

SCOTT  WHITE
BIOLOGICAL CONSULTING

16 June 1998

Howard Brown
OMYA (California), Inc.
PO Box 825
Lucerne Valley, CA 92356

Reg. Second botanical survey of proposed Butterfield 5 Overburden Expansion site

Dear Howard,

On Wednesday, 3 June 1998, I examined carbonate soils within the proposed expansion area of the Butterfield 5 overburden area to determine presence or absence of special status plants, particularly the listed carbonate-endemic species.

On the same date, I visited known occurrences of the listed species at other locations, away from the Sentinel project area, to be certain they could be identified. Cushenbury milk vetch (*Astragalus albens*), Parish's daisy (*Erigeron parishii*), Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*), and Cushenbury oxytheca were readily identifiable by flower, fruit, or vegetative characteristics at the other locations visited.

I surveyed the carbonate soils within the proposed overburden expansion area, using a map of the proposed expansion area as a field reference. This survey focused on the northwest and northeast corners of the proposed expansion area. I surveyed both sites last year (reported in "Proposed Sentinel Quarry Expansion: Biological Resources," prepared by Psomas and Associates, 21 August 1997).

The first site, in the northwestern corner, is adjacent to a previously identified Cushenbury oxytheca occurrence on alluvial carbonate soil discovered last year during surveys for the same project. Before this survey of the proposed expansion area, I revisited the known Cushenbury oxytheca site to confirm that the species could be identified on the survey date. The plants were small and most had not yet begun to flower, but their spined involucre were visible as diagnostic characters. No Cushenbury oxytheca or other listed species were found outside the area delineated last year. I noted that seedling Parish's buckwheat (*Eriogonum parishii*), a species with no special agency status, was fairly common in the northwestern corner of the proposed expansion area. Before going to flower this species is superficially similar to Cushenbury oxytheca, but

the seedlings are differentiated by pattern and density of hairs on their leaves, and compared in the field with known Cushenbury oxytheca to confirm that they were *not* the listed species.

The second site, in the northeastern corner of the proposed expansion area, is a carbonate rock outcrop. It was intensively surveyed last year and none of the listed carbonate endemic species were found. The resurvey this year also resulted in no new locations of listed species or of species likely to be confused with the listed plants.

During this 1998 field survey, two species not previously noted on the site were identified: Parish's buckwheat (above) had been noted earlier within the proposed expansion area for the Sentinel Quarry but not in the overburden expansion area; bitter root (*Lewisia rediviva*) had not been detected earlier within the proposed quarry or overburden expansion areas. Presumably, these plants were not detected last year due to low precipitation and/or early spring drought. These plants are not special status species.

The absence of the listed carbonate endemic species during two consecutive years, one of which has been a high precipitation year, combined with previous surveys throughout the general area, provides strong evidence that the listed carbonate-endemic plants are absent from the proposed overburden expansion area."

Sincerely,

A handwritten signature in black ink, appearing to read "Sally White", written over a horizontal line.

~~APPENDIX 6E~~
ADDITIONAL CORRESPONDENCE
REGARDING BIOLOGICAL RESOURCES

Delete
Sheet



GAIL VAN DER BIE
District Ranger
Fawnskin Ranger District
P.O. Box 290
Fawnskin CA 92333

March 12, 1998

**RE: FOLLOW UP LETTER TO PROPOSED SENTINEL QUARRY EXPANSION PLAN
FIELD MEETING ON MARCH 12, 1998**

A field meeting was held on Thursday March 12, 1998, at OMYA (California) Inc. to review the recently submitted proposed Sentinel Quarry and overburden site expansion plan.

The meeting was attended by the following people from the following agencies:

- U.S. Forest Service
 - Hal Seyden
 - Dev Volgorino
 - Raj Daniel
 - Robin Butler
 - Brad Henderson
 - Ernie Dierking
 - Gail Van der bie
 - Gil (hydrologist)
 - Darrell (landscape architect)
- U. S. Fish and Wildlife Service
 - Scott Eliason
- OMYA (California) Inc.
 - Howard Brown
 - Jim Reddy
- Consultants
 - George Webber
 - Scott White

Several stops were made in the field at various vantage points, where the plan was reviewed and discussed. During discussions requests for additional information and several potential modifications to the proposed overburden site were suggested and which include the following:

1. The size of the disturbance of the overburden site may be reduced by building the new overburden site higher, and connecting it with the ongoing Butterfield 5 pit backfill. This would reduce the size of the disturbance, reduce loss of timber and soil resources, and reduce amount of future reclamation. Potential additional visual impact would probably be negligible.

