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OEL 20 AND OEL 21, PEL 5 AND PEL 6

REGIONAL GEOLOGICAL STUDIES

TECHNICAL REPORTS AND DATA

Submitted by

Delhi International Oil Corp., Delhi Petroleum Pty Ltd and Santos Ltd
1993

Enquiries: Customer Services
Ground Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

PRIMARY INDUSTRIES AND RESOURCES SA

ENVELOPE 8126

TENEMENT: OELs 20 and 21; PELs 5 and 6

TENEMENT HOLDER: Delhi International Oil Corp., Delhi Petroleum Pty Ltd and Santos Ltd (operators)

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SANTOS LIMITED

Petroleum Development

Development Geology Group 1

AN AQUIFER STUDY OF THE SOUTHEASTERN COOPER BASIN IN SOUTH AUSTRALIA

– Toolachee and Nappacoongee/Murteree Blocks

SDRN:004/90
WP:3773g:1

January, 1990

CONTENTS

1.0 SUMMARY

The presence of active and communicating aquifers in the Toolachee and Patchawarra gas reservoirs in the southeast Cooper Basin, requires an estimate of aquifer size to enable material balance OGIP determinations to be undertaken. This report details the method of defining the aquifer systems, quantifying the aquifer size and determining the volume of water and gas in each mappable unit.

2.0 CONCLUSIONS

The Toolachee and Patchawarra Formations of the southern Cooper Basin can be subdivided into seven geologically identifiable and regionally correlatable packages, three in the Toolachee and four in the Patchawarra Formations.

The gross pore volume for each package has been calculated (see Table 1) with a maximum error estimated to be less than ±10% . The well information is generally concentrated on the structurally high areas. The structurally low areas have minimal data points which may effect the estimate of porosity and also result in an underestimate of the net sands in each package.

Major East-West faulting north of Kidman and South of Dullingari would be likely to restrict water movement and aquifer communication in the Patchawarra and to a lesser extent the Toolachee in those fields.

The major interfield communicating packages are the Toolachee Unit B and Patchawarra Units E & F (Figure 2).

3.0 INTRODUCTION

Aquifer support and interfield communication in the Permian reservoirs of the Cooper Basin has been documented previously. Examples of gas reservoirs displaying possible aquifer pressure support are: Della (Toolachee/Patchawarra), Burke (Toolachee/Daralingie), Strzelecki (Toolachee) and Marabooka (Toolachee). Other reservoirs identified as having some evidence of pressure support are: Munkarie (Toolachee), Kidman Complex (Toolachee), Toolachee (Patchawarra), Brumby (Patchawarra), Marana (Toolachee), Wanara (Toolachee) and Mudera (Toolachee and Patchawarra).

The technical implications of aquifer support on gas reservoirs requires that a description of the aquifers be undertaken. This data is essential in determining material balance OGIP and predicting the effect on recovery factors of water encroachment and formation water production. The data will assist in quantifying and identifying the potential for the loss of reserves through depletion of non-producing reservoirs from off-set production.

The study area was chosen to encompass the aforementioned gas fields and is confined to the Nappacoongee-Murteree and Toolachee Blocks (Figure 1).

4.0 THE SCOPE OF THE STUDY

4.1 Review of Water Chemistry Trends

To assist in determining the general aquifer movement of formation water, the water resistivity data has been tabulated for fields in the Cooper and Eromanga Basins. Maps of water salinity trends, by formation, have been contoured using the tabulated Rw data (Figures 3 and 4).

In the study area there is a general increase in water salinity for both the Toolachee and Patchawarra in a northerly direction. This suggests that formation water movement in the study area is from south to north.

4.2 Definition of Sand Packages

The Toolachee and Patchawarra Formations were subdivided into seven packages. The criteria used for the subdivisions were:

1. Regional correlatable geological units.
2. The sands within a package providing aquifer support for any gas reservoired within that package.
3. Gas reservoired in different sands in a package generally form one gas system within a field.

The subdivision into packages was carried out based on geological, RFT and gas accumulation data (see Figure 2 for typical log of packages).

TOOLACHEE FORMATION

- UNIT A

The uppermost unit is characterised by shales and thinly interbedded sandstones.

The unit generally consists of two or three subunits of coarsening upwards cycles culminating with relatively thin sandstones of poor reservoir quality.

These units are interpreted as point bar sequences, and consequently regional communication of the sands is unlikely.

- UNIT B

The middle unit of the Toolachee Formation is dominated by coally beds and good porosity and permeability in "clean" sandstone reservoirs. The units are commonly blocky channel systems culminating in a fining upwards overbank deposits. The log character typifies a meandering system where channels will have cut back into other channels and hence many reservoirs will be in communication on a regional scale.

- UNIT C

The basal Toolachee unit, absent in some parts of the study area, varies from overbank deposits to fining upwards sequences of thin reservoir sands overlain by overbank deposits. The sands in this unit are unlikely to be in communication regionally.

PATCHAWARRA FORMATION

- UNIT D

The uppermost unit of the Patchawarra Formation is generally interbedded thin sand and shale lenses with occasional channel sands consistent with a meander belt system. Only localised aquifer communication can be expected in this unit.

- UNIT E

This mid-Patchawarra Formation Unit is dominated by thin coally beds and thick sandstone channels typical of a meader belt system. The type example of Brumby 1 (Figure 2) has two fining upward sequences with generally good porosity and permeability in the clean channel sands. Regional aquifer communication can be expected.

UNIT F

This unit is similar to Unit E and comparison of reservoir systems indicates that this is an independent system. Regional aquifer communication can be expected.

UNIT G

The basal Unit of the Patchawarra is dominated by thinly bedded coals, sand and shales with generally two fining upward sequences typical of meander system. Only localised aquifer communication can be expected.

4.3 Determination of the Distribution of Net Sand and Average Porosity for the Sand Packages

Post definition of the sand packages a series of stratigraphic cross-sections of the Top Toolachee to the Top Pre-Permian for wells in the study area were constructed. The cross-sections were correlated with the distinct lithological packages as per item 4.2.

The depth to the top and base (subsea) of each package was tabulated for all the wells in the cross-sections. This data was input into a data set in the IBM data base. Net sand (Vsh 35%) and porosity data for the packages was selected from the SAS data base after log analysis was conducted. The net sand and average porosity for each package was tabulated on individual sand summary sheets (see Appendix A).

Net sand and average porosity contour maps of the study area were produced for each package (Enclosures 15 to 28).

4.4 Calculation of Pore Volumes

The net sand and average porosity maps (see 4.3) were gridded in ZYCOR Mapping Package and a grid to grid multiplication carried out for each stratigraphic unit. The resultant grid allows the pore volume to be calculated using the volumetrics option in Special Operations of the ZYCOR software. The total pore volume for each package in the study area was calculated (in barrels). The study area was then divided into 100 sub-blocks (Figure 1) approximately 5km x 5km. The pore volume in each sub-block for each package was then calculated. The sub-blocks were then summed and compared with the total pore volume of the study area for each package. The total pore volume of the 100 sub-blocks was within 10% of the calculated total pore volume. This discrepancy is due to boundary effects which are related to the size of the sub-blocks and the grid spacing.

The 10% difference was considered acceptable considering the sparseness of well data. The pore volume in each sub-block required the removal of the pore volume containing gas. The volume of gas within each sand package was calculated for each of the fields. The volume of gas per package in each of the sub-blocks was estimated. This was calculated by multiplying the percentage of the field area within the sub-block by the package gas volume of the field.

The pore volumes and gas volumes for each sub-block were tabulated (Appendix B & C) in Dynaplan.

5.0 RESULTS OF THE STUDY

This is the first study of its kind to be carried out in the Cooper and Eromanga Basins. Consequently, continuous checks on each phase of data manipulation were carried out during the course of the project.

The number of control points (wells) relative to grid nodes (grid spacing) used in the volumetrics calculations was small (52 wells compared with 18,705 grid nodes). The large number of grid nodes was required to achieve consistent results for contouring and calculating volumes in the sub-blocks.

A summary table below shows the net pore volume for each unit after removal of hydrocarbon pools:

TABLE 1 PORE VOLUMES

Unit	Gross Pore Volume (10^9 barrels)	Hydrocarbon Volume (10^9 barrels)	Net Pore Volume (10^9 barrels)
A	6.49	0.12	6.37
B	33.70	2.05	31.70
C	13.70	0.48	13.20
D	10.70	0.89	9.45
E	31.70	0.56	31.20
F	18.20	0.24	17.90
G	4.66	0.03	4.62

On inspection of the cross-sections it is evident that the stratigraphic section thins towards the Della Field where the Toolachee and Patchawarra reservoirs are in direct communication (c.f. Della #14).

The following is a brief description of the net sand trends within each Unit:

Unit A: Unit A is the uppermost unit in the Toolachee Formation with several thick sands with a maximum thickness of 32'. Several zones of zero net sand occur, particularly in the Della #3/#16, Pira and Toolachee #39/Narcoonowie #1 area. The porosity distribution indicates that a substantial permeability barrier exists to the east of the Della and Toolachee Fields. Aquifer support would therefore most likely be accessible from the southwest or southerly direction.

Unit B: Unit B is by far the largest reservoir system mapped in this study and all the Mid-Toolachee section. The net sand thickness varies from 6' (Toolachee #37) to a maximum of 131' (Tarwonga #1) at the control points and as a consequence it is considered that this Unit will provide communication of the aquifer throughout the area of interest. The porosity distribution indicates that there are no real barriers to fluid movement in this Unit.

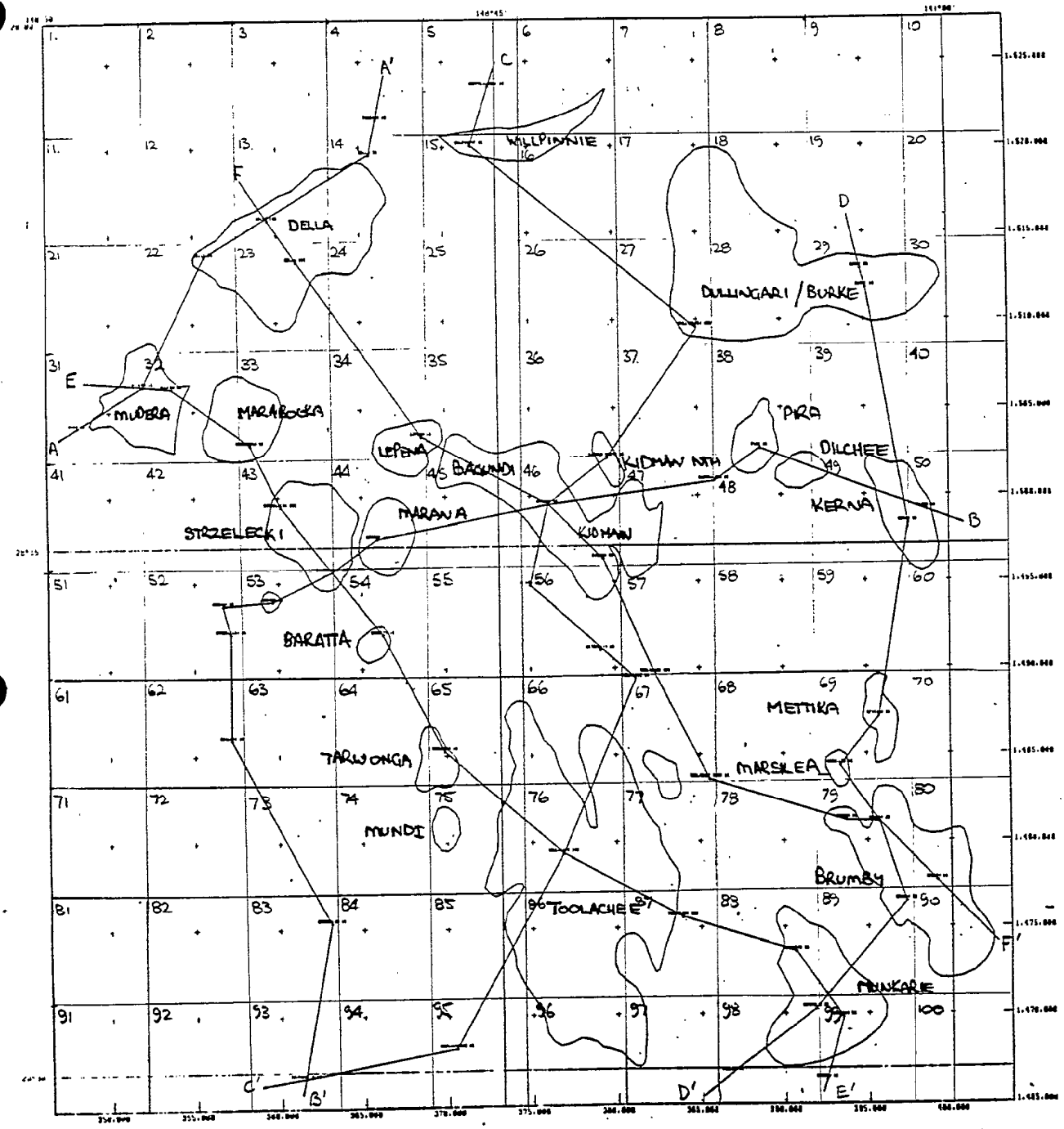
Unit C: This Unit is absent from Della through to Lepena and in the Wanara/Strzelecki/Childie area as it is apparent that the basal Toolachee has not been deposited. The net sand values vary from zero to 74' (in Munkarie area). The west flank of the area of interest is defined by the zero porosity value but the remainder of the study area has a fairly uniform bulk volume.

Unit D: For the uppermost Patchawarra unit the net sand thickness varies considerably across the area from zero in Della #2, Strzelecki/Marana, Barcooloo/Narcoonowie, Munkarie #3, Brumby #1 and Burke #5 to 99' in Wilpinnie #1. As a consequence of the considerable number of zero net sand points the porosity field is very complicated and is not described here in detail.

Unit E: Unit E is a Mid-Patchawarra net sand package which contain the largest pore volume. It is extensive except in the Della #14 and Strzelecki/Baratta/Barcooloo/Tilparee areas. The thickness varies from the aforementioned zero net sand to 119' in Mudera #4.

Unit F: The third Patchawarra unit is dominated by two thick net sand sections centred around Mudera #4 (187') and Marsilea #1 (101') with minor thicker sections at Burke #1 and Della #3.

Unit G: The lowest Patchawarra unit has two fields with net sand values centred around Mudera #4 (127'), Dullingari #45 (85') and Toolachee East #1 (50').



LOCATION OF STRATIGRAPHIC CROSS SECTIONS

A - A' Mina - Boraka
B - B' Kerna - Tilpare
C - C' Nappacoongee - Tilpare
D - D' Burke - Agolla
E - E' Mudera - Maraloo
F - F' Della - Brumby

AQUIFER PROJECT
BASEMAP WITH FIELD OUTLINES
AND CROSS SECTION LOCATIONS

Composite Field Outline

Block Boundary and reference number

FIGURE 1. LOCATION OF STUDY AREA

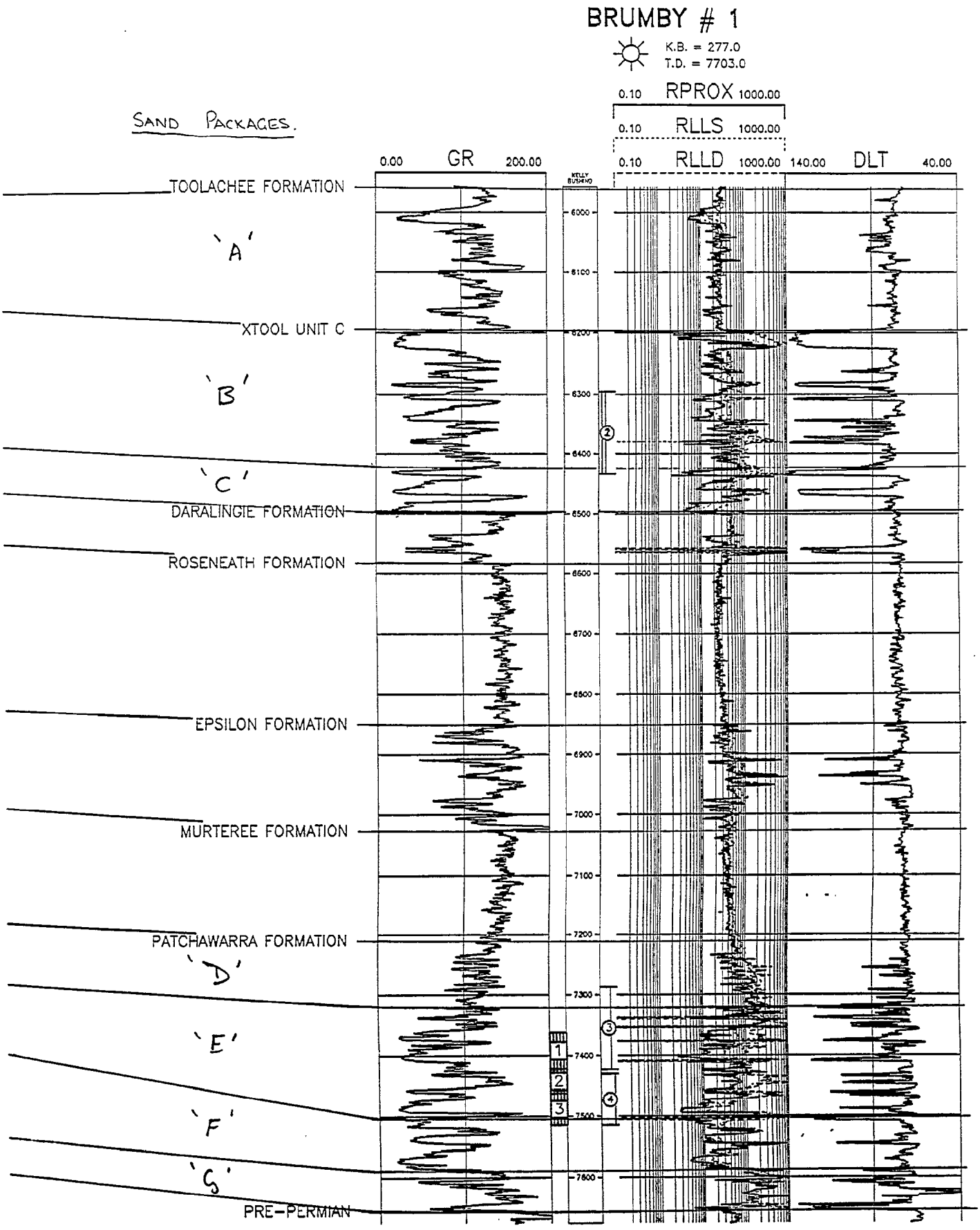


FIGURE 2. TYPE SECTION FOR AQUIFER STUDY

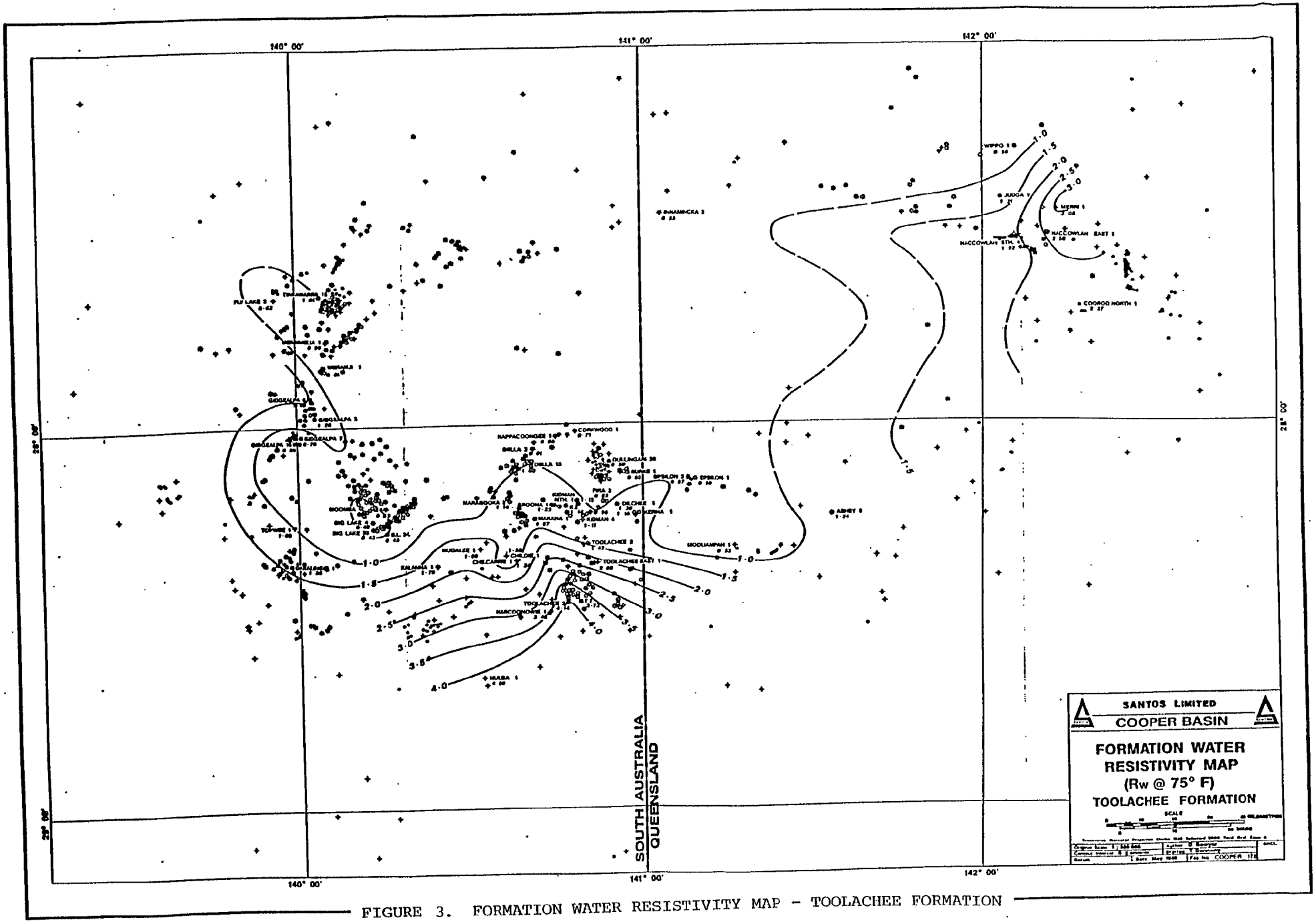


FIGURE 3. FORMATION WATER RESISTIVITY MAP - TOOLACHEE FORMATION

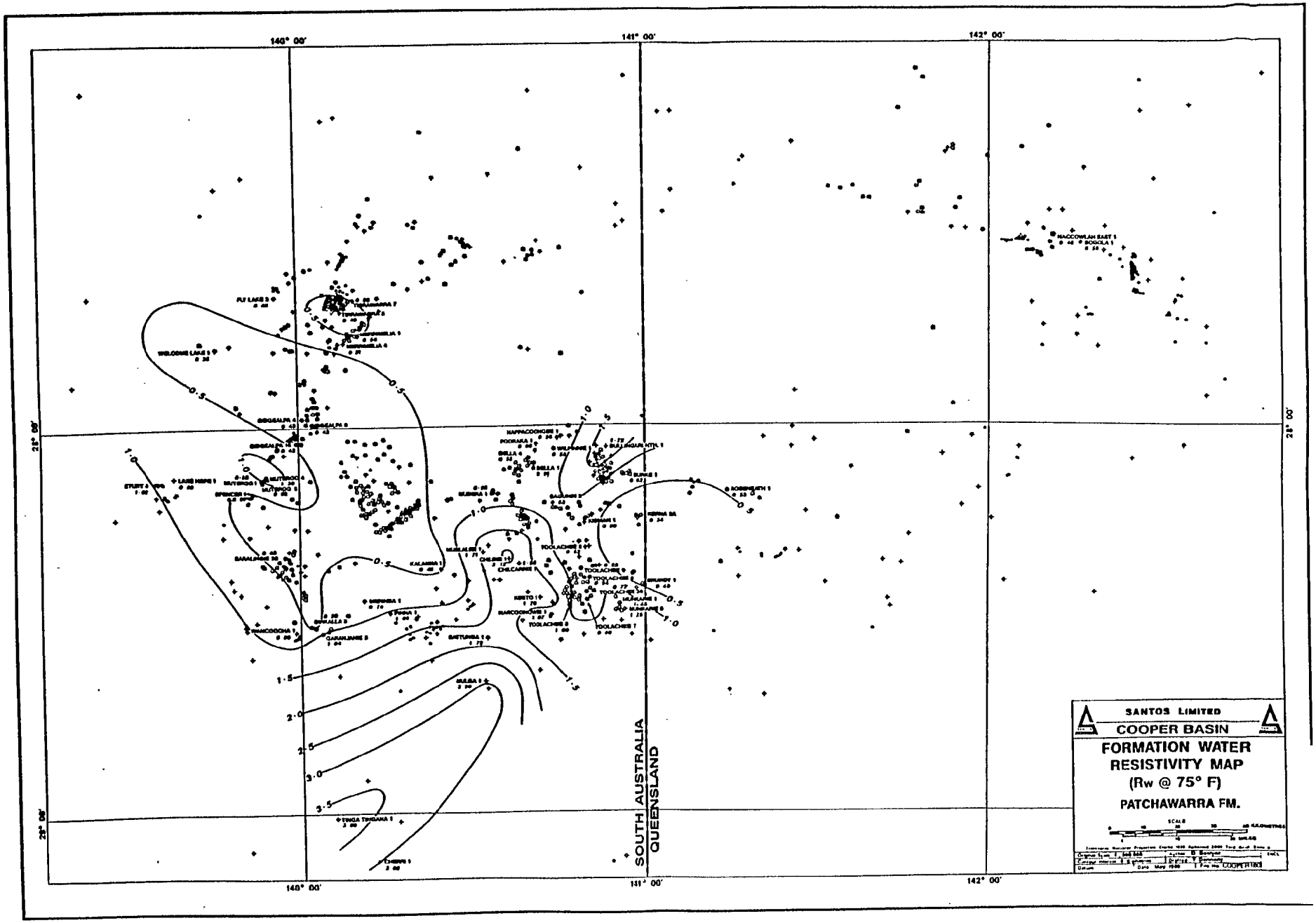


FIGURE 4 FORMATION WATER RESISTIVITY MAP - PATCHAWARRA FORMATION

APPENDIX A

SAND SUMMARY REPORT FOR

PACKAGES

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:10

FIELD: AQUIFER STUDY — SAND: A — FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
AMYEMA																
001S	298.		6156.	6326.	170.	6156.	6326.	170.	10.0	10.0	10.8	100.0	18/12/1989	0.00	0.0	170.0
			-5858.	-6028.		-5858.	-6028.									
AZOLLA																
001S	285.		5970.	6138.	168.	5970.	6138.	168.	32.0	32.0	13.8	92.0	13/12/1989	0.35	0.0	168.0
			-5685.	-5853.		-5685.	-5853.									
BARATTA																
001S	190.		6488.	6568.	80.	6488.	6568.	80.	2.0	2.0	11.2	42.0	13/12/1989	0.13	0.0	80.0
			-6298.	-6378.		-6298.	-6378.									
BARCOOLOO																
001S	193.		6080.	6178.	98.	6080.	6178.	98.	5.0	5.0	12.5	35.0	13/12/1989	0.41	0.0	98.0
			-5887.	-5985.		-5887.	-5985.									
BRUMBY																
001S	277.		5977.	6194.	217.	5977.	6194.	217.	25.0	25.0	9.5	85.0	18/12/1989	0.36	0.0	217.0
			-5700.	-5917.		-5700.	-5917.									
002S	265.		6094.	6277.	183.	6094.	6277.	183.	12.0	12.0	10.2	100.0	18/12/1989	0.00	0.0	183.0
			-5829.	-6012.		-5829.	-6012.									
003S	290.		6046.	6254.	208.	6046.	6254.	208.	6.0	6.0	8.5	7.0	18/12/1989	0.47	0.0	208.0
			-5756.	-5964.		-5756.	-5964.									
BURKE																
001S	279.		6940.	7056.	116.	6940.	7056.	116.	5.0	5.0	11.2	29.9	13/12/1989	0.39	0.0	116.0
			-6661.	-6777.		-6661.	-6777.									
005S	274.		7012.	7140.	128.	7012.	7140.	128.	3.0	3.0	8.7	43.0	13/12/1989	0.15	0.0	128.0
			-6738.	-6866.		-6738.	-6866.									
CHILDIE																
001S	182.		6018.	6128.	110.	6018.	6128.	110.	10.0	10.0	13.5	90.0	13/12/1989	0.13	0.0	110.0
			-5836.	-5946.		-5836.	-5946.									
COOCHILARA																
001S	260.		6868.	6965.	97.	6868.	6965.	97.	0.0	0.0	7.1	70.0	13/12/1989	0.00	0.0	97.0
			-6608.	-6705.		-6608.	-6705.									
DELLA																
002S	149.		6497.	6577.	80.	6497.	6577.	80.	28.0	28.0	14.7	15.4	13/12/1989	3.47	0.0	80.0
			-6348.	-6428.		-6348.	-6428.									
003S	222.		6596.	6645.	49.	6596.	6645.	49.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	49.0
			-6374.	-6423.		-6374.	-6423.									
014S	185.		6358.	6401.	43.	6358.	6401.	43.	3.0	3.0	12.7	19.9	13/12/1989	0.31	0.0	43.0
			-6173.	-6216.		-6173.	-6216.									
016S	187.		6401.	6454.	53.	6401.	6454.	53.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	53.0
			-6214.	-6267.		-6214.	-6267.									
DIERI																
001S	212.		6570.	6770.	200.	6570.	6770.	200.	14.0	14.0	9.1	80.0	13/12/1989	0.25	0.0	200.0
			-6358.	-6558.		-6358.	-6558.									
DULLINGARI																
045S	288.		6984.	7114.	130.	6984.	7114.	130.	12.0	12.0	9.5	80.0	18/12/1989	0.23	0.0	130.0
			-6696.	-6826.		-6696.	-6826.									

