POGO MINE
SUMITOMO METAL MINING POGO LLC
MINING DONE RIGHT

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February 11, 2014
COR-14-016
Certified Mail #7011 1570 0001 1559 1840

Director, Air and Waste Management Division
United States Environmental Protection Agency
1200 Sixth Avenue
Seattle, Washington 98101

SUBJECT: Sumitomo Metal Mining Pogo LLC (Pogo), Unit 412 Incinerator Site Specific Operating Limits Final Report January 2014.

Dear Sir or Madame:

Enclosed is Sumitomo Metal Mining Pogo LLC (Pogo) Unit 412 Incinerator Site Specific Operating Limits Final Report dated January 2014 (Report). After a meeting held with EPA Region 10 on December 12, 2013 in Seattle, Washington, Pogo revised the Report to incorporate feedback from Mr. Zach Hedgpeth, EPA. The primary and secondary combustion chamber temperature limits were revised to be based on rolling 3-hour averages as requested.

Pogo's incinerator is subject to the requirements of the Clean Air Act New Source Performance Standards (NSPS) for Commercial and Industrial Solid Waste Incineration (CISWI) Units, 40 C.F.R. Part 60, Subpart CCCC (Subpart CCCC). Pogo's incinerator is a small, remote incinerator under 40 C.F.R. Part 60 Subpart CCCC and subject to the emission limits in Table 8 of Subpart CCCC.

The operating limits are identified in Pogo's Petition submitted to EPA in accordance with 40 C.F.R. § 60.2115. EPA approved Pogo's petition on September 27, 2013. As required in 40 C.F.R. § 60.2200(b), Pogo submitted a Site Specific Operating Limits Report which provides the values of all seven operating limits established during the initial performance test.

If you have any questions, please give me a call at 907-895-2879 or email me at Sally.McLeod@smmpogo.com.

Sincerely,

Sally S. McLeod, CEM, REM
Environmental Manager

Attachment: Unit 412 Site Specific Operating Limits Final Report January 2014

Cc: Heather Valdez, EPA
Zach Hedgpeth, EPA
John Pavitt, EPA
Robin Wagner, ADEC
John Rosburg, AECOM
Jeff Hunter, Perkins Coie
Michael Short, SES

SPECIALIZED
Environmental Solutions

Sumitomo Metal Mining Pogo LLC
Unit 412 Site Specific Operating Limits
Final Report

Submitted to:
Sumitomo Metal Mining Pogo LLC
Delta Junction, Alaska

Submitted By:
Specialized Environmental Solutions
Los Osos, California
January 2014

Sumitomo Metal Mining Pogo LLC (Pogo) operates a solid waste incinerator (Unit ID 412) at the Pogo Mine located near Delta Junction, Alaska. The incinerator is subject to the requirements of the Clean Air Act New Source Performance Standards (NSPS) for Commercial and Industrial Solid Waste Incineration (CISWI) Units, 40 C.F.R. Part 60, Subpart CCCC (Subpart CCCC). An initial performance test was conducted on the incinerator during the period of September 29, 2013 through October 2, 2013. The source test program had two objectives: (1) to conduct the initial performance test of the CISWI unit to demonstrate compliance with the emission limits in Table 8 of Subpart CCCC; and (2) to establish the operating limits identified in Pogo's Petition submitted to EPA in accordance with 40 C.F.R. § 60.2115. EPA approved Pogo's petition on September 27, 2013.

As required in 40 C.F.R. § 60.2200(b), Pogo hereby submits the values of the operating limits established during the initial performance test of the solid waste incinerator.

Pogo's petition identified the following seven incinerator operating parameters for which operating limits were established during the initial performance test.

- Waste Charge Rate Limit. The maximum waste charge limit was determined as the maximum rolling 1-hour average of the waste-charge weights recorded during the performance test.
- Charge Interval Limit. The minimum charge interval limit was established as the minimum time interval between waste charges recorded during the performance test.
- Primary Combustion Chamber Temperature Limit. The minimum temperature limit of the primary combustion chamber was determined as the minimum rolling 3-hour average temperature recorded during the performance test.
- Secondary Combustion Chamber Temperature Limit. The minimum temperature limit of the secondary combustion chamber was determined as the minimum rolling 3-hour average temperature recorded during the performance test.
- Primary Combustion Chamber Burn Time Limit. The minimum primary chamber burn time, following the final waste charge each day, was established as the primary burndown time of 5 hours, recorded during each day of the performance test.
- Secondary Combustion Chamber Burn Time Limit. The minimum secondary chamber burn time, following completion of the primary chamber burndown cycle, was established as the secondary burndown time of 2 hours, recorded during each day of the performance test.
- Waste Composition Limits. The maximum daily weight-percent for each waste component (i.e., municipal solid waste (MSW), sludge, and adsorbs) was determined as the maximum weight-percent of each component that was burned on any one day during the three-day performance test.

