



APPENDIX 1(a)

DETAILED INCINERATOR RECORDS
COLOMAC CAMP - 2019

Nighthawk Colomac Camp Incinerator Log - 2019

(lbs)

Date	Kitchen Waste	Other Sources	Cardboard	Cst Mtrl-Brk pallets	Ash - Outgoing
1-Mar-2019	30		5		
5-Mar-2019	25		0		
6-Mar-2019	30	5	0		
7-Mar-2019	55	5	0		
8-Mar-2019	65		0		
9-Mar-2019	63	19	0		
10-Mar-2019	75	10	5	34	
11-Mar-2019	66	7	0		
12-Mar-2019	58		0		
13-Mar-2019	83	16	0		
14-Mar-2019	84	12	0		
15-Mar-2019	107	10	0		
16-Mar-2019	103	6	0		
17-Mar-2019	108	3	5		
18-Mar-2019	101	14	0		
19-Mar-2019	89	2	0		
20-Mar-2019	85	6	0	28	
21-Mar-2019	105	12	0	18	
22-Mar-2019	78	8	0		
23-Mar-2019	110	7	0		
24-Mar-2019	69	20	0	56	
25-Mar-2019	85	10	0	0	
26-Mar-2019	0	0	0	0	
27-Mar-2019	125	7	0	0	
28-Mar-2019	95	24	0	0	
29-Mar-2019	105	16	0	10	
30-Mar-2019	98	20	0	0	
31-Mar-2019	137	3	0	0	
	2234	242	15	146	0
1-Apr-2019	113	5	10	0	
2-Apr-2019	126	0	0	0	
3-Apr-2019	102	20	5	0	
4-Apr-2019	121	28	0	0	
5-Apr-2019	102	0	0	0	
6-Apr-2019	220	16	5	0	
7-Apr-2019	104	0	0	0	
8-Apr-2019	140	3	0	8	
9-Apr-2019	123	7	0	0	
10-Apr-2019	0	0	0	0	
11-Jan-1900	210	34	0	0	
12-Apr-2019	164	0	5	0	
13-Apr-2019	132	11	0	0	
14-Apr-2019	141	5	0	0	
15-Apr-2019	115	10	0	0	
16-Apr-2019	101	0	0	0	
17-Apr-2019	54	13	0	0	
18-Apr-2019	189	5	0	43	
19-Apr-2019	61	0	0	0	
20-Apr-2019	47	0	0	0	
21-Apr-2019	88	5	0	0	
22-Apr-2019	88	5	0	10	

Nighthawk Colomac Camp Incinerator Log - 2019

(lbs)

Date	Kitchen Waste	Other Sources	Cardboard	Cst Mtrl-Brk pallets	Ash - Outgoing
23-Apr-2019	77	0	0	0	
24-Apr-2019	19	0	0	0	
25-Apr-2019	127	5	0	0	
26-Apr-2019	54	0	0	0	
27-Apr-2019	85	0	0	0	
28-Apr-2019	62	0	0	0	
29-Apr-2019	62	0	0	0	
	3027	172	25	61	0
1-May-2019	124	0	0	0	
2-May-2019	107	0	0	0	
3-May-2019	103	4	0	0	
4-May-2019	98	0	0	0	
5-May-2019	97	15	0	0	
6-May-2019	62	12	0	10	
7-May-2019	396	0	0	24	
8-May-2019	74	10	5	0	
9-May-2019	52	10	0	0	
10-May-2019	107	8	0	0	
11-May-2019	85	0	0	0	
12-May-2019	132	5	0	30	
13-May-2019	92	9	0	0	
14-May-2019	76	0	0	10	
15-May-2019	268	0	5	10	
16-May-2019	56	12	0	10	
17-May-2019	245	10	0	11	
18-May-2019	130	0	5	41	
19-May-2019	150	0	0	20	
20-May-2019	85	10	0	0	
21-May-2019	157	10	0	30	
22-May-2019	105	0	0	12	
23-May-2019	0	0	0	0	2
24-May-2019					
25-May-2019	104	185	0	136	
26-May-2019	99	30	0	27	
27-May-2019					
28-May-2019					
29-May-2019	134	10			
30-May-2019	94	0	0	0	
31-May-2019	107	0	0	0	
	3339	340	15	371	2
1-Jun-2019	111	50	0	0	
2-Jun-2019	41	6	0	0	
3-Jun-2019	96	15	0	10	
4-Jun-2019	64	15	0	0	
5-Jun-2019	70	0	0	0	
6-Jun-2019	85	0	0	0	
7-Jun-2019	62	0	0	0	
8-Jun-2019	138	0	0	0	
9-Jun-2019	76	5	0	0	
10-Jun-2019	94	0	0	0	

