



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

ATTENTION TO: Ron Berdahl; Scott Berdahl

PROJECT:

AGAT WORK ORDER: 16T151077

SOLID ANALYSIS REVIEWED BY: Kevin Motomura, Data Review Supervisor

DATE REPORTED: Nov 09, 2016

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: 16T151077

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

ATTENTION TO: Ron Berdahl; Scott Berdahl

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

DATE SAMPLED: Oct 21, 2016	DATE RECEIVED: Oct 21, 2016										DATE REPORTED: Nov 09, 2016			SAMPLE TYPE: Other	
Analyte:	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	
Unit:	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	
RDL:	0.01	0.01	0.1	0.005	5	1	0.05	0.01	0.01	0.01	0.01	0.1	0.5	0.05	
16 R31 (7942663)	1.04	0.46	165	<0.005	<5	146	0.15	6.31	0.01	0.11	15.7	0.7	0.7	0.75	
16 R32 (7942664)	0.73	0.39	4230	0.037	<5	72	0.12	2.12	<0.01	0.20	8.60	23.1	12.7	0.68	
R1 (7942665)	0.41	0.19	97.7	<0.005	<5	50	0.15	0.21	0.03	0.09	5.18	4.1	8.9	0.16	
R2 (7942666)	0.26	0.09	40.9	<0.005	<5	49	0.07	0.08	0.62	7.48	6.00	2.6	8.2	0.17	
R3 (7942667)	0.35	0.10	24.3	<0.005	<5	796	0.12	0.25	0.09	4.83	9.21	7.4	8.1	0.72	
R4 (7942668)	0.31	1.10	9.5	<0.005	<5	119	0.38	0.55	1.30	0.08	20.2	11.2	13.8	0.74	
R5 (7942669)	0.27	4.18	7.2	0.008	<5	46	0.73	5.98	15.9	0.01	4.64	24.4	378	1.99	
R6 (7942670)	0.45	3.67	6.2	0.010	<5	6	0.42	13.2	1.02	0.02	7.28	102	457	0.80	
R7 (7942671)	0.32	1.32	26.0	<0.005	<5	113	0.29	0.51	0.22	0.10	41.6	52.1	68.9	0.87	
R8 (7942672)	0.22	3.41	8.5	<0.005	<5	232	2.32	0.27	4.26	0.47	288	17.5	22.0	1.89	
R9 (7942673)	0.19	0.83	12.0	<0.005	<5	19	0.49	0.03	0.36	0.37	45.6	36.5	<0.5	<0.05	
R10 (7942674)	0.18	0.55	6.9	<0.005	<5	25	0.16	0.03	0.27	0.11	46.0	17.1	<0.5	<0.05	
R11 (7942675)	0.19	0.08	87.9	0.006	<5	81	<0.05	0.64	0.01	0.07	2.26	1.1	10.9	0.33	
R12 (7942676)	0.19	2.92	6.5	<0.005	<5	1030	0.64	0.10	7.77	0.17	115	18.2	1.6	1.11	
R13 (7942677)	0.16	1.09	7.6	<0.005	<5	464	0.82	0.11	13.2	0.32	109	8.8	0.6	2.69	
R14 (7942678)	5.56	0.86	12.6	<0.005	<5	11	0.37	199	0.07	0.19	32.7	58.1	299	0.20	
R 16A (7942679)	1.51	0.39	52.0	<0.005	<5	45	0.30	3.78	0.14	0.18	18.2	15.3	14.0	0.26	
R 17A (7942680)	0.38	4.28	29.2	<0.005	<5	150	0.30	0.28	1.37	0.06	94.6	30.4	3.4	1.06	