FIELD: AQUIFER STUDY SAND: A FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL KB GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV REMARKS	IFTR	IFBR
KERNA														
002S 287.	6951.	7105.	154.	6951.	7105.	154.	6.0	6.0	12.2	75.0	18/12/1989	0.18	0.0	154.0
	-6664.	-6818.		-6664.	-6818.									
003S 291.	6831.	6976.	145.	6831.	6976.	145.	8.0	8.0	10.3	82.0	18/12/1989	0.15	0.0	145.0
	-6540.	-6685.		-6540.	-6685.									
KIDMAN														
003S 252.	6375.	6472.	97.	6375.	6472.	97.	2.0	2.0	10.3	80.8	13/12/1989	0.04	0.0	97.0
	-6123.	-6220.		-6123.	-6220.									
005S 232.	6375.	6468.	93.	6375.	6468.	93.	18.0	18.0	12.3	39.2	13/12/1989	1.34	0.0	93.0
	-6143.	-6236.		-6143.	-6236.									
KIDMAN NORTH														
001S 256.	6483.	6576.	93.	6483.	6576.	93.	12.0	12.0	9.6	73.2	13/12/1989	0.31	0.0	93.0
	-6227.	-6320.		-6227.	-6320.									
LEPENA														
001S 233.	6510.	6572.	62.	6510.	6572.	62.	2.0	2.0	9.2	100.0	13/12/1989	0.00	0.0	62.0
	-6277.	-6339.		-6277.	-6339.									
MARABOOKA														
004S 185.	6367.	6448.	81.	6367.	6448.	81.	7.0	7.0	11.6	46.0	13/12/1989	0.44	0.0	81.0
	-6182.	-6263.		-6182.	-6263.									
MARAKU														
001S 315.	5735.	5910.	175.	5735.	5910.	175.	20.0	20.0	9.5	80.0	13/12/1989	0.38	0.0	175.0
	-5420.	-5595.		-5420.	-5595.									
MARANA														
001S 216.	6170.	6256.	86.	6170.	6256.	86.	13.0	13.0	18.2	15.8	13/12/1989	1.99	0.0	86.0
	-5954.	-6040.		-5954.	-6040.									
MARSILEA														
001S 293.	6350.	6530.	180.	6350.	6530.	180.	9.0	9.0	11.5	100.0	18/12/1989	0.00	0.0	180.0
	-6057.	-6237.		-6057.	-6237.									
METTIKA														
001S 295.	6476.	6638.	162.	6476.	6638.	162.	4.0	4.0	9.4	99.0	18/12/1989	0.00	0.0	162.0
	-6181.	-6343.		-6181.	-6343.									
MINA														
001S 137.	6713.	6785.	72.	6713.	6785.	72.	5.0	5.0	11.3	35.2	13/12/1989	0.37	0.0	72.0
	-6576.	-6648.		-6576.	-6648.									
MUDERA														
001S 147.	6633.	6704.	71.	6633.	6704.	71.	12.0	12.0	14.4	16.2	13/12/1989	1.45	0.0	71.0
	-6486.	-6557.		-6486.	-6557.									
004S 147.	6750.	6820.	70.	6750.	6820.	70.	7.0	7.0	10.8	79.0	13/12/1989	0.16	0.0	70.0
	-6603.	-6673.		-6603.	-6673.									
MUNKARIE														
002S 294.	5813.	5948.	135.	5813.	5948.	135.	10.0	10.0	13.9	68.1	13/12/1989	0.44	0.0	135.0
	-5519.	-5654.		-5519.	-5654.									
003S 269.	5963.	6120.	157.	5963.	6120.	157.	10.0	10.0	11.0	79.6	13/12/1989	0.22	0.0	157.0
	-5694.	-5851.		-5694.	-5851.									
005S 297.	5902.	6038.	136.	5902.	6038.	136.	9.0	9.0	11.5	78.8	13/12/1989	0.22	0.0	136.0
	-5605.	-5741.		-5605.	-5741.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:11

FIELD: AQUIFER STUDY — SAND: A — FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
NANIMA																
001S 182.			6175.	6271.	96.	6175.	6271.	96.	2.0	2.0	11.8	71.0	18/12/1989	0.07	0.0	96.0
			-5993.	-6089.		-5993.	-6089.									
NAPPACOONGEE																
001S 282.			6169.	6245.	76.	6169.	6245.	76.	42.0	42.0	10.5	45.0	18/12/1989	2.43	0.0	76.0
			-5887.	-5963.		-5887.	-5963.									
NARCOONOWIE																
001S 183.			5522.	5618.	96.	5522.	5618.	96.	0.0	0.0	5.5	100.0	18/12/1989	0.00	0.0	96.0
			-5339.	-5435.		-5339.	-5435.									
PIRA																
001S 274.			6950.	7100.	150.	6950.	7100.	150.	0.0	0.0	7.6	100.0	18/12/1989	0.00	0.0	150.0
			-6676.	-6826.		-6676.	-6826.									
POORAKA																
001S 254.			6608.	6662.	54.	6608.	6662.	54.	9.0	9.0	13.2	27.6	13/12/1989	0.86	0.0	54.0
			-6354.	-6408.		-6354.	-6408.									
STRZELECKI																
002S 187.			6102.	6202.	100.	6102.	6202.	100.	14.0	14.0	15.5	37.4	13/12/1989	1.36	0.0	100.0
			-5915.	-6015.		-5915.	-6015.									
010S 217.			6187.	6283.	96.	6187.	6283.	96.	9.0	9.0	12.9	19.3	13/12/1989	0.94	0.0	96.0
			-5970.	-6066.		-5970.	-6066.									
024S 218.			6234.	6327.	93.	6234.	6327.	93.	7.0	7.0	11.5	19.4	13/12/1989	0.65	0.0	93.0
			-6016.	-6109.		-6016.	-6109.									
TARWONGA																
001S 207.			6493.	6588.	95.	6493.	6588.	95.	2.0	2.0	11.0	9.0	18/12/1989	0.20	0.0	95.0
			-6286.	-6381.		-6286.	-6381.									
TILPAREE A																
001S 150.			5812.	5925.	113.	5812.	5925.	113.	15.0	15.0	19.0	76.0	18/12/1989	0.68	0.0	113.0
			-5662.	-5775.		-5662.	-5775.									
TOOLACHEE																
002S 240.			6055.	6178.	123.	6055.	6178.	123.	18.0	18.0	12.5	100.0	18/12/1989	0.00	0.0	123.0
			-5815.	-5938.		-5815.	-5938.									
014S 236.			6091.	6222.	131.	6091.	6222.	131.	18.0	18.0	9.1	85.0	18/12/1989	0.25	0.0	131.0
			-5855.	-5986.		-5855.	-5986.									
037S 260.			6208.	6342.	134.	6208.	6342.	134.	.....	.....	0.0	0.0	13/12/1989	.....	0.0	134.0
			-5949.	-6083.		-5949.	-6083.									
039S 255.			6176.	6343.	167.	6176.	6343.	167.	0.0	0.0	0.0	0.0	18/12/1989	0.00	0.0	167.0
			-5921.	-6088.		-5921.	-6088.									
TOOLACHEE EAST																
001S 231.			6308.	6464.	156.	6308.	6464.	156.	14.0	14.0	10.5	90.0	18/12/1989	0.15	0.0	156.0
			-6077.	-6233.		-6077.	-6233.									
WANARA																
001S 216.			6018.	6117.	99.	6018.	6117.	99.	5.0	5.0	16.3	19.8	13/12/1989	0.65	0.0	99.0
			-5802.	-5901.		-5802.	-5901.									
WILPINNIE																
001S 260.			6664.	6724.	60.	6664.	6724.	60.	0.0	0.0	0.0	0.0	18/12/1989	0.00	0.0	60.0
			-6404.	-6464.		-6404.	-6464.									

SANTOS EXPLORATION DATA BASE SAND SUMMARY REPORT 06 MAR 90 16:04:12

FIELD: AQUIFER STUDY SAND: A FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
WITCHETTY 001S	239.		6132.	6240.	108.	6132.	6240.	108.	4.0	4.0	8.6	100.0	13/12/1989	0.00	0.0	108.0
			-5893.	-6001.		-5893.	-6001.									

	TOTAL PAY	AV POR	AV SW
FIELD SUMMARY	480.0	12.0	60.7

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:13

FIELD: AQUIFER STUDY — SAND: B — FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
AMYEMA																
001S	298.		6326.	6560.	234.	6326.	6560.	234.	31.0	31.0	12.3	85.0	18/12/1989	0.57	170.0	404.0
			-6028.	-6262.		-6028.	-6262.									
AZOLLA																
001S	285.		6138.	6270.	132.	6138.	6270.	132.	34.0	34.0	15.2	88.0	13/12/1989	0.62	168.0	300.0
			-5853.	-5985.		-5853.	-5985.									
BARATTA																
001S	190.		6568.	6784.	216.	6568.	6784.	216.	58.0	58.0	16.0	95.0	13/12/1989	0.46	80.0	296.0
			-6378.	-6594.		-6378.	-6594.									
BARCOOLOO																
001S	193.		6178.	6350.	172.	6178.	6350.	172.	44.0	44.0	13.5	85.0	13/12/1989	0.89	98.0	270.0
			-5985.	-6157.		-5985.	-6157.									
BRUMBY																
001S	277.		6194.	6412.	218.	6194.	6412.	218.	15.0	15.0	11.2	85.0	18/12/1989	0.25	217.0	435.0
			-5917.	-6135.		-5917.	-6135.									
002S	265.		6277.	6504.	227.	6277.	6504.	227.	58.0	58.0	12.2	85.0	18/12/1989	1.06	183.0	410.0
			-6012.	-6239.		-6012.	-6239.									
003S	290.		6254.	6397.	143.	6254.	6397.	143.	48.0	48.0	10.5	45.0	18/12/1989	2.77	208.0	351.0
			-5964.	-6107.		-5964.	-6107.									
BURKE																
001S	279.		7056.	7202.	146.	7056.	7202.	146.	48.0	48.0	14.5	13.6	13/12/1989	6.02	116.0	262.0
			-6777.	-6923.		-6777.	-6923.									
005S	274.		7140.	7282.	142.	7140.	7282.	142.	40.0	40.0	11.5	38.5	13/12/1989	2.84	128.0	270.0
			-6866.	-7008.		-6866.	-7008.									
CHILDIE																
001S	182.		6128.	6244.	116.	6128.	6244.	116.	46.0	46.0	13.3	95.0	13/12/1989	0.31	110.0	226.0
			-5946.	-6062.		-5946.	-6062.									
COOCHILARA																
001S	260.		6965.	7180.	215.	6965.	7180.	215.	20.0	20.0	12.3	64.0	18/12/1989	0.89	97.0	312.0
			-6705.	-6920.		-6705.	-6920.									
DELLA																
002S	149.		6577.	6685.	108.	6577.	6685.	108.	33.0	33.0	11.4	67.4	13/12/1989	1.23	80.0	188.0
			-6428.	-6536.		-6428.	-6536.									
003S	222.		6645.	6829.	184.	6645.	6829.	184.	92.0	92.0	15.0	72.7	13/12/1989	3.77	49.0	233.0
			-6423.	-6607.		-6423.	-6607.									
014S	185.		6401.	6534.	133.	6401.	6534.	133.	54.0	54.0	15.6	6.8	13/12/1989	7.87	43.0	176.0
			-6216.	-6349.		-6216.	-6349.									
016S	187.		6454.	6594.	140.	6454.	6594.	140.	73.0	73.0	17.1	12.4	13/12/1989	10.93	53.0	193.0
			-6267.	-6407.		-6267.	-6407.									
DIERI																
001S	212.		6770.	6852.	82.	6770.	6852.	82.	17.0	17.0	9.5	100.0	13/12/1989	0.00	200.0	282.0
			-6558.	-6640.		-6558.	-6640.									
DULLINGARI																
045S	288.		7114.	7308.	194.	7114.	7308.	194.	62.0	62.0	12.6	30.0	18/12/1989	5.47	130.0	324.0
			-6826.	-7020.		-6826.	-7020.									

FIELD: AQUIFER STUDY SAND: B FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
KERNA																
002S	287.		7105.	7349.	244.	7105.	7349.	244.	109.0	109.0	12.7	72.0	18/12/1989	3.88	154.0	398.0
			-6818.	-7062.		-6818.	-7062.									
003S	291.		6976.	7204.	228.	6976.	7204.	228.	23.0	23.0	13.2	73.0	18/12/1989	0.82	145.0	373.0
			-6685.	-6913.		-6685.	-6913.									
KIDMAN																
003S	252.		6472.	6704.	232.	6472.	6704.	232.	109.0	109.0	12.5	47.5	13/12/1989	7.17	97.0	329.0
			-6220.	-6452.		-6220.	-6452.									
005S	232.		6468.	6682.	214.	6468.	6682.	214.	103.0	103.0	14.8	31.8	13/12/1989	10.36	93.0	307.0
			-6236.	-6450.		-6236.	-6450.									
KIDMAN NORTH																
001S	256.		6576.	6700.	124.	6576.	6700.	124.	36.0	36.0	13.4	46.1	13/12/1989	2.60	93.0	217.0
			-6320.	-6444.		-6320.	-6444.									
LEPENA																
001S	233.		6572.	6705.	133.	6572.	6705.	133.	21.0	21.0	14.3	44.3	13/12/1989	1.67	62.0	195.0
			-6339.	-6472.		-6339.	-6472.									
MARABOOKA																
004S	185.		6448.	6520.	72.	6448.	6520.	72.	21.0	21.0	12.3	42.3	13/12/1989	1.49	81.0	153.0
			-6263.	-6335.		-6263.	-6335.									
MARAKU																
001S	315.		5910.	6129.	219.	5910.	6129.	219.	40.0	40.0	9.5	80.0	13/12/1989	0.76	175.0	394.0
			-5595.	-5814.		-5595.	-5814.									
MARANA																
001S	216.		6256.	6362.	106.	6256.	6362.	106.	39.0	39.0	14.4	39.1	13/12/1989	3.43	86.0	192.0
			-6040.	-6146.		-6040.	-6146.									
MARSILEA																
001S	293.		6530.	6778.	248.	6530.	6778.	248.	39.0	39.0	11.5	89.0	18/12/1989	0.49	180.0	428.0
			-6237.	-6485.		-6237.	-6485.									
METTIKA																
001S	295.		6638.	6876.	238.	6638.	6876.	238.	59.0	59.0	12.7	89.0	18/12/1989	0.82	162.0	400.0
			-6343.	-6581.		-6343.	-6581.									
MINA																
001S	137.		6785.	6911.	126.	6785.	6911.	126.	15.0	15.0	11.1	53.5	13/12/1989	0.78	72.0	198.0
			-6648.	-6774.		-6648.	-6774.									
MUDERA																
001S	147.		6704.	6818.	114.	6704.	6818.	114.	49.0	49.0	13.1	33.9	13/12/1989	4.26	71.0	185.0
			-6557.	-6671.		-6557.	-6671.									
004S	147.		6820.	6914.	94.	6820.	6914.	94.	38.0	38.0	11.8	82.0	13/12/1989	0.81	70.0	164.0
			-6673.	-6767.		-6673.	-6767.									
MUNKARIE																
002S	294.		5948.	6108.	160.	5948.	6108.	160.	63.0	63.0	15.1	57.6	13/12/1989	4.05	135.0	295.0
			-5654.	-5814.		-5654.	-5814.									
003S	269.		6120.	6282.	162.	6120.	6282.	162.	32.0	32.0	12.1	55.6	13/12/1989	1.72	157.0	319.0
			-5851.	-6013.		-5851.	-6013.									
005S	297.		6038.	6248.	210.	6038.	6248.	210.	79.0	79.0	13.1	68.9	13/12/1989	3.22	136.0	346.0
			-5741.	-5951.		-5741.	-5951.									

SANTOS EXPLORATION DATA BASE SAND SUMMARY REPORT 06 MAR 90 16:04:14

FIELD: AQUIFER STUDY SAND: B FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
NANIMA																
001S	182.		6271.	6374.	103.	6271.	6374.	103.	14.0	14.0	13.5	85.0	18/12/1989	0.28	96.0	199.0
			-6089.	-6192.		-6089.	-6192.									
NAPPACOONGEE																
001S	282.		6245.	6384.	139.	6245.	6384.	139.	67.0	67.0	15.0	85.0	18/12/1989	1.51	76.0	215.0
			-5963.	-6102.		-5963.	-6102.									
NARCOONOWIE																
001S	183.		5618.	5753.	135.	5618.	5753.	135.	48.0	48.0	13.5	100.0	18/12/1989	0.00	96.0	231.0
			-5435.	-5570.		-5435.	-5570.									
PIRA																
001S	274.		7100.	7282.	182.	7100.	7282.	182.	33.0	33.0	10.6	50.4	13/12/1989	1.74	150.0	332.0
			-6826.	-7008.		-6826.	-7008.									
POORAKA																
001S	254.		6662.	6849.	187.	6662.	6849.	187.	52.0	52.0	11.5	83.6	13/12/1989	0.98	54.0	241.0
			-6408.	-6595.		-6408.	-6595.									
STRZELECKI																
002S	187.		6202.	6327.	125.	6202.	6327.	125.	41.0	41.0	16.9	50.9	13/12/1989	3.41	100.0	225.0
			-6015.	-6140.		-6015.	-6140.									
010S	217.		6283.	6416.	133.	6283.	6416.	133.	39.0	39.0	14.9	29.0	13/12/1989	4.13	96.0	229.0
			-6066.	-6199.		-6066.	-6199.									
024S	218.		6327.	6418.	91.	6327.	6418.	91.	24.0	24.0	12.6	26.6	13/12/1989	2.21	93.0	184.0
			-6109.	-6200.		-6109.	-6200.									
TARWONGA																
001S	207.		6588.	6817.	229.	6588.	6817.	229.	131.0	131.0	11.2	95.0	18/12/1989	0.73	95.0	324.0
			-6381.	-6610.		-6381.	-6610.									
TILPAREE A																
001S	150.		5925.	6082.	157.	5925.	6082.	157.	42.0	42.0	17.0	100.0	18/12/1989	0.00	113.0	270.0
			-5775.	-5932.		-5775.	-5932.									
TOOLACHEE																
002S	240.		6178.	6385.	207.	6178.	6385.	207.	24.0	24.0	12.8	100.0	18/12/1989	0.00	123.0	330.0
			-5938.	-6145.		-5938.	-6145.									
014S	236.		6222.	6378.	156.	6222.	6378.	156.	42.0	42.0	14.5	90.0	18/12/1989	0.61	131.0	287.0
			-5986.	-6142.		-5986.	-6142.									
037S	260.		6342.	6485.	143.	6342.	6485.	143.	6.0	6.0	8.5	90.0	18/12/1989	0.05	134.0	277.0
			-6083.	-6226.		-6083.	-6226.									
039S	255.		6343.	6521.	178.	6343.	6521.	178.	38.0	38.0	10.5	95.0	18/12/1989	0.20	167.0	345.0
			-6088.	-6266.		-6088.	-6266.									
TOOLACHEE EAST																
001S	231.		6464.	6702.	238.	6464.	6702.	238.	102.0	102.0	12.8	100.0	18/12/1989	0.00	156.0	394.0
			-6233.	-6471.		-6233.	-6471.									
WANARA																
001S	216.		6117.	6225.	108.	6117.	6225.	108.	49.0	49.0	14.8	37.0	13/12/1989	4.57	99.0	207.0
			-5901.	-6009.		-5901.	-6009.									
WILPINNIE																
001S	260.		6724.	6860.	136.	6724.	6860.	136.	54.0	54.0	14.5	95.0	18/12/1989	0.39	60.0	196.0
			-6464.	-6600.		-6464.	-6600.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:15

FIELD: AQUIFER STUDY — SAND: B — FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
WITCHETTY 001S	239.		6240.	6474.	234.	6240.	6474.	234.	89.0	89.0	21.5	96.0	13/12/1989	0.77	108.0	342.0
			-6001.	-6235.		-6001.	-6235.									

	TOTAL PAY	AV POR	AV SW
FIELD SUMMARY	2543.0	13.6	66.6

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:15

FIELD: AQUIFER STUDY — SAND: C — FORMATION: TOOLACHEE — REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
AMYEMA																
001S	298.		6560.	6668.	108.	6560.	6668.	108.	26.0	26.0	15.2	85.0	18/12/1989	0.59	404.0	512.0
			-6262.	-6370.		-6262.	-6370.									
AZOLLA																
001S	285.		6270.	6454.	184.	6270.	6454.	184.	49.0	49.0	13.5	92.0	13/12/1989	0.53	300.0	484.0
			-5985.	-6169.		-5985.	-6169.									
BARATTA																
001S	190.		6784.	6814.	30.	6784.	6814.	30.	23.0	23.0	14.5	99.0	13/12/1989	0.03	296.0	326.0
			-6594.	-6624.		-6594.	-6624.									
BARCOOLOO																
001S	193.		6350.	6419.	69.	6350.	6419.	69.	37.0	37.0	13.5	83.0	13/12/1989	0.85	270.0	339.0
			-6157.	-6226.		-6157.	-6226.									
BRUMBY																
001S	277.		6412.	6500.	88.	6412.	6500.	88.	35.0	35.0	11.5	85.0	18/12/1989	0.60	435.0	523.0
			-6135.	-6223.		-6135.	-6223.									
002S	265.		6504.	6580.	76.	6504.	6580.	76.	32.0	32.0	14.2	95.0	18/12/1989	0.23	410.0	486.0
			-6239.	-6315.		-6239.	-6315.									
003S	290.		6397.	6579.	182.	6397.	6579.	182.	52.0	52.0	12.2	70.0	18/12/1989	1.90	351.0	533.0
			-6107.	-6289.		-6107.	-6289.									
BURKE																
001S	279.		7202.	7279.	77.	7202.	7279.	77.	24.0	24.0	17.3	18.4	13/12/1989	3.39	262.0	339.0
			-6923.	-7000.		-6923.	-7000.									
005S	274.		7282.	7347.	65.	7282.	7347.	65.	10.0	10.0	10.5	38.3	13/12/1989	0.65	270.0	335.0
			-7008.	-7073.		-7008.	-7073.									
CHILDIE																
001S	182.		6224.	.....	....	6224.	.....	....	.....	.....	0.0	0.0	29/11/1989	.....	206.0	.....
			-6042.	.....		-6042.	.....									
COOCHILARA																
001S	260.		7180.	7298.	118.	7180.	7298.	118.	50.0	50.0	12.5	75.0	18/12/1989	1.56	312.0	430.0
			-6920.	-7038.		-6920.	-7038.									
DELLA																
002S	149.		6685.	.....	....	6685.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	188.0	.....
			-6536.	.....		-6536.	.....									
003S	222.		6829.	.....	....	6829.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	233.0	.....
			-6607.	.....		-6607.	.....									
014S	185.		6534.	.....	....	6534.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	176.0	.....
			-6349.	.....		-6349.	.....									
016S	187.		6594.	.....	....	6594.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	193.0	.....
			-6407.	.....		-6407.	.....									
DIERI																
001S	212.		6852.	6888.	36.	6852.	6888.	36.	24.0	24.0	11.2	98.0	13/12/1989	0.05	282.0	318.0
			-6640.	-6676.		-6640.	-6676.									
DULLINGARI																
045S	288.		7308.	7392.	84.	7308.	7392.	84.	6.0	6.0	9.5	25.0	18/12/1989	0.43	324.0	408.0
			-7020.	-7104.		-7020.	-7104.									

FIELD: AQUIFER STUDY SAND: C FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
KERNA																
002S	287.		7349.	7462.	113.	7349.	7462.	113.	37.0	37.0	12.2	62.0	18/12/1989	1.72	398.0	511.0
			-7062.	-7175.		-7062.	-7175.									
003S	291.		7204.	7312.	108.	7204.	7312.	108.	42.0	42.0	12.6	72.0	18/12/1989	1.48	373.0	481.0
			-6913.	-7021.		-6913.	-7021.									
KIDMAN																
003S	252.		6704.	6773.	69.	6704.	6773.	69.	42.0	42.0	14.4	33.2	13/12/1989	4.04	329.0	398.0
			-6452.	-6521.		-6452.	-6521.									
005S	232.		6682.	6758.	76.	6682.	6758.	76.	50.0	50.0	15.7	22.2	13/12/1989	6.09	307.0	383.0
			-6450.	-6526.		-6450.	-6526.									
KIDMAN NORTH																
001S	256.		6700.	6816.	116.	6700.	6816.	116.	55.0	55.0	13.8	39.4	13/12/1989	4.60	217.0	333.0
			-6444.	-6560.		-6444.	-6560.									
LEPENA																
001S	233.		6705.	.....	....	6705.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	195.0	.....
			-6472.	.....		-6472.	.....									
MARABOOKA																
004S	185.		6520.	6578.	58.	6520.	6578.	58.	47.0	47.0	12.0	77.6	13/12/1989	1.26	153.0	211.0
			-6335.	-6393.		-6335.	-6393.									
MARAKU																
001S	315.		6129.	6222.	93.	6129.	6222.	93.	34.0	34.0	10.5	75.0	13/12/1989	0.89	394.0	487.0
			-5814.	-5907.		-5814.	-5907.									
MARANA																
001S	216.		6362.	6414.	52.	6362.	6414.	52.	28.0	28.0	16.5	27.2	13/12/1989	3.37	192.0	244.0
			-6146.	-6198.		-6146.	-6198.									
MARSILEA																
001S	293.		6778.	6888.	110.	6778.	6888.	110.	24.0	24.0	12.5	97.0	18/12/1989	0.09	428.0	538.0
			-6485.	-6595.		-6485.	-6595.									
METTIKA																
001S	295.		6876.	6996.	120.	6876.	6996.	120.	34.0	34.0	13.2	98.0	18/12/1989	0.09	400.0	520.0
			-6581.	-6701.		-6581.	-6701.									
MINA																
001S	137.		6911.	.....	....	6911.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	198.0	.....
			-6774.	.....		-6774.	.....									
MUDERA																
001S	147.		6818.	.....	....	6818.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	185.0	.....
			-6671.	.....		-6671.	.....									
004S	147.		6914.	7128.	214.	7034.	7128.	94.	47.0	47.0	12.2	88.0	18/12/1989	0.69	284.0	378.0
			-6767.	-6981.		-6887.	-6981.									
MUNKARIE																
002S	294.		6108.	6332.	224.	6108.	6332.	224.	76.0	76.0	13.6	52.0	13/12/1989	4.97	295.0	519.0
			-5814.	-6038.		-5814.	-6038.									
003S	269.		6282.	6468.	186.	6282.	6468.	186.	74.0	74.0	12.1	59.4	13/12/1989	3.65	319.0	505.0
			-6013.	-6199.		-6013.	-6199.									
005S	297.		6248.	6448.	200.	6248.	6448.	200.	43.0	43.0	11.6	67.1	13/12/1989	1.65	346.0	546.0
			-5951.	-6151.		-5951.	-6151.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:17

FIELD: AQUIFER STUDY — SAND: C — FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
NANIMA																
001S	182.		6374.	6410.	36.	6374.	6410.	36.	22.0	22.0	13.5	85.0	18/12/1989	0.45	199.0	235.0
			-6192.	-6228.		-6192.	-6228.									
NAPPACOONGEE																
001S	282.		6384.	6446.	62.	6384.	6446.	62.	42.0	42.0	14.0	75.0	18/12/1989	1.47	215.0	277.0
			-6102.	-6164.		-6102.	-6164.									
NARCOONOWIE																
001S	183.		5753.	.....	....	5753.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	231.0	.....
			-5570.	.....		-5570.	.....									
PIRA																
001S	274.		7282.	7364.	82.	7282.	7364.	82.	21.0	21.0	11.6	52.6	13/12/1989	1.15	332.0	414.0
			-7008.	-7090.		-7008.	-7090.									
POORAKA																
001S	254.		6849.	.....	....	6849.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	241.0	.....
			-6595.	.....		-6595.	.....									
STRZELECKI																
002S	187.		6327.	.....	....	6327.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	225.0	.....
			-6140.	.....		-6140.	.....									
	010S	217.	6416.	6462.	46.	6416.	6462.	46.	4.0	4.0	13.7	34.7	13/12/1989	0.36	229.0	275.0
			-6199.	-6245.		-6199.	-6245.									
	024S	218.	6418.	6454.	36.	6418.	6454.	36.	2.0	2.0	9.3	54.8	13/12/1989	0.08	184.0	220.0
			-6200.	-6236.		-6200.	-6236.									
TARWONGA																
001S	207.		6817.	6888.	71.	6817.	6888.	71.	34.0	34.0	10.3	93.0	18/12/1989	0.25	324.0	395.0
			-6610.	-6681.		-6610.	-6681.									
TILPAREE A																
001S	150.		6082.	.....	....	6082.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	270.0	.....
			-5932.	.....		-5932.	.....									
TOOLACHEE																
002S	240.		6385.	6438.	53.	6385.	6438.	53.	20.0	20.0	12.6	100.0	18/12/1989	0.00	330.0	383.0
			-6145.	-6198.		-6145.	-6198.									
	014S	236.	6378.	6493.	115.	6378.	6493.	115.	16.0	16.0	13.5	85.0	18/12/1989	0.32	287.0	402.0
			-6142.	-6257.		-6142.	-6257.									
	037S	260.	6485.	6578.	93.	6485.	6578.	93.	16.0	16.0	18.0	95.0	18/12/1989	0.14	277.0	370.0
			-6226.	-6319.		-6226.	-6319.									
	039S	255.	6521.	6720.	199.	6521.	6720.	199.	48.0	48.0	10.5	95.0	18/12/1989	0.25	345.0	544.0
			-6266.	-6465.		-6266.	-6465.									
TOOLACHEE EAST																
001S	231.		6702.	6787.	85.	6702.	6787.	85.	32.0	32.0	13.5	95.0	18/12/1989	0.22	394.0	479.0
			-6471.	-6556.		-6471.	-6556.									
WANARA																
001S	216.		6225.	.....	....	6225.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	207.0	.....
			-6009.	.....		-6009.	.....									
WILPINNIE																
001S	260.		6860.	6904.	44.	6860.	6904.	44.	14.0	14.0	13.0	85.0	18/12/1989	0.27	196.0	240.0
			-6600.	-6644.		-6600.	-6644.									

