Revised BSAL Assessment Results

BYLONG COAL PROJECT
Environmental Impact Statement

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Copy of EIS Report BSAL Findings April 2015																			CR Review and Update 2016 of EIS BSAL results		
					1	2	3	4	5	6	7	8	9	10	11	12					
Soil Unit		Area (ha)	Area (%)	Site (As labelled on Figures)	Slope	Rock Outcrop (30%)	Rock-iness	Gilgai	Slope (5%)	Nil Rock Outcrop	Fertility	Physical Barrier	Drain-age	pH	Salinity	Chemical barrier	BSAL		Lab References	Review of 2012, 2013 and extra 2016 lab data and all available fieldsheets by CR.	Revised BSAL Status
Bald Hill Soil Landscape Unit																					
BH1	Eutrophic Red Dermosol (deep soil depth)	729.6	7.1	126	✓	✓	✓	✓	✖	-	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 126	There were 10 lab tested cores in BH1 pesented in the EIS Lab Data.	**BSAL**
				Core 37 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 71		**BSAL**
				Core 45 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 70		**BSAL**
				Core 46 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 57		**BSAL**
				Core 47 (2012)	✓	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	Physical Barrier at 0.60m		EIS Appendix (2012 Samples) Lab Reference 36		Non BSAL
				Core 49 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 37		**BSAL**
				Core 50 (2012)	✓	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	Physical Barrier at 0.35m		EIS Appendix (2012 Samples) Lab Reference 23		Non BSAL
				Core 51 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 24		**BSAL**
				Core 52 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 59		**BSAL**
				Core 53 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 58		**BSAL**
				136	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 136	Extra two sites tested in disturbance area also verified BSAL	**BSAL**
				204	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 204		**BSAL**
				Obs 137	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 137 (2013) was not tested		**BSAL**
				Obs 194	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 194 (2013) was not tested		**BSAL**
				Obs 205	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 205 (2013) was not tested		**BSAL**
BH1-P1: Shallow Phase	Red Chromosol (shallow soil depth)	317.1	3.1	139	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		EIS Appendix (2013 Samples) Lab Reference 139	Based on EIS Slope Analysis, this soil type verified Non BSAL. 2016 review confirmed fieldsheet slopes where available.	Non BSAL
				Core 28 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Core 28 (2012) was not sampled		**BSAL**
				Core 48 (2012)	✓	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	Physical Barrier at 0.30m		EIS Appendix (2012 Samples) Lab Reference 35		Non BSAL
				Core 54 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 25		**BSAL**
				138	✖	✓	✓	✓	✓	✓	✓	✖	✓	✖	✓	✓	Slope >10%		2016 Lab Reference 138	Slope 15% on fieldsheet, also extra testing confirmed Non BSAL status based on alkalinity.	Non BSAL
				185	✖	✓	✓	✓	✓	✓	✓	✖	✓	✖	✓	✓	Slope >10%		2016 Lab Reference 185	Slope exclusion based on EIS slope analysis, also extra testing confirmed Non BSAL status based on alkalinity, and physical barrier at 0.4m (fieldsheet).	Non BSAL
BH1-P2: Moderate Phase	Eutrophic Red Chromosol (moderate soil depth)	24.6	0.2	Core 31 (GSSE, 2012)	✓	✓	✓	✓	✖	-	✓	✓	✓	✖	-	-	pH >8.9 at 0.5 m		EIS Appendix (2012 Samples) Lab Reference 83	Only one site located within this soil type. pH is 9.0 at 0.7 to 0.8m.	Non BSAL
BH2	Eutrophic Red Dermosol (deep soil depth)	211.1	2	1	✓	✓	✓	✓	✖	-	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 1	There are two separate areas of BH2 within the subsidence zone. Only one investigation site (Core 1) represents this soil type, which is located in the north western area, and is BSAL.	**BSAL**
BH2-P1: Moderate Phase	Red Dermosol (moderate soil depth)	62.6	0.6	7	✓	✓	✓	✓	✖	-	✓	✖	-	-	-	-	Bedrock at 0.65 m		Site 7 was not analysed	There are 4 separate areas of this soil type up to 2km apart. Only 1 investigation site is located in this soil type and it was used to verify non BSAL (Core 7) which was shallow as indicated.	Non BSAL
BH2-P2: Shallow Phase	Red Chromosol (shallow soil depth)	436.8	4.2	28	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		2016 Review was unable to locate Site 28.	It appears only one detailed investigation site (site 37) was located within this soil type. Whist the EIS slope analysis indicates greater than 10% for this soil type, this site was measured at 7%, and had no other limitations to BSAL. Site 37 was classed as a Red Vertosol according to the field notes. The slope analysis appears to generally support the exclusion mapping, despite site 37 being located within its boundary.	Non BSAL
				37	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 37.		**BSAL**
Benjang Soil Landscape Unit																					
BJ1	Eutrophic Brown Chromosol (deep soil depth)	354.9	3.4	22	✓	✓	✓	✓	✖	-	✓	✓	✓	✓	✓	✖	ECe >4 at 0.6 m		EIS Appendix (2013 Samples) Lab Reference 22.	Only one site is located in the 354.9 ha of BJ1 soil type (Core 22). This site was lab tested and does show ECe 4.9 dS/m at sample depth 0.6-0.7m and therefore this site fails BSAL criteria. Given Eutrophic Brown Chromosols are often good enough quality for BSAL and there is only one sample at 0.6 to 0.7 which indicates the ECe is slightly over the BSAL threshold, and this area is so large (and in the subsidence zone) it may require some further justification through additional sampling.	Non BSAL
BJ2	Self-mulching Brown Vertosol (shallow soil depth)	47.1	0.5	33	✓	✓	✓	✓	✖	-	✓	✖	✓	✖	✓	✖	Bedrock at 0.5 m		EIS Appendix (2013 Samples) Lab Reference 33.	This site appears too shallow with shale bedrock at 0.5m. No other sites were within this soil type.	Non BSAL
BJ3	Subnatric Yellow Sodosol (deep soil depth)	80.8	0.8	Core 14 (GSSE, 2012)	✓	✓	✓	✓	✖	-	✖	-	-	-	-	-	Moderately low inherent fertility		2016 Review was unable to locate Core 14 (GSSE 2012).	There are three separate areas of BJ3. This one representative site (Core 14 (2012)) is sodic in the B21 horizon therefore non BSAL. But this site is not located on any Figures.	Unable to confirm lab data or site.
				Core 71 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 2	.	**BSAL**

BJ3-P1: Shallow Phase	Subnatric Yellow Sodosol (shallow soil depth)	34.7	0.3	Obs 51	✖	-	-	-	-	-	✖	-	-	✓	✓	✓	Slope >10%		EIS Appendix (2013 Samples) Lab Reference 51.	Slope analysis appears to support this as limiting factor. Site 51 (representative) is also sodic in the B horizon according to the lab data.	Non BSAL
Bylong Soil Landscape Unit																				
B01	Eutrophic Black Dermosol overlying Stratic Rudosol	341.9	3.3	Core 33 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Mod Low Fertility (Hydrosol)		EIS Appendix (2012 Samples) Lab Reference 52.	The representative site Core 33 is noted as a Hydrosol on the fieldsheet with C horizon from 0.6m. Which would indicate Non BSAL, however the EIS has termed this representative site a Dermosol, also despite there only being weak structure noted in the B horizons. The 2016 review can only conclude this site is non BSAL, based on the fieldsheet. Two areas of this soil type, approximately 5km apart, only one area has been lab tested. The remainder of sites are non BSAL.	**Non BSAL**
				Core 23 (2012)	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Mod Low Fertility (Sandy textured Tenosol)		EIS Appendix (2012 Samples) Lab Reference Feb Core 6		
				Core 32 (2012)	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Mod Low Fertility (Sandy textured Tenosol)		EIS Appendix (2012 Samples) Lab Reference 61		
				Core 56 (2012)	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Mod Low Fertility (Rudosol)		EIS Appendix (2012 Samples) Lab Reference 64		
				Core 57 (2012)	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Mod Low Fertility (Rudosol)		EIS Appendix (2012 Samples) Lab Reference 74		
				Core 58 (2012)	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Mod Low Fertility (Rudosol)		EIS Appendix (2012 Samples) Lab Reference 75		
				74	✓	✓	✓	✓	✓	✓	✖	✓	✓	-	-	-	Mod Low Fertility (Rudosol)		Core 74 (2013) was not tested		
B02	Eutrophic Black Dermosol (deep soil depth)	54.8	0.5	Core 20 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Feb Core 3	Only one site located within this soil type, no limiting factor. However field sheet labels this soil as a Black Vertosol.	**BSAL**
B03	Eutrophic Black Dermosol (alkaline)	574.4	5.6	278	✓	✓	✓	✓	✓	✓	✓	✓	✓	✖	-	-	pH >8.9 at 0.45 m		EIS Appendix (2013 Samples) Lab Reference 278.	B03 was trigger mapped as BSAL by NSW Government mapping. Only two cores were analysed within this soil type Site 278 and Site 73, which are both located in the far north of the 574.4 ha area. Site 278 has a pH of 9.0 at 50-60cm and therefore is not BSAL. Site 73 displays no limitations to BSAL. This soil type should have remained as potential BSAL pending further testing.	Non BSAL
				Core 55 (GSSE 2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Core 55 (GSSE 2012) was not tested		**BSAL (Check Site)**
				73	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 73.		**BSAL**
B03-P1: Saline Phase	Eutrophic Black Dermosol (saline)	149.6	1.5	295	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✖	-	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 295	In reviewing the lab data, the representative Site 295 does not have ECe>4dS/m at 0.3m (see RTS for detailed analysis) and should not have been ruled out of BSAL based on salinity. Also, given six of the sites were verified BSAL, one was potential BSAL and 1 was verified Non BSAL, this soil type should have been mapped as verified BSAL.	**BSAL**
				Core 08 (2012)	✓	-	-	-	-	-	-	-	-	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 8		
				Core 70 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 13		
				50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 50		
				284	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 284		
				290	✓	✓	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	pH 9.0 at 0.45-0.55m		EIS Appendix (2013 Samples) Lab Reference 290		
				293	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 293		
				297	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 297		
				303	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 303		
B04	Black Dermosol (moderate soil depth)	39.9	0.4	251	✓	✓	✓	✓	✓	✓	✓	✖	-	-	-	-	**BSAL**		obs 251 was not analysed	Bedrock at 0.75m+ does not rule this site out as BSAL. The soil description notes very fine roots down to 0.75m, and no layers >20% course fragments, so ERD is down to 0.80m. This should not have been ruled out as BSAL.	**BSAL**
B05	Brown-Orthic Tenosol	71	0.7	131	✓	✓	✓	✓	✓	✓	✖	-	-	✓	✓	✓	Moderately low inherent fertility		Site 131 was not analysed for the EIS, but was tested in 2016.	There is two areas of B05. Site 131 was used as a representative site for this soil type and the Brown-Orthic Tenosol classification appears correct. Brown Orthic Tenosols need to be medium textured to fulfil BSAL fertility criteria, and site 31 was sandy textured including loamy sands and sands. Site 131 was not lab tested for the EIS. However Core 17 also lies within this soil type and was lab tested. Lab results indicate a similar ASC. Site 17 would have been a preferred representative to show other chemical parameters. 2016 testing of Site 131 was undertaken.	Non BSAL
				Core 17 (2012)	-	-	-	-	-	-	✖	-	-	✓	✓	✓	Assumed Tenosol		EIS Appendix (2012 Samples) Lab Reference 17		
B06	Eutrophic Black Dermosol overlying Stratic Rudosol	228.2	2.2	Core 2 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 2	Three sites were lab tested withoin B06. All lab data of these sites satisfy BSAL.	**BSAL**
				236	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 236		
				259	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 236		
				242	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		242 (2013) was not tested		
B06-P1: Saline Phase	Eutrophic Black Dermosol overlying Stratic Rudosol; (saline)	34.7	0.3														**BSAL**		No sites were tested in this soil phase	The EIS has this soil phase grouped in with B06 (which is BSAL), but appears to argued that it is a saline phase. There is no lab test indicating salinity levels are above BSAL criteria. The EIS says Obs 3 (2012) is lab tested but there is no such lab results provided. Without lab results, this soil 'phase' should be grouped in with BO6 and therefore BSAL.	**BSAL**

B07	Chernic-leptic Tenosol	24.8	0.2	Core 30 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Moderately low inherent fertility		EIS Appendix (2012 Samples) Lab Reference 81	The ASC categorisation is based on field assessement of structure and other parameters, however lab data is congruent with ASC based on textures and therefore non BSAL. Lab data shows no other limiting factors.	Non BSAL
B08	Eutrophic Grey Dermosol overlying Stratic Rudosol	78.4	0.8	Core 36 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 72	There were two sites located in this soil type, both sets of data satisfy BSAL. Site 264 is noted as a Brown Kandosol on the fieldsheet. Lab data indicate it is Eutrophic and therefore BSAL (Note Eutrophic Kandosol ommission in fertility rankings in protocol, however it is assumed this is Moderate fertility.	**BSAL**
				264	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 264		
				Obs 265	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL** (Check site)		Obs 265 (2013) was not tested		
B09	Black Dermosol	19.9	0.2	obs 60	✓	✓	✓	✓	✓	✓	✓	^	^	^	^	^	**BSAL***		Obs 60 was not analysed	No sample site located on this soil type, assumed to be BSAL. Outside Disturbance area.	**BSAL**
B10	Leptic Tenosol	7.9	0.1	Core 68 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✖	-	✓	✓	✖	✖	Moderately low inherent fertility		EIS had this site as lab data ref Core 11 (GSSE 2012) but Core 68 on the Figures refers to Lab Data Core 4. However, no lab results for core 4 are included. There are two samples for site 11 (lab ref) so assume these results represent Site 68.		Non BSAL