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 16T151077

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

ATTENTION TO: Ron Berdahl; Scott Berdahl

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

DATE SAMPLED: Oct 21, 2016	DATE RECEIVED: Oct 21, 2016					DATE REPORTED: Nov 09, 2016					SAMPLE TYPE: Other				
Analyte:	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	
Unit:	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	
Sample ID (AGAT ID)	RDL:														
16 R31 (7942663)	21.7	3.54	1.34	<0.05	0.43	0.01	0.010	0.34	7.9	2.9	0.06	81	1.67	<0.01	
16 R32 (7942664)	36.1	1.05	1.20	<0.05	0.31	0.01	0.022	0.13	4.3	2.3	0.02	19	1.60	<0.01	
R1 (7942665)	10.3	3.34	0.99	<0.05	0.16	0.09	<0.005	0.05	2.8	3.8	0.06	264	1.04	<0.01	
R2 (7942666)	6.4	1.54	0.43	<0.05	0.13	0.50	0.006	0.05	2.4	1.6	0.03	1750	1.99	<0.01	
R3 (7942667)	34.1	7.74	0.96	0.07	0.12	0.09	0.220	0.07	4.1	1.6	0.07	18300	7.01	<0.01	
R4 (7942668)	9.4	3.14	3.50	<0.05	0.15	0.01	0.016	0.13	10.1	36.7	0.60	1230	1.23	<0.01	
R5 (7942669)	219	6.72	16.5	0.18	0.24	0.01	0.016	0.04	1.9	15.8	1.46	923	0.50	0.10	
R6 (7942670)	1150	23.8	19.6	0.56	0.24	0.01	0.040	0.01	3.0	37.6	3.58	559	1.32	<0.01	
R7 (7942671)	70.2	5.19	5.13	0.09	0.12	0.25	0.060	0.06	20.8	21.1	0.63	1330	1.20	0.01	
R8 (7942672)	3.3	10.2	28.0	0.30	0.18	0.03	0.162	0.11	132	34.4	2.44	3500	0.93	0.04	
R9 (7942673)	136	12.5	2.49	0.12	0.20	0.06	0.050	<0.01	19.3	4.2	0.07	1980	3.00	<0.01	
R10 (7942674)	9.3	10.4	2.94	0.07	0.12	0.02	0.086	<0.01	21.4	3.0	0.05	1450	0.96	<0.01	
R11 (7942675)	36.5	0.71	0.41	<0.05	0.03	<0.01	<0.005	0.05	1.0	1.1	0.01	245	1.38	<0.01	
R12 (7942676)	8.3	6.99	15.9	0.16	0.22	0.02	0.158	0.06	53.5	42.1	2.26	1380	1.03	0.03	
R13 (7942677)	1.9	3.26	4.39	0.12	0.25	0.03	0.096	0.34	50.1	24.2	0.86	2710	0.76	0.01	
R14 (7942678)	725	32.5	7.36	0.26	0.10	0.55	0.337	0.01	14.3	6.5	0.02	2030	1.45	<0.01	
R 16A (7942679)	33.6	4.36	1.52	<0.05	0.07	0.03	0.048	0.07	8.9	2.0	0.02	403	2.63	<0.01	
R 17A (7942680)	24.9	10.9	16.5	0.09	0.11	0.02	0.069	0.16	42.0	86.3	2.35	369	1.00	<0.01	