SANTOS EXPLORATION DATA BASE SAND SUMMARY REPORT 06 MAR 90 16:04:18

FIELD: AQUIFER STUDY SAND: C FORMATION: TOOLACHEE
REF. FORMATION: TOP TOOLACHEE

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
WITCHETTY 001S	239.		6474.	6525.	51.	6474.	6525.	51.	38.0	38.0	12.5	99.0	13/12/1989	0.05	342.0	393.0
			-6235.	-6286.		-6235.	-6286.									

	TOTAL PAY	AV POR	AV SW
FIELD SUMMARY	1310.0	13.0	70.4

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:18

FIELD: AQUIFER STUDY — SAND: D — FORMATION: PATCHAWARRA — REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
AMYEMA																
001S	298.		7368.	7490.	122.	7368.	7490.	122.	1.0	1.0	18.5	11.6	13/12/1989	0.16	0.0	122.0
			-7070.	-7192.		-7070.	-7192.									
AZOLLA																
001S	285.		7316.	7452.	136.	7316.	7452.	136.	1.0	1.0	9.9	65.5	13/12/1989	0.03	0.0	136.0
			-7031.	-7167.		-7031.	-7167.									
BARATTA																
001S	190.		7168.	7372.	204.	7168.	7372.	204.	18.0	18.0	15.0	42.0	13/12/1989	1.57	0.0	204.0
			-6978.	-7182.		-6978.	-7182.									
BARCOOLOO																
001S	193.		6995.	7074.	79.	6995.	7074.	79.	0.0	0.0	0.0	0.0	13/12/1989	0.00	0.0	79.0
			-6802.	-6881.		-6802.	-6881.									
BRUMBY																
001S	277.		7210.	7317.	107.	7210.	7317.	107.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	107.0
			-6933.	-7040.		-6933.	-7040.									
002S	265.		7290.	7390.	100.	7290.	7390.	100.	25.0	25.0	11.6	24.7	13/12/1989	2.18	0.0	100.0
			-7025.	-7125.		-7025.	-7125.									
003S	290.		7324.	7457.	133.	7324.	7457.	133.	19.0	19.0	10.6	47.6	13/12/1989	1.05	0.0	133.0
			-7034.	-7167.		-7034.	-7167.									
BURKE																
001S	279.		7830.	7901.	71.	7830.	7901.	71.	6.0	6.0	10.4	26.7	13/12/1989	0.46	0.0	71.0
			-7551.	-7622.		-7551.	-7622.									
005S	274.		7913.	8000.	87.	7913.	8000.	87.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	87.0
			-7639.	-7726.		-7639.	-7726.									
CHILDIE																
001S	182.		6469.	6572.	103.	6469.	6572.	103.	10.0	10.0	13.2	32.0	13/12/1989	0.90	0.0	103.0
			-6287.	-6390.		-6287.	-6390.									
COOCHILARA																
001S	260.		7896.	8176.	280.	7896.	8176.	280.	37.0	37.0	9.4	55.0	13/12/1989	1.57	0.0	280.0
			-7636.	-7916.		-7636.	-7916.									
DELLA																
002S	149.		6685.	.....	....	6685.	.....	....	.....	.....	0.0	0.0	13/12/1989	.....	0.0	.....
			-6536.	.....		-6536.	.....									
003S	222.		6904.	6962.	58.	6904.	6962.	58.	11.0	11.0	12.3	65.9	13/12/1989	0.46	0.0	58.0
			-6682.	-6740.		-6682.	-6740.									
014S	185.		6532.	6564.	32.	6532.	6564.	32.	26.0	26.0	12.2	14.4	13/12/1989	2.72	0.0	32.0
			-6347.	-6379.		-6347.	-6379.									
016S	187.		6605.	6696.	91.	6605.	6696.	91.	3.0	3.0	10.6	47.4	13/12/1989	0.17	0.0	91.0
			-6418.	-6509.		-6418.	-6509.									
DIERI																
001S	212.		7417.	7528.	111.	7417.	7528.	111.	19.0	19.0	10.5	65.0	13/12/1989	0.70	0.0	111.0
			-7205.	-7316.		-7205.	-7316.									
DULLINGARI																
045S	288.		8110.	8412.	302.	8110.	8412.	302.	66.0	66.0	9.5	35.0	18/12/1989	4.08	0.0	302.0
			-7822.	-8124.		-7822.	-8124.									

FIELD: AQUIFER STUDY SAND: D FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
KERNA																
002S	287.		8212.	8384.	172.	8212.	8384.	172.	11.0	11.0	10.2	25.7	18/12/1989	0.84	0.0	172.0
			-7925.	-8097.		-7925.	-8097.									
003S	291.		7974.	8037.	63.	7974.	8037.	63.	6.0	6.0	11.8	20.1	13/12/1989	0.57	0.0	63.0
			-7683.	-7746.		-7683.	-7746.									
KIDMAN																
003S	252.		7229.	7318.	89.	7229.	7318.	89.	14.0	14.0	11.9	21.8	13/12/1989	1.30	0.0	89.0
			-6977.	-7066.		-6977.	-7066.									
005S	232.		7014.	7115.	101.	7014.	7115.	101.	41.0	41.0	12.1	20.9	13/12/1989	3.93	0.0	101.0
			-6782.	-6883.		-6782.	-6883.									
KIDMAN NORTH																
001S	256.		7128.	7338.	210.	7128.	7338.	210.	83.0	83.0	12.4	25.0	13/12/1989	7.69	0.0	210.0
			-6872.	-7082.		-6872.	-7082.									
LEPENA																
001S	233.		6767.	6844.	77.	6767.	6844.	77.	17.0	17.0	11.3	21.9	13/12/1989	1.50	0.0	77.0
			-6534.	-6611.		-6534.	-6611.									
MARABOOKA																
004S	185.		6645.	6730.	85.	6645.	6730.	85.	13.0	13.0	10.4	46.6	13/12/1989	0.72	0.0	85.0
			-6460.	-6545.		-6460.	-6545.									
MARAKU																
001S	315.		7028.	7149.	121.	7028.	7149.	121.	4.0	4.0	10.5	45.0	13/12/1989	0.23	0.0	121.0
			-6713.	-6834.		-6713.	-6834.									
MARANA																
001S	216.		6492.	6714.	222.	6492.	6714.	222.	.....	.....	0.0	0.0	30/11/1989	.....	0.0	222.0
			-6276.	-6498.		-6276.	-6498.									
MARSILEA																
001S	293.		7590.	7717.	127.	7590.	7717.	127.	1.0	1.0	10.7	25.4	13/12/1989	0.08	0.0	127.0
			-7297.	-7424.		-7297.	-7424.									
METTIKA																
001S	295.		7662.	7772.	110.	7662.	7772.	110.	5.0	5.0	9.6	30.3	13/12/1989	0.33	0.0	110.0
			-7367.	-7477.		-7367.	-7477.									
MINA																
001S	137.		7050.	7129.	79.	7050.	7129.	79.	11.0	11.0	9.8	27.3	13/12/1989	0.78	0.0	79.0
			-6913.	-6992.		-6913.	-6992.									
MUDERA																
001S	147.		6913.	7035.	122.	6913.	7035.	122.	30.0	30.0	11.7	31.0	13/12/1989	2.41	0.0	122.0
			-6766.	-6888.		-6766.	-6888.									
004S	147.		7034.	7128.	94.	7034.	7128.	94.	47.0	47.0	12.2	88.0	18/12/1989	0.69	1.0	95.0
			-6887.	-6981.		-6887.	-6981.									
MUNKARIE																
002S	294.		7120.	7250.	130.	7120.	7250.	130.	18.0	18.0	13.9	19.0	13/12/1989	2.03	0.0	130.0
			-6826.	-6956.		-6826.	-6956.									
003S	269.		7220.	7302.	82.	7220.	7302.	82.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	82.0
			-6951.	-7033.		-6951.	-7033.									
005S	297.		7313.	7452.	139.	7313.	7452.	139.	26.0	26.0	10.9	43.5	13/12/1989	1.61	0.0	139.0
			-7016.	-7155.		-7016.	-7155.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:20

FIELD: AQUIFER STUDY — SAND: D — FORMATION: PATCHAWARRA — REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
NANIMA																
001S 182.			6530.	6701.	171.	6530.	6701.	171.	44.0	44.0	11.5	95.0	18/12/1989	0.25	0.0	171.0
			-6348.	-6519.		-6348.	-6519.									
NAPPACOONGEE																
001S 282.			6390.	.....	....	6390.	.....	....	.....	.....	0.0	0.0	13/12/1989	.....	0.0	.....
			-6108.	.....		-6108.	.....									
NARCOONOWIE																
001S 183.			6046.	6112.	66.	6046.	6112.	66.	.....	.....	0.0	0.0	30/11/1989	.....	0.0	66.0
			-5863.	-5929.		-5863.	-5929.									
PIRA																
001S 274.			8069.	8272.	203.	8069.	8272.	203.	50.0	50.0	10.4	26.1	13/12/1989	3.86	0.0	203.0
			-7795.	-7998.		-7795.	-7998.									
POORAKA																
001S 254.			6938.	7006.	68.	6938.	7006.	68.	5.0	5.0	9.7	45.2	13/12/1989	0.27	0.0	68.0
			-6684.	-6752.		-6684.	-6752.									
STRZELECKI																
002S 187.			6405.	6604.	199.	6405.	6604.	199.	.....	.....	0.0	0.0	13/12/1989	.....	0.0	199.0
			-6218.	-6417.		-6218.	-6417.									
010S 217.			6589.	6683.	94.	6589.	6683.	94.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	94.0
			-6372.	-6466.		-6372.	-6466.									
024S 218.			6565.	6728.	163.	6565.	6728.	163.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	163.0
			-6347.	-6510.		-6347.	-6510.									
TARWONGA																
001S 207.			7554.	7664.	110.	7554.	7664.	110.	3.0	3.0	8.5	33.5	13/12/1989	0.17	0.0	110.0
			-7347.	-7457.		-7347.	-7457.									
TILPAREE A																
001S 150.			6610.	6723.	113.	6610.	6723.	113.	24.0	24.0	12.0	100.0	13/12/1989	0.00	0.0	113.0
			-6460.	-6573.		-6460.	-6573.									
TOOLACHEE																
002S 240.			6964.	7058.	94.	6964.	7058.	94.	21.0	21.0	11.2	53.3	18/12/1989	1.10	0.0	94.0
			-6724.	-6818.		-6724.	-6818.									
014S 236.			7150.	7270.	120.	7150.	7270.	120.	6.0	6.0	12.3	28.7	13/12/1989	0.53	0.0	120.0
			-6914.	-7034.		-6914.	-7034.									
037S 260.			7186.	7292.	106.	7186.	7292.	106.	0.0	0.0	0.0	100.0	13/12/1989	0.00	0.0	106.0
			-6927.	-7033.		-6927.	-7033.									
039S 255.			7508.	7688.	180.	7508.	7688.	180.	38.0	38.0	10.1	35.6	13/12/1989	2.48	0.0	180.0
			-7253.	-7433.		-7253.	-7433.									
TOOLACHEE EAST																
001S 231.			7600.	7730.	130.	7600.	7730.	130.	25.0	25.0	10.2	39.5	13/12/1989	1.54	0.0	130.0
			-7369.	-7499.		-7369.	-7499.									
WANARA																
001S 216.			6264.	6398.	134.	6264.	6398.	134.	74.0	74.0	12.5	95.0	18/12/1989	0.46	0.0	134.0
			-6048.	-6182.		-6048.	-6182.									
WILPINNIE																
001S 260.			6999.	7230.	231.	6999.	7230.	231.	99.0	99.0	10.8	48.1	13/12/1989	5.54	0.0	231.0
			-6739.	-6970.		-6739.	-6970.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:20

FIELD: AQUIFER STUDY — SAND: D — FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
WITCHETTY 001S	239.		6974.	7058.	84.	6974.	7058.	84.	9.0	9.0	10.2	75.0	13/12/1989	0.23	0.0	84.0
			-6735.	-6819.		-6735.	-6819.									

	TOTAL PAY	AV POR	AV SW
FIELD SUMMARY	967.0	11.3	47.7

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:21

FIELD: AQUIFER STUDY — SAND: E — FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
AMYEMA																
001S	298.		7490.	7592.	102.	7490.	7592.	102.	34.0	34.0	12.5	20.1	13/12/1989	3.39	122.0	224.0
			-7192.	-7294.		-7192.	-7294.									
AZOLLA																
001S	285.		7452.	7542.	90.	7452.	7542.	90.	39.0	39.0	12.5	90.0	13/12/1989	0.49	136.0	226.0
			-7167.	-7257.		-7167.	-7257.									
BARATTA																
001S	190.		7372.	.....	....	7372.	.....	....	0.0	0.0	0.0	0.0	13/12/1989	0.00	204.0	.....
			-7182.	.....		-7182.	.....									
BARCOOLOO																
001S	193.		7074.	.....	....	7074.	.....	....	0.0	0.0	0.0	0.0	13/12/1989	0.00	79.0	.....
			-6881.	.....		-6881.	.....									
BRUMBY																
001S	277.		7317.	7501.	184.	7317.	7501.	184.	62.0	62.0	13.4	29.4	13/12/1989	5.87	107.0	291.0
			-7040.	-7224.		-7040.	-7224.									
002S	265.		7390.	7494.	104.	7390.	7494.	104.	44.0	44.0	9.9	44.9	13/12/1989	2.41	100.0	204.0
			-7125.	-7229.		-7125.	-7229.									
003S	290.		7451.	7565.	114.	7451.	7565.	114.	49.0	49.0	11.4	47.9	13/12/1989	2.92	127.0	241.0
			-7161.	-7275.		-7161.	-7275.									
BURKE																
001S	279.		7901.	8052.	151.	7901.	8052.	151.	76.0	76.0	10.4	25.8	13/12/1989	5.89	71.0	222.0
			-7622.	-7773.		-7622.	-7773.									
005S	274.		8000.	8136.	136.	8000.	8136.	136.	59.0	59.0	10.8	38.1	13/12/1989	3.95	87.0	223.0
			-7726.	-7862.		-7726.	-7862.									
CHILDIE																
001S	182.		6572.	6704.	132.	6572.	6704.	132.	48.0	48.0	18.0	62.0	13/12/1989	3.28	103.0	235.0
			-6390.	-6522.		-6390.	-6522.									
COOCHILARA																
001S	260.		8176.	8530.	354.	8176.	8530.	354.	59.0	59.0	9.8	48.0	13/12/1989	3.01	280.0	634.0
			-7916.	-8270.		-7916.	-8270.									
DELLA																
002S	149.		6712.	6859.	147.	6712.	6859.	147.	108.0	108.0	12.6	93.7	13/12/1989	0.85	27.0	174.0
			-6563.	-6710.		-6563.	-6710.									
003S	222.		6962.	7194.	232.	6962.	7194.	232.	107.0	107.0	11.3	70.9	13/12/1989	3.52	58.0	290.0
			-6740.	-6972.		-6740.	-6972.									
014S	185.		6564.	.....	....	6564.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	32.0	.....
			-6379.	.....		-6379.	.....									
016S	187.		6696.	6834.	138.	6696.	6834.	138.	98.0	98.0	11.1	67.2	13/12/1989	3.56	91.0	229.0
			-6509.	-6647.		-6509.	-6647.									
DIERI																
001S	212.		7528.	7763.	235.	7528.	7763.	235.	74.0	74.0	11.5	73.0	13/12/1989	2.30	111.0	346.0
			-7316.	-7551.		-7316.	-7551.									
DULLINGARI																
045S	288.		8412.	8666.	254.	8412.	8666.	254.	84.0	84.0	10.2	40.0	18/12/1989	5.14	302.0	556.0
			-8124.	-8378.		-8124.	-8378.									

FIELD: AQUIFER STUDY SAND: E FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
KERNA																
002S	287.		8318.	8473.	155.	8318.	8473.	155.	41.0	41.0	9.8	54.0	18/12/1989	1.85	106.0	261.0
			-8031.	-8186.		-8031.	-8186.									
003S	291.		8063.	8210.	147.	8063.	8210.	147.	27.0	27.0	10.6	18.0	18/12/1989	2.35	89.0	236.0
			-7772.	-7919.		-7772.	-7919.									
KIDMAN																
003S	252.		7318.	7462.	144.	7318.	7462.	144.	72.0	72.0	10.8	52.2	13/12/1989	3.71	89.0	233.0
			-7066.	-7210.		-7066.	-7210.									
005S	232.		7115.	7212.	97.	7115.	7212.	97.	59.0	59.0	10.6	60.2	13/12/1989	2.49	101.0	198.0
			-6883.	-6980.		-6883.	-6980.									
KIDMAN NORTH																
001S	256.		7338.	7474.	136.	7338.	7474.	136.	92.0	92.0	11.0	59.2	13/12/1989	4.12	210.0	346.0
			-7082.	-7218.		-7082.	-7218.									
LEPENA																
001S	233.		6844.	6960.	116.	6844.	6960.	116.	77.0	77.0	11.7	25.4	13/12/1989	6.73	77.0	193.0
			-6611.	-6727.		-6611.	-6727.									
MARABOOKA																
004S	185.		6730.	6816.	86.	6730.	6816.	86.	42.0	42.0	10.5	64.9	13/12/1989	1.54	85.0	171.0
			-6545.	-6631.		-6545.	-6631.									
MARAKU																
001S	315.		7149.	7242.	93.	7149.	7242.	93.	27.0	27.0	12.0	75.0	13/12/1989	0.81	121.0	214.0
			-6834.	-6927.		-6834.	-6927.									
MARANA																
001S	216.		6714.	.....	....	6714.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	222.0	.....
			-6498.	.....		-6498.	.....									
MARSILEA																
001S	293.		7717.	7800.	83.	7717.	7800.	83.	40.0	40.0	10.9	19.3	13/12/1989	3.53	127.0	210.0
			-7424.	-7507.		-7424.	-7507.									
METTIKA																
001S	295.		7772.	7890.	118.	7772.	7890.	118.	50.0	50.0	10.9	17.4	13/12/1989	4.50	110.0	228.0
			-7477.	-7595.		-7477.	-7595.									
MINA																
001S	137.		7129.	7302.	173.	7129.	7302.	173.	67.0	67.0	9.8	51.1	13/12/1989	3.20	79.0	252.0
			-6992.	-7165.		-6992.	-7165.									
MUDERA																
001S	147.		7035.	7194.	159.	7035.	7194.	159.	59.0	59.0	11.1	57.3	13/12/1989	2.79	122.0	281.0
			-6888.	-7047.		-6888.	-7047.									
004S	147.		7128.	7290.	162.	7128.	7290.	162.	119.0	119.0	11.5	88.0	18/12/1989	1.64	95.0	257.0
			-6981.	-7143.		-6981.	-7143.									
MUNKARIE																
002S	294.		7250.	7354.	104.	7250.	7354.	104.	26.0	26.0	14.0	21.5	13/12/1989	2.85	130.0	234.0
			-6956.	-7060.		-6956.	-7060.									
003S	269.		7302.	7482.	180.	7302.	7482.	180.	58.0	58.0	12.1	50.6	13/12/1989	3.48	82.0	262.0
			-7033.	-7213.		-7033.	-7213.									
005S	297.		7452.	7628.	176.	7452.	7628.	176.	80.0	80.0	10.4	57.6	13/12/1989	3.53	139.0	315.0
			-7155.	-7331.		-7155.	-7331.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:22

FIELD: AQUIFER STUDY — SAND: E — FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
NANIMA																
001S	182.		6701.	6837.	136.	6701.	6837.	136.	42.0	42.0	10.5	95.0	18/12/1989	0.22	171.0	307.0
			-6519.	-6655.		-6519.	-6655.									
NAPPACOONGEE																
001S	282.		6446.	6564.	118.	6446.	6564.	118.	105.0	105.0	15.0	85.0	18/12/1989	2.36	56.0	174.0
			-6164.	-6282.		-6164.	-6282.									
NARCOONOWIE																
001S	183.		6112.	.....	....	6112.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	66.0	.....
			-5929.	.....		-5929.	.....									
PIRA																
001S	274.		8272.	8580.	308.	8272.	8580.	308.	80.0	80.0	10.2	32.4	13/12/1989	5.53	203.0	511.0
			-7998.	-8306.		-7998.	-8306.									
POORAKA																
001S	254.		7006.	7205.	199.	7006.	7205.	199.	86.0	86.0	10.4	69.2	13/12/1989	2.76	68.0	267.0
			-6752.	-6951.		-6752.	-6951.									
STRZELECKI																
002S	187.		6538.	6682.	144.	6538.	6682.	144.	83.0	83.0	9.2	93.0	18/12/1989	0.53	133.0	277.0
			-6351.	-6495.		-6351.	-6495.									
010S	217.		6683.	.....	....	6683.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	94.0	.....
			-6466.	.....		-6466.	.....									
024S	218.		6728.	.....	....	6728.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	163.0	.....
			-6510.	.....		-6510.	.....									
TARWONGA																
001S	207.		7664.	7818.	154.	7664.	7818.	154.	30.0	30.0	9.9	30.7	13/12/1989	2.05	110.0	264.0
			-7457.	-7611.		-7457.	-7611.									
TILPAREE A																
001S	150.		6723.	6855.	132.	6723.	6855.	132.	0.0	0.0	0.0	0.0	13/12/1989	0.00	113.0	245.0
			-6573.	-6705.		-6573.	-6705.									
TOOLACHEE																
002S	240.		7058.	7146.	88.	7058.	7146.	88.	51.0	51.0	11.2	53.3	18/12/1989	2.67	94.0	182.0
			-6818.	-6906.		-6818.	-6906.									
014S	236.		7270.	7440.	170.	7270.	7440.	170.	22.0	22.0	13.6	19.4	13/12/1989	2.42	120.0	290.0
			-7034.	-7204.		-7034.	-7204.									
037S	260.		7292.	7409.	117.	7292.	7409.	117.	43.0	43.0	9.6	57.1	13/12/1989	1.76	106.0	223.0
			-7033.	-7150.		-7033.	-7150.									
039S	255.		7688.	7796.	108.	7688.	7796.	108.	24.0	24.0	8.6	46.0	13/12/1989	1.12	180.0	288.0
			-7433.	-7541.		-7433.	-7541.									
TOOLACHEE EAST																
001S	231.		7730.	7876.	146.	7730.	7876.	146.	47.0	47.0	10.2	56.6	13/12/1989	2.07	130.0	276.0
			-7499.	-7645.		-7499.	-7645.									
WANARA																
001S	216.		6398.	6490.	92.	6398.	6490.	92.	40.0	40.0	12.5	85.0	18/12/1989	0.75	134.0	226.0
			-6182.	-6274.		-6182.	-6274.									
WILPINNIE																
001S	260.		7230.	7423.	193.	7230.	7423.	193.	92.0	92.0	10.1	63.8	13/12/1989	3.37	231.0	424.0
			-6970.	-7163.		-6970.	-7163.									

SANTOS EXPLORATION DATA BASE | SAND SUMMARY REPORT | 06 MAR 90 16:04:23

FIELD: AQUIFER STUDY SAND: E

FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
WITCHETTY 001S	239.		7058.	7154.	96.	7058.	7154.	96.	45.0	45.0	12.5	88.0	13/12/1989	0.68	84.0	180.0
			-6819.	-6915.		-6819.	-6915.									

	TOTAL PAY	AV POR	AV SW
FIELD SUMMARY	2667.0	11.3	58.7

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:23

FIELD: AQUIFER STUDY — SAND: F — FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
AMYEMA																
001S	298.		7592.	7776.	184.	7592.	7776.	184.	70.0	70.0	12.4	23.4	13/12/1989	6.67	224.0	408.0
			-7294.	-7478.		-7294.	-7478.									
AZOLLA																
001S	285.		7542.	7688.	146.	7542.	7688.	146.	54.0	54.0	10.5	92.0	13/12/1989	0.45	226.0	372.0
			-7257.	-7403.		-7257.	-7403.									
BARATTA																
001S	190.		7372.	.....	....	7372.	.....	....	.....	.....	0.0	0.0	29/11/1989	.....	204.0	.....
			-7182.	.....		-7182.	.....									
BARCOOLOO																
001S	193.		7074.	.....	....	7074.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	79.0	.....
			-6881.	.....		-6881.	.....									
BRUMBY																
001S	277.		7501.	7654.	153.	7501.	7654.	153.	50.0	50.0	11.0	53.0	13/12/1989	2.58	291.0	444.0
			-7224.	-7377.		-7224.	-7377.									
002S	265.		7494.	7640.	146.	7494.	7640.	146.	55.0	55.0	9.7	51.1	13/12/1989	2.62	204.0	350.0
			-7229.	-7375.		-7229.	-7375.									
003S	290.		7565.	7741.	176.	7565.	7741.	176.	89.0	89.0	10.8	59.5	13/12/1989	3.89	241.0	417.0
			-7275.	-7451.		-7275.	-7451.									
BURKE																
001S	279.		8052.	8251.	199.	8052.	8251.	199.	94.0	94.0	11.9	36.7	13/12/1989	7.10	222.0	421.0
			-7773.	-7972.		-7773.	-7972.									
005S	274.		8136.	8254.	118.	8136.	8254.	118.	22.0	22.0	9.4	32.9	13/12/1989	1.39	223.0	341.0
			-7862.	-7980.		-7862.	-7980.									
CHILDIE																
001S	182.		6704.	6847.	143.	6704.	6847.	143.	70.0	70.0	15.0	98.0	13/12/1989	0.21	235.0	378.0
			-6522.	-6665.		-6522.	-6665.									
COOCHILARA																
001S	260.		8530.	8725.	195.	8530.	8725.	195.	6.0	6.0	9.6	54.0	13/12/1989	0.26	634.0	829.0
			-8270.	-8465.		-8270.	-8465.									
DELLA																
002S	149.		6712.	.....	....	6712.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	27.0	.....
			-6563.	.....		-6563.	.....									
003S	222.		7194.	7394.	200.	7194.	7394.	200.	99.0	99.0	11.3	89.2	13/12/1989	1.21	290.0	490.0
			-6972.	-7172.		-6972.	-7172.									
014S	185.		6564.	.....	....	6564.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	32.0	.....
			-6379.	.....		-6379.	.....									
016S	187.		6834.	6950.	116.	6834.	6950.	116.	45.0	45.0	10.5	67.5	13/12/1989	1.53	229.0	345.0
			-6647.	-6763.		-6647.	-6763.									
DIERI																
001S	212.		7763.	.....	....	7763.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	346.0	.....
			-7551.	.....		-7551.	.....									
DULLINGARI																
045S	288.		8666.	8804.	138.	8666.	8804.	138.	32.0	32.0	9.5	40.0	18/12/1989	1.82	556.0	694.0
			-8378.	-8516.		-8378.	-8516.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:24

FIELD: AQUIFER STUDY — SAND: F — FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
KERNA																
002S 287.			8473.	8640.	167.	8473.	8640.	167.	10.0	10.0	10.8	40.2	18/12/1989	0.65	261.0	428.0
			-8186.	-8353.		-8186.	-8353.									
003S 291.			8122.	8208.	86.	8122.	8208.	86.	26.0	26.0	10.1	19.8	13/12/1989	2.11	148.0	234.0
			-7831.	-7917.		-7831.	-7917.									
KIDMAN																
003S 252.			7462.	.....	....	7462.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	233.0	.....
			-7210.	.....		-7210.	.....									
005S 232.			7212.	.....	....	7212.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	198.0	.....
			-6980.	.....		-6980.	.....									
KIDMAN NORTH																
001S 256.			7474.	.....	....	7474.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	346.0	.....
			-7218.	.....		-7218.	.....									
LEPENA																
001S 233.			6960.	7367.	407.	6960.	7367.	407.	88.0	88.0	9.3	75.1	13/12/1989	2.03	193.0	600.0
			-6727.	-7134.		-6727.	-7134.									
MARABOOKA																
004S 185.			6816.	7088.	272.	6816.	7088.	272.	146.0	146.0	10.6	73.0	13/12/1989	4.20	171.0	443.0
			-6631.	-6903.		-6631.	-6903.									
MARAKU																
001S 315.			7242.	7348.	106.	7242.	7348.	106.	64.0	64.0	10.4	95.0	13/12/1989	0.33	214.0	320.0
			-6927.	-7033.		-6927.	-7033.									
MARANA																
001S 216.			6714.	.....	....	6714.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	222.0	.....
			-6498.	.....		-6498.	.....									
MARSILEA																
001S 293.			7800.	7998.	198.	7800.	7998.	198.	101.0	101.0	11.6	20.6	13/12/1989	9.31	210.0	408.0
			-7507.	-7705.		-7507.	-7705.									
METTIKA																
001S 295.			7890.	7967.	77.	7890.	7967.	77.	56.0	56.0	11.5	22.7	13/12/1989	4.98	228.0	305.0
			-7595.	-7672.		-7595.	-7672.									
MINA																
001S 137.			7302.	7470.	168.	7302.	7470.	168.	44.0	44.0	10.3	44.0	13/12/1989	2.54	252.0	420.0
			-7165.	-7333.		-7165.	-7333.									
MUDERA																
001S 147.			7194.	7382.	188.	7194.	7382.	188.	59.0	59.0	10.0	67.3	13/12/1989	1.94	281.0	469.0
			-7047.	-7235.		-7047.	-7235.									
004S 147.			7290.	7504.	214.	7290.	7504.	214.	187.0	187.0	9.8	92.0	18/12/1989	1.47	257.0	471.0
			-7143.	-7357.		-7143.	-7357.									
MUNKARIE																
002S 294.			7354.	7486.	132.	7354.	7486.	132.	77.0	77.0	12.7	75.0	13/12/1989	2.45	234.0	366.0
			-7060.	-7192.		-7060.	-7192.									
003S 269.			7482.	7552.	70.	7482.	7552.	70.	16.0	16.0	10.4	68.4	13/12/1989	0.53	262.0	332.0
			-7213.	-7283.		-7213.	-7283.									
005S 297.			7628.	7770.	142.	7628.	7770.	142.	39.0	39.0	10.0	62.4	13/12/1989	1.47	315.0	457.0
			-7331.	-7473.		-7331.	-7473.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:25

FIELD: AQUIFER STUDY — SAND: F — FORMATION: PATCHAWARRA — REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV REMARKS	IFTR	IFBR
NANIMA																
001S	182.		6837.	.....	....	6837.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	307.0	.....
			-6655.	.....		-6655.	.....									
NAPPACOONGEE																
001S	282.		6564.	.....	....	6564.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	174.0	.....
			-6282.	.....		-6282.	.....									
NARCOONOWIE																
001S	183.		6112.	.....	....	6112.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	66.0	.....
			-5929.	.....		-5929.	.....									
PIRA																
001S	274.		8580.	8782.	202.	8580.	8782.	202.	10.0	10.0	10.5	28.0	13/12/1989	0.76	511.0	713.0
			-8306.	-8508.		-8306.	-8508.									
POORAKA																
001S	254.		7205.	7384.	179.	7205.	7384.	179.	80.0	80.0	9.4	91.8	13/12/1989	0.62	267.0	446.0
			-6951.	-7130.		-6951.	-7130.									
STRZELECKI																
002S	187.		6682.	6958.	276.	6682.	6958.	276.	97.0	97.0	9.7	100.0	18/12/1989	0.00	277.0	553.0
			-6495.	-6771.		-6495.	-6771.									
010S	217.		6683.	.....	....	6683.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	94.0	.....
			-6466.	.....		-6466.	.....									
024S	218.		6728.	.....	....	6728.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	163.0	.....
			-6510.	.....		-6510.	.....									
TARWONGA																
001S	207.		7818.	.....	....	7818.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	264.0	.....
			-7611.	.....		-7611.	.....									
TILPAREE A																
001S	150.		6855.	.....	....	6855.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	245.0	.....
			-6705.	.....		-6705.	.....									
TOOLACHEE																
002S	240.		7146.	.....	....	7146.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	182.0	.....
			-6906.	.....		-6906.	.....									
014S	236.		7440.	.....	....	7440.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	290.0	.....
			-7204.	.....		-7204.	.....									
037S	260.		7409.	7560.	151.	7409.	7560.	151.	29.0	29.0	9.1	73.8	13/12/1989	0.69	223.0	374.0
			-7150.	-7301.		-7150.	-7301.									
039S	255.		7796.	7928.	132.	7796.	7928.	132.	22.0	22.0	9.0	51.9	13/12/1989	0.95	288.0	420.0
			-7541.	-7673.		-7541.	-7673.									
TOOLACHEE EAST																
001S	231.		7876.	8198.	322.	7876.	8198.	322.	40.0	40.0	9.5	48.4	13/12/1989	1.97	276.0	598.0
			-7645.	-7967.		-7645.	-7967.									
WANARA																
001S	216.		6490.	6726.	236.	6490.	6726.	236.	82.0	82.0	13.5	85.0	18/12/1989	1.66	226.0	462.0
			-6274.	-6510.		-6274.	-6510.									
WILPINNIE																
001S	260.		7423.	7618.	195.	7423.	7618.	195.	61.0	61.0	10.9	48.8	13/12/1989	3.39	424.0	619.0
			-7163.	-7358.		-7163.	-7358.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:26

FIELD: AQUIFER STUDY — SAND: F — FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
WITCHETTY 001S	239.		7154.	.....	....	7154.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	180.0	.....
			-6915.	.....		-6915.	.....									

