



ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY

Australian Laboratory Services Pty Ltd

32 Shand Street

Stafford

Brisbane QLD 4053

Phone: +61 (7) 3243 7222 Fax: +61 (7) 3243 7218 www.alschemex.com

CERTIFICATE AS08165715

Project: Palmer river

P.O. No.: 266231

This report is for 16 Rock samples submitted to our lab in Alice Springs, NT, Australia on 1-DEC-2008.

The following have access to data associated with this certificate:

MICHAEL GREEN

RUDY LENNARTZ

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-02	Remote Lab Surcharge
WSH-22	"Wash" pulverizers
LEV-01	Waste Disposal Levy
PUL-23	Pulv Sample - Split/Retain
PUL-QC	Pulverizing QC Test

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-MS61	48 element four acid ICP-MS
Au-AA23	Au 30g FA-AA finish AAS

To: **ATOM ENERGY LTD**
ATTN: RUDY LENNARTZ
PO BOX 3896
ALICE SPRINGS WA

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Wayne Abbott, Operations Manager, Western Australia



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Method Analyte Units LOR	WEI-21 Recvd Wt. kg	PUL-QC Pass75um %	Au-AA23 Au ppm	ME-MS61 Ag ppm	ME-MS61 Al %	ME-MS61 As ppm	ME-MS61 Ba ppm	ME-MS61 Be ppm	ME-MS61 Bi ppm	ME-MS61 Ca %	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm
Sample Description	0.02	0.01	0.005	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05
FLUSH A	<0.02		0.036	0.02	5.14	16.2	960	1.05	0.03	0.77	0.03	19.5	3.4	13	1.2
FLUSH B	<0.02		<0.005	0.02	5.01	<0.2	930	1.15	0.03	0.81	0.03	22.8	3.5	13	1.21
FLUSH C	<0.02		0.009	0.02	5.24	<0.2	940	1.23	0.03	0.85	0.04	24.7	3.6	15	1.27
PRRC0038	1.02		<0.005	0.16	7.75	35	1560	0.75	0.85	1.91	0.07	13.6	3.4	170	0.74
PRRC0039	0.98		<0.005	0.25	5.53	51.1	1690	0.52	1.27	0.06	0.06	18.1	2.7	327	0.89
PRRC0040	1.21		<0.005	0.09	4.45	8.8	2530	0.8	0.59	0.09	0.02	55.2	1.8	84	4.59
PRRC0041	0.86		<0.005	0.1	0.45	4.7	1180	0.13	0.09	0.01	0.03	4.55	2.4	19	0.18
PRRC0042	1.58		<0.005	0.07	1.64	10.2	1350	0.57	0.23	0.04	0.04	33.6	2.4	52	1.51
PRRC0043	0.97		<0.005	0.13	0.09	4.1	220	0.06	0.03	0.02	0.02	1.07	2.2	46	0.1
PRRC0044	1.84	96.0	<0.005	0.28	1.72	148.5	1310	0.65	0.56	0.18	0.06	19.5	2.6	389	1.14
PRRC0045	1.14		0.006	0.1	5.41	7.6	790	1.06	0.46	4.97	0.03	142.5	1.5	50	7.03
PRRC0046	1.10		<0.005	0.13	0.18	3.3	160	0.07	0.04	0.09	0.03	2.12	2.6	56	0.12
PRRC0047	1.43		<0.005	0.08	0.21	8	260	0.07	0.05	0.05	0.15	2.09	1.9	24	0.14
PRRC0048	1.35		<0.005	0.09	0.22	10.6	370	0.07	0.09	0.05	0.05	6.11	1.8	47	0.18
PRRC0049	1.25		<0.005	0.1	0.23	11.3	380	0.07	0.09	0.06	0.05	6.44	1.8	47	0.19
PRRC0050	1.22		<0.005	0.13	6.22	20.4	510	2.41	0.45	0.05	0.06	81.9	25.6	85	7.18



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Method Analyte Units LOR	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
Sample Description	Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	
FLUSH A	7	0.87	11.15	0.16	1.1	0.012	3.14	10.9	5.4	0.2	129	0.67	1.37	1.8	7.9	
FLUSH B	4.4	0.92	11.3	0.18	1.2	0.013	3.06	12.5	5.6	0.22	150	0.49	1.36	2.1	7	
FLUSH C	6.4	1.01	11.8	0.19	1.3	0.015	3.1	13.7	6.2	0.23	161	0.36	1.39	2.2	7.8	
PRRC0038	30.4	22.6	31.7	2.18	5.2	0.234	0.21	8.2	44.2	0.38	55	1.65	0.06	14.3	8.2	
PRRC0039	17.6	26.2	45.1	1.73	7.8	0.193	0.09	11.1	20.6	0.04	73	2.12	0.03	19.5	5.8	
PRRC0040	10.6	6.54	20.2	0.17	3.8	0.081	0.67	31.4	13.2	0.14	82	0.67	0.07	12	4.5	
PRRC0041	9.9	1.88	2.53	<0.05	0.5	0.009	0.04	2.5	8.6	0.08	168	2.44	0.03	1.3	5.3	
PRRC0042	15.8	4.7	5.83	0.12	1.5	0.03	0.44	18	8.8	0.17	150	1.07	0.15	3.5	5.6	
PRRC0043	16.5	1.24	0.94	<0.05	0.1	<0.005	0.03	0.5	7.8	0.14	142	3.3	0.02	0.5	7.4	
PRRC0044	24.6	49	22.9	4.4	2.8	0.071	0.14	9.2	3.2	0.06	256	1.95	0.03	5.3	3.7	
PRRC0045	9.1	1.06	22.9	0.38	5.7	0.045	1.22	87.8	13.5	0.62	28	0.48	0.08	15.7	2.7	
PRRC0046	22.2	1.62	1.27	<0.05	0.3	0.006	0.03	1.2	11.7	0.08	189	3.71	0.02	0.7	9.2	
PRRC0047	9.2	2.82	1.93	<0.05	0.3	0.012	0.02	1.1	5.5	0.07	224	3.62	0.02	0.8	4.6	
PRRC0048	11.3	3.1	2.86	<0.05	0.4	0.013	0.02	3.3	10.4	0.06	152	2.68	0.02	1	5.4	
PRRC0049	11.5	3.15	2.96	<0.05	0.4	0.014	0.03	3.5	10.7	0.07	149	2.74	0.02	1	5.6	
PRRC0050	35.6	7.63	19.15	0.26	4.1	0.091	1.36	40.9	29.3	0.36	704	1.96	0.12	10.4	34	



