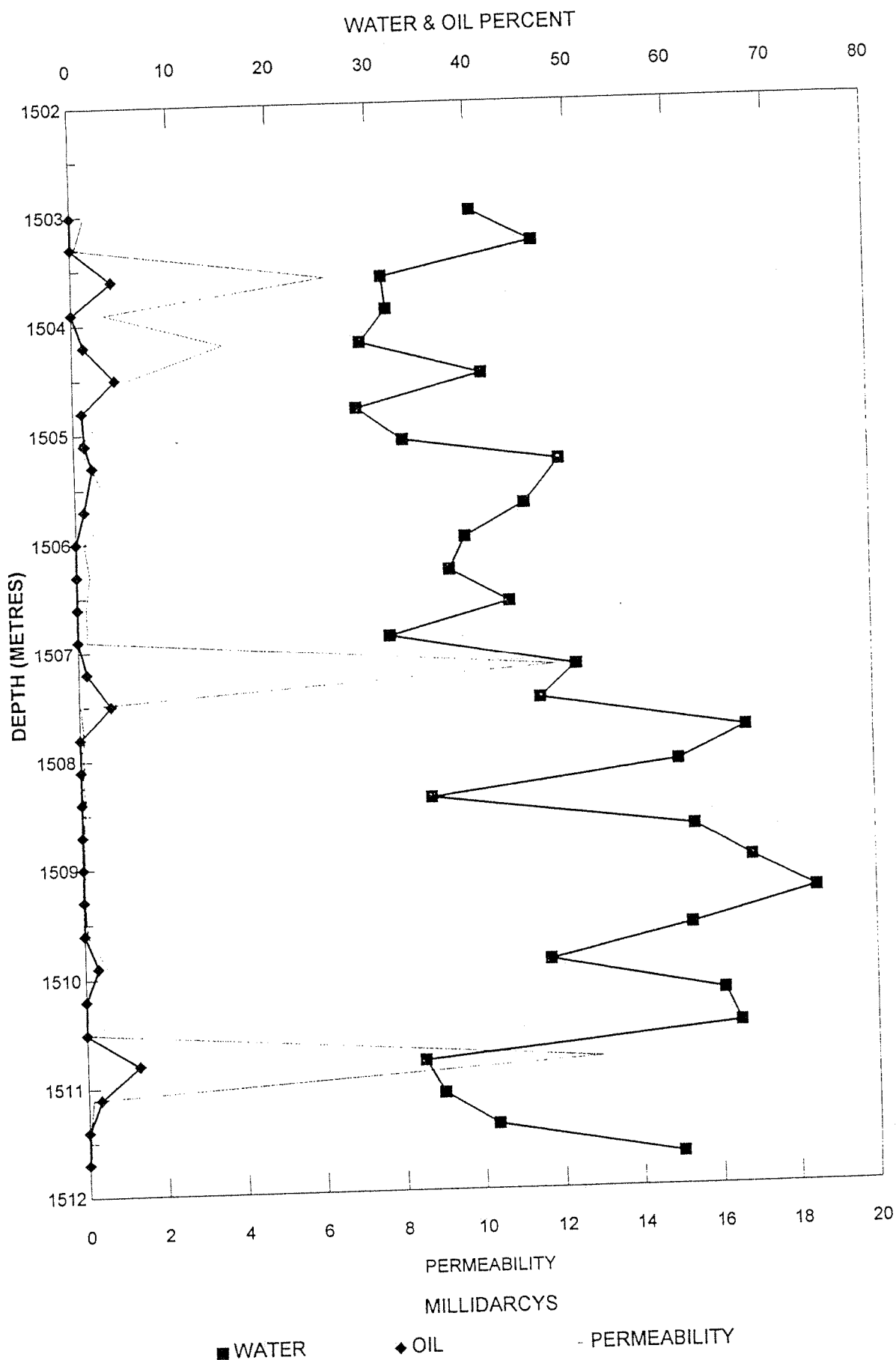
### POROSITY %





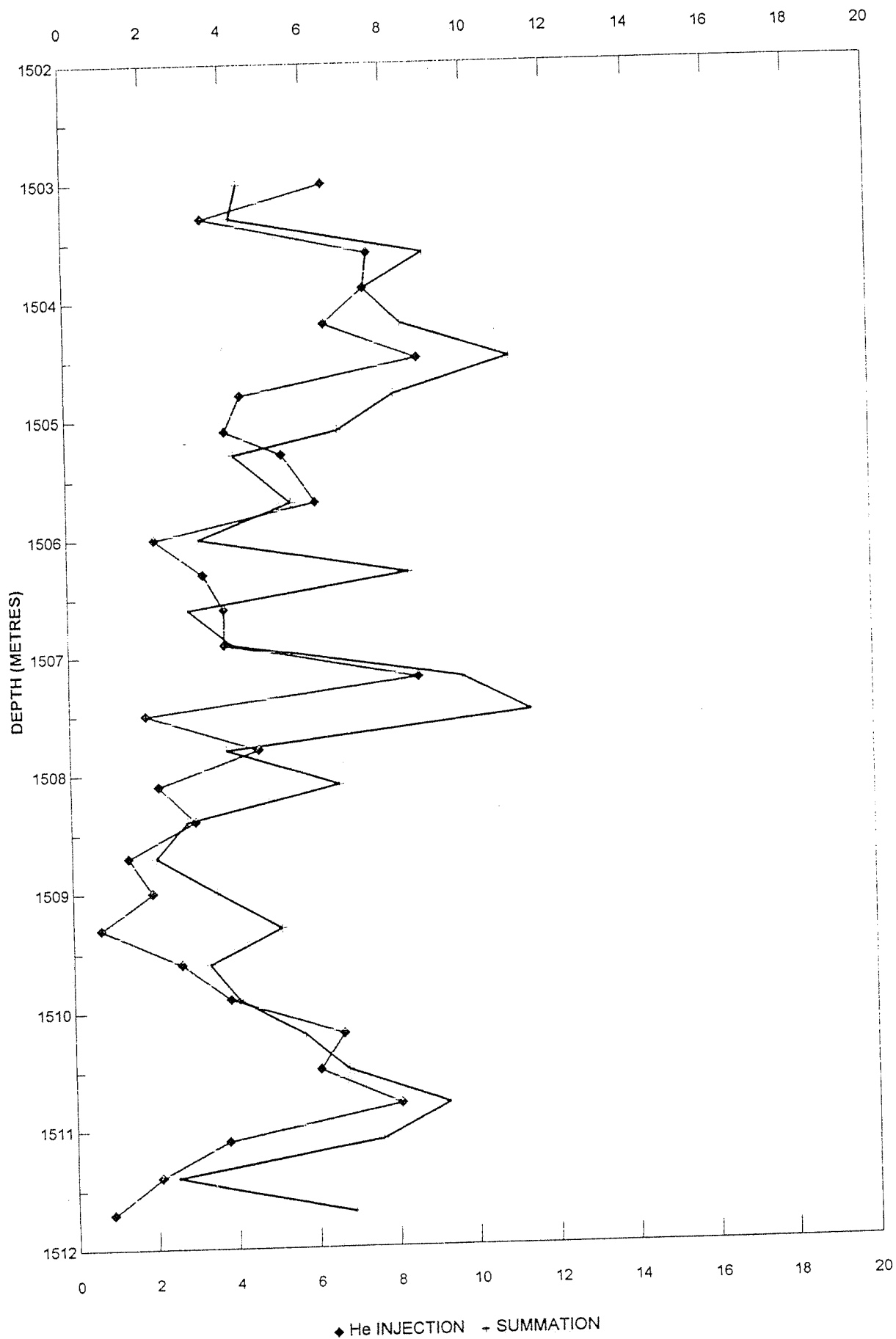
# EAST MEREENIE NO. 41

## SO vs