

SYAR QUARRY EXPANSION

REBUTTAL PRESENTATION OF
SKYLINE PARK CITIZENS ASSOCIATION
AND DOROTHY GLAROS

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GROUNDWATER MITIGATION CHRONOLOGY

- May 2008 – Syar files mining permit application
- June 2009 – EIR process begins
- September 2013 – draft EIR completed
- October 2015 – Planning Commission certifies EIR
- November 2015 – appeal to the Board
- April 2016 – Syar proposes revised groundwater mitigation measure
- July 2016 – Syar reveals intent to use surfactants

ORIGINAL VS. REVISED MITIGATION MEASURE

ORIGINAL MEASURE 4.8-4

- Increased production achieved through additional water sources + conservation
- No mention of surfactants

REVISED MEASURE 4.8-4

- Increased production achieved solely through conservation
- Conservation achieved through surfactants

FLAWS IN THE REVISED MITIGATION MEASURE

- No evidence that it is **feasible**
- **Surfactants** create new environmental impacts
- **Public** unable to critique revised mitigation measure

HOW MUCH WATER WILL SYAR NEED TO CONSERVE?

- Original estimate -- 20 AFY – 14% water savings needed
(Syar letter of April 25, 2016)
- New estimate -- 50 AFY – 35% water savings needed
(Syar letter of June 30, 2016)
- Difference of 30 AFY or 9.8 million gallons
- That is a **big** mistake on a **big** issue

FEASIBILITY AND EFFECTIVENESS

- Mitigation measures must be **feasible and effective** in reducing impacts.
- There must be **substantial evidence** to support those conclusions.
- “Substantial evidence” means **facts**, reasonable assumptions predicated on **facts**, or expert opinion supported by **facts**. *(CEQA Guidelines § 15384)*
- Feasibility and effectiveness of revised mitigation measure 4.8-4 depend upon **surfactants**.

SUBSTANTIAL EVIDENCE OF FEASIBILITY?

- Syar letter of June 30, 2016 attaching GE brochure

Nevada goldmine achieved major cost savings (and 90% water reduction) using “practically non-toxic” GE surfactant DustTreat DC9112

- *Manufacturer’s promotional material.*
- *Will Syar use DustTreat DC9112 or other surfactants?*
- *Will it use them in the same locations, at the same times, in the same way?*
- *Were conditions at the goldmine comparable to the Napa quarry?*
- *Was there any follow up at the mine beyond 7 months?*

GE Power & Water
Water & Process Technologies

Case Study

Dust Suppression Strategy Saves Gold Mine

US\$378,000 Annually

Challenge

High dust levels were a concern for Newmont Mining Corporation's Eastern Operations in the state of Nevada, in the western United States. The mine roads are heavily trafficked by large, heavy trucks and light vehicles. The severe dust raised by this traffic had greatly reduced visibility for the drivers and was a respiratory issue as well. There were also environmental concerns with chloride runoff.

Initially the mine controlled the dust with a magnesium chloride solution. However, that required several water trucks (30,000 gallons each) to water the roads up to 18 times per day, seven days per week, amounting to over 100 million gallons of water during a 7 month dusty season. Chloride-containing runoff was making its way to nearby Rodeo Creek, and eventually the Humboldt River. The road surface needed to be watered and graded on an ongoing basis. Moreover, the mine also incurred a significant fuel expense for the grader and watering trucks, which produced undesirable greenhouse gas (GHG) emissions.

Solution

In partnership with Newmont, GE's Water & Process Technologies developed a long-term strategy to maximize the mine's water and energy resources based on GE's broad portfolio of global expertise and local capabilities. The team implemented a dust-suppression strategy centered on GE's **practically non-toxic** DustTreat™ DC9112 organic binding agent.

Results

This dust-suppression strategy introduces no chlorides into the environment, has kept dust levels low, and has greatly improved driving conditions. Switching to DustTreat DC9112 program from a water and magnesium chloride treatment on 7 miles of haul roads reduced water use for dust suppression by 90% or 110 million gallons of water over a 7 month period, equivalent to the water consumption of over 1300 average US households during that period.

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Figure 1: Access road to Newmont's Leeville Mine

SUBSTANTIAL EVIDENCE OF FEASIBILITY?

- July 1 Memorandum from EIR consultants
 - Confirms up to 90% water savings
 - Cites GE brochure as source

Syar Napa Quarry Water Conservation Offsets

Water Uses at Quarry	Baseline Water Use gallons/year (acre foot/year)	Project Water Use ¹ gallons/year (acre foot/year)	Increase from Baseline ² gallons/year (acre foot/year)	Conservation Measures
Domestic	1,997,284 (6.1)	1,997,284 (6.1)	0	N/A/Q
Processing	5,991,851 (18.4)	9,616,551 (29.5)	3,624,700 (11.1)	N/A/Q
Sand Plant	1,236,850 (3.8)	1,236,850 (3.8)	0	N/A/Q
Earthen Dust Suppression	36,042,725 (110.6)	48,507,952 (148.9)	12,465,227 (38.4)	Surfactant ^{1,2}
Blasting	540,549 (1.6)	752,474 (2.3)	211,925 (0.7)	N/A/Q
Totals gallons/year (acre foot/year)	45,809,259 (140.5)	62,111,111 (190.6)	16,301,852 (50.0)	

Source: Dickenson Peatman & Fogarty, June 30, 2016

Notes:

¹ Earthen Dust Suppression includes dust suppression on roads, within pits and on the processing floors. Baseline earthen dust suppression is accomplished by water from water trucks. For the project dust suppression would be accomplished by placing a surfactant (i.e. GE DustTreat or the like) on the earthen areas.

