

APPLICATION REVIEW

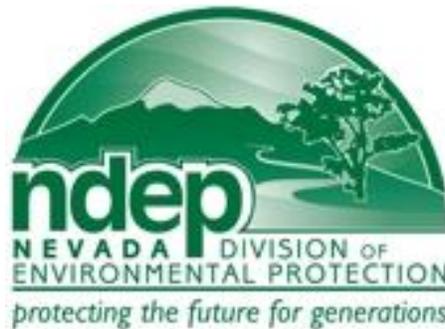
AND DETERMINATION OF INITIAL COMPLIANCE

FOR:

NEWMONT MINING CORPORATION

Elko County, Nevada; HA – 51

**Class I (Title V) Air Quality Operating Permit
AP1041-0793 (Minor Revision)
FIN A0002, Gold Quarry Operations Area
Air Case #7402**



BY

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR POLLUTION CONTROL

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MARCH 2013



1.0 INTRODUCTION

On October 29, 2012, Newmont Mining Corporation – Gold Quarry Operations Area (NMC) submitted an application for a minor revision to System 3 and System 42 in Class I Air Quality Operating Permit (AQOP), AP1041-0793 (Air Case # 7233). The Nevada Division of Environmental Protection - Bureau of Air Pollution Control (BAPC) determined NMC's application incomplete on November 9, 2012. On November 16, 2012, NMC submitted a new minor revision application (Air Case #7248) to Class I AQOP AP1041-0793. The BAPC determined NMC's application administratively complete on November 30, 2012. On March 15, 2013, NMC requested that the minor revision application (Air Case #7248) be withdrawn. A new minor revision application was also received on March 15, 2013. The BAPC determined NMC's application administratively complete on March 18, 2013.

NMC is accessed from I-80 at Exit 280 (State Route 766), 6 miles northwest of Carlin, Nevada. NMC is located within Section 13, T33N/T34N, R51E/52E; Sections 19/29/30/32, T35N, R50E/R51E. NMC is located in Hydrographic Area (HA) 51. HA 51, Maggie Creek Area, is currently unclassified for PM₁₀, NO_x, CO, SO₂, O₃, and lead criteria pollutants, which have an ambient air quality standard.

The Standard Industrial Classification (SIC) code for this facility is 1041 (Gold Ore Processing).

1.1 PROPOSED MODIFICATIONS

A description of the complete NMC operation was detailed with the Class I Air Quality Operating Permit that was issued February 25, 2004. This minor revision review will only address the proposed revisions.

1.1.1 System 3 – Mill 5 Ore Reclaim Transfer to SAG Mill and Cone Crusher Circuit (S2.001 – S2.013)

The Mill 5 Cone Crusher building which houses System 3 – Mill 5 Ore Reclaim Transfer to SAG Mill and Cone Crusher Circuit (S2.001 – S2.013) has experienced an increase in silica concentrations over the last several years. In order to address the employee health and safety risks associated with elevated silica concentrations, NMC proposes to replace the Wet Scrubber on System 3 (2300-DC-02) with a Wet Dynamic Scrubber. The duct work and fan associated with System 3 will also be replaced. The new Wet Dynamic Scrubber will increase the maximum volume flow rate from 14,280 dscfm to 22,400 dscfm. This includes an increase in PM/PM₁₀ emissions from 2.67 lbs/hr to 3.84 lbs/hr for the system.

NAC445B.22033, a Federally Enforceable SIP Requirement, defines the maximum allowable emission rate for Particulate Matter < 10 microns in diameter (PM₁₀). NAC445B.22033 only applies to PM₁₀ and has superseded SIP 445.732, which applied to Particulate Matter > 10 microns in diameter (PM). This minor revision required some regulatory changes to be made to the permit regarding the maximum allowable emission rates. The first change required the elimination of the PM limit of 663.60 lb/hr previously calculated from SIP 445.732 for PM. This does not affect the PM emission limit of 3.84 lb/hr, which the facility will be subject to after the revision. The second change required an update of the PM₁₀ maximum allowable emission rate. The previously permitted limit of 746.55 lb/hr for PM₁₀ was incorrect and after using the calculation required by NAC445B.22033.3 it has been determined that the correct maximum allowable emission rate should be 82.95 lb/hr for PM₁₀. This does not affect the PM₁₀ emission limit of 3.84 lb/hr, which the facility will be subject to after the revision.