				253	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 253	Fieldsheet indicates this soil is a Black Dermosol overlying a Rudosol, similar to the represenetative site in B08. Lab data supports verified BSAL.	**BSAL**
B11	Eutrophic Brown Kandosol	10	0.1	305	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 305	The fieldsheet and lab data support the ASC of a Kandasol, however this does not rule out BSAL, given Eutrophic Great Group is not moderately low fertility.	**BSAL**
B12	Stratic Rudosol overlying Black Dermosol	28.7	0.3	132	✓	✓	✓	✓	✓	✓	✖	-	-	✓	✓	✓	Moderately low inherent fertility		EIS Appendix (2013 Samples) Lab Reference 132	This soil has been categorised as a Rudosol (0-0.75m) which is based on field assessment, so the 2016 review cannot confirm. CEC data tends to support the ASC, however only one site was sampled in this soil type.	Non BSAL
Growee Soil Landscape Unit																					
G01	Eutrophic Red Chromosol (moderate soil depth)	249.8	2.4	58	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 58	The field sheet indicates slope is 4-5%. So have changed this site to BSAL, given all other parameters are met.	**BSAL**
				83	✖	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	Slope >10%		EIS Appendix (2013 Samples) Lab Reference 83	The fieldsheets have labelled this soil as a Red Dermosol of adequate depth (90cm). The fieldsheet and slope analysis indicates this site is above 10% slope.	Non BSAL
G02	Eutrophic Red Chromosol (deep soil depth)	89.7	0.9	Core 26 (GSSE, 2012)	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Core 77	Lab data supports BSAL status. Slope is 3-5% on fieldsheet.	**BSAL**
				Core 18 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Feb Core 1	Lab data supports BSAL status. Limited info on fieldsheet, however 2016 review has used orange ticks/crosses when interpreted information that was not clear on the fieldsheet.	**BSAL**
				Core 27 (2012)	✓	✓	✓	✓	✓	✓	-	✖	✓	-	-	-	Physical Barrier at 0.65m		Core 27 (2012) was not tested		Non BSAL
G03	Lithic Rudosol	86.9	0.8	93	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		Site 93 was not analysed	The slope analysis appears to support this. No other sites were assessed in this soil type.	Non BSAL
G04	Mesotrophic Brown Chromosol (moderate soil depth)	40.2	0.4	90	✓	✓	✓	✓	✖	-	✓	✖	-	✖	✓	✖	Bedrock at 0.6 m		EIS Appendix (2013 Samples) Lab Reference 90	Fieldsheet indicates slope was 2-4% (not above 5% as indicated in the EIS). Field observations support physical barrier of bedrock at 0.6. However only one site sampled within this soil type.	Non BSAL
G04-P1	Mesotrophic Red Chromosol (shallow soil depth)	368.3	3.6	82	✖	✓	✓	✓	✖	✓	✓	✓	✓	✓	✓	✓	Slope >10%		EIS Appendix (2013 Samples) Lab Reference 82	There are three separate areas of G04-P1. The slope analysis appears to support most of the greater than 10% slope assessment. Although a few sites are less than 10%, these sites contain other limiting factors.	Non BSAL
				117	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	✓	✓	Physical Barrier at 60cm		EIS Appendix (2013 Samples) Lab Reference 117		
				155	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		Site 155 was not tested		
				196	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		Site 196 was not tested		
				200	-	-	-	-	-	-	-	✖	-	-	-	-	Physical Barrier at 60cm		Site 200 was not tested		
				219	-	✓	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	pH >8.9 at 45cm		2016 Lab Reference 219		
		419.3	4.1	Core 41 (GSSE, 2012)	✓	✓	✓	✓	✖	-	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 47	This site and all associated G05 soil areas was considered verified BSAL in the EIS. However only this site and one other is BSAL , the remainder are non BSAL.	**BSAL**
				Core 42 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 48		**BSAL**
				Core 43 (2012)	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	✓	✖	Physical Barrier at 0.5m		2016 Lab Reference Lab Core 49		**Non BSAL**
				161	✓	✓	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	pH >8.9		2016 Lab Reference 161		**Non BSAL**
				171	✓	✓	✓	✓	✓	✓	✓	✓	✓	✖	✖	✖	pH 9.2 at 60cm		2016 Lab Reference 171		**Non BSAL**
		Central Area		172	✓	✓	✓	✓	✓	✓	✖	✓	✓	✖	✖	✖	Mod Low Fertility (Sodosol)		2016 Lab Reference 172		**Non BSAL**

G05	Eutrophic Red Chromosol (moderate soil depth)			Obs 157	-	-	-	-	-	-	-	✖	-	-	-	-	Physical Barrier at 60cm		Obs 157 was not tested		Non BSAL
				Obs 158	-	-	-	-	-	-	-	✖	-	-	-	-	Physical Barrier at 50cm		Obs 158 was not tested		Non BSAL
				Obs 160	✓	✓	✓	✓	✓	✓	✖	✓	✓	-	-	-	Mod Low Fertility (Sodosol)		Obs 160 (2013) was not tested		Non BSAL
			Western Area	225	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 225		**BSAL**
				223	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 223		
				201	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	✓	✖	Physical Barrier at 55cm		2016 Lab Reference 201		Non BSAL
				Obs 203	✓	✓	✓	✓	✖	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 203 was not tested		**BSAL** (Check site)
				Core 206	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 206		**BSAL**
				Obs 207	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 207 was not tested		
			Eastern Area	Core 61 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 review assumes this is lab reference 65 (2012) however the data for this site is not contained in the EIS		**BSAL**
				Core 63 (2012)	✓	✓	✓	✓	✓	✓	-	✖	-	-	-	-	Physical Barrier at 0.30 m		Core 63 (2012) was not tested		Non BSAL
			Southern Area	Core 38 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Core 45 (2012)		BSAL
				Core 39 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Core 39 (2012) was not tested		BSAL
				Core 4 (2012)	✓	✓	✓	✓	✓	✓	✓	✖	✓	-	-	-	Physical Barrier at 0.60m		Core 4 (2012) was not tested		Non BSAL
				95	✓	✓	✓	✓	✓	✓	✓	✖	✓	-	-	-	**BSAL** (Check site)		Site 95 (2013) was not tested		BSAL
				222	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 222		BSAL
			Northern Area	Obs 266	✓	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	Physical Barrier at 50cm		EIS Appendix (2013 Samples) Lab Reference 266		Non BSAL
				Obs 267	✓	✓	✓	✓	✓	✓	✓	✖	✓	-	-	-	Physical Barrier at 60cm		Obs 267 (2013) was not tested		Non BSAL
				Core 1 (2012)	✓	✓	✓	✓	✓	✓	✓	✖	✓	-	-	-	Physical Barrier at 40cm		Core 1 (2012) was not tested		Non BSAL
			Far North West Area	Core 72 (2012)	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Core 34		BSAL
				56	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 56 was not tested		**BSAL** (Check site)
				57	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		57 was not tested		**BSAL** (Check site)
G05-P1: Shallow Phase	Red Chromosol (shallow soil depth)	82.8	0.8	283	✓	✓	✓	✓	✖	-	✓	✖	-	-	-	-	Weathering parent material at 0.4 m		Core 283 (2013) was not tested	Soil descriptions supports shallow profiles and non BSAL statusfor this soil type. Whilst site 279 does not have a physical barrier limitation, it is the exception.	Non BSAL
				279	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Core 279 (2013) was not tested		
				280	✓	✓	✓	✓	✖	✓	✓	✖	✓	-	-	-	Physical Barrier at 40cm		Obs 280 (2013) was not tested		
				281	✓	✓	✓	✓	✓	✓	✓	✖	✓	-	-	-	Physical Barrier at 60cm		Core 281 (2013) was not tested		
				282	✓	✓	✓	✓	✖	✓	✓	✖	✓	-	-	-	Physical Barrier at 40cm		Core 282 (2013) was not tested		
G06	Eutrophic Red Chromosol (moderate soil depth)	90.8	0.9	110	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 110	The EIS stated non BSAL (Site 110) based on weathered rock at 75cm. This site has a slope of 5% and a soil depth to 0.80m according to the field sheets (B/C with 80% rock fragments is in layer 80-100cm). This site should not have been classified as non BSAL based on physical barrier. Only one core is located in this soil type and therefore based on the available EIS information the soil is BSAL.	**BSAL**
		Western Area		234	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 234	Whilst there are four non BSAL sites and one BSAL site in this soil unit, given the location of these sites, and the relationship to the adjoining BSAL land, it is recommended to partially map this soil unit as BSAL whilst the areas in the eastern hill country and south should be mapped as verified non BSAL.	
				62	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	✖	✖	Physical Barrier at 0.70m		2016 Lab Reference 62		Non BSAL
				Obs 228	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 228 (2013) was not tested		**BSAL** (Check site)
				Obs 230	-	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 230 (2013) was not tested		**BSAL** (Check site)
				Obs 232	-	✓	✓	✓	-	✓	✓	✖	✓	-	-	-	Physical Barrier at 45cm		Obs 232 (2013) was not tested		
				Obs 233	-	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 233 (2013) was not tested		**BSAL** (Check site)
G06-P1: Shallow Phase	Red Chromosol (shallow soil depth)	14.1	0.1	238	✓	✓	✓	✓	✖	-	✓	✖	-	-	-	-	Bedrock at 0.5 m		238 (2013) was not tested	Field assessment indicates this site is too shallow for BSAL.	Non BSAL
				Obs 243	✓	✓	✓	✓	✓	✓	✓	✖	✓	-	-	-	Bedrock at 0.4 m		Obs 243 (2013) was not tested		
G07	Eutrophic Red Chromosol (deep soil depth)	23.2	0.2	106	✓	✓	✓	✓	✖	-	✓	✓	✓	✓	✓	✖	**BSAL**		EIS Appendix (2013 Samples) Lab Reference 106	The lab results for site 106 indicate ECe is less than 4dS/m at 0.6m. The only lab tested sample with ECe greater than 4dS/m (4.3) is at 0.8-0.9m which is outside the 0.75m Chemical Barrier BSAL threshold and therefore should not have been ruled out as BSAL.	**BSAL**
				Core 40 (2012)	✓	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	Physical Barrier at 0.4 m		2016 Lab Reference Lab Core 46		Non BSAL
				107	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 107		**BSAL**
				Obs 108	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 108 (2013) was not tested.	Fieldsheet indicated same profile information as site 106, except slope was only 2-3%.	**BSAL** (Check site)
G07-P1: Gravelly Phase	Eutrophic Red Chromosol (gravelly)	17.1	0.2	156	✓	✓	✓	✓	✖	-	✓	✓	✓	✓	✖	-	ECe >4 at 0.15 m		EIS Appendix (2013 Samples) Lab Reference 156	The lab results for site 156 indicate ECe is below 4dS/m for the entire profile and therefore should not have been ruled out of BSAL based on Salinity. However, the fieldsheet indicated a physical barrier 40% stones beginning at 40cm deep. Therefore the site is non BSAL based on Physical barrier.	Non BSAL
				239	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 239		**BSAL**

				Obs 240	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 240 (2013) was not tested.		**BSAL**
				241	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	Mod Low Fertility (Sodosol)		2016 Lab Reference 241		Non BSAL
G08	Eutrophic Red Dermosol (shallow soil depth)	37.1	0.4	147	✓	✓	✓	✓	✗	-	✓	✗	-	-	-	-	Bedrock at 0.5 m		EIS Appendix (2013 Samples) Lab Reference 147	Only one representative site which showed a C horizon at 0.5m. Therefore this site non BSAL.	Non BSAL
				151	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 151		**BSAL**
				Obs 146	-	-	-	-	-	-	-	✗	-	-	-	-	Physical Barrier at 0.4 m		Obs 146 (2013) was not tested		Non BSAL
				Obs 149	-	-	-	-	-	-	-	✗	-	-	-	-	Physical Barrier at 0.4 m		Obs 149 (2013) was not tested		Non BSAL
				Obs 150	-	-	-	-	-	-	-	✗	-	-	-	-	Physical Barrier at 0.5 m		Obs 150 (2013) was not tested		Non BSAL
				Obs 220	✓	✓	✓	✓	✗	✓	✓	✗	✓	-	-	-	Physical Barrier at 0.5 m		Obs 220 (2013) was not tested		Non BSAL
				Obs 221	✗	✓	✓	✓	✗	✓	✓	✓	✓	-	-	-	Slope >10%		Obs 221 (2013) was not tested		Non BSAL
G09	Eutrophic Brown Chromosol (moderate soil depth)	76.5	0.7	145	✓	✓	✓	✓	✗	-	✓	✓	✓	✓	✓	✗	ECe >4 at 0.7 m		EIS Appendix (2013 Samples) Lab Reference 145	Site 145 should not have been ruled out of BSAL based on slope (2-3%) or ECe, as the only lab tested sample with ECe greater than 4dS/m was from 0.85 to 0.95m which is outside the 0.75m Chemical Barrier BSAL threshold. However there is high gravel content in BC horizon at 0.70m and therefore is considered non BSAL based on physical barrier. Four of the remainder sites are non BSAL due to physical barrier, two sites are BSAL check sites however cannot be ruled as non BSAL, whilst one site is BSAL. Based on the available data it is recommended the three BSAL/Potential BSAL sites be grouped and shown as BSAL whilst the remainder is mapped as non BSAL.	**BSAL**
				215	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓	Physical Barrier at 50cm		EIS Appendix (2013 Samples) Lab Reference 215		Non BSAL
				211	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	Slope >10%		2016 Lab Reference 211		Non BSAL
				Obs 212	✓	✓	✓	✓	✗	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 212 (2013) was not tested		**BSAL**
				213	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 213		**BSAL**
				Obs 214	✓	✓	✓	✓	✓	✓	✓	✗	✓	-	-	-	Physical Barrier at 50cm		Obs 214 (2013) was not tested		Non BSAL
				Obs 216	✓	✓	✓	✓	✗	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 216 (2013) was not tested		**BSAL**
				217	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 217		Non BSAL
G10	Eutrophic Black Kandosol	16.9	0.2	195	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓	None but less than 20 ha		EIS Appendix (2013 Samples) Lab Reference 195	This site is noted as flat/alluvial and therefore should not have been ruled out on slope, and the fertility is likely Moderate given it is Eutrophic. Therefore BSAL. other parameters do not exceed BSAL thresholds. The less than 20ha limit should only be applied with consideration to adjoining BSAL/non BSAL land.	Non BSAL (Based on less than 20ha only)
G11	Stratic Rudosol	80.7	0.8	208	✓	✓	✓	✓	✗	-	✗	-	-	-	-	-	Moderately low inherent fertility		208 (2013) was not tested	This soil has been categorised as a Rudosol, which is based on field assessment, so I cannot confirm.	Non BSAL
				274	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	Moderately low inherent fertility		EIS Appendix (2013 Samples) Lab Reference 274	The soil type is unconfirmed on the fieldsheet and whilst it does appear to be a Rudosol, it is not noted.	