2. The shape of the overburden site may be modified to avoid as much as possible carbonate rock which may be potential habitat for T&E plants.

3. The 150 foot buffer from the known population of *Oxytheca* was considered adequate by the representative from U.S. Fish and Wild Service.

4. Additional biological survey was requested by Scott Eliason (USFWS) for this spring, to verify the *Oxytheca* population noted in the 1997 biological survey, and to verify that plants are absent from a small outcrop of carbonate rock (potential habitat) near the southeast corner of the existing B-5 Pad overburden site.

5. Scott Eliason indicated that avoidance of known plant populations with a 150 foot buffer zone, and minimal impact of potential carbonate habitat would allow a Section 7 Consultation to be avoided.

6. Additional documentation was requested regarding why backfilling of the Cloudy and Claudia quarries is not proposed.

7. Additional information regarding phased development and concurrent reclamation of the overburden site was requested.

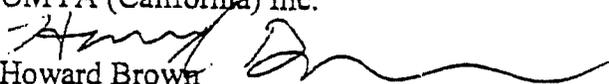
It was agreed that OMYA (California) Inc. would complete the additional biological survey, and investigate the various possible modifications to the overburden site. Draft maps and text will be prepared and presented to the Forest Service for review. The various overburden site alternatives will be reviewed and a preferred alternative would be indicated. The proposed expansion plan document would then be revised to incorporate the preferred alternative and resubmitted to the Forest Service.

OMYA (California) Inc. will prepare and submit possible modifications to the plan in a timely manner.

It was agreed that reasonable solutions could be reached which would allow serious environmental issues to be avoided, and the project to be reviewed and approved in a timely manner. It was generally agreed that it was a very informative and productive meeting.

Sincerely,

OMYA (California) Inc.


Howard Brown
Geologist

cc; George Webber
Scott White

APPENDIX 6F
BIGHORN SHEEP CORRESPONDENCES

WEBBER AND WEBBER
MINING CONSULTANTS, INC.

July 30, 1998

Ms. Gail van der Bie
District Ranger
U.S. Forest Service
Mountains District
P.O. Box 350
Sky Forest, CA 92385

Re: **Proposed Sentinel Quarry Expansion Plan**

Dear Ms. van der Bie:

Subsequent to the meeting held on 7/14/98 with the I.D. Team to discuss the Sentinel Quarry Expansion we were informed that the Forest Service was considering an Environmental Impact Statement; presumably for impacts to the Nelson's Bighorn Sheep. This information is, indeed, a surprise. Webber & Webber Mining Consultants, Inc. has been working since our site meeting on March 12, 1998 to minimize, or eliminate, potential impacts to the T&E species and instead the Bighorn Sheep becomes a potential issue. We believe an EIS is certainly not justified for this expansion project's potential impacts to the Bighorn Sheep or T&E species.

During our 3/12/98 field meeting at the Sentinel Quarry area (after 30 day review to identify issues) we received our cues from the various Forest Service participants. Coming out of that meeting the most prominent issue was the potential impact to the T&E species from the proposed expansion of the B-5 Pad Overburden site. During the next three months, we worked on designing various alternatives of the B-5 overburden expansion site. Our goal was to discover a solution to achieve a minimal impact to the T&E species potential habitat. The culmination of these design efforts were presented to Hal Seydon on 6/24/98. The smallest footprint design of the B-5 Pad impacts 0.87 acres of potential T&E plant habitat whilst the largest footprint alternative is located exclusively on non-carbonate rock, avoiding entirely any potential T&E plant habitat. Of course, the downside of the largest footprint alternative is it results in the most trees being removed. In our mind, trees being removed for most purposes is regrettable. Perhaps, OMYA should consider offering something (mitigation) for the 25 acres of forest that will be removed.