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 16T151077

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

ATTENTION TO: Ron Berdahl; Scott Berdahl

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

DATE SAMPLED: Oct 21, 2016	DATE RECEIVED: Oct 21, 2016							DATE REPORTED: Nov 09, 2016				SAMPLE TYPE: Other			
Analyte:	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
RDL:	0.05	0.5	10	0.1	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	
16 R31 (7942663)	0.64	2.8	116	47.0	15.2	<0.001	0.04	3.05	1.3	3.8	2.6	5.9	0.02	0.36	
16 R32 (7942664)	0.48	7.2	662	4.2	7.8	<0.001	0.08	7.71	2.1	3.7	0.8	68.6	0.02	0.65	
R1 (7942665)	0.52	11.5	156	3.7	1.5	<0.001	0.04	11.9	1.9	0.6	0.2	25.3	0.01	0.28	
R2 (7942666)	0.58	5.9	126	195	1.8	<0.001	0.05	0.38	1.0	0.3	<0.2	10.7	0.01	0.20	
R3 (7942667)	0.51	20.2	93	520	3.0	<0.001	<0.01	0.49	2.7	0.5	0.5	68.7	0.02	0.13	
R4 (7942668)	0.34	21.3	184	111	5.6	<0.001	0.01	0.19	4.3	0.3	0.2	17.4	<0.01	0.10	
R5 (7942669)	1.07	468	1830	4.8	3.7	0.001	3.12	0.35	15.1	1.1	1.6	322	0.02	0.26	
R6 (7942670)	0.91	325	1720	3.8	1.2	0.003	>10	0.27	18.6	5.0	1.9	20.7	0.03	3.88	
R7 (7942671)	0.40	130	1130	8.2	2.9	<0.001	0.05	1.34	13.6	0.5	0.6	20.4	<0.01	0.73	
R8 (7942672)	1.04	24.0	8490	13.2	5.8	<0.001	0.17	0.20	3.2	1.0	2.3	537	0.02	0.35	
R9 (7942673)	1.03	54.6	2030	4.0	0.1	<0.001	0.02	2.18	7.6	0.7	1.0	35.0	0.01	0.21	
R10 (7942674)	1.09	17.7	2480	3.5	0.1	<0.001	<0.01	1.10	6.2	0.4	0.8	31.6	<0.01	0.16	
R11 (7942675)	0.53	6.5	31	29.2	2.6	<0.001	0.07	0.83	0.4	0.2	<0.2	1.7	<0.01	0.14	
R12 (7942676)	0.73	8.0	7810	7.1	2.8	<0.001	0.41	1.26	6.8	0.8	0.6	474	0.01	0.12	
R13 (7942677)	1.28	3.9	7750	5.9	14.7	<0.001	0.15	0.54	4.6	1.5	0.4	353	0.02	0.09	
R14 (7942678)	0.35	140	2100	285	0.9	<0.001	0.09	34.6	32.7	2.5	0.3	22.7	<0.01	1.53	
R 16A (7942679)	0.44	32.7	1070	54.9	3.2	0.003	0.01	2.00	5.2	0.5	0.3	30.8	<0.01	0.44	
R 17A (7942680)	0.47	30.2	6330	3.9	5.7	<0.001	0.03	3.31	7.9	0.6	0.3	150	<0.01	0.22	

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 16T151077

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

ATTENTION TO: Ron Berdahl; Scott Berdahl

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

DATE SAMPLED: Oct 21, 2016	DATE RECEIVED: Oct 21, 2016					DATE REPORTED: Nov 09, 2016				SAMPLE TYPE: Other
Analyte:	Th	Ti	Tl	U	V	W	Y	Zn	Zr	
Unit:	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Sample ID (AGAT ID)	RDL:									
16 R31 (7942663)	4.1	<0.005	0.21	0.21	4.1	0.88	2.11	74.3	6.1	
16 R32 (7942664)	2.5	<0.005	0.18	0.50	17.7	0.43	1.75	5.0	5.0	
R1 (7942665)	1.2	<0.005	0.11	0.26	9.4	0.31	1.06	18.2	1.8	
R2 (7942666)	1.2	<0.005	0.02	0.22	4.7	0.26	3.89	898	1.6	
R3 (7942667)	1.7	<0.005	0.17	1.36	15.1	0.19	9.00	610	1.4	
R4 (7942668)	2.2	<0.005	0.05	0.22	5.0	0.15	6.63	81.3	1.9	
R5 (7942669)	1.0	0.312	0.04	0.18	170	0.55	3.52	12.6	2.8	
R6 (7942670)	1.8	0.101	0.02	0.07	218	0.42	3.86	36.6	2.0	
R7 (7942671)	3.4	0.011	0.04	0.61	102	0.26	7.49	148	2.0	
R8 (7942672)	12.7	0.018	0.08	0.40	94.3	0.19	25.6	256	3.9	
R9 (7942673)	2.6	0.007	0.07	0.70	106	0.55	13.1	163	4.7	
R10 (7942674)	3.1	0.009	0.07	0.37	98.7	0.56	7.64	112	3.8	
R11 (7942675)	0.4	<0.005	0.03	0.06	3.2	0.15	0.43	10.0	0.5	
R12 (7942676)	5.1	0.047	0.03	0.37	168	0.14	23.5	151	4.9	
R13 (7942677)	6.0	0.044	0.09	0.46	33.5	0.16	49.0	100	7.0	
R14 (7942678)	2.9	<0.005	0.77	0.54	300	3.33	8.94	286	1.7	
R 16A (7942679)	2.1	<0.005	0.06	0.35	33.2	0.42	5.89	143	1.4	
R 17A (7942680)	7.3	0.033	0.06	0.40	169	0.16	20.2	232	2.3	

Comments: RDL - Reported Detection Limit

7942663-7942680 Au determination by this method is semi-quantitative due to small sample size.

