December 14, 2012

Mr. Jim Upchurch
Forest Supervisor
Coronado National Forest
300 West Congress
Tucson, Arizona 85701

Re: Response to December 4, 2012 Forest Service Letter

Dear Mr. Upchurch:

In response to your letter dated December 4, 2012 Rosemont provides the following responses. In order to organize this response Forest Service questions (italics) are followed by our responses.

1. Waste Rock Production Tonnage - Timing and Ratios

Rosemont's geochemical studies indicate that certain rock types, including the Willow Canyon Formation arkose, andesite, and quartz-monzonite porphyry are potentially acid generating (PAG). Rosemont's previously identified oxide ore is composed of 44,269,000 tons of arkose (63.26% of the oxide ore), 14,436,000 tons of quartz monzonite porphyry (20.63% of the oxide ore), and 11,270,000 tons of andesite (16.11 %). With dropping the oxide portion of the mining process and metal extraction, a significant percentage of this 69,975,000 tons of PAG will be now (presumably) be added to the waste rock pile rather than placed in a lined heap leach facility. The remainder of the material has been reclassified as sulfide ore and will be processed through the mill and concentrator with waste from the mill being disposed of in the unlined tailings facility. It is reasonable to conclude that placing the material in the waste rock pile and as waste in the dry stack tailings could create greater potential for acid drainage and metal release from these facilities, into drainages and groundwater. Therefore this potential needs to be thoroughly analyzed.

The premise as stated is neither reasonable nor correct. It is correct to say that a portion of the identified rock types may be classified as potentially acid generating (PAG). PAG is considered material that is classified as likely or uncertain to generate acidity.

As we have previously stated, the material testing protocols were based on an ore cutoff grade of 0.20% copper. The oxide grades are below that cutoff, therefore oxide ore was accounted for in the original geochemical test work for the project. In addition, leach materials that had gone through the column leach testing (already acidified for the recovery of copper) were tested for the potential to generate acid.

Characterizing these materials as PAG is inappropriate and incorrect, as reported in the table below which shows Net Neutralization Potential (taken from the Integrated Watershed Study):

Material Type	NNP Range		
	Less than -20 Likely Acid Generating	Between -20 and 20 Uncertain Acid Generation	Greater than 20 Non-Acid Generating
Arkose	2%	11%	87%
Andesite	13%	31.5%	55.5%
QMP	0%	12%	88%

As shown in the above table, although a portion of the arkose and andesite units can be classified as PAG on an NNP basis, the overwhelming majority must be considered non-PAG On the basis of Neutralization Potential Ratio (NPR) it can be seen in the table below (also from the Integrated Watershed Study):

Material Type	NPR Range		
	Less than 1 Likely Acid Generating	Between 1 and 3 Uncertain Acid Generation	Greater than 3 Non-Acid Generating
Arkose	0%	28%	72%
Andesite	3%	26%	72%
QMP	0%	78%	22%

These ratios show only a limited percentage can be considered likely acid generating, and approximately three-quarters of samples are classified as non-PAG.   Again, this shows most of the materials that may be leached would not be considered PAG. Additionally, if you examine the depth at which the andesite and arkose samples that were likely acid generating are mined, none are exposed before the pit reaches 180-220 feet and the rest are found at depths from greater than 400 feet. This will mean that a significant quantity of material will be mined before the likely acid generating materials.

There has been no change in any of the ratios sent to the Forest with respect to material placement.

Please address the following issues:
1a. The removal of the heap leaching process from the Preferred Alternative has the potential to modify the ratios of PAG waste rock to non-PAG waste rock during the first few years of mine life. Previous submittals by Rosemont in response to the Forest's December 20,2011, data request have been extremely useful in assessing these ratios, and in particular how these ratios change over the mine life, specifically the tech memo provided from Geochemical Solutions, dated February 9,2012. The Forest requests that Tables 1 and 3 from the February 9,2012, tech memo be updated, if necessary, to reflect both the removal of the heap leach and the updated 2012 feasibility study.

Please see the updated tables attached in the memorandum from Mark Williamson of Geochemical Solutions dated December 13, 2012.

1b. Stockpiling of PAG waste rock material for later placement, rather than immediate placement in the waste rock facilities, also has the potential to negate the ability of non-PAG waste rock to neutralize any acid rock drainage. Both the 2009 Aquifer Protection Permit and 2007 MPO make reference to stockpiling and re-handling of sulfide ore. Please provide details of the operation of these referenced stockpiles, specifically when and where the rock will be stockpiled, when it will be re-handled, and the type and acid-generation potential of the stockpiled rock.

