

## Appendix C – Laboratory Reports

# SOIL ANALYSIS REPORT

Report Number: 506405

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021832776	<b>Paddock Name:</b>	APA01 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-004	<b>Sample Name:</b>	APA01	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class	8			Emerson, AS 1289.3.8.1
Organic Matter	0.62	%	04-054-WCALC	Calculation: Organic Carbon x 1.
pH (1:5 CaCl <sub>2</sub> )	4.6		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	0.36	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	1.7	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.3	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.047	%	04-086-TN	Combustion
Sulphur (MCP)	2.0	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	<5.0	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
Aluminium	19	mg/kg	04-027-ICP9	
Aluminium	0.21	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.31	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.75	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	0.33	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	<0.022	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	6.0		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	1.6	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.01	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	<1.4	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	13	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	2.3		04-058-ICP18	Calculation
Chloride	<10	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.14	mg/kg	04-024-ICP6	DTPA
Zinc	0.24	mg/kg	04-024-ICP6	DTPA
Manganese	15	mg/kg	04-024-ICP6	DTPA
Iron	15	mg/kg	04-024-ICP6	DTPA
Boron	0.088	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	10.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	73.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	7.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	8.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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Toll-free: 1800 803 453 Fax: (61 3) 9974 0699  
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# SOIL ANALYSIS REPORT

**Report Number:** 506405

<b>Sample Number:</b> 021832776	<b>Paddock Name:</b> APA01 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-004	<b>Sample Name:</b> APA01	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Calcium	0.031	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	2.9	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	5500	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.074	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.025	%	04-085-ICP28	Reverse aqua regia digestion
Total Manganese	160	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.017	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.0075	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.0032	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	10	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.20	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	8.9	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	3.4	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	2.7	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506361

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021832775	<b>Paddock Name:</b>	APA01- 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA01	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	8			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	4.9		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.89	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.85	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.33	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.75	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	0.58	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.083	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	6.7		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	1.8	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.02	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	4.6	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	5.6	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	1.3		04-058-ICP18	Calculation
Chloride	13	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	10.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	70.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	7.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	11.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506362

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021832774	<b>Paddock Name:</b>	APA01 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA01	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	6.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.57	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.27	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.85	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	1.6	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.52	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	7.1		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	3.3	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.16	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	16	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	3.0	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.53		04-058-ICP18	Calculation
Chloride	190	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	8.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	52.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	5.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	34.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506363

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021832773	<b>Paddock Name:</b>	APA01 85-95	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA01	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	85 to 95 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	7.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.67	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.74	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.16	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.50	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	1.1	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.48	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	8.0		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	2.3	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.28	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	21	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	4.3	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.45		04-058-ICP18	Calculation
Chloride	340	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	8.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	55.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	7.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	28.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C

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# SOIL ANALYSIS REPORT

Report Number: 506364

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021832772	<b>Paddock Name:</b>	APA01 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA01	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	6.7		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.53	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.41	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.4	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	3.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	1.7	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	7.7		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	6.8	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.41	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	25	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	1.5	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.44		04-058-ICP18	Calculation
Chloride	510	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	6.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	54.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	9.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	28.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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Report Number: 506406

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021832771	<b>Paddock Name:</b>	APA04 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-004	<b>Sample Name:</b>	APA04	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class	2			Emerson, AS 1289.3.8.1
Organic Matter	1.2	%	04-054-WCALC	Calculation: Organic Carbon x 1.
pH (1:5 CaCl <sub>2</sub> )	4.8		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	0.67	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	1.1	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.8	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.065	%	04-086-TN	Combustion
Sulphur (MCP)	2.9	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	9.8	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.35	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.8	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	1.8	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.20	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	6.4		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	4.3	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.03	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	4.7	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	2.3	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	1.0		04-058-ICP18	Calculation
Chloride	12	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.39	mg/kg	04-024-ICP6	DTPA
Zinc	2.1	mg/kg	04-024-ICP6	DTPA
Manganese	47	mg/kg	04-024-ICP6	DTPA
Iron	39	mg/kg	04-024-ICP6	DTPA
Boron	0.21	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	6.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	65.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	12.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	16.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

**Report Number:** 506406

<b>Sample Number:</b> 021832771	<b>Paddock Name:</b> APA04 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-004	<b>Sample Name:</b> APA04	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Calcium	0.065	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	7.2	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	11000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.10	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.061	%	04-085-ICP28	Reverse aqua regia digestion
Total Manganese	590	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.022	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.021	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.0057	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	33	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	<0.13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	14	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	10	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	7.0	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506365

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021832770	<b>Paddock Name:</b>	APA04 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA04	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	6.4		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.80	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.93	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.34	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.7	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	4.8	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	1.1	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	7.5		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	8.0	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.27	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	14	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	1.3	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.35		04-058-ICP18	Calculation
Chloride	320	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	3.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	42.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	8.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	44.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506366

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021832769	<b>Paddock Name:</b>	APA04 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA04	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	7.2		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.64	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.73	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.19	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.75	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	3.6	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	1.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	8.1		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	5.8	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.39	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	21	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	1.7	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.21		04-058-ICP18	Calculation
Chloride	470	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	4.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	50.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	8.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	36.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C