To establish the operating limits, all identified operating parameters were monitored and recorded by Pogo during the performance test. These monitoring data were compiled, and operating limits were calculated based on the applicable averaging times. The monitoring data and operating-limit calculations are provided as Attachment 1. Table 1 presents a summary of the operating limits.

The waste component operating limits were established according to the approach presented to Pogo by EPA during a September 18, 2013 teleconference meeting. On each test day, the waste composition consisted of different percentages of the three components: MSW, sewage sludge, and cleanup adsorbs. The highest percentage of each waste component that was burned on one of those days established its upper bound. The waste composition's highest sludge percentage, 49 percent, occurred on test-day 1, and therefore the upper bound for sludge was established at 49 percent. Similarly, 27 percent adsorbs and 76 percent MSW were established as upper bounds on test-days 2 and 3, respectively.

TABLE 1
OPERATING LIMITS - POGO INCINERATOR UNIT ID 412

PARAMETER	OPERATING LIMIT	AVERAGING PERIOD
Waste charge rate	Maximum charge weight = 53 lb	Rolling 1-hr average
Waste charge interval	Minimum charge interval = 15 min	none
Temperature of the primary combustion chamber	Minimum primary combustion chamber temperature = 1,381 °F	Rolling 3-hr average (of 1-min DAS measurements[2])
Temperature of the secondary combustion chamber	Minimum secondary combustion chamber temperature = 1,813 °F	Rolling 3-hr average (of 1-min DAS measurements[2])
Primary combustion chamber burn time	Minimum duration of primary chamber burndown cycle = 5 hr after final waste charge each operating day	none
Secondary combustion chamber burn time	Minimum duration of secondary chamber burndown cycle = 2 hr after completion of primary burndown cycle	none
Waste Composition	Maximum daily percent (by weight) of a given waste component: MSW[1] = 76% Sludge = 49% Adsorbs = 27%	Rolling 3-day average of daily waste-component percents

[1]MSW = municipal solid waste, and consists of the combined weights of Type II (dry) and Type III (wet) wastes

[2]Data acquisition system (DAS) to be installed and used for continuous monitoring of primary- and secondary-chamber temperatures, as well as waste charge rate, waste charge interval, and primary and secondary burndown times

ATTACHMENT 1

OPERATING LIMIT CALCULATIONS

Pogo Mine Incinerator Performance Test - Sep/Oct 2013
Measured & Rolling 1-hr Average Waste-Load Weights

Date & Run ID	Waste Charge Wt (lb) Measured	1-Hr Average*
29-Sep I5-1	37	
	42	
	50	
	53	46
	47	48
	62	53
29-Sep I29-1	43	51
	45	49
	53	51
	47	47
	45	48
29-Sep I23-1	42	47
	51	46
	44	46
	42	45
	43	45
	38	42
	41	41
	33	39
30-Sep I23-2	44	39
	45	41
	53	44
	45	47
	49	48
	44	48
	45	46
	46	46
30-Sep I5-2	44	45
	41	44
	44	44
	40	42
	42	42
30-Sep I29-2	42	42
	46	43
	44	44
	47	45
	43	45
	43	44
	50	46
	50	47
1-Oct I29-3	61	51
	46	52
	43	50
	46	49
	40	44
	45	44
	44	44
	45	44
1-Oct I23-3	56	48
	47	48
	44	48
	50	49
	61	51
	50	51
	49	53
	53	53
1-Oct I5-3	40	48
	43	46
	47	46
	43	43
	50	46
Maximum		53

*Rolling 1-hr average based on assumed charge interval of approx. 15 minutes

Pogo Mine Incinerator Performance Test - Sep/Oct 2013
Measured & Rolling 1-hr Average Waste Charge Intervals

