



**CLIENT NAME: MISC AGAT CLIENT ON, ON
(403)**

ATTENTION TO: .

PROJECT:

AGAT WORK ORDER: 17T176290

SOLID ANALYSIS REVIEWED BY: Brandon Wang, Spectroscopy Supervisor

DATE REPORTED: Jan 13, 2017

PAGES (INCLUDING COVER): 10

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

***NOTES**

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.



Certificate of Analysis

AGAT WORK ORDER: 17T176290

PROJECT:

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: MISC AGAT CLIENT ON

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(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Jan 09, 2017

DATE RECEIVED: Jan 09, 2017

DATE REPORTED: Jan 13, 2017

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Ag ppm 0.01	Al % 0.01	As ppm 0.1	Au ppm 0.005	B ppm 5	Ba ppm 1	Be ppm 0.05	Bi ppm 0.01	Ca % 0.01	Cd ppm 0.01	Ce ppm 0.01	Co ppm 0.1	Cr ppm 0.5	Cs ppm 0.05
AS1 (8118637)		25.1	0.79	36.6	0.338	<5	3150	0.23	70.2	0.35	6.73	19.3	53.3	4.0	0.46
AS2 (8118638)		2.83	1.15	5.5	0.046	<5	1060	0.27	6.59	0.67	0.40	19.4	17.6	35.7	0.86
R14 (8118639)		15.8	0.56	31.2	0.009	7	45	0.53	186	0.07	0.07	30.1	7.7	410	0.24
R15 (8118640)		0.12	3.54	34.7	<0.005	6	213	0.43	0.55	10.6	0.11	43.3	35.4	27.4	1.33
R16 (8118641)		0.15	0.42	227	<0.005	<5	2240	0.16	0.94	0.21	0.08	13.3	2.4	164	0.89
R17 (8118642)		11.9	0.22	928	0.052	<5	58	0.10	5.47	0.05	0.20	9.66	0.8	13.7	0.32
R18 (8118643)		2.08	0.40	>10000	0.112	<5	379	0.15	156	0.64	0.20	6.25	31.4	95.7	0.35
R19 (8118644)		1.49	1.37	1020	0.110	7	175	0.18	501	0.49	0.09	23.9	5.6	10.6	3.76
R20 (8118645)		0.16	0.89	137	<0.005	<5	263	0.35	9.77	0.06	0.55	23.3	3.1	11.9	3.32
R21 (8118646)		0.15	2.49	139	<0.005	<5	228	0.50	3.56	1.05	0.38	33.1	9.9	9.2	7.54
R22 (8118647)		0.21	0.15	164	<0.005	<5	318	0.10	2.65	0.02	0.15	5.50	0.5	164	0.60
R23 (8118648)		0.12	3.64	23.4	<0.005	5	316	0.38	2.13	1.68	0.09	53.2	11.7	10.2	6.72
R24 (8118649)		0.21	0.14	29.5	<0.005	<5	193	0.06	0.25	0.02	0.04	5.11	3.9	197	0.25
R25 (8118650)		<0.01	0.05	51.7	<0.005	<5	18	<0.05	0.50	0.01	0.08	1.22	0.9	12.8	0.23
R26 (8118651)		13.4	0.08	>10000	22.4	<5	9	<0.05	36.9	<0.01	0.47	1.18	1.1	31.6	<0.05
R27 (8118652)		1.12	0.05	>10000	5.14	10	87	<0.05	51.4	<0.01	0.85	0.71	10.1	6.5	0.06
R28 (8118653)		0.15	0.36	1440	0.053	<5	294	0.40	4.60	<0.01	0.23	38.6	0.8	32.8	1.23
R29 (8118654)		0.41	0.70	2050	0.021	<5	222	0.24	0.67	0.03	0.19	15.7	5.5	17.2	2.72
R30 (8118655)		3.14	0.68	253	<0.005	9	89	0.27	1.59	0.21	0.08	12.2	2.2	125	1.18
R33 (8118656)		0.12	0.40	176	<0.005	<5	279	0.18	0.71	<0.01	0.02	43.7	0.4	9.2	1.01

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(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Jan 09, 2017

