



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EB1100125	Page	: 1 of 8
Client	: ECOZ ENVIRONMENTAL SERVICES	Laboratory	: Environmental Division Brisbane
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Project	: DW100077	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 01-JAN-2011
Sampler	: NuPower	Issue Date	: 25-JAN-2011
Site	: Eva and Cobar 2		
Quote number	: BN/308/10	No. of samples received	: 45
		No. of samples analysed	: 29

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
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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

- **ALS Environmental is not NATA accredited to report the elements listed under method codes EG020E, EG020G, EG020R and EG020W.**
- **EG005T (Total Metals) Samples EB1100125-003 (20019), EB1100125-008 (12219) & EB1100125-028 (20110) show poor duplicate results due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EG020T (Total Metals) Samples EB1100125-001 (20017) & EB1100125-028 (20110) show poor duplicate results due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				20017 <1mm	20018 <1mm	20019 <1mm	20020 <1mm	20021 <1mm
				05-JAN-2011 15:00	05-JAN-2011 15:00		05-JAN-2011 15:00	05-JAN-2011 15:00
Compound	CAS Number	LOR	Unit	EB1100125-001	EB1100125-002	EB1100125-003	EB1100125-004	EB1100125-005
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	30	<5	<5
Barium	7440-39-3	10	mg/kg	10	10	80	<10	20
Beryllium	7440-41-7	1	mg/kg	<1	<1	1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	20	88	11	25
Cobalt	7440-48-4	2	mg/kg	4	6	49	3	6
Copper	7440-50-8	5	mg/kg	11	7	308	6	12
Lead	7439-92-1	5	mg/kg	<5	<5	103	<5	<5
Manganese	7439-96-5	5	mg/kg	122	93	565	59	121
Nickel	7440-02-0	2	mg/kg	7	10	95	5	14
Vanadium	7440-62-2	5	mg/kg	21	29	939	33	49
Zinc	7440-66-6	5	mg/kg	19	16	190	98	15
Potassium	7440-09-7	50	mg/kg	100	130	1900	130	190
EG020T: Total Metals by ICP-MS								
Uranium	7440-61-1	0.1	mg/kg	2.9	2.8	9840	10.9	10.4
Thorium	7440-29-1	0.1	mg/kg	0.6	0.6	5.6	0.5	0.8
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				12213 <1mm	12216 <1mm	12219 <1mm	12220 <1mm	12221 <1mm
				05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00
Compound	CAS Number	LOR	Unit	EB1100125-006	EB1100125-007	EB1100125-008	EB1100125-009	EB1100125-010
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	6	6	7	<5
Barium	7440-39-3	10	mg/kg	30	50	50	70	40
Beryllium	7440-41-7	1	mg/kg	<1	2	1	2	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	5	16	10	11	5
Cobalt	7440-48-4	2	mg/kg	3	11	5	21	<2
Copper	7440-50-8	5	mg/kg	21	44	245	204	9
Lead	7439-92-1	5	mg/kg	6	36	16	46	<5
Manganese	7439-96-5	5	mg/kg	42	208	253	365	31
Nickel	7440-02-0	2	mg/kg	2	5	3	4	<2
Vanadium	7440-62-2	5	mg/kg	24	53	19	23	11
Zinc	7440-66-6	5	mg/kg	14	50	13	21	<5
Potassium	7440-09-7	50	mg/kg	390	690	630	1190	370
EG020T: Total Metals by ICP-MS								
Uranium	7440-61-1	0.1	mg/kg	37.3	287	103	28.0	5.1
Thorium	7440-29-1	0.1	mg/kg	1.8	1.3	1.8	1.8	1.1
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				12222 <1mm	12223 <1mm	12203 <1mm	12205 <1mm	12212 <1mm
				05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00
Compound	CAS Number	LOR	Unit	EB1100125-011	EB1100125-012	EB1100125-013	EB1100125-014	EB1100125-015
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	6
Barium	7440-39-3	10	mg/kg	170	20	30	60	50
Beryllium	7440-41-7	1	mg/kg	6	<1	<1	1	1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	11	3	6	10	11