Nighthawk Colomac Camp Incinerator Log - 2019

(lbs)

Date	Kitchen Waste	Other Sources	Cardboard	Cst Mtrl-Brk pallets	Ash - Outgoing
11-Jun-2019	103	0	0	0	
12-Jan-1900	0	0	0	0	
13-Jan-1900	146	29	0	0	
14-Jan-1900	169	3	0	0	
15-Jan-1900	105	0	29	105	
16-Jun-2019	108	20	0	0	
17-Jun-2019	97	3	0	23	
18-Jun-2019	0	0	0	20	
19-Jun-2019	165	15	5	0	
20-Jun-2019	106	0	0	0	
21-Jun-2019	244	0	0	0	
22-Jun-2019	83	12	0	0	
23-Jun-2019					
24-Jun-2019	0	0	0	0	
25-Jun-2019	197	17	0	387	
26-Jun-2019	153	0	0	307	
27-Jun-2019	105	10	0	25	
28-Jun-2019	140	10	5	0	
29-Jun-2019	163	9	0	0	
30-Jun-2019	65	10	0	0	
	2986	229	39	877	0
1-Jul-2019	135	0	5	0	
2-Jul-2019	100	0	0	0	
3-Jul-2019	60	19	0	0	
4-Jul-2019	220	10	0	0	
5-Jul-2019	137	20	0	0	
6-Jul-2019	90	0	0	70	
7-Jul-2019	138	23	0	0	
8-Jul-2019					
9-Jul-2019	124	4	5	0	
10-Jul-2019	124	17	0	0	
11-Jul-2019	105	28	0	10	
12-Jul-2019	133	4	0	0	
13-Jul-2019	138	17	10	0	
14-Jul-2019	70	7	0	0	
15-Jul-2019	76	0	0	0	
16-Jul-2019	175	15	0	0	
17-Jul-2019	0	0	0	0	
18-Jul-2019	110	10	0	0	
19-Jul-2019	170	20	0	0	
20-Jul-2019	120	0	0	0	
21-Jul-2019	120	0	0	0	
22-Jul-2019	90	17	0	0	
23-Jul-2019	130	12	0	0	
24-Jul-2019	107	0	0	0	
25-Jul-2019	95	0	0	0	
26-Jul-2019	203	5	0	0	
27-Jul-2019	110	12	0	0	
28-Jul-2019	190	9	0	0	
29-Jul-2019	130	18	0	47	
30-Jul-2019	123	0	0	0	

Nighthawk Colomac Camp Incinerator Log - 2019

(lbs)