The Nelson's Bighorn Sheep are not listed as Threatened or Endangered. They are not, to my knowledge, proposed for listing and are considered a game animal. Actually, more of a game animal to mountain lions recently than to a hunter's gun muzzle. The sheep are reported to have ranged for many years along the North Slope of the San Bernardino Mountains and Lucerne Valley area. Until recently there have been no population counts, and it is not known if the population is getting larger or smaller. They have been seen in the vicinity of the Sentinel Quarry area during the last five years. The northern end of Sentinel Quarry apparently is an agreeable location for the sheep since it possesses unobstructed views, escape paths, shade and

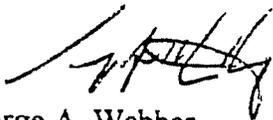
vegetation. The sheep appear to be unaffected by the mining activities and it is possible to suggest that the Bighorn Sheep consider the mining areas to be a refuge.

OMYA has been supportive of the establishment of a guzzler for the Bighorn Sheep at the northern extent of the Sentinel Quarry. OMYA provided the 10,000-gallon water tank and placed it at the northern end of the old overburden pile. The Fish and Game Department, and the Bighorn Sheep Society installed a water line to the guzzler. Costs of the materials were covered by funds which were provided to the Bighorn Sheep Society by OMYA (CA), Inc. Spending money for direct assistance to the Bighorn Sheep (e.g. guzzlers) and supporting studies to better understand this animal would be appropriately effective. Effects of predation and disease are not known. Reproductive rates and population composition are unknown. Money spent for this research would be far more logical than spending money completing an EIS.

It is our belief that OMYA has a good plan that avoids or minimizes impacts to the T&E species and Bighorn Sheep. We recommend that OMYA consider the exchange of some of their other mining claims within the National Forest as mitigation for the loss of forest during the expansion of the B-5 Pad Overburden Site. We do not believe this would be an unreasonable request from the Forest Service for OMYA to accomplish.

It is more reasonable and logical to spend money supporting efforts to study the Sheep and provide direct assistance on the ground than wasting time and money compiling an EIS document that is not warranted for this proposed expansion project.

Respectfully,



George A. Webber
Project Representative

cc: Hal Seyden
Dev Volgarino
Raj Daniel
Robin Butler
Howard Brown

Biological Resource Specialists
35813 Carter Street
Yucaipa, CA 92399

August 3, 1998

Ms. Gail van der Bie
San Bernardino National Forest
Mountains District
P.O. Box 350
Skyforest, CA 92385

SUBJECT: Use of Mine Sites by Bighorn (*Ovis canadensis nelsoni*)

Dear Ms. van der Bie:

I am writing this letter in regards to OMYA's expansion of the Sentinel quarry. I have worked as a wildlife biologist in various capacities for the last twenty years including a brief period working for the San Bernardino National Forest under the supervision of Steve Loc on the WFR documents. I specialize in conducting baseline biological surveys and writing revegetation plans for mines in Southern California. In this capacity, I have been involved with the Mitsubishi Cushionbury Mine, the Partin Limestone Mine, and the Specialty Minerals Mine. I have also worked on other desert mines where bighorn populations are present, such as the Cal West Rock Products Newberry Springs Quarry west of Newberry Springs, Molycorp in Mountain Pass, the Viceroy Mine in the Castle Mountains, the Granite Mecca Hills Quarry, and the Beck Iron Mine in the Kingston Mountains. Each of these mines either has herds of bighorn present on the quarries/mines themselves or in the immediate vicinity.

The over-riding impression that I have developed from my work on these sites is that bighorn adapt to these major disturbances in their habitat produced by mine and quarry activity. They still utilize the sites for forage and water and bed down on these sites at night. The exception to this is found at the Molycorp Mine site where the former company town, and chemical plants that existed there for many years have compounded the impacts. There is an overall lack of studies on bighorn/mining interacts and therefore my impressions are anecdotal or conjecture. Steve Loc related to me, the Curtis Tungsten mine, in the San Gabriels appeared to have no effect on the bighorns in the vicinity of the mine. According to Vern Bleich, wildlife biologist with the California Department of Fish and Game, Bishop, who has worked with bighorn for a number of years, the only study that he has seen on the subject prior to his department's recent study of the bighorns in the Panamint Mountains around the Briggs Gold mine, was one study

Ms. Gail van der Bie

August 3, 1998

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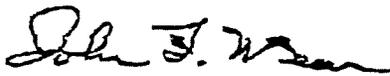
on Mountain sheep/mining interactions on a mine in Northern Alberta, Canada. Of course, this study was not comparable to the conditions on the desert mine sites. What the CDFG found in their study in the Panamint (which should be available this fall or winter) was that during blasting days the bighorn reduced the amount of time utilized for foraging as compared with a control group that was not confronted with mine blasting.