Waste rock and stockpiles of sulfide ore have nothing to do with each other. The facility diagrams as shown and the permit files for the APP show both Temporary Stockpiles and the Coarse Ore Stockpile. The stockpiles and their locations are part of the APP permit issued for our facility. There is no acid-generating potential for the stockpiles as they do not remain in place long enough to be exposed to the elements and form acid. Stockpiles are used for temporary storage and the material is then processed. Any area used for temporary storage of ore will have to be permitted by ADEQ under the APP permit program for the protection of groundwater. None of the stockpiles are in areas where they are exposed to stormwater that could runoff.

1c. Similarly, please identify if any of the oxide ore formerly destined for the heap leaching operation will be stockpiled separately for potential processing at a later date, or if it will be incorporated into the waste rock facility immediately.

The oxide ore will be immediately placed with in the boundary of the waste rock facility.

1d. The overall ability of the waste rock pile to neutralize any acid generation, year-by-year, was analyzed in the June 2012 Integrated Watershed Summary, Figure 4-2. This analysis was quite useful. The Forest requests two items concerning this figure: 1) Please update to reflect the removal of the heap leach facility, and 2) please provide the underlying data in a table form as well as the graphical form.

Please see the updated tables attached in the memorandum from Mark Williamson of Geochemical Solutions dated December 13, 2012.

2a. The Forest wants to ensure that the above documents represent the best available information regarding Rosemont's operational plans for waste rock segregation and testing. Please identify any additional or more detailed plans, if any, which have been developed for control and characterization of waste rock during operations.

There are no additional plans for characterization and control of waste rock and the Rosemont Waste Rock Segregation Plan is a requirement of our permit from ADEQ.

In addition to other changes to the operation, the August 28,2012, Feasibility Study describes a pit depth to an elevation of 2,900', which is 250' deeper than the pit depth given in the Rosemont 2007 Mine Plan of Operations (MPO) and in the 2009 Feasibility Study. The smaller pit depth is what we have been using in our analysis and modeling. Please provide the reasoning behind the difference in pit depth in these documents.

The pit as described in the Mine Plan of Operations from 2007 was the original design. The analysis and review performed for this project have used a pit depth of 3050. The 3050 elevation is what all water models used for the final elevation and this is what Rosemont has proposed for their operation. Rosemont has not submitted any document describing or requesting an increase in pit depth.

The 2012 Feasibility study was prepared using appropriate techniques for a 43-101 analysis and there are two pits shown in the document. Modeling was not restricted other than to avoid the ridgeline to give an appropriate characterization of the drilling. As you review the 2012 Feasibility Study you will also note that the "ultimate pit is currently under-optimized due to the capacity limitations of the tailings storage facility."

The other general constraints associated with pit design are the geotechnical considerations; updated geotechnical information throughout the life of the pit could cause an increase (or a decrease) in the slope of the pit walls, which could affect the ultimate pit elevation. At this time and with the information we have currently, Rosemont has proposed an ultimate pit elevation of 3050 feet above mean sea level.

The modeling shown in the 2012 Feasibility study provides a good indication of the potential of the Rosemont deposit but this document should not be used to infer any changes to the operations proposed. The only changes we have requested are those specified by Rosemont.

If you have questions or concerns please let me know.

Regards,

Katherine Ann Arnold
Vice President, Environmental and Regulatory Affairs

Attachment: *Geochemical Solutions, LLC referenced memorandum*

Cc: Chris Garrett, SWCA

Doc. No. 072/12-15.3.1

GEOCHEMICAL SOLUTIONS, LLC
1943 Lakewood Drive Loveland, CO 80538
T 970.744.4884
mark@geochemical-solutions.com
www.geochemical-solutions.com

MEMORANDUM

TO:	Kathy Arnold	**FROM:**	Mark A. Williamson, PhD
ORGANIZATION:	Rosemont Copper Company	**DATE:**	December 13, 2012
CC:	File	**PROJECT:**	1002.1
SUBJECT:	Revised Tables and Figure from February 9, 2012		

With the change in mine plan to no longer construct a heap leach for oxide ore, the USFS has requested that information originally reported in my February 9, 2012 memo be revised to reflect the change. This revision request was also extended to the figure in that memo, that appeared in annotated form as Figure 4-2 in the Integrated Watershed Study. This memo serves to document that the requested revisions have been made and to provide revised copies of each.

In addition to Table 3, which contains the data that forms the basis of the figure, this memo also includes an additional table that reports the average net neutralization potentials for rock units, used to calculate the points represented in the figure.