Date & Run ID	Waste Charge Interval (min)
29-Sep I5-1	16
	16
	16
	17
	16
29-Sep I29-1	16
	16
	15
	16
29-Sep I23-1	16
	17
	16
	16
	16
	16
	17
30-Sep I23-2	15
	16
	16
	16
	16
	16
	16
30-Sep I5-2	16
	16
	16
	16
30-Sep I29-2	16
	16
	16
	16
	16
	16
	16
1-Oct I29-3	16
	16
	16
	16
	16
	16
	16
1-Oct I23-3	16
	16
	16
	16
	16
	16
	16
1-Oct I5-3	17
	16
	16
	16
Minimum	**15**

Pogo Mine Incinerator Performance Test - Sep/Oct 2013

Measured & Rolling 1-hr Average Temperatures (°F) - Primary and Secondary Combustion Chambers

Day 1	min	Primary Chamber Measured*	Primary Chamber 3-hr Ave	Secondary Chamber Measured*	Secondary Chamber 3-hr Ave
09/29/13 I5-1	0	1440	-	1832	-
	5	1566	-	1835	-
	10	1416	-	1827	-
	15	1381	-	1835	-
	20	1475	-	1832	-
	25	1494	-	1816	-
	30	1488	-	1836	-
	35	1485	-	1837	-
	40	1543	-	1831	-
	45	1431	-	1825	-
	50	1457	-	1817	-
	55	1482	-	1827	-
	60	1428	-	1835	-
	65	1475	-	1826	-
	70	1403	-	1822	-
	75	1421	-	1815	-
	80	1551	-	1819	-
	85	1445	-	1817	-
	90	1453	-	1834	-
	95	1480	-	1836	-
	100	1515	-	1838	-
	105	1596	-	1838	-
	110	1512	-	1838	-
09/29/13 I29-1	115	1482	-	1834	-
	120	1539	-	1833	-
	125	1606	-	1830	-
	130	1551	-	1822	-
	135	1533	-	1834	-
	140	1590	-	1827	-
	145	1625	-	1819	-
	150	1574	-	1817	-
	155	1542	-	1833	-
	160	1590	-	1826	-
	165	1516	-	1817	-
	170	1453	-	1816	-
	175	1435	-	1834	-
	180	1508	1501	1832	1828
	185	1542	1500	1819	1828
	190	1484	1502	1819	1827
	195	1468	1505	1816	1827
	200	1520	1506	1833	1827
	205	1483	1506	1824	1827
09/29/13 I23-1	210	1391	1503	1836	1827
	215	1464	1502	1832	1827
	220	1434	1499	1819	1827
	225	1400	1499	1821	1827
	230	1392	1497	1822	1827
	235	1425	1495	1836	1827
	240	1402	1494	1821	1827
	245	1487	1495	1837	1827
	250	1473	1497	1831	1827
	255	1522	1500	1820	1827
	260	1470	1497	1826	1827
	265	1419	1497	1825	1828
	270	1418	1496	1827	1827
	275	1427	1494	1833	1827
	280	1409	1491	1819	1827
	285	1443	1487	1831	1827
	290	1419	1484	1824	1826
	295	1423	1483	1835	1826
	300	1480	1481	1836	1826
	305	1418	1476	1817	1826
	310	1412	1472	1838	1826
	315	1474	1470	1821	1826
	320	1480	1467	1821	1826
	325	1472	1463	1837	1826
	330	1470	1460	1821	1827
	335	1553	1460	1825	1826
	340	1491	1458	1834	1827
	345	1468	1456	1822	1827
	350	1453	1456	1837	1827
	355	1558	1460	1837	1827
	360	1508	1460	1837	1827
	365	1472	1458	1826	1828
Min =		1381	1456	1815	1826
Ave =		1480	1485	1828	1827