	TOTAL PAY	AV POR	AV SW
FIELD SUMMARY	2020.0	10.8	66.2

SANTOS EXPLORATION DATA BASE | SAND SUMMARY REPORT | 06 MAR 90 16:04:26

FIELD: AQUIFER STUDY SAND: G FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
AMYEMA																
001S	298.		7776.	.....	....	7776.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	408.0	.....
			-7478.	.....		-7478.	.....									
AZOLLA																
001S	285.		7688.	7746.	58.	7688.	7746.	58.	.....	.....	0.0	0.0	30/11/1989	.....	372.0	430.0
			-7403.	-7461.		-7403.	-7461.									
BARATTA																
001S	190.		7372.	.....	....	7372.	.....	....	.....	.....	0.0	0.0	29/11/1989	.....	204.0	.....
			-7182.	.....		-7182.	.....									
BARCOOLOO																
001S	193.		7074.	.....	....	7074.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	79.0	.....
			-6881.	.....		-6881.	.....									
BRUMBY																
001S	277.		7654.	.....	....	7654.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	444.0	.....
			-7377.	.....		-7377.	.....									
002S	265.		7640.	.....	....	7640.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	350.0	.....
			-7375.	.....		-7375.	.....									
003S	290.		7741.	7907.	166.	7741.	7907.	166.	3.0	3.0	11.3	9.8	13/12/1989	0.31	417.0	583.0
			-7451.	-7617.		-7451.	-7617.									
BURKE																
001S	279.		8251.	8285.	34.	8251.	8285.	34.	1.0	1.0	8.9	72.3	13/12/1989	0.02	421.0	455.0
			-7972.	-8006.		-7972.	-8006.									
005S	274.		8254.	8382.	128.	8254.	8382.	128.	29.0	29.0	9.3	50.1	13/12/1989	1.34	341.0	469.0
			-7980.	-8108.		-7980.	-8108.									
CHILDIE																
001S	182.		6847.	.....	....	6847.	.....	....	.....	.....	0.0	0.0	29/11/1989	.....	378.0	.....
			-6665.	.....		-6665.	.....									
COOCHILARA																
001S	260.		8725.	8921.	196.	8725.	8921.	196.	0.0	0.0	4.0	70.0	13/12/1989	0.00	829.0	1025.0
			-8465.	-8661.		-8465.	-8661.									
DELLA																
002S	149.		6712.	.....	....	6712.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	27.0	.....
			-6563.	.....		-6563.	.....									
003S	222.		7394.	.....	....	7394.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	490.0	.....
			-7172.	.....		-7172.	.....									
014S	185.		6564.	.....	....	6564.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	32.0	.....
			-6379.	.....		-6379.	.....									
016S	187.		6950.	.....	....	6950.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	345.0	.....
			-6763.	.....		-6763.	.....									
DIERI																
001S	212.		7703.	.....	....	7703.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	286.0	.....
			-7491.	.....		-7491.	.....									
DULLINGARI																
045S	288.		8804.	9310.	506.	8804.	9310.	506.	85.0	85.0	8.5	45.0	18/12/1989	3.97	694.0	1200.0
			-8516.	-9022.		-8516.	-9022.									

FIELD: AQUIFER STUDY SAND: G FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
KERNA																
002S	287.		8640.	8814.	174.	8640.	8814.	174.	20.0	20.0	10.5	100.0	18/12/1989	0.00	428.0	602.0
			-8353.	-8527.		-8353.	-8527.									
003S	291.		8260.	8289.	29.	8260.	8289.	29.	16.0	16.0	10.9	25.0	18/12/1989	1.31	286.0	315.0
			-7969.	-7998.		-7969.	-7998.									
KIDMAN																
003S	252.		7462.	.....	....	7462.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	233.0	.....
			-7210.	.....		-7210.	.....									
005S	232.		7212.	.....	....	7212.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	198.0	.....
			-6980.	.....		-6980.	.....									
KIDMAN NORTH																
001S	256.		7474.	.....	....	7474.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	346.0	.....
			-7218.	.....		-7218.	.....									
LEPENA																
001S	233.		7367.	.....	....	7367.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	600.0	.....
			-7134.	.....		-7134.	.....									
MARABOOKA																
004S	185.		7088.	7212.	124.	7088.	7212.	124.	68.0	68.0	10.3	83.3	13/12/1989	1.17	443.0	567.0
			-6903.	-7027.		-6903.	-7027.									
MARAKU																
001S	315.		7348.	.....	....	7348.	.....	....	.....	.....	0.0	0.0	29/11/1989	.....	320.0	.....
			-7033.	.....		-7033.	.....									
MARANA																
001S	216.		6714.	.....	....	6714.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	222.0	.....
			-6498.	.....		-6498.	.....									
MARSILEA																
001S	293.		7998.	.....	....	7998.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	408.0	.....
			-7705.	.....		-7705.	.....									
METTIKA																
001S	295.		7967.	8096.	129.	7967.	8096.	129.	34.0	34.0	10.7	29.1	13/12/1989	2.59	305.0	434.0
			-7672.	-7801.		-7672.	-7801.									
MINA																
001S	137.		7470.	7651.	181.	7470.	7651.	181.	28.0	28.0	9.8	38.1	13/12/1989	1.70	420.0	601.0
			-7333.	-7514.		-7333.	-7514.									
MUDERA																
001S	147.		7382.	7528.	146.	7382.	7528.	146.	45.0	45.0	9.9	60.4	13/12/1989	1.76	469.0	615.0
			-7235.	-7381.		-7235.	-7381.									
004S	147.		7504.	7652.	148.	7504.	7652.	148.	127.0	127.0	9.4	94.0	18/12/1989	0.72	471.0	619.0
			-7357.	-7505.		-7357.	-7505.									
MUNKARIE																
002S	294.		7486.	.....	....	7486.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	366.0	.....
			-7192.	.....		-7192.	.....									
003S	269.		7552.	7638.	86.	7552.	7638.	86.	8.0	8.0	9.6	72.6	13/12/1989	0.21	332.0	418.0
			-7283.	-7369.		-7283.	-7369.									
005S	297.		7770.	7928.	158.	7770.	7928.	158.	0.0	0.0	0.0	100.0	13/12/1989	0.00	457.0	615.0
			-7473.	-7631.		-7473.	-7631.									

SANTOS EXPLORATION DATA BASE — SAND SUMMARY REPORT — 06 MAR 90 16:04:27

FIELD: AQUIFER STUDY — SAND: G — FORMATION: PATCHAWARRA — REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV	IFTR	IFBR
													REMARKS			
NANIMA																
001S	182.		6837.	.....	....	6837.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	307.0	.....
			-6655.	.....		-6655.	.....									
NAPPACOONGEE																
001S	282.		6564.	.....	....	6564.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	174.0	.....
			-6282.	.....		-6282.	.....									
NARCOONOWIE																
001S	183.		6112.	.....	....	6112.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	66.0	.....
			-5929.	.....		-5929.	.....									
PIRA																
001S	274.		8782.	9000.	218.	8782.	9000.	218.	.....	.....	0.0	0.0	30/11/1989	.....	713.0	931.0
			-8508.	-8726.		-8508.	-8726.									
POORAKA																
001S	254.		7384.	.....	....	7384.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	446.0	.....
			-7130.	.....		-7130.	.....									
STRZELECKI																
002S	187.		6958.	.....	....	6958.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	553.0	.....
			-6771.	.....		-6771.	.....									
010S	217.		6683.	.....	....	6683.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	94.0	.....
			-6466.	.....		-6466.	.....									
024S	218.		6728.	.....	....	6728.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	163.0	.....
			-6510.	.....		-6510.	.....									
TARWONGA																
001S	207.		7818.	.....	....	7818.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	264.0	.....
			-7611.	.....		-7611.	.....									
TILPAREE A																
001S	150.		6855.	.....	....	6855.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	245.0	.....
			-6705.	.....		-6705.	.....									
TOOLACHEE																
002S	240.		7146.	.....	....	7146.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	182.0	.....
			-6906.	.....		-6906.	.....									
014S	236.		7440.	.....	....	7440.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	290.0	.....
			-7204.	.....		-7204.	.....									
037S	260.		7560.	.....	....	7560.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	374.0	.....
			-7301.	.....		-7301.	.....									
039S	255.		7928.	8199.	271.	7928.	8199.	271.	12.0	12.0	12.6	23.9	13/12/1989	1.15	420.0	691.0
			-7673.	-7944.		-7673.	-7944.									
TOOLACHEE EAST																
001S	231.		8198.	8370.	172.	8198.	8370.	172.	50.0	50.0	10.4	48.1	13/12/1989	2.69	598.0	770.0
			-7967.	-8139.		-7967.	-8139.									
WANARA																
001S	216.		6726.	.....	....	6726.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	462.0	.....
			-6510.	.....		-6510.	.....									
WILPINNIE																
001S	260.		7618.	.....	....	7618.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	619.0	.....
			-7358.	.....		-7358.	.....									

FIELD: AQUIFER STUDY SAND: G FORMATION: PATCHAWARRA
REF. FORMATION: TOP PATCHAWARRA

WELL	KB	GP	GROSS SAND TOP	GROSS SAND BASE	GROSS SAND INT	NET SAND TOP	NET SAND BASE	NET SAND INT	NET SAND	NET PAY	POR PAY	SW PAY	UPDATED	HPV REMARKS	IFTR	IFBR
WITCHETTY																
001S	239.		7154.	.....	....	7154.	.....	....	.....	.....	0.0	0.0	30/11/1989	.....	180.0	.....
			-6915.	.....		-6915.	.....									

			TOTAL PAY	AV POR	AV SW
		FIELD SUMMARY	526.0	9.8	63.2
AQUIFER STUDY	A	SAND SUMMARY SHEET COMPLETED			
AQUIFER STUDY	B	SAND SUMMARY SHEET COMPLETED			
AQUIFER STUDY	C	SAND SUMMARY SHEET COMPLETED			
AQUIFER STUDY	D	SAND SUMMARY SHEET COMPLETED			
AQUIFER STUDY	E	SAND SUMMARY SHEET COMPLETED			
AQUIFER STUDY	F	SAND SUMMARY SHEET COMPLETED			
AQUIFER STUDY	G	SAND SUMMARY SHEET COMPLETED			

SAND SUMMARY SHEET REPORTS ALL COMPLETED.

APPENDIX B

OGIP FOR EACH PACKAGE

S.E.COOPER BASIN AQUIFER STUDY - OGIP

HYDROCARBON VOLUMES

Unit A

wellname	BRV acft	BPV por.acf	BPV res.bbl
AMYEMA	0	0	0
BARATTA	0	0	0
BRUMBY	0	0	0
DELLA	51,570	8,402	6.52E+07
DILCHEE	0	0	0
DULLINGARI	21,946	2,321	1.80E+07
KERNA	0	0	0
KIDMAN COMPLEX	1,395	169	1.31E+06
MARANA	634	112	8.69E+05
MARABOOKA	0	0	0
MARSILEA	0	0	0
METTIKA	0	0	0
MUDERA	14,199	2,243	1.74E+07
MUNKARIE	12,573	1,609	1.25E+07
MUNDI	0	0	0
PIRA	0	0	0
STRZELECKI	0	0	0
TOOLACHEE	0	0	0
WANARA	0	0	0
WILPINNIE	0	0	0
			1.15E+08

S.E.COOPER BASIN AQUIFER STUDY - OGIP

HYDROCARBON VOLUMES

Unit B

wellname	BRV acft	BPV por.acf	BPV res.bbl
AMYEMA	0	0	0
BARATTA	0	0	0
BRUMBY	0	0	0
DELLA	703,342	152,428	1.18E+09
DILCHEE	0	0	0
DULLINGARI	442,315	66,577	5.17E+08
KERNA	0	0	0
KIDMAN COMPLEX	120,452	16,662	1.29E+08
MARANA	1,809	279	2.16E+06
MARABOOKA	46,449	8,180	6.35E+07
MARSILEA	0	0	0
METTIKA	0	0	0
MUDERA	12,521	1,804	1.40E+07
MUNKARIE	30,197	3,940	3.06E+07
MUNDI	0	0	0
PIRA	1,685	204	1.58E+06
STRZELECKI	80,618	13,416	1.04E+08
TOOLACHEE	0	0	0
WANARA	4,896	866	6.72E+06
WILPINNIE	0	0	0
			2.05E+09

S.E.COOPER BASIN AQUIFER STUDY - OGIP

HYDROCARBON VOLUMES

Unit C

wellname	BRV acft	BPV por.acf	BPV res.bbl
AMYEMA	0	0	0
BARATTA	0	0	0
BRUMBY	0	0	0
DELLA	0	0	0
DILCHEE	0	0	0
DULLINGARI	82,632	10,564	8.20E+07
KERNA	0	0	0
KIDMAN COMPLEX	177,881	26,270	2.04E+08
MARANA	2,260	398	3.09E+06
MARABOOKA	56,355	9,463	7.34E+07
MARSILEA	0	0	0
METTIKA	0	0	0
MUDERA	0	0	0
MUNKARIE	0	0	0
MUNDI	0	0	0
PIRA	224	41	3.18E+05
STRZELECKI	82,299	14,716	1.14E+08
TOOLACHEE	0	0	0
WANARA	0	0	0
WILPINNIE	0	0	0
			4.77E+08

S.E.COOPER BASIN AQUIFER STUDY - OGIP

HYDROCARBON VOLUMES

Unit D

wellname	BRV acft	BPV por.acf	BPV res.bbl
AMYEMA	0	0	0
BARATTA	871	177	1.37E+06
BRUMBY	22,290	2,961	2.30E+07
DELLA	117,249	22,607	1.75E+08
DILCHEE	10,948	1,190	9.23E+06
DULLINGARI	82,632	10,564	8.20E+07
KERNA	6,280	702	5.45E+06
KIDMAN COMPLEX	33,509	5,539	4.30E+07
MARANA	0	0	0
MARABOOKA	0	0	0
MARSILEA	12	2	1.55E+04
METTIKA	3,860	391	3.03E+06
MUDERA	12,172	1,509	1.17E+07
MUNKARIE	83,321	13,036	1.01E+08
MUNDI	14,191	1,531	1.19E+07
PIRA	10,317	1,181	9.16E+06
STRZELECKI	0	0	0
TOOLACHEE	433,298	51,995.8	4.03E+08
WANARA	0	0	0
WILPINNIE	9,589	1,125	8.73E+06
			8.88E+08

S.E.COOPER BASIN AQUIFER STUDY - OGIP

HYDROCARBON VOLUMES

Unit E

wellname	BRV acft	BPV por.acf	BPV res.bbl
AMYEMA	11,749	1,682	1.30E+07
BARATTA	0	0	0
BRUMBY	20,973	3,102	2.41E+07
DELLA	0	0	0
DILCHEE	6,708	688	5.34E+06
DULLINGARI	201,292	19,646	1.52E+08
KERNA	30,857	3,172	2.46E+07
KIDMAN COMPLEX	124,050	18,224	1.41E+08
MARANA	0	0	0
MARABOOKA	0	0	0
MARSILEA	11,386	1,545	1.20E+07
METTIKA	89,483	10,560	8.19E+07
MUDERA	0	0	0
MUNKARIE	75,155	11,402	8.85E+07
MUNDI	0	0	0
PIRA	33,590	2,495	1.94E+07
STRZELECKI	0	0	0
TOOLACHEE	252,902	0	0
WANARA	0	0	0
WILPINNIE	0	0	0
			5.63E+08

S.E.COOPER BASIN AQUIFER STUDY - OGIP

HYDROCARBON VOLUMES

Unit F

wellname	BRV acft	BPV por.acf	BPV res.bbl
AMYEMA	19,106	2,699	2.09E+07
BARATTA	0	0	0
BRUMBY	0	0	0
DELLA	0	0	0
DILCHEE	2,962	335	2.60E+06
DULLINGARI	41,495	4,404	3.42E+07
KERNA	15,010	1,576	1.22E+07
KIDMAN COMPLEX	0	0	0
MARANA	0	0	0
MARABOOKA	0	0	0
MARSILEA	24,154	3,501	2.72E+07
METTIKA	103,855	10,815	8.39E+07
MUDERA	0	0	0
MUNKARIE	0	0	0
MUNDI	0	0	0
PIRA	7,700	838	6.50E+06
STRZELECKI	0	0	0
TOOLACHEE	59,953	7,075	5.49E+07
WANARA	0	0	0
WILPINNIE	0	0	0
			2.42E+08

S.E.COOPER BASIN AQUIFER STUDY - OGIP

HYDROCARBON VOLUMES

Unit G

wellname	BRV acft	BPV por.acf	BPV res.bbl
AMYEMA	0	0	0
BARATTA	0	0	0
BRUMBY	0	0	0
DELLA	0	0	0
DILCHEE	14,575	1,451	1.13E+07
DULLINGARI	21,971	2,537	1.97E+07
KERNA	0	0	0
KIDMAN COMPLEX	0	0	0
MARANA	0	0	0
MARABOOKA	0	0	0
MARSILEA	0	0	0
METTIKA	0	0	0
MUDERA	0	0	0
MUNKARIE	0	0	0
MUNDI	0	0	0
PIRA	0	0	0
STRZELECKI	0	0	0
TOOLACHEE	2,136	302	2.34E+06
WANARA	0	0	0
WILPINNIE	0	0	0
			3.33E+07

APPENDIX C

PORE VOLUMES FOR EACH

PACKAGE

AQUIFER PROJECT	Block #	TOTAL PORE VOLUME net vol yd2ft	TOTAL PORE VOLUME Net vol Barrels	HYDROCARBON VOLUME Vol BCF	HYDROCARBON VOLUME BPV res.bbls	NET VOLUME Active Water res.bbls
SAND A	1	1.7540E+08	2.81E+08			2.8115E+08
	2	1.0009E+08	1.60E+08			1.6043E+08
	3	5.8261E+07	9.34E+07			9.3387E+07
	4	9.0828E+07	1.46E+08			1.4559E+08
	5	1.1765E+08	1.89E+08			1.8858E+08
	6	1.6331E+08	2.62E+08			2.6178E+08
	7	1.2572E+08	2.02E+08			2.0152E+08
	8	4.8069E+07	7.70E+07			7.7050E+07
	9	7.0690E+06	1.13E+07			1.1331E+07
	10	2.8053E+05	4.50E+05			4.4966E+05
	11	2.5532E+08	4.09E+08			4.0925E+08
	12	2.1508E+08	3.45E+08	1.00E+00	1.6200E+06	3.4313E+08
	13	3.6696E+07	5.88E+07	1.00E+00	1.6200E+06	5.7201E+07
	14	2.8012E+06	4.49E+06	1.00E+00	1.6200E+06	2.8700E+06
	15	5.2177E+06	8.36E+06			8.3634E+06
	16	4.6030E+07	7.38E+07			7.3782E+07
	17	5.4814E+07	8.79E+07	5.00E-01	8.1000E+05	8.7051E+07
	18	3.8441E+07	6.16E+07	4.00E-01	6.4800E+05	6.0969E+07
	19	1.5488E+07	2.48E+07			2.4826E+07
	20	1.2941E+06	2.07E+06			2.0743E+06
	21	1.2690E+08	2.03E+08			2.0341E+08
	22	1.0281E+08	1.65E+08	3.12E+01	5.0593E+07	1.1420E+08
	23	1.1819E+07	1.89E+07	1.00E+00	1.6200E+06	1.7324E+07
	24	7.7494E+06	1.24E+07	1.00E+00	1.6200E+06	1.0801E+07
	25	1.6580E+07	2.66E+07			2.6577E+07
	26	2.7743E+07	4.45E+07			4.4469E+07
	27	3.8418E+07	6.16E+07	3.00E+00	4.8600E+06	5.6720E+07
	28	2.9366E+07	4.71E+07	6.90E+00	1.1178E+07	3.5892E+07
	29	1.3329E+07	2.14E+07	1.00E-01	1.6200E+05	2.1203E+07
	30	2.6308E+06	4.22E+06			4.2170E+06
	31	3.7057E+07	5.94E+07	1.00E+01	1.6200E+07	4.3199E+07
	32	3.4242E+07	5.49E+07	5.00E+00	8.1000E+06	4.6786E+07
	33	2.3208E+07	3.72E+07			3.7201E+07
	34	1.4085E+07	2.26E+07			2.2577E+07
	35	2.1019E+07	3.37E+07			3.3691E+07
	36	3.7258E+07	5.97E+07			5.9721E+07
	37	2.8576E+07	4.58E+07			4.5805E+07
	38	8.9912E+06	1.44E+07			1.4412E+07
	39	1.5960E+06	2.56E+06			2.5582E+06
	40	7.3659E+05	1.18E+06			1.1807E+06
	41	2.6352E+07	4.22E+07			4.2240E+07
	42	3.2885E+07	5.27E+07			5.2711E+07
	43	3.1190E+07	5.00E+07			4.9995E+07
	44	4.8714E+07	7.81E+07	6.00E-01	9.7200E+05	7.7112E+07
	45	4.6384E+07	7.43E+07			7.4349E+07
	46	4.4795E+07	7.18E+07	7.00E-01	1.1340E+06	7.0668E+07
	47	1.0921E+07	1.75E+07			1.7505E+07
	48	1.5535E+06	2.49E+06			2.4902E+06
	49	1.6186E+06	2.59E+06			2.5944E+06
	50	2.6764E+05	4.29E+05			4.2900E+05

51	4.9780E+07	7.98E+07			7.9792E+07
52	5.5675E+07	8.92E+07			8.9241E+07
53	2.5420E+07	4.07E+07			4.0747E+07
54	2.6183E+07	4.20E+07			4.1969E+07
55	3.5614E+07	5.71E+07			5.7085E+07
56	2.2799E+07	3.65E+07			3.6544E+07
57	1.4830E+07	2.38E+07			2.3771E+07
58	1.2975E+07	2.08E+07			2.0798E+07
59	5.2909E+06	8.48E+06			8.4809E+06
60	1.0334E+06	1.66E+06			1.6564E+06
61	6.8215E+07	1.09E+08			1.0934E+08
62	6.0280E+07	9.66E+07			9.6623E+07
63	3.5585E+07	5.70E+07			5.7039E+07
64	1.5118E+07	2.42E+07			2.4233E+07
65	1.9876E+07	3.19E+07			3.1859E+07
66	4.1520E+07	6.66E+07			6.6552E+07
67	4.0978E+07	6.57E+07			6.5684E+07
68	3.1651E+07	5.07E+07			5.0734E+07
69	2.0614E+07	3.30E+07			3.3043E+07
70	7.4072E+06	1.19E+07			1.1873E+07
71	7.1092E+07	1.14E+08			1.1395E+08
72	6.2923E+07	1.01E+08			1.0086E+08
73	3.4507E+07	5.53E+07			5.5311E+07
74	2.1291E+07	3.41E+07			3.4127E+07
75	3.2241E+07	5.17E+07			5.1680E+07
76	4.4505E+07	7.13E+07			7.1337E+07
77	2.6719E+07	4.28E+07			4.2828E+07
78	3.4277E+07	5.49E+07			5.4943E+07
79	3.9986E+07	6.41E+07			6.4094E+07
80	2.4100E+07	3.86E+07			3.8630E+07
81	4.2088E+07	6.75E+07			6.7463E+07
82	5.6820E+07	9.11E+07			9.1077E+07
83	2.9142E+07	4.67E+07			4.6712E+07
84	1.5658E+07	2.51E+07			2.5098E+07
85	1.9962E+07	3.20E+07			3.1997E+07
86	2.2322E+07	3.58E+07			3.5780E+07
87	9.4166E+06	1.51E+07			1.5094E+07
88	3.0866E+07	4.95E+07			4.9474E+07
89	3.3073E+07	5.30E+07			5.3013E+07
90	2.1422E+07	3.43E+07			3.4337E+07
91	4.2505E+07	6.81E+07			6.8132E+07
92	3.5953E+07	5.76E+07			5.7629E+07
93	1.3775E+07	2.21E+07			2.2080E+07
94	3.9210E+06	6.29E+06			6.2850E+06
95	3.5674E+06	5.72E+06			5.7181E+06
96	3.7618E+07	6.03E+07			6.0298E+07
97	9.8892E+07	1.59E+08			1.5851E+08
98	9.7830E+07	1.57E+08	7.70E+00	1.2474E+07	1.4434E+08
99	4.5483E+07	7.29E+07			7.2905E+07
100	1.7319E+07	2.78E+07			2.7760E+07
Total	4.0468E+09	6.49E+09	7.11E+01	1.1500E+08	6.3716E+09
Total (entire blo	4.4760E+09	7.17E+09	7.11E+01	1.1523E+08	7.0594E+09
Difference	4.2927E+08	6.88E+08		2.3060E+05	6.8785E+08
Difference (%)	9.5904E-02	9.59E-02		2.0012E-03	9.7437E-02

AQUIFER PROJECT	TOTAL PORE VOLUME		HYDROCARBON VOLUME		NET VOLUME
Block #	net vol yd2ft	Net vol Barrels	Volume BCF	BPV res.bbls	Active Water res.bbls
1	6.0339E+07	9.67E+07			9.6718E+07
2	8.2935E+07	1.33E+08			1.3294E+08
3	1.2734E+08	2.04E+08			2.0412E+08
4	1.5977E+08	2.56E+08			2.5610E+08
5	2.4440E+08	3.92E+08			3.9174E+08
6	2.5808E+08	4.14E+08			4.1368E+08
7	2.2326E+08	3.58E+08			3.5786E+08
8	1.7047E+08	2.73E+08			2.7325E+08
9	1.0502E+08	1.68E+08			1.6833E+08
10	2.5980E+07	4.16E+07			4.1644E+07
11	3.8403E+07	6.16E+07			6.1556E+07
12	1.0449E+08	1.67E+08	2.50E+01	4.3606E+07	1.2388E+08
13	3.0453E+08	4.88E+08	1.25E+02	2.1803E+08	2.7009E+08
14	4.2160E+08	6.76E+08	1.25E+02	2.1803E+08	4.5775E+08
15	3.0789E+08	4.94E+08			4.9351E+08
16	2.9663E+08	4.75E+08			4.7547E+08
17	2.8567E+08	4.58E+08	1.66E+01	2.8954E+07	4.2894E+08
18	2.2919E+08	3.67E+08	1.00E+01	1.7442E+07	3.4993E+08
19	1.5485E+08	2.48E+08			2.4821E+08
20	5.3093E+07	8.51E+07			8.5103E+07
21	9.2006E+07	1.47E+08			1.4748E+08
22	1.5818E+08	2.54E+08	7.50E+01	1.3082E+08	1.2273E+08
23	3.2589E+08	5.22E+08	2.32E+02	4.0506E+08	1.1731E+08
24	3.3478E+08	5.37E+08	7.50E+01	1.3082E+08	4.0580E+08
25	2.7337E+08	4.38E+08			4.3819E+08
26	2.7149E+08	4.35E+08			4.3517E+08
27	2.7938E+08	4.48E+08	1.50E+02	2.6102E+08	1.8679E+08
28	2.3237E+08	3.72E+08	1.54E+02	2.6783E+08	1.0463E+08
29	2.1614E+08	3.46E+08	2.66E+01	4.6397E+07	3.0005E+08
30	1.0079E+08	1.62E+08			1.6156E+08
31	1.1388E+08	1.83E+08	1.07E+01	1.8663E+07	1.6387E+08
32	1.5647E+08	2.51E+08	3.61E+01	6.2967E+07	1.8784E+08
33	1.5521E+08	2.49E+08			2.4879E+08
34	1.5890E+08	2.55E+08			2.5470E+08
35	2.3212E+08	3.72E+08			3.7206E+08
36	2.5468E+08	4.08E+08	3.20E+00	5.5816E+06	4.0265E+08
37	1.8157E+08	2.91E+08			2.9104E+08
38	1.7292E+08	2.77E+08			2.7717E+08
39	2.7060E+08	4.34E+08	1.00E+00	1.7442E+06	4.3200E+08
40	1.5201E+08	2.44E+08			2.4366E+08
41	1.1036E+08	1.77E+08			1.7689E+08
42	1.4617E+08	2.34E+08			2.3430E+08
43	1.1866E+08	1.90E+08	5.66E+01	9.8724E+07	9.1478E+07
44	1.6905E+08	2.71E+08	1.90E+00	3.3140E+06	2.6765E+08
45	2.4866E+08	3.99E+08	4.00E+00	6.9769E+06	3.9161E+08
46	3.8708E+08	6.20E+08	2.50E+01	4.3606E+07	5.7684E+08
47	2.0107E+08	3.22E+08	3.00E+00	5.2327E+06	3.1706E+08
48	1.3710E+08	2.20E+08			2.1975E+08
49	2.1460E+08	3.44E+08			3.4399E+08
50	1.5585E+08	2.50E+08			2.4982E+08
51	2.0744E+08	3.33E+08			3.3251E+08