REVISED

Table 1. Rock types mined by year

PRODUCTION		YR -1	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	YR 11	YR 12	YR 13	YR 14	YR 15	YR 16	YR 17	YR 18	YR 19	YR 20	YR 21	TOTAL
Ore Mined																								
Mixed Sulphide Ore (to concentrator)																								
Mixed Horquilla	kTons	-	-	-	-	-	-	30	121	-	34	328	4,670	3,525	2,052	1,043	557	-	-	-	-	-	-	12,360
Mixed QMP/QLP	kTons	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	12
Mixed Abrigo	kTons	-	-	-	-	-	-	-	-	-	112	436	164	-	-	-	-	-	-	-	-	-	-	712
Mixed Other	kTons	-	-	-	-	-	-	-	-	-	-	-	-	33	122	11	-	-	-	-	-	-	-	166
Sulphide Ore (to mill)																								
Sulphide Epitaph	kTons	-	24	62	-	-	69	1,062	1,673	9	3,174	1,896	-	4,814	10,355	4,503	809	6,799	5,737	6,679	330	-	-	47,995
Sulphide Colina	kTons	-	-	-	21	252	3,342	1,993	5,424	3,737	2,152	8,253	196	2,916	5,826	5,771	7,643	2,721	3,765	14,373	9,496	1,339	-	79,220
Sulphide Earp	kTons	-	1,584	693	6,774	2,991	12,873	5,373	4,806	8,401	3,945	6,201	1,194	2,732	3,288	2,911	6,124	4,784	1,681	5,531	4,981	4,185	1	91,053
Sulphide Horquilla	kTons	1,555	23,687	13,196	12,623	18,279	11,736	12,277	14,501	7,260	14,428	10,685	10,459	6,197	8,052	5,953	14,224	17,625	5,286	9,833	10,017	16,797	2,227	246,897
Sulphide Escabrosa	kTons	86	2,166	1,059	771	790	34	251	147	688	581	1,616	4,389	1,298	1,454	1,325	2,237	77	-	776	65	-	-	19,810
Sulphide Other	kTons	338	4,547	3,571	8,763	3,062	2,115	3,785	3,275	4,137	2,512	1,374	2,257	4,229	2,743	793	317	204	97	-	-	-	-	48,119
Total Sulphide Ore Mined (to mill)	kTons	1,979	32,008	18,581	28,952	25,374	30,169	24,771	29,947	24,232	26,938	30,801	23,329	25,744	33,892	22,310	31,911	32,210	16,566	37,192	24,889	22,321	2,228	546,344
Waste Mined																								
Total Waste Mined	kTons	70,880	93,282	82,262	80,030	82,432	83,819	79,551	84,965	87,368	77,905	70,872	113,419	50,006	79,361	58,503	51,288	39,366	4,709	1,759	-	5,039	1,986	1,300,047
Overburden Waste	kTons	47	3	17	11	64			5	152				91										390
Epitaph Waste	kTons	26	774	1,667	496	402	136	455	2,580	3,903	556	226	392	1,929	655		1,984	7,755	2,303	883				27,122
Colina Waste	kTons	610	239	1,039	670	213	2,066	404	450	347	789	384	2,079	4,305	521	101	612	1,715	170	24		41		16,779
Earp Waste	kTons	2,394	3,488	3,174	3,151	813	3,086	488	971	671	1,083	1,127	1,790	2,796	909	69	93	1,888	787	50		1,964	117	30,909
Horquilla Waste	kTons	10,192	9,418	9,648	4,529	2,408	3,474	339	7,606	7,438	4,401	5,786	11,088	4,758	1,359	255	6	1,927	879	216		3,032	1,866	90,835
Escabrosa Waste	kTons	1,900	1,989	66		1			3,789	3,206	1,925	1,032	1,012	2,664	2,125	1,167	691	137	161	580		2		22,447
Martin Waste	kTons	462	1,076	32					369	837	657	632	1,898	1,209	579	117	21							7,889
Quartz Latite Porphyry Waste	kTons	10,261	10,216	2,308	75	2			373	110	65		126	2,744	935	148		71	7					27,441
Andesite Waste	kTons	1,595	1,461	3,814	4,105	4,017	6,362	7,035	3,537	2,191	3,503	3,953	5,919	1,321	1,313	1,799	2,818	276						55,019
Arkose Waste	kTons	13,078	28,568	38,588	34,197	29,994	32,162	57,598	22,481	22,709	30,625	31,448	58,411	16,418	51,675	53,260	43,316	25,524	402					590,454
Glance Waste	kTons	2,528	19,566	5,497	4,466	5,575	2,244	4,288	2,548	4,338	5,946	6,465	12,427	3,095		221	1,489	69						80,762
Scherrer Waste	kTons	1,190	495	1,236	1,419	1,348	81	614	1,955	83	40	61											2	8,524
Abrigo Waste	kTons	20,588	8,788	4,322	1,145	6,428	59	251	24,436	17,715	8,362	7,405	10,249	2,671	275	39	1							113,758
Concha Waste	kTons	2,825	2,853	3,266	2,667	3,531	272	3,175	5,228	5,414	2,281	2,286	303	1									1	34,103
Bolsa Waste	kTons	81	175	211		8,004	55	11	4,704	3,069	1,832	2,111	3,072	122										23,447
Pre-Cambrian Waste	kTons	18	29			1,067			2,229	713	27	5	109	7										4,204
Epotaph North Waste	kTons									3		13												16
Martin West Waste	kTons	3,012	4,113	2,119	1,274	503	241	723	117	391	663	1,018	3,134	3,590	1,841	760	257	4		6				23,766
Undefined Waste	kTons	73	14	20	3	87	1		26	7			373	7	1	318								941
Tertiary Gravel Waste	kTons		17	5,238	21,822	17,975	33,580	4,170	1,561	14,071	15,150	6,920	1,037	2,278	17,173	249								141,241