Day 2	min	Primary Chamber Measured*	Primary Chamber 3-hr Ave	Secondary Chamber Measured*	Secondary Chamber 3-hr Ave
09/30/13 I23-2	0	989	-	1770	-
	5	806	-	1521	-
	10	1103	-	1758	-
	15	1151	-	1779	-
	20	1129	-	1775	-
	25	1287	-	1833	-
	30	1485	-	1815	-
	35	1387	-	1814	-
	40	1373	-	1824	-
	45	1431	-	1818	-
	50	1411	-	1831	-
	55	1384	-	1832	-
	60	1362	-	1818	-
	65	1412	-	1829	-
	70	1363	-	1825	-
	75	1337	-	1819	-
	80	1334	-	1832	-
	85	1390	-	1820	-
	90	1445	-	1827	-
	95	1447	-	1825	-
	100	1455	-	1826	-
	105	1480	-	1825	-
	110	1440	-	1826	-
	115	1417	-	1820	-
	120	1412	-	1819	-
	125	1476	-	1826	-
	130	1483	-	1824	-
	135	1479	-	1875	-
	140	1477	-	1819	-
	145	1528	-	1818	-
	150	1494	-	1826	-
	155	1440	-	1834	-
09/30/13 I5-2	160	1470	-	1823	-
	165	1582	-	1828	-
	170	1578	-	1826	-
	175	1517	-	1825	-
	180	1507	1397	1825	1813
	185	1577	1418	1830	1821
	190	1501	1429	1832	1823
	195	1445	1437	1819	1825
	200	1432	1446	1835	1826
	205	1442	1450	1828	1826
	210	1406	1448	1834	1827
	215	1504	1451	1835	1827
	220	1405	1452	1822	1827
	225	1522	1454	1834	1828
	230	1455	1456	1820	1827
	235	1405	1456	1819	1827
	240	1395	1457	1835	1827
	245	1538	1461	1826	1827
	250	1504	1464	1822	1827
	255	1472	1468	1819	1827
09/30/13 I29-2	260	1423	1471	1822	1827
	265	1514	1474	1820	1827
	270	1456	1474	1830	1827
	275	1408	1473	1824	1827
	280	1400	1472	1825	1827
	285	1546	1474	1821	1827
	290	1535	1476	1836	1827
	295	1523	1479	1820	1827
	300	1519	1482	1823	1827
	305	1618	1486	1826	1827
	310	1654	1491	1821	1827
	315	1622	1495	1828	1826
	320	1618	1499	1851	1827
	325	1679	1503	1822	1827
	330	1621	1506	1820	1827
	335	1576	1510	1820	1826
	340	1571	1513	1834	1827
	345	1597	1513	1819	1826
	350	1540	1512	1825	1826
	355	1512	1512	1833	1827
	360	1511	1512	1826	1827
	365	1541	1511	1836	1827
	370	1583	1514	1824	1827
	375	1553	1517	1820	1827
	380	1551	1520	1838	1827
	385	1477	1521	1834	1827
	390	1469	1523	1836	1827
	395	1440	1521	1833	1827
	400	1433	1522	1821	1827
	405	1576	1523	1822	1826
	410	1631	1528	1826	1827
	415	1684	1536	1830	1827
Min =		806	1397	1521	1813
Ave =		1460	1483	1820	1826

Day 3	min	Primary Chamber Measured*	Primary Chamber 3-hr Ave	Secondary Chamber Measured*	Secondary Chamber 3-hr Ave
10/01/13 I29-3	0	1085	-	1817	-
	5	1184	-	1819	-
	10	1183	-	1816	-
	15	1169	-	1818	-
	20	1164	-	1824	-
	25	1186	-	1831	-
	30	1173	-	1818	-
	35	1168	-	1828	-
	40	1166	-	1825	-
	45	1360	-	1820	-
	50	1339	-	1830	-
	55	1311	-	1827	-
	60	1305	-	1817	-
	65	1429	-	1826	-
	70	1477	-	1834	-
	75	1426	-	1819	-
	80	1439	-	1821	-
	85	1447	-	1825	-
	90	1433	-	1830	-
	95	1457	-	1818	-
	100	1454	-	1833	-
	105	1452	-	1821	-
	110	1433	-	1820	-
	115	1476	-	1819	-
	120	1476	-	1834	-
	125	1410	-	1819	-
	130	1441	-	1822	-
	135	1461	-	1823	-
	140	1457	-	1835	-
	145	1495	-	1833	-
	150	1404	-	1829	-
	155	1493	-	1829	-
10/01/13 I23-3	160	1400	-	1817	-
	165	1588	-	1838	-
	170	1529	-	1822	-
	175	1438	-	1835	-
	180	1503	1381	1832	1825
	185	1507	1390	1827	1825
	190	1419	1397	1831	1826
	195	1451	1405	1818	1826
	200	1440	1412	1821	1826
	205	1510	1421	1819	1825
	210	1450	1429	1825	1826
	215	1402	1436	1819	1825
	220	1391	1442	1821	1825
	225	1524	1446	1819	1825
	230	1433	1449	1829	1825
	235	1451	1453	1821	1825
	240	1484	1458	1830	1825
	245	1460	1459	1821	1825
	250	1403	1457	1821	1825
	255	1456	1457	1830	1825
	260	1437	1457	1822	1825
	265	1590	1461	1822	1825
	270	1593	1466	1836	1825
	275	1555	1469	1822	1825
	280	1531	1471	1825	1825
	285	1658	1476	1837	1826
	290	1633	1482	1836	1826
	295	1587	1485	1824	1826
	300	1574	1488	1821	1826
	305	1679	1495	1843	1827
	310	1736	1503	1830	1827
	315	1782	1512	1822	1827
10/01/13 I5-3	320	1458	1512	1834	1827
	325	1556	1514	1837	1827
	330	1508	1517	1821	1827
	335	1450	1516	1825	1826
	340	1433	1517	1819	1827
	345	1539	1515	1833	1826
	350	1478	1514	1823	1826
	355	1430	1514	1828	1826
	360	1419	1511	1821	1826
	365	1469	1510	1819	1826
	370	1406	1510	1835	1826
	375	1481	1511	1831	1826
	380	1501	1512	1829	1826
	385	1563	1514	1837	1827
	390	1475	1515	1823	1827
	395	1424	1515	1819	1827
	400	1413	1516	1828	1827
	405	1561	1517	1820	1827
	410	1537	1520	1824	1827
	415	1500	1521	1835	1827
Min =		1085	1381	1816	1825
Ave =		1447	1478	1826	1826