52	2.5200E+08	4.04E+08			4.0392E+08
53	1.7502E+08	2.81E+08	6.00E-01	1.0465E+06	2.7949E+08
54	2.8809E+08	4.62E+08			4.6177E+08
55	2.0452E+08	3.28E+08			3.2782E+08
56	3.9904E+08	6.40E+08	2.00E+00	3.4885E+06	6.3613E+08
57	2.1181E+08	3.40E+08			3.3950E+08
58	1.7427E+08	2.79E+08			2.7934E+08
59	2.1339E+08	3.42E+08			3.4205E+08
60	1.0221E+08	1.64E+08			1.6384E+08
61	2.4278E+08	3.89E+08			3.8915E+08
62	2.3163E+08	3.71E+08			3.7128E+08
63	2.6686E+08	4.28E+08			4.2774E+08
64	4.2662E+08	6.84E+08			6.8382E+08
65	4.3445E+08	6.96E+08			6.9638E+08
66	3.4123E+08	5.47E+08			5.4696E+08
67	2.1983E+08	3.52E+08			3.5236E+08
68	2.5442E+08	4.08E+08			4.0781E+08
69	2.3286E+08	3.73E+08			3.7325E+08
70	9.6223E+07	1.54E+08			1.5424E+08
71	2.3511E+08	3.77E+08			3.7686E+08
72	1.9090E+08	3.06E+08			3.0600E+08
73	2.3264E+08	3.73E+08			3.7290E+08
74	3.5094E+08	5.63E+08			5.6252E+08
75	3.6235E+08	5.81E+08			5.8081E+08
76	2.5191E+08	4.04E+08			4.0379E+08
77	2.7993E+08	4.49E+08			4.4869E+08
78	2.4256E+08	3.89E+08			3.8879E+08
79	1.8504E+08	2.97E+08			2.9660E+08
80	5.4646E+07	8.76E+07			8.7592E+07
81	2.2549E+08	3.61E+08			3.6144E+08
82	1.9830E+08	3.18E+08			3.1785E+08
83	2.0649E+08	3.31E+08			3.3098E+08
84	2.4454E+08	3.92E+08			3.9197E+08
85	2.4322E+08	3.90E+08			3.8986E+08
86	1.9211E+08	3.08E+08			3.0794E+08
87	1.5751E+08	2.52E+08			2.5247E+08
88	1.6463E+08	2.64E+08			2.6388E+08
89	2.2264E+08	3.57E+08			3.5687E+08
90	5.8335E+07	9.35E+07			9.3505E+07
91	2.3461E+08	3.76E+08			3.7605E+08
92	2.4349E+08	3.90E+08			3.9030E+08
93	2.4408E+08	3.91E+08			3.9123E+08
94	2.4116E+08	3.87E+08			3.8656E+08
95	2.2581E+08	3.62E+08			3.6195E+08
96	2.0356E+08	3.26E+08			3.2629E+08
97	1.8134E+08	2.91E+08			2.9067E+08
98	2.0149E+08	3.23E+08	1.70E+01	2.9652E+07	2.9332E+08
99	2.3979E+08	3.84E+08	1.80E+00	3.1396E+06	3.8122E+08
100	7.1185E+07	1.14E+08			1.1410E+08
Total	2.1036E+10	3.37E+10	1.18E+01	2.0500E+09	3.1668E+10
Total(en	2.3781E+12	3.81E+10	1.18E+01	2.0521E+09	3.6066E+10
Differen	2.3570E+12	4.40E+09		-2.146E+06	4.3978E+09
Differen	9.9115E+01	1.15E-01		-1.046E-03	1.2194E-01

AQUIFER PROJECT	Block #	TOTAL PORE VOLUME net vol yd2ft	TOTAL PORE VOLUME Net vol Barrels	HYDROCARBON VOLUME Vol BCF	HYDROCARBON VOLUME BPV res.bbls	NET VOLUME Active Water res.bbls
SAND C	1	1.3618E+06	2.18E+06			2.1829E+06
	2	5.5422E+05	8.88E+05			8.8836E+05
	3	1.8382E+06	2.95E+06			2.9464E+06
	4	1.2828E+07	2.06E+07			2.0563E+07
	5	1.3240E+08	2.12E+08			2.1223E+08
	6	1.7172E+08	2.75E+08			2.7525E+08
	7	1.1139E+08	1.79E+08			1.7855E+08
	8	7.0547E+07	1.13E+08			1.1308E+08
	9	3.6199E+07	5.80E+07			5.8023E+07
	10	6.6197E+06	1.06E+07			1.0611E+07
	11	2.1583E+06	3.46E+06			3.4595E+06
	12	2.1797E+06	3.49E+06			3.4939E+06
	13	1.5080E+06	2.42E+06			2.4172E+06
	14	2.1709E+07	3.48E+07			3.4797E+07
	15	7.3838E+07	1.18E+08			1.1835E+08
	16	9.3370E+07	1.50E+08			1.4966E+08
	17	6.1517E+07	9.86E+07	3.00E+00	5.1661E+06	9.3440E+07
	18	4.6447E+07	7.44E+07	4.00E+00	6.8881E+06	6.7562E+07
	19	3.7062E+07	5.94E+07			5.9406E+07
	20	2.3812E+07	3.82E+07			3.8168E+07
	21	1.8734E+06	3.00E+06			3.0028E+06
	22	3.1498E+07	5.05E+07	1.00E+00	1.7220E+06	4.8767E+07
	23	2.7444E+07	4.40E+07			4.3990E+07
	24	4.0636E+07	6.51E+07			6.5136E+07
	25	6.7993E+07	1.09E+08			1.0899E+08
	26	7.1435E+07	1.15E+08			1.1450E+08
	27	3.2541E+07	5.22E+07	1.62E+01	2.7897E+07	2.4263E+07
	28	3.8433E+07	6.16E+07	1.71E+01	2.9447E+07	3.2157E+07
	29	9.2735E+07	1.49E+08	9.40E+00	1.6187E+07	1.3246E+08
	30	6.2823E+07	1.01E+08			1.0070E+08
	31	3.6705E+06	5.88E+06	3.30E+00	5.6827E+06	2.0080E+05
	32	1.4975E+08	2.40E+08	3.70E+01	6.3715E+07	1.7632E+08
	33	1.1747E+08	1.88E+08	1.00E+00	1.7220E+06	1.8657E+08
	34	3.8834E+07	6.22E+07	1.00E+00	1.7220E+06	6.0525E+07
	35	7.6398E+07	1.22E+08	1.01E+01	1.7392E+07	1.0507E+08
	36	1.6790E+08	2.69E+08			2.6913E+08
	37	1.2893E+08	2.07E+08			2.0667E+08
	38	8.1084E+07	1.30E+08			1.2997E+08
	39	1.3300E+08	2.13E+08			2.1319E+08
	40	8.0798E+07	1.30E+08			1.2951E+08
	41	1.5824E+06	2.54E+06			2.5365E+06
	42	4.6135E+07	7.39E+07			7.3950E+07
	43	4.3137E+07	6.91E+07	3.09E+01	5.3210E+07	1.5934E+07
	44	1.0657E+08	1.71E+08	2.88E+01	4.9594E+07	1.2123E+08
	45	1.4066E+08	2.25E+08	1.50E+01	2.5830E+07	1.9964E+08
	46	2.4454E+08	3.92E+08	6.30E+01	1.0849E+08	2.8348E+08
	47	2.3197E+08	3.72E+08	1.50E+01	2.5830E+07	3.4599E+08
	48	1.6736E+08	2.68E+08			2.6826E+08
	49	1.6635E+08	2.67E+08			2.6664E+08
	50	8.7849E+07	1.41E+08			1.4081E+08
	51	2.1861E+06	3.50E+06			3.5041E+06

52	1.5404E+06	2.47E+06			2.4690E+06
53	6.2340E+07	9.99E+07	5.80E+00	9.9877E+06	8.9937E+07
54	1.1313E+08	1.81E+08	1.50E+01	2.5830E+07	1.5550E+08
55	1.1244E+08	1.80E+08			1.8023E+08
56	1.4966E+08	2.40E+08			2.3989E+08
57	1.7349E+08	2.78E+08			2.7808E+08
58	1.6943E+08	2.72E+08			2.7159E+08
59	1.7396E+08	2.79E+08			2.7885E+08
60	9.1601E+07	1.47E+08			1.4683E+08
61	2.1154E+06	3.39E+06			3.3908E+06
62	1.3151E+06	2.11E+06			2.1079E+06
63	4.4737E+07	7.17E+07			7.1709E+07
64	1.0426E+08	1.67E+08			1.6711E+08
65	1.1189E+08	1.79E+08			1.7935E+08
66	9.9393E+07	1.59E+08			1.5932E+08
67	1.1029E+08	1.77E+08			1.7678E+08
68	1.3350E+08	2.14E+08			2.1398E+08
69	1.4505E+08	2.33E+08			2.3251E+08
70	8.3570E+07	1.34E+08			1.3395E+08
71	1.3985E+07	2.24E+07			2.2416E+07
72	3.0727E+06	4.93E+06			4.9253E+06
73	7.8753E+07	1.26E+08			1.2623E+08
74	1.2059E+08	1.93E+08			1.9329E+08
75	1.0083E+08	1.62E+08			1.6163E+08
76	9.4739E+07	1.52E+08			1.5186E+08
77	1.4849E+08	2.38E+08			2.3802E+08
78	1.8193E+08	2.92E+08			2.9161E+08
79	1.7081E+08	2.74E+08			2.7379E+08
80	7.7120E+07	1.24E+08			1.2362E+08
81	3.9887E+07	6.39E+07			6.3935E+07
82	1.1043E+07	1.77E+07			1.7700E+07
83	1.1106E+08	1.78E+08			1.7803E+08
84	1.1951E+08	1.92E+08			1.9156E+08
85	8.1988E+07	1.31E+08			1.3142E+08
86	1.1130E+08	1.78E+08			1.7840E+08
87	1.8749E+08	3.01E+08			3.0053E+08
88	2.8810E+08	4.62E+08			4.6179E+08
89	2.4574E+08	3.94E+08			3.9390E+08
90	8.5547E+07	1.37E+08			1.3712E+08
91	6.4224E+06	1.03E+07			1.0295E+07
92	3.4687E+05	5.56E+05			5.5601E+05
93	2.4272E+07	3.89E+07			3.8905E+07
94	2.0152E+07	3.23E+07			3.2302E+07
95	1.6614E+07	2.66E+07			2.6631E+07
96	8.6859E+07	1.39E+08			1.3923E+08
97	1.9938E+08	3.20E+08			3.1959E+08
98	2.5778E+08	4.13E+08			4.1320E+08
99	1.4553E+08	2.33E+08			2.3326E+08
100	5.6429E+07	9.05E+07			9.0450E+07
Total	8.5621E+09	1.37E+10	2.77E+00	4.7700E+08	1.3247E+10
Total(en	8.8635E+11	1.42E+10	2.77E+00	4.7631E+08	1.3731E+10
Differen	8.7779E+11	4.83E+08		-6.887E+05	4.8379E+08
Differen	9.9034E+01	3.40E-02		-1.446E-03	3.5234E-02

AQUIFER PROJECT		TOTAL PORE VOLUME		HYDROCARBON VOLUME		NET VOLUME
	Block #	net vol yd2ft	Net vol Barrels	Vol BCF	BPV res.bbls	Active Water res.bbls
SAND D	1	1.4738E+07	2.36E+07			2.3624E+07
	2	6.8190E+06	1.09E+07			1.0930E+07
	3	1.0103E+06	1.62E+06			1.6194E+06
	4	2.1969E+07	3.52E+07			3.5214E+07
	5	5.0779E+07	8.14E+07			8.1394E+07
	6	1.8607E+07	2.98E+07	1.20E+00	1.5660E+06	2.8260E+07
	7	2.9823E+06	4.78E+06			4.7804E+06
	8	2.0241E+05	3.24E+05			3.2444E+05
	9	1.1217E+06	1.80E+06			1.7980E+06
	10	2.4078E+05	3.86E+05			3.8594E+05
	11	6.6837E+05	1.07E+06			1.0713E+06
	12	1.3455E+07	2.16E+07			2.1567E+07
	13	5.3813E+07	8.63E+07	2.00E+01	2.6100E+07	6.0157E+07
	14	1.1064E+08	1.77E+08	2.00E+01	2.6100E+07	1.5125E+08
	15	2.9996E+08	4.81E+08	2.00E+00	2.6100E+06	4.7819E+08
	16	1.8059E+08	2.89E+08	2.00E+00	2.6100E+06	2.8686E+08
	17	7.2881E+07	1.17E+08	2.22E+01	2.8971E+07	8.7851E+07
	18	1.2626E+07	2.02E+07	1.00E+01	1.3050E+07	7.1880E+06
	19	5.8923E+05	9.44E+05			9.4448E+05
	20	4.6598E+04	7.47E+04			7.4692E+04
	21	3.0940E+07	4.96E+07			4.9594E+07
	22	4.5890E+07	7.36E+07	2.00E+01	2.6100E+07	4.7457E+07
	23	4.1697E+07	6.68E+07	2.00E+01	2.6100E+07	4.0736E+07
	24	9.3605E+07	1.50E+08	1.75E+01	2.2838E+07	1.2720E+08
	25	1.9449E+08	3.12E+08			3.1175E+08
	26	2.2130E+08	3.55E+08			3.5472E+08
	27	1.9150E+08	3.07E+08	4.32E+01	5.6376E+07	2.5058E+08
	28	8.7743E+07	1.41E+08	6.30E+01	8.2215E+07	5.8429E+07
	29	1.6248E+07	2.60E+07	1.30E+01	1.6965E+07	9.0796E+06
	30	1.4873E+05	2.38E+05			2.3841E+05
	31	6.6735E+07	1.07E+08	2.00E+00	2.6100E+06	1.0436E+08
	32	1.3851E+08	2.22E+08	6.10E+00	7.9605E+06	2.1406E+08
	33	4.3502E+07	6.97E+07			6.9729E+07
	34	5.4319E+07	8.71E+07	5.00E-01	6.5250E+05	8.6415E+07
	35	1.5047E+08	2.41E+08			2.4118E+08
	36	2.7243E+08	4.37E+08	1.32E+01	1.7226E+07	4.1945E+08
	37	2.5240E+08	4.05E+08			4.0458E+08
	38	1.6043E+08	2.57E+08	4.00E+00	5.2200E+06	2.5193E+08
	39	5.8031E+07	9.30E+07			9.3018E+07
	40	2.5881E+06	4.15E+06			4.1484E+06
	41	1.1298E+08	1.81E+08			1.8109E+08
	42	1.4307E+08	2.29E+08			2.2932E+08
	43	1.5326E+07	2.46E+07			2.4566E+07
	44	1.2743E+07	2.04E+07			2.0426E+07
	45	9.3015E+07	1.49E+08	5.30E+00	6.9165E+06	1.4218E+08
	46	1.8335E+08	2.94E+08	3.80E+00	4.9590E+06	2.8894E+08
	47	1.4805E+08	2.37E+08	1.00E+00	1.3050E+06	2.3600E+08
	48	1.1191E+08	1.79E+08	6.60E+00	8.6130E+06	1.7076E+08
	49	6.5558E+07	1.05E+08	4.45E+00	5.8073E+06	9.9276E+07
	50	1.0903E+07	1.75E+07	1.50E+00	1.9575E+06	1.5518E+07
	51	1.8477E+08	2.96E+08			2.9616E+08
	52	1.9221E+08	3.08E+08			3.0810E+08

53	9.4476E+07	1.51E+08	9.00E-01	1.1745E+06	1.5026E+08
54	5.2497E+07	8.41E+07	1.00E+00	1.3050E+06	8.2842E+07
55	5.7669E+07	9.24E+07			9.2438E+07
56	4.5832E+07	7.35E+07			7.3464E+07
57	3.2980E+07	5.29E+07			5.2863E+07
58	5.2346E+07	8.39E+07			8.3906E+07
59	3.6830E+07	5.90E+07	5.00E-01	6.5250E+05	5.8382E+07
60	6.8334E+06	1.10E+07			1.0953E+07
61	1.1924E+08	1.91E+08			1.9113E+08
62	9.3945E+07	1.51E+08			1.5058E+08
63	4.9524E+07	7.94E+07			7.9383E+07
64	3.5048E+07	5.62E+07			5.6179E+07
65	2.3953E+07	3.84E+07	1.11E+01	1.4486E+07	2.3909E+07
66	4.4431E+07	7.12E+07	2.22E+01	2.8971E+07	4.2248E+07
67	4.5879E+07	7.35E+07	2.22E+01	2.8971E+07	4.4568E+07
68	4.1635E+07	6.67E+07			6.6736E+07
69	1.9441E+07	3.12E+07	2.10E+00	2.7405E+06	2.8422E+07
70	6.4508E+06	1.03E+07			1.0340E+07
71	6.1692E+07	9.89E+07			9.8886E+07
72	5.2292E+07	8.38E+07			8.3820E+07
73	1.3075E+07	2.10E+07			2.0958E+07
74	5.7629E+06	9.24E+06	2.10E+00	2.7405E+06	6.4969E+06
75	1.1493E+07	1.84E+07	1.00E+01	1.3050E+07	5.3728E+06
76	4.2877E+07	6.87E+07	2.58E+01	3.3617E+07	3.5110E+07
77	9.3465E+07	1.50E+08	6.12E+01	7.9866E+07	6.9949E+07
78	5.2595E+07	8.43E+07			8.4305E+07
79	4.7011E+07	7.54E+07	9.00E+00	1.1745E+07	6.3609E+07
80	4.8309E+06	7.74E+06	1.00E+00	1.3050E+06	6.4384E+06
81	8.0931E+07	1.30E+08			1.2972E+08
82	9.4520E+07	1.52E+08			1.5151E+08
83	2.3548E+07	3.77E+07			3.7745E+07
84	3.7909E+06	6.08E+06			6.0765E+06
85	1.5225E+07	2.44E+07	1.00E+01	1.3050E+07	1.1354E+07
86	4.8936E+07	7.84E+07	4.00E+01	5.2200E+07	2.6239E+07
87	8.7171E+07	1.40E+08	5.77E+01	7.5299E+07	6.4428E+07
88	2.1048E+07	3.37E+07	1.00E+01	1.3050E+07	2.0688E+07
89	5.4098E+07	8.67E+07	1.20E+01	1.5660E+07	7.1053E+07
90	1.2195E+07	1.95E+07	2.70E+00	3.5235E+06	1.6023E+07
91	9.8061E+07	1.57E+08			1.5718E+08
92	1.3320E+08	2.14E+08			2.1351E+08
93	8.8212E+07	1.41E+08			1.4139E+08
94	3.0253E+07	4.85E+07			4.8493E+07
95	7.8515E+06	1.26E+07	5.50E+00	7.1775E+06	5.4077E+06
96	1.6196E+07	2.60E+07	8.30E+00	1.0832E+07	1.5128E+07
97	1.9713E+07	3.16E+07	5.50E+00	7.1775E+06	2.4420E+07
98	2.4028E+07	3.85E+07	1.63E+01	2.1272E+07	1.7242E+07
99	6.5795E+07	1.05E+08	4.00E+01	5.2200E+07	5.3263E+07
100	2.2398E+07	3.59E+07			3.5901E+07
Total	6.4519E+09	1.03E+10	6.80E+00	8.8800E+08	9.4537E+09
Total(en	7.0185E+11	1.12E+10	6.80E+00	8.8689E+08	1.0363E+10
Differen	6.9539E+11	9.08E+08		-1.109E+06	9.0929E+08
Differen	9.9081E+01	8.07E-02		-1.250E-03	8.7744E-02

AQUIFER PROJECT	Block #	TOTAL PORE VOLUME		HYDROCARBON VOLUME		NET VOLUME
		net vol yd2ft	Net vol Barrels	volume BCF	BPV res.bbls	Active Water res.bbls
SAND E	1	1.9588E+08	3.14E+08			3.1398E+08
	2	2.3896E+08	3.83E+08			3.8302E+08
	3	2.8309E+08	4.54E+08			4.5376E+08
	4	3.8729E+08	6.21E+08			6.2078E+08
	5	5.1628E+08	8.28E+08			8.2755E+08
	6	5.0848E+08	8.15E+08			8.1505E+08
	7	4.2664E+08	6.84E+08			6.8387E+08
	8	3.1693E+08	5.08E+08			5.0801E+08
	9	1.8894E+08	3.03E+08			3.0285E+08
	10	4.2045E+07	6.74E+07			6.7394E+07
	11	3.1504E+08	5.05E+08			5.0498E+08
	12	3.0286E+08	4.85E+08			4.8545E+08
	13	1.7253E+08	2.77E+08			2.7655E+08
	14	3.6408E+08	5.84E+08			5.8359E+08
	15	3.5483E+08	5.69E+08			5.6876E+08
	16	3.9100E+08	6.27E+08			6.2673E+08
	17	3.7340E+08	5.99E+08	1.00E+01	8.6575E+06	5.8987E+08
	18	3.1401E+08	5.03E+08	6.20E+00	5.3677E+06	4.9795E+08
	19	2.2508E+08	3.61E+08			3.6078E+08
	20	6.5367E+07	1.05E+08			1.0478E+08
	21	3.4605E+08	5.55E+08			5.5468E+08
	22	4.4658E+08	7.16E+08			7.1583E+08
	23	3.6574E+08	5.86E+08			5.8625E+08
	24	3.5832E+08	5.74E+08			5.7435E+08
	25	3.5262E+08	5.65E+08			5.6521E+08
	26	3.5118E+08	5.63E+08			5.6290E+08
	27	3.2786E+08	5.26E+08	3.00E+01	2.5973E+07	4.9955E+08
	28	2.9590E+08	4.74E+08	4.96E+01	4.2941E+07	4.3136E+08
	29	2.5198E+08	4.04E+08	1.00E+00	8.6575E+05	4.0304E+08
	30	7.8933E+07	1.27E+08			1.2652E+08
	31	2.4696E+08	3.96E+08			3.9585E+08
	32	3.5361E+08	5.67E+08			5.6680E+08
	33	2.4535E+08	3.93E+08			3.9327E+08
	34	2.8586E+08	4.58E+08	1.00E+01	8.6575E+06	4.4955E+08
	35	3.3793E+08	5.42E+08	9.10E+00	7.8784E+06	5.3378E+08
	36	3.4586E+08	5.54E+08	1.00E+01	8.6575E+06	5.4573E+08
	37	3.1559E+08	5.06E+08			5.0587E+08
	38	2.8739E+08	4.61E+08	7.10E+00	6.1469E+06	4.5450E+08
	39	2.2730E+08	3.64E+08			3.6434E+08
	40	7.0730E+07	1.13E+08			1.1337E+08
	41	2.4868E+08	3.99E+08			3.9861E+08
	42	1.7450E+08	2.80E+08			2.7971E+08
	43	3.8987E+07	6.25E+07			6.2492E+07
	44	5.7473E+07	9.21E+07			9.2124E+07
	45	1.7928E+08	2.87E+08	4.49E+01	3.8872E+07	2.4849E+08
	46	2.7545E+08	4.42E+08	7.70E+00	6.6663E+06	4.3486E+08
	47	2.4477E+08	3.92E+08	1.00E+00	8.6575E+05	3.9147E+08
	48	2.0429E+08	3.27E+08	9.00E+00	7.7918E+06	3.1966E+08
	49	1.5727E+08	2.52E+08	1.10E+01	9.5233E+06	2.4257E+08
	50	5.4456E+07	8.73E+07	1.00E+01	8.6575E+06	7.8629E+07
	51	3.5502E+08	5.69E+08			5.6906E+08
	52	2.8830E+08	4.62E+08			4.6212E+08

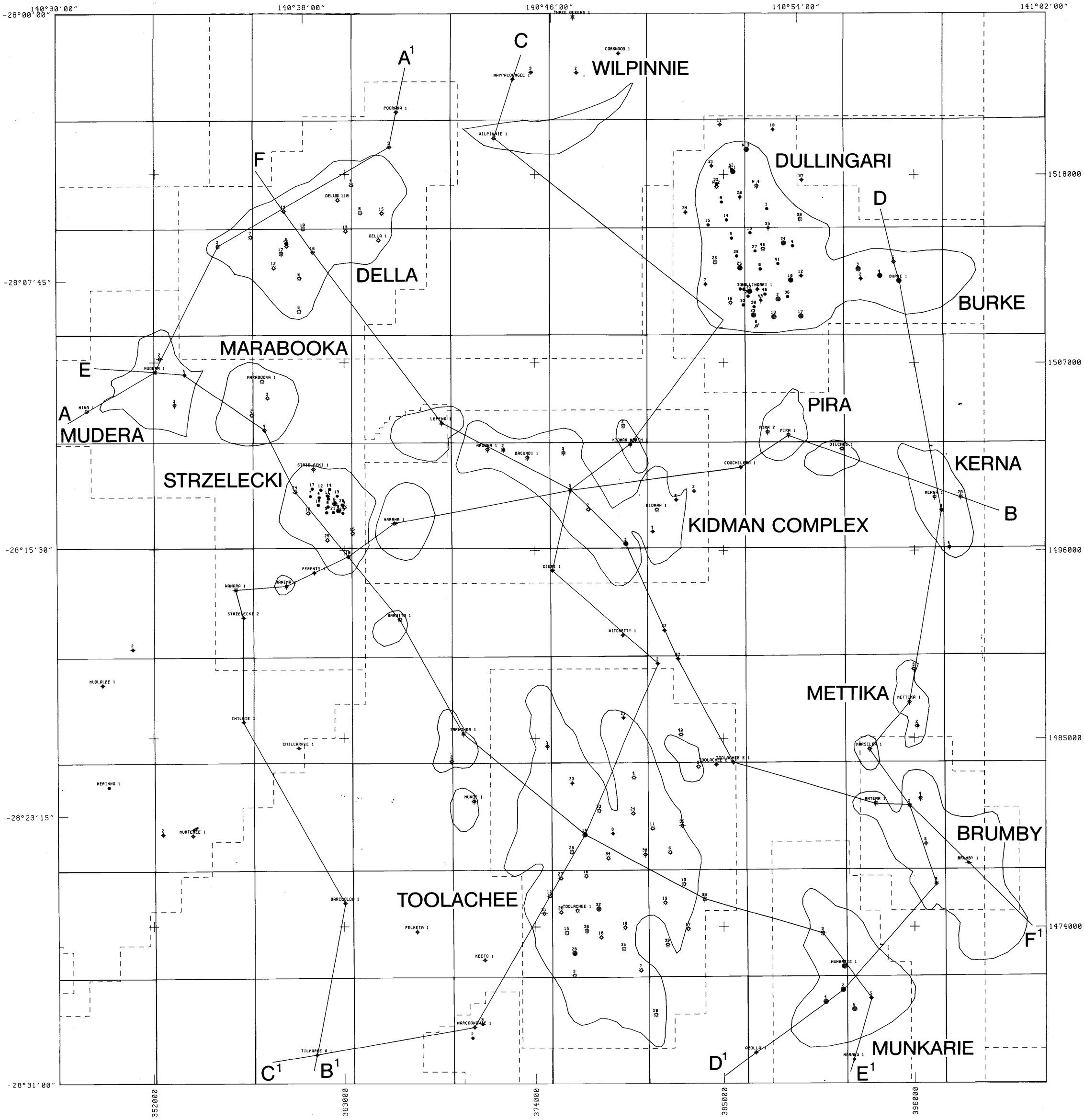
53	1.1491E+08	1.84E+08			1.8418E+08
54	7.5666E+06	1.21E+07			1.2128E+07
55	1.2848E+08	2.06E+08			2.0595E+08
56	2.4840E+08	3.98E+08			3.9816E+08
57	1.9141E+08	3.07E+08			3.0681E+08
58	1.6293E+08	2.61E+08			2.6117E+08
59	1.4945E+08	2.40E+08			2.3955E+08
60	5.8708E+07	9.41E+07	3.00E-01	2.5973E+05	9.3844E+07
61	3.8508E+08	6.17E+08			6.1724E+08
62	3.5219E+08	5.65E+08			5.6452E+08
63	1.5934E+08	2.55E+08			2.5540E+08
64	5.2517E+07	8.42E+07			8.4179E+07
65	1.1518E+08	1.85E+08	1.13E+01	9.7830E+06	1.7484E+08
66	1.7216E+08	2.76E+08	2.26E+01	1.9566E+07	2.5639E+08
67	1.6575E+08	2.66E+08	2.26E+01	1.9566E+07	2.4612E+08
68	1.6080E+08	2.58E+08			2.5774E+08
69	1.7760E+08	2.85E+08	6.00E+01	5.1945E+07	2.3272E+08
70	8.0363E+07	1.29E+08			1.2881E+08
71	2.5205E+08	4.04E+08			4.0400E+08
72	1.8250E+08	2.93E+08			2.9253E+08
73	7.0806E+07	1.13E+08			1.1349E+08
74	3.8083E+07	6.10E+07			6.1043E+07
75	7.9549E+07	1.28E+08	5.70E+00	4.9348E+06	1.2257E+08
76	1.1809E+08	1.89E+08	4.52E+01	3.9132E+07	1.5015E+08
77	1.3043E+08	2.09E+08	4.81E+01	4.1643E+07	1.6742E+08
78	1.5956E+08	2.56E+08			2.5577E+08
79	1.7454E+08	2.80E+08	1.55E+01	1.3419E+07	2.6635E+08
80	9.5950E+07	1.54E+08			1.5380E+08
81	9.7990E+07	1.57E+08			1.5707E+08
82	4.7864E+07	7.67E+07			7.6721E+07
83	6.0568E+06	9.71E+06			9.7085E+06
84	2.2085E+06	3.54E+06			3.5400E+06
85	2.3041E+07	3.69E+07	5.70E+00	4.9348E+06	3.1998E+07
86	5.8709E+07	9.41E+07	5.00E+01	4.3288E+07	5.0817E+07
87	9.1635E+07	1.47E+08	4.90E+01	4.2422E+07	1.0446E+08
88	1.8913E+08	3.03E+08			3.0316E+08
89	2.3472E+08	3.76E+08	1.20E+01	1.0389E+07	3.6585E+08
90	9.3964E+07	1.51E+08	3.00E+00	2.5973E+06	1.4802E+08
91	1.9674E+07	3.15E+07			3.1535E+07
92	6.1858E+06	9.92E+06			9.9153E+06
93	9.1676E+03	1.47E+04			1.4695E+04
94	9.9511E+05	1.60E+06			1.5951E+06
95	6.7099E+06	1.08E+07	5.70E+00	4.9348E+06	5.8205E+06
96	4.3082E+07	6.91E+07	1.41E+01	1.2207E+07	5.6849E+07
97	1.1287E+08	1.81E+08	5.70E+00	4.9348E+06	1.7598E+08
98	1.4958E+08	2.40E+08	1.63E+01	1.4112E+07	2.2565E+08
99	2.0754E+08	3.33E+08	4.00E+01	3.4630E+07	2.9804E+08
100	7.2343E+07	1.16E+08			1.1596E+08
Total	1.9802E+10	3.17E+10	6.49E+02	5.6300E+08	3.1177E+10
Total(en	2.2863E+10	3.66E+10	6.49E+02	5.6222E+08	3.6085E+10
Differen	3.0616E+09	4.91E+09		-7.792E+05	4.9082E+09
Differen	1.3391E-01	1.34E-01		-1.386E-03	1.3602E-01