Date	Kitchen Waste	Other Sources	Cardboard	Cst Mtrl-Brk pallets	Ash - Outgoing
31-Jul-2019	146	13	0	0	700
	3669	280	20	127	700
1-Aug-2019	156	6	0	0	
2-Aug-2019	161	13	5	0	
3-Aug-2019	107	19	0	119	
4-Aug-2019	152	14	0	0	
5-Aug-2019	98	0	0	10	
6-Aug-2019	115	15	7	36	
7-Aug-2019	114	6	0	42	
8-Aug-2019	149	19	0	10	
9-Aug-2019	70	16	0	5	
10-Aug-2019	96	15	0	30	
11-Aug-2019	95	5	0	0	
12-Aug-2019	74	0	0	0	
13-Aug-2019	0	0	0	0	
14-Aug-2019	118	8	0	20	
15-Aug-2019	54	0	0	0	
16-Aug-2019	110	9	0	0	
17-Aug-2019	83	0	5	0	
18-Aug-2019	143	25	0	0	
19-Aug-2019	0	0	0	0	
20-Aug-2019	0	15	0	0	
21-Aug-2019	170	0	0	0	
22-Aug-2019	110	5	0	40	
23-Aug-2019	129	25	0	0	
24-Aug-2019	62	8	0	0	
25-Aug-2019	56	20	0	0	
26-Aug-2019	65	12	0	0	
27-Aug-2019	230	19	5	0	
28-Aug-2019	0	0	0	0	
29-Aug-2019	160	7	0	0	
30-Aug-2019	130	7	5	0	
31-Aug-2019	79	3	0	20	
	3086	291	27	332	0
1-Sep-2019	113	3	0	0	
2-Sep-2019	88	17	0	0	
3-Sep-2019	87	12	0	0	
4-Sep-2019	143	10	0	10	
5-Sep-2019	127	10	0	0	
6-Sep-2019	127	15	0	0	
7-Sep-2019	128	5	0	0	
8-Sep-2019	145	28	0	0	
9-Sep-2019	92	25	5	0	
10-Sep-2019	100	19	0	0	
11-Sep-2019	138	31	0	0	
12-Sep-2019	126	22	0	0	
13-Sep-2019	106	20	5	0	
14-Sep-2019	116	46	0	0	
15-Sep-2019	111	20	0	40	
16-Sep-2019	105	5	0	0	

Nighthawk Colomac Camp Incinerator Log - 2019

(lbs)

Date	Kitchen Waste	Other Sources	Cardboard	Cst Mtrl-Brk pallets	Ash - Outgoing
17-Sep-2019	157	50	0	0	
18-Sep-2019	126	10	0	0	
19-Sep-2019	121	30	0	0	
20-Sep-2019	166	15	0	0	
21-Sep-2019	105	47	0	0	
22-Sep-2019	117	17	0	30	
23-Sep-2019	87	9	5	0	
24-Sep-2019	120	32	0	0	
25-Sep-2019	106	10	0	0	
26-Sep-2019	97	11	10	0	
27-Sep-2019	87	6	10	0	
28-Sep-2019	82	27	10	0	
29-Sep-2019	89	57	10	0	
30-Sep-2019	96	49	0	30	
	3408	658	55	110	0
1-Oct-2019	81	8	0	0	
2-Oct-2019	115	26	0	0	182
3-Oct-2019	161	15	0	0	
4-Oct-2019	129	10	0	0	
5-Oct-2019	213	68	0	0	
	699	127	0	0	182
	22,448	2,339	196	2,024	884



APPENDIX 1(b)

ALS Certificate of Analysis of Incinerator Waste Ash
COLOMAC CAMP - 2019



Pre-Pay Clients - Vancouver
ATTN: DR. MICHAEL BYRON
Nighthawk Gold
430 WESTMOUNT AVENUE, UNIT F
SUDBURY ON P3A 5Z8

Date Received: 24-MAY-19
Report Date: 21-JUN-19 13:49 (MT)
Version: FINAL

Client Phone: 705-507-2398

Certificate of Analysis

Lab Work Order #: L2279473
Project P.O. #: NOT SUBMITTED
Job Reference: COLOMAC INCINERATOR
C of C Numbers:
Legal Site Desc:

Rojina Ghavami
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID Description Sampled Date Sampled Time Client ID				
		L2279473-1 WASTE 19-MAY-19 15:30 N934951 COLOMAC INCINERATOR ASH				
SOIL						
Physical Tests	% Moisture (%)		<0.10			
TCLP Metals	1st Preliminary pH (pH)		11.18			
	2nd Preliminary pH (pH)		10.08			
	Final pH (pH)		9.76			
	Extraction Solution Initial pH (pH)		2.87			
	Antimony (Sb)-Leachable (mg/L)		<1.0			
	Arsenic (As)-Leachable (mg/L)		<1.0			
	Barium (Ba)-Leachable (mg/L)		<2.5			
	Beryllium (Be)-Leachable (mg/L)		<0.025			
	Boron (B)-Leachable (mg/L)		1.63			
	Cadmium (Cd)-Leachable (mg/L)		<0.050			
	Calcium (Ca)-Leachable (mg/L)		448			
	Chromium (Cr)-Leachable (mg/L)		0.95			
	Cobalt (Co)-Leachable (mg/L)		<0.050			
	Copper (Cu)-Leachable (mg/L)		<0.050			
	Iron (Fe)-Leachable (mg/L)		<5.0			
	Lead (Pb)-Leachable (mg/L)		<0.25			
	Magnesium (Mg)-Leachable (mg/L)		156			
	Mercury (Hg)-Leachable (mg/L)		<0.0010			
	Nickel (Ni)-Leachable (mg/L)		<0.25			
	Selenium (Se)-Leachable (mg/L)		<1.0			
	Silver (Ag)-Leachable (mg/L)		<0.050			
	Thallium (Tl)-Leachable (mg/L)		<1.0			
	Vanadium (V)-Leachable (mg/L)		<0.15			
	Zinc (Zn)-Leachable (mg/L)		<0.50			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L2279473-1 WASTE 19-MAY-19 15:30 N934951 COLOMAC INCINERATOR ASH				
Grouping	Analyte				
SOLID					
Dioxins and Furans	2,3,7,8-TCDD (pg/g)	<0.31 ^[U]			
	1,2,3,7,8-PeCDD (pg/g)	1.24 ^{M,J}			
	1,2,3,4,7,8-HxCDD (pg/g)	0.80 ^{M,J,R}			
	1,2,3,6,7,8-HxCDD (pg/g)	1.25 ^{M,J}			
	1,2,3,7,8,9-HxCDD (pg/g)	1.17 ^{M,J}			
	1,2,3,4,6,7,8-HpCDD (pg/g)	3.97 ^[J]			
	OCDD (pg/g)	5.32 ^{J,B}			
	Total-TCDD (pg/g)	8.71			
	Total TCDD # Homologues	4			
	Total-PeCDD (pg/g)	13.3			
	Total PeCDD # Homologues	5			
	Total-HxCDD (pg/g)	7.45			
	Total HxCDD # Homologues	3			
	Total-HpCDD (pg/g)	8.13			
	Total HpCDD # Homologues	2			
	2,3,7,8-TCDF (pg/g)	5.28 ^[J]			
	1,2,3,7,8-PeCDF (pg/g)	6.35 ^[J]			
	2,3,4,7,8-PeCDF (pg/g)	8.19 ^[J]			
	1,2,3,4,7,8-HxCDF (pg/g)	4.58 ^[J]			
	1,2,3,6,7,8-HxCDF (pg/g)	5.20 ^[J]			
	1,2,3,7,8,9-HxCDF (pg/g)	1.84 ^{M,J,B}			
	2,3,4,6,7,8-HxCDF (pg/g)	5.44 ^[J]			
	1,2,3,4,6,7,8-HpCDF (pg/g)	7.78 ^{J,B}			
	1,2,3,4,7,8,9-HpCDF (pg/g)	1.20 ^{M,J,R}			
	OCDF (pg/g)	2.02 ^{J,B}			
	Total-TCDF (pg/g)	129			
	Total TCDF # Homologues	18			
	Total-PeCDF (pg/g)	79.9			
	Total PeCDF # Homologues	12			
	Total-HxCDF (pg/g)	34.8			
	Total HxCDF # Homologues	7			
	Total-HpCDF (pg/g)	9.06			
	Total HpCDF # Homologues	2			
	Surrogate: 13C12-2,3,7,8-TCDD (%)	110.0			
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)	88.0			
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)	80.0			
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)	82.0			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L2279473-1			
		WASTE			
		19-MAY-19			
		15:30			
		N934951			
		COLOMAC			
		INCINERATOR			
		ASH			
Grouping	Analyte				
SOLID					
Dioxins and Furans	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)	78.0			
	Surrogate: 13C12-OCDD (%)	57.0			
	Surrogate: 13C12-2,3,7,8-TCDF (%)	88.0			
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)	84.0			
	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)	81.0			
	Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)	76.0			
	Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)	81.0			
	Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)	78.0			
	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)	75.0			
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)	71.0			
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)	82.0			
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)	96.0			
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)	6.48			
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)	6.73			
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)	6.89			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank Comments: Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated	Total-HpCDF	A	L2279473-1
Method Blank Comments: Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated	Total-HxCDF	A	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,4,6,7,8-HpCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,4,7,8-HxCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,6,7,8-HxCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,7,8-PeCDD	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,7,8-PeCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	2,3,4,6,7,8-HxCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	2,3,4,7,8-PeCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	2,3,7,8-TCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	OCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	Total-HpCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	Total-HxCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	Total-PeCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	Total-TCDF	G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,4,7,8,9-HpCDF	J,G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,4,7,8-HxCDD	J,G	L2279473-1
Duplicate Comments: Sample and duplicate are outside method RPD criteria for select targets. Sample consists of grey ash with white and black particles and is not homogeneous.	1,2,3,7,8,9-HxCDF	J,G	L2279473-1
Method Blank Comments: Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated	1,2,3,4,6,7,8-HpCDF	M,J	L2279473-1
Method Blank Comments: Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated	1,2,3,4,7,8,9-HpCDF	M,J	L2279473-1
Method Blank	1,2,3,7,8,9-HxCDF	M,J	L2279473-1