Cobalt	7440-48-4	2	mg/kg	16	<2	4	7	5
Copper	7440-50-8	5	mg/kg	154	6	23	47	142
Lead	7439-92-1	5	mg/kg	9	<5	6	17	<5
Manganese	7439-96-5	5	mg/kg	844	14	42	138	215
Nickel	7440-02-0	2	mg/kg	6	<2	3	4	3
Vanadium	7440-62-2	5	mg/kg	32	9	24	34	12
Zinc	7440-66-6	5	mg/kg	50	<5	13	27	13
Potassium	7440-09-7	50	mg/kg	2800	250	430	620	610
EG020T: Total Metals by ICP-MS								
Uranium	7440-61-1	0.1	mg/kg	1.5	0.4	31.4	66.8	24.4
Thorium	7440-29-1	0.1	mg/kg	1.7	1.3	1.9	2.8	1.7
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				20012 <1mm	20013 <1mm	20014 <1mm	20015 <1mm	20016 <1mm
				05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00
Compound	CAS Number	LOR	Unit	EB1100125-016	EB1100125-017	EB1100125-018	EB1100125-019	EB1100125-020
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	22	20	9	9
Barium	7440-39-3	10	mg/kg	140	120	90	30	80
Beryllium	7440-41-7	1	mg/kg	2	2	2	<1	2
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	13	21	15	7	10
Cobalt	7440-48-4	2	mg/kg	10	19	20	7	11
Copper	7440-50-8	5	mg/kg	110	101	436	241	224
Lead	7439-92-1	5	mg/kg	5	174	70	14	12
Manganese	7439-96-5	5	mg/kg	358	238	243	173	412
Nickel	7440-02-0	2	mg/kg	3	7	5	2	6
Vanadium	7440-62-2	5	mg/kg	31	140	68	22	23
Zinc	7440-66-6	5	mg/kg	41	22	15	12	20
Potassium	7440-09-7	50	mg/kg	1730	980	770	540	970
EG020T: Total Metals by ICP-MS								
Uranium	7440-61-1	0.1	mg/kg	8.1	445000	578	46.5	38.8
Thorium	7440-29-1	0.1	mg/kg	2.6	4.3	5.5	3.3	3.2
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				20101 <1mm	20104 <1mm	20105 <1mm	20106 <1mm	20107 <1mm
				05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00
Compound	CAS Number	LOR	Unit	EB1100125-021	EB1100125-022	EB1100125-023	EB1100125-024	EB1100125-025
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	90	60	<10	10	30
Beryllium	7440-41-7	1	mg/kg	2	1	<1	<1	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	13	10	<2	2	6
Cobalt	7440-48-4	2	mg/kg	18	7	<2	<2	5
Copper	7440-50-8	5	mg/kg	53	56	<5	<5	20
Lead	7439-92-1	5	mg/kg	34	21	<5	<5	7
Manganese	7439-96-5	5	mg/kg	457	162	7	21	82
Nickel	7440-02-0	2	mg/kg	4	3	<2	<2	2
Vanadium	7440-62-2	5	mg/kg	65	36	6	8	21
Zinc	7440-66-6	5	mg/kg	23	27	<5	<5	10
Potassium	7440-09-7	50	mg/kg	1250	770	120	160	410
EG020T: Total Metals by ICP-MS								
Uranium	7440-61-1	0.1	mg/kg	295	94.8	0.4	0.5	27.3
Thorium	7440-29-1	0.1	mg/kg	3.3	2.7	1.3	1.0	1.1
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				20108 <1mm	20109 <1mm	20110 <1mm	20111 <1mm	----
				05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	05-JAN-2011 15:00	----
Compound	CAS Number	LOR	Unit	EB1100125-026	EB1100125-027	EB1100125-028	EB1100125-029	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	8	10	<5	----
Barium	7440-39-3	10	mg/kg	60	40	40	160	----
Beryllium	7440-41-7	1	mg/kg	2	1	1	5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	9	12	9	14	----
Cobalt	7440-48-4	2	mg/kg	8	5	9	13	----
Copper	7440-50-8	5	mg/kg	239	169	290	164	----
Lead	7439-92-1	5	mg/kg	8	11	13	8	----
Manganese	7439-96-5	5	mg/kg	297	214	201	687	----
Nickel	7440-02-0	2	mg/kg	3	3	3	7	----
Vanadium	7440-62-2	5	mg/kg	25	15	29	32	----
Zinc	7440-66-6	5	mg/kg	21	12	14	56	----
Potassium	7440-09-7	50	mg/kg	990	640	660	2810	----
EG020T: Total Metals by ICP-MS								
Uranium	7440-61-1	0.1	mg/kg	19.0	116	66.0	1.4	----
Thorium	7440-29-1	0.1	mg/kg	3.2	2.4	3.4	3.2	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----