AQUIFER PROJECT		TOTAL PORE VOLUME		HYDROCARBON VOLUME		NET VOLUME
	Block #	net vol yd2ft	Net vol Barrels	Vol BCF	BPV res.bbls	Active Water res.bbls
SAND F	1	2.0325E+07	3.26E+07			3.2579E+07
	2	3.7575E+07	6.02E+07			6.0229E+07
	3	1.0715E+08	1.72E+08			1.7174E+08
	4	1.4055E+08	2.25E+08			2.2528E+08
	5	4.6332E+07	7.43E+07			7.4265E+07
	6	2.2225E+07	3.56E+07			3.5624E+07
	7	4.4051E+07	7.06E+07			7.0610E+07
	8	6.2314E+07	9.99E+07			9.9883E+07
	9	4.7614E+07	7.63E+07			7.6320E+07
	10	1.4540E+07	2.33E+07			2.3306E+07
	11	1.6672E+06	2.67E+06			2.6724E+06
	12	3.6447E+04	5.84E+04			5.8420E+04
	13	8.9371E+07	1.43E+08			1.4325E+08
	14	3.0986E+08	4.97E+08			4.9667E+08
	15	2.2876E+08	3.67E+08			3.6669E+08
	16	1.3709E+08	2.20E+08			2.1975E+08
	17	1.3869E+08	2.22E+08	5.10E+00	7.5495E+06	2.1476E+08
	18	1.1251E+08	1.80E+08			1.8034E+08
	19	7.5335E+07	1.21E+08			1.2075E+08
	20	4.1590E+07	6.67E+07			6.6664E+07
	21	3.6492E+07	5.85E+07			5.8492E+07
	22	1.1588E+08	1.86E+08			1.8574E+08
	23	2.1046E+08	3.37E+08			3.3735E+08
	24	2.5471E+08	4.08E+08			4.0828E+08
	25	1.9932E+08	3.19E+08			3.1948E+08
	26	1.3518E+08	2.17E+08			2.1668E+08
	27	1.2778E+08	2.05E+08	1.23E+01	1.8208E+07	1.8661E+08
	28	1.3086E+08	2.10E+08	6.00E+00	8.8818E+06	2.0088E+08
	29	2.0844E+08	3.34E+08			3.3412E+08
	30	9.6840E+07	1.55E+08			1.5522E+08
	31	1.5459E+08	2.48E+08			2.4780E+08
	32	5.4102E+08	8.67E+08			8.6721E+08
	33	4.0202E+08	6.44E+08			6.4440E+08
	34	2.8328E+08	4.54E+08			4.5406E+08
	35	1.7138E+08	2.75E+08			2.7470E+08
	36	6.2536E+07	1.00E+08			1.0024E+08
	37	5.8232E+07	9.33E+07			9.3341E+07
	38	8.1141E+07	1.30E+08	2.40E+00	3.5527E+06	1.2651E+08
	39	1.5262E+08	2.45E+08			2.4464E+08
	40	7.1194E+07	1.14E+08			1.1412E+08
	41	1.7748E+08	2.84E+08			2.8449E+08
	42	3.8942E+08	6.24E+08			6.2420E+08
	43	1.0832E+08	1.74E+08			1.7362E+08
	44	7.6111E+07	1.22E+08			1.2200E+08
	45	5.2547E+07	8.42E+07			8.4228E+07
	46	3.4877E+06	5.59E+06			5.5905E+06
	47	2.7407E+07	4.39E+07			4.3931E+07
	48	4.4133E+07	7.07E+07	3.80E+00	5.6252E+06	6.5116E+07
	49	7.4603E+07	1.20E+08	6.00E+00	8.8818E+06	1.1070E+08
	50	2.8673E+07	4.60E+07	3.88E+00	5.7436E+06	4.0217E+07
	51	1.4775E+08	2.37E+08			2.3684E+08

52	3.6171E+08	5.80E+08			5.7979E+08
53	8.6116E+07	1.38E+08			1.3804E+08
54	4.1676E+06	6.68E+06			6.6802E+06
55	4.2661E+05	6.84E+05			6.8382E+05
56	1.3754E+06	2.20E+06			2.2046E+06
57	5.4793E+07	8.78E+07			8.7827E+07
58	1.0728E+08	1.72E+08			1.7197E+08
59	1.3743E+08	2.20E+08			2.2028E+08
60	4.9966E+07	8.01E+07			8.0090E+07
61	2.3332E+08	3.74E+08			3.7399E+08
62	3.5445E+08	5.68E+08			5.6814E+08
63	2.0804E+08	3.33E+08			3.3347E+08
64	4.0111E+07	6.43E+07			6.4294E+07
65	1.5079E+05	2.42E+05			2.4170E+05
66	4.8819E+06	7.83E+06	2.80E+00	4.1448E+06	3.6803E+06
67	8.1134E+07	1.30E+08	4.00E+00	5.9212E+06	1.2413E+08
68	2.1396E+08	3.43E+08			3.4295E+08
69	2.6585E+08	4.26E+08	6.72E+01	9.9476E+07	3.2665E+08
70	6.9920E+07	1.12E+08			1.1208E+08
71	2.4583E+08	3.94E+08			3.9404E+08
72	2.3948E+08	3.84E+08			3.8386E+08
73	1.3064E+08	2.09E+08			2.0940E+08
74	2.3088E+07	3.70E+07			3.7008E+07
75	3.1690E+05	5.08E+05	2.00E-01	2.9606E+05	2.1189E+05
76	8.7533E+06	1.40E+07	6.00E+00	8.8818E+06	5.1489E+06
77	7.0067E+07	1.12E+08	5.90E+00	8.7338E+06	1.0358E+08
78	1.9543E+08	3.13E+08			3.1326E+08
79	2.5857E+08	4.14E+08	2.38E+01	3.5231E+07	3.7923E+08
80	7.1433E+07	1.14E+08			1.1450E+08
81	1.1033E+08	1.77E+08			1.7685E+08
82	1.0166E+08	1.63E+08			1.6296E+08
83	3.5254E+07	5.65E+07			5.6508E+07
84	1.0992E+05	1.76E+05			1.7620E+05
85	3.1297E+06	5.02E+06	7.00E-01	1.0362E+06	3.9804E+06
86	1.9017E+07	3.05E+07	6.60E+00	9.7700E+06	2.0713E+07
87	6.4295E+07	1.03E+08	5.50E+00	8.1417E+06	9.4917E+07
88	1.0534E+08	1.69E+08			1.6884E+08
89	2.2985E+08	3.68E+08			3.6842E+08
90	1.0373E+08	1.66E+08			1.6627E+08
91	1.0395E+05	1.67E+05			1.6662E+05
92	3.8979E+06	6.25E+06			6.2479E+06
93	1.2532E+06	2.01E+06			2.0088E+06
94	2.0077E+05	3.22E+05			3.2182E+05
95	9.4824E+06	1.52E+07	5.00E-01	7.4015E+05	1.4459E+07
96	4.9522E+07	7.94E+07	1.70E+00	2.5165E+06	7.6863E+07
97	1.2599E+08	2.02E+08	5.00E-01	7.4015E+05	2.0121E+08
98	2.3010E+08	3.69E+08			3.6882E+08
99	2.1361E+08	3.42E+08			3.4240E+08
100	9.6774E+07	1.55E+08			1.5512E+08
Total	1.1324E+10	1.82E+10	1.65E+02	2.4200E+08	1.7909E+10
Total(en	1.2775E+10	2.05E+10	1.65E+02	2.4407E+08	2.0234E+10
Differen	1.4516E+09	2.33E+09		2.0724E+06	2.3247E+09
Differen	1.1363E-01	1.14E-01		8.4908E-03	1.1489E-01

AQUIFER PROJECT		TOTAL PORE VOLUME		HYDROCARBON VOLUME		NET VOLUME
	Block #	net vol yd2ft	Net vol Barrels	Vol BCF	BPV res.bbls	Active Water res.bbls
SAND G	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11	7.2225E+06	1.16E+07			1.1577E+07
	12	1.3647E+05	2.19E+05			2.1876E+05
	13	6.6643E+04	1.07E+05			1.0682E+05
	14	2.0222E+05	3.24E+05			3.2415E+05
	15	5.7080E+06	9.15E+06			9.1494E+06
	16	2.7688E+07	4.44E+07			4.4382E+07
	17	4.9959E+07	8.01E+07	6.10E+00	9.3179E+06	7.0761E+07
	18	4.3175E+07	6.92E+07	3.90E+00	5.9573E+06	6.3248E+07
	19	1.9868E+07	3.18E+07			3.1847E+07
	20	4.8500E+05	7.77E+05			7.7740E+05
	21	9.4926E+07	1.52E+08			1.5216E+08
	22	1.2003E+08	1.92E+08			1.9240E+08
	23	5.9691E+07	9.57E+07			9.5679E+07
	24	1.2159E+07	1.95E+07			1.9490E+07
	25	3.1517E+07	5.05E+07			5.0519E+07
	26	1.4768E+08	2.37E+08			2.3672E+08
	27	2.7295E+08	4.38E+08			4.3751E+08
	28	1.8572E+08	2.98E+08	2.50E+00	3.8188E+06	2.9388E+08
	29	5.8259E+07	9.34E+07			9.3383E+07
	30	2.1366E+05	3.42E+05			3.4248E+05
	31	9.8953E+07	1.59E+08			1.5861E+08
	32	3.0595E+08	4.90E+08			4.9040E+08
	33	1.7047E+08	2.73E+08			2.7325E+08
	34	2.5208E+07	4.04E+07			4.0406E+07
	35	8.8568E+06	1.42E+07			1.4197E+07
	36	4.3442E+07	6.96E+07			6.9634E+07
	37	8.1902E+07	1.31E+08			1.3128E+08
	38	4.4043E+07	7.06E+07			7.0597E+07
	39	3.7174E+07	5.96E+07			5.9586E+07
	40	1.2382E+07	1.98E+07			1.9847E+07
	41	1.6577E+07	2.66E+07			2.6571E+07
	42	6.3366E+07	1.02E+08			1.0157E+08
	43	2.9751E+07	4.77E+07			4.7688E+07
	44	3.7609E+06	6.03E+06			6.0284E+06
	45	3.3410E+05	5.36E+05			5.3552E+05
	46	2.5842E+04	4.14E+04			4.1423E+04
	47	5.1090E+06	8.19E+06			8.1892E+06
	48	8.3162E+06	1.33E+07	7.80E+00	1.1915E+07	1.4153E+06
	49	4.2687E+07	6.84E+07			6.8422E+07
	50	2.8274E+07	4.53E+07			4.5320E+07
	51	3.6435E+05	5.84E+05			5.8402E+05

52	2.9164E+05	4.67E+05			4.6747E+05
53	2.0693E+04	3.32E+04			3.3170E+04
54	3.4655E+05	5.55E+05			5.5549E+05
55	3.4892E+05	5.59E+05			5.5929E+05
56	3.2360E+05	5.19E+05			5.1870E+05
57	8.4147E+06	1.35E+07			1.3488E+07
58	3.8086E+07	6.10E+07			6.1048E+07
59	8.0939E+07	1.30E+08			1.2974E+08
60	3.7248E+07	5.97E+07			5.9704E+07
61	2.9526E+05	4.73E+05			4.7328E+05
62	2.7515E+05	4.41E+05			4.4104E+05
63	2.3164E+05	3.71E+05			3.7129E+05
64	2.8718E+05	4.60E+05			4.6033E+05
65	3.4035E+05	5.46E+05			5.4555E+05
66	9.3273E+06	1.50E+07			1.4951E+07
67	7.1299E+07	1.14E+08			1.1429E+08
68	8.0592E+07	1.29E+08			1.2918E+08
69	7.7742E+07	1.25E+08			1.2461E+08
70	2.8608E+07	4.59E+07			4.5856E+07
71					
72					
73					
74	7.3989E+04	1.19E+05			1.1860E+05
75	3.3114E+05	5.31E+05			5.3079E+05
76	1.9564E+07	3.14E+07			3.1359E+07
77	1.1135E+08	1.78E+08			1.7848E+08
78	7.9034E+07	1.27E+08			1.2668E+08
79	1.2106E+07	1.94E+07			1.9405E+07
80	2.2416E+06	3.59E+06			3.5930E+06
81					
82					
83					
84	3.9799E+04	6.38E+04			6.3794E+04
85	5.1422E+04	8.24E+04			8.2424E+04
86	5.7610E+06	9.23E+06			9.2343E+06
87	2.8033E+07	4.49E+07	1.50E+00	2.2913E+06	4.2643E+07
88	3.3272E+07	5.33E+07			5.3331E+07
89	1.2741E+07	2.04E+07			2.0423E+07
90	7.4484E+04	1.19E+05			1.1939E+05
91					
92					
93					
94	2.5241E+04	4.05E+04			4.0458E+04
95	3.2621E+05	5.23E+05			5.2288E+05
96	3.4648E+05	5.55E+05			5.5537E+05
97	2.7303E+05	4.38E+05			4.3763E+05
98	1.2015E+05	1.93E+05			1.9260E+05
99	1.6166E+05	2.59E+05			2.5913E+05
100	5.5275E+04	8.86E+04			8.8600E+04
Total	2.9056E+09	4.66E+09	2.18E+01	3.3300E+07	4.6241E+09
Total(en	2.9565E+09	4.74E+09	2.18E+01	3.3300E+07	4.7056E+09
Differen	5.0853E+07	8.15E+07		1.4000E+00	8.1512E+07
Differen	1.7201E-02	1.72E-02		4.2042E-08	1.7322E-02



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STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

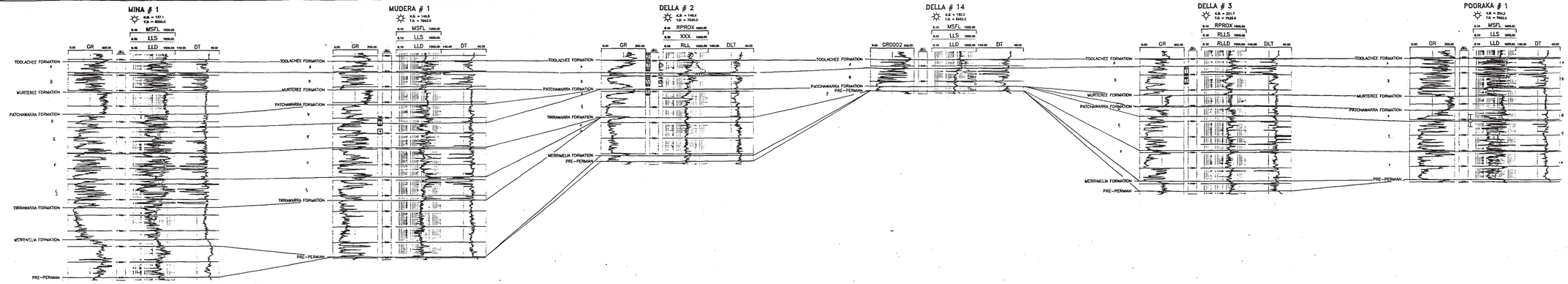
KILOMETERS 0 2 4 6 8 10 KILOMETERS

STUDY AREA

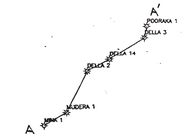
AQUIFER PROJECT

Scale :	Date : MARCH 1990	File No. : COOPER 186
Author : GERRY BUTLER		

8126-23 ENCLOSURE 1



LINE OF SECTION



SANTOS

S.E. COOPER BASIN
AQUIFER STUDY
STRATIGRAPHIC CROSS SECTION

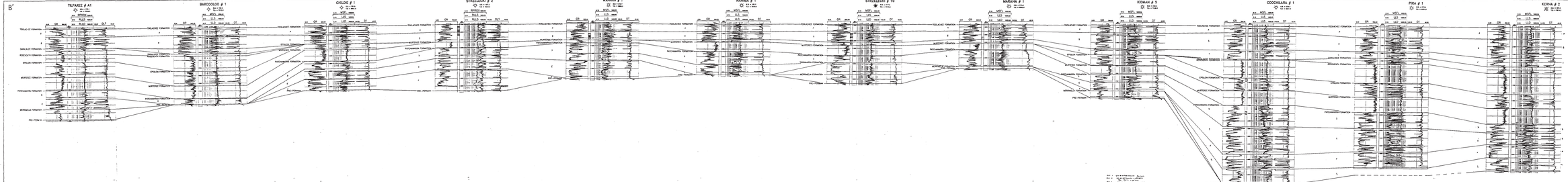
A - A'

MINA 1–MUDERA 1– DELLA 2–14–3–POORAKA 1

TOP TOOLACHEE TO BASE PATCHAWARRA

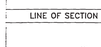
ENCLOSURE 2

8126-24



SANTOS

LINE OF SECTION



SANTOS

N.W. cooper basin
wrather study
stratigraphic cross section
A - A'

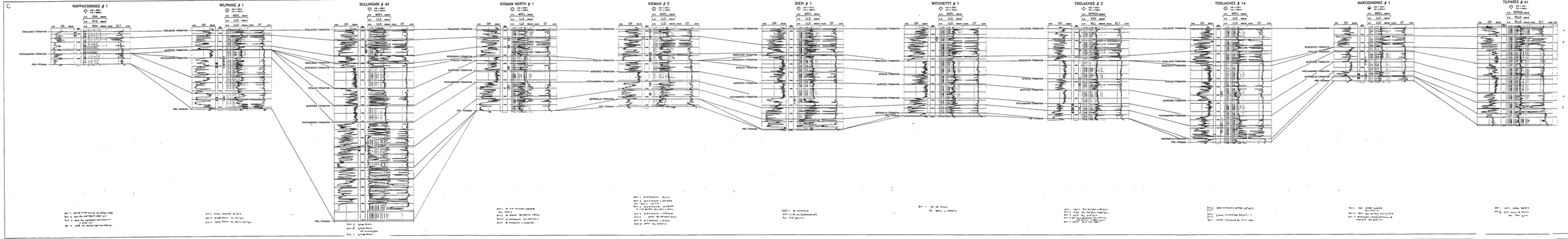
TELFARGE 1A-BARCOOLOO 1-CHILDE 1-STRZ 2-

-WANARA 1-NANIMA 1-STRZ10-MARANA 1

-KOMAN 5-COOCH 1-PIRA 1-KERNA 2A

DRAWN		
TRACED		
CHECKED		
APPROVED		
SCALE	1:2000	

8126-25



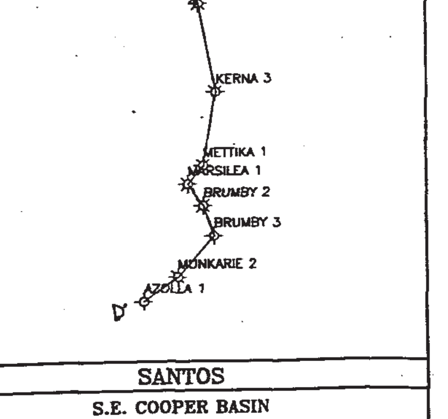
SANTOS

LINE OF SECTION

SANTOS
ILE COOPER BASIN
AQUIFER STUDY
STRATIGRAPHIC CROSS SECTION
C – C'
NAPPA 1–WILPIN 1–DULL 45– KOMAN NTH 1–
KOMAN 5–DIERI 1–WITCHETTY 1–
TOOL 2–14 NARCOONOWIE 1–TILPAREE 1A

8126-26

LINE OF SECTION



SANTOS

S.E. COOPER BASIN
AQUIFER STUDY
STRATIGRAPHIC CROSS SECTION
D - D′
BURKE 5-1-KERNA-3-METTIKA 1-MARSILEA 1-
BRUMBY 2-3-MUNKARIE 2-AZOLLA 1
TOP TOOLACHEE TO BASE PATCHAWARRA

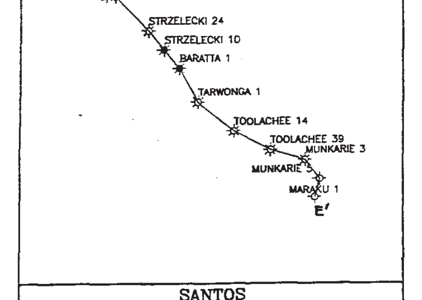
ENCLOSURE 5

8126-27


E
E'
MUDERA # 1
K.B. = 146.8
T.D. = 7992.0
MUDERA # 4
K.B. = 145.0
T.D. = 8210.0
MARABOOKA # 4
K.B. = 145.0
T.D. = 8210.0
STRZELECKI # 24
K.B. = 217.0
T.D. = 6817.0
STRZELECKI # 10
K.B. = 217.0
T.D. = 7010.0
BARATTA # 1
K.B. = 185.2
T.D. = 7576.0
TARWONGA # 1
K.B. = 206.8
T.D. = 7997.0
TOOLACHEE # 14
K.B. = 235.7
T.D. = 7997.0
TOOLACHEE # 39
K.B. = 255.1
T.D. = 8340.0
MUNKARIE # 3
K.B. = 268.5
T.D. = 7811.0
MUNKARIE # 5
K.B. = 297.0
T.D. = 8107.0
MARAKU # 1
K.B. = 315.0
T.D. = 7835.0
GR
MSFL
LLS
LLD
DT
GR0002
MSFL02
LLS002
LLD002
LDTL02
TOOLACHEE FORMATION
XTOOL COAL
DARALINGIE FORMATION
ROSENEATH FORMATION
EPSILON FORMATION
MURTEREE FORMATION
PATCHAWARRA FORMATION
TIRRAWARRA FORMATION
MERRIMELIA FORMATION
PRE-PERMIAN
A
B
C
D
E
F
G

SANTOS

LINE OF SECTION



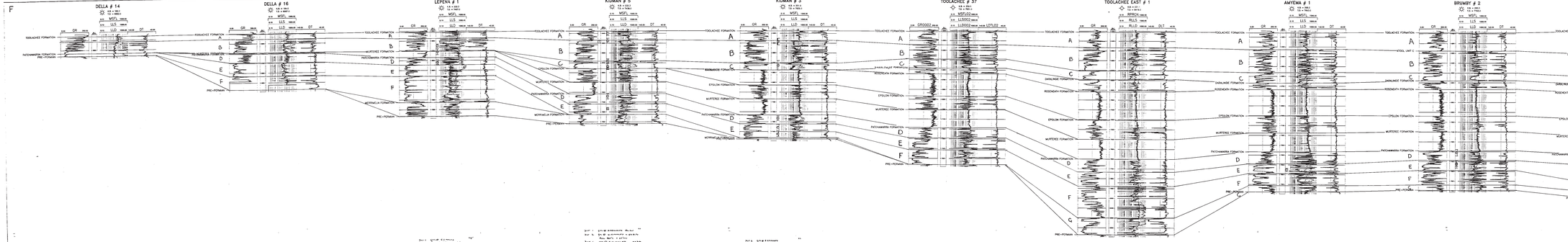
SANTOS

S.E.COOPER BASIN
AQUIFER STUDY
STRATIGRAPHIC CROSS SECTION
E - E'

MUDERA 1-4-MARABOOKA 4-STRZ 24-10
BARATTA 1-TARWONGA 1-TOOL 14-39-
MUNKARIE 3-5-MARAKU 1

ENCLOSURE
6.