² Commercial surfactants could be used to suppress dust and reduce water use by 90% (Source: GE DustTreat Technical Paper, January 2016). However, for this project we have used a more conservative number of 60% water reduction. This was due to the fact that 90% would be for the ideal conditions outlined in the sourced technical paper. Reductions above 60%, up to 90% could be feasibly achieved if necessary to meet the mitigation to not exceed baseline water use levels.

³ The project is the approval of the Syar Modified Project Plus Area C (1.3M tons annual production).

⁴ To be conservative, for the purpose of this water conservation table a full 50 acrefeet of additional water was needed for the 2M ton project was assumed to be the amount required for the 1.3M ton approved project.

N/A/Q = Not Available and/or Quantifiable at this time.

2) The Napa Pipe EIR assumed that for mining operations comparable to the Syar facility that 50 af/yr was a reasonable estimate of groundwater use. Why does the EIR assume 140.6 af/yr and how was this volume determined? Does the analysis use both the 2009 and 2011 conditions as part of the baseline condition? If so, explain why using both conditions is technically adequate. In other words why is baseline water use represented in the EIR considered appropriate/acceptable?

Response:

The 50 af/yr presented in the Napa Pipe EIR underrepresents the pumping of the Syar water system. This is because it considered only one of the two wells operated by Syar and did not rely on actual data but rather was based on an estimate (see excerpt below). The water use estimate of 50 af/yr appears in the Napa Pipe Draft EIR in the following section:

SUBSTANTIAL EVIDENCE OF FEASIBILITY?

July 11, 2016 Staff Report (page 20)

*“The use of dust suppressants on open areas (such as haul roads, mine pits, and processing areas) **could potentially result in water savings** of between 52 acre-feet to over 100 acre-feet annually; therefore the facility could operate at a production level of up to 1.3 million tons per year within the 140.6 acre-foot annual limit. **This conservation measure has been reviewed and verified by the EIR hydrologists and determined to be feasible and capable of being implemented.**”*

SUBSTANTIAL EVIDENCE OF FEASIBILITY?

- No facts
- No analysis
- Board must find that the EIR reflects its independent judgment and analysis (*CEQA Guidelines § 15090*)

NEW ENVIRONMENTAL EFFECTS

- If a mitigation measure will cause environmental impacts, the EIR must discuss those impacts (*CEQA Guidelines § 15126.4*)
- Surfactants have a potentially significant impact on the environment
 - Biological Activity and Environmental Impact of Anionic Surfactants, 28 Environment International 337-348 (2002).
 - Health Effects, Environmental Impacts, and Photochemical Degradation of Selected Surfactants in Water, 6 International Journal of Photoenergy 115-125 (2004).
 - A Perspective on the Potential Risks of Emerging Contaminants to Human and Environmental Health, 22 Environmental Science and Pollution Research 13800-13823 (September 2015)

QUESTIONS ABOUT SURFACTANTS

- What does the manufacturer mean when it describes its DC9112 surfactant as “practically non-toxic”?
- Is there evidence that some surfactants are more toxic than others?
- Which surfactants will Syar use?
- Have the same surfactants been used elsewhere, and with what results?
- Do they pose a risk to the environment or human health?
- Where will Syar use them?
- How often and in what quantities?
- Will surfactants increase run off or change drainage patterns?
- Do surfactants create a lasting presence in soil or water?
- Can they interact with other elements in the environment in ways that pose risks?
- Is there any objective evidence of surfactants’ effectiveness?
- **The public and the Board deserve answers**

PUBLIC PARTICIPATION

- Good public participation generally
- But not with regard to revised mitigation measure 4.8-4
 - Initially no mention of surfactants
 - Then surfactants mentioned as one of multiple conservation options
 - Now surfactants are the focus of the groundwater mitigation effort
- No meaningful opportunity to critique
- Additional scrutiny will reassure public about health and safety
- Additional scrutiny will assist Board in making a more informed decision

SUPPLEMENTAL EIR

- Supplemental EIR required when significant new information added
- Recirculated for public comment
- New information has been added here
 - Syar's intent to use conservation only to mitigate groundwater use
 - The amount of groundwater that must be conserved to support increased production
 - The widespread use of surfactants to implement revised mitigation measure 4.8-4

WATER SUPPLY VS. INCREASED PRODUCTION

- **Process has been turned on its head**
- **General Plan Policy CON-53**

“The County shall ensure that the intensity and timing of new development are consistent with the capacity of water supplies and protect groundwater and other water supplies by requiring all applicants for discretionary projects to demonstrate the availability of an adequate water supply **prior to approval.**”

CONCLUSION

SYAR REPRESENTATIVE'S REMARKS AT THE APRIL 26, 2016 HEARING

*“We can use surfactants instead of water. We can recycle our wash water. We can use higher efficiency dust control equipment. And we’re committed to that. In fact we proposed that the mitigation measure be revised to no longer provide for an alternative source of water. We’re willing to live with our 140.6 AF which is our baseline, which is no increase in groundwater use, and **we’ll achieve that at full production through commitments to conserve water. And we’re willing to prove that we can do that. In fact this is not new technology; it’s existing, proven technology. And we’ll show that that’s possible.**”*