NORTHERN TERRITORY ENVIRONMENTAL LABORATORIES

A MEMBER OF THE Intertek GROUP

CHEMICAL ANALYSIS REPORT

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REPORT CODE: **NT34108**
Report Date: 12/12/2012
Samples Received: 17/10/2012
Number of Samples: 6

Report Distribution:
Kelvin Hussey

Purchase Order: PO#104186
Project: SAMPLESUB_ROCKS_20121013
Cost Code:

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Report Details: **NATA ACCREDITATION No: 14610**
Test results only apply to samples received
Samples were analysed between 17/10/12 and 12/12/12

Comments:

Note : Unable to report Ga due to rare earth inteference.

Authorisation:

Fiona Dunbar-Smith

NATA
WORLD RECOGNISED ACCREDITATION

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Methodology:

Analysis	Analytical Method	Technique	Accuracy/ Precision +-%	Detection Limit	Data Units
Ag	G400M	ICPMS	10	0.05	ppm
Al2O3	G400I	ICPOES	10	0.01	%
As	G400M	ICPMS	10	0.5	ppm
Ba	G400I	ICPOES	10	2	ppm
Be	G400M	ICPMS	10	0.1	ppm
Bi	G400M	ICPMS	10	0.02	ppm
CaO	G400I	ICPOES	10	0.002	%
Ce	G400M	ICPMS	10	0.01	ppm
Co	G400M	ICPMS	10	0.05	ppm
Cr	G400M	ICPMS	10	10	ppm
Cu	G400M	ICPMS	10	0.2	ppm
Dy	G400M	ICPMS	10	0.01	ppm
Er	G400M	ICPMS	10	0.01	ppm
Eu	G400M	ICPMS	10	0.01	ppm
Fe2O3	G400I	ICPOES	10	0.005	%
Gd	G400M	ICPMS	10	0.01	ppm
Hf	G400M	ICPMS	10	0.01	ppm
Ho	G400M	ICPMS	10	0.01	ppm
K2O	G400I	ICPOES	10	0.01	%
La	G400M	ICPMS	10	0.01	ppm
Lu	G400M	ICPMS	10	0.01	ppm
Li	G400I	ICPOES	10	1	ppm
MgO	G400I	ICPOES	10	0.002	%
MnO	G400I	ICPOES	10	0.001	%
Mo	G400M	ICPMS	10	0.05	ppm
Na2O	G400I	ICPOES	10	0.01	%
Nb	G400M	ICPMS	10	0.05	ppm
Nd	G400M	ICPMS	10	0.05	ppm
Ni	G400M	ICPMS	10	0.2	ppm
P2O5	G400I	ICPOES	10	0.005	%
Pb	G400M	ICPMS	10	0.2	ppm
Pr	G400M	ICPMS	10	0.01	ppm
Rb	G400M	ICPMS	10	0.01	ppm
S	G400I	ICPOES	10	20	ppm
Sc	G400M	ICPMS	10	0.1	ppm
Se	G400M	ICPMS	10	2	ppm
Sm	G400M	ICPMS	10	0.01	ppm
Sn	G400M	ICPMS	10	0.2	ppm
Sr	G400M	ICPMS	10	0.05	ppm
Ta	G400M	ICPMS	10	0.02	ppm
Tb	G400M	ICPMS	10	0.01	ppm
Th	G400M	ICPMS	10	0.01	ppm
TiO2	G400I	ICPOES	10	0.002	%
Tm	G400M	ICPMS	10	0.01	ppm
U	G400M	ICPMS	10	0.01	ppm
V	G400M	ICPMS	10	10	ppm
W	G400M	ICPMS	10	0.05	ppm
Y	G400M	ICPMS	10	0.01	ppm
Yb	G400M	ICPMS	10	0.02	ppm
Zn	G400M	ICPMS	10	0.5	ppm

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Methodology:

Analysis	Analytical Method	Technique	Accuracy/ Precision +-%	Detection Limit	Data Units
Zr	G400M	ICPMS	10	0.1	ppm