				Obs 272	✗	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		Obs 272 (2013) was not tested	Slope was noted as 35%.	
G12	Black Dermosol (deep soil depth)	47.8	0.5	Core 60 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Core 67	Lab data supports BSAL status	**BSAL**
				Core 62 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check Site)		Core 62 (2012) was not tested		
G13	Black-Orthic Tenosol; light sandy textured	17.8	0.2	77	✓	✓	✓	✓	✗	-	✗	-	-	-	-	-	Moderately low inherent fertility		EIS Appendix (2013 Samples) Lab Reference 77	Site 77 is on the boundary of G13 and GO4-P1 and appears to show a Tenosol, this is the small area over the subsidence zone.	Non BSAL
				Core 24 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Feb Core 7	Core 24 (2012) is also in G13, but represents the flat alluvial area and according to lab data appers to be a Chromosol, with 50% course gravel at 0.70m BSAL limiting results.	**BSAL**
G14	Eutrophic Brown Chromosol (deep soil depth)	72.6	0.7	Core 44 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Core 50	The drainage noted in the detailed soil decsription of core 44 (GSSE 2012) (lab site 50) was: A1 well, A2, well, B21 imperfect, then at 0.85 to 1.00m the B22 drainage is noted as poor, this is quite deep and may not be considered a poorly drained soil overall, given the above profile drainage. However the original fieldsheet notes drainage in this layer as only moderately poor. The description does note 'Mottles of 50% grey and red' which again is inconclusive without information of 'distinct or prominent'. All other parameters satisfy BSAL including salinity and pH. Given the fieldsheet indicates drainage is only Moderately poor in the lower layers, and those horizons are noted as having strong structure. This site is verified BSAL.	**BSAL**
				Core 35 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Core 73		**BSAL**
				Obs 101	✓	✓	✓	✓	✓	✓	✗	✓	✓	-	-	-	Moderately low inherent fertility (Sodosol)		Obs 101 (2013) was not lab tested		Non BSAL
				Obs 261	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 261 (2013) was not lab tested		**BSAL** (Check site)
				263	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		263 (2013) was not lab tested		**BSAL** (Check site)
				262	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	pH >8.9		2016 Lab Reference 262		Non BSAL
				100	✓	✓	✓	✓	✗	-	✓	✗	-	-	-	-	Weathering sandstone at 0.5 m		2017 Lab Reference 100	Site 100 is certainly too shallow for BSAL, this site was not anlaysed at the lab for the EIS, but 2016 testing showed no other limitations.	Non BSAL

G14-P1	Brown Chromosol (shallow soil depth)	25.9	0.2	Core 34	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2012 Samples) Lab Reference Core 51	Site 34 (lab ID core 51) was analysed and also within this soil type. The information on this site appears to satisfy BSAL based on the lab analysis, including soil depth.	**BSAL**
				Core 102	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Moderately low inherent fertility		2016 Lab Reference 102	Core 102 is confirmed as a Sodosol from the 2016 testing and therefore is considered non BSAL based on Fertility.	Non BSAL
				Obs 103	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	**BSAL** (Check site)		Obs 103 (2013) was not tested		**BSAL**
G15	Subnatric Brown Sodosol	84.2	0.8	104	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference Core 104	The representative site 104 is incorrectly stated as a Sodosol in the EIS. The lab data indicates ESP is 5.3 in the upper prtion of the B2 horizon. Therefore the representative site is a Chromosol and based on lab data is considered BSAL. However, the remaining sites (except one) within this soil type are shown to be non BSAL based on fertility, salinity and physical barriers. Therefore the soil unit is considered non BSAL.	Non BSAL
				76	✓	✓	✓	✓	✓	✓	✖	✓	✓	✓	✓	✓	Moderately low inherent fertility		EIS Appendix (2013 Samples) Lab Reference Core 76		
				97	✓	✓	✓	✓	✓	✓	✓	✖	✓	✓	✖	✖	Physical Barrier at C 60cm		2016 Lab Reference 97		
				98	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✖	✖	Salinity (ECe) is 5.81 dS/m in A1.		2016 Lab Reference 98		
				Obs 99	✓	✓	✓	✓	✓	✓	✖	✓	✓	-	-	-	Moderately low inherent fertility (Sodosol)		Obs 99 (2013) was not sampled		
				Obs 105	✓	✓	✓	✓	✓	✓	✖	✓	✓	-	-	-	Moderately low inherent fertility (Sodosol)		Obs 105 (2013) was not sampled		
				268	✓	✓	✓	✓	✓	✓	-	✖	✓	-	-	-	Physical Barrier at 60cm		268 (2013) was not sampled		
				269	✓	✓	✓	✓	✓	✓	✓	✖	✓	✓	✖	✖	Physical Barrier at 50cm		2016 Lab Reference 269		
				Obs 270	✓	✓	✓	✓	✓	✓	✓	✖	✓	-	-	-	Physical Barrier at 60cm		Obs 270 (2013) was not sampled		
				271	✓	✓	✓	✓	✓	✓	✓	✖	✓	✖	✖	✖	Physical Barrier at 70cm		2016 Lab Reference 271		
G16	Stratic Rudosol	9.9	0.1	252	✓	✓	✓	✓	✖	-	✖	✓	-	-	-	-	Moderately low inherent fertility		252 (2013) was not sampled	This soil has been categorised as a Rudosol, which is based on field assessment.	Non BSAL
				302	✓	✓	✓	✓	✓	✓	✖	✓	✓	-	-	-	Moderately low inherent fertility		302 (2013) was not sampled		
G17	Eutrophic Red Chromosol (deep soil depth)	117.7	1.1	43	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference Core 43	Site 43 lab data supports the BSAL Status. There is also Core 12 located in this soil type and the lab data for Core 12 does not show any BSAL limiting parameters.	**BSAL**
				Core 12 (2012)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		EIS Appendix (2013 Samples) Lab Reference Core 12		
G17-P1: Moderate Phase	Eutrophic Red Chromosol (moderate soil depth)	171.3	1.7	42	✓	✓	✓	✓	✖	-	✓	✖	-	✓	✓	✓	Weathering bedrock at 0.65 m		EIS Appendix (2013 Samples) Lab Reference Core 42	There are two sites located within this soil type. Site 42 (representative) indicates shallow soil with 40-50% shale gravel at 0.6-0.9m which indicates a physical barrier. Site 5 is also in this soil type but is not shallow, however has elevated salinity levels and can be ruled out of being BSAL based on salinity.	Non BSAL
				5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✖	✖	Salinity (ECe) >4dS/m from A1 horizon		EIS Appendix (2013 Samples) Lab Reference Core 5		
G18	Mesonatric Yellow Sodosol (deep soil depth)	29.4	0.3	Core 25 (GSSE, 2012)	✓	✓	✓	✓	✓	✓	✖	✓	✖	✓	✓	✓	Moderately low inherent fertility		EIS Appendix (2012 Samples) Lab Reference Core 82	The lab data supports sodicity as limiting factor.	Non BSAL
G19	Brown Chromosol* (moderate soil depth)	28	0.3	61	✓	✓	✓	✓	✖	-	^	^	^	^	^	^	**BSAL***		Obs 61 (2013) was not sampled	No samples were lab tested. Observation notes indicate this is likely to be BSAL.	**BSAL**
Lees Pinch Soil Landscape Unit																					
L1	Clastic Rudosol	577	5.6	31	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		2016 review cannot locate site 31 on this soil type, however site 311 is located on L01-P1, so may be a typo. Either way, non BSAL based on slope.	Slope analysis supports the non BSAL status based on >10% slope. 2016 review cannot locate site 31 on this soil type, however site 311 is located on L01-P1, so may be a typo. Either way, non BSAL based on slope.	Non BSAL
L1-P1: Shallow Phase	Clastic Rudosol (very shallow soil depth)	1964.2	19	N/A	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		Based on slope analysis.	Slope analysis supports the non BSAL status based on >10% slope.	Non BSAL
Ogilvie Soil Landscape Unit																					
O1	Mesonatric Brown Sodosol (moderate soil depth)	159.4	1.5	Core 67 (GSSE, 2012)	✓	✓	✓	✓	✖	-	✖	-	-	-	-	-	Moderately low inherent fertility		EIS Appendix (2012 Samples) Lab Reference Core 8	The lab data supports sodicity as limiting factor for both sampled cores which are within 200m of each other. There are three areas of this soil type spread over 8 to 10 km apart, the other two areas were not sampled. (Note Fieldsheet indicates gradual layer between A2 and B1, and B1 and B2 so unsure why its considered a duplex soil/Sodosol)	Non BSAL
				Core 64 (2012)	✓	✓	✓	✓	✓	✓	✖	✓	✓	✖	✖	✖	Moderately low inherent fertility		EIS Appendix (2012 Samples) Lab Reference Core 7		
O1-P1: Shallow Phase	Subnatric Brown Sodosol (shallow soil depth)	950.8	9.2	54	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%		EIS Appendix (2013 Samples) Lab Reference 54	Slope analysis supports the non BSAL status based on >10% slope.	Non BSAL
		77	0.7	173	✓	✓	✓	✓	✓	-	✖	✓	✓	✖	✓	✖	Low inherent fertility		EIS Appendix (2012 Samples) Lab Reference 173 2016 Lab Reference 173		
				177	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**BSAL**		2016 Lab Reference 177		

OL2	Clastic Rudosol (deep soil depth)	Western Area		Obs 178	✔	✔	✔	✔	✔	✔	✖	✔	✔	-	-	-	Moderately low inherent fertility (Sandy texture Tenosol)		Obs 178 (2013) was not tested	There are three separate areas of O2 soil type approximately 1km to 3km apart. Only one site was lab tested for this soil type, however this was not used as the representative site. The representative site used was site 173. The soil description of the representative site supports the classification of Rudosol and therefore Non BSAL status. .	Non BSAL
				180	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	**BSAL**		2016 Lab Reference 180		
				202	✔	✔	✔	✔	✔	✔	✔	✖	✔	✔	✔	✔	**BSAL**		EIS Appendix (2012 Samples) Lab Reference 202		
		Eastern Area		255	✔	✔	✔	✔	✔	✔	✖	✔	✔	✔	✖	✖	Moderately low inherent fertility (Sandy texture Tenosol)		2016 Lab Reference 255		
				Obs 256	✔	✔	✔	✔	✔	✔	✖	✔	✔	-	-	-	Moderately low inherent fertility (Sandy texture Tenosol)		Obs 256 (2013) was not tested		
				Obs 258	✔	✔	✔	✔	✔	✔	✖	✔	✔	-	-	-	Moderately low inherent fertility (Sandy texture Tenosol)		Obs 258 (2013) was not tested		
				Obs 260	✔	✔	✔	✔	✔	✔	✖	✔	✔	-	-	-	Moderately low inherent fertility (Sandy texture Tenosol)		Obs 260 (2013) was not tested		
		South Eastern Area		165	✔	✔	✔	✔	✔	✔	✖	✔	✔	✔	✔	✔	Moderately low inherent fertility (Sandy texture Tenosol)		2016 Lab Reference 165		
				166	✔	✔	✔	✔	✔	✔	✖	✔	✔	✔	✖	✖	Moderately low inherent fertility (Sandy texture Tenosol)		2016 Lab Reference 166		
O2-P1: Moderate Phase	Clastic Rudosol (moderate soil depth)	195	1.9	231	✖	✔	✔	✔	✖	✔	✔	✔	✔	✔	✔	✔	Slope >10%		2016 Lab Reference 231	Overall there are 70% of O2-P1 sites verified Non BSAL, and therefore the soil Map Unit is classified as Non BSAL if original soil boundaries are kept. Slope analysis supports the non BSAL status based on >10% slope.	Non BSAL
		Western Area		Core 19 (2012)	✔	✔	✔	✔	✔	✔	✔	✖	✔	✔	✖	✖	Physical Barrier at 0.4 m		EIS Appendix (2012 Samples) Lab Reference Feb Core 2	Limited data in the fieldsheet, however Shale is noted at 0.4m and lab data notes Salinity in A1 ECe 8dS/m	
				Obs 63	✔	✔	✔	✔	✔	✔	✖	✔	✖	-	-	-	Poor Drainage and Sodosol		Obs 63 (2013) was not tested		
				64	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	Slope >10%		EIS Appendix (2013 Samples) Lab Reference 64	Red Chromosol. But slope analysis indicates >10%	
				Obs 65	✔	✔	✔	✔	✔	✔	✔	✖	✔	-	-	-	Physical Barrier at 0.2m		Obs 65 (2013) was not tested		
				Obs 66	✖	✔	✔	✔	✔	✔	✔	✔	✔	-	-	-	Slope >10%		Obs 66 (2013) was not tested	Ruled out of BSAL based on slope analysis	
				Obs 67	✔	✔	✔	✔	✔	✔	✔	✖	✔	-	-	-	Physical Barrier at 0.1m		Obs 67 (2013) was not tested		
				69	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	Slope >10%		2016 Lab Reference 69	Red Chromosol. Ruled non BSAL based on Slope analysis.	
				Obs 70	✔	✔	✔	✔	✔	✔	✔	✖	✔	-	-	-	Physical Barrier at 0.2m*		Obs 70 (2013) was not tested		
				71	✔	✔	✔	✔	✖	✔	✔	✖	✔	✖	✖	✖	Physical Barrier at 45cm		2016 Lab Reference 71	Red Chromosol. But with physical barrier at 45cm, low acidity and high salinity.	