*Combustion chamber temperature recorded manually at 5-minute intervals

Minimum Rolling 3-hr Average Temperatures

Primary Chamber = 1381 F

Secondary Chamber = 1813 F

Pogo Mine Incinerator Performance Test - Sep/Oct 2013
Waste Component Percentages - Test Day 1

Date	Run #	Charge #	Type II (lb)	Type III (lb)	Sludge (lb)	Adsorbs (lb)	TOTAL (lb)
9/29/2013	I-5-1	1	37				37
		2			27	15	42
		3	20	30			50
		4			33	20	53
		5	27	20			47
		6			30	32	62
	I-29-1	1	15	28			43
		2			29	16	45
		3	19		34		53
		4			30	17	47
		5	10		35		45
	I-23-1	1	14		28		42
		2	22		29		51
		3	16		28		44
		4			28	14	42
		5			29	14	43
		6			29	10	39
		7			30	11	41
		8		21		12	33
		TOTAL	180	99	419	161	859

Component	MSW[1]	Sludge	Adsorbs
Percent	32%	49%	19%

[1]MSW = Type II + Type III

Pogo Mine Incinerator Performance Test - Sep/Oct 2013
Waste Component Percentages - Test Day 2

Date	Run #	Charge #	Type II (lb)	Type III (lb)	Sludge (lb)	Adsorbs (lb)	TOTAL (lb)
9/30/2013	I-23-2	1		34		10	44
		2	18	27			45
		3		35		18	53
		4	29	16			45
		5			30	19	49
		6	24	20			44
		7			28	17	45
		8			30	16	46
	I-5-2	1	20	24			44
		2			28	13	41
		3			28	16	44
		4			29	11	40
		5			29	13	42
	I-29-2	1	13		29		42
		2		29		17	46
		3		24		20	44
		4		36		11	47
		5			29	14	43
		6		29		14	43
		7			28	22	50
		8			30	20	50
		TOTAL	104	274	318	251	947

Component	MSW[1]	Sludge	Adsorbs
Percent	40%	34%	27%

[1]MSW = Type II + Type III

Pogo Mine Incinerator Performance Test - Sep/Oct 2013
Waste Component Percentages - Test Day 3

Date	Run #	Charge #	Type II (lb)	Type III (lb)	Sludge (lb)	Adsorbs (lb)	TOTAL (lb)
10/1/2013	I-29-3	1	23	38			61
		2	27	19			46
		3	26	17			43
		4	20	26			46
		5		30		10	40
		6	16	29			45
		7			30	14	44
		8	21	24			45
	I-23-3	1	25	31			56
		2		37		10	47
		3			28	16	44
		4	23	27			50
		5		48		13	61
		6	22	28			50
		7		33		16	49
		8			28	25	53
	I-5-3	1	21	19			40
		2	10	33			43
		3	17	30			47
		4	24	19			43
		5			29	21	50
		TOTAL	275	488	115	125	1003

Component	MSW[1]	Sludge	Adsorbs
Percent	76%	11%	12%

[1]MSW = Type II + Type III