REVISED

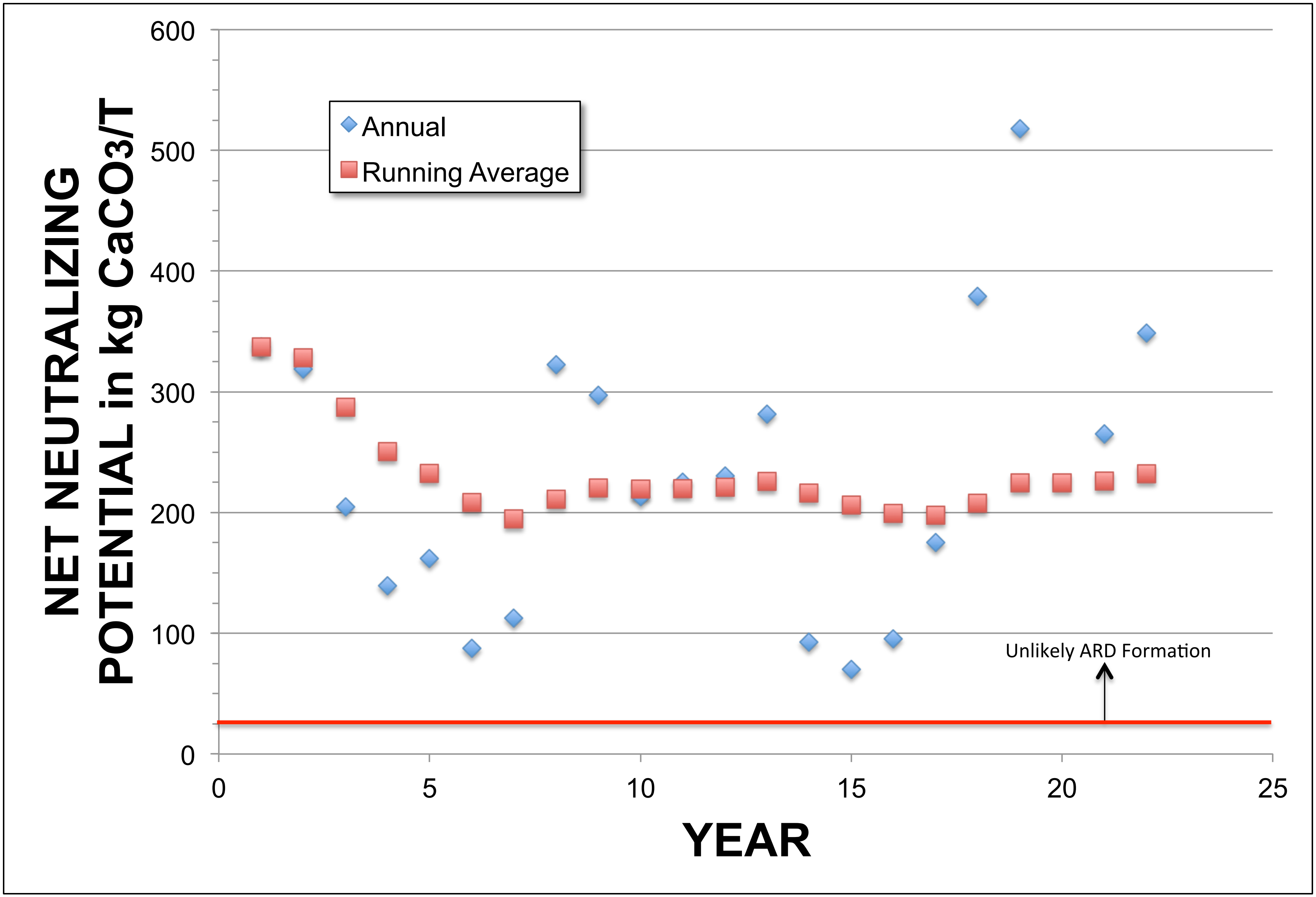
Table 3. PAG types mined by year

PAG Tonnages		YR -1	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	YR 11	YR 12	YR 13	YR 14	YR 15	YR 16	YR 17	YR 18	YR 19	YR 20	YR 21	TOTAL
Overburden Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Epitaph Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colina Waste	kTons	61	23.9	103.9	67	21.3	206.6	40.4	45	34.7	78.9	38.4	207.9	430.5	52.1	10.1	61.2	171.5	17	2.4	0	4.1	0	1677.9
Earp Waste	kTons	184.3	268.58	244.4	242.63	62.601	237.62	37.576	74.767	51.667	83.391	86.779	137.83	215.29	69.993	5.313	7.161	145.38	60.599	3.85	0	151.23	9.009	2379.993
Horquilla Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Escabrosa Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Martin Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Quartz Latite Porphyry Waste	kTons	851.7	847.93	191.56	6.225	0.166	0	0	30.959	9.13	5.395	0	10.458	227.75	77.605	12.284	0	5.893	0.581	0	0	0	0	2277.603
Andesite Waste	kTons	709.8	650.15	1697.2	1826.7	1787.6	2831.1	3130.6	1574	974.995	1558.8	1759.1	2634	587.85	584.29	800.56	1254	122.82	0	0	0	0	0	24483
Arkose Waste	kTons	1700	3713.8	5016.4	4445.6	3899.2	4181.1	7487.7	2922.5	2952.17	3981.3	4088.2	7593.4	2134.3	6717.8	6923.8	5631.1	3318.1	52.26	0	0	0	0	76759
Glance Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scherrer Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abrigo Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concha Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bolsa Waste	kTons	48.6	105	126.6	0	4802.4	33	6.6	2822.4	1841.4	1099.2	1266.6	1843.2	73.2	0	0	0	0	0	0	0	0	0	14068
