Attention: Doug Haywood,
BLM_NM_Las_Cruces District Office
1800 Marquess Street,
Las Cruces, NM 88005.

The following comments are directed to the draft Copper Flat Copper Mine Draft Environmental Impact Statement realizing the BLM draft team was acting primarily as a conduit for THEMAC proposals and justifcations.

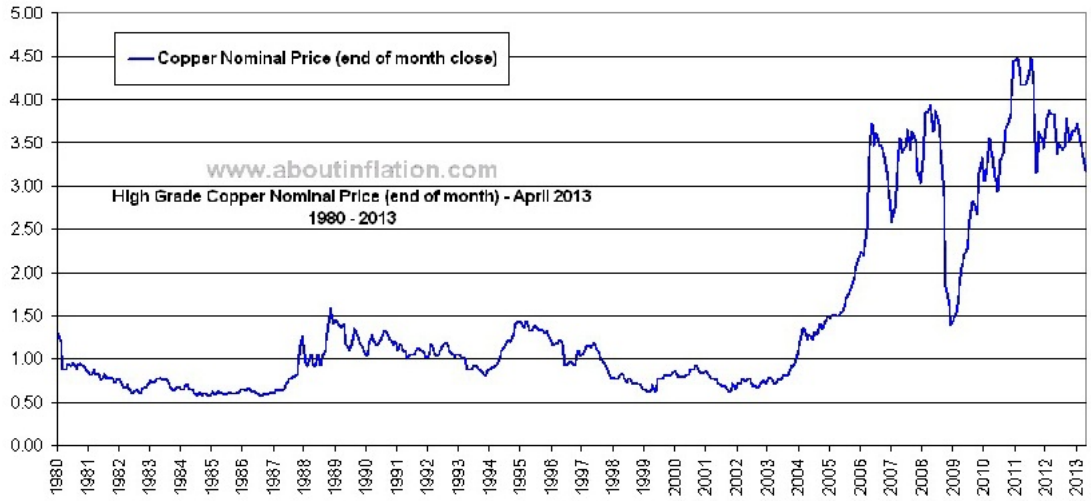
<u>The draft EIS does not demonstrate the necessary feasibility of the Copper Flat Copper Mine MPO.</u>

It appears that, financially, the MPOs described in the draft EIS *cannot be carried out*, therefore *the draft EIS* does not predict the reality of what will happen if the NMCC is allowed to start mining operations. If the mine closes "unexpectedly" as did the last mining operation on this site, the NMCC will not be in a posture to adequately remediate any environmental impact caused by the mining operations. While the BLM is not directly charged with determining the economic viability of a proposal, the unpredictable environmental impact of mine closure and its socio-economic effects are part of the BLM's legal concerns. The BLM is certainly charged with protecting the interests of the American people. The lack of financial viability is just as crippling for an MPO as a flaw in the procedures for extracting copper ore from the ground.

An adequate presentation of a proposed MPO should include a convincing description of the feasibility of the project proposed. The feasibility of large engineering projects especially commercial ones depends the strength of each project's financial backing. As an example, the proposals to establish a human presence of Mars are not blocked by the physical constraints of sending rockets there; it is the financial support that is lacking. So the question here is: Is THEMAC/NMCC able to execute this project? The draft EIS does not demonstrate the project's financial feasibility; it doesn't even admit an awareness of financial necessity. Equipment will just appear and operations will just occur! The draft EIS mentions that NMCC has vestment in various mining claims, but it stops short at that consideration. There is no assessment of the market strength of NMCC or its parents. In fact, they are weak risks as can be verified by inspection the relevant financial sites on the web. Moody's is an example. Moreover, the only example of their financial staying power bearing on this draft EIS is in fact also negative. The previous avatar, Quintana Minerals, operated only 3.5 months in 1982 before failing citing a sharp fall in copper prices as the **cause** of closing the mine; but there was no sharp fall of copper prices in 1982 see Figure 1!