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Element:	Ag	Al2O3	As	Ba	Be	Bi	CaO	Ce	Co
Method:	G400M	G400I	G400M	G400I	G400M	G400M	G400I	G400M	G400M
Units:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm
Sample ID									
ARA5259	<0.05	0.09	2.0	4320	4.4	0.16	0.364	1.12%	4.20
ARA5263	<0.05	0.13	<0.5	3610	4.2	0.16	0.284	7940	4.70
ARA5265	<0.05	1.63	3.5	3710	7.5	1.00	0.214	5330	3.85
ARA5266	<0.05	1.32	3.0	3180	5.2	1.36	0.182	6310	2.35
ARA5269	<0.05	0.22	7.5	3940	8.7	0.44	0.594	1.43%	2.50
ARA09-01	0.10	5.45	23.0	1520	3.9	7.30	27.2	1.40%	9.30

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Element:	Cr	Cu	Dy	Er	Eu	Fe2O3	Gd	Hf	Ho
Method:	G400M	G400M	G400M	G400M	G400M	G400I	G400M	G400M	G400M
Units:	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
Sample ID									
ARA5259	40	8.2	39.4	11.7	77.4	6.08	136	0.24	5.38
ARA5263	90	7.4	41.8	13.4	69.2	9.12	135	0.07	5.86
ARA5265	130	33.2	37.0	10.2	63.0	5.27	119	0.19	5.11
ARA5266	50	10.6	22.9	6.53	47.7	4.02	84.3	0.19	3.30
ARA5269	40	9.4	43.2	12.3	90.2	2.50	165	0.06	5.79
ARA09-01	10	22.8	141	44.1	172	2.54	423	0.22	20.3

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Element:	K2O	La	Lu	Li	MgO	MnO	Mo	Na2O	Nb
Method:	G400I	G400M	G400M	G400I	G400I	G400I	G400M	G400I	G400M
Units:	%	ppm	ppm	ppm	%	%	ppm	%	ppm
Sample ID									
ARA5259	0.02	6550	1.29	<1	0.026	0.419	9.20	0.02	0.50
ARA5263	0.02	4820	1.39	<1	0.026	0.288	8.00	0.02	0.55
ARA5265	0.44	2930	1.32	<1	0.068	0.478	17.8	0.02	3.60
ARA5266	0.33	3820	0.92	<1	0.058	0.308	7.35	0.02	2.80
ARA5269	0.09	8280	1.14	5	0.190	0.143	8.35	0.03	0.60
ARA09-01	1.04	7750	3.23	2	0.650	0.029	1.80	0.13	4.10

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Element:	Nd	Ni	P2O5	Pb	Pr	Rb	S	Sc	Se
Method:	G400M	G400M	G400I	G400M	G400M	G400M	G400I	G400M	G400M
Units:	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Sample ID									
ARA5259	3670	3.0	1.36	168	1180	0.31	980	5.3	6
ARA5263	2940	4.8	1.05	242	891	0.62	1060	5.8	2
ARA5265	2200	5.2	0.620	577	618	27.0	1000	4.1	<2
ARA5266	2210	1.2	0.770	693	688	17.5	1080	5.8	4
ARA5269	4760	3.4	1.84	151	1540	5.45	820	1.9	8
ARA09-01	8100	10.4	18.6	212	2330	40.5	1340	2.8	<2

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Element:	Sm	Sn	Sr	Ta	Tb	Th	TiO2	Tm	U
Method:	G400M	G400M	G400M	G400M	G400M	G400M	G400I	G400M	G400M
Units:	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Sample ID									
ARA5259	335	1.4	1590	0.16	11.2	2740	0.036	1.34	74.2
ARA5263	304	1.6	1010	0.12	12.0	1730	0.030	1.28	54.7
ARA5265	263	5.6	1300	0.84	11.0	740	0.018	1.13	79.2
ARA5266	208	3.8	1840	0.24	7.11	1190	0.014	0.69	69.6
ARA5269	442	1.0	1310	0.14	13.5	3030	0.008	1.34	140
ARA09-01	928	11.8	3380	2.88	38.5	2960	0.058	4.57	306

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Element:	V	W	Y	Yb	Zn	Zr
Method:	G400M	G400M	G400M	G400M	G400M	G400M
Units:	ppm	ppm	ppm	ppm	ppm	ppm
Sample ID						
ARA5259	50	8.25	133	7.14	43.5	5.6
ARA5263	70	7.05	150	8.56	56.5	2.3
ARA5265	20	13.4	124	6.10	74.0	4.6
ARA5266	20	9.00	84.4	4.02	81.0	7.1
ARA5269	30	7.65	152	6.52	35.0	2.5
ARA09-01	90	6.25	532	23.0	41.0	6.4