2.0 APPLICABLE REGULATIONS

Applicable requirements are those regulatory requirements that apply to a stationary source or to emissions units contained within the stationary source. In Nevada’s program, the regulations governing the emissions of air pollutants from which the applicable requirements originate are derived from four categories of regulations. These four categories consist of the requirements contained in the Nevada Revised Statute (NRS), the Nevada Administrative Code (NAC), the Applicable State Implementation Plan (ASIP), and the Code of Federal Regulations (CFR, contained in various Parts within Title 40).

2.1 GENERALLY APPLICABLE REQUIREMENTS

Of the four categories of regulations governing emissions of air pollutants, there are many generally applicable requirements that apply to stationary sources and emission units located at a stationary source. A comprehensive summary of all the generally applicable permit requirements is contained in Sections I through V of the current operating permit.

2.2 SPECIFIC APPLICABLE REQUIREMENTS

A summary of the specific applicable requirements for System 3 (S2.001 – S2.013) are contained in Table 2.2 - 1. These requirements are included in Section VI of the proposed operating permit, which is provided in Appendix 1, BAPC Draft Class I AP1041-0793 (Minor Revision).

TABLE 2.2 - 1 - List of Emission Units and Associated Specific Applicable Standards							
EU #	Unit Description	Applicable Standards					
		NAC (445B)	SIP (NAC 445B)	NSPS (Part 60)	NESHAPS (Parts 61, 63)	PSD (Part 52)	Acid Rain (Parts 72-78)
S2.001–S2.013	System 3 – Mill 5 Ore Reclaim Transfer to SAG Mill and Cone Crusher Circuit	.3405, .305, .22017, .22033, .252	.22017, .22033, .252	Subpart LL	N/A	N/A	N/A

2.3 NEVADA REVISED STATUTES

The Nevada Revised Statutes (NRS) are the current codified laws of the State of Nevada. The NRS is the statutory authority for the adoption and implementation of administrative regulations. The statutes relating to the control of air pollution are contained in Title 40, Public Health and Safety, Chapter 445B, Air Pollution, NRS 445B.100 through NRS 445B.640. The NRS specifies that the State Environmental Commission is the governing body given the power to adopt administrative regulations. Because the NRS is the enabling statutory authority, very few specific requirements are contained in the statutes. Rather, the NRS provides, generally, broad authority for the adoption and implementation of air pollution control regulations. The NMC facility will be subject to the NRS and will need to comply with all applicable regulations under the NRS. The NRS may be viewed at the following website:

<http://www.leg.state.nv.us/NRS/Index.cfm>



2.0 APPLICABLE REGULATIONS (continued)

2.4 NEVADA ADMINISTRATIVE CODE

The Nevada Administrative Code (NAC) contains the regulations that have been adopted by the State Environmental Commission (SEC), pursuant to the authority granted by the Nevada Revised Statutes (NRS), relating to the control of air pollution. The NAC requires that, where State regulations are more stringent in comparison to Federal regulations, the State regulations are applicable. The NAC sets forth, by rule, maximum emission standards for visible emissions (opacity), PM₁₀ (particulate matter less than 10 microns in diameter) and sulfur emitting processes. Other requirements are established for incinerators, storage tanks, odors and maximum concentrations of criteria air pollutants in the ambient air. Other NAC regulations specify the requirements for applying for and method of processing applications for operating permits. All the equipment considered in this application must meet, at a minimum, the applicable standards and requirements set forth in the NAC, specifically, the emission standards contained in NAC 445B.22027 through 445B.22033 for particulate matter, 445B.2204 through 445B.22047 for sulfur emissions, 445B.22017 for opacity, and the Nevada Ambient Air Quality Standards as set forth in NAC 445B.310 through 445B.311. The NAC may be viewed at the following website:

<http://www.leg.state.nv.us/NAC/CHAPTERS.HTML>

2.5 NEVADA APPLICABLE STATE IMPLEMENTATION PLAN

The Applicable State Implementation Plan (ASIP) is a document that is prepared by a state or local air regulatory agency and required to be submitted to the U.S. EPA for approval. Title I of the Clean Air Act is the statutory authority for the U.S. EPA regulations that require a State to submit an ASIP. The contents of the ASIP are intended to show how a state, through the implementation and enforcement of the regulations contained in the ASIP, will either show how attainment of the national ambient air quality standards (NAAQS) will be achieved or how a state will continue to maintain compliance with the NAAQS.