SW & PERMEABILITY (PACOOTTA-P4)



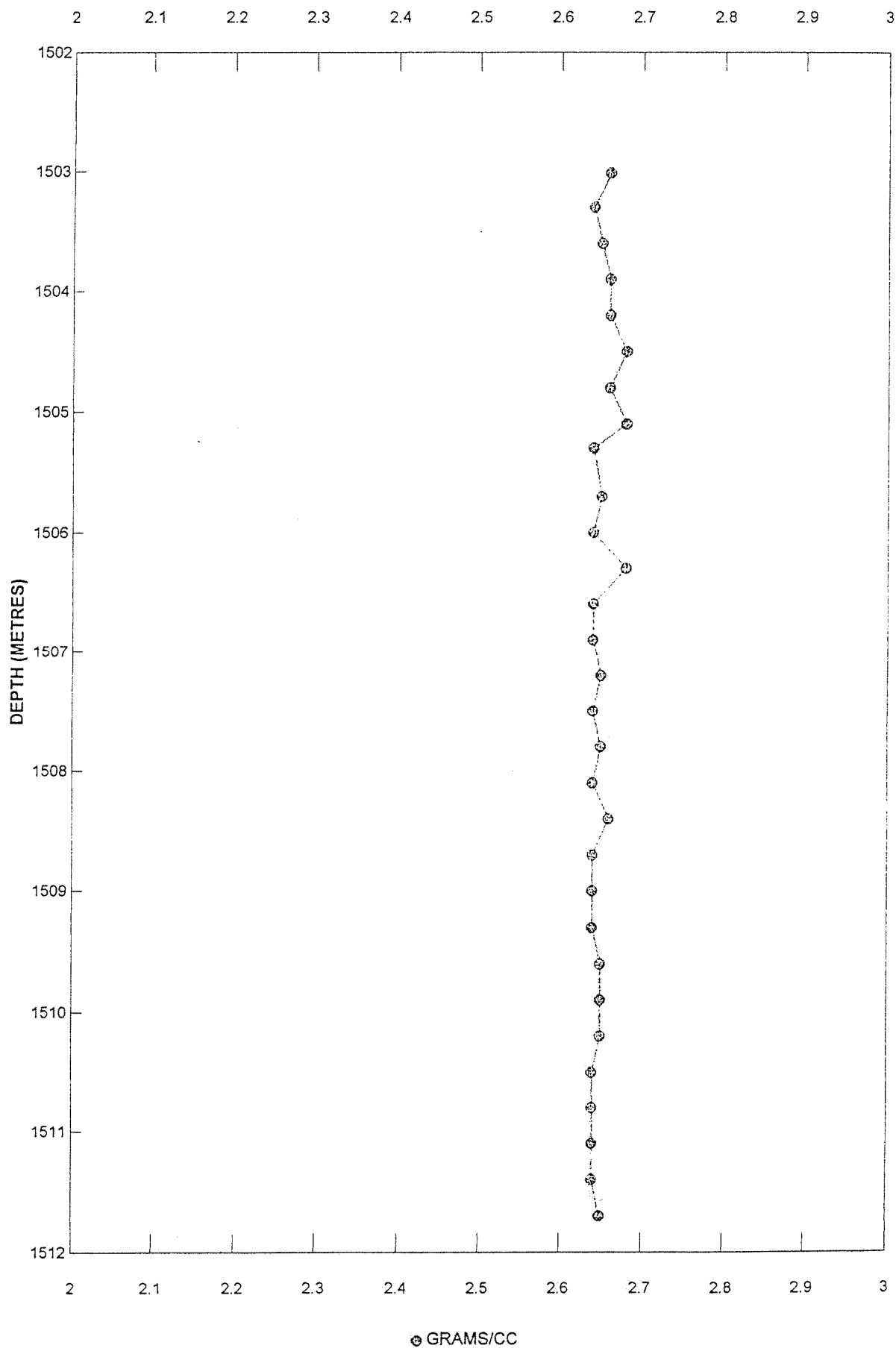
# EAST MEREENIE NO. 41

POROSITY SUM/HE INJ (PACOOTTA-P4)