8126-28



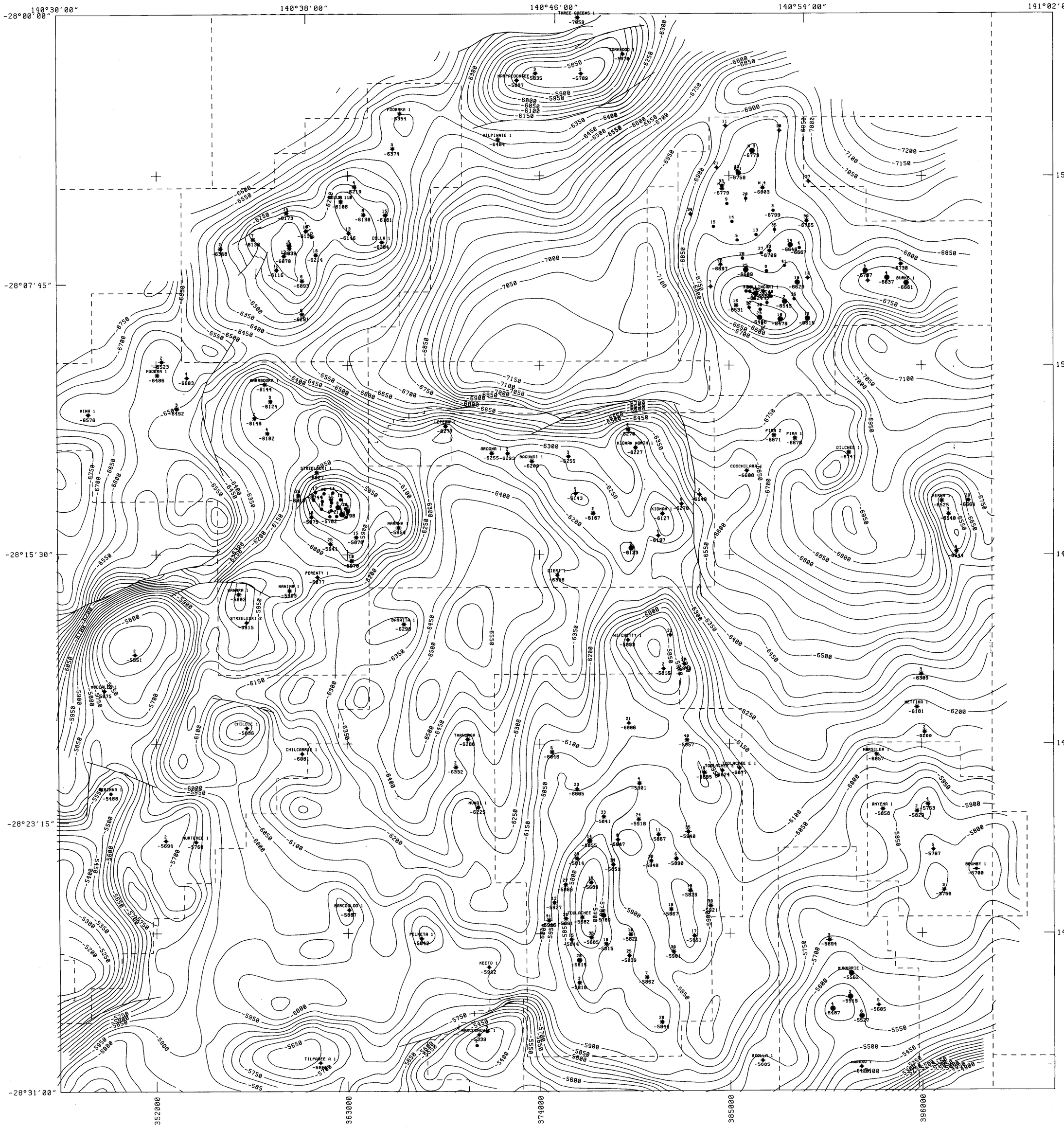
SANTOS

LINE OF SECTION

SANTOS
S.E. COOPER BASIN
AQUIFER STUDY
STRATIGRAPHIC CROSS SECTION
F - F'
DELLA 14-16-LEPENA 1-KIOMAN 5-3-TOOL 37
TOOL EAST 1-AMYEMA 1-BRUMBY 2-1
TOP TOOLACHEE TO BASE PATCHAWARRA

ORIGINAL DRAWN			
ORIGINAL TRACED			
ORIGINAL APPROVED			
AS BUILT			

8126-29



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STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

TOP TOOLACHEE DEPTH MAP

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 193	
Author : SONNY LIM			

8126-30

ENCLOSURE : 8

140°30'00" 140°38'00" 140°46'00" 140°54'00" 141°02'00"

-28°00'00" -28°07'45" -28°15'30" -28°23'15" -28°31'00"

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

NAPPACOONGEE 1S 174
POORAKA 1S 446
WILPINNIE 1S 619
DELLA 3S 490
DELLA 1S 32
DELLA 2S 27
DELLA 16S 345
MUDERA 1S 69
MUDERA 4S 619
MINA 1S 420
MARABOOKA 4S 443
LEPENA 1S 200
STRZELECKI 2AS 183
MARANA 1S 222
STRZELECKI 1BS 94
WANARA 1S 462
NANIMA 1S 307
STRZELECKI 2S 553
BARRITA 1S 204
CHILDIE 1S 378
TARWONGA 1S 264
BARCOOLOO 1S 79
TILPAREE A 1S 245
NARCOONOWIE 1S 66
KIDMAN NORTH 1S 346
KIDMAN 5S 198
KIDMAN 3S 233
DIERI 1S 286
WITCHETTY 1S 180
TOOLACHEE 3S 374
TOOLACHEE 2S 182
TOOLACHEE 1AS 290
TOOLACHEE 3AS 430
DULLINGARI 4SS 694
BURKE 5S 341
BURKE 1S 421
PIRA 1S 713
COOCHILARA 1S 828
KERNA 2S 602
KERNA 3S 384
METTIKA 1S 305
MARSILER 1S 408
TOOLACHEE EAST 1S 598
AMYEMA 1S 408
BRUMBY 2S 350
BRUMBY 1S 444
BRUMBY 3S 417
MUNKARIE 3S 332
MUNKARIE 2S 366
MUNKARIE 5S 457
AZOLLA 1S 372
MARAKU 1S 380

1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

B TOP POROSITY

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 194
Author : SONNY LIM		

8126-31

ENCLOSURE 9

140°30′00″ 140°38′00″ 140°46′00″ 140°54′00″ 141°02′00″

-28°00′00″ -28°07′45″ -28°15′30″ -28°23′15″ -28°31′00″

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

NAPPACOONGEE 1S 174
POORAKA 1S 446
HILPINNIE 1S 619
DELLA 3S 480
DELLA 1AS 32
DELLA 2S 24
DELLA 16S 345
BURKE 5S 341
BURKE 1S 421
DULLINGARI 45S 694
MUDERA 1S 469
MUDERA 4S 613
MINA 1S 420
MARABOOKA 4S 443
LEPENA 1S 600
KIOMAN NORTH 1S 348
PIRA 1S 713
COOCHILARA 1S 829
KERNA 2S 602
KERNA 3S 234
STRZELECKI 2AS 193
STRZELECKI 1BS 94
MARANA 1S 222
KIOMAN 5S 198
KIOMAN 3S 633
DIERI 1S 286
WANARA 1S 462
NANIMA 1S 307
STRZELECKI 2S 553
BARATTA 1S 204
WITCHETTY 1S 180
TOOLACHEE 3AS 374
TOOLACHEE 2S 182
METTIKA 1S 305
CHILDIE 1S 378
TARWONGA 1S 264
MARSILEA 1S 408
TOOLACHEE EAST 1S 598
AMYERA 1S 408
BRUMBY 2S 350
TOOLACHEE 14S 290
BRUMBY 1S 444
BRUMBY 3S 417
TOOLACHEE 39S 420
BARCOOLOO 1S 79
MUNKARIE 3S 332
MUNKARIE 2S 366
MUNKARIE 5S 457
NARCOONOWIE 1S 66
AZOLLA 1S 372
MARAKU 1S 320
TILPAREE A 1S 245

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES
KILOMETERS 0 2 4 6 8 10 KILOMETERS
1:100000

C TOP POROSITY

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 195	
Author : SONNY LIM			

8126-32 ENCLOSURE 10

140°30'00" 140°38'00" 140°46'00" 140°54'00" 141°02'00"

-28°00'00" -28°07'45" -28°15'30" -28°23'15" -28°31'00"

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

TORREE QUEENS 1
LORKWOOD 1
KAPPAPOONGEE 1
POORAKA 1
WILPINNIE 1
DELLA 11B
DELLA 1
BURKE 1
MUDERA 1
MARABOOKA 1
MINA 1
LEPENA 1
ARDONA 12
BACUNDI 1
KIDMAN NORTH 1
PIRA PIRA 1
DILCHEE 1
COOCHILARA 1
STRZELECKI 1
KERNA 1
KIDMAN 1
MARANOA 1
PERENTY 1
OIERI 1
WANARA 1
NANIMA 1
STRZELECKI 2
BARATTA 1
WITCHETTY 1
METTIKA 1
MUDDALEE 1
CHILDIE
CHILCARRIE 1
TARWONGA 1
MARSILEA 1
TOOLACHEE E 1
KERINNA 1
MUNDI 1
AMYEMA 1
NURTEREE 1
BRUMBY 1
BARCOOLOO 1
TOOLACHEE
RELKETA 1
KEETO 1
MUNKARIE 1
NARCOONOWIE 1
AZOLLA 1
TILPAREE A 1
MARAKU 1

1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

TOP PATCHAWARRA DEPTH MAP

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 196	
Author : SONNY LIM			

8126-33

ENCLOSURE 11

140°30'00" 140°38'00" 140°46'00" 140°54'00" 141°02'00"

-28°00'00"

-28°07'45"

-28°15'30"

-28°23'15"

-28°31'00"

1518000

1507000

1496000

1485000

1474000

352000 363000 374000 385000 396000

NAPPACOONGEE 1S 174
POORAKA 1S 446
DELLA 3S 490
DELLA 1S 32
DELLA 2S 27
DELLA 1GS 345
WILPINNIE 1S 879
BURKE 5S 341
BURKE 1S 421
DILLINGARI 4SS 694
MUDERA 1S 169
MUDERA 4S 619
MINA 1S 420
MARABOOKOO 4S 183
LEPENA 1S 600
STRZELECKI 24S 183
MARANA 1S 222
STRZELECKI 1BS 94
KIDMAN NORTH 1S 346
KIDMAN 5S 198
KIDMAN 3S 233
COOCHILARA 1S 829
PIRA 1S 713
KERNA 2S 602
KERNA 3S 234
DIERI 1S 286
WANARA 1S 462
NANIMA 1S 307
STRZELECKI 2S 653
BARATTA 1S 204
WITCHETTA 1S 180
TOOLACHEE 3GS 374
TOOLACHEE 2S 182
METTIKA 1S 305
CHILDIE 1S 378
TARWONGA 2S 264
HANSILEA 1S 408
TOOLACHEE EAST 1S 598
AMYEMA 1S 408
BRUMBY 2S 350
BRUMBY 1S 444
BRUMBY 3S 417
TOOLACHEE 1AS 290
TOOLACHEE 3BS 420
MUNKARIE 3S 332
MUNKARIE 2S 366
MUNKARIE 5S 457
BARCOOLOO 1S 79
BARCOONOWIE 1S 66
TILPAREE A 1S 245
AZOLLA 1S 372
MARAKU 1S 380

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES
1:100000
KILOMETERS 0 2 4 6 8 10 KILOMETERS

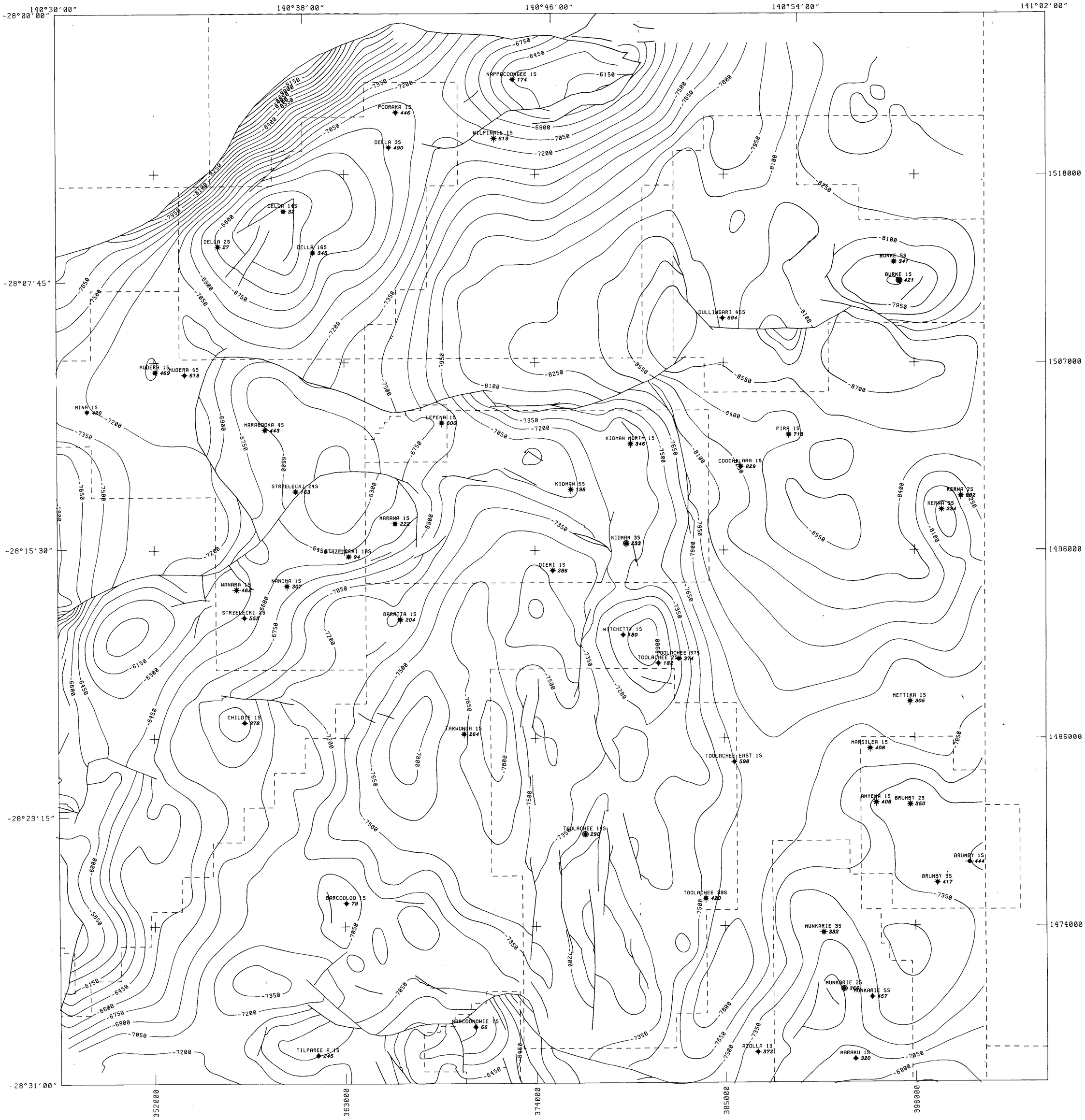
E TOP POROSITY

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 197
Author : SONNY LIM		

8126-34

ENCLOSURE 12



F TOP POROSITY

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 198	
Author : SONNY LIM			

8126-35

ENCLOSURE 13

140°30′00″ 140°38′00″ 140°46′00″ 140°54′00″ 141°02′00″

-28°00′00″ -28°07′45″ -28°15′30″ -28°23′15″ -28°31′00″

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

NAPPACOONGEE 1S 174
PUORARA 1S 446
WILPINNIE 1S 619
DELLA 3S 490
DELLA 1S 32
DELLA 2S 27
DELLA 1GS 345
MUDERA 1S 469
MUDERA 4S 619
MINA 1S 420
MAROOKA 4S 443
LEPENA 1S 600
STRZELECKI 2AS 168
MARANA 1S 232
STRZELECKI 1DS 94
WANARA 1S 462
NANIMA 1S 307
STRZELECKI 2S 553
BARATTA 1S 204
CHILDIE 1S 378
TARWONGA 1S 264
BARCOOLOO 1S 79
TILPAREE A 1S 245
NARCOONOWIE 1S 66
DULLINGARI 4SS 694
BURKE 5S 341
BURKE 1S 421
KIDMAN NORTH 1S 346
KIDMAN 5S 198
KIDMAN 3S 235
DIERI 1S 286
WITCHETTY 1S 180
TOOLACHEE 2S 182
TOOLACHEE 3TS 374
TOOLACHEE 1GS 290
TOOLACHEE 3GS 420
TOOLACHEE EAST 1S 598
PIRA 1S 713
COOCHILARA 1S 829
KERNA 2S 302
KERNA 3S 254
METTIKA 1S 305
MARSILEA 1S 408
AMYEMA 1S 408
BRUMBY 2S 350
BRUMBY 1S 444
BRUMBY 3S 417
MUNKARIE 3S 332
MUNKARIE 2S 366
MUNKARIE 5S 457
AZOLLA 1S 372
MARAKU 1S 320

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES
KILOMETERS 0 2 4 6 8 10 KILOMETERS
1:100000

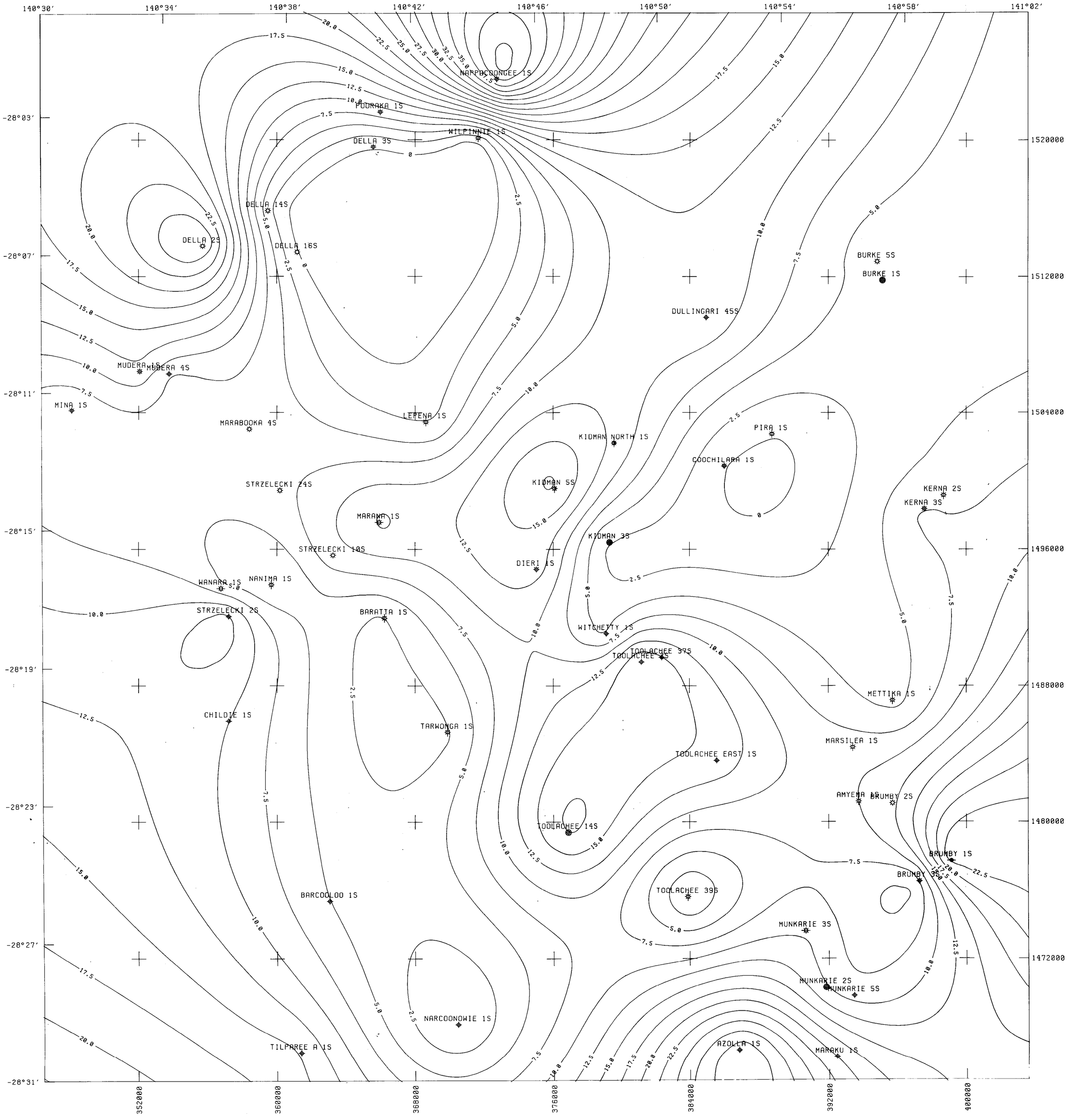
G TOP POROSITY

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 199	
Author : SONNY LIM			

8126-36

ENCLOSURE 14



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

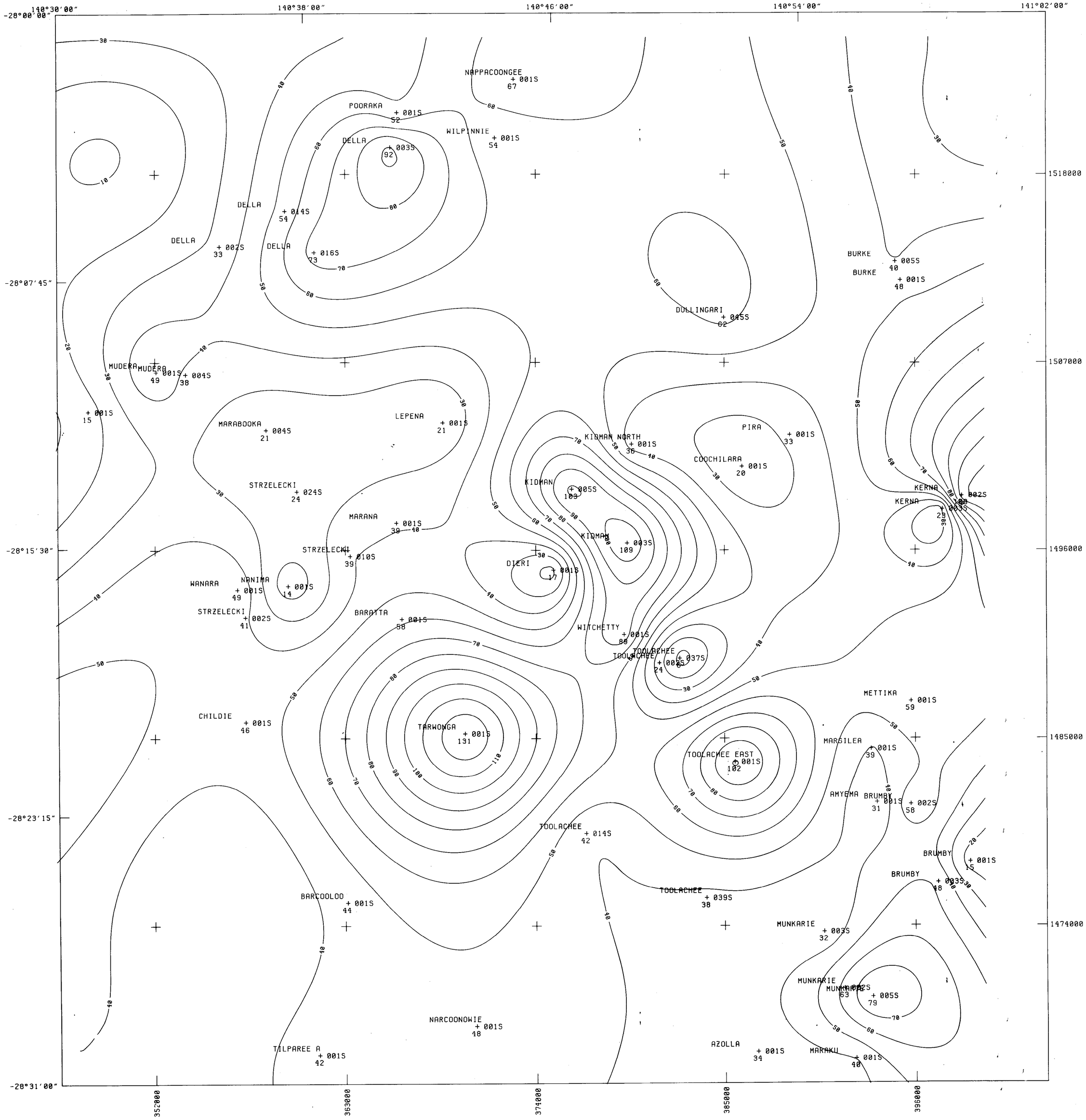
NET SAND A

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990			File No. : COOPER 200
Author : "LIM/BUTLER"				

8126-37

ENCLOSURE 15



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

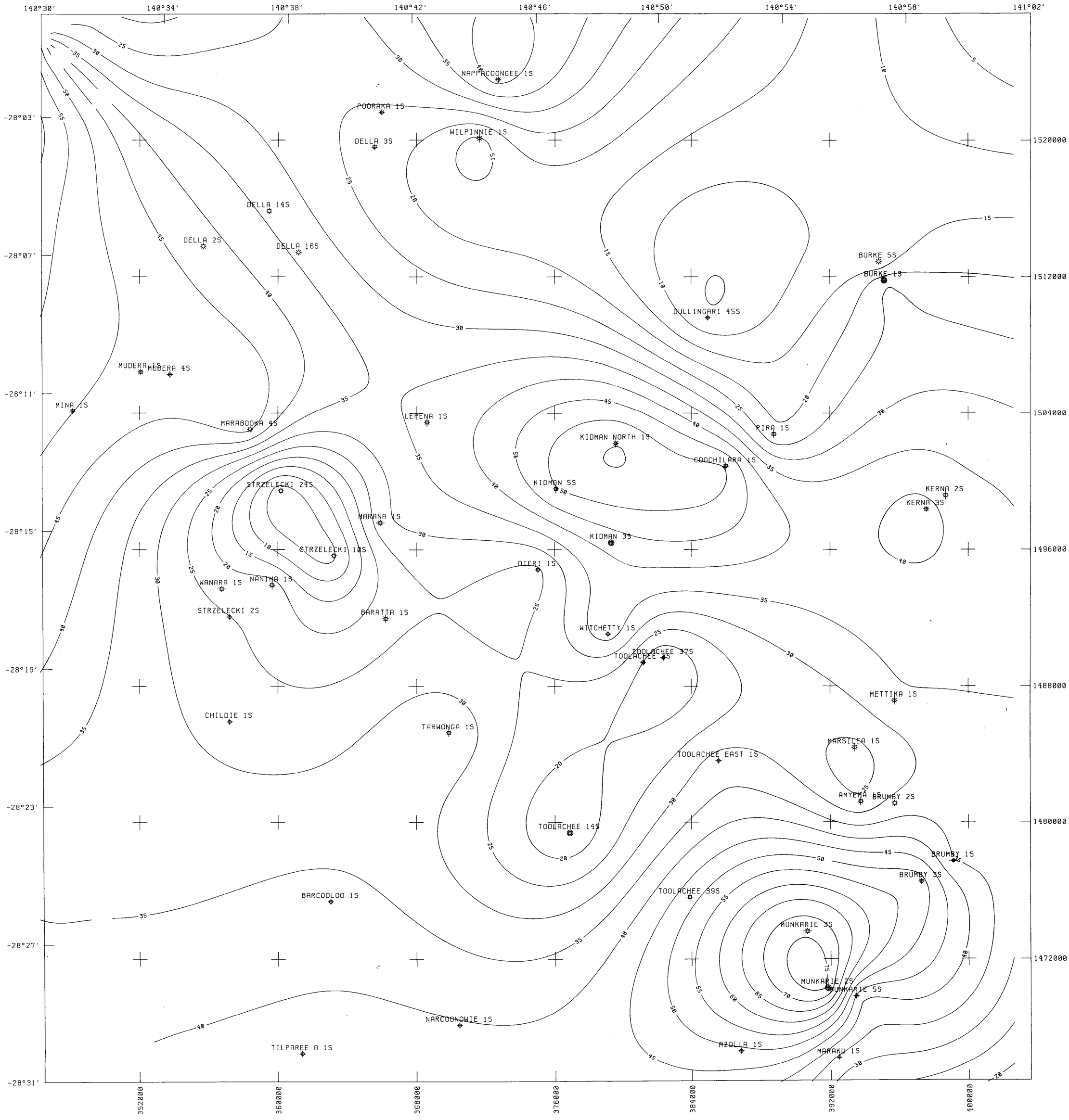
NET SAND B

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 201	
Author : "LIM/BUTLER"			

8126-38

ENCLOSURE 16



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

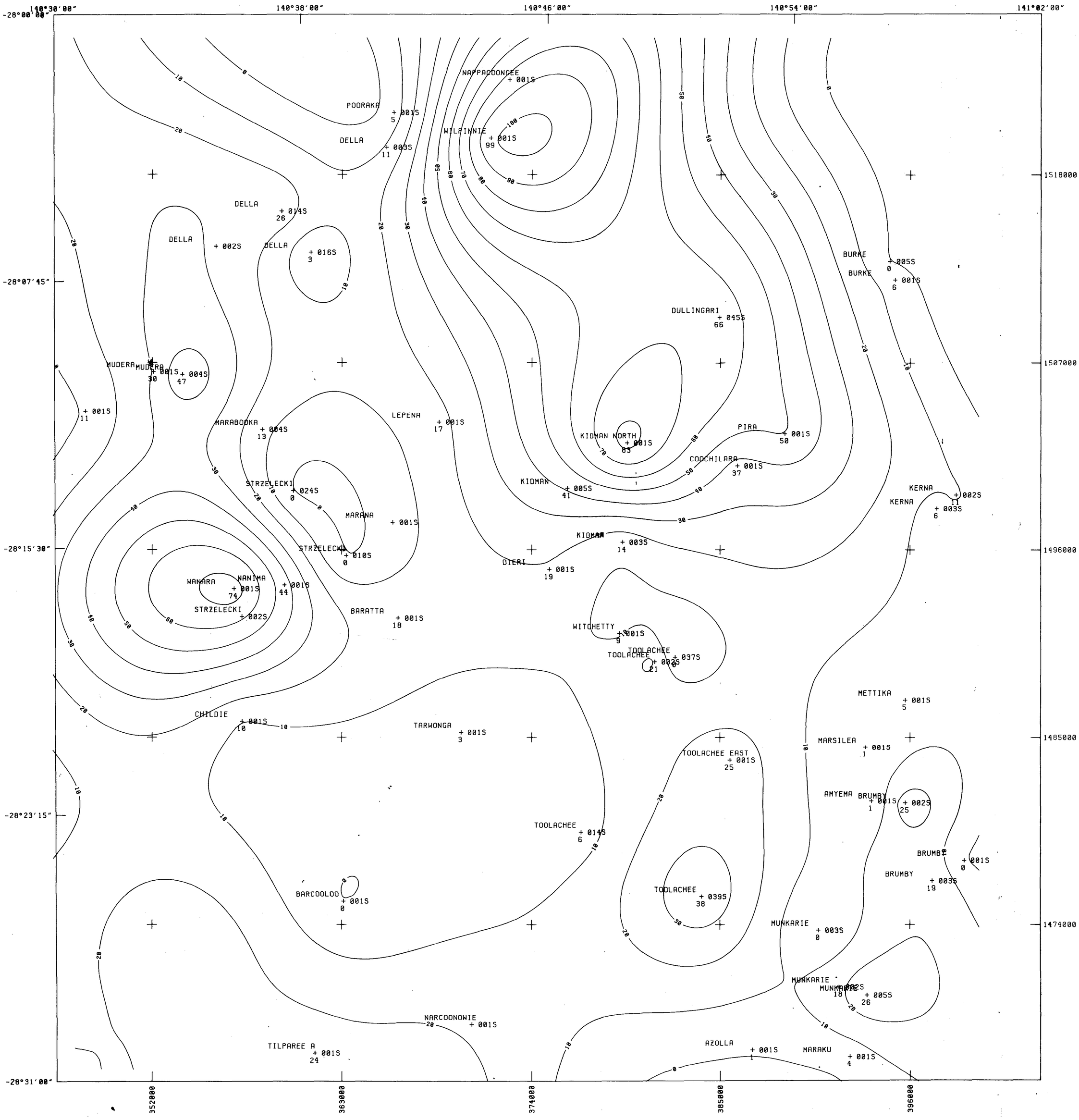
KILOMETERS 0 2 4 6 8 10 KILOMETERS

NET SAND C

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990			File No. : COOPER 202
Author : "LIM/BUTLER"				