2.6 CODE OF FEDERAL REGULATIONS

The Code of Federal Regulations (CFR) are regulations adopted by the U.S. EPA and published in the Federal Register pursuant to the authority granted by Congress in the Clean Air Act. The CFR addresses multiple aspects, including but not limited to, permitting requirements, performance standards, testing methods, and monitoring requirements. The CFRs may be viewed online at the following website: <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>



2.0 APPLICABLE REGULATIONS (continued)

2.6 CODE OF FEDERAL REGULATIONS (continued)

2.6.1 NEW SOURCE PERFORMANCE STANDARDS

Section 111 of the Clean Air Act, “Standards of Performance of New Stationary Sources,” (NSPS) requires EPA to establish federal emission standards for source categories which cause or contribute significantly to air pollution. Each NSPS defines the facilities subject to these requirements and prescribes emission limits for specified pollutants, compliance requirements, monitoring requirements, and test methods and procedures. These standards are intended to promote use of the best air pollution control technologies, taking into account the cost of such technology and any other non-air quality, health, and environmental impact and energy requirements. These standards apply to sources which have been constructed or modified since the proposal of the standard. Since December 23, 1971, the Administrator has promulgated 88 such standards and associated test methods. These standards can be found in the CFR at Title 40 (Protection of Environment), Part 60 (Standards of Performance for New Stationary Sources).

Generally, state and local air pollution control agencies are responsible for implementation, compliance assistance, and enforcement of the NSPS. EPA retains concurrent enforcement authority and is also available to provide technical assistance when a state or local agency seeks help. EPA also retains a few of the NSPS responsibilities such as the ability to approve alternative monitoring methods to maintain a minimum level of national consistency.

NMC is subject to NSPS Subpart LL requirements.

2.6.2 FEDERAL NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

NESHAP for hazardous air pollutants (HAPs) are established in the CFR pursuant to Section 112 of the Clean Air Act Amendments of 1990. These standards regulate air pollutants that are believed to be detrimental to human health. The NESHAP program applies to all sources, both existing and new. These standards are codified in Title 40 CFR Parts 61 and 63.

Part 61, which predates the Clean Air Act Amendments of 1990, includes specific standards, reporting and recordkeeping requirements, and test methods for the initial eight hazardous air pollutants: asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride. The regulations covering these eight hazardous air pollutants focused on health-based considerations. NESHAPs were established for certain operations that commonly emit the eight hazardous air pollutants.

Other substances were included for consideration due to the serious health effects, including cancer, which may occur from ambient air exposure to those substances. However, no specific restrictions were placed on facilities that used or released these compounds.

Under the Clean Air Act Amendments of 1990, Congress greatly expanded the Air Toxics program, creating a list of 189 substances to be regulated as hazardous air pollutants. Rather than regulating individual pollutants by establishing health-based standards, the new Air Toxics program granted EPA the authority to regulate specific industrial major source categories with NESHAPs based on maximum achievable control technology (MACT) for each source category. Thus, a number of NESHAPs have been established to regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants.



2.0 APPLICABLE REGULATIONS (continued)

2.6 CODE OF FEDERAL REGULATIONS (continued)

2.6.2 FEDERAL NESHAP (CONTINUED)

The standards in 40 CFR Part 63 are independent of the NESHAPs contained in 40 CFR Part 61 which remain in effect until they are amended, if appropriate, and added to this part. More information on NESHAPs can be found at the EPA Unified Air Toxics Website (<http://www.epa.gov/ttn/atw/>).

NESHAPs may cover both major sources and area sources in a given source category. Major sources are defined as those facilities emitting, or having the potential to emit, 10 tons per year or more of one Hazardous Air Pollutant (HAP) or 25 tons per year or more of multiple HAPs. Major sources are required to comply with MACT standards. Area Sources are defined as those facilities that are not major sources.