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Sample Description	P ppm	Pb ppm	Rb ppm	Re ppm	S %	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti %	Tl ppm
	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.2	0.005	0.02
FLUSH A	120	25.2	125	0.003	<0.01	<0.05	3.4	1	0.5	210	0.15	<0.05	4.2	0.054	0.56
FLUSH B	120	24.2	122.5	0.003	<0.01	<0.05	3.7	1	0.6	206	0.16	<0.05	5.2	0.059	0.54
FLUSH C	120	24.7	126	0.004	<0.01	<0.05	4.2	2	0.7	211	0.16	<0.05	5.2	0.063	0.56
PRRC0038	340	15.4	3.4	0.003	0.14	1.43	10.7	4	4.4	160.5	1.12	1.12	32.4	0.385	0.16
PRRC0039	370	15.2	6.6	0.004	0.1	2.59	8.6	8	4.9	49.4	1.57	1.05	46	0.586	0.1
PRRC0040	180	17.8	47.6	0.004	0.1	0.57	9.5	5	3.7	103.5	0.97	0.11	17	0.413	0.24
PRRC0041	50	4.7	2.1	0.004	0.04	0.29	1.3	1	0.4	21.7	0.07	<0.05	2	0.031	0.04
PRRC0042	170	14.5	21.2	0.003	0.29	0.58	5.1	3	1.2	106	0.28	0.05	6.6	0.117	0.12
PRRC0043	20	2.5	1	0.003	0.02	0.32	0.5	1	0.6	15.4	<0.05	<0.05	0.3	0.005	0.03
PRRC0044	690	13.9	9.5	0.005	0.12	2.31	3.6	16	1.4	125	0.34	0.38	30.4	0.138	0.37
PRRC0045	520	19.6	68.4	0.004	0.39	1.08	13.2	3	4.6	847	1.27	0.1	18.3	0.504	0.37
PRRC0046	40	3.4	1.1	0.003	0.05	0.39	0.7	1	0.8	19.4	<0.05	<0.05	0.8	0.009	0.02
PRRC0047	40	12.9	1.1	0.007	0.02	0.42	1.6	2	0.3	15.8	<0.05	<0.05	1.6	0.011	0.02
PRRC0048	90	7.8	1.4	0.003	0.04	1.14	1.2	2	0.7	26.8	0.06	<0.05	2.7	0.026	0.02
PRRC0049	90	8.1	1.5	0.003	0.04	1.17	1.3	2	0.8	28.1	0.07	<0.05	2.8	0.027	0.02
PRRC0050	470	33.5	101	0.003	0.13	1.38	15.3	4	3.2	115	0.85	0.1	17.9	0.375	0.55



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Sample Description	Method Analyte Units LOR	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
FLUSH A		0.7	15	0.3	5.4	11	33.5
FLUSH B		0.7	16	0.2	6.1	10	37.6
FLUSH C		0.8	17	0.3	6.8	11	38.7
PRRC0038		6.5	476	2.3	9.2	21	160.5
PRRC0039		3.9	937	3.1	12.2	13	249
PRRC0040		2.8	159	2.6	11.7	7	122
PRRC0041		0.7	32	0.3	1.7	7	15.2
PRRC0042		1.1	167	0.9	6.6	13	47.2
PRRC0043		0.3	8	5.7	0.4	3	3.6
PRRC0044		7.4	3340	1.5	5.6	11	115
PRRC0045		5.5	83	2.4	19	7	174.5
PRRC0046		0.4	13	6.7	0.8	12	9.3
PRRC0047		2.1	86	0.3	0.6	16	10.1
PRRC0048		1.3	67	4.3	1.1	11	13.1
PRRC0049		1.4	69	4.2	1.2	11	13.6
PRRC0050		3.8	234	1.6	28.5	57	126



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Finalized Date: 22-DEC-2008

Account: ATOENE

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Method	CERTIFICATE COMMENTS
ME-MS61	REE's may not be totally soluble in this method.