				174	✖	✔	✔	✔	✖	✔	✔	✔	✔	✔	✔	✔	Slope >10%		2016 Lab Reference 174	Moderate textured Tenosol, but slope analysis >10%	
				Obs 175	✔	✔	✔	✔	✔	✔	✖	✔	✔	-	-	-	Moderately Low Inherent Fertility (Rudosol)				
				Obs 176	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%				
				Obs 224	✖	-	-	-	-	-	-	-	-	-	-	-	Slope >10%				
				Obs 226	✔	✔	✔	✔	✔	✔	✔	✔	✔	-	-	-	**BSAL** (Check Site)				
				227	✖	✔	✔	✔	✖	✔	✖	✔	✔	✔	✔	✔	Slope >10%		2016 Lab Reference 227	Sandy textured Tenosol	
				229	-	✔	✔	✔	-	✔	✖	✔	✔	✔	✔	✖	Moderately Low Inherent Fertility (Sodosol)		2016 Lab Reference 229	Sodosol, and Ca/Mg ratio <0.1	
		Eastern Area		109	✖	✔	✔	✔	✖	✔	-	✔	✔	✖	✔	✖	Slope >10%		2016 Lab Reference 109		
				Obs 168	✖	✔	✔	✔	-	✔	-	✔	-	-	-	-	Slope >10%		Obs 168 (2013) was not tested		
				169	-	✔	✔	✔	-	✔	✔	✔	✔	✖	✔	✖	pH 9.1 at 70cm		2016 Lab Reference 169		
				222	-	✔	✔	✔	-	✔	✔	✔	✔	✔	✔	✔	**BSAL** (Check Site)		2016 Lab Reference 222		
Sandy Hollow Soil Landscape Unit																					
SH1	Subnatric Red Sodosol (deep soil depth)	132.1	1.3	Core 22 (GSSE, 2012)	✔	✔	✔	✔	✖	-	✖	-	-	-	-	-	Moderately low inherent fertility		EIS Appendix (2012 Samples) Lab Reference Feb Core 5.	There were two lab tested sites within this soil type, Core 22 (labeled as Feb Core 5 in lab data) which is a sodosol and therefore non BSAL. Also one sample (30-50cm) from Core 16 was tested in the lab which showed sodicity and high pH which is also non BSAL.	Non BSAL
				Core 16 (2012)	-	-	-	-	-	-	-	-	-	-	-	-			EIS Appendix (2012 Samples) Lab Reference Core 16. 2016 review could not locate lab tests in the EIS or fieldsheet.		Non BSAL
				Core 21 (2012)	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	**BSAL**		2016 Lab Reference Lab Core 4		**BSAL**
				81	✔	✔	✔	✔	✔	✔	✔	✖	✔	✔	✔	✔	Physical Barrier at 25cm		2016 Lab Reference 81		Non BSAL

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1602456**	Page	: 1 of 28
Client	: **SLR Consulting Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR CLAYTON RICHARDS	Contact	:
Address	: 10 KINGS ROAD NEW LAMBTON NSW, AUSTRALIA 2305	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
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Telephone	: +61 02 4920 3000	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4961 3360	Facsimile	: +61-2-8784 8500
Project	: 634.10048 BYLONG BSAL	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: 634.10048	Date Samples Received	: 04-Feb-2016 11:50
C-O-C number	: ----	Date Analysis Commenced	: 06-Feb-2016
Sampler	: MURRAY FRASER	Issue Date	: 15-Feb-2016 16:58
Site	:		
		No. of samples received	: 61
Quote number	: ----	No. of samples analysed	: 61

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	62_0-10	62_25-35	62_45-55	62_80-90	66_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-001	ES1602456-002	ES1602456-003	ES1602456-004	ES1602456-005
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	4.8	6.4	6.8	6.3	4.9
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	488	31	26	32	124
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	5.2	4.6	6.2	4.3
Exchangeable Magnesium	----	0.1	meq/100g	----	1.4	1.6	2.8	1.2
Exchangeable Potassium	----	0.1	meq/100g	----	0.7	0.6	0.3	0.6
Exchangeable Sodium	----	0.1	meq/100g	----	0.2	0.3	0.3	0.2
Cation Exchange Capacity	----	0.1	meq/100g	----	7.5	7.2	9.6	6.4
Exchangeable Aluminium	----	0.1	meq/100g	----	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	3.3	3.8	3.5	3.7
Exchangeable Magnesium Percent	----	0.1	%	----	18.8	22.9	28.6	19.4
Exchangeable Potassium Percent	----	0.1	%	----	8.8	8.6	3.6	10.2
Exchangeable Calcium Percent	----	0.1	%	----	69.1	64.7	64.2	66.7
Calcium/Magnesium Ratio	----	0.1	-	----	3.7	2.9	2.2	3.6
Magnesium/Potassium Ratio	----	0.1	-	----	2.1	2.7	7.9	1.9
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	4.6	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	0.8	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	0.8	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	<0.1	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	62_0-10	62_25-35	62_45-55	62_80-90	66_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-001	ES1602456-002	ES1602456-003	ES1602456-004	ES1602456-005
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		**0.3**	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		**6.6**	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		**70.1**	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		**12.3**	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		**12.3**	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		**1.2**	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		**4.0**	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		**5.8**	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		**1.0**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	66_25-35	66_45-55	66_60-70	69_0-10	69_25-35
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-006	ES1602456-007	ES1602456-008	ES1602456-009	ES1602456-010
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.4	6.6	6.5	5.5	7.8
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	25	21	25	184	74
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	9.2
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	8.7
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	2.3
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	0.3
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	20.6
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	44.9
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	42.3
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	11.1
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	1.7
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	1.1
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	3.8
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	5.4	3.5	2.4	6.1	----
Exchangeable Magnesium	----	0.1	meq/100g	1.3	2.3	2.8	3.4	----
Exchangeable Potassium	----	0.1	meq/100g	0.5	0.3	0.2	1.6	----
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	0.2	0.2	----
Cation Exchange Capacity	----	0.1	meq/100g	7.4	6.3	5.7	11.1	----
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	----
Exchangeable Sodium Percent	----	0.1	%	2.8	3.3	4.2	1.6	----
Exchangeable Magnesium Percent	----	0.1	%	18.0	36.0	49.0	30.0	----
Exchangeable Potassium Percent	----	0.1	%	6.4	4.8	4.3	13.9	----
Exchangeable Calcium Percent	----	0.1	%	72.8	55.9	42.5	54.4	----
Calcium/Magnesium Ratio	----	0.1	-	4.2	1.5	0.8	1.8	----
Magnesium/Potassium Ratio	----	0.1	-	2.8	7.5	11.3	2.2	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	66_25-35	66_45-55	66_60-70	69_0-10	69_25-35
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-006	ES1602456-007	ES1602456-008	ES1602456-009	ES1602456-010
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	69_45-55	69_80-90	71_0-10	71_25-35	71_45-55
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-011	ES1602456-012	ES1602456-013	ES1602456-014	ES1602456-015
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.9	9.2	4.8	7.4	7.8
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	78	114	415	36	39
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	8.1	2.7	----	6.1	5.2
Exchangeable Magnesium	----	0.2	meq/100g	10.6	7.0	----	5.5	6.7
Exchangeable Potassium	----	0.2	meq/100g	1.8	0.6	----	1.2	1.1
Exchangeable Sodium	----	0.2	meq/100g	0.4	<0.2	----	<0.2	<0.2
Cation Exchange Capacity	----	0.2	meq/100g	21.0	10.5	----	13.0	13.2
Exchangeable Calcium Percent	----	0.2	%	38.8	26.5	----	47.6	40.4
Exchangeable Magnesium Percent	----	0.2	%	50.5	67.6	----	43.0	51.4
Exchangeable Potassium Percent	----	0.2	%	8.8	5.9	----	9.4	8.2
Exchangeable Sodium Percent	----	0.2	%	1.8	<0.2	----	<0.2	<0.2
Calcium/Magnesium Ratio	----	0.2	-	0.8	0.4	----	1.1	0.8
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	5.7	11.4	----	4.6	6.2
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	3.8	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	1.4	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	1.0	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	<0.1	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	69_45-55	69_80-90	71_0-10	71_25-35	71_45-55
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-011	ES1602456-012	ES1602456-013	ES1602456-014	ES1602456-015
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	**0.1**	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	**6.4**	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	**60.1**	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	**21.7**	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	**15.2**	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	**1.2**	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	**1.8**	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	**2.7**	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	**1.4**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	71_60-70	81_0-10	81_25-35	81_45-55	81_80-90
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-016	ES1602456-017	ES1602456-018	ES1602456-019	ES1602456-020
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.0	5.8	6.6	7.8	8.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	53	240	22	36	35
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	5.0	----	----	4.4	5.2
Exchangeable Magnesium	----	0.2	meq/100g	7.3	----	----	0.8	3.3
Exchangeable Potassium	----	0.2	meq/100g	0.9	----	----	0.5	0.7
Exchangeable Sodium	----	0.2	meq/100g	0.2	----	----	<0.2	0.2
Cation Exchange Capacity	----	0.2	meq/100g	13.5	----	----	5.9	9.5
Exchangeable Calcium Percent	----	0.2	%	37.0	----	----	77.8	55.1
Exchangeable Magnesium Percent	----	0.2	%	54.4	----	----	13.4	35.0
Exchangeable Potassium Percent	----	0.2	%	6.8	----	----	8.8	7.5
Exchangeable Sodium Percent	----	0.2	%	1.8	----	----	<0.2	2.3
Calcium/Magnesium Ratio	----	0.2	-	0.7	----	----	5.8	1.6
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	8.0	----	----	1.5	4.6
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	5.5	2.7	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	1.1	0.6	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	0.9	0.4	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	0.2	0.2	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	7.7	3.9	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	<0.1	<0.1	----	----
Exchangeable Sodium Percent	----	0.1	%	----	3.1	4.6	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	13.9	15.4	----	----
Exchangeable Potassium Percent	----	0.1	%	----	11.9	10.7	----	----
Exchangeable Calcium Percent	----	0.1	%	----	71.1	69.2	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	5.0	4.5	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	1.2	1.4	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	71_60-70	81_0-10	81_25-35	81_45-55	81_80-90
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-016	ES1602456-017	ES1602456-018	ES1602456-019	ES1602456-020
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	97_0-08	97_25-35	97_45-55	97_70-80	98_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-021	ES1602456-022	ES1602456-023	ES1602456-024	ES1602456-025
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.7	6.3	7.2	6.9	6.7
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	293	39	23	14	415
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	5.2	2.3	6.2	2.9	----
Exchangeable Magnesium	----	0.1	meq/100g	1.2	0.5	1.5	0.7	----
Exchangeable Potassium	----	0.1	meq/100g	1.4	0.5	0.5	0.2	----
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	0.2	0.1	----
Cation Exchange Capacity	----	0.1	meq/100g	7.9	3.4	8.4	4.0	----
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	----
Exchangeable Sodium Percent	----	0.1	%	1.9	4.8	2.5	3.2	----
Exchangeable Magnesium Percent	----	0.1	%	15.0	13.5	17.9	17.5	----
Exchangeable Potassium Percent	----	0.1	%	17.9	14.3	5.7	5.4	----
Exchangeable Calcium Percent	----	0.1	%	65.2	67.3	73.8	73.8	----
Calcium/Magnesium Ratio	----	0.1	-	4.3	4.6	4.1	4.1	----
Magnesium/Potassium Ratio	----	0.1	-	0.8	0.9	3.1	3.2	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	7.0
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	0.5
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	0.4
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	<0.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	97_0-08	97_25-35	97_45-55	97_70-80	98_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-021	ES1602456-022	ES1602456-023	ES1602456-024	ES1602456-025
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	<0.1
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	**8.0**
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	**87.4**
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	**6.2**
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	**5.1**
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	**1.2**
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	<0.1
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	**14.0**
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	**1.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	98_25-35	98_45-55	98_80-90	100_0-10	100_25-35
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-026	ES1602456-027	ES1602456-028	ES1602456-029	ES1602456-030
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.6	7.0	7.4	5.8	6.3
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	39	17	40	219	38
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	8.4	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	2.5	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	0.4	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	0.3	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	11.6	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	72.7	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	21.7	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	3.4	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	2.2	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	3.3	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	6.5	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	1.6	2.4	----	4.4	2.5
Exchangeable Magnesium	----	0.1	meq/100g	0.4	0.7	----	0.7	0.6
Exchangeable Potassium	----	0.1	meq/100g	0.4	0.3	----	0.7	0.5
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	----	0.2	0.2
Cation Exchange Capacity	----	0.1	meq/100g	2.6	3.5	----	5.9	3.7
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	----	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	6.2	5.2	----	3.0	4.8
Exchangeable Magnesium Percent	----	0.1	%	14.1	19.5	----	11.4	15.1
Exchangeable Potassium Percent	----	0.1	%	17.6	8.1	----	11.7	12.6
Exchangeable Calcium Percent	----	0.1	%	62.1	67.3	----	73.9	67.4
Calcium/Magnesium Ratio	----	0.1	-	4.0	3.4	----	6.3	4.2
Magnesium/Potassium Ratio	----	0.1	-	0.8	2.4	----	1.0	1.2
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	98_25-35	98_45-55	98_80-90	100_0-10	100_25-35
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-026	ES1602456-027	ES1602456-028	ES1602456-029	ES1602456-030
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	100_45-55	100_80-90	102_0-10	102_25-35	102_45-55
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-031	ES1602456-032	ES1602456-033	ES1602456-034	ES1602456-035
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.5	6.7	5.4	6.2	6.2
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	36	14	145	32	56
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	7.5	6.2	2.2	3.7	4.3
Exchangeable Magnesium	----	0.1	meq/100g	2.0	1.8	1.6	5.0	5.8
Exchangeable Potassium	----	0.1	meq/100g	0.7	0.4	0.8	0.4	0.4
Exchangeable Sodium	----	0.1	meq/100g	0.4	0.3	0.2	0.7	0.9
Cation Exchange Capacity	----	0.1	meq/100g	10.5	8.8	4.8	9.8	11.4
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	3.4	3.6	5.4	7.3	7.9
Exchangeable Magnesium Percent	----	0.1	%	19.4	20.9	33.2	51.0	50.7
Exchangeable Potassium Percent	----	0.1	%	6.4	4.3	16.0	4.1	3.6
Exchangeable Calcium Percent	----	0.1	%	70.8	71.2	45.4	37.6	37.8
Calcium/Magnesium Ratio	----	0.1	-	3.8	3.4	1.4	0.7	0.7
Magnesium/Potassium Ratio	----	0.1	-	3.0	4.9	2.1	12.6	13.9
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	100_45-55	100_80-90	102_0-10	102_25-35	102_45-55
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-031	ES1602456-032	ES1602456-033	ES1602456-034	ES1602456-035
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	102_80-90	107_0-10	107_10-20	107_30-40	107_50-60
