

APPENDIX D



Amdel Limited
A.C.N. 008 127 802

Petroleum Services
PO Box 338
Torrensville Plaza SA 5031

Telephone: (08) 416 5240
Facsimile: (08) 234 2933

29 December 1994

Magellan Petroleum Australia Pty Ltd
PO Box 413
ALICE SPRINGS NT 0871

Attention: Tony Morozak-Smith

REPORT LQ3550

CLIENT REFERENCE: P/O 3701

WELL NAME/RE: Palm Valley-10

MATERIAL: Water Sample

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 Watson".

Brian L. Watson
Manager
Petroleum Services

Amdel Limited shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Amdel Limited be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested.

Note: mg/L = Milligrams per litre
 me/L = MilliEqivs.per litre

Water Analysis Report

Job No. LQ3550

Method WAT 2 Page 2

Sample ID. PALM VALLEY-10 755m

Chemical Composition				Derived Data			
		mg/L	me/L			mg/L	
Cations				Total Dissolved Solids			
Calcium	(Ca)	120.0	5.99	A. Based on E.C.		1491	
Magnesium	(Mg)	81.0	6.67	B. Calculated (HCO3=CO3)		1402	
Sodium	(Na)	246.0	10.70				
Potassium	(K)	34.0	0.87				
Anions				Total Hardness		633	
Hydroxide	(OH)			Carbonate Hardness		274	
Carbonate	(CO3)			Non-Carbonate Hardness		359	
Bi-Carbonate	(HCO3)	344.3	5.64	Total Alkalinity		274	
Sulphate	(SO4)	330.0	6.87	(Each as CaCO3)			
				Totals and Balance			
Chloride	(Cl)	419	11.80				
Nitrate	(NO3)	0.2	0.00				
Bromide	(Br)	2.4					
Other Analyses				Cations (me/L)		24.2	Diff= 0.09
				Anions (me/L)		24.3	Sum = 48.54
				ION BALANCE		(Diff*100/Sum) =	0.19%
				Sodium / Total Cation Ratio		44.2%	
				Remarks			
Reaction - pH				7.1			
Conductivity (E.C.)				2330			
(micro -S/cm at 25 degC)							
Resistivity (Ohm.M at 25 degC)				4.29			
				</			

Water Analysis Report

Job No. LQ3550

Method WAT 2 Page 3

Sample ID. PALM VALLEY-10 780m

Chemical Composition				Derived Data			
		mg/L	me/L				mg/L
Cations				Total Dissolved Solids			
Calcium	(Ca)	107.0	5.34	A. Based on E.C.			1370
Magnesium	(Mg)	80.0	6.58	B. Calculated (HCO3=CO3)			1309
Sodium	(Na)	214.0	9.31				
Potassium	(K)	32.0	0.82				
Anions				Total Hardness			
Hydroxide	(OH)			Carbonate Hardness			
Carbonate	(CO3)			Non-Carbonate Hardness			
Bi-Carbonate	(HCO3)	333.3	5.46	Total Alkalinity			
Sulphate	(SO4)	315.0	6.56	(Each as CaCO3)			
Chloride	(Cl)	394	11.09				
Nitrate	(NO3)	0.2	0.00				
Bromide	(Br)	2.0					
Other Analyses				Totals and Balance			
				Cations (me/L)	22.1	Diff=	1.07
				Anions (me/L)	23.1	Sum =	45.17
				ION BALANCE	(Diff*100/Sum)	=	2.37%
				Sodium / Total Cation Ratio			42.2%
				Remarks			
</							

Water Analysis Report

Job No. LQ3550

Method WAT 2 Page 4

Sample ID. PALM VALLEY-10 856m

Chemical Composition				Derived Data			
		mg/L	me/L				mg/L
Cations				Total Dissolved Solids			
Calcium	(Ca)	87.0	4.34	A. Based on E.C.			1293
Magnesium	(Mg)	77.0	6.34	B. Calculated (HCO3=CO3)			1186
Sodium	(Na)	195.0	8.48				
Potassium	(K)	33.0	0.84				
Anions				Total Hardness			
Hydroxide	(OH)			Carbonate Hardness			
Carbonate	(CO3)			Non-Carbonate Hardness			
Bi-Carbonate	(HCO3)	329.3	5.40	Total Alkalinity			
Sulphate	(SO4)	245.0	5.10	(Each as CaCO3)			
Chloride	(Cl)	384	10.81	Totals and Balance			
Nitrate	(NO3)	0.5	0.01				
Bromide	(Br)	1.5					
Other Analyses							