NMC is not subject to any NESHAP standards for this minor modification.

2.6.3 PREVENTION OF SIGNIFICANT DETERIORATION DETERMINATION

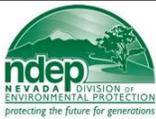
The Prevention of Significant Deterioration (PSD) permitting program is a Clean Air Act permitting program for new and modified major stationary sources of air pollution. Implementation of the federal PSD regulations is delegated to the State of Nevada by U.S. EPA and these regulations are contained at 40 CFR Part 52.21. Therefore, BAPC implements the federal PSD regulations directly. These regulations specify federally required permitting procedures for each "major stationary source".

"Major" is defined as the potential to emit of a stationary source, which equals or exceeds a specified threshold (in tons per year) of any air pollutant regulated under the Clean Air Act (40 CFR 52.21(b)(1)). The first threshold is for a stationary source that emits or has the potential to emit 100 tons per year or more of any regulated NSR pollutant and is defined as one of 28 specific categories of sources (see 40 CFR 52.21(b)(1)(i)(a)). The other applicability threshold is for any other stationary source that emits or has the potential to emit 250 tons per year of any regulated NSR pollutant (see 40 CFR 52.21(b)(1)(i)(b)).

NMC is an existing major stationary source for several pollutants (see Section 3.0). NMC's Title V renewal permit was received on June 30, 2008 (in process). Since then, various applications for revision to the Title V permit have been processed. No previous application for revision has triggered PSD permitting requirements, nor has there been a determination that any of those projects require aggregation.

For the purposes of determining whether a project or group of related projects would have a significant net emissions increase, current NSR rules say that a group of related modifications must be aggregated to establish the PTE for the project. The BAPC has determined that project aggregation is not required for the current permit action, because the proposed revisions are not related to any other past modifications of NMC's Title V permit.

In its permit application, NMC submitted an analysis of the change in emissions resulting from the proposed action using the two-year (24-month) period January 2007 through December 2008 for System 3 as the baseline for actual production throughput. The BAE is based on actual production throughputs in the baseline periods, whereas PAE is based on the proposed operating throughputs. The potential emissions increase (PEI) is calculated by subtracting the BAE from the PAE.



2.0 APPLICABLE REGULATIONS (continued)

2.6.3 PREVENTION OF SIGNIFICANT DETERIORATION DETERMINATION (continued)

As shown below in **Table 2.6.3-1**, the proposed minor revision will not result in any increases in an applicable criteria pollutant in excess of the Significant Emission Thresholds [re: 40 CFR 52.21(b)(23)(i)] for PSD/NSR review purposes.

Emissions of GHG's are not impacted by this permit revision, nor are emissions of HAPs.

Based on these considerations, NMC - GQ's minor revision permit application is minor for PSD; no other permitted operating conditions need to be revised to ensure that the proposed action constitutes a minor modification.

Table 2.6.3-1: Summary of PSD Applicability Analysis

Newmont Mining Corporation - Gold Quarry - March 2013 Application for Minor Revision

Pollutant	PAE (System 3) (tons/yr)	BAE (System 3) (tons/yr)	Total PEI (tons/yr)	PSD Significance Level (SEI) (tons/yr)
PM	16.82	4.75	12.06	25
PM ₁₀	16.82	4.75	12.06	15
PM _{2.5}	9.63	2.72	6.91	10

Note: Total PEI for each regulated NSR pollutant is below the PSD Significance Level for that pollutant. Therefore, Gold Quarry's March 2013 application qualifies as a PSD minor revision.

2.6.4 COMPLIANCE ASSURANCE MONITORING (CAM) – 40 CFR Part 64

Compliance Assurance Monitoring (CAM) plans are required for major sources required to obtain Title V (Part 70 or 71) permits. The CAM rule was signed on October 3, 1997 and came into effect on November 21, 1997. The U.S. EPA developed the CAM rule to focus on monitoring of certain operating parameters to ensure compliance with emission limitations in-between scheduled source tests. CAM requirements apply to stationary sources that: (1) are equipped with post-process pollutant control devices; (2) have pre-control device emissions equal to or greater than 100% of the major source threshold for a pollutant; and (3) are subject to the Title V permit program.