This change in foraging activity is a result of the animals response to the stress created by the blasting. The long term effects incurred by this change in foraging activity is unknown at this time. The question remains, will this modified foraging continue or will the bighorn become habituated in time?

More specifically, the data on the OMYA bighorns (Jim Davis' and others, work over the last five years) demonstrates that a stable herd exists in the vicinity of or actually on the mine. This indicates that the bighorns have adapted to the continuing operations of the mine. Since the proposed expansions of the Sentinel Quarry and associate overburden dump (Butterfield 5 Pad) are at least two thousand feet south of areas where most of the bighorn sightings have been made, it is expected that expansion should have little or no impact on them. Likely the greatest problem that bighorn and deer have to deal with other than the occasional vehicular impacts, is the stable if not increasing population of protected mountain lions in California. In a recent *Los Angeles Times* article (August 2, 1998) on the problems of ranching in southeastern Arizona and New Mexico, it was reported that Ted Turner spent fifty thousand dollars to reintroduce bighorns onto one of his ranches in southwest New Mexico and that all of this year's (1998) lambs appear to have been taken by mountain lions.

If you have any questions, please do not hesitate to call me at (909) 797-1372.

Sincerely,



John F. Wear
Senior Biologist
Biological Resources Specialists

Hal Seyden, USFS

Dev Volgarino, USFS

Raj Daniel, USFS

Robin Butler, USFS

George Webber, Webber & Webber Mining Consultants Inc.

Howard Brown, OMYA

Memorandum

To: Mr. Curt Taucher

Date: August 14, 1998

From: Department of Fish and Game - Jim Davis

Subject: Bighorn Sheep Guzzler installation, Cushenbury Herd

A successful project to install a big game guzzler at Furnace Canyon on the north slope of the San Bernardino Mountains was completed on July 11, 1998. The purpose of this project is to provide water at high elevation (7,450') on summer range, and thereby attempt to minimize mountain lion predation on bighorn sheep by avoiding the need to move downslope to obtain water.

The project was largely made possible with the help of two organizations. OMYA mining corporation provided the tank, guzzler site preparation, and pre-project vegetation survey. The Society for the Conservation of Bighorn Sheep organized the volunteers, directed the installation, and provided funds for the plumbing and transportation of all materials used.

It is anticipated that this guzzler will be used primarily during the summer months. Radio collared sheep in the project area will be used to determine use and movement in the general vicinity of the guzzler. Once usage begins, we will initiate a focused monitoring effort to determine if the objective of minimizing elevational shifts is being accomplished.


James H. Davis
Associate Wildlife Biologist

cc: Dr. Vern Bleich, Bishop
Mr. Steve Torres, WMD, Sacramento
Mr. Larry Sitton, Long Beach
Mr. Steve Loe, San Bernardino NF
Mr. Howard Brown, OMYA
Mr. Dick Conti, SCBS, Los Angeles

Bighorn sheep
Ovis canadensis nelsoni

Date of Evaluation: April 2, 1998
BLM, Ridgecrest Resource Area Office

Attendees: LaPré, Racine, Thompson,
Jones, Pauli, Schlachter & Parker (briefly)

Findings:

Fish and Wildlife Service does not want to provide coverage for bighorn.

Cooperative management, including installation of waterholes, re-introductions, and monitoring of populations by radiotracking has been successful on military bases.

Mining interests have provided funds to perform radiotracking studies of the San Bernardino and San Gabriel Mountains herds. Mining operations have not been shown to significantly impact bighorn.

Rural development with fencing threatens corridors; one corridor runs through town of 29 Palms.

Recommended Management Prescriptions:

Protect natural water sources. On military lands, prohibit bivouacs near springs; post springs as off-limits. Prohibit water diversions at bighorn springs.