Certified By:



CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Ron Berdahl; Scott Berdahl

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

Parameter	REPLICATE #1				RPD													
	Sample ID	Original	Replicate	RPD														
Ag	7942663	1.04	1.18	12.6%														
Al	7942663	0.46	0.45	2.2%														
As	7942663	165	164	0.6%														
Au	7942663	< 0.005	< 0.005	0.0%														
B	7942663	< 5	< 5	0.0%														
Ba	7942663	146	143	2.1%														
Be	7942663	0.15	0.16	6.5%														
Bi	7942663	6.31	6.66	5.4%														
Ca	7942663	0.01	0.01	0.0%														
Cd	7942663	0.11	0.05															
Ce	7942663	15.7	16.1	2.5%														
Co	7942663	0.7	0.7	0.0%														
Cr	7942663	0.7	< 0.5															
Cs	7942663	0.75	0.75	0.0%														
Cu	7942663	21.7	19.2	12.2%														
Fe	7942663	3.54	3.52	0.6%														
Ga	7942663	1.34	1.33	0.7%														
Ge	7942663	< 0.05	< 0.05	0.0%														
Hf	7942663	0.43	0.45	4.5%														
Hg	7942663	0.01	< 0.01															
In	7942663	0.010	0.006															
K	7942663	0.34	0.34	0.0%														
La	7942663	7.93	8.09	2.0%														
Li	7942663	2.9	2.8	3.5%														
Mg	7942663	0.06	0.06	0.0%														
Mn	7942663	81	67	18.9%														
Mo	7942663	1.67	1.34															
Na	7942663	< 0.01	< 0.01	0.0%														
Nb	7942663	0.64	0.51	22.6%														
Ni	7942663	2.84	2.88	1.4%														
P	7942663	116	112	3.5%														



CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Ron Berdahl; Scott Berdahl

Pb	7942663	47.0	41.7	12.0%														
Rb	7942663	15.2	15.1	0.7%														
Re	7942663	< 0.001	< 0.001	0.0%														
S	7942663	0.04	0.04	0.0%														
Sb	7942663	3.05	2.90	5.0%														
Sc	7942663	1.28	1.13	12.4%														
Se	7942663	3.76	3.62	3.8%														
Sn	7942663	2.61	2.53	3.1%														
Sr	7942663	5.87	5.14	13.3%														
Ta	7942663	0.016	0.014	13.3%														
Te	7942663	0.36	0.21															
Th	7942663	4.08	4.25	4.1%														
Ti	7942663	< 0.005	< 0.005	0.0%														
Tl	7942663	0.21	0.21	0.0%														
U	7942663	0.21	0.21	0.0%														
V	7942663	4.13	4.67	12.3%														
W	7942663	0.88	0.82	7.1%														
Y	7942663	2.11	2.05	2.9%														
Zn	7942663	74.3	68.5	8.1%														
Zr	7942663	6.1	7.3	17.9%														



CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Ron Berdahl; Scott Berdahl

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

Parameter	CRM #1 (ref.GTS-2a)														
	Expect	Actual	Recovery	Limits											
Al	6.96	7.22	104%	90% - 110%											
As	124	135	108%	90% - 110%											
Ba	186	197	106%	90% - 110%											
Ca	4.01	4.17	104%	90% - 110%											
Ce	24	24	99%	90% - 110%											
Co	22.1	24.3	109%	90% - 110%											
Cu	88.6	91.7	103%	90% - 110%											
Fe	7.56	7.88	104%	90% - 110%											
K	2.021	2.225	110%	90% - 110%											
Mg	2.412	2.545	105%	90% - 110%											
Mn	1510	1562	103%	90% - 110%											
Na	0.617	0.669	108%	90% - 110%											
Ni	77.1	82.8	107%	90% - 110%											
P	892	945	106%	90% - 110%											
S	0.348	0.38	109%	90% - 110%											
Sr	92.8	96.4	104%	90% - 110%											
Zn	208	225	108%	90% - 110%											



Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 16T151077

PROJECT:

ATTENTION TO: Ron Berdahl; Scott Berdahl

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: 16T151077

PROJECT:

ATTENTION TO: Ron Berdahl; Scott Berdahl

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