DATE RECEIVED: Jan 09, 2017

DATE REPORTED: Jan 13, 2017

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Cu ppm 0.5	Fe % 0.01	Ga ppm 0.05	Ge ppm 0.05	Hf ppm 0.02	Hg ppm 0.01	In ppm 0.005	K % 0.01	La ppm 0.1	Li ppm 0.1	Mg % 0.01	Mn ppm 1	Mo ppm 0.05	Na % 0.01
AS1 (8118637)		>10000	1.87	2.74	<0.05	0.10	0.01	0.259	0.17	12.1	4.5	0.32	1280	9.21	0.02
AS2 (8118638)		8540	2.86	3.38	<0.05	0.16	<0.01	0.017	0.05	10.7	12.9	0.88	409	8.09	0.06
R14 (8118639)		481	24.2	6.10	<0.05	0.04	0.41	0.058	0.02	18.0	5.9	0.02	755	1.87	<0.01
R15 (8118640)		47.8	9.29	13.3	<0.05	0.11	<0.01	0.072	0.11	19.8	69.6	2.47	3280	0.56	<0.01
R16 (8118641)		56.8	1.40	1.04	<0.05	0.13	<0.01	0.020	0.08	8.5	5.4	0.08	67	3.93	0.02
R17 (8118642)		54.1	0.79	0.56	<0.05	0.06	<0.01	0.086	0.05	5.0	1.6	0.03	29	2.47	<0.01
R18 (8118643)		430	5.96	2.02	<0.05	0.09	<0.01	0.120	0.05	6.2	7.4	<0.01	22	11.5	<0.01
R19 (8118644)		111	2.84	4.70	<0.05	0.42	0.07	0.033	0.42	12.3	11.1	0.41	166	8.29	0.09
R20 (8118645)		151	1.56	2.00	<0.05	0.03	<0.01	0.006	0.23	12.8	8.9	0.20	37	1.82	<0.01
R21 (8118646)		30.4	3.33	8.12	<0.05	0.12	<0.01	0.020	0.65	17.4	17.5	0.56	264	0.66	0.19
R22 (8118647)		23.6	0.63	0.69	<0.05	0.09	<0.01	0.009	0.08	5.9	1.7	0.03	15	14.1	<0.01
R23 (8118648)		105	4.41	11.0	<0.05	0.11	<0.01	0.015	0.47	28.7	31.2	0.96	299	0.96	0.24
R24 (8118649)		27.7	1.08	0.54	<0.05	0.03	0.01	0.006	0.05	3.5	1.3	0.07	79	2.72	<0.01
R25 (8118650)		3.3	0.40	0.10	<0.05	<0.02	<0.01	<0.005	0.02	1.2	0.5	0.01	20	2.15	<0.01
R26 (8118651)		1380	20.3	1.87	<0.05	0.15	<0.01	0.647	0.01	2.1	0.9	<0.01	<1	1.35	<0.01
R27 (8118652)		511	22.3	0.58	<0.05	<0.02	<0.01	0.351	0.01	1.9	1.9	<0.01	<1	1.87	<0.01
R28 (8118653)		80.7	4.46	1.52	<0.05	0.25	<0.01	0.016	0.20	20.0	2.0	0.01	3	4.64	<0.01
R29 (8118654)		53.0	2.23	2.60	<0.05	0.04	<0.01	0.010	0.24	8.2	14.5	0.55	185	1.19	<0.01
R30 (8118655)		70.6	8.22	2.27	<0.05	0.10	0.10	0.028	0.22	8.5	5.6	0.14	111	8.74	0.03
R33 (8118656)		2.7	0.36	1.47	<0.05	0.20	<0.01	<0.005	0.14	23.2	2.1	0.02	8	1.56	<0.01

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(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Jan 09, 2017