8126-39 ENCLOSURE 17



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

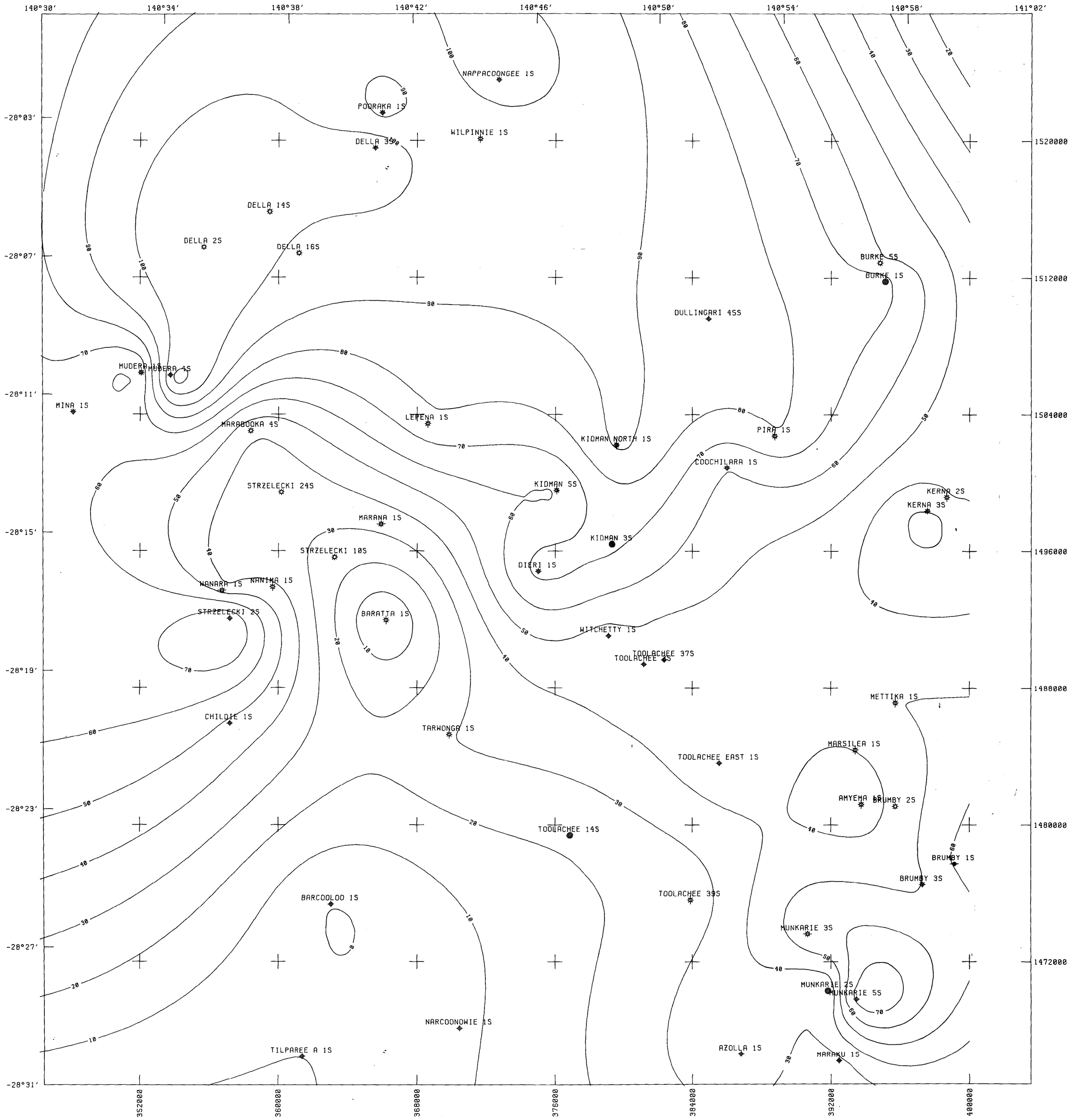
NET SAND D

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 203	
Author : "LIM/BUTLER"			

8126-40

ENCLOSURE 18



STATUTE MILES 0 1 2 3 4 5 STATUTE MILES
KILOMETERS 0 2 4 6 8 10 KILOMETERS
1:100000

NET SAND E

AQUIFER PROJECT

Scale : 1 : 100,000		Date : MARCH 1990		File No. : COOPER 204	
Author : "LIM/BUTLER"					

8126-41

ENCLOSURE 19

140°30′00″ 140°38′00″ 140°46′00″ 140°54′00″ 141°02′00″

-28°00′00″ -28°07′45″ -28°15′30″ -28°23′15″ -28°31′00″

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

NAPPACOONGEE + 001S

POORAKA + 001S 80

DELLA + 003S 99

WILPINNIE + 001S 61

DELLA + 014S

DELLA + 002S

DELLA + 018S 45

MUDERA + 001S 59

MUDERA + 004S 107

+ 001S 44

MARABOOKA + 004S 146

LEPENA + 001S 88

STRZELECKI + 024S

MARANA + 001S

STRZELECKI + 010S

WANARA

NANIMA + 001S 82

+ 001S

STRZELECKI + 002S 97

BARATTA + 001S

CHILDIE + 001S 70

TARWONGA + 001S

BARCOOLOO + 001S

NARCOONOWIE + 001S

TILPAREE A + 001S

DULLINGARI + 045S 32

BURKE + 005S

BURKE + 001S 22

KIDMAN NORTH + 001S

PIRA + 001S 10

COOCHILARA + 001S 6

KIDMAN + 005S

KERNA + 002S 10

KERNA + 003S 26

KIDMAN + 003S

DIERI + 001S

WITCHETTY + 001S

TOOLACHEE + 037S

TOOLACHEE + 002S 29

METTIKA + 001S 56

MARSILEA + 001S 101

TOOLACHEE EAST + 001S 40

AMYEMA

BRUMBY + 001S 70

BRUMBY + 002S 55

TOOLACHEE + 014S

BRUMBY + 001S 50

BRUMBY + 003S 89

TOOLACHEE + 039S 22

MUNKARIE + 003S 16

MUNKARIE + 005S 77

MUNKARIE + 005S 39

AZOLLA + 001S 54

MARAKU + 001S 64

1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

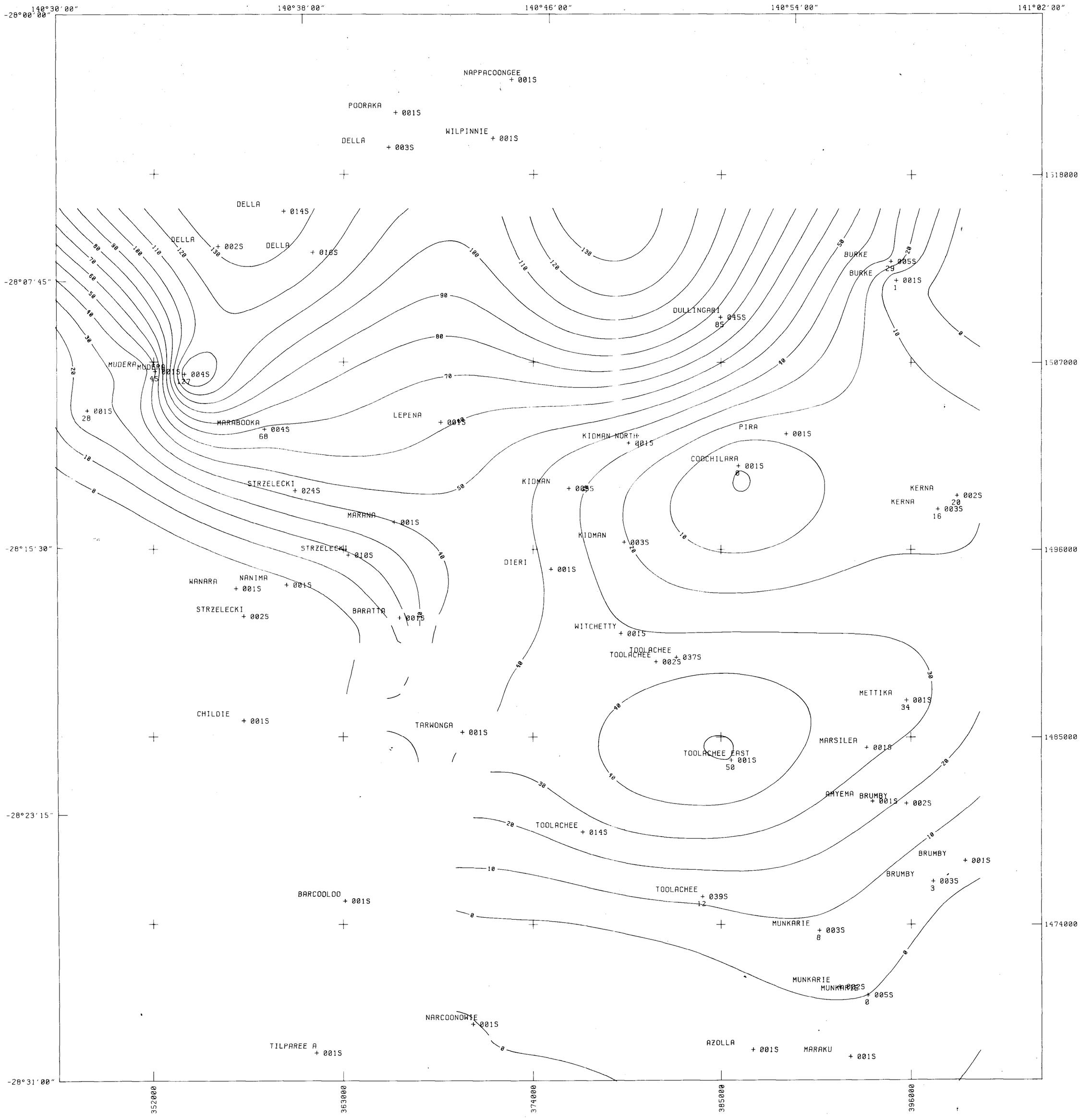
KILOMETERS 0 2 4 6 8 10 KILOMETERS

NET SAND F

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990		File No. : COOPER 205	
Author : "LIM/BUTLER"				

8126-42 ENCLOSURE 20



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

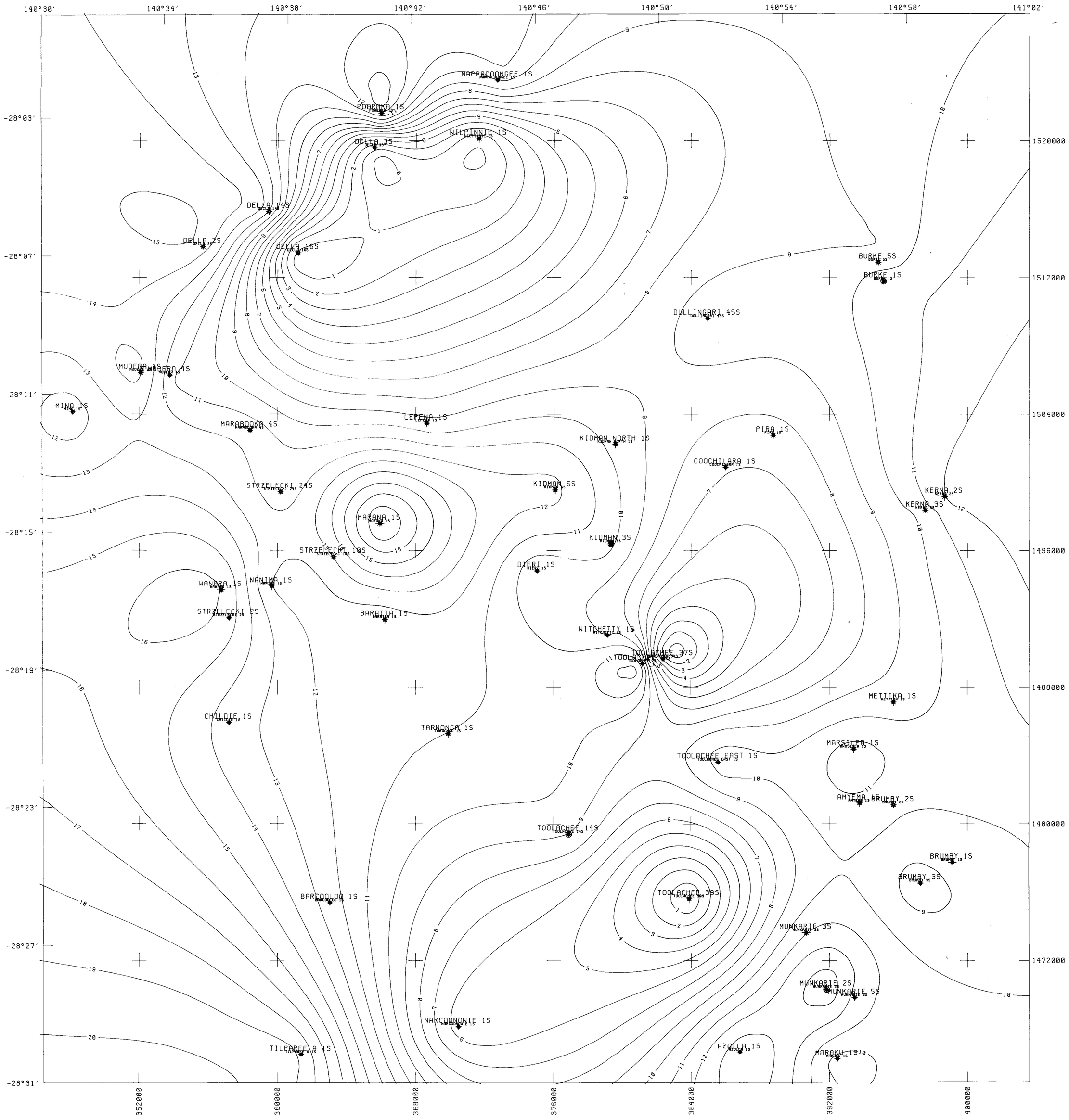
KILOMETERS 0 2 4 6 8 10 KILOMETERS

NET SAND G

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 206	
Author : "LIM/BUTLER"			

8126-43 ENCLOSURE 21



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

POROSITY SAND A

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990			File No. : COOPER 207
Author : "LIM/BUTLER"				

8126-44

ENCLOSURE 22

140°30'00" 140°38'00" 140°46'00" 140°54'00" 141°02'00"

-28°00'00" -28°07'45" -28°15'30" -28°23'15" -28°31'00"

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

GRID = PORNS SAND B

NAPPACOONGEE + 001S 15
POORAKA + 001S 11
WILPINNIE + 001S 15
DELLA + 003S 15
DELLA + 014S 16
DELLA + 016S 17
DELLA + 002S 11
DELLA
BURKE + 005S 12
BURKE + 001S 15
DULLINGARI + 045S 13
MUDERA + 001S 13
MUDERA + 004S 12
+ 001S 11
MARABOOKA + 004S 12
LEPENA + 001S 14
KIDMAN NORTH + 001S 13
PIRA + 001S 11
COOCHILARA + 001S 12
STRZELECKI + 024S 13
KIDMAN + 005S 15
KERNA + 002S 13
KERNA + 003S 13
MARANA + 001S 14
KIDMAN + 003S 13
STRZELECKI + 010S 15
DIERI + 001S 10
WANARA + 001S 15
NANIMA + 001S 14
STRZELECKI + 002S 17
BARATTA + 001S 16
WITCHETTY + 001S 22
TOOLACHEE + 037S 13
METTIKA + 001S 13
CHILDIE + 001S 13
TARWONGA + 001S 11
TOOLACHEE EAST + 001S 13
MARSILEA + 001S 12
AMYEMA + 001S 12
BRUMBY + 002S 12
TOOLACHEE + 014S 15
BRUMBY + 001S 11
BRUMBY + 003S 11
TOOLACHEE + 039S 11
MUNKARIE + 003S 12
BARCOOLOO + 001S 14
MUNKARIE + 005S 13
NARCOONOWIE + 001S 14
AZOLLA + 001S 15
TILPAREE A + 001S 17
MARAKU + 001S 10

1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

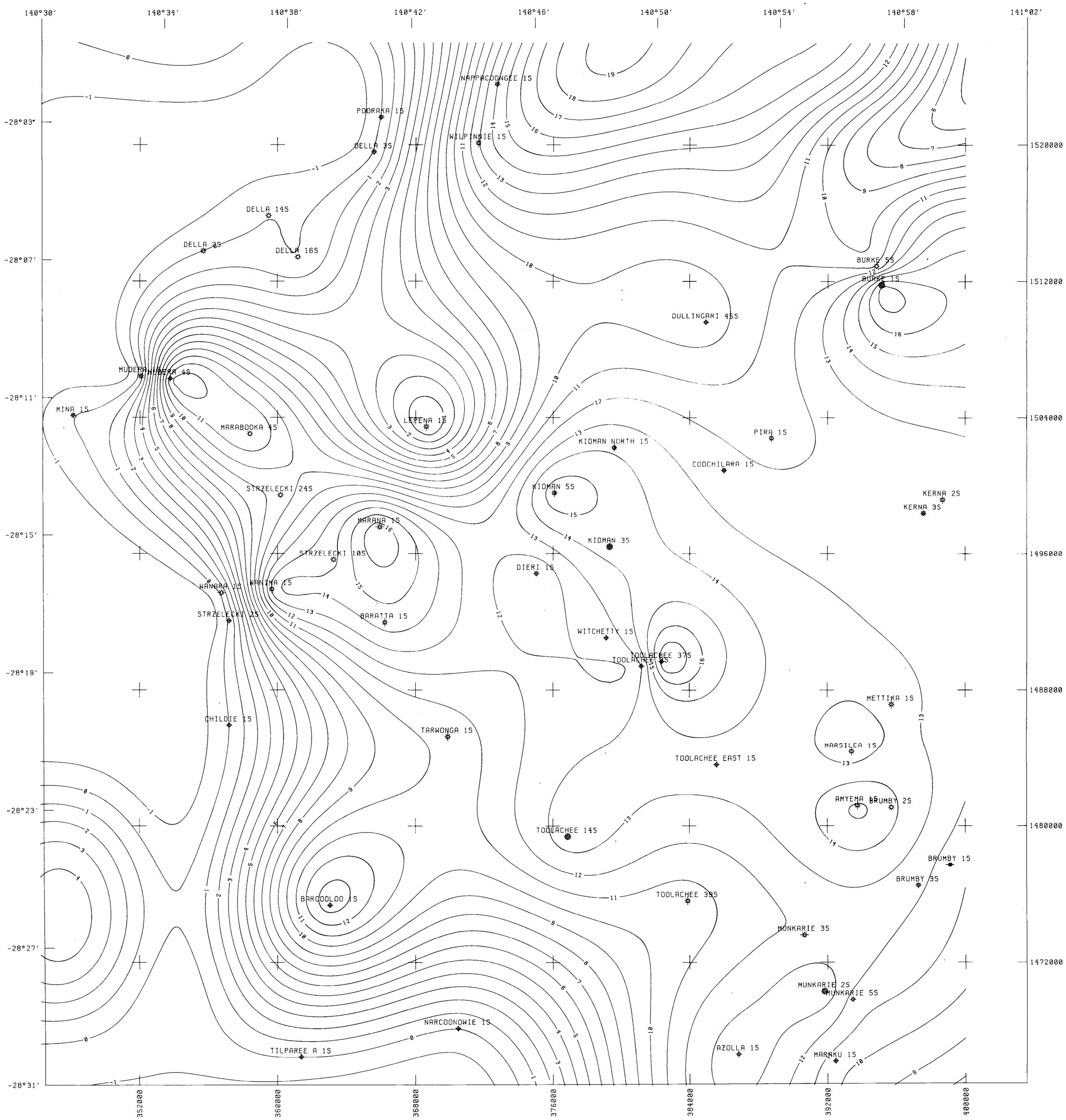
POROSITY SAND B

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 208		
Author : "LIM/BUTLER"				

8126-45

ENCLOSURE 23



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

POROSITY SAND C

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 209	
Author : "LIM/BUTLER"			

8126-46 ENCLOSURE 24

140°30′00″ 140°38′00″ 140°46′00″ 140°54′00″ 141°02′00″

-28°00′00″ -28°07′45″ -28°15′30″ -28°23′15″ -28°31′00″

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

NAPPACOONGEE + 001S 0

POORAKA + 001S 10

WILPINNIE + 001S 11

DELLA + 003S 12

DELLA + 014S 12

DELLA + 002S 0

DELLA + 016S 11

BURKE + 005S 0

BURKE + 001S 10

DULLINGARI + 045S 10

MUDERA + 001S 12

MUDERA + 004S 12

MARABOOKA + 004S 10

LEPENA + 001S 11

KIDMAN NORTH + 001S 12

PIRA + 001S 10

COOCHILARA + 001S 9

KIDMAN + 005S 12

KERNA + 002S 10

KERNA + 003S 12

STRZELECKI + 024S 0

MARANA + 001S 0

STRZELECKI + 010S 0

KIDMAN + 003S 12

DIERI + 001S 11

WANARA + 001S 13

NANIMA + 001S 12

STRZELECKI + 002S 0

BARATTA + 001S 15

WITCHETTY + 001S 10

TOOLACHEE + 037S

METTIKA + 001S 10

CHILDIE + 001S 13

TARWONGA + 001S 8

TOOLACHEE EAST + 001S 10

MARSILEA + 001S 11

AMYEMA + 001S 13

BRUMBY + 002S 12

BRUMBY + 001S 0

TOOLACHEE + 014S 12

BRUMBY + 003S 11

TOOLACHEE + 039S 10

MUNKARIE + 003S 0

MUNKARIE + 002S 14

MUNKARIE + 005S 11

BARCOOLOO + 001S 0

NARCOONOWIE + 001S 0

TILPAREE A + 001S 12

AZOLLA + 001S 10

MARAKU + 001S 11

1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

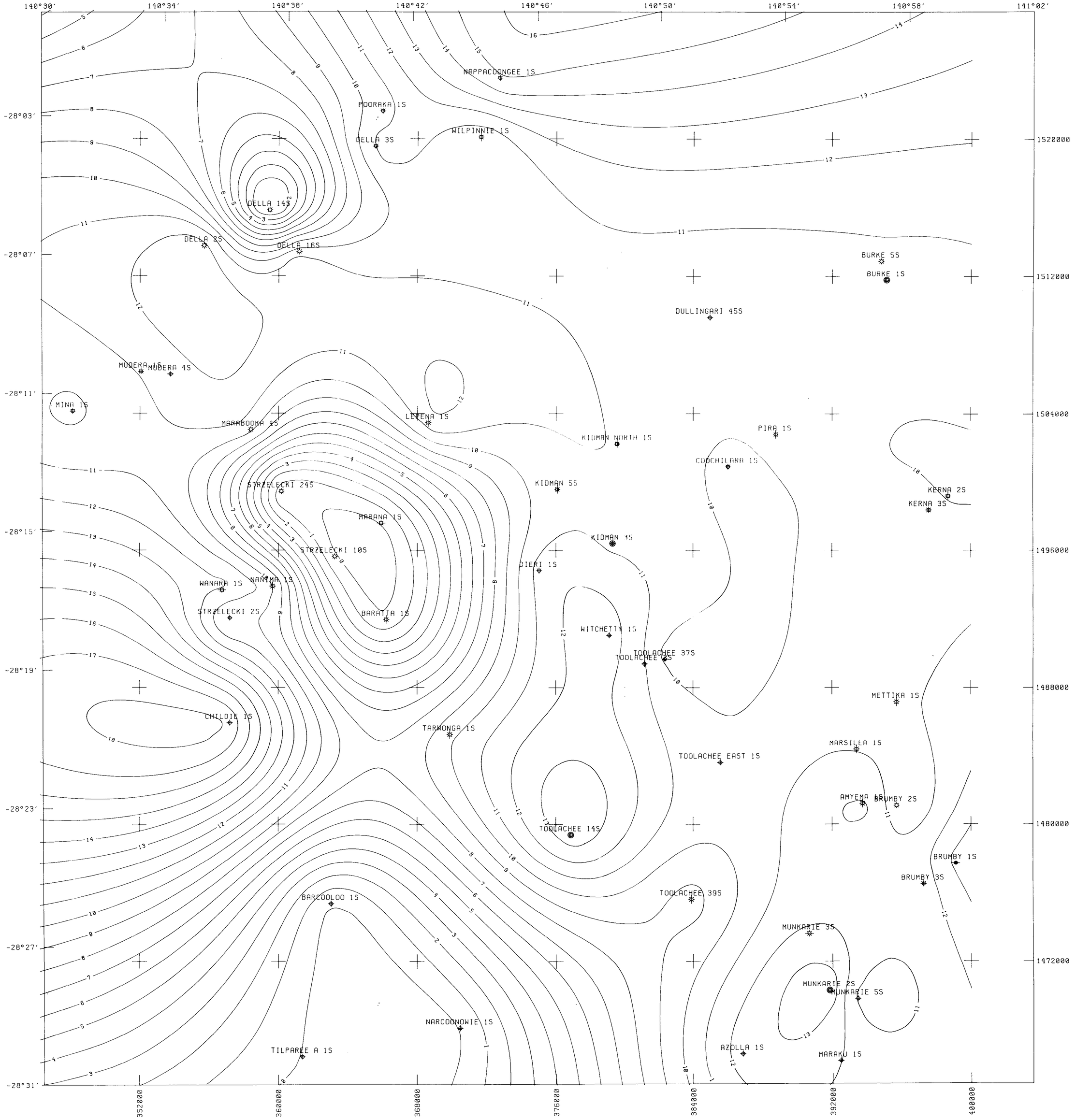
POROSITY SAND D

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 210	
Author : "LIM/BUTLER"			

8126-47

ENCLOSURE 25



1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

POROSITY SAND E

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 211	
Author : "LIM/BUTLER"			

8126-48 ENCLOSURE 26

140°30'00" 140°38'00" 140°46'00" 140°54'00" 141°02'00"

-28°00'00"

-28°07'45"

-28°15'30"

-28°23'15"

-28°31'00"

1518000 1507000 1496000 1485000 1474000

352000 363000 374000 385000 396000

NAPPACOONGEE + 001S 0

POORAKA + 001S 9

WILPINNIE + 001S 11

DELLA + 003S 11

DELLA + 014S 0

DELLA + 002S 0

DELLA + 016S 10

BURKE + 005S 9

BURKE + 001S 12

DULLINGARI + 045S 10

MUDERA + 001S 10

MUDERA + 004S 10

+ 001S 10

MARABOOKA + 004S 11

LEPENA + 001S 9

KIDMAN NORTH + 001S 0

PIRA + 001S 11

COOCHILARA + 001S 10

STRZELECKI + 024S 0

KIDMAN + 005S 0

KERNA + 002S 11

KERNA + 003S 10

MARANA + 001S 0

KIDMAN + 003S 0

STRZELECKI + 010S 0

DIERI + 001S 0

WANARA

NANIMA + 001S 14

STRZELECKI + 002S 10

BARATTA + 001S 0

WITCHETTY + 001S 0

TOOLACHEE + 037S 0

METTIKA + 001S 12

CHILDIE + 001S 15

TARWONGA + 001S 0

MARSILEA + 001S 12

TOOLACHEE EAST + 001S 10

AMYEMA

BRUMBY + 001S 12

BRUMBY + 002S 10

TOOLACHEE + 014S 0

BRUMBY + 001S 11

BRUMBY + 003S 11

TOOLACHEE + 039S 9

MUNKARIE + 003S 10

BARCOOLOO + 001S 0

MUNKARIE + 002S 13

MUNKARIE + 005S 10

NARCOONOWIE + 001S 0

AZOLLA + 001S 11

MARAKU + 001S 10

TILPAREE A + 001S 0

1:100000

STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

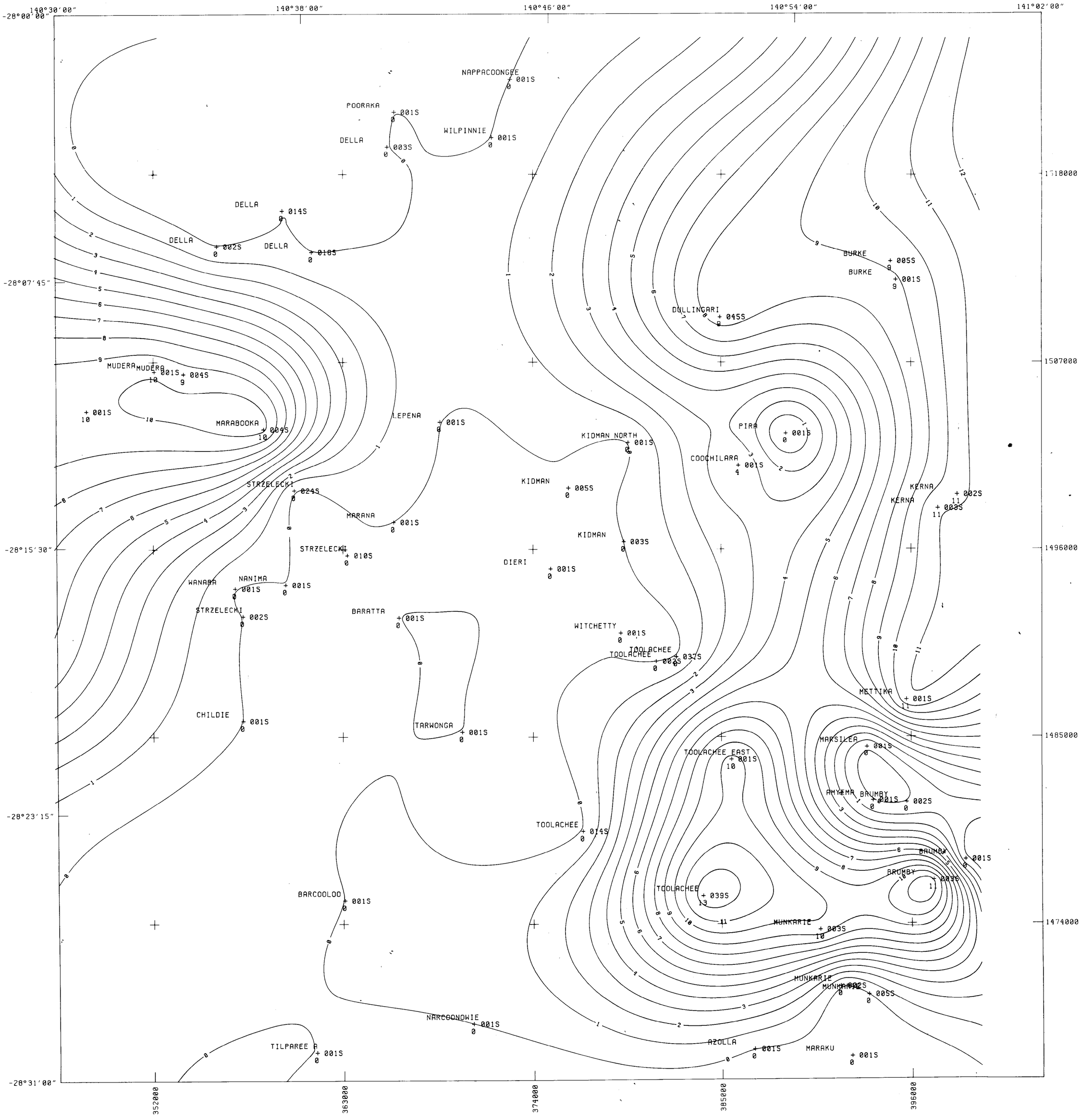
POROSITY SAND F

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990		File No. : COOPER 212	
Author : "LIM/BUTLER"				

8126-49

ENCLOSURE 27



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STATUTE MILES 0 1 2 3 4 5 STATUTE MILES

KILOMETERS 0 2 4 6 8 10 KILOMETERS

POROSITY SAND G

AQUIFER PROJECT

Scale : 1 : 100,000	Date : MARCH 1990	File No. : COOPER 213	
Author : "LIM/BUTLER"			

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