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-036	ES1602456-037	ES1602456-038	ES1602456-039	ES1602456-040
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.6	6.3	6.5	7.1	7.4
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	88	67	33	38	36
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	14.4
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	3.6
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	0.6
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	0.2
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	18.8
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	76.5
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	18.9
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	3.3
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	1.3
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	4.0
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	5.7
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	6.3	10.4	8.9	16.6	----
Exchangeable Magnesium	----	0.1	meq/100g	8.0	2.3	1.8	4.6	----
Exchangeable Potassium	----	0.1	meq/100g	0.5	1.0	0.7	0.4	----
Exchangeable Sodium	----	0.1	meq/100g	1.5	0.2	0.2	0.4	----
Cation Exchange Capacity	----	0.1	meq/100g	16.2	13.8	11.7	22.0	----
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	----
Exchangeable Sodium Percent	----	0.1	%	9.0	1.7	2.0	1.9	----
Exchangeable Magnesium Percent	----	0.1	%	49.2	16.4	15.7	20.8	----
Exchangeable Potassium Percent	----	0.1	%	2.9	7.0	5.9	1.8	----
Exchangeable Calcium Percent	----	0.1	%	38.9	74.8	76.3	75.4	----
Calcium/Magnesium Ratio	----	0.1	-	0.8	4.5	4.9	3.6	----
Magnesium/Potassium Ratio	----	0.1	-	17.1	2.3	2.7	11.2	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	102_80-90	107_0-10	107_10-20	107_30-40	107_50-60
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-036	ES1602456-037	ES1602456-038	ES1602456-039	ES1602456-040
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	107_70-80	109_0-10	109_25-35	109_45-55	131_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-041	ES1602456-042	ES1602456-043	ES1602456-044	ES1602456-045
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.8	8.7	9.0	9.1	7.2
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	27	115	113	108	162
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	12.2	12.5	13.4	8.6	----
Exchangeable Magnesium	----	0.2	meq/100g	3.1	1.8	2.7	3.4	----
Exchangeable Potassium	----	0.2	meq/100g	0.4	1.1	0.9	0.8	----
Exchangeable Sodium	----	0.2	meq/100g	0.2	<0.2	<0.2	<0.2	----
Cation Exchange Capacity	----	0.2	meq/100g	16.0	15.5	17.2	13.0	----
Exchangeable Calcium Percent	----	0.2	%	76.7	81.1	78.7	67.4	----
Exchangeable Magnesium Percent	----	0.2	%	19.4	11.6	15.8	26.5	----
Exchangeable Potassium Percent	----	0.2	%	2.4	7.3	5.5	6.1	----
Exchangeable Sodium Percent	----	0.2	%	1.4	<0.2	<0.2	<0.2	----
Calcium/Magnesium Ratio	----	0.2	-	3.9	7.0	5.0	2.5	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	7.9	1.6	2.9	4.3	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	7.4
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	3.6
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	0.8
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	0.3
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	12.1
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	2.3
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	29.5
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	6.8
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	61.4
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	2.0
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	4.3
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	107_70-80	109_0-10	109_25-35	109_45-55	131_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-041	ES1602456-042	ES1602456-043	ES1602456-044	ES1602456-045
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	131_20-30	131_45-55	131_80-90	136_0-10	136_10-20
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-046	ES1602456-047	ES1602456-048	ES1602456-049	ES1602456-050
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.4	7.6	7.6	7.2	7.6
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	58	50	56	132	100
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	2.6	2.6	1.9	----	10.8
Exchangeable Magnesium	----	0.2	meq/100g	1.2	1.5	1.2	----	2.4
Exchangeable Potassium	----	0.2	meq/100g	0.2	0.2	<0.2	----	2.2
Exchangeable Sodium	----	0.2	meq/100g	<0.2	<0.2	<0.2	----	0.2
Cation Exchange Capacity	----	0.2	meq/100g	4.2	4.5	3.3	----	15.6
Exchangeable Calcium Percent	----	0.2	%	63.5	59.5	59.4	----	70.2
Exchangeable Magnesium Percent	----	0.2	%	30.8	35.5	36.4	----	15.4
Exchangeable Potassium Percent	----	0.2	%	5.7	5.0	4.2	----	14.3
Exchangeable Sodium Percent	----	0.2	%	<0.2	<0.2	<0.2	----	<0.2
Calcium/Magnesium Ratio	----	0.2	-	2.0	1.7	1.6	----	4.5
Magnesium/Potassium Ratio	----	0.2	-	----	----	8.6	----	----
Magnesium/Potassium Ratio	----	0.2	-	5.4	7.0	----	----	1.1
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	14.4	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	4.3	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	2.5	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	0.3	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	21.4	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	<0.1	----
Exchangeable Sodium Percent	----	0.1	%	----	----	----	1.3	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	20.1	----
Exchangeable Potassium Percent	----	0.1	%	----	----	----	11.7	----
Exchangeable Calcium Percent	----	0.1	%	----	----	----	66.8	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	3.3	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	1.7	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	131_20-30	131_45-55	131_80-90	136_0-10	136_10-20
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-046	ES1602456-047	ES1602456-048	ES1602456-049	ES1602456-050
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	136_35-45	136_70-80	136_95-105	138_0-10	138_10-20
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-051	ES1602456-052	ES1602456-053	ES1602456-054	ES1602456-055
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.3	8.5	8.3	7.6	8.5
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	95	122	106	194	181
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	13.7	17.8	14.0	29.7	31.8
Exchangeable Magnesium	----	0.2	meq/100g	2.5	11.1	12.4	2.5	2.0
Exchangeable Potassium	----	0.2	meq/100g	1.5	0.8	0.7	1.6	0.9
Exchangeable Sodium	----	0.2	meq/100g	0.2	0.8	1.1	0.2	0.2
Cation Exchange Capacity	----	0.2	meq/100g	17.9	30.6	28.2	34.1	34.9
Exchangeable Calcium Percent	----	0.2	%	77.4	58.4	49.6	87.2	91.1
Exchangeable Magnesium Percent	----	0.2	%	13.9	36.4	43.9	7.4	5.6
Exchangeable Potassium Percent	----	0.2	%	8.6	2.5	2.5	4.6	2.6
Exchangeable Sodium Percent	----	0.2	%	<0.2	2.6	3.9	0.7	0.7
Calcium/Magnesium Ratio	----	0.2	-	5.6	1.6	1.1	11.7	16.3
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	1.6	14.7	17.7	1.6	2.1
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	136_35-45	136_70-80	136_95-105	138_0-10	138_10-20
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-051	ES1602456-052	ES1602456-053	ES1602456-054	ES1602456-055
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	138_30-40	138_60-70	151_0-10	151_30-40	151_55-65
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602456-056	ES1602456-057	ES1602456-058	ES1602456-059	ES1602456-060
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.7	9.0	7.0	7.0	7.7
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	135	100	206	145	166
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	26.1	15.7	----	----	10.3
Exchangeable Magnesium	----	0.2	meq/100g	2.7	3.2	----	----	6.2
Exchangeable Potassium	----	0.2	meq/100g	0.8	0.3	----	----	0.6
Exchangeable Sodium	----	0.2	meq/100g	0.3	0.3	----	----	0.3
Cation Exchange Capacity	----	0.2	meq/100g	29.9	19.5	----	----	17.5
Exchangeable Calcium Percent	----	0.2	%	87.3	80.6	----	----	59.0
Exchangeable Magnesium Percent	----	0.2	%	9.1	16.3	----	----	35.4
Exchangeable Potassium Percent	----	0.2	%	2.6	1.4	----	----	3.7
Exchangeable Sodium Percent	----	0.2	%	1.0	1.7	----	----	1.9
Calcium/Magnesium Ratio	----	0.2	-	9.6	4.9	----	----	1.7
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	3.5	11.8	----	----	9.5
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	8.8	9.2	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	3.3	6.0	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	1.3	0.8	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	0.3	0.5	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	13.7	16.4	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	<0.1	<0.1	----
Exchangeable Sodium Percent	----	0.1	%	----	----	2.3	2.9	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	23.8	36.3	----
Exchangeable Potassium Percent	----	0.1	%	----	----	9.3	4.8	----
Exchangeable Calcium Percent	----	0.1	%	----	----	64.6	55.9	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	2.7	1.5	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	2.6	7.5	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	138_30-40	138_60-70	151_0-10	151_30-40	151_55-65
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602456-056	ES1602456-057	ES1602456-058	ES1602456-059	ES1602456-060
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	151_80-90	----	----	----	----
			Client sampling date / time	[04-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1602456-061	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**8.6**	----	----	----	----
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	**329**	----	----	----	----
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	**9.6**	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	**6.4**	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	**0.5**	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	**0.4**	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	**16.9**	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	**56.7**	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	**37.9**	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	**3.2**	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	**2.1**	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	**1.5**	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	**----**	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	**11.7**	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	**----**	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%	**----**	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	**----**	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%	**----**	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%	**----**	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	**----**	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	**----**	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	**----**	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	**----**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	151_80-90	----	----	----	----
				Client sampling date / time	[04-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1602456-061	--------	--------	--------	--------
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1602517**	Page	: 1 of 28
Client	: **SLR Consulting Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR CLAYTON RICHARDS	Contact	:
Address	: 10 KINGS ROAD NEW LAMBTON NSW, AUSTRALIA 2305	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: crichards@slrconsulting.com	E-mail	:
Telephone	: +61 02 4920 3000	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4961 3360	Facsimile	: +61-2-8784 8500
Project	: 634.10048 BYLONG BSAL	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: 634.10048	Date Samples Received	: 04-Feb-2016 11:50
C-O-C number	: ----	Date Analysis Commenced	: 06-Feb-2016
Sampler	: MURRAY FRASER	Issue Date	: 15-Feb-2016 16:59
Site	:		
		No. of samples received	: 61
Quote number	: ----	No. of samples analysed	: 61

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	161_0-10	161_10-20	161_25-35	161_45-55	161_70-80
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-001	ES1602517-002	ES1602517-003	ES1602517-004	ES1602517-005
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.0	6.9	9.1	9.4	9.6
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	58	30	173	174	226
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	0.7	0.3	<0.2
Exchangeable Magnesium	----	0.2	meq/100g	----	----	16.0	5.9	6.6
Exchangeable Potassium	----	0.2	meq/100g	----	----	1.1	0.5	0.5
Exchangeable Sodium	----	0.2	meq/100g	----	----	2.7	1.4	2.1
Cation Exchange Capacity	----	0.2	meq/100g	----	----	20.5	8.2	9.3
Exchangeable Calcium Percent	----	0.2	%	----	----	3.2	3.9	<0.2
Exchangeable Magnesium Percent	----	0.2	%	----	----	78.1	72.5	71.8
Exchangeable Potassium Percent	----	0.2	%	----	----	5.4	5.7	5.6
Exchangeable Sodium Percent	----	0.2	%	----	----	13.2	17.8	22.6
Calcium/Magnesium Ratio	----	0.2	-	----	----	<0.2	<0.2	<0.2
Magnesium/Potassium Ratio	----	0.2	-	----	----	14.5	12.7	12.8
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	4.0	1.4	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	1.8	1.2	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	0.7	0.4	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.3	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	6.6	3.2	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	----	----	----
Exchangeable Sodium Percent	----	0.1	%	2.5	8.8	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	27.1	36.0	----	----	----
Exchangeable Potassium Percent	----	0.1	%	10.4	11.2	----	----	----
Exchangeable Calcium Percent	----	0.1	%	60.0	44.0	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	2.2	1.2	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	2.6	3.2	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	161_0-10	161_10-20	161_25-35	161_45-55	161_70-80
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-001	ES1602517-002	ES1602517-003	ES1602517-004	ES1602517-005
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	165_0-05	165_05-15	165_20-30	165_30-40	166_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-006	ES1602517-007	ES1602517-008	ES1602517-009	ES1602517-010
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.3	6.0	6.5	7.0	6.1
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	38	34	18	13	291
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	5.0	4.5	2.9	2.2	12.5
Exchangeable Magnesium	----	0.1	meq/100g	1.3	0.9	0.7	0.8	2.2
Exchangeable Potassium	----	0.1	meq/100g	0.8	0.5	0.3	0.2	0.8
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	0.2	0.2	0.2
Cation Exchange Capacity	----	0.1	meq/100g	7.3	6.2	4.1	3.3	15.7
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	2.9	3.8	4.6	5.1	1.4
Exchangeable Magnesium Percent	----	0.1	%	18.3	14.8	17.0	22.8	14.2
Exchangeable Potassium Percent	----	0.1	%	10.8	8.8	7.9	6.8	4.8
Exchangeable Calcium Percent	----	0.1	%	68.0	72.6	70.5	65.2	79.6
Calcium/Magnesium Ratio	----	0.1	-	3.8	5.0	4.1	2.8	5.7
Magnesium/Potassium Ratio	----	0.1	-	1.7	1.7	2.2	3.3	3.0
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	165_0-05	165_05-15	165_20-30	165_30-40	166_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-006	ES1602517-007	ES1602517-008	ES1602517-009	ES1602517-010
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	166_25-35	166_45-55	166_70-80	169_0-10	169_10-15
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-011	ES1602517-012	ES1602517-013	ES1602517-014	ES1602517-015
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.5	6.6	6.7	7.3	7.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	30	17	21	139	38
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	10.5	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	2.7	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	1.7	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	<0.2	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	15.0	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	70.6	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	18.2	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	11.2	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	<0.2	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	3.9	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	1.6	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	5.7	5.4	6.7	----	5.4
Exchangeable Magnesium	----	0.1	meq/100g	0.9	1.8	3.3	----	2.0
Exchangeable Potassium	----	0.1	meq/100g	0.6	0.4	0.3	----	0.5