DATE RECEIVED: Jan 09, 2017

DATE REPORTED: Jan 13, 2017

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Nb ppm 0.05	Ni ppm 0.5	P ppm 10	Pb ppm 0.1	Rb ppm 0.1	Re ppm 0.001	S % 0.01	Sb ppm 0.05	Sc ppm 0.1	Se ppm 0.2	Sn ppm 0.2	Sr ppm 0.2	Ta ppm 0.01	Te ppm 0.01
AS1 (8118637)		0.18	20.0	673	4.2	4.0	0.001	0.09	<0.05	1.6	0.9	<0.2	116	<0.01	0.56
AS2 (8118638)		0.30	68.2	1150	5.1	2.4	0.002	0.06	<0.05	3.8	1.2	<0.2	94.8	<0.01	0.15
R14 (8118639)		0.35	33.6	3220	454	1.6	<0.001	0.06	37.1	21.0	2.2	<0.2	39.8	<0.01	1.03
R15 (8118640)		0.63	18.3	3070	2.8	6.4	0.001	0.16	<0.05	12.3	0.5	<0.2	343	<0.01	0.02
R16 (8118641)		0.11	12.3	1110	10.8	7.4	<0.001	0.15	<0.05	1.2	3.5	<0.2	23.3	<0.01	0.09
R17 (8118642)		0.13	3.5	534	3870	3.3	<0.001	0.10	7.40	1.1	1.4	0.5	5.9	<0.01	0.02
R18 (8118643)		0.14	146	4900	16.9	3.3	0.006	1.41	33.6	0.5	31.4	0.3	30.7	<0.01	3.15
R19 (8118644)		1.17	3.3	318	51.0	35.6	0.002	0.06	5.26	3.7	4.3	0.2	25.7	<0.01	7.01
R20 (8118645)		<0.05	27.0	546	15.5	20.8	0.002	0.30	0.61	1.8	1.9	<0.2	1.9	<0.01	0.21
R21 (8118646)		0.70	24.0	371	18.5	60.4	<0.001	0.08	<0.05	4.3	0.9	0.3	52.6	<0.01	0.04
R22 (8118647)		0.25	14.6	157	6.9	6.7	0.008	0.05	<0.05	0.8	4.8	<0.2	5.6	<0.01	0.06
R23 (8118648)		0.89	4.7	524	8.6	36.9	<0.001	0.38	<0.05	6.9	1.8	1.0	78.0	<0.01	0.01
R24 (8118649)		0.23	17.2	75	3.5	3.3	0.002	0.40	<0.05	0.6	0.8	<0.2	10.1	<0.01	0.03
R25 (8118650)		0.16	1.3	151	3.6	1.6	<0.001	<0.01	<0.05	0.3	0.3	4.1	1.7	<0.01	<0.01
R26 (8118651)		0.31	3.7	1330	347	0.7	<0.001	0.29	165	2.8	34.5	0.3	0.3	<0.01	0.17
R27 (8118652)		0.29	3.9	410	28.5	0.8	<0.001	1.47	160	1.1	150	<0.2	0.4	<0.01	17.1
R28 (8118653)		<0.05	2.2	1170	9.8	6.9	0.002	0.18	16.1	1.0	5.0	0.5	52.3	<0.01	0.17
R29 (8118654)		0.12	18.6	180	10.5	22.5	<0.001	0.60	<0.05	3.2	1.4	<0.2	12.3	<0.01	0.20
R30 (8118655)		0.31	8.9	712	7.3	14.8	0.015	0.35	2.10	2.7	49.8	1.8	18.3	<0.01	0.06
R33 (8118656)		<0.05	0.5	163	4.8	5.6	0.001	0.02	<0.05	2.6	1.5	<0.2	6.6	<0.01	<0.01

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(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Jan 09, 2017

