

March 5, 2010
(2006-115)

Mr. Conal McNamara
City of Azusa
213 E. Foothill Blvd.
Azusa, CA 91702

RE: Botanical Survey Methodology for Vulcan Materials Company's Azusa Rock Quarry

Dear Mr. McNamara:

The purpose of this letter is to provide justification that the survey methodology utilized by ECORP Consulting, Inc. (ECORP) for the botanical surveys at Vulcan Materials