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	0.3	----	0.2
Cation Exchange Capacity	----	0.1	meq/100g	7.4	7.8	10.6	----	8.1
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	----	<0.1
Exchangeable Sodium Percent	----	0.1	%	3.0	2.9	2.5	----	2.8
Exchangeable Magnesium Percent	----	0.1	%	11.6	23.2	31.1	----	24.1
Exchangeable Potassium Percent	----	0.1	%	8.5	5.7	2.8	----	6.5
Exchangeable Calcium Percent	----	0.1	%	76.9	68.2	63.6	----	66.6
Calcium/Magnesium Ratio	----	0.1	-	6.3	3.0	2.0	----	2.7
Magnesium/Potassium Ratio	----	0.1	-	1.4	4.1	11.3	----	3.7
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	166_25-35	166_45-55	166_70-80	169_0-10	169_10-15
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-011	ES1602517-012	ES1602517-013	ES1602517-014	ES1602517-015
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	169_25-35	169_70-80	171_0-10	171_10-20	171_30-40
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-016	ES1602517-017	ES1602517-018	ES1602517-019	ES1602517-020
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.4	9.1	6.2	6.8	7.5
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	28	202	618	35	46
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	11.9	11.8	----	----	7.9
Exchangeable Magnesium	----	0.2	meq/100g	6.7	7.6	----	----	10.7
Exchangeable Potassium	----	0.2	meq/100g	0.9	0.7	----	----	1.0
Exchangeable Sodium	----	0.2	meq/100g	0.4	0.5	----	----	0.6
Cation Exchange Capacity	----	0.2	meq/100g	20.0	20.6	----	----	20.2
Exchangeable Calcium Percent	----	0.2	%	59.5	57.3	----	----	39.2
Exchangeable Magnesium Percent	----	0.2	%	33.7	36.8	----	----	52.9
Exchangeable Potassium Percent	----	0.2	%	4.6	3.3	----	----	4.7
Exchangeable Sodium Percent	----	0.2	%	2.2	2.6	----	----	3.2
Calcium/Magnesium Ratio	----	0.2	-	1.8	1.6	----	----	0.7
Magnesium/Potassium Ratio	----	0.2	-	7.3	11.2	----	----	11.1
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	5.6	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	3.7	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	0.9	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	0.4	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	10.7	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	<0.1	----
Exchangeable Sodium Percent	----	0.1	%	----	----	----	4.0	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	34.6	----
Exchangeable Potassium Percent	----	0.1	%	----	----	----	8.6	----
Exchangeable Calcium Percent	----	0.1	%	----	----	----	52.8	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	1.5	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	4.0	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	8.4	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	3.9	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	1.0	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	0.1	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	<0.1	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	169_25-35	169_70-80	171_0-10	171_10-20	171_30-40
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-016	ES1602517-017	ES1602517-018	ES1602517-019	ES1602517-020
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	**13.4**	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	**62.8**	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	**29.0**	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	**7.3**	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	**1.0**	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	<0.1	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	**2.2**	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	**4.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	171_60-70	172_0-10	172_10-15	172_25-35	172_45-55
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-021	ES1602517-022	ES1602517-023	ES1602517-024	ES1602517-025
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	9.2	6.1	6.6	8.1	8.7
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	140	139	26	74	305
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	6.8	----	----	4.4	2.8
Exchangeable Magnesium	----	0.2	meq/100g	11.9	----	----	8.3	7.7
Exchangeable Potassium	----	0.2	meq/100g	0.6	----	----	0.8	0.6
Exchangeable Sodium	----	0.2	meq/100g	1.1	----	----	1.2	1.6
Cation Exchange Capacity	----	0.2	meq/100g	20.3	----	----	14.7	12.8
Exchangeable Calcium Percent	----	0.2	%	33.2	----	----	29.8	21.8
Exchangeable Magnesium Percent	----	0.2	%	58.4	----	----	56.7	60.2
Exchangeable Potassium Percent	----	0.2	%	3.0	----	----	5.4	5.0
Exchangeable Sodium Percent	----	0.2	%	5.4	----	----	8.1	12.9
Calcium/Magnesium Ratio	----	0.2	-	0.6	----	----	0.5	0.4
Magnesium/Potassium Ratio	----	0.2	-	19.5	----	----	10.5	12.0
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	5.3	3.0	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	1.8	1.0	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	1.0	0.6	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	0.2	0.2	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	8.2	4.9	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	<0.1	<0.1	----	----
Exchangeable Sodium Percent	----	0.1	%	----	1.8	3.9	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	22.2	21.4	----	----
Exchangeable Potassium Percent	----	0.1	%	----	12.0	12.7	----	----
Exchangeable Calcium Percent	----	0.1	%	----	63.9	62.0	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	2.9	3.0	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	1.8	1.7	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	171_60-70	172_0-10	172_10-15	172_25-35	172_45-55
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-021	ES1602517-022	ES1602517-023	ES1602517-024	ES1602517-025
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	172_70-80	173_0-10	173_20-30	173_40-50	173_60-70
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-026	ES1602517-027	ES1602517-028	ES1602517-029	ES1602517-030
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	9.4	7.7	9.1	9.2	9.1
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	566	82	70	76	89
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	3.2	7.6	6.7	7.5	8.9
Exchangeable Magnesium	----	0.2	meq/100g	8.4	0.9	1.2	1.4	1.8
Exchangeable Potassium	----	0.2	meq/100g	0.8	0.8	0.2	0.3	0.4
Exchangeable Sodium	----	0.2	meq/100g	2.4	<0.2	<0.2	0.2	0.2
Cation Exchange Capacity	----	0.2	meq/100g	14.9	9.4	8.3	9.4	11.4
Exchangeable Calcium Percent	----	0.2	%	21.9	81.4	81.9	81.3	78.1
Exchangeable Magnesium Percent	----	0.2	%	56.9	9.6	15.3	15.0	16.3
Exchangeable Potassium Percent	----	0.2	%	5.4	8.9	2.8	3.7	3.6
Exchangeable Sodium Percent	----	0.2	%	15.8	<0.2	<0.2	<0.2	2.0
Calcium/Magnesium Ratio	----	0.2	-	0.4	8.5	5.4	5.4	4.8
Magnesium/Potassium Ratio	----	0.2	-	10.6	1.1	5.5	4.1	4.6
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	172_70-80	173_0-10	173_20-30	173_40-50	173_60-70
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-026	ES1602517-027	ES1602517-028	ES1602517-029	ES1602517-030
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	174_0-10	174_25-35	174_45-55	174_80-90	177_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-031	ES1602517-032	ES1602517-033	ES1602517-034	ES1602517-035
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.0	7.4	8.9	8.8	6.4
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	35	64	89	94	54
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	7.2	7.4	7.2	----
Exchangeable Magnesium	----	0.2	meq/100g	----	1.5	1.5	1.9	----
Exchangeable Potassium	----	0.2	meq/100g	----	0.4	0.5	0.5	----
Exchangeable Sodium	----	0.2	meq/100g	----	<0.2	<0.2	0.4	----
Cation Exchange Capacity	----	0.2	meq/100g	----	9.3	9.5	9.9	----
Exchangeable Calcium Percent	----	0.2	%	----	79.0	78.8	72.0	----
Exchangeable Magnesium Percent	----	0.2	%	----	16.4	16.2	18.8	----
Exchangeable Potassium Percent	----	0.2	%	----	4.6	5.1	5.3	----
Exchangeable Sodium Percent	----	0.2	%	----	<0.2	<0.2	3.9	----
Calcium/Magnesium Ratio	----	0.2	-	----	4.8	4.9	3.8	----
Magnesium/Potassium Ratio	----	0.2	-	----	3.6	3.2	3.5	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	5.5	----	----	----	7.0
Exchangeable Magnesium	----	0.1	meq/100g	1.3	----	----	----	1.5
Exchangeable Potassium	----	0.1	meq/100g	0.7	----	----	----	0.8
Exchangeable Sodium	----	0.1	meq/100g	0.2	----	----	----	0.2
Cation Exchange Capacity	----	0.1	meq/100g	7.6	----	----	----	9.5
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	<0.1
Exchangeable Sodium Percent	----	0.1	%	2.1	----	----	----	2.6
Exchangeable Magnesium Percent	----	0.1	%	17.2	----	----	----	16.1
Exchangeable Potassium Percent	----	0.1	%	9.1	----	----	----	8.0
Exchangeable Calcium Percent	----	0.1	%	71.6	----	----	----	73.2
Calcium/Magnesium Ratio	----	0.1	-	4.2	----	----	----	4.7
Magnesium/Potassium Ratio	----	0.1	-	1.9	----	----	----	2.0
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	174_0-10	174_25-35	174_45-55	174_80-90	177_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-031	ES1602517-032	ES1602517-033	ES1602517-034	ES1602517-035
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	177_25-35	177_60-70	177_80-90	180_0-10	180_15-25
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-036	ES1602517-037	ES1602517-038	ES1602517-039	ES1602517-040
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.5	6.9	7.9	6.3	7.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	32	16	15	154	53
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	7.2	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	2.4	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	0.5	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	0.3	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	10.4	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	69.8	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	23.0	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	4.4	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	2.7	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	3.0	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	5.2	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	5.3	7.8	----	9.8	12.2
Exchangeable Magnesium	----	0.1	meq/100g	1.4	3.0	----	1.9	1.7
Exchangeable Potassium	----	0.1	meq/100g	0.3	0.4	----	1.2	0.7
Exchangeable Sodium	----	0.1	meq/100g	0.3	0.4	----	0.3	0.3
Cation Exchange Capacity	----	0.1	meq/100g	7.2	11.7	----	13.1	14.9
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	----	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	3.7	3.3	----	2.1	2.1
Exchangeable Magnesium Percent	----	0.1	%	19.2	26.1	----	14.7	11.2
Exchangeable Potassium Percent	----	0.1	%	3.9	3.5	----	9.0	4.7
Exchangeable Calcium Percent	----	0.1	%	73.2	67.1	----	74.1	82.0
Calcium/Magnesium Ratio	----	0.1	-	3.8	2.6	----	5.2	7.2
Magnesium/Potassium Ratio	----	0.1	-	4.9	7.5	----	1.6	2.4
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	177_25-35	177_60-70	177_80-90	180_0-10	180_15-25
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-036	ES1602517-037	ES1602517-038	ES1602517-039	ES1602517-040
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	180_30-40	180_60-70	185_0-10	185_25-35	185_45-55
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-041	ES1602517-042	ES1602517-043	ES1602517-044	ES1602517-045
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.5	8.2	7.3	7.9	8.9
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	27	18	56	127	148
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	11.1	8.7	25.1	24.4	21.7
Exchangeable Magnesium	----	0.2	meq/100g	1.4	1.3	10.8	12.6	14.0
Exchangeable Potassium	----	0.2	meq/100g	0.4	0.2	1.4	0.9	0.6
Exchangeable Sodium	----	0.2	meq/100g	<0.2	<0.2	0.6	0.7	0.8
Cation Exchange Capacity	----	0.2	meq/100g	13.0	10.4	37.8	38.7	37.1
Exchangeable Calcium Percent	----	0.2	%	86.4	84.7	66.3	63.2	58.5
Exchangeable Magnesium Percent	----	0.2	%	10.5	12.8	28.6	32.6	37.6
Exchangeable Potassium Percent	----	0.2	%	3.0	2.5	3.6	2.4	1.6
Exchangeable Sodium Percent	----	0.2	%	<0.2	<0.2	1.5	1.8	2.2
Calcium/Magnesium Ratio	----	0.2	-	8.2	6.6	2.3	1.9	1.6
Magnesium/Potassium Ratio	----	0.2	-	3.4	5.2	7.9	13.6	23.4
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	180_30-40	180_60-70	185_0-10	185_25-35	185_45-55
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-041	ES1602517-042	ES1602517-043	ES1602517-044	ES1602517-045
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	185_60-70	201_0-10	201_15-25	201_35-45	201_60-70
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-046	ES1602517-047	ES1602517-048	ES1602517-049	ES1602517-050
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	9.1	7.0	7.4	7.7	9.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	134	88	31	94	109
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	6.4	----	8.6	12.2	7.4
Exchangeable Magnesium	----	0.2	meq/100g	1.8	----	4.0	5.2	3.4
Exchangeable Potassium	----	0.2	meq/100g	1.8	----	0.5	0.7	0.3
Exchangeable Sodium	----	0.2	meq/100g	<0.2	----	0.2	0.3	<0.2
Cation Exchange Capacity	----	0.2	meq/100g	10.1	----	13.4	18.3	11.4
Exchangeable Calcium Percent	----	0.2	%	63.9	----	64.3	66.3	66.7
Exchangeable Magnesium Percent	----	0.2	%	18.3	----	30.1	28.1	30.8
Exchangeable Potassium Percent	----	0.2	%	17.8	----	3.8	3.8	2.6
Exchangeable Sodium Percent	----	0.2	%	<0.2	----	1.7	1.7	<0.2
Calcium/Magnesium Ratio	----	0.2	-	3.5	----	2.1	2.4	2.2
Magnesium/Potassium Ratio	----	0.2	-	1.0	----	8.0	7.4	12.0
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	6.5	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	2.0	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	1.6	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	0.2	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	10.2	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	<0.1	----	----	----
Exchangeable Sodium Percent	----	0.1	%	----	2.1	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	19.0	----	----	----
Exchangeable Potassium Percent	----	0.1	%	----	15.7	----	----	----
Exchangeable Calcium Percent	----	0.1	%	----	63.2	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	3.2	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	1.2	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	185_60-70	201_0-10	201_15-25	201_35-45	201_60-70
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-046	ES1602517-047	ES1602517-048	ES1602517-049	ES1602517-050
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	204_0-10	204_25-35	204_45-55	206_0-10	206_15-25
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-051	ES1602517-052	ES1602517-053	ES1602517-054	ES1602517-055
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	5.9	5.6	5.7	5.9	6.9
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	25	20	64	166	32
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	0.9	1.2	3.9	9.2	13.0
Exchangeable Magnesium	----	0.1	meq/100g	0.5	0.7	6.3	2.2	3.5
Exchangeable Potassium	----	0.1	meq/100g	0.9	0.6	0.6	1.6	0.6
Exchangeable Sodium	----	0.1	meq/100g	0.1	0.1	0.4	0.2	0.4
Cation Exchange Capacity	----	0.1	meq/100g	2.4	2.7	11.3	13.2	17.5
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	5.0	5.4	3.8	1.9	2.4
Exchangeable Magnesium Percent	----	0.1	%	19.7	25.6	56.0	16.3	20.2
Exchangeable Potassium Percent	----	0.1	%	38.0	23.1	5.7	12.3	3.4
Exchangeable Calcium Percent	----	0.1	%	37.3	46.0	34.4	69.4	73.9
Calcium/Magnesium Ratio	----	0.1	-	1.8	1.7	0.6	4.2	3.7
Magnesium/Potassium Ratio	----	0.1	-	0.5	1.1	9.8	1.3	5.9
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	204_0-10	204_25-35	204_45-55	206_0-10	206_15-25
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-051	ES1602517-052	ES1602517-053	ES1602517-054	ES1602517-055
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	206_45-55	206_70-80	211_0-10	211_25-35	211_45-55
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602517-056	ES1602517-057	ES1602517-058	ES1602517-059	ES1602517-060
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.3	8.2	6.9	7.8	8.9
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	27	121	226	44	148
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	7.5	10.2	----	10.7	17.8
Exchangeable Magnesium	----	0.2	meq/100g	2.8	5.7	----	4.8	19.0
Exchangeable Potassium	----	0.2	meq/100g	0.4	0.5	----	1.4	0.9
Exchangeable Sodium	----	0.2	meq/100g	0.3	0.5	----	0.2	0.6
Cation Exchange Capacity	----	0.2	meq/100g	11.0	16.9	----	17.1	38300
Exchangeable Calcium Percent	----	0.2	%	68.2	60.4	----	63.2	46.4
Exchangeable Magnesium Percent	----	0.2	%	26.0	33.8	----	28.2	49.6