DATE RECEIVED: Jan 09, 2017

DATE REPORTED: Jan 13, 2017

SAMPLE TYPE: Rock

Analyte:	Th	Ti	Tl	U	V	W	Y	Zn	Zr	As-OL	Cu-OL
Unit:	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
RDL:	0.1	0.005	0.01	0.05	0.5	0.05	0.05	0.5	0.5	0.01	0.01
AS1 (8118637)	3.8	0.013	0.02	3.06	55.7	0.18	10.5	704	2.2		6.82
AS2 (8118638)	1.1	0.059	0.02	1.23	98.4	16.9	8.21	89.4	2.1		
R14 (8118639)	2.9	0.007	1.55	0.75	368	0.55	5.76	107	2.0		
R15 (8118640)	2.6	0.024	0.09	0.27	207	<0.05	17.2	112	10.9		
R16 (8118641)	1.3	<0.005	0.42	1.23	42.2	<0.05	3.44	14.5	5.5		
R17 (8118642)	1.2	<0.005	0.16	0.67	15.9	0.11	2.60	13.9	2.3		
R18 (8118643)	1.0	<0.005	0.55	1.42	51.6	0.33	12.1	47.5	4.7		
R19 (8118644)	7.1	0.099	0.21	0.96	34.7	171	5.29	31.7	0.9		
R20 (8118645)	3.7	<0.005	0.31	0.67	34.2	0.99	4.60	19.5	1.3		
R21 (8118646)	12.6	0.187	0.39	2.44	45.5	0.71	8.13	99.1	1.9		
R22 (8118647)	0.7	0.010	0.12	4.72	267	0.28	4.52	14.5	5.4		
R23 (8118648)	9.9	0.205	0.28	0.91	64.3	3.03	8.73	62.8	1.7		
R24 (8118649)	0.7	<0.005	0.04	0.15	10.5	<0.05	1.12	34.1	1.3		
R25 (8118650)	0.3	<0.005	0.02	0.21	30.4	0.11	0.49	3.8	0.5		
R26 (8118651)	2.0	<0.005	0.20	0.36	10.9	<0.05	0.58	32.0	6.5	28.3	
R27 (8118652)	0.6	<0.005	0.33	0.29	<0.5	<0.05	0.63	37.8	0.9	31.6	
R28 (8118653)	6.6	<0.005	0.67	1.65	55.4	<0.05	3.36	17.4	11.6		
R29 (8118654)	1.8	0.006	0.23	0.16	24.5	<0.05	1.51	50.0	1.5		
R30 (8118655)	1.7	0.010	0.69	0.85	439	<0.05	2.72	71.8	4.6		
R33 (8118656)	7.1	<0.005	0.31	0.72	17.3	<0.05	3.31	6.1	8.4		

Comments: RDL - Reported Detection Limit

8118637-8118656 Au determination by this method is semi-quantitative due to small sample size.

Certified By:



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(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

Parameter	REPLICATE #1				REPLICATE #2							
	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD				
Ag	8118637	25.1	25.8	2.8%	8118654	0.41	0.23					
Al	8118637	0.794	0.831	4.6%	8118654	0.701	0.691	1.4%				
As	8118637	36.6	31.3	15.6%	8118654	2050	1990	3.0%				
Au	8118637	0.338	0.298	12.6%	8118654	0.021	0.022	4.7%				
B	8118637	< 5	< 5	0.0%	8118654	< 5	< 5	0.0%				
Ba	8118637	3150	3300	4.7%	8118654	222	219	1.4%				
Be	8118637	0.234	0.257	9.4%	8118654	0.24	0.21	13.3%				
Bi	8118637	70.2	72.7	3.5%	8118654	0.67	0.66	1.5%				
Ca	8118637	0.352	0.359	2.0%	8118654	0.03	0.03	0.0%				
Cd	8118637	6.73	6.93	2.9%	8118654	0.19	0.18	5.4%				
Ce	8118637	19.3	19.8	2.6%	8118654	15.7	14.4	8.6%				
Co	8118637	53.3	53.9	1.1%	8118654	5.46	5.42	0.7%				
Cr	8118637	4.0	4.1	2.5%	8118654	17.2	18.0	4.5%				
Cs	8118637	0.46	0.48	4.3%	8118654	2.72	2.72	0.0%				
Cu	8118637	68200	64500	5.6%	8118654	53.0	50.3	5.2%				
Fe	8118637	1.87	1.96	4.7%	8118654	2.23	2.19	1.8%				
Ga	8118637	2.74	2.82	2.9%	8118654	2.60	2.55	1.9%				
Ge	8118637	< 0.05	< 0.05	0.0%	8118654	< 0.05	< 0.05	0.0%				
Hf	8118637	0.10	0.11	9.5%	8118654	0.04	0.04	0.0%				
Hg	8118637	0.01	< 0.01		8118654	< 0.01	< 0.01	0.0%				
In	8118637	0.259	0.266	2.7%	8118654	0.0099	0.0093	6.3%				
K	8118637	0.172	0.179	4.0%	8118654	0.24	0.24	0.0%				
La	8118637	12.1	12.2	0.8%	8118654	8.2	7.6	7.6%				
Li	8118637	4.49	4.78	6.3%	8118654	14.5	14.6	0.7%				
Mg	8118637	0.324	0.339	4.5%	8118654	0.55	0.55	0.0%				
Mn	8118637	1280	1350	5.3%	8118654	185	172	7.3%				
Mo	8118637	9.21	9.53	3.4%	8118654	1.19	1.27	6.5%				
Na	8118637	0.02	0.02	0.0%	8118654	< 0.01	< 0.01	0.0%				
Nb	8118637	0.18	0.11		8118654	0.12	0.14	15.4%				
Ni	8118637	20.0	20.4	2.0%	8118654	18.6	17.2	7.8%				
P	8118637	673	679	0.9%	8118654	180	178	1.1%				