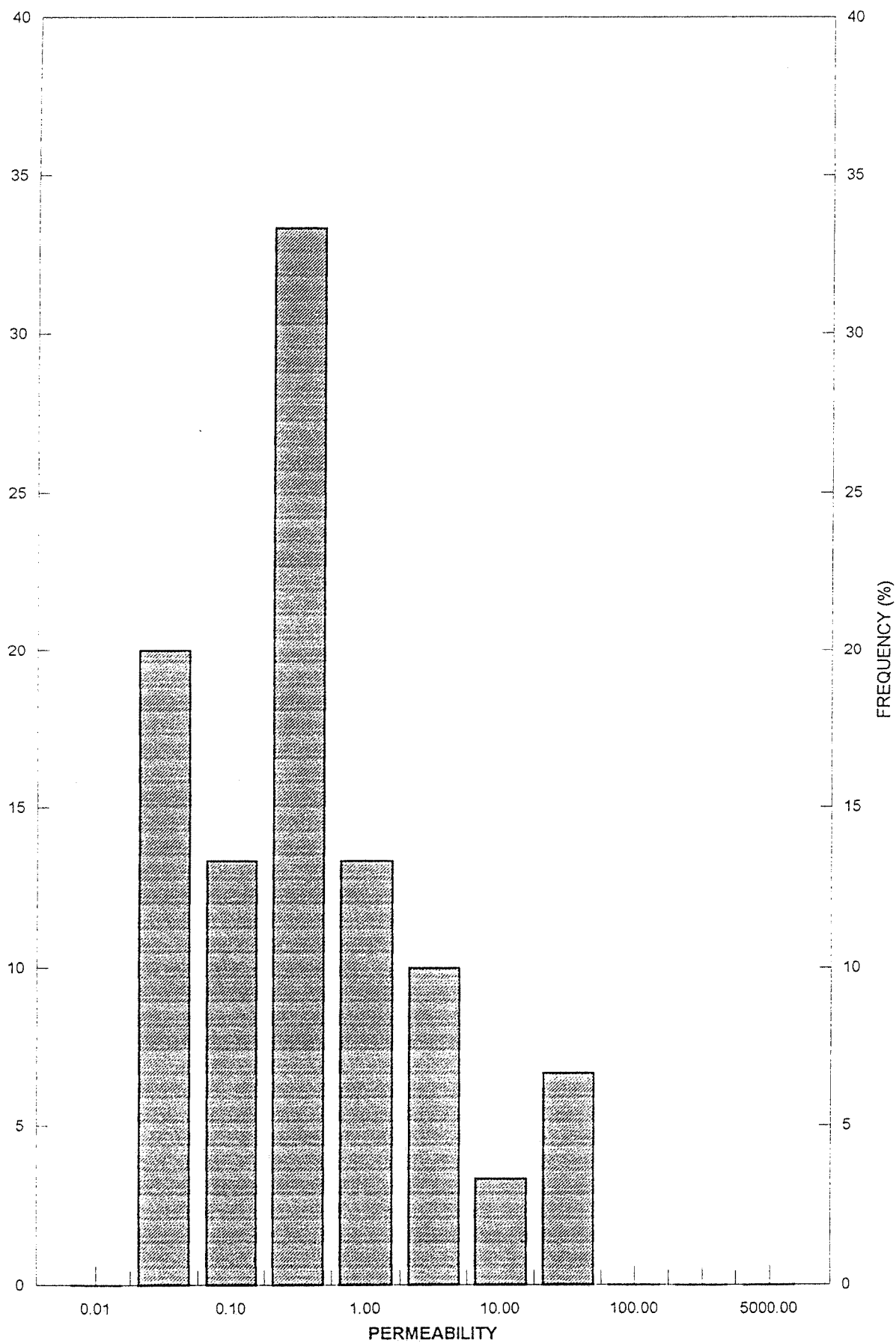
# EAST MEREENIE NO. 41

GRAIN DENSITY (PACOOTTA -P4)