Exchangeable Potassium Percent	----	0.2	%	3.4	2.9	----	8.6	2.3
Exchangeable Sodium Percent	----	0.2	%	2.4	2.9	----	<0.2	1.6
Calcium/Magnesium Ratio	----	0.2	-	2.6	1.8	----	2.2	0.9
Magnesium/Potassium Ratio	----	0.2	-	7.7	11.7	----	3.3	21.2
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	12.5	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	3.0	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	1.5	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	0.1	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	17.2	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	<0.1	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	0.8	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	17.6	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	8.8	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	72.8	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	4.2	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	2.0	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	206_45-55	206_70-80	211_0-10	211_25-35	211_45-55
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602517-056	ES1602517-057	ES1602517-058	ES1602517-059	ES1602517-060
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	211_80-90	----	----	----	----
			Client sampling date / time	[04-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1602517-061	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**9.3**	----	----	----	----
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	**283**	----	----	----	----
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	**14.0**	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	**24.2**	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	**0.8**	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	**1.2**	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	**40.2**	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	**34.8**	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	**60.2**	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	**2.0**	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	**3.0**	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	**0.6**	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	**30.8**	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	211_80-90	----	----	----	----
				Client sampling date / time	[04-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1602517-061	--------	--------	--------	--------
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1602523**	Page	: 1 of 30
Client	: **SLR Consulting Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: MR CLAYTON RICHARDS	Contact	:
Address	: 10 KINGS ROAD NEW LAMBTON NSW, AUSTRALIA 2305	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: crichards@slrconsulting.com	E-mail	:
Telephone	: +61 02 4920 3000	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4961 3360	Facsimile	: +61-2-8784 8500
Project	: 634.10048 BYLONG BSAL	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: 634.10048	Date Samples Received	: 04-Feb-2016 11:50
C-O-C number	: ----	Date Analysis Commenced	: 06-Feb-2016
Sampler	: MURRAY FRASER	Issue Date	: 15-Feb-2016 17:00
Site	:		
		No. of samples received	: 69
Quote number	: ----	No. of samples analysed	: 69

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	213_0-10	213_20-30	213_35-45	213_80-90	217_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-001	ES1602523-002	ES1602523-003	ES1602523-004	ES1602523-005
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.2	7.5	8.2	8.9	6.1
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	116	45	101	153	166
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	10.6	13.3	12.2	----
Exchangeable Magnesium	----	0.2	meq/100g	----	2.5	4.0	6.2	----
Exchangeable Potassium	----	0.2	meq/100g	----	0.9	0.9	0.7	----
Exchangeable Sodium	----	0.2	meq/100g	----	<0.2	0.3	0.4	----
Cation Exchange Capacity	----	0.2	meq/100g	----	14.3	18.4	19.5	----
Exchangeable Calcium Percent	----	0.2	%	----	75.6	72.0	62.2	----
Exchangeable Magnesium Percent	----	0.2	%	----	17.9	21.7	32.0	----
Exchangeable Potassium Percent	----	0.2	%	----	6.5	4.9	3.5	----
Exchangeable Sodium Percent	----	0.2	%	----	<0.2	1.5	2.3	----
Calcium/Magnesium Ratio	----	0.2	-	----	4.2	3.3	1.9	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	2.8	4.4	9.1	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	7.7	----	----	----	6.4
Exchangeable Magnesium	----	0.1	meq/100g	2.3	----	----	----	1.5
Exchangeable Potassium	----	0.1	meq/100g	1.9	----	----	----	1.3
Exchangeable Sodium	----	0.1	meq/100g	0.2	----	----	----	0.2
Cation Exchange Capacity	----	0.1	meq/100g	12.1	----	----	----	9.3
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	<0.1
Exchangeable Sodium Percent	----	0.1	%	1.8	----	----	----	2.0
Exchangeable Magnesium Percent	----	0.1	%	19.4	----	----	----	15.8
Exchangeable Potassium Percent	----	0.1	%	15.4	----	----	----	13.6
Exchangeable Calcium Percent	----	0.1	%	63.4	----	----	----	68.7
Calcium/Magnesium Ratio	----	0.1	-	3.3	----	----	----	4.3
Magnesium/Potassium Ratio	----	0.1	-	1.2	----	----	----	1.2
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	213_0-10	213_20-30	213_35-45	213_80-90	217_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-001	ES1602523-002	ES1602523-003	ES1602523-004	ES1602523-005
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	217_20-30	217_35-45	217_50-60	217_70-80	219_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-006	ES1602523-007	ES1602523-008	ES1602523-009	ES1602523-010
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.6	6.8	6.9	7.3	6.6
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	24	22	19	18	56
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	4.0	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	2.6	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	0.5	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	<0.2	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	7.3	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	55.8	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	37.1	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	7.1	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	<0.2	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	1.5	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	5.2	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	5.0	5.1	3.9	----	6.8
Exchangeable Magnesium	----	0.1	meq/100g	1.6	2.3	2.8	----	1.6
Exchangeable Potassium	----	0.1	meq/100g	0.5	0.4	0.5	----	1.8
Exchangeable Sodium	----	0.1	meq/100g	0.3	0.4	0.3	----	0.2
Cation Exchange Capacity	----	0.1	meq/100g	7.4	8.1	7.4	----	10.3
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	----	<0.1
Exchangeable Sodium Percent	----	0.1	%	4.4	4.3	3.6	----	1.6
Exchangeable Magnesium Percent	----	0.1	%	21.0	27.9	37.7	----	15.2
Exchangeable Potassium Percent	----	0.1	%	6.8	5.5	6.2	----	17.2
Exchangeable Calcium Percent	----	0.1	%	67.8	62.3	52.4	----	65.9
Calcium/Magnesium Ratio	----	0.1	-	3.1	2.2	1.4	----	4.2
Magnesium/Potassium Ratio	----	0.1	-	3.1	5.1	6.0	----	0.9
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	217_20-30	217_35-45	217_50-60	217_70-80	219_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-006	ES1602523-007	ES1602523-008	ES1602523-009	ES1602523-010
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	219_25-35	219_45-55	219_70-80	222_0-10	222_15-25
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-011	ES1602523-012	ES1602523-013	ES1602523-014	ES1602523-015
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.4	9.0	9.3	6.5	6.2
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	107	119	184	78	14
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	10.6	8.7	6.0	----	----
Exchangeable Magnesium	----	0.2	meq/100g	1.8	5.9	9.1	----	----
Exchangeable Potassium	----	0.2	meq/100g	0.7	1.1	1.2	----	----
Exchangeable Sodium	----	0.2	meq/100g	<0.2	0.2	0.8	----	----
Cation Exchange Capacity	----	0.2	meq/100g	13.2	16.0	17.1	----	----
Exchangeable Calcium Percent	----	0.2	%	80.8	54.6	35.3	----	----
Exchangeable Magnesium Percent	----	0.2	%	13.9	36.9	53.5	----	----
Exchangeable Potassium Percent	----	0.2	%	5.3	6.9	6.8	----	----
Exchangeable Sodium Percent	----	0.2	%	<0.2	1.6	4.4	----	----
Calcium/Magnesium Ratio	----	0.2	-	5.8	1.5	0.7	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	2.6	5.3	7.8	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	4.7	4.2
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	1.3	1.5
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	0.9	0.2
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	0.2	0.3
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	7.1	6.2
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	----	----	2.8	5.0
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	18.8	23.9
Exchangeable Potassium Percent	----	0.1	%	----	----	----	12.3	4.0
Exchangeable Calcium Percent	----	0.1	%	----	----	----	66.0	67.0
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	3.6	2.8
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	1.5	6.0
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	219_25-35	219_45-55	219_70-80	222_0-10	222_15-25
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-011	ES1602523-012	ES1602523-013	ES1602523-014	ES1602523-015
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	222_30-40	222_45-55	222_80-90	223_0-10	223_15-25
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-016	ES1602523-017	ES1602523-018	ES1602523-019	ES1602523-020
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.3	6.5	7.2	7.0	6.6
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	12	14	23	46	30
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	3.6	4.0	7.8	5.1	3.4
Exchangeable Magnesium	----	0.1	meq/100g	1.4	1.7	4.1	1.3	0.7
Exchangeable Potassium	----	0.1	meq/100g	0.2	0.2	0.5	1.1	0.8
Exchangeable Sodium	----	0.1	meq/100g	0.3	0.3	0.6	0.1	0.2
Cation Exchange Capacity	----	0.1	meq/100g	5.5	6.3	13.0	7.7	5.0
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	5.2	5.0	4.5	1.7	3.3
Exchangeable Magnesium Percent	----	0.1	%	26.2	27.6	31.7	17.0	14.8
Exchangeable Potassium Percent	----	0.1	%	3.6	3.5	3.6	14.8	15.4
Exchangeable Calcium Percent	----	0.1	%	65.0	63.8	60.2	66.4	66.5
Calcium/Magnesium Ratio	----	0.1	-	2.6	2.4	1.9	3.9	4.8
Magnesium/Potassium Ratio	----	0.1	-	7.3	7.8	8.8	1.2	1.0
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	222_30-40	222_45-55	222_80-90	223_0-10	223_15-25
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-016	ES1602523-017	ES1602523-018	ES1602523-019	ES1602523-020
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	223_45-55	223_70-80	227_0-10	227_25-35	227_45-55
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-021	ES1602523-022	ES1602523-023	ES1602523-024	ES1602523-025
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.3	7.2	6.0	7.0	7.2
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	24	23	60	11	9
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	9.6	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	3.6	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	0.7	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	0.3	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	14.2	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	67.7	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	25.3	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	4.9	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	2.1	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	2.7	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	5.2	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	4.8	5.4	4.6	4.2
Exchangeable Magnesium	----	0.1	meq/100g	----	2.7	1.2	0.8	0.8
Exchangeable Potassium	----	0.1	meq/100g	----	0.5	0.8	0.2	0.1
Exchangeable Sodium	----	0.1	meq/100g	----	0.3	0.2	0.2	0.2
Cation Exchange Capacity	----	0.1	meq/100g	----	8.3	7.7	5.8	5.3
Exchangeable Aluminium	----	0.1	meq/100g	----	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	3.8	2.5	4.1	4.4
Exchangeable Magnesium Percent	----	0.1	%	----	33.0	16.2	13.4	14.2
Exchangeable Potassium Percent	----	0.1	%	----	5.7	11.1	3.1	2.7
Exchangeable Calcium Percent	----	0.1	%	----	57.6	70.2	79.4	78.7
Calcium/Magnesium Ratio	----	0.1	-	----	1.8	4.5	5.8	5.2
Magnesium/Potassium Ratio	----	0.1	-	----	5.8	1.4	4.4	5.2
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	223_45-55	223_70-80	227_0-10	227_25-35	227_45-55
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-021	ES1602523-022	ES1602523-023	ES1602523-024	ES1602523-025
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	227_70-80	229_0-10	229_15-25	229_45-55	229_70-80
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-026	ES1602523-027	ES1602523-028	ES1602523-029	ES1602523-030
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.7	5.6	5.6	6.0	5.9
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	11	95	39	24	44
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	4.5	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	1.0	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	<0.2	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	0.2	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	5.8	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	79.8	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	17.0	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	3.1	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	<0.2	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	4.7	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	5.4	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	2.9	1.4	0.7	0.5
Exchangeable Magnesium	----	0.1	meq/100g	----	1.2	1.2	7.7	7.9
Exchangeable Potassium	----	0.1	meq/100g	----	0.8	0.5	0.6	0.5
Exchangeable Sodium	----	0.1	meq/100g	----	0.2	0.2	0.6	0.9
Cation Exchange Capacity	----	0.1	meq/100g	----	5.1	3.2	9.7	9.7
Exchangeable Aluminium	----	0.1	meq/100g	----	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	3.2	4.9	6.7	9.3
Exchangeable Magnesium Percent	----	0.1	%	----	24.2	36.9	79.5	80.9
Exchangeable Potassium Percent	----	0.1	%	----	16.7	14.5	6.4	4.8
Exchangeable Calcium Percent	----	0.1	%	----	55.9	43.7	7.3	5.0
Calcium/Magnesium Ratio	----	0.1	-	----	2.4	1.2	<0.1	<0.1
Magnesium/Potassium Ratio	----	0.1	-	----	1.4	2.5	12.4	17.0
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	227_70-80	229_0-10	229_15-25	229_45-55	229_70-80
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-026	ES1602523-027	ES1602523-028	ES1602523-029	ES1602523-030
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	231_0-10	231_15-25	231_35-45	231_50-60	239_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-031	ES1602523-032	ES1602523-033	ES1602523-034	ES1602523-035
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.0	6.2	6.4	6.4	6.3
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	84	11	14	19	29
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	6.3	2.1	2.6	3.3	2.2
Exchangeable Magnesium	----	0.1	meq/100g	2.1	0.8	1.2	1.7	0.6
Exchangeable Potassium	----	0.1	meq/100g	0.8	0.5	0.6	0.7	0.9
Exchangeable Sodium	----	0.1	meq/100g	0.1	0.1	0.2	0.2	<0.1
Cation Exchange Capacity	----	0.1	meq/100g	9.3	3.6	4.5	5.8	3.8
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	1.3	3.6	3.4	2.7	2.2
Exchangeable Magnesium Percent	----	0.1	%	22.5	22.0	25.8	28.6	15.9
Exchangeable Potassium Percent	----	0.1	%	8.9	14.9	12.7	12.7	23.8
Exchangeable Calcium Percent	----	0.1	%	67.3	59.5	58.2	55.9	58.0
Calcium/Magnesium Ratio	----	0.1	-	3.0	2.6	2.2	1.9	3.7
Magnesium/Potassium Ratio	----	0.1	-	2.5	1.5	2.0	2.2	0.7
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	231_0-10	231_15-25	231_35-45	231_50-60	239_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-031	ES1602523-032	ES1602523-033	ES1602523-034	ES1602523-035
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	239_25-35	239_45-55	239_80-90	241_0-10	241_25-35
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-036	ES1602523-037	ES1602523-038	ES1602523-039	ES1602523-040
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.6	8.3	8.6	6.0	7.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	104	88	70	233	36
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	4.2	7.7	7.5	----	----
Exchangeable Magnesium	----	0.2	meq/100g	0.4	3.2	7.0	----	----
Exchangeable Potassium	----	0.2	meq/100g	0.7	0.8	1.1	----	----
Exchangeable Sodium	----	0.2	meq/100g	<0.2	0.2	0.4	----	----
Cation Exchange Capacity	----	0.2	meq/100g	5.4	11.9	16.0	----	----