FIGURE 1

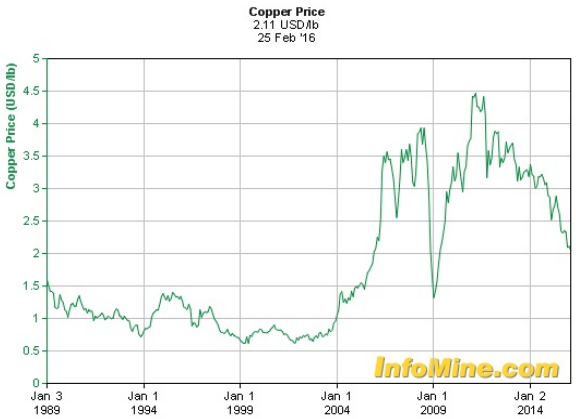
The "price of copper" varies with the method used to calculate it but, for historical trend graphs the relative change in time is what is important (Figure 1). The point being that, copper prices from 1982 to 1987 were relatively stable and not very different from the *comparable* present prices (vide infra Figure 2).



Approximate Period of Quintana Mine

In fact, after the low but relatively stable price for copper in the five year period, 1982-7, in 1988 copper prices spiked upward to around $1.50/lb and then coasted downward until 2004. Since 2013, after another and larger boom period, copper prices entered into a sharp continual three year decline and as of February this year it has dropped to $2.23/lb according to COMEX. *These prices are uncorrected for inflation of 34 years.* Correction for 3% inflation would make the Quintana failure price, $2.06, i.e., lower than the present price. Morever, Figure 2 (InfoMine.com) shows that copper prices presently are continuing to fall. This seems like the wrong time to start a mine.

FIGURE 2, (CopperPrice, $2.11/lb, 25 Feb. 2016)



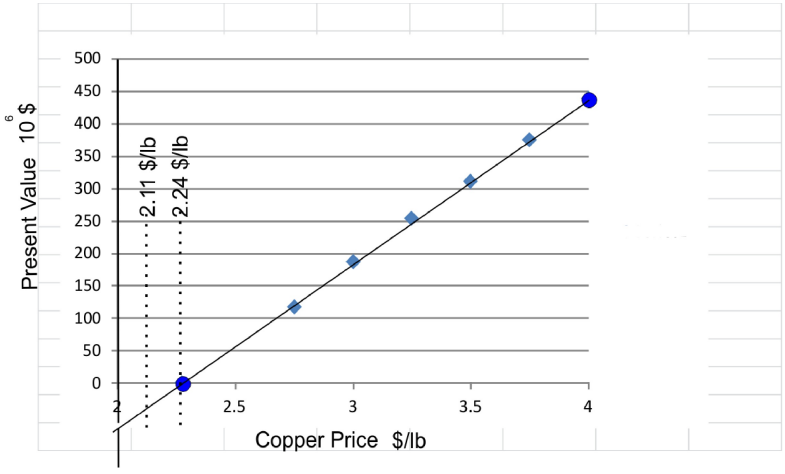
<Feb25, 2016, $2.11/lb

Because of inflation, the copper price needed to start and support a mine in 1982, will no longer do so, presently. On the **THEMAC website** there is a discussion of their loans, present values of their vestment, payback, etc. and how those things depend on the ***current*** price of copper. In particular, it contains an illuminating Table which presents Copper Flat's Present Value as a function of Copper Price.

	Financial Returns		
Copper Price($/lb)	NPV($M)	IRR(%)	Payback(Yrs)
$2.75	118.0	15.8%	4.1
$3.00	187.0	20.0%	3.6
$3.25	253.2	23.8%	3.3
$3.50	309.8	26.4%	3.0
$3.75	374.0	29.6%	2.8

It is telling that this Table starts at a price considerably higher than the current price of $2.11/lb. To understand the effect of the present copper price one can calculate the trend line for the dependence of Present Value (of the mine) using the data from the Table, then that line can be used to calculate the relevant Present Value of the mine based on the p**resent** copper price. This is what Figure 3 shows. The Figure 3 plot of the Present Value as a function of Copper Price shows; that, Copper Flat mine is almost certainly doomed (Figure 3). With copper at $2.11/lb, Present Value is **negative** from their own data! So why in the face of *low and falling* copper prices is the Copper Flat Mine being revived?

FIGURE 3



In Figure 3, copper price in Dollars per pound is plotted along the abscissa and the mine value in Millions of Dollars is plotted on the ordinate. The blue diamond points represent THEMAC's data from their web table. The blue circles represent points along the standard best fit straight line for value as the dependent variable. The vertical dotted lines indicate two current estimates of the market value of copper per pound. It should be strongly noted that according to

THEMAC's **own table**, the Mine's value goes to zero around the *higher* of two current estimates of copper price (Fig.2 uses $2.11/lb)!