Water Analysis Report

Job No. LQ3550

Method WAT 2 Page 5

Sample ID. PALM VALLEY-10 900m

Chemical Composition				Derived Data			
		mg/L	me/L			mg/L	
Cations				Total Dissolved Solids			
Calcium	(Ca)	85.0	4.24	A. Based on E.C.		1261	
Magnesium	(Mg)	82.0	6.75	B. Calculated (HCO3=CO3)		1073	
Sodium	(Na)	180.0	7.83				
Potassium	(K)	31.0	0.79				
Anions				Total Hardness			
Hydroxide	(OH)			Carbonate Hardness			
Carbonate	(CO3)			Non-Carbonate Hardness			
Bi-Carbonate	(HCO3)	336.2	5.51	Total Alkalinity			
Sulphate	(SO4)	33.0	0.69	(Each as CaCO3)			
Chloride	(Cl)	490	13.81	Totals and Balance			
Nitrate	(NO3)	3.2	0.05				
Other Analyses							

Water Analysis Report

Job No. LQ3550

Method WAT 2 Page 6

Sample ID. PALM VALLEY-10 INJECTION FLUID

Chemical Composition				Derived Data	
		mg/L	me/L		mg/L
Cations				Total Dissolved Solids	
Calcium	(Ca)	24.0	1.20	A. Based on E.C.	1306
Magnesium	(Mg)	2.0	0.16	B. Calculated (HCO ₃ =CO ₃)	1051
Sodium	(Na)	361.0	15.70		
Potassium	(K)	11.0	0.28		
Anions				Total Hardness	68
Hydroxide	(OH)			Carbonate Hardness	68
Carbonate	(CO ₃)			Non-Carbonate Hardness	
Bi-Carbonate	(HCO ₃)	404.5	6.63	Total Alkalinity	322
Sulphate	(SO ₄)	37.0	0.77	(Each as CaCO ₃)	
Chloride	(Cl)	414	11.65	Totals and Balance	
Nitrate	(NO ₃)	<0.1			
Other Analyses				Cations (me/L)	17.3
				Diff=	1.71
				Anions (me/L)	19.1
				Sum =	36.40
				ION BALANCE (Diff*100/Sum) =	4.69%
				Sodium / Total Cation Ratio	90.5%
				Remarks	
Reaction - pH					
Conductivity (E.C.)					
(micro -S/cm at 25 degC)					
Resistivity (Ohm.M at 25 degC)					
			10.5		
			2040		
			4.90		
Note:				mg/L = Milligrams per litre	
				me/L = MilliEquivs.per litre	

Name: MARTIN BERRY
Address: MAGELLAN PETROLEUM
GPO BOX 2766
BRISBANE QLD 4001

Formation
Type
Point
Time
Interval
Geologist
Depth

Les Burgess

Date Collected UNKNOWN
Date Received 14/12/94
Collected by CLIENT



Amdel Limited
A.C.N. 008 127 802

Petroleum Services
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17 February 1995

Magellan Petroleum Australia Ltd
PO Box 413
ALICE SPRINGS NT 0871

Attention: Tony Morozak-Smith

RECEIVED	
27 FEB 1995	
TO BE HANDLED BY	AND/OR BY HANDLED BY
GIVE DATE & REFERENCE	
MDO MNF, TECH(2) READ	
FILE	(COVER ONLY)

