

APPENDIX V: WATER ANALYSIS

A Mud Filtrate sample taken on 13/05/95 was analysed by AMDEL.



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Santos Limited
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ADELAIDE SA 5001

Attention: A Pietsch

REPORT LQ3908

CLIENT REFERENCE: C5151

WELL NAME/RE: East Mereenie #36

MATERIAL: Mud Filtrate

WORK REQUIRED: Water Analysis

Please direct technical enquiries regarding this work to the signatory below under whose supervision the work was carried out.

A handwritten signature in black ink, appearing to read 'Brian L. Watson'.

Brian L. Watson
Manager
Petroleum Services

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TABLE 1 - WATER ANALYSIS

WELL: East Mereenie #36

SAMPLE TYPE: Mud Filtrate

SAMPLE POINT: -

DATE COLLECTED: 13/5/95

DATE RECEIVED: 29/5/95

FORMATION: -

INTERVAL: -

COLLECTED BY: Client

1. Chemical Composition
1.1 Ionic Solutes

Cations		mg/L	meq/L
Ammonium	(NH ₄)		
Potassium	(K)	150	3.8
Sodium	(Na)	20100	874
Barium	(Ba)		
Calcium	(Ca)	375	18.7
Iron	(Fe)		
Magnesium	(Mg)	35	2.9
Strontium	(Sr)		
(a) Total Cations		20660	899.7

Anions			
Bromide	(Br)		
Chloride	(Cl)	32015	902
Fluoride	(F)		
Hydroxide	(OH)		
Nitrite	(NO ₂)		
Nitrate	(NO ₃)	<0.1	
Sulphide	(S)		
Bicarbonate	(HCO ₃)	2687	44.0
Carbonate	(CO ₃)		
Sulphite	(SO ₃)		
Sulphate	(SO ₄)	4000	83.2
(b) Total Anions		38702	1029.2

1.2 Other Solutes

Boron (B)
 Silica (SiO₂)
 Carbon Dioxide (CO₂)
 Hydrogen Sulphide (H₂S)
 Oxygen (O₂)
 Residue Hydrocarbons
 Carboxylic Acid
 Naphthenic Acid
 Organic Carbon

2. Analysis

- (a) Ion Balance (Diff*100/Sum) (%) = 6.7
 pH (measured) = 8.2
 Electrical Conductivity (μS/cm @ 25C) = 94000
 Total Alkalinity (calculated as CaCO₃) (mg/L) = 2155

3. Summary

(a)	Total of Cations + Anions	59362	(mg/L)
(b)	Theoretical Result of an Evaporation Test (From Electrical Conductivity)	60160	(mg/L)
(c)	0.6 x concentration of bicarbonate ion*	1612	(mg/L)
(d)	Theoretical Total Dissolved Salts (b) + (c)	61772	(mg/L)
(e)	Total undected ions (d) - (a)	2410	(mg/L)

4. Quality Control

Item Satisfactory?
 (Yes/No)

2(a) Yes

2(b)

3(e) Yes

If No - what action is recommended by Amdel

* i.e. bicarbonate that would be destroyed in an evaporation test