Pre-Cambrian Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Epotaph North Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Martin West Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Undefined Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tertiary Gravel Waste	kTons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total PAG		3556	5609.4	7380.1	6588.2	10573	7489.4	10703	7469.6	5864.06	6807	7239.1	12427	3668.9	7501.7	7752.1	6953.5	3763.7	130.44	6.25	0	155.33	9.009	121646
Total Non-PAG		67324	87673	74882	73442	71859	76330	68848	77495	81503.9	71098	63633	100992	46337	71859	50751	44335	35602	4578.56	1752.8	0	4883.7	1977	1178401
Total Percentage PAG		5%	6%	10%	11%	16%	15%	14%	9%	8%	11%	11%	11%	8%	12%	13%	14%	10%	3%	0%		3%	0%	10%
Percentage Likely		1%	1%	2%	2%	7%	3%	3%	3%	3%	3%	3%	3%	1%	2%	2%	2%	1%	0%	0%		0%	0%	2%
Percentage Uncertain		4%	5%	8%	9%	10%	12%	12%	6%	5%	8%	8%	8%	7%	10%	11%	11%	8%	3%	0%		3%	0%	8%

Average Net Neutralizing Potentials for Rosemont Waste Rock

Unit	Average NNP
Overburden Waste	20.2
Epitaph Waste	519
Colina Waste	393
Earp Waste	110
Horquilla Waste	364
Escabrosa Waste	612
Martin Waste	692
Quartz Latite Porphyry Waste	11.2
Andesite Waste	36
Arkose Waste	45
Glance Waste	625
Abrigo Waste	580
Concha Waste	650
Bolsa Waste	-0.75
Epotaph North Waste	519
Martin West Waste	692
Tertiary Gravel Waste	41.7

REVISED



Annual
Running Average
NET NEUTRALIZING POTENTIAL in kg CaCO3/T
600
500
400
300
200
100
0
0
5
10
15
20
25
YEAR
Unlikely ARD Formation