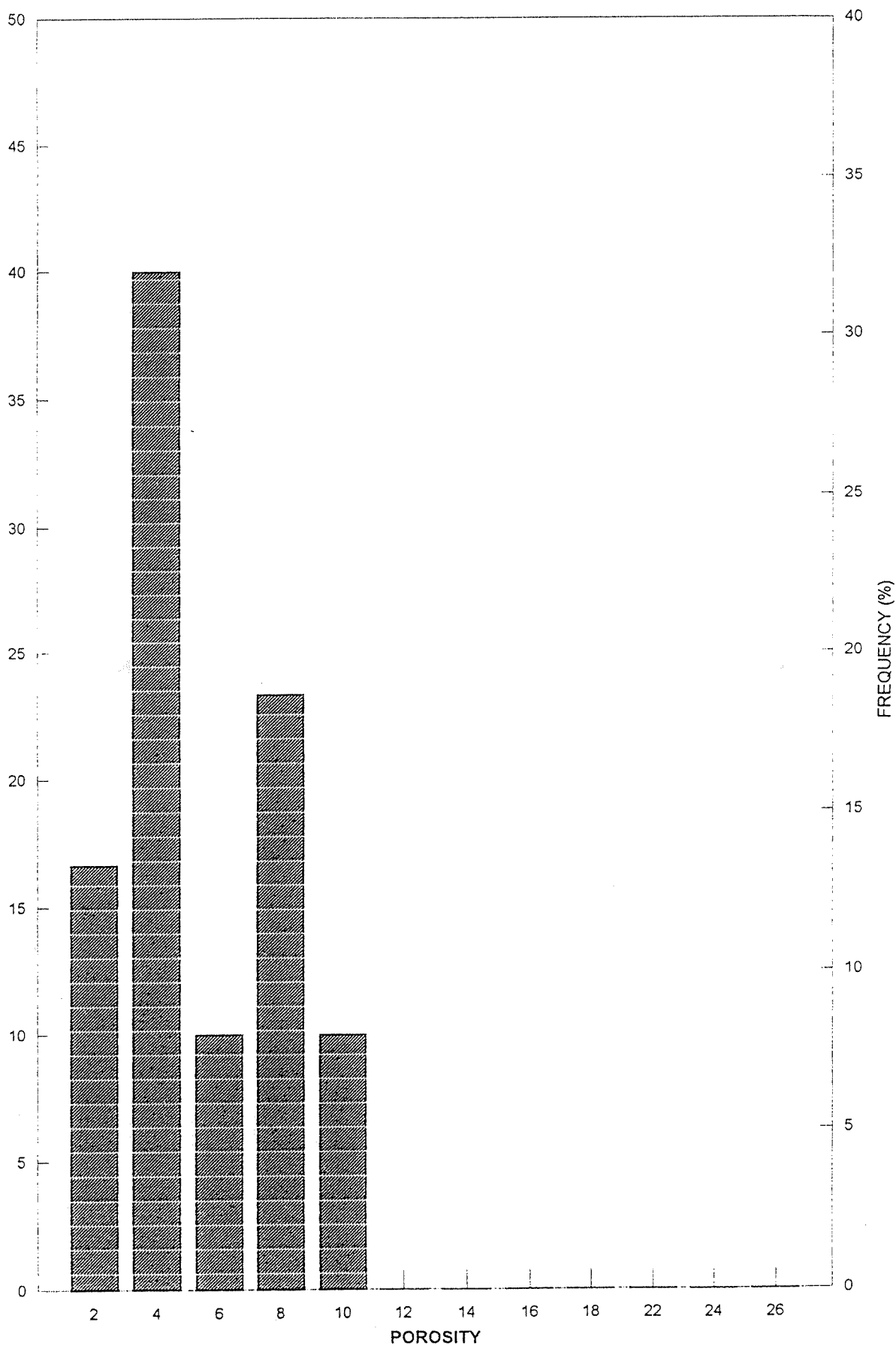


# EAST MEREENIE NO. 41

## PERMEABILITY HISTOGRAM (PACOOTA-P4)

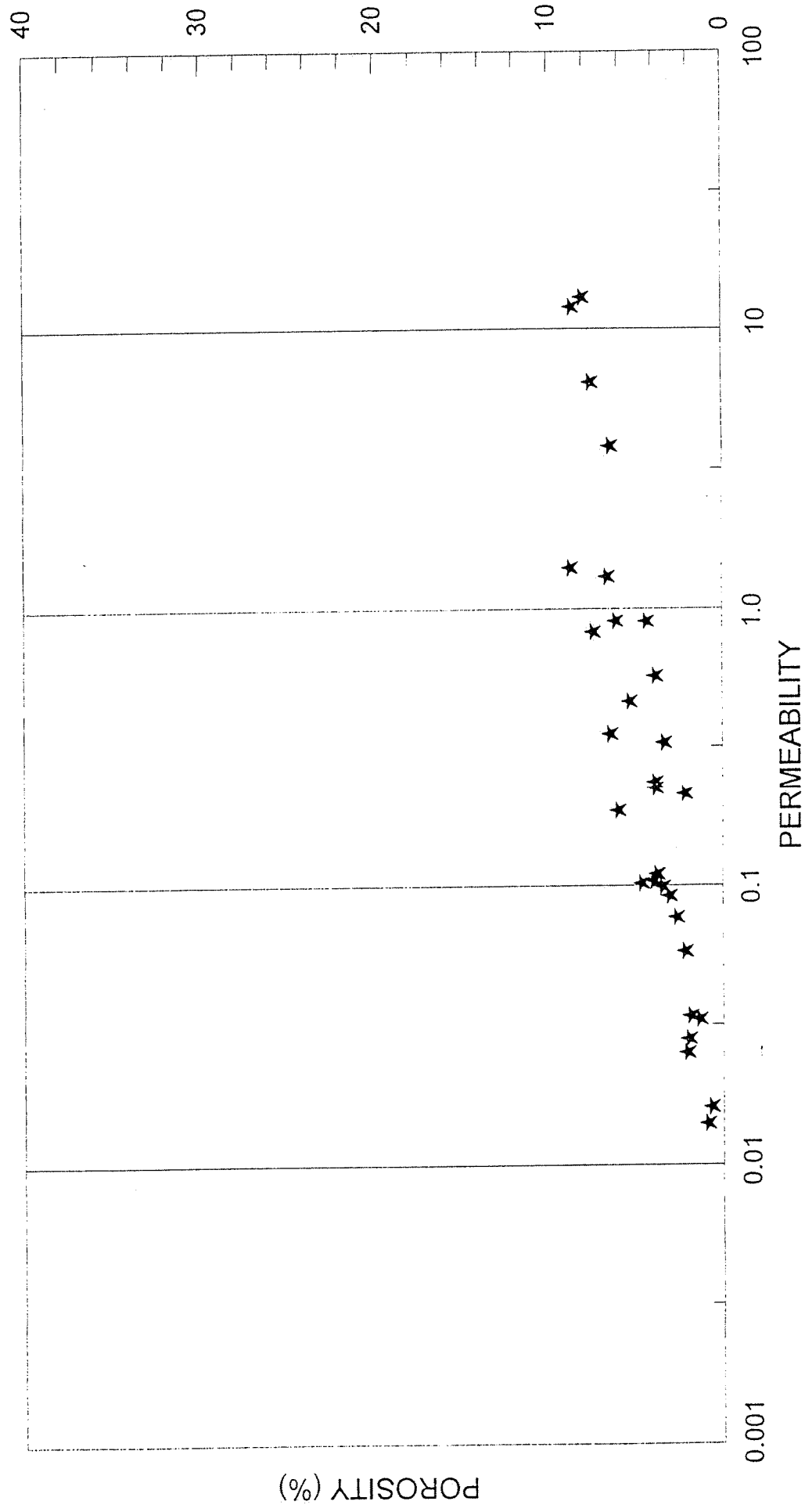


**EAST MEREENIE 41**  
**POROSITY HISTOGRAM (PACOOTTA-P4)**



# EAST MEREENIE NO. 41

Porosity/Permeability Crossplot



## **SECTION 8: CATALOGUE OF WELLSITE SAMPLES**

**SAMPLE