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,4,6,7,8-HpCDD	M,J,R	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,6,7,8-HxCDD	M,J,R	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,7,8,9-HxCDD	M,J,R	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,7,8-PeCDD	M,J,R	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,7,8-PeCDF	M,J,R	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	2,3,4,6,7,8-HxCDF	M,J,R	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	2,3,4,7,8-PeCDF	M,J,R	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Matrix Spike	Calcium (Ca)-Leachable	MS-B	L2279473-1
Method Blank	OCDD	[J]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	OCDF	[J]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,4,7,8-HxCDD	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,4,7,8-HxCDF	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	1,2,3,6,7,8-HxCDF	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	2,3,7,8-TCDD	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	2,3,7,8-TCDF	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	Total-HpCDD	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	Total-HxCDD	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	Total-PeCDD	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	Total-PeCDF	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		
Method Blank	Total-TCDD	[U]	L2279473-1
Comments:	Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated		

Reference Information

Method Blank	Parameter	Qualifier	Applies to Sample Number(s)
	Total-TCDF	[U]	L2279473-1
Comments: Blank has low levels of select targets that were within the reference method control limits. Low level sample data may be elevated where indicated			

Qualifiers for Individual Parameters Listed:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,B	The analyte was detected below the calibrated range but above the EDL, and was detected in the Method Blank at >10% of the sample concentration.
J,G	QC result did not meet ALS DQO. Refer to narrative comments for further information. Duplicate expressed in terms of absolute difference.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,B	A peak has been manually integrated. Target analyte was detected below the calibrated range but above the EDL. Compound was detected in the method blank at >10% of the sample concentration.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
DX-1613B-HRMS-BU	Solid	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS.			
HG-TCLP-CVAFS-VA	Soil	Mercury by CVAAS (TCLP)	EPA 1311/245.7
This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter and analysed using atomic absorption spectrophotometry (EPA 245.7).			
MET-TCLP-CCMS-VA	Soil	Metals by ICPMS (TCLP)	EPA 1311/6020A
This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).			
MOISTURE-BU	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here

(lab use only)

COC Number: 17 -

Page 1 of

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)					
Company: Nighthawk Gold Corp		Select Report Format: <input type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			Regular [R] <input type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply					
Contact: Dr. Michael Byron		Quality Control (QC) Report with Report <input type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Day)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E1 - 100%]	
Phone: 705-507-2399		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 - 2]	
Company address below will appear on the final report		Select Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			2 day [P2-50%] <input type="checkbox"/>					
Street: 430 Westmount Avenue, Unit F		Email 1 or Fax: Michael J Byron <mbyron@nighthawkgold.com>			Date and Time Required for all E&P TATs:					
City/Province: Sudbury, ON		Email 2: Lorraine Dupuis <ldupuis@nighthawkgold.com>			For tests that can not be performed according to the service level selected, you will be contacted.					
Postal Code: P3A 5Z6		Email 3: blitwaychison@gmail.com			Analysis Request					
Invoice To: Same as Report To <input type="checkbox"/> YES <input type="checkbox"/> NO		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below					
Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			MET-TCLP-VA					
Company:		Email 1 or Fax: Michael J Byron <mbyron@nighthawkgold.com>			DX-1608-RRAS-BU					
Contact:		Email 2:			SAMPLE DISPOSAL VA					
Project Information		Oil and Gas Required Fields (client use)			SHIPPING - MD-4L					
ALS Account # / Quote #: Q72987		AFE/Cost Center:		PO#:						
Job #: Colomac Incinerator		Major/Minor Code:		Routing Code:						
PQ / AFE: na		Requisitioner:								
LSD: ??		Location:								
ALS Lab Work Order # (lab use only): L2279473		ALS Contact:		Sampler: John Walther						
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (h:mm)	Sample Type						
	N934951 Colomac Incinerator ash	19-May-23	15:30	Waste						
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)					
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		1) Canadian Council of Ministers of the Environment, 2001, Canada-Wide Standards for Dioxins and Furans. 2) GNWT, 2017, Guidelines for Hazardous Waste Management. Revised Oct 2017			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>					
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>					
					Cooling Initiated <input type="checkbox"/>					
					INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C			
							10			
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)					
Released by: J Walther		Date: 19-05-24	8:00	Received by: [Signature]	Date: May 24 2019	Time: 15:07	Received by: JC	Date: MAY 29 2019	Time: 1215 pm	