Avoid helicopter overflights near lambing areas, at least seasonally. CDFG will make these locations known to military.

Enforcement of "nine-mile rule" for domestic sheep and bighorn.

Continue re-introductions and monitoring on military bases.

Remove burros in Argus Mountains because of damage to springs.

Mitigation measures for mining proposals in the San Bernardino Mountains and San Gabriel Mountains should include funds to monitor potentially impacted sheep herds.

Known lambing areas should be conserved and withdrawn from mineral entry on public lands.

Require longer time period for review of exploration plans and include CDFG - current 3809 regulations require notice only with 15 day review.

Fence heap leach pads if in bighorn habitat.

Monitor herd numbers for 2 ranges per year. Ten ranges now support bighorn, so monitoring is on a five-year cycle. Any re-introduced herds must be monitored.

Ecosystem benefits: Preservation of wide-ranging species.

Other species conserved: Golden eagle, prairie falcon, Inyo California towhee.

Permit assurances: State pre-listing agreements. FWS does not want to cover bighorn. CDFG reserves right to cancel assurances if population goes below minimum level (based on statewide metapopulation model).



"Robin Butler/R5/USDAFS" <rbutler@fs.fed.us> on 11/30/2000 10:05:30 AM

To: howard.brown@omya.com
cc:
Subject: Bighorn input for OMYA expansion

.....

Robin Butler, District Biologist
Big Bear Ranger Station, P.O. Box 290
San Bernardino National Forest
Fawnskin, CA 92333
Phone: 909-866-3437 X3225
FAX: 909-866-8192 Pager: 909-432-1111
E-mail: rbutler@fs.fed.us
Every species counts

.....

----- Forwarded by Robin Butler/R5/USDAFS on 11/30/2000 10:03 AM -----

James Davis
<jdavis@dfg2.ca.gov> To: rbutler@fs.fed.us
cc: tforeman@dfg.ca.gov,
sloe@fs.fed.us Subject: Bighorn input for OMYA
expansion
11/21/2000
03:43 PM

Robin:

We have considerably more information on sheep usage and demographics than we did even a couple of years ago due to the recent increase in collared animals and intensity of data gathering. Bighorn sheep usage in and around the Sentinel quarry is well documented as far west as Butterfield 2, south around the rim at the quarry, along the north edge near turn 15, and east along the Furnace Canyon/quarry divide. I'm not sure what level of input you want or the best method of getting it to the EA document you folks are preparing. pr your request, I will provide most of my comments to you via email and if needed in written format from the Region.

My biggest concern with the expansion involves the previously approved Sentinel Reclamation Plan which describes beginning the fill process from the top down starting at the current Guzzler location. This area is the southern most corridor for both sheep and deer moving laterally along the north slope in an east to west direction. Since the expansion will create some or all of the fill for this quarry it seems logical to address this concern now. I would prefer to see the fill begin from the existing quarry floor and work up for a minimum 5 year time frame to allow vegetation development and sheep use to continued and develop along the old overburden site to the north before the road to the guzzler is used to dump into Sentinel.

The Butterfield 5 backfill currently in progress will continue for several years to come. Additionally, there will be fill placed on the previously re vegetated Butterfield 5 overburden site. It is my

understanding that these sites will be re vegetated at some point in the future. It would be highly beneficial to phase this re vegetation program rather than wait until all fill and contouring is done. I would recommend starting re vegetation concurrently with ongoing backfill operations, where feasible, with an emphasis on the north and north western portions abutting Crystal Creek and Dolomite hill. Re vegetation should emphasize grass and forb spp. beneficial to bighorn sheep. It is anticipated that the sheep study currently ongoing will continue up to three more years at the increased level provided by the 1999 capture effort. Management recommendations and habitat enhancement and maintenance programs have been developed and will continue to be after the investigation is completed. A guaranteed financial involvement in these projects as management and habitat enhancement and maintenance projects are developed in the future would provide additional sound biological data and potentially beneficial habitat projects. I hope these comments are clear enough to work into some form of mitigation requests. I would be happy to sit down with you and whoever is doing the EA to more clearly describe these concerns in detail if needed. Please give me a call at your convenience. Have a good holiday.
Jim