MANIFEST EAST MEREENIE 41**

Ditch cuttings were sampled at 10 metre intervals from 40 metres to 870 metres and at 3 metre intervals from 870 metres to 1573 metres (Total Depth). The cuttings were washed through a coarse sieve, air dried and split into two sets of samples: 1 set for Magellan and one set for the Northern Territory Department of Mines. The sets of samples were packaged as follows:

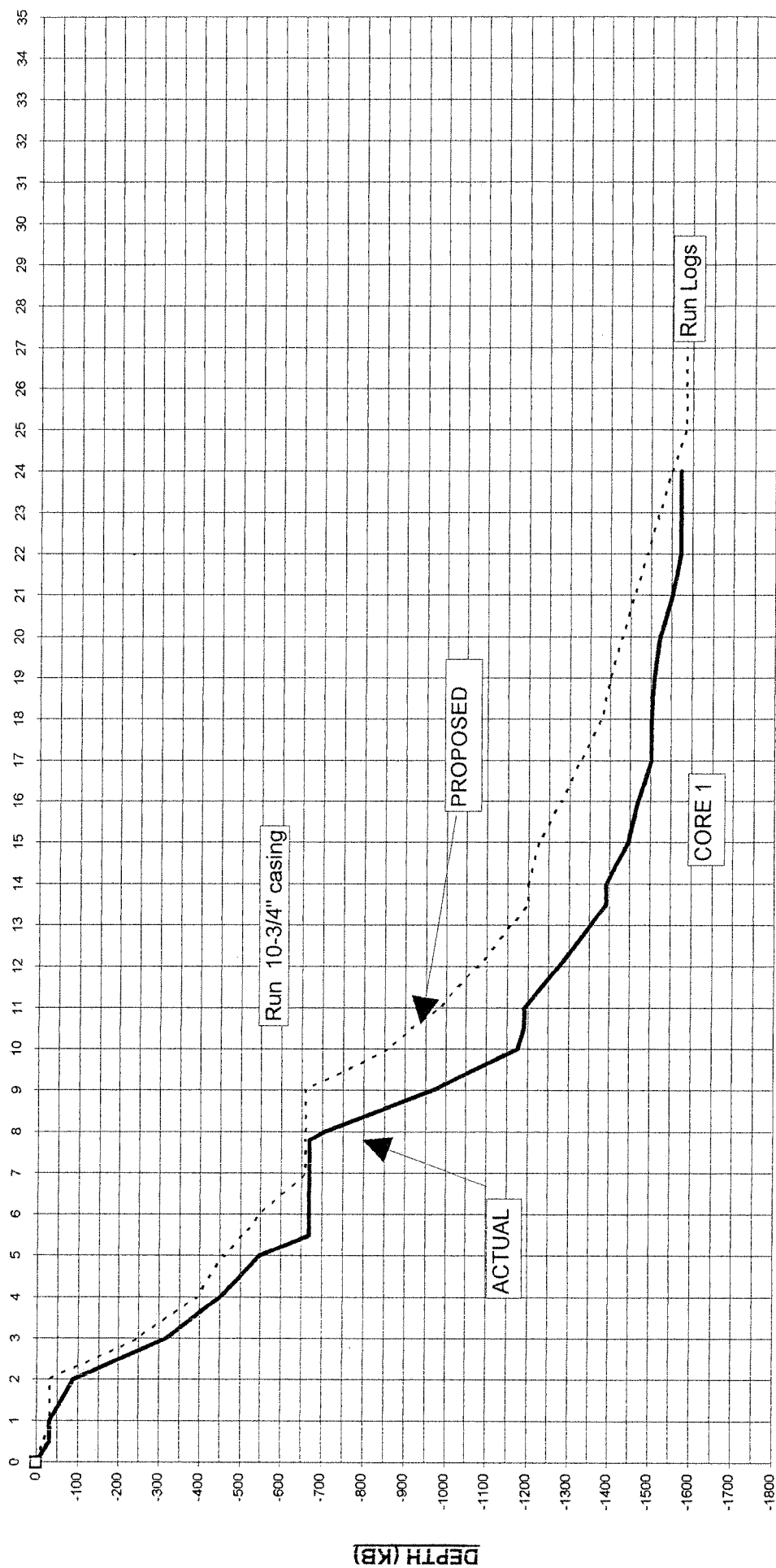
| BOX | INTERVAL (metres) |
|-----|-------------------|
| 1   | 50 to 1071        |
| 2   | 1071 to 1573      |

One box of plastic "Samplex" trays which duplicated the sampling above was also collected for the SANTOS records.