The BAPC has determined that NMC is not required to submit a CAM plan at this time.



3.0 EMISSIONS INVENTORY

3.1 PROPOSED EMISSIONS

The facility-wide emissions inventory summary for the NMC, is presented in Table 3.1-1. As can be seen, the PTE for PM and PM₁₀, indicates that NMC is a major stationary source for these pollutant, since the PTE exceeds the PSD major source threshold of 250 tpy. All other regulated pollutants (except VOC's) are over 100 tons per year. PM_{2.5} emissions are not included in the inventory, nor are PM_{2.5} limits set forth in the draft Permit, because the BAPC has not yet adopted PM_{2.5} into the Nevada Administrative Code.

Table 3.1-1						
Newmont Mining Corporation - Gold Quarry Operations Area						
Changes to Class I Facility Wide Potential to Emit (PTE) March 2013						
System	Annual Emission (tons/yr)					
	PM	PM₁₀	SO₂	NO_x	CO	VOC
Facility Wide PTE - Class I AP1041-0793; Class I OPTC AP1041-2971 (excluding minor rev)	511.56	330.38	221.115	244.51	195.96	38.60
Total Facility Wide PTE (Class I, Class I OPTC, minor mod)	516.67	335.49	221.12	244.51	195.96	38.60
Net Change	5.11	5.11	0	0	0	0



4.0 AMBIENT AIR IMPACT ANALYSIS

4.1 INTRODUCTION/ PURPOSE

The purpose of this analysis is to determine the likely air quality impacts resulting from operation of NMC after the changes to System 3 (S2.001 – S2.013).

4.2 CLASSIFICATION OF AIR BASIN

NMC is located in Air Quality Hydrographic Basin (HA) 51, Maggie Creek Area. HA 51 is currently unclassified for all criteria pollutants. The unclassifiable designation has been developed due to lack of available monitoring data to properly classify the air basin. HA 51 is not triggered for PSD increment.

4.3 AIR QUALITY MODELING ANALYSIS

4.3.1 AIR DISPERSION MODEL

The BAPC performed the requisite air dispersion modeling analysis, to determine likely air quality impacts for the proposed operation, using Lakes Environmental's *AERMOD-View* graphical-user interface to input source information, generate receptors, and to actually run AERMOD (v. 12060). The model included emission units already permitted in NMC's Class I Permit AP1041-0793, the three new retorts added with the recent OPTC AP1041-2971, and the revised System 3.

4.3.2 AVERAGING PERIODS

The BAPC modeled only for the criteria pollutants, which would increase as a result of the modifications of System 3. This included only PM₁₀ (24-hour, Annual) emissions. The Nevada Ambient Air Quality Standards (AAQS) are listed in Table 4.4-1 and include model results generated by the BAPC. Demonstration of compliance with the Nevada AAQS is done by modeling the highest-first-high (H1H) concentration for each pollutant for short-term averaging periods. A demonstration of compliance with the PM_{2.5}, 1-hour SO₂, and 1-hour NO₂ standards are not yet required, because the BAPC has not yet adopted these standards into the Nevada Administrative Code.

4.3.3 SOURCE PARAMETERS

Source input parameters were provided by the BAPC. No hour-of-day scalars (HROFDY) were used in the modeling. All emission sources were modeled at their maximum (or higher) hourly emission rates. All emission sources were referenced to the UTM NAD 83 project datum, as were buildings, fenceline corners, and receptors. For PM₁₀ modeling, there were numerous point and volume sources in the model.

4.3.4 RECEPTORS

Plant boundary receptors were spaced at 25 meter intervals, with a proximal, uniform Cartesian, "fenceline" receptor array spaced at 100 meter intervals, out to a distance of 1000 meters from the boundary of the project or 2,000 meters from the all project emission sources, whichever is greater. A total of 5,951 receptors were included in the model.