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(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

Parameter	CRM #1 (ref.CDN-ME-1304)				CRM #2 (ref.CDN-ME-1303)											
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Ag	34.0	34.1	100%	90% - 110%	152	152	100%	90% - 110%								
Cu	2680	2686	100%	90% - 110%	3440	3541	103%	90% - 110%								
Pb	2580	2517	98%	90% - 110%	12200	12305	101%	90% - 110%								
Zn	2200	2232	101%	90% - 110%	9310	9547	103%	90% - 110%								



Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 17T176290

PROJECT:

ATTENTION TO: .

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Ag	MIN-200-12018		ICP-MS
Al	MIN-200-12018		ICP/OES
As	MIN-200-12018		ICP-MS
Au	MIN-200-12018		ICP-MS
B	MIN-200-12018		ICP/OES
Ba	MIN-200-12018		ICP-MS
Be	MIN-200-12018		ICP-MS
Bi	MIN-200-12018		ICP-MS
Ca	MIN-200-12018		ICP/OES
Cd	MIN-200-12018		ICP-MS
Ce	MIN-200-12018		ICP-MS
Co	MIN-200-12018		ICP-MS
Cr	MIN-200-12018		ICP/OES
Cs	MIN-200-12018		ICP-MS
Cu	MIN-200-12018		ICP-MS
Fe	MIN-200-12018		ICP/OES
Ga	MIN-200-12018		ICP-MS
Ge	MIN-200-12018		ICP-MS
Hf	MIN-200-12018		ICP-MS
Hg	MIN-200-12018		ICP-MS
In	MIN-200-12018		ICP-MS
K	MIN-200-12018		ICP/OES
La	MIN-200-12018		ICP-MS
Li	MIN-200-12018		ICP-MS
Mg	MIN-200-12018		ICP/OES
Mn	MIN-200-12018		ICP/OES
Mo	MIN-200-12018		ICP-MS
Na	MIN-200-12018		ICP/OES
Nb	MIN-200-12018		ICP-MS
Ni	MIN-200-12018		ICP-MS
P	MIN-200-12018		ICP/OES
Pb	MIN-200-12018		ICP-MS
Rb	MIN-200-12018		ICP-MS
Re	MIN-200-12018		ICP-MS
S	MIN-200-12018		ICP/OES
Sb	MIN-200-12018		ICP-MS
Sc	MIN-200-12018		ICP-MS
Se	MIN-200-12018		ICP-MS
Sn	MIN-200-12018		ICP-MS
Sr	MIN-200-12018		ICP-MS
Ta	MIN-200-12018		ICP-MS
Te	MIN-200-12018		ICP-MS
Th	MIN-200-12018		ICP-MS
Ti	MIN-200-12018		ICP/OES
Tl	MIN-200-12018		ICP-MS
U	MIN-200-12018		ICP-MS
V	MIN-200-12018		ICP/OES
W	MIN-200-12018		ICP-MS
Y	MIN-200-12018		ICP-MS



Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 17T176290

PROJECT:

ATTENTION TO: .

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Zn	MIN-200-12018		ICP-MS
Zr	MIN-200-12018		ICP-MS
As-OL	MIN-200-12002/12020		ICP/OES
Cu-OL	MIN-200-12035/12018		ICP/OES