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# SOIL ANALYSIS REPORT

Report Number: 506367

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021832768	<b>Paddock Name:</b>	APA04 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA04	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	85 to 95 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	1			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	7.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.20	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.80	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	4.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	1.6	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	7.9		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	6.9	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.56	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	23	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	1.4	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.19		04-058-ICP18	Calculation
Chloride	670	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	5.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	56.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	7.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	31.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C

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# SOIL ANALYSIS REPORT

Report Number: 506368

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844697	<b>Paddock Name:</b>	APA04 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA04	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	8			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	5.1		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.68	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.98	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.13	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.20	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	1.7	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.78	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	6.0		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	2.9	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.56	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	27	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	3.4	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.12		04-058-ICP18	Calculation
Chloride	650	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	5.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	53.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	9.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	31.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C

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# SOIL ANALYSIS REPORT

Report Number: 506407

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844696	<b>Paddock Name:</b>	APA08 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA08	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	14	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	22	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	7			Emerson, AS 1289.3.8.1
Magnesium (15C1)	7.3	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Organic Matter	2.4	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	0.69	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	0.32	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	7.9		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	1.4	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	2.1	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	2.5	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.16	%	04-086-TN	Combustion
Sulphur (MCP)	6.1	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	5.6	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
pH (1:5 Water)	8.7		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.17	dS/m	04-031-PH	1:5 soil/water
Chloride	26	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.42	mg/kg	04-024-ICP6	DTPA
Zinc	0.31	mg/kg	04-024-ICP6	DTPA
Manganese	6.6	mg/kg	04-024-ICP6	DTPA
Iron	8.4	mg/kg	04-024-ICP6	DTPA
Boron	1.2	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	10.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	37.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	9.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	42.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.82	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	10	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	18000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.21	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.38	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506407

<b>Sample Number:</b> 021844696	<b>Paddock Name:</b> APA08 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA08	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	590	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.037	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.020	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.017	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	45	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	<0.13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	15	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	9.4	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	7.5	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506369

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844695	<b>Paddock Name:</b>	APA08 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA08	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	27	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	13	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Potassium (15C1)	0.23	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	4.4	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	8.5		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.88	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.85	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	9.0		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.19	dS/m	04-031-PH	1:5 soil/water
Chloride	1000	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	8.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	55.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	7.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	29.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506370

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844694	<b>Paddock Name:</b>	APA08 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA08	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	11	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
CEC (15C1)	26	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	12	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Potassium (15C1)	0.22	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Sodium (15C1)	2.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
pH (1:5 CaCl <sub>2</sub> )	8.4		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	1.7	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.3	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	9.2		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.48	dS/m	04-031-PH	1:5 soil/water
Chloride	340	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	8.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	47.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	9.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	33.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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# SOIL ANALYSIS REPORT

Report Number: 506371

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844693	<b>Paddock Name:</b>	APA08 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA08	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	80 to 90 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	7.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	25	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	12	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.28	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	4.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	8.5		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	0.93	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.96	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	9.1		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.22	dS/m	04-031-PH	1:5 soil/water
Chloride	1100	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	8.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	60.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	4.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	26.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506372

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844692	<b>Paddock Name:</b>	APA08 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA08	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	7.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	26	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	13	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.36	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	5.2	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	8.5		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	0.86	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.3	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	9.1		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.25	dS/m	04-031-PH	1:5 soil/water
Chloride	1100	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	7.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	50.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	9.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	32.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506408

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844691	<b>Paddock Name:</b>	APA10 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-004	<b>Sample Name:</b>	APA10	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class	7			Emerson, AS 1289.3.8.1
Organic Matter	0.46	%	04-054-WCALC	Calculation: Organic Carbon x 1.
pH (1:5 CaCl <sub>2</sub> )	5.8		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	0.27	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	0.95	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.6	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.045	%	04-086-TN	Combustion
Sulphur (MCP)	1.4	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	11	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.35	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.8	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	0.58	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	<0.022	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	6.8		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	2.9	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.02	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	<0.76	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	3.4	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	3.1		04-058-ICP18	Calculation
Chloride	<10	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.13	mg/kg	04-024-ICP6	DTPA
Zinc	0.35	mg/kg	04-024-ICP6	DTPA
Manganese	14	mg/kg	04-024-ICP6	DTPA
Iron	18	mg/kg	04-024-ICP6	DTPA
Boron	0.076	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	23.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	67.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	3.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	5.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

**Report Number:** 506408

<b>Sample Number:</b> 021844691	<b>Paddock Name:</b> APA10 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-004	<b>Sample Name:</b> APA10	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Calcium	0.048	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	2.7	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	5300	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.081	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.034	%	04-085-ICP28	Reverse aqua regia digestion
Total Manganese	240	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.015	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.013	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.0033	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.17	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	5.6	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	2.4	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	2.3	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506373

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844690	<b>Paddock Name:</b>	APA10 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA10	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	8			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	5.9		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.58	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.94	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.22	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.1	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	0.49	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	<0.022	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	7.0		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	1.9	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.02	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	<1.2	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	5.3	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	2.2		04-058-ICP18	Calculation
Chloride	<10	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	30.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	59.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	5.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	4.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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^ NATA accreditation does not cover the performance of this service.

