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## NORTHERN TERRITORY ENVIRONMENTAL LABORATORIES

### CHEMICAL ANALYSIS REPORT

#### ARAFURA RESOURCES NL

Invoice: Box 3047 Adelaide Tce PERTH 6832  
Reports: GPO Box 37220 Winnellie NT 0821  
AUSTRALIA

#### NTEL

ABN 95 095 369 289  
PO Box 1382 Berrimah 0828  
3407 Export Drive  
Berrimah NT 0828  
Ph: (08) 8947 0510  
Fax: (08) 8947 0520

**REPORT CODE:** NT35352  
**Report Date:** 1/03/2013  
**Samples Received:** 15/02/2013  
**Number of Samples:** 4

**Report Distribution:**  
Rodney Dean

**Purchase Order:** PO#104453  
**Project:** Four Acid Comprehensive  
**Cost Code:**

**Tel:** (08) 8947 5588  
**Fax:** 08 8947 5599  
**E-mail:** rodney.dean@arafuraresources.com.au

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**Report Details:** **NATA ACCREDITATION No: 14610**  
Test results only apply to samples received  
Samples were analysed between 15/02/13 and 01/03/13

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**Comments:**

**Authorisation:**

Fiona Dunbar-Smith



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# NORTHERN TERRITORY ENVIRONMENTAL LABORATORIES

**REPORT CODE: NT35352**

**Methodology:**

Analysis	Analytical Method	Technique	Accuracy/ Precision +/-%	Detection Limit	Data Units
Ag	G400M	ICPMS	10	0.05	ppm
Al	G400I	ICPOES	10	50	ppm
As	G400M	ICPMS	10	0.5	ppm
Ba	G400M	ICPMS	10	0.05	ppm
Be	G400M	ICPMS	10	0.1	ppm
Bi	G400M	ICPMS	10	0.02	ppm
Ca	G400I	ICPOES	10	10	ppm
Cd	G400M	ICPMS	10	0.05	ppm
Ce	G400M	ICPMS	10	0.01	ppm
Co	G400M	ICPMS	10	0.05	ppm
Cr	G400M	ICPMS	10	10	ppm
Cs	G400M	ICPMS	10	0.01	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
Fe	G400I	ICPOES	10	20	ppm
Ga	G400M	ICPMS	10	0.01	ppm
Gd	G400M	ICPMS	10	0.01	ppm
Hf	G400M	ICPMS	10	0.01	ppm
Ho	G400M	ICPMS	10	0.01	ppm
In	G400M	ICPMS	10	0.01	ppm
K	G400I	ICPOES	10	50	ppm
La	G400M	ICPMS	10	0.01	ppm
Li	G400M	ICPMS	10	0.1	ppm
Lu	G400M	ICPMS	10	0.01	ppm
Mg	G400I	ICPOES	10	10	ppm
Mn	G400M	ICPMS	10	0.05	ppm
Mo	G400M	ICPMS	10	0.05	ppm
Na	G400I	ICPOES	10	50	ppm
Nb	G400M	ICPMS	10	0.05	ppm
Nd	G400M	ICPMS	10	0.05	ppm
Ni	G400M	ICPMS	10	0.2	ppm
P	G400I	ICPOES	10	20	ppm
Pb	G400M	ICPMS	10	0.2	ppm
Pr	G400M	ICPMS	10	0.01	ppm
Rb	G400M	ICPMS	10	0.01	ppm
Re	G400M	ICPMS	10	0.05	ppm
S	G400I	ICPOES	10	20	ppm
Sb	G400M	ICPMS	10	0.05	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
Te	G400M	ICPMS	10	0.1	ppm
Th	G400M	ICPMS	10	0.01	ppm
Ti	G400I	ICPOES	10	10	ppm

**REPORT CODE: NT35352**

**Methodology:**

Analysis	Analytical Method	Technique	Accuracy/ Precision +/-%	Detection Data	
				Limit	Units
Tl	G400M	ICPMS	10	0.01	ppm
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
Zr	G400M	ICPMS	10	0.1	ppm

NORTHERN TERRITORY ENVIRONMENTAL  
LABORATORIES

REPORT CODE: NT35352 Project: Four Acid Comprehensive

Element:		Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce
Sample ID	Method:	G400M	G400I	G400M	G400M	G400M	G400M	G400I	G400M	G400M
	Units:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
ARA5681		<0.05	9.16%	2.0	398	1.7	0.20	5340	0.10	145
ARA5682		<0.05	12.8%	1.0	81.2	0.6	0.20	1030	<0.05	19.0

# NORTHERN TERRITORY ENVIRONMENTAL LABORATORIES

REPORT CODE: NT35352

Project: Four Acid Comprehensive

Element:	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga
Method:	G400M	G400M	G400M	G400M	G400M	G400M	G400M	G400I	G400M
Units:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample ID									
ARA5681	213	1480	1.50	207	20.1	10.8	5.91	8.42%	15.3
ARA5682	7.00	520	0.81	32.6	0.92	0.51	0.20	1.43%	26.9

NORTHERN TERRITORY ENVIRONMENTAL  
LABORATORIES

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Element:		Gd	Hf	Ho	In	K	La	Li	Lu	Mg
Sample ID	Method:	G400M	G400M	G400M	G400M	G400I	G400M	G400M	G400M	G400I
	Units:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
ARA5681		22.8	1.40	3.81	0.10	3450	98.7	17.3	1.10	9430
ARA5682		1.02	2.03	0.20	0.10	2400	9.77	13.2	0.10	1060

NORTHERN TERRITORY ENVIRONMENTAL  
LABORATORIES

REPORT CODE: NT35352 Project: Four Acid Comprehensive

Element:		Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pr
Sample ID	Method:	G400M	G400M	G400I	G400M	G400M	G400M	G400I	G400M	G400M
	Units:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
ARA5681		2660	5.80	850	2.60	98.4	861	200	14.0	22.7
ARA5682		82.0	1.20	650	7.45	6.50	102	60	12.0	1.93

# NORTHERN TERRITORY ENVIRONMENTAL LABORATORIES

REPORT CODE:        NT35352

Project:    Four Acid Comprehensive

Element:	Rb	Re	S	Sb	Sc	Se	Sm	Sn	Sr
Method:	G400M	G400M	G400I	G400M	G400M	G400M	G400M	G400M	G400M
Units:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample ID									
ARA5681	33.9	<0.05	160	0.10	64.1	<2	22.1	1.6	57.3
ARA5682	21.5	<0.05	60	0.10	16.7	<2	1.32	3.0	16.2



NORTHERN TERRITORY ENVIRONMENTAL  
LABORATORIES

REPORT CODE: NT35352 Project: Four Acid Comprehensive

Element:		Ta	Tb	Te	Th	Ti	Tl	Tm	U	V
Sample ID	Method:	G400M	G400M	G400M	G400M	G400I	G400M	G400M	G400M	G400M
	Units:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
ARA5681		0.20	3.41	<0.1	5.21	3380	0.80	1.30	1.60	240
ARA5682		0.72	0.10	<0.1	10.2	6220	0.10	0.10	2.03	90

# NORTHERN TERRITORY ENVIRONMENTAL LABORATORIES

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Element:		W	Y	Yb	Zn	Zr
Method:		G400M	G400M	G400M	G400M	G400M
Units:		ppm	ppm	ppm	ppm	ppm
Sample ID						
ARA5681		0.70	109	7.82	300	34.1
ARA5682		0.80	4.37	0.40	20.0	75.9
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