The world market for copper shows a great depth of reserves world wide and also that the US is in a minor, declining productive role. There is no hint of any shortage of copper for decades. First shortage after eighty years by a recent consensus estimate. No future copper price rise is going to rescue THEMAC/CFCM. The proposal is not viable!

Moreover, even a shallow examination of the draft EIS reveals contradictions.
For example: from the EXECUTIVE SUMMARY pg. ES-3.

> The *Proposed Action* would consist of an open pit mine, flotation mill, TSF, waste rock disposal areas, a low-grade ore stockpile, and ancillary facilities. The Proposed Action was intentionally developed to reuse the existing foundations, production wells, and water pipeline that were employed by the previous Quintana operation...

However, THEMAC's website favors the Alternative 2. There are large quantitative differences in the extent of the two MPOs but the details in the dEIS only refer to the smaller "Proposed" MPO and, of course, THEMAC's agent modeled that. Given the possibilities of switches in the plans of operations, the environmental effects of each alternative should have been adequately addressed. Actually a smaller EIS might result if the redundancies were eliminated even if properly reasonable analyses of the alternate MPOs were presented.

<u>The dEIS "modeling" effort is hopelessly flawed</u>.
The model of environmental effects in the dEIS provides a rosy prediction of the environmental effects but in that it is **misleading**. The use of single parameter values with the MODFLOW modeling software contradicts the basic philosophy of this kind of modeling. The point is not to find a result which is feasible but rather to predict the **range of results** that the real system may produce. The modeling process should not be a trick but rather should be an attempt to inform what dangers and benefits **may** accrue to different operational options, especially worse case scenarios. Geological systems are very nonlinear. They often exhibit what is called 'stiffness" in mathematical analysis. In linear systems, a small perturbation mostly yields a small proportional change in outcomes, but in non-linear, stiff systems a small perturbation can have gigantic outcomes; for example, the release of magma in a volcanic event or, more pertinently, the disappearance of snow pack in mountain ranges with a rise of few degrees of temperature. Animas Creek is home to a unique kind of plane tree (sycamore). If the ground water level around the Animas Creek falls just a little too low, the unique plane trees will die. There are no others of western variety. Their dying would be an irreversible loss. The monocular, often single valued analyses, of the CFCM dEIS fail to demonstrate even awareness of these critical considerations. This is an example of the number of times variation and statistical analysis is needed but ignored in this dEIS. It makes generating a new dEIS from scratch necessary to get a document of any validity or value.

The lack of variation in the MODFLOW modeling is so critical because it predicts the behavior of water levels in the region. The egregious lack of range of the "modeling" effort alone invalidates this dEIS as a basis for anything. At the limits of the ranges, of course, is where most of the injury to the environment occurs. The lack of independent geological justifications for

geological features, e.g. grabens, clay layers, etc. that were used in modeling for their positive effect on outcome means the modeling is invalid. It is wishful imagining; backward filling in to obtain a desired result. It is pertinent that Ms. Candi Browne in her comments makes the argument that the monitoring wells were showing pollution and the THEMAC did not commit resources to address even this less than global problem.

The NM Scenic Byway has significant tourist appeal and usage. Twenty huge ore trucks a day will degrade it (See Robert Shipley's comments to BLM).

The attractiveness of the region surrounding the Copper Flat site to relatively well-off retirees is exemplified, in just one quadrant, by the development of some 100 parcels in two ex-ranch areas, the "Berrenda" and "Lake Valley" developments. This has occurred almost all in the last fifteen years and alone has brought in about 50M$ in building investment, virtually all of which is spent locally, and raised the average income of Sierra County significantly. The Sierra County budget now depends on their real estate taxes. The value of these individual properties is hurt by the CFCM kind of needless mining adventure and it would temper residential growth in other areas. In the coming, boomer-retiring, decades, there will be much more money and need in residential rather than mining developments. BLM would do better financially, leasing the land to developers instead of subsidizing sure failures that will scarify its land.
Respectfully,

Lloyd Barr
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