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17 August 2012

Rosemont Copper
PO Box 35130
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Attn: David Krizek, PE

Subject: Rosemont Mine - Mitigation Recommendation Report Addendum

David,

Pursuant to the 'Barrel Alternative' effects to increase the active site work areas, the associated deletion of the leach pads, and the recent assessment of the new Caterpillar shovel lighting package, we have prepared an update to the Recap A / Lumen Summary (Page 26) of the June 18, 2012 Mitigation Recommendation Report. It is noted that the latest HID Caterpillar shovel lighting scheme (as physically documented by Rosemont staff) added three high-lumen sources, including one fixture that illuminates the overhead shovel boom. Accordingly, the lumen summary totals have been increased and the uplighting fraction has also been increased. However, the current recommendation to implement LED technology in lieu of the Caterpillar HID lighting system remains intact.

Please distribute the attached Page 26 Recap A / Lumen Summary, Revision 2, dated 17 August 2012, to all interested parties for inclusion in the project record.

Very truly yours,
MONRAD ENGINEERING, INC.

Christian K. Monrad, P.E., LEED-AP



Principals:

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RECAP 'A'

Revision 2 - August 17, 2012

LUMENS PER ACRE TABLE - Incorporates Average Acreage in Use With All Fixed, Portable, and Mobile Shovel & Drill Mounted Mine Pit Task Lighting Sources

500 NM FILTERED LED (FLED)

Total Lumens

In-Plant Road & Primary Access	
Road Conflict Points (Only)	109,400
Ore Processing	1,976,730
Dry Stack Conveyor	1,541,760
Mine Pit	1,514,366
Leach Pads	0

590 NM AMBER LED (ALED)

In-Plant Road & Primary Access	
Road Conflict Points (Only)	109,400
Ore Processing	629,050
Dry Stack Conveyor	382,900
Mine Pit	0
Leach Pads	0

KEYNOTES:

1. ORE PROCESSING SUMMARY
 LUMENS FLED 1,976,730
 LUMENS ALED 629,050
 (INCLUDES 100,000 LUMENS OF FLED PORTABLE WORK LIGHT PLANTS, MAXIMUM 5% DIRECT UPLIGHT FACTOR)
2. MINE PIT SUMMARY
 LUMENS FLED 1,514,366
 LUMENS ALED 0
 (ALL MINE PIT LUMENS ARE FLED EQUIPMENT MOUNTED, COMPOSITE 10% DIRECT UPLIGHT FACTOR)
3. In-Plant Roads & Primary Access Road Conflict Points
 LUMENS FLED 109,400
 LUMENS ALED 109,400
4. PRIMARY ACCESS ROADS - NO CONTINUOUS LIGHTING SYSTEMS
5. LEACH PAD SUMMARY - NONE (LEACH PAD DELETED)
 LUMENS FLED 0
 LUMENS ALED 0
6. DRY STACK CONVEYOR SUMMARY
 LUMENS FLED 1,541,760
 LUMENS ALED 382,900

Average Acreage in Use	750
Total Initial Lumens	6,263,606
Lumens per Acre	8,351
(General Code Limit	12,500
Note 1) Percentage of Limit	66.8%

GENERAL NOTES

1. REFER TO 'LUMENS PER ACRE TABLE' FOR PIMA COUNTY OUTDOOR LIGHTING CODE (OLC) COMPLIANCE CALCULATION, OPTION 3

2. BASIS FOR LUMENS PER ACRE CALCULATION:

AVERAGE ACREAGE IN USE = 750

Lamp Type	Total Lumens	Lumens/ Acre
FLED	5,142,256	6,856
ALED	1,121,350	1,495

Christian K. Monrad



EXPIRES 3-31-14