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## Nutrient Advantage Laboratory Services

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# SOIL ANALYSIS REPORT

Report Number: 506374

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844689	<b>Paddock Name:</b>	APA10 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA10	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	5.9		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	<9.0	mg/kg	04-027-ICP9	
Aluminium	<0.10	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.22	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.0	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	0.58	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	<0.022	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	7.0		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	1.9	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.02	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	<1.2	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	5.3	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	1.7		04-058-ICP18	Calculation
Chloride	10	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	19.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	69.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	6.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	5.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506409

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844687	<b>Paddock Name:</b>	APA12 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-004	<b>Sample Name:</b>	APA12	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class	7			Emerson, AS 1289.3.8.1
Organic Matter	5.2	%	04-054-WCALC	Calculation: Organic Carbon x 1.
pH (1:5 CaCl <sub>2</sub> )	4.5		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	3.0	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	2.2	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	5.7	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.26	%	04-086-TN	Combustion
Sulphur (MCP)	5.4	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	9.9	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
Aluminium	22	mg/kg	04-027-ICP9	
Aluminium	0.25	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	2.0	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	7.5	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	5.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.042	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	5.7		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	15	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.03	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	0.28	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	1.7	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	1.4		04-058-ICP18	Calculation
Chloride	12	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.26	mg/kg	04-024-ICP6	DTPA
Zinc	6.1	mg/kg	04-024-ICP6	DTPA
Manganese	68	mg/kg	04-024-ICP6	DTPA
Iron	90	mg/kg	04-024-ICP6	DTPA
Boron	0.49	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	4.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	52.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	17.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	24.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

**Report Number:** 506409

<b>Sample Number:</b> 021844687	<b>Paddock Name:</b> APA12 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-004	<b>Sample Name:</b> APA12	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Calcium	0.23	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	7.9	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	21000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.21	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.13	%	04-085-ICP28	Reverse aqua regia digestion
Total Manganese	860	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.028	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.039	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.019	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	47	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	<0.13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	11	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	9.7	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	4.1	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506410

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844688	<b>Paddock Name:</b>	APA12 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA12	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	80 to 90 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	3.8		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.85	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.0	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	600	mg/kg	04-027-ICP9	
Aluminium	6.7	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.84	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	4.1	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.41	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	5.3		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	13	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.03	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	3.2	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	52	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.29		04-058-ICP18	Calculation
Chloride	15	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	6.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	50.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	13.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	29.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506431

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844654	<b>Paddock Name:</b>	APA14 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA14	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	7.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	9.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	8			Emerson, AS 1289.3.8.1
Magnesium (15C1)	1.6	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Organic Matter	1.9	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	0.69	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	0.036	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	6.8		04-031-PH	1:5 soil/0.01M CaCl2
Organic Carbon	1.1	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	0.92	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.97	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.12	%	04-086-TN	Combustion
Sulphur (MCP)	1.6	mg/kg	04-016-ICP12	0.01M Ca(H2PO4)2 (pH 4.0)
Phosphorus (Colwell)	10	mg/kg	04-013-COL_P	0.5M NaHCO3 (pH 8.5)
pH (1:5 Water)	7.7		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.04	dS/m	04-031-PH	1:5 soil/water
Chloride	<10	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.19	mg/kg	04-024-ICP6	DTPA
Zinc	0.51	mg/kg	04-024-ICP6	DTPA
Manganese	10	mg/kg	04-024-ICP6	DTPA
Iron	8.9	mg/kg	04-024-ICP6	DTPA
Boron	0.35	mg/kg	04-025-ICP7	Hot 0.01M CaCl2
Sand (Coarse)	16.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	58.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	7.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	17.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.30	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	6.5	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	17000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.15	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.12	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506431

<b>Sample Number:</b> 021844654	<b>Paddock Name:</b> APA14 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA14	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	540	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.016	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.021	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.014	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	32	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.30	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	11	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	11	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	3.0	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506432

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844653	<b>Paddock Name:</b>	APA14 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA14	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	80 to 90 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	19	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	8.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Potassium (15C1)	0.14	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	1.7	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	8.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.62	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.2		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.84	dS/m	04-031-PH	1:5 soil/water
Chloride	640	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	7.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	59.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	7.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	25.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506411

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844686	<b>Paddock Name:</b>	APA16 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA16	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	8.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	16	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	3			Emerson, AS 1289.3.8.1
Magnesium (15C1)	5.6	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Organic Matter	2.8	%	04-054-WCALC	Calculation: Organic Carbon x 1.8
Potassium (15C1)	1.6	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	0.57	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	5.3		04-031-PH	1:5 soil/0.01M CaCl2
Organic Carbon	1.6	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	2.0	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	3.1	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.18	%	04-086-TN	Combustion
Sulphur (MCP)	12	mg/kg	04-016-ICP12	0.01M Ca(H2PO4)2 (pH 4.0)
Phosphorus (Colwell)	18	mg/kg	04-013-COL_P	0.5M NaHCO3 (pH 8.5)
pH (1:5 Water)	6.2		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.12	dS/m	04-031-PH	1:5 soil/water
Chloride	45	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.49	mg/kg	04-024-ICP6	DTPA
Zinc	0.93	mg/kg	04-024-ICP6	DTPA
Manganese	43	mg/kg	04-024-ICP6	DTPA
Iron	52	mg/kg	04-024-ICP6	DTPA
Boron	0.89	mg/kg	04-025-ICP7	Hot 0.01M CaCl2
Sand (Coarse)	10.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	45.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	35.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.28	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	6.9	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	18000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.18	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.21	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506411