4.3.5 METEOROLOGICAL DATA

One-year of on-site meteorological data (09/01/03 – 08/31/04 – collected by Newmont Nevada Energy Investment, LLC from its TS Power Plant Site) was used for modeling. Elko upper air data was also used for this time period. Due to NMC's close proximity to TS Power, (approximately 16 miles) the use of the one-year of on-site meteorological data from TS-Power for air dispersion modeling will satisfy EPA and NAC requirements (NAC 445B.311) for met data.



4.0 AMBIENT AIR IMPACT ANALYSIS (CONTINUED)

4.3.6 BUILDING DOWNWASH

In accordance with current U.S. EPA and BAPC guidelines, building downwash was considered for all model runs. Building downwash effects were evaluated using the BPIP-PRIME algorithm to calculate projected building heights and widths for each point source in the model. This information is used by AERMOD to determine whether plume dispersion from a particular point source will be influenced by building downwash. In general, building downwash will cause the model to generate higher pollutant concentrations at the closest point of public access.

4.3.7 TERRAIN

AERMOD requires that elevated terrain be considered in air dispersion modeling analyses. Therefore, elevations were processed in AERMAP (v. 11103) using the NAD 27 DEM files for the SCHROEDER MOUNTAIN (8240_75m.dem), WELCHES CANYON (8241_75m.dem), EMIGRANT PASS (9626_75m.dem), and the CARLIN WEST (9626_75m.dem) 7.5-minute U.S.G.S. quadrangles. AERMAP performed the necessary conversions between the NAD 27 DEM datum and the NAD 83 project datum.

4.3.8 BACKGROUND CONCENTRATIONS

The BAPC does not operate any ambient monitoring sites in the vicinity of NMC. Therefore, PM₁₀ backgrounds of 10.2 µg/m³ and 9 µg/m³ were used for the 24-hour and annual averaging periods, respectively.

4.4 AIR QUALITY IMPACT ASSESSMENT

Results of air dispersion modeling are presented in Table 4.4-1. As can be seen, operation of NMC with the proposed changes to System 3 (S2.001 – S2.013) will not result in violations of the Nevada AAQS, because the total impacts are less than the applicable AAQS values.

Table 4.4-1							
Newmont Mining Corporation - Gold Quarry Operations Area - Minor Mod Class I AP1041-0793							
NBAPC Model - Ambient Air Quality Impact Analysis - March 2013							
Pollutant	AAQS Averaging Period	NBAPC Check Model Met Year ³	NBAPC Model Maximums ¹	Backgr. Conc. ²	NBAPC Total Impact	AAQS	NBAPC Percent of Standard
			µg/m3	µg/m3	µg/m3	µg/m3	%
PM ₁₀	24-hr	2003 - 2004	27.76	10.2	38.0	150	25.31%
	Annual	2003 - 2004	3.4	9	12.4	50	24.80%

¹Note all first high's used
²PM10 backgrounds of 10.2 µg/m³ and 9 µg/m³ were used for the 24-hour and annual averaging periods, respectively.
³TS POWER 09/03-08/04 On-Site Meteorological Data used



5.0 CONCLUSIONS / RECOMMENDATIONS

Based on the above review and supporting data and analyses, operation of NMC, under the draft permit conditions, will not result in violations of any applicable ambient air quality standards. The BAPC has determined that this minor modification will not result in a significant change in air quality at any location where the public is present on a regular basis. Because this modification will not result in a significant change in the air quality, pursuant to NAC 445B.3395(8)(c) the provisions of NAC 445B.3395(6) and NAC 445B.3395(7), public notice provisions, do not apply. Therefore, we recommend that the draft facility-wide operating permit be formally issued, with those applicable requirements, conditions, and restrictions contained therein.

Appendix 1 - BAPC Draft Class I AP1041-0793 (Minor Revision)

Appendix 2 - Process Flow Diagram

Appendix 3 - Emission Spreadsheets

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Date

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Supervisor, Permitting Branch
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Date

Appendix 1

**BAPC Draft Class I
AP1041-0793 (Minor
Revision)**

**Newmont Mining
Corporation – Gold Quarry
Operations Area**

March 2013

Appendix 2

Process Flow Diagram

Newmont Mining Corporation – Gold Quarry Operations Area

March 2013

Appendix 3

Emission Spreadsheets

Newmont Mining Corporation – Gold Quarry Operations Area

March 2013