## SECTION 9: TIME-DEPTH CURVE

**DEPTH - TIME CURVE**  
**EAST MEREENIE 41**



**DAYS FROM SPUD**

## **SECTION 10: DIRECTIONAL SURVEY DATA**

# Hofco Oilfield Services Pty.Ltd.

Santos Petroleum  
East Mereenie No: 41

Magnetic Multi Shot Survey  
Declination 4.5 degrees East

## TARGET COORD'S

Meters East = 21.79  
Meters North = 249.02  
Target TVD = 1448.80  
Tangent angle = 20.30  
Azimuth = 5.00

## HOFCO OILFIELD SERVICES

COMPANY: Santos Petroleum  
SURVEY: Mag MultiShot  
NAME : EM - 41  
\*\*\*\*\*

DATE: May 30/96

\*\*\*\*\*

| DATE   | MD<br>(m MD) | ANGLE<br>(deg) | AZIM<br>(deg) | TVD<br>(m) | V.SECT<br>(m) | NORTH<br>(m) | EAST<br>(m) |
|--------|--------------|----------------|---------------|------------|---------------|--------------|-------------|
| TIE IN | 0.00         | 0.00           | 0.00          | 0.00       | 0.00          | 0.00         | 0.00        |

|    |         |        |         |        |      |      |       |
|----|---------|--------|---------|--------|------|------|-------|
| 1  | 33.40   | 0.25   | 345.00  | 33.40  | 0.07 | 0.07 | -0.02 |
| 2  | 62.48   | 0.30   | 324.00  | 62.48  | 0.19 | 0.19 | -0.08 |
| 3  | 89.63   | 0.50   | 306.00  | 89.63  | 0.30 | 0.32 | -0.22 |
| 4  | 118.27  | 0.50   | 322.00  | 118.27 | 0.46 | 0.49 | -0.40 |
| 5  | 146.43  | 0.40   | 315.00  | 146.43 | 0.61 | 0.66 | -0.54 |
| 6  | 174.60  | 0.30   | 300.00  | 174.60 | 0.70 | 0.77 | -0.67 |
| 7  | 202.77  | 0.50   | 288.00  | 202.77 | 0.76 | 0.84 | -0.85 |
| 8  | 230.75  | 0.60   | 272.00  | 230.74 | 0.78 | 0.88 | -1.12 |
| 9  | 258.61  | 0.90   | 275.00  | 258.60 | 0.77 | 0.91 | -1.48 |
| 10 | 286.87  | 1.00   | 286.00  | 286.86 | 0.82 | 0.99 | -1.94 |
| 11 | 315.76  | 1.00   | 294.00  | 315.74 | 0.95 | 1.17 | -2.41 |
| 12 | 344.65  | 1.40   | 300.00  | 344.63 | 1.18 | 1.45 | -2.95 |
| 13 | 373.54  | 1.20   | 311.00  | 373.51 | 1.51 | 1.82 | -3.48 |
| 14 | 402.43  | 1.00   | 340.00  | 402.39 | 1.92 | 2.26 | -3.80 |
| 15 | 431.32  | 0.80   | 2.00    | 431.28 | 2.35 | 2.69 | -3.88 |
| 16 | 460.21  | 0.70   | 15.00   | 460.17 | 2.72 | 3.07 | -3.82 |
| 17 | 489.10  | 0.90   | 26.00   | 489.06 | 3.11 | 3.44 | -3.68 |
| 18 | 517.99  | 1.30   | 40.00   | 517.94 | 3.59 | 3.90 | -3.37 |
| 19 | 546.88  | 1.60   | 48.00   | 546.82 | 4.15 | 4.42 | -2.86 |
| 20 | 575.77  | 2.20   | 47.00   | 575.70 | 4.86 | 5.06 | -2.15 |
| 21 | 604.66  | 2.80   | 44.00   | 604.56 | 5.82 | 5.95 | -1.26 |
| 22 | 633.55  | 3.40   | 42.00   | 633.41 | 7.05 | 7.09 | -0.19 |
| 23 | 662.44  | 4.00   | 39.00   | 662.24 | 8.57 | 8.51 | 1.01  |
|    |         |        |         |        |      |      | 0.00  |
|    | Closure | 8.57 M | 6.8 Deg | AZ     |      |      | 0.00  |

