

APPENDIX IX: WATER ANALYSIS



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17025
Accreditation No 2013

Certificate of Analysis



**BUREAU
VERITAS**

Santos Limited
GPO Box 2319
ADELAIDE SA 5000
Australia

Attention: Hugh Sheppard

Project Name 14PEAD0006154
Collected by Client
Client Ref: 849485-676

Customer Sample ID		West mereenie 24	West mereenie 24	West mereenie 24
Description		Sample 1	Sample 2	Sample 3
Date Collected		05/05/2014	05/05/2014	08/05/2014
Time Collected		12:00	18:00	06:00
Date Received		21/05/2014	21/05/2014	21/05/2014
Sample Type		Water	Water	Water
WATER ANALYSIS				
Test/Reference	Unit			
PROPERTIES: APHA 4500-H+ A,B				
pH at Measured Temp.		5.4	5.7	5.1
Measured Temp.	°C	21.8	22.1	22.1
PROPERTIES: APHA 2510 A,B				
Electrical Conductivity @ 25°C	µS/cm	88000	85000	86000
Resistivity @ 25°C	M.Ohm	0.11	0.12	0.12
ANIONS mg/L P3100-PW-004				
Hydroxide as OH*	mg/L	<1	<1	<1
Carbonate as CO3*	mg/L	<1	<1	<1
Bicarbonate as HCO3*	mg/L	32	26	26
ANIONS mg/L APHA 4110				
Chloride as Cl	mg/L	38000	37000	37000
Nitrate as NO3	mg/L	<0.1	<0.1	<0.1
Sulphate as SO4	mg/L	2400	2500	2500
Total Anions	mg/L	41000	39000	40000
ANIONS meq/L P3100-PW-004				
Hydroxide as OH*	meq/L	<0.01	<0.01	<0.01
Carbonate as CO3*	meq/L	<0.01	<0.01	<0.01
Bicarbonate as HCO3*	meq/L	0.53	0.43	0.43
ANIONS meq/L APHA 1050 A				
Chloride as Cl*	meq/L	1100	1000	1000
Nitrate as NO3*	meq/L	<0.01	<0.01	<0.01
Sulphate as SO4*	meq/L	49	52	51
Total Anions*	meq/L	1100	1100	1100
CATIONS Dissolved mg/L APHA 3120				
Potassium as K	mg/L	1800	1800	1800
Sodium as Na	mg/L	18000	18000	18000
Calcium as Ca	mg/L	2900	2700	2700
Magnesium as Mg	mg/L	1200	1100	1200
CATIONS mg/L APHA 3120				
Total Cations	mg/L	24000	23000	24000
CATIONS meq/L APHA 1050 A				
Potassium as K*	meq/L	47	47	47
Sodium as Na*	meq/L	790	770	780



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Time Collected		12:00	18:00	06:00
Date Received		21/05/2014	21/05/2014	21/05/2014
Sample Type		Water	Water	Water
WATER ANALYSIS				
Test/Reference	Unit			
Calcium as Ca*	meq/L	150	130	140
Magnesium as Mg*	meq/L	95	93	95
Total Cations*	meq/L	1100	1000	1100
DERIVED PARAMETERS APHA 4110 & 3120				
Ion balance (Diff * 100/Sum)	%	3	2	2
Acceptance Criteria	%	5	5	5
Satisfactory		Yes	Yes	Yes
DERIVED PARAMETERS APHA 2320 A,B				
Total Alkalinity (calc as CaCO ₃)	mg/L	27	21	21
DERIVED PARAMETERS APHA 4110 & 3120				
Total Cations + Anions	mg/L	65000	63000	63000
DERIVED PARAMETERS APHA 2340 B				
Hardness (calc as CaCO ₃)	mg/L	12000	11000	12000
DERIVED PARAMETERS APHA 2540 A,B,C,D				
Calculated Total Dissolved Solids	mg/L	57000	54000	55000

Customer Sample ID		West mereenie 24
Description		Sample 4
Date Collected		08/05/2014
Time Collected		06:00
Date Received		21/05/2014
Sample Type		Water
WATER ANALYSIS		
Test/Reference	Unit	
PROPERTIES: APHA 4500-H+ A,B		
pH at Measured Temp.		4.9
Measured Temp.	°C	22.1
PROPERTIES: APHA 2510 A,B		
Electrical Conductivity @ 25°C	µS/cm	86000
Resistivity @ 25°C	M.Ohm	0.12
ANIONS mg/L P3100-PW-004		
Hydroxide as OH*	mg/L	<1
Carbonate as CO ₃ *	mg/L	<1
Bicarbonate as HCO ₃ *	mg/L	32
ANIONS mg/L APHA 4110		
Chloride as Cl	mg/L	38000
Nitrate as NO ₃	mg/L	<0.1
Sulphate as SO ₄	mg/L	2400
Total Anions	mg/L	40000
ANIONS meq/L P3100-PW-004		
Hydroxide as OH*	meq/L	<0.01
Carbonate as CO ₃ *	meq/L	<0.01



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Customer Sample ID	West mereenie
Description	24
Date Collected	Sample 4
Time Collected	08/05/2014
Date Received	06:00
Sample Type	21/05/2014
	Water

WATER ANALYSIS

Test/Reference	Unit	
Bicarbonate as HCO ₃ * ANIONS meq/L APHA 1050 A	meq/L	0.53
Chloride as Cl*	meq/L	1100
Nitrate as NO ₃ *	meq/L	<0.01
Sulphate as SO ₄ *	meq/L	51
Total Anions*	meq/L	1100
CATIONS Dissolved mg/L APHA 3120		
Potassium as K	mg/L	1900
Sodium as Na	mg/L	18000
Calcium as Ca	mg/L	2800
Magnesium as Mg	mg/L	1200
CATIONS mg/L APHA 3120		
Total Cations	mg/L	24000
CATIONS meq/L APHA 1050 A		
Potassium as K*	meq/L	48
Sodium as Na*	meq/L	790
Calcium as Ca*	meq/L	140
Magnesium as Mg*	meq/L	95
Total Cations*	meq/L	1100
DERIVED PARAMETERS APHA 4110 & 3120		
Ion balance (Diff * 100/Sum)	%	2
Acceptance Criteria	%	5
Satisfactory		Yes
DERIVED PARAMETERS APHA 2320 A,B		
Total Alkalinity (calc as CaCO ₃)	mg/L	27
DERIVED PARAMETERS APHA 4110 & 3120		
Total Cations + Anions	mg/L	64000
DERIVED PARAMETERS APHA 2340 B		
Hardness (calc as CaCO ₃)	mg/L	12000
DERIVED PARAMETERS APHA 2540 A,B,C,D		
Calculated Total Dissolved Solids	mg/L	55000

Test Description

DERIVED PARAMETERS

If the ion balance in this sample is unsatisfactory it is most likely due to a component or components of the sample that is not within the scope of this analysis.

Authorised By

Valentina Pavlovic

Chemist

Accreditation No 2013

Laboratory Manager

James Dennett

Operations Manager

Final Report



- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Samples will be discarded after 30 days unless otherwise notified.

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The samples were not collected by Laboratory staff.