Exchangeable Calcium Percent	----	0.2	%	85.6	66.0	47.0	----	----
Exchangeable Magnesium Percent	----	0.2	%	<0.2	26.9	43.4	----	----
Exchangeable Potassium Percent	----	0.2	%	14.4	7.1	6.6	----	----
Exchangeable Sodium Percent	----	0.2	%	<0.2	<0.2	2.8	----	----
Calcium/Magnesium Ratio	----	0.2	-	10.3	2.4	1.1	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	0.6	3.8	6.5	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	8.4	5.4
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	1.4	1.1
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	1.2	0.4
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	0.2	0.2
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	11.1	7.1
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	----	----	1.8	3.6
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	12.4	15.4
Exchangeable Potassium Percent	----	0.1	%	----	----	----	10.7	5.4
Exchangeable Calcium Percent	----	0.1	%	----	----	----	75.1	75.6
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	6.0	4.9
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	1.2	2.8
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	239_25-35	239_45-55	239_80-90	241_0-10	241_25-35
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-036	ES1602523-037	ES1602523-038	ES1602523-039	ES1602523-040
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	241_55-65	241_70-80	255_0-10	255_25-35	255_45-55
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-041	ES1602523-042	ES1602523-043	ES1602523-044	ES1602523-045
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.6	7.5	5.7	6.8	7.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	24	26	590	14	10
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	4.9	9.8	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	1.8	4.5	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	0.3	0.7	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	0.9	0.3	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	7.9	15.4	----	----	----
Exchangeable Calcium Percent	----	0.2	%	61.8	63.8	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	22.9	29.5	----	----	----
Exchangeable Potassium Percent	----	0.2	%	4.3	4.5	----	----	----
Exchangeable Sodium Percent	----	0.2	%	11.0	2.1	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	2.7	2.2	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	5.3	6.5	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	2.9	2.9
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	1.2	2.1
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	0.5	0.5
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	0.2	0.3
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	4.7	5.7
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	----	----	----	4.5	4.8
Exchangeable Magnesium Percent	----	0.1	%	----	----	----	24.6	37.1
Exchangeable Potassium Percent	----	0.1	%	----	----	----	10.0	8.0
Exchangeable Calcium Percent	----	0.1	%	----	----	----	60.9	50.1
Calcium/Magnesium Ratio	----	0.1	-	----	----	----	2.4	1.4
Magnesium/Potassium Ratio	----	0.1	-	----	----	----	2.5	4.6
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	7.0	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	1.3	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	1.1	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	<0.1	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	241_55-65	241_70-80	255_0-10	255_25-35	255_45-55
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-041	ES1602523-042	ES1602523-043	ES1602523-044	ES1602523-045
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	**0.3**	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	**9.8**	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	**71.5**	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	**13.6**	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	**11.3**	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	**0.8**	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	**2.8**	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	**5.4**	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	**1.2**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	255_70-80	262_0-10	262_25-35	262_45-55	262_70-80
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-046	ES1602523-047	ES1602523-048	ES1602523-049	ES1602523-050
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.4	4.8	8.7	9.1	9.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	14	258	105	165	92
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	5.2	----	7.8	6.7	6.2
Exchangeable Magnesium	----	0.2	meq/100g	3.8	----	5.4	6.5	5.2
Exchangeable Potassium	----	0.2	meq/100g	0.4	----	1.2	1.1	1.0
Exchangeable Sodium	----	0.2	meq/100g	0.4	----	0.3	0.4	0.3
Cation Exchange Capacity	----	0.2	meq/100g	9.7	----	14.8	14.7	12.7
Exchangeable Calcium Percent	----	0.2	%	53.2	----	52.9	45.6	48.6
Exchangeable Magnesium Percent	----	0.2	%	39.0	----	37.0	44.2	41.2
Exchangeable Potassium Percent	----	0.2	%	4.1	----	7.8	7.6	7.5
Exchangeable Sodium Percent	----	0.2	%	3.7	----	2.3	2.7	2.7
Calcium/Magnesium Ratio	----	0.2	-	1.4	----	1.4	1.0	1.2
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	9.5	----	4.7	5.8	5.5
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	2.8	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	0.9	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	1.0	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	<0.1	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	4.6	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	<0.1	----	----	----
Exchangeable Sodium Percent	----	0.1	%	----	1.5	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	18.7	----	----	----
Exchangeable Potassium Percent	----	0.1	%	----	20.4	----	----	----
Exchangeable Calcium Percent	----	0.1	%	----	59.4	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	3.1	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	0.9	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	255_70-80	262_0-10	262_25-35	262_45-55	262_70-80
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-046	ES1602523-047	ES1602523-048	ES1602523-049	ES1602523-050
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	269_0-10	269_15-25	269_35-45	269_55-95	271_0-10
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-051	ES1602523-052	ES1602523-053	ES1602523-054	ES1602523-055
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	5.5	5.8	7.0	7.1	4.6
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	415	71	24	27	395
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	3.4	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	0.4	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	0.6	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	<0.2	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	4.6	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	76.8	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	10.2	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	13.1	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	<0.2	----	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	7.5	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	0.8	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	5.9	6.3	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	1.3	1.6	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	0.4	0.4	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	0.2	0.3	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	7.9	8.5	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	<0.1	<0.1	----
Exchangeable Sodium Percent	----	0.1	%	----	----	2.8	3.0	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	16.2	18.8	----
Exchangeable Potassium Percent	----	0.1	%	----	----	5.8	4.2	----
Exchangeable Calcium Percent	----	0.1	%	----	----	75.3	73.9	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	4.5	3.9	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	2.8	4.5	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	4.0	----	----	----	2.2
Exchangeable Magnesium	----	0.1	meq/100g	0.5	----	----	----	0.3
Exchangeable Potassium	----	0.1	meq/100g	0.8	----	----	----	0.7
Exchangeable Sodium	----	0.1	meq/100g	<0.1	----	----	----	<0.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	269_0-10	269_15-25	269_35-45	269_55-95	271_0-10
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-051	ES1602523-052	ES1602523-053	ES1602523-054	ES1602523-055
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		<0.1	----	----	----	**0.2**
Cation Exchange Capacity	----	0.1	meq/100g		**5.4**	----	----	----	**3.6**
Exchangeable Calcium Percent	----	0.1	%		**75.3**	----	----	----	**62.0**
Exchangeable Magnesium Percent	----	0.1	%		**9.6**	----	----	----	**8.6**
Exchangeable Potassium Percent	----	0.1	%		**14.1**	----	----	----	**20.1**
Exchangeable Sodium Percent	----	0.1	%		**0.9**	----	----	----	**2.2**
Exchangeable Aluminium Percent	----	0.1	%		<0.1	----	----	----	**7.0**
Calcium/Magnesium Ratio	----	0.1	-		**8.0**	----	----	----	**7.3**
Magnesium/Potassium Ratio	----	0.1	-		**0.7**	----	----	----	**0.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	271_15-25	271_45-55	271_60-70	LAB CORE 4(CORE 21 ON FIG)_0-10	LAB CORE 4(CORE 21 ON FIG)_25-35
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-056	ES1602523-057	ES1602523-058	ES1602523-059	ES1602523-060
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.0	7.2	7.8	7.0	7.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	64	28	44	56	21
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	4.6	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	2.6	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	0.4	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	<0.2	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	7.7	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	61.0	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	34.3	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	4.6	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	<0.2	----	----
Calcium/Magnesium Ratio	----	0.2	-	----	----	1.8	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	7.4	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	2.8	4.3	----	12.4	6.6
Exchangeable Magnesium	----	0.1	meq/100g	0.8	2.1	----	5.1	4.0
Exchangeable Potassium	----	0.1	meq/100g	0.7	0.6	----	1.4	0.8
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.1	----	0.3	0.3
Cation Exchange Capacity	----	0.1	meq/100g	4.5	7.1	----	19.1	11.7
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	----	<0.1	<0.1
Exchangeable Sodium Percent	----	0.1	%	4.4	1.8	----	1.4	2.7
Exchangeable Magnesium Percent	----	0.1	%	16.8	29.8	----	26.8	33.9
Exchangeable Potassium Percent	----	0.1	%	16.0	8.2	----	7.2	7.2
Exchangeable Calcium Percent	----	0.1	%	62.9	60.2	----	64.6	56.2
Calcium/Magnesium Ratio	----	0.1	-	3.5	2.0	----	2.4	1.6
Magnesium/Potassium Ratio	----	0.1	-	1.0	3.6	----	3.7	4.7
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	271_15-25	271_45-55	271_60-70	LAB CORE 4(CORE 21 ON FIG)_0-10	LAB CORE 4(CORE 21 ON FIG)_25-35
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit		ES1602523-056	ES1602523-057	ES1602523-058	ES1602523-059	ES1602523-060
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	LAB CORE 4(CORE 21 ON FIG)_55-65	LAB CORE 4(CORE 21 ON FIG)_90-100	LAB CORE 46(CORE 40 ON FIG)_0-18	LAB CORE 46(CORE 40 ON FIG)_18-40	LAB CORE 46(CORE 40 ON FIG)_40-80
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
Compound	CAS Number	LOR	Unit	ES1602523-061	ES1602523-062	ES1602523-063	ES1602523-064	ES1602523-065
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	7.6	7.6	6.9	7.9	8.5
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	29	26	74	45	156
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	10.0	11.1	----	6.2	16.5
Exchangeable Magnesium	----	0.2	meq/100g	4.3	4.7	----	1.0	2.4
Exchangeable Potassium	----	0.2	meq/100g	1.0	1.0	----	1.3	1.6
Exchangeable Sodium	----	0.2	meq/100g	0.4	0.3	----	<0.2	0.3
Cation Exchange Capacity	----	0.2	meq/100g	15.6	17.2	----	8.7	20.8
Exchangeable Calcium Percent	----	0.2	%	64.1	64.7	----	73.2	79.2
Exchangeable Magnesium Percent	----	0.2	%	27.3	27.4	----	11.2	11.6
Exchangeable Potassium Percent	----	0.2	%	6.1	5.9	----	15.6	7.9
Exchangeable Sodium Percent	----	0.2	%	2.4	2.0	----	<0.2	1.3
Calcium/Magnesium Ratio	----	0.2	-	2.3	2.4	----	6.5	6.8
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	4.5	4.6	----	0.7	1.5
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	3.6	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	1.3	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	0.9	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	0.1	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	5.9	----	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	<0.1	----	----
Exchangeable Sodium Percent	----	0.1	%	----	----	1.9	----	----
Exchangeable Magnesium Percent	----	0.1	%	----	----	21.9	----	----
Exchangeable Potassium Percent	----	0.1	%	----	----	15.8	----	----
Exchangeable Calcium Percent	----	0.1	%	----	----	60.3	----	----
Calcium/Magnesium Ratio	----	0.1	-	----	----	2.8	----	----
Magnesium/Potassium Ratio	----	0.1	-	----	----	1.4	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	LAB CORE 4(CORE 21 ON FIG)_55-65	LAB CORE 4(CORE 21 ON FIG)_90-100	LAB CORE 46(CORE 40 ON FIG)_0-18	LAB CORE 46(CORE 40 ON FIG)_18-40	LAB CORE 46(CORE 40 ON FIG)_40-80
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]
					ES1602523-061	ES1602523-062	ES1602523-063	ES1602523-064	ES1602523-065
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	LAB CORE 49(CORE 43 ON FIG)_0-12	LAB CORE 49(CORE 43 ON FIG)_12-50	LAB CORE 49(CORE 43 ON FIG)_50-85	LAB CORE 49(CORE 43 ON FIG)_85-100	----
			Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	----
Compound	CAS Number	LOR	Unit	ES1602523-066	ES1602523-067	ES1602523-068	ES1602523-069	--------
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	6.4	8.6	9.2	9.6	----
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	60	335	950	717	----
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	10.4	6.5	5.2	----
Exchangeable Magnesium	----	0.2	meq/100g	----	13.4	12.7	11.6	----
Exchangeable Potassium	----	0.2	meq/100g	----	0.4	0.4	0.6	----
Exchangeable Sodium	----	0.2	meq/100g	----	4.2	6.2	5.5	----
Cation Exchange Capacity	----	0.2	meq/100g	----	28.5	25.8	22.9	----
Exchangeable Calcium Percent	----	0.2	%	----	36.6	25.0	22.9	----
Exchangeable Magnesium Percent	----	0.2	%	----	46.9	49.1	50.6	----
Exchangeable Potassium Percent	----	0.2	%	----	1.6	1.8	2.4	----
Exchangeable Sodium Percent	----	0.2	%	----	14.9	24.1	24.1	----
Calcium/Magnesium Ratio	----	0.2	-	----	0.8	0.5	0.4	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	29.7	27.9	20.8	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	6.5	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	4.0	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	0.8	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	0.8	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	12.1	----	----	----	----
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%	6.6	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%	33.1	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%	6.8	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%	53.6	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-	1.6	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-	4.9	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	LAB CORE 49(CORE 43 ON FIG)_0-12	LAB CORE 49(CORE 43 ON FIG)_12-50	LAB CORE 49(CORE 43 ON FIG)_50-85	LAB CORE 49(CORE 43 ON FIG)_85-100	----
				Client sampling date / time	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	[04-Feb-2016]	----
Compound	CAS Number	LOR	Unit		ES1602523-066	ES1602523-067	ES1602523-068	ES1602523-069	--------
					Result	Result	Result	Result	Result
ED008: Exchangeable Cations - Continued									
Exchangeable Aluminium	----	0.1	meq/100g		----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g		----	----	----	----	----
Exchangeable Calcium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Magnesium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Potassium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Sodium Percent	----	0.1	%		----	----	----	----	----
Exchangeable Aluminium Percent	----	0.1	%		----	----	----	----	----
Calcium/Magnesium Ratio	----	0.1	-		----	----	----	----	----
Magnesium/Potassium Ratio	----	0.1	-		----	----	----	----	----