# Hofco Oilfield Services Pty.Ltd.

Santos Petroleum  
East Mereenie No: 41

Magnetic Single Shot Survey  
Declination 4.5 degrees East

## TARGET COORD'S

Meters East = 31.15  
Meters North = 228.27  
Target TVD = 1448.80  
Tangent angle = 20.30  
Azimuth = 20.00

## HOFECO OILFIELD SERVICES

COMPAN\ Santos Petroleum

SURVEY: Mag Single Shot

NAME : EM - 41

\*\*\*\*\*

DATE: May / June 96

\*\*\*\*\*

| DATE   | MD<br>(m MD) | ANGLE<br>(deg) | AZIM<br>(deg) | TVD<br>(m) | V.SECT<br>(m) | NORTH<br>(m) | EAST<br>(m) |
|--------|--------------|----------------|---------------|------------|---------------|--------------|-------------|
| TIE IN | 662.44       | 4.00           | 39.00         | 662.24     | 8.57          | 8.51         | 1.01        |

|         |         |       |       |         |        |        |       |
|---------|---------|-------|-------|---------|--------|--------|-------|
| 1/6/96  | 699.59  | 4.90  | 36.00 | 699.28  | 11.15  | 10.80  | 2.76  |
| 2/6/96  | 728.40  | 5.80  | 35.00 | 727.96  | 13.74  | 12.99  | 4.32  |
| "       | 757.59  | 6.90  | 34.00 | 756.97  | 16.86  | 15.65  | 6.14  |
| "       | 786.45  | 8.10  | 32.00 | 785.58  | 20.53  | 18.81  | 8.19  |
| "       | 815.35  | 9.70  | 30.00 | 814.14  | 24.92  | 22.65  | 10.49 |
| "       | 844.19  | 11.00 | 27.50 | 842.51  | 30.05  | 27.19  | 12.97 |
| "       | 873.09  | 13.00 | 27.50 | 870.77  | 36.00  | 32.52  | 15.75 |
| "       | 911.66  | 15.50 | 27.00 | 908.15  | 45.42  | 40.96  | 20.09 |
| "       | 950.14  | 18.80 | 24.50 | 944.92  | 56.71  | 51.19  | 25.00 |
| 3/6/96  | 1001.58 | 20.20 | 25.00 | 993.41  | 73.82  | 66.78  | 32.19 |
| "       | 1040.08 | 20.00 | 23.50 | 1029.56 | 87.01  | 78.84  | 37.62 |
| "       | 1078.57 | 20.00 | 22.50 | 1065.73 | 100.16 | 90.96  | 42.77 |
| "       | 1117.10 | 19.70 | 22.50 | 1101.97 | 113.23 | 103.05 | 47.77 |
| "       | 1155.60 | 19.70 | 21.00 | 1138.22 | 126.20 | 115.10 | 52.58 |
| 4/6/96  | 1184.47 | 19.30 | 19.50 | 1165.43 | 135.84 | 124.14 | 55.92 |
| 5/6/96  | 1220.38 | 19.30 | 18.50 | 1199.32 | 147.70 | 135.36 | 59.78 |
| 5/6/96  | 1258.89 | 19.90 | 18.50 | 1235.60 | 160.62 | 147.61 | 63.88 |
| 6/6/96  | 1287.71 | 19.80 | 17.00 | 1262.71 | 170.39 | 156.93 | 66.86 |
| "       | 1326.18 | 19.20 | 16.50 | 1298.97 | 183.22 | 169.23 | 70.57 |
| 7/6/96  | 1364.67 | 18.70 | 16.00 | 1335.38 | 195.69 | 181.23 | 74.06 |
| 8/6/96  | 1403.20 | 17.60 | 17.00 | 1371.99 | 207.67 | 192.74 | 77.47 |
| "       | 1437.15 | 16.80 | 18.00 | 1404.42 | 217.70 | 202.31 | 80.49 |
| 10/6/96 | 1480.21 | 16.50 | 19.00 | 1445.68 | 230.03 | 214.01 | 84.40 |
| 15/6/96 | 1566.21 | 16.90 | 20.00 | 1528.05 | 254.74 | 237.31 | 92.65 |
| PROJ.   | 1573.16 | 16.90 | 20.00 | 1534.70 | 256.76 | 239.21 | 93.34 |
|         |         |       |       | 0.00    |        |        | 0.00  |

**ENCLOSURE I: 1:200 SCALE MUDLOG**