L2279473-COFC

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

GOC Number: 17 -

Report To Contact and company name below will appear on the final report.		Report Format / Distribution		Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)		
Company:	Nighthawk Gold Corp	Select Report Format: <input type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)		Regular (R): <input type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply		
Contact:	Dr. Michael Byron	Quality Control (QC) Report with Report <input type="checkbox"/> YES <input type="checkbox"/> NO		PRIORITY (Business Day)	<input type="checkbox"/> 4 day [P4-20%]	EMERGENCY
Phone:	705-507-2388	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked			<input type="checkbox"/> 3 day [P3-25%]	
Company address below will appear on the final report		Select Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX		<input type="checkbox"/> 2 day [P2-50%]		
Street:	430 Westmount Avenue, Unit F	Email 1 or Fax Michael J Byron <mbyron@nighthawkgold.com>		Date and Time Required for all E&P TATs: []		
City/Province:	Sudbury, ON	Email 2 Lorraine Dupuis <ldupuis@nighthawkgold.com>		For tests that can not be performed according to the service level selected, you will be contacted.		
Postal Code:	P3A 5Z8	Email 3 bitwaychison@gmail.com		Analysis Request		
Invoice To	Same as Report To <input type="checkbox"/> YES <input type="checkbox"/> NO	Invoice Distribution		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below		
	Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO	Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				
Company:		Email 1 or Fax Michael J Byron <mbyron@nighthawkgold.com>		<p>Handwritten notes in analysis table:</p> <ul style="list-style-type: none"> MET-TCLP - VA DX-1613B-RRNS-BU SAMPLE DISPOSAL - VA SHIPPING - MD-4L <p style="writing-mode: vertical-rl; transform: rotate(180deg);">SAMPLES ON HOLD</p>		
Contact:		Email 2				
Project Information		Oil and Gas Required Fields (client use)				
ALS Account # / Quote #:	Q72987	AFE/Cost Center:	PO#			
Job #:	Colomac Incinerator	Major/Minor Code:	Routing Code:			
PO / AFE:	na	Requisitioner:				
LSD:	??	Location:				
ALS Lab Work Order # (lab use only): L2279473		ALS Contact:		Sampler: John Walther		
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type		
	N934951 Colomac Incinerator ash	19-May-23	15:30	Waste		
Drinking Water (DW) Samples (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)		SAMPLE CONDITION AS RECEIVED (lab use only)		
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>		
Are samples for human consumption/use? <input type="checkbox"/> YES <input type="checkbox"/> NO		1) Canadian Council of Ministers of the Environment. 2001. Canada-Wide Standards for Dioxins and Furans. 2) GNWT. 2017. Guidelines for Hazardous Waste Management. Revised Oct 2017		Ice Packs <input type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>		
				Cooling Inflated <input type="checkbox"/>		
				INITIAL COOLER TEMPERATURES °C		
				FINAL COOLER TEMPERATURES °C		
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)		FINAL SHIPMENT RECEPTION (lab use only)		
Released by: J Walther	Date: 19-05-24	8:00	Received by: [Signature]	Date: MAY 24 2019	Time: 15:07	Received by: JC
				Date: MAY 29 2019	Time: 1215 pm	



L2279473-COFC