REPORT LQ3659

CLIENT REFERENCE: Verbal Request

WELL NAME/RE: Palm Valley-10

MATERIAL: Gas and Water Sample

WORK REQUIRED: Compositional Analysis

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

Brian L. Watson
Manager
Petroleum Services

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Water Analysis Report

Job No. LQ3659

Method WAT 2 Page 2

Sample ID. PALM VALLEY-10A SEEPAGE

Chemical Composition				Derived Data			
		mg/L	me/L			mg/L	
Cations				Total Dissolved Solids			
Calcium	(Ca)	3.4	0.17	A. Based on E.C.		1920	
Magnesium	(Mg)	3.0	0.25	B. Calculated (HCO3=CO3)		1696	
Sodium	(Na)	657.0	28.58				
Potassium	(K)	44.0	1.13				
Anions				Total Hardness			
Hydroxide	(OH)			Carbonate Hardness			
Carbonate	(CO3)	50.8	1.69	Non-Carbonate Hardness			
Bi-Carbonate	(HCO3)	611.3	10.02	Total Alkalinity		588	
Sulphate	(SO4)	266.0	5.54	(Each as CaCO3)			
Chloride	(Cl)	364	10.26	Totals and Balance			
Nitrate	(NO3)	2.2	0.04				
Other Analyses				Cations (me/L)	30.1	Diff=	2.57
				Anions (me/L)	27.5	Sum =	57.67
				ION BALANCE (Diff*100/Sum) = 4.46%			
				Sodium / Total Cation Ratio 94.9%			
				Remarks			
Reaction - pH				8.7			
Conductivity (E.C.)				3000			
(micro -S/cm at 25 degC)							
Resistivity (Ohm.M at 25 degC)				3.33			



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27 February 1995

Magellan Petroleum Australia Limited
PO Box 413
ALICE SPRINGS NT 0871

Attention: Tony Morozak-Smith

REPORT LQ3676

CLIENT REFERENCE: P/O 3905

WELL NAME/RE: Palm Valley-10A

MATERIAL: Water Sample

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 Watson".

Brian L. Watson
Manager
Petroleum Services

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Method WAT 2 Page 1

Date Collected 07/02/95
Date Received 16/02/95
Collected by CLIENT

Date Collected 07/02/95
Date Received 16/02/95
Collected by CLIENT

Water Analysis Report

Job No. LQ3676

Method WAT 2 Page 4

Sample ID. PALM VALLEY-10A

Chemical Composition				Derived Data			
		mg/L	me/L			mg/L	
Cations				Total Dissolved Solids			
Calcium	(Ca)	1160.0	57.88	A. Based on E.C.		103680	
Magnesium	(Mg)	1380.0	113.58	B. Calculated (HCO3=CO3)		100974	
Sodium	(Na)	27710.0	1205.31				
Potassium	(K)	4430.0	113.30				
Anions				Total Hardness		8572	
Hydroxide	(OH)			Carbonate Hardness		99	
Carbonate	(CO3)			Non-Carbonate Hardness		8473	
Bi-Carbonate	(HCO3)	119.8	1.96	Total Alkalinity		99	
Sulphate	(SO4)	34.0	0.71	(Each as CaCO3)			
Chloride	(Cl)	66200	1864.79	Totals and Balance			
Nitrate	(NO3)	<0.1					
Other Analyses				Cations (me/L)	1490.1	Diff=	377.39
				Anions (me/L)	1867.5	Sum =	3357.53
				ION BALANCE (Diff*100/Sum) = 11.24%			
				Sodium / Total Cation Ratio 80.9%			
				Remarks			

Date Collected 07/02/95
Date Received 16/02/95
Collected by CLIENT



Amdel Limited
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Petroleum Services
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Telephone: (08) 416 5240
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15 March 1995

Magellan Petroleum Australia
10th Floor, 145 Eagle Street
BRISBANE QLD 4000

Attention: Martin Berry

MDB	
RECEIVED	
TO BE HANDLED BY	ADON HANDLER
GIVE DATE & REFERENCE	
MDB LNF TECH(2) RETD FILE	

REPORT LQ3745

CLIENT REFERENCE: Verbal Request

WELL NAME/RE: PV #10A

MATERIAL: Water

WORK REQUIRED: Density

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

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Manager
Petroleum Services

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1. INTRODUCTION AND RESULTS

Additional tests on water samples (PV #10A) were requested by Martin Berry. The results are listed below.

Method: ASTM D4052

Unit: g/cm³

Sample ID	Density at 20°C
PV #10A, 07/02/95 2230 hours, 450 psig	1.0681
PV #10A, 07/02/95 2100 hours, 500 psig	1.0793
PV #10A, 2335 m	1.0468