<b>Sample Number:</b> 021844686	<b>Paddock Name:</b> APA16 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA16	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	410	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.031	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.023	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.028	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	43	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	4.5	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506375

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844685	<b>Paddock Name:</b>	APA16 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA16	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
CEC (15C1)	20	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	8.2	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Potassium (15C1)	0.74	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Sodium (15C1)	1.9	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
pH (1:5 CaCl <sub>2</sub> )	7.6		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.53	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.5	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.2		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.65	dS/m	04-031-PH	1:5 soil/water
Chloride	670	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	10.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	39.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	40.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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# SOIL ANALYSIS REPORT

Report Number: 506376

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844684	<b>Paddock Name:</b>	APA16 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA16	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	7.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	23	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	11	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.54	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	4.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	6.8		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.2	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	7.4		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.82	dS/m	04-031-PH	1:5 soil/water
Chloride	920	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	8.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	38.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	10.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	43.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506412

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844683	<b>Paddock Name:</b>	APA16 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA16	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	80 to 90 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	4.2		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	170	mg/kg	04-027-ICP9	
Aluminium	1.9	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.19	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.6	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	3.9	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	1.8	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	4.8		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	9.4	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.93	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	19	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	20	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.41		04-058-ICP18	Calculation
Chloride	1300	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	9.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	36.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	7.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	46.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506413

Amec Foster Wheeler Aus Pty Ltd  
 PO Box 1957  
 BRISBANE  
 QLD 4001



Report Authorised  
 Paul Kennelly  
 Laboratory Manager  
 NATA Accredited Laboratory  
 Number: 11958

<b>Sample Number:</b>	021844682	<b>Paddock Name:</b>	APA16 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA16	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	4.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	250	mg/kg	04-027-ICP9	
Aluminium	2.7	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.29	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	2.3	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	5.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	2.9	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	4.6		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	13	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	1.12	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	22	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	21	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.44		04-058-ICP18	Calculation
Chloride	1500	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	7.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	35.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	8.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	48.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506414

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844681	<b>Paddock Name:</b>	APA24 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-004	<b>Sample Name:</b>	APA24	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class	7			Emerson, AS 1289.3.8.1
Organic Matter	1.7	%	04-054-WCALC	Calculation: Organic Carbon x 1.
pH (1:5 CaCl <sub>2</sub> )	4.2		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	0.99	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	15	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	2.4	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.086	%	04-086-TN	Combustion
Sulphur (MCP)	6.7	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	<5.0	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
Aluminium	41	mg/kg	04-027-ICP9	
Aluminium	0.45	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.15	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.0	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	0.40	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	<0.022	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	4.9		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	2.0	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.07	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	<1.1	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	23	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	2.5		04-058-ICP18	Calculation
Chloride	39	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.15	mg/kg	04-024-ICP6	DTPA
Zinc	0.11	mg/kg	04-024-ICP6	DTPA
Manganese	7.1	mg/kg	04-024-ICP6	DTPA
Iron	180	mg/kg	04-024-ICP6	DTPA
Boron	0.27	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	33.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	44.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	10.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	12.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506414

<b>Sample Number:</b> 021844681	<b>Paddock Name:</b> APA24 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-004	<b>Sample Name:</b> APA24	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Calcium	0.051	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	2.1	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	16000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.039	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.024	%	04-085-ICP28	Reverse aqua regia digestion
Total Manganese	71	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.015	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.0097	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.0080	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	5.8	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.21	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	38	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	2.0	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	2.5	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506415

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844680	<b>Paddock Name:</b>	APA24 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA24	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	4.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	18	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	2.9	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	43	mg/kg	04-027-ICP9	
Aluminium	0.48	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.041	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.14	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	2.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.83	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	4.1		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	3.7	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	3.03	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	22	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	13	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.064		04-058-ICP18	Calculation
Chloride	5000	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	27.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	32.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	4.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	35.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C

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# SOIL ANALYSIS REPORT

Report Number: 506416

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b> 021844679	<b>Paddock Name:</b> APA25 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-004	<b>Sample Name:</b> APA25	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Emerson Class	7			Emerson, AS 1289.3.8.1
Organic Matter	2.1	%	04-054-WCALC	Calculation: Organic Carbon x 1.
pH (1:5 CaCl <sub>2</sub> )	4.1		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	1.2	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	3.0	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	11	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.11	%	04-086-TN	Combustion
Sulphur (MCP)	9.0	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	5.3	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
Aluminium	140	mg/kg	04-027-ICP9	
Aluminium	1.6	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.40	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	1.2	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	1.4	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.087	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	5.1		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	4.7	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.05	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	1.9	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	34	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.86		04-058-ICP18	Calculation
Chloride	28	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.23	mg/kg	04-024-ICP6	DTPA
Zinc	0.52	mg/kg	04-024-ICP6	DTPA
Manganese	22	mg/kg	04-024-ICP6	DTPA
Iron	110	mg/kg	04-024-ICP6	DTPA
Boron	0.62	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	8.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	59.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	12.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	19.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

**Report Number:** 506416

<b>Sample Number:</b> 021844679	<b>Paddock Name:</b> APA25 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-004	<b>Sample Name:</b> APA25	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Calcium	0.037	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	3.8	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	25000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.058	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.056	%	04-085-ICP28	Reverse aqua regia digestion
Total Manganese	49	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.015	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.0094	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.0080	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	12	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.17	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	130	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	3.8	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	8.8	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506417

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844678	<b>Paddock Name:</b>	APA25 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA25	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	80 to 90 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	2			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	4.2		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	6.1	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	2.3	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	95	mg/kg	04-027-ICP9	
Aluminium	1.1	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.023	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	0.055	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	2.0	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	0.74	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	5.0		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	3.9	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	0.58	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	19	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	28	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.028		04-058-ICP18	Calculation
Chloride	770	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	5.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	51.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	9.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	33.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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# SOIL ANALYSIS REPORT

Report Number: 506418

Amec Foster Wheeler Aus Pty Ltd  
 PO Box 1957  
 BRISBANE  
 QLD 4001

Report Authorised  
 Paul Kennelly  
 Laboratory Manager

<b>Sample Number:</b>	021844677	<b>Paddock Name:</b>	APA29 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA29	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	4.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	15	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	8			Emerson, AS 1289.3.8.1
Magnesium (15C1)	7.3	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Organic Matter	1.7	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	1.6	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	1.6	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	6.0		04-031-PH	1:5 soil/0.01M CaCl2
Organic Carbon	0.97	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	2.9	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.4	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.11	%	04-086-TN	Combustion
Sulphur (MCP)	4.6	mg/kg	04-016-ICP12	0.01M Ca(H2PO4)2 (pH 4.0)
Phosphorus (Colwell)	14	mg/kg	04-013-COL_P	0.5M NaHCO3 (pH 8.5)
pH (1:5 Water)	7.4		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.08	dS/m	04-031-PH	1:5 soil/water
Chloride	36	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.58	mg/kg	04-024-ICP6	DTPA
Zinc	0.96	mg/kg	04-024-ICP6	DTPA
Manganese	58	mg/kg	04-024-ICP6	DTPA
Iron	27	mg/kg	04-024-ICP6	DTPA
Boron	0.61	mg/kg	04-025-ICP7	Hot 0.01M CaCl2
Sand (Coarse)	8.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	37.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	13.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	39.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.16	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	8.3	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	33000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.17	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.25	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506418

<b>Sample Number:</b> 021844677	<b>Paddock Name:</b> APA29 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA29	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	1400	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.068	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.029	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.012	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	48	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.26	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	37	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	21	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	9.7	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506377

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844676	<b>Paddock Name:</b>	APA29 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA29	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	6.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	28	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	16	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.24	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	4.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	8.2		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.8		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.97	dS/m	04-031-PH	1:5 soil/water
Chloride	810	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	4.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	50.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	36.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506378

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844675	<b>Paddock Name:</b>	APA29 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA29	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	13	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	33	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	16	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Potassium (15C1)	0.17	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	3.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	7.9		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.0		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	3.46	dS/m	04-031-PH	1:5 soil/water
Chloride	1000	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	6.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	52.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	7.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	33.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506379

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844674	<b>Paddock Name:</b>	APA29 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA29	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	85 to 95 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	3.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	20	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	12	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.22	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	3.9	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	4.8		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	2.4	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.1	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	5.1		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.83	dS/m	04-031-PH	1:5 soil/water
Chloride	1000	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	3.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	62.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	7.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	27.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506419

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001



Report Authorised  
Paul Kennelly  
Laboratory Manager  
NATA Accredited Laboratory  
Number: 11958

<b>Sample Number:</b>	021844673	<b>Paddock Name:</b>	APA29 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-003	<b>Sample Name:</b>	APA29	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Emerson Class ^	6			Emerson, AS 1289.3.8.1
pH (1:5 CaCl <sub>2</sub> )	4.5		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	2.3	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	3.7	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Aluminium	91	mg/kg	04-027-ICP9	
Aluminium	1.0	cmol(+)/kg	04-027-ICP9	Ex. Cat. 1M KCl
Potassium (with pre-wash)	0.37	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Calcium (with pre-wash)	4.3	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Magnesium (with pre-wash)	16	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
Sodium (with pre-wash)	7.4	cmol(+)/kg	04-058-ICP18	Ex. Cat. Ammonium Acetate (pH
pH (1:5 Water)	5.0		04-031-PH	1:5 soil/water
Cation Exch. Cap. (CEC)	29	cmol(+)/kg	04-058-ICP18	Calculation (with pre-wash)
Elect. Conductivity (EC)	1.16	dS/m	04-031-PH	1:5 soil/water
Sodium % of Cations (ESP)	26	%	04-058-ICP18	Calculation (with pre-wash)
Aluminium % of Cations	3.4	%	04-058-ICP18	Calculation (with pre-wash)
Calcium/Magnesium Ratio	0.27		04-058-ICP18	Calculation
Chloride	900	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse) ^	1.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine) ^	48.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt ^	12.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay ^	37.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture ^			04-001-SANSILCLAY	Hydrometer & sieve analysis (C&

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^ NATA accreditation does not cover the performance of this service.

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# SOIL ANALYSIS REPORT

Report Number: 506420

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844672	<b>Paddock Name:</b>	APA34 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA34	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	22	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	9.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Organic Matter	1.6	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	0.56	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	3.3	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	6.4		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	0.91	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	1.0	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.2	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.082	%	04-086-TN	Combustion
Sulphur (MCP)	45	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	<5.0	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
pH (1:5 Water)	7.3		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.37	dS/m	04-031-PH	1:5 soil/water
Chloride	310	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.61	mg/kg	04-024-ICP6	DTPA
Zinc	0.15	mg/kg	04-024-ICP6	DTPA
Manganese	39	mg/kg	04-024-ICP6	DTPA
Iron	17	mg/kg	04-024-ICP6	DTPA
Boron	1.1	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	2.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	43.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	13.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	39.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.29	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	8.9	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	26000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.19	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.38	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506420

<b>Sample Number:</b> 021844672	<b>Paddock Name:</b> APA34 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA34	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	1100	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.11	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.013	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.016	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	38	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.34	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	23	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	10	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	6.7	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506421

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844671	<b>Paddock Name:</b>	APA34 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA34	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	25	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	8			Emerson, AS 1289.3.8.1
Magnesium (15C1)	9.9	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Organic Matter	1.6	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	0.33	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	4.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	7.4		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	0.93	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.99	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.092	%	04-086-TN	Combustion
Sulphur (MCP)	92	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	<5.0	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
pH (1:5 Water)	8.1		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.96	dS/m	04-031-PH	1:5 soil/water
Chloride	1000	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.55	mg/kg	04-024-ICP6	DTPA
Zinc	0.095	mg/kg	04-024-ICP6	DTPA
Manganese	15	mg/kg	04-024-ICP6	DTPA
Iron	6.8	mg/kg	04-024-ICP6	DTPA
Boron	3.2	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	1.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	45.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	13.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	39.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.34	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	11	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	28000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.18	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.47	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506421

<b>Sample Number:</b> 021844671	<b>Paddock Name:</b> APA34 20-30	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA34	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 20 to 30 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	1100	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.20	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.012	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.027	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	44	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.29	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	26	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	12	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	7.8	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506380

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844670	<b>Paddock Name:</b>	APA34 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA34	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	25	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
CEC (15C1)	37	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	9.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Potassium (15C1)	0.33	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Sodium (15C1)	2.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
pH (1:5 CaCl <sub>2</sub> )	6.4		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	0.96	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	6.4		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	3.91	dS/m	04-031-PH	1:5 soil/water
Chloride	1100	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	5.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	41.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	44.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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# SOIL ANALYSIS REPORT

Report Number: 506381

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844669	<b>Paddock Name:</b>	APA34 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA34	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	85 to 95 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	8.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
CEC (15C1)	21	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	8.2	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
Potassium (15C1)	0.38	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
Sodium (15C1)	4.4	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
pH (1:5 CaCl2)	4.3		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	3.1	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	4.6		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.96	dS/m	04-031-PH	1:5 soil/water
Chloride	1300	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	1.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	61.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	28.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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# SOIL ANALYSIS REPORT

Report Number: 506382

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844668	<b>Paddock Name:</b>	APA34 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA34	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	7.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	21	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	3			Emerson, AS 1289.3.8.1
Magnesium (15C1)	8.2	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.33	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	5.7	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	4.1		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	4.6	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	4.6		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.27	dS/m	04-031-PH	1:5 soil/water
Chloride	1300	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	0.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	58.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	11.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	29.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506422

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844667	<b>Paddock Name:</b>	APA35 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA35	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	14	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	4.2	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Organic Matter	1.9	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	0.97	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	0.21	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	6.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	1.1	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	3.0	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	2.1	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.10	%	04-086-TN	Combustion
Sulphur (MCP)	15	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	16	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
pH (1:5 Water)	6.8		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.12	dS/m	04-031-PH	1:5 soil/water
Chloride	51	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.74	mg/kg	04-024-ICP6	DTPA
Zinc	0.31	mg/kg	04-024-ICP6	DTPA
Manganese	40	mg/kg	04-024-ICP6	DTPA
Iron	22	mg/kg	04-024-ICP6	DTPA
Boron	0.67	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	3.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	50.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	19.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	26.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.28	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	11	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	24000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.23	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.26	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506422

<b>Sample Number:</b> 021844667	<b>Paddock Name:</b> APA35 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA35	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	500	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.021	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.020	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.012	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	32	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	<0.13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	18	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	7.6	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	5.1	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506383

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844666	<b>Paddock Name:</b>	APA35 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA35	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	13	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	3.4	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Potassium (15C1)	0.25	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	0.24	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	7.1		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.2		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.06	dS/m	04-031-PH	1:5 soil/water
Chloride	14	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	4.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	54.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	32.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506384

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844665	<b>Paddock Name:</b>	APA35 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA35	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	9.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
CEC (15C1)	13	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	3.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Potassium (15C1)	0.15	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Sodium (15C1)	0.25	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
pH (1:5 CaCl <sub>2</sub> )	8.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.8		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.17	dS/m	04-031-PH	1:5 soil/water
Chloride	46	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	22.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	44.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	5.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	27.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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# SOIL ANALYSIS REPORT

Report Number: 506423

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844664	<b>Paddock Name:</b>	APA38 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA38	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	15	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	20	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	3			Emerson, AS 1289.3.8.1
Magnesium (15C1)	3.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Organic Matter	1.3	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	0.64	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	0.65	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	7.9		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	0.73	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	2.6	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	0.69	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.082	%	04-086-TN	Combustion
Sulphur (MCP)	1.9	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	7.6	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
pH (1:5 Water)	8.8		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.14	dS/m	04-031-PH	1:5 soil/water
Chloride	11	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.61	mg/kg	04-024-ICP6	DTPA
Zinc	0.15	mg/kg	04-024-ICP6	DTPA
Manganese	6.9	mg/kg	04-024-ICP6	DTPA
Iron	5.4	mg/kg	04-024-ICP6	DTPA
Boron	0.90	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	3.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	48.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	39.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.60	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	13	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	24000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.28	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.39	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506423

<b>Sample Number:</b> 021844664	<b>Paddock Name:</b> APA38 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA38	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	800	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.054	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.016	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.0093	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	40	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.15	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	19	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	11	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	4.5	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506385

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844663	<b>Paddock Name:</b>	APA38 10-20	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA38	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	10 to 20 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	16	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	22	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	4.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Potassium (15C1)	0.64	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	1.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	7.9		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	2.5	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	1.3	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.8		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.17	dS/m	04-031-PH	1:5 soil/water
Chloride	<10	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	2.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	53.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	35.1	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506386

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844662	<b>Paddock Name:</b>	APA38 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA38	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	15	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	23	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	8			Emerson, AS 1289.3.8.1
Magnesium (15C1)	5.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.23	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	2.3	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	8.2		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	2.5	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	9.3		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.23	dS/m	04-031-PH	1:5 soil/water
Chloride	29	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	3.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	56.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	8.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	32.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506424

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844661	<b>Paddock Name:</b>	APA38 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA38	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	13	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	26	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	7.2	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.11	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	6.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	8.4		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	1.4	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	9.1		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.67	dS/m	04-031-PH	1:5 soil/water
Chloride	480	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	2.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	53.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	10.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	33.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506425

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844660	<b>Paddock Name:</b>	APA38 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA38	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	80 to 90 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	10	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	24	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	5.7	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.79	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	7.4	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	8.5		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	0.65	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	9.3		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.87	dS/m	04-031-PH	1:5 soil/water
Chloride	800	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	2.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	63.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	16.3	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	17.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506426

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844659	<b>Paddock Name:</b>	APA42 0-10	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-001	<b>Sample Name:</b>	APA42	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	0 to 10 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	8.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
CEC (15C1)	16	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Emerson Class	8			Emerson, AS 1289.3.8.1
Magnesium (15C1)	4.9	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Organic Matter	2.4	%	04-054-WCALC	Calculation: Organic Carbon x 1.72
Potassium (15C1)	1.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
Sodium (15C1)	1.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 ca
pH (1:5 CaCl <sub>2</sub> )	7.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Organic Carbon	1.4	%	04-018-UV1	Walkley & Black (1947)
Nitrate Nitrogen	2.8	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	2.2	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Total Nitrogen	0.14	%	04-086-TN	Combustion
Sulphur (MCP)	7.3	mg/kg	04-016-ICP12	0.01M Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (pH 4.0)
Phosphorus (Colwell)	11	mg/kg	04-013-COL_P	0.5M NaHCO <sub>3</sub> (pH 8.5)
pH (1:5 Water)	7.9		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.18	dS/m	04-031-PH	1:5 soil/water
Chloride	100	mg/kg	04-063-FIA3	Soluble Chloride
Copper	0.66	mg/kg	04-024-ICP6	DTPA
Zinc	0.34	mg/kg	04-024-ICP6	DTPA
Manganese	19	mg/kg	04-024-ICP6	DTPA
Iron	18	mg/kg	04-024-ICP6	DTPA
Boron	1.1	mg/kg	04-025-ICP7	Hot 0.01M CaCl <sub>2</sub>
Sand (Coarse)	3.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	56.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	10.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	30.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca)
Total Calcium	0.30	%	04-085-ICP28	reverse aqua regia digestion
Total Copper	10	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Iron	23000	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Potassium	0.24	%	04-085-ICP28	Reverse aqua regia digestion
Total Magnesium	0.29	%	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

**Report Number:** 506426

<b>Sample Number:</b> 021844659	<b>Paddock Name:</b> APA42 0-10	<b>Date Sampled:</b> 20-Dec-2016
<b>Test Code:</b> 2016-001	<b>Sample Name:</b> APA42	<b>Date Received:</b> 19-Dec-2016
<b>Purchase Order No:</b> APA	<b>Sample Depth:</b> 0 to 10 cm	<b>Date of Report:</b> 5-Jan-2017
<b>Grower Name:</b> APA		

Analyte	Result	Units	Method Code	Comments
Total Manganese	470	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Sodium	0.075	%	04-085-ICP28	Reverse aqua regia digestion
Total Phosphorus	0.022	%	04-085-ICP28	Reverse aqua regia digestion
Total Sulphur	0.014	%	04-085-ICP28	Reverse aqua regia digestion
Total Zinc	36	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Cadmium	0.21	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Chromium	18	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Nickel	7.4	mg/kg	04-085-ICP28	Reverse aqua regia digestion
Total Lead	4.1	mg/kg	04-085-ICP28	Reverse aqua regia digestion

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# SOIL ANALYSIS REPORT

Report Number: 506427

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844658	<b>Paddock Name:</b>	APA42 20-30	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA42	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	20 to 30 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	11	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
CEC (15C1)	28	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	11	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Potassium (15C1)	0.21	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Sodium (15C1)	5.7	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
pH (1:5 CaCl <sub>2</sub> )	8.2		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	<0.50	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.8		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.20	dS/m	04-031-PH	1:5 soil/water
Chloride	1300	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	1.4	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	53.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	10.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	35.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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Enquiry: [lab.feedback@incitecpivot.com.au](mailto:lab.feedback@incitecpivot.com.au)

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# SOIL ANALYSIS REPORT

Report Number: 506428

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844657	<b>Paddock Name:</b>	APA42 50-60	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA42	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	50 to 60 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	16	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
CEC (15C1)	29	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Emerson Class	6			Emerson, AS 1289.3.8.1
Magnesium (15C1)	9.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Potassium (15C1)	0.19	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
Sodium (15C1)	3.4	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 ca
pH (1:5 CaCl2)	8.0		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	0.87	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.2		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	3.44	dS/m	04-031-PH	1:5 soil/water
Chloride	1400	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	2.9	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	39.6	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	7.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	50.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Ca

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# SOIL ANALYSIS REPORT

Report Number: 506429

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844656	<b>Paddock Name:</b>	APA42 80-90	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA42	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	85 to 95 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	8.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
CEC (15C1)	19	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	7.1	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
Potassium (15C1)	0.24	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
Sodium (15C1)	3.9	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH4Cl at pH 8.5 cæ
pH (1:5 CaCl2)	8.3		04-031-PH	1:5 soil/0.01M CaCl2
Nitrate Nitrogen	1.7	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.8		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	1.39	dS/m	04-031-PH	1:5 soil/water
Chloride	1100	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	0.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	54.2	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	12.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	32.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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# SOIL ANALYSIS REPORT

Report Number: 506430

Amec Foster Wheeler Aus Pty Ltd  
PO Box 1957  
BRISBANE  
QLD 4001

Report Authorised  
Paul Kennelly  
Laboratory Manager

<b>Sample Number:</b>	021844655	<b>Paddock Name:</b>	APA42 110-120	<b>Date Sampled:</b>	20-Dec-2016
<b>Test Code:</b>	2016-002	<b>Sample Name:</b>	APA42	<b>Date Received:</b>	19-Dec-2016
<b>Purchase Order No:</b>	APA	<b>Sample Depth:</b>	110 to 120 cm	<b>Date of Report:</b>	5-Jan-2017
<b>Grower Name:</b>	APA				

Analyte	Result	Units	Method Code	Comments
Calcium (15C1)	7.5	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
CEC (15C1)	21	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Emerson Class	2			Emerson, AS 1289.3.8.1
Magnesium (15C1)	8.0	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Potassium (15C1)	0.28	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
Sodium (15C1)	4.8	cmol(+)/kg	04-017-ICP16	Alcoholic 1M NH <sub>4</sub> Cl at pH 8.5 cæ
pH (1:5 CaCl <sub>2</sub> )	8.0		04-031-PH	1:5 soil/0.01M CaCl <sub>2</sub>
Nitrate Nitrogen	1.5	mg/kg	04-063-FIA3	Mineralisable Nitrogen
Ammonium Nitrogen	<0.60	mg/kg	04-063-FIA3	Mineralisable Nitrogen
pH (1:5 Water)	8.7		04-031-PH	1:5 soil/water
Elect. Conductivity (EC)	0.96	dS/m	04-031-PH	1:5 soil/water
Chloride	990	mg/kg	04-063-FIA3	Soluble Chloride
Sand (Coarse)	1.5	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Sand (Fine)	49.7	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Silt	15.0	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Clay	33.8	%	04-001-SANSILCLAY	Hydrometer & sieve analysis
Texture			04-001-SANSILCLAY	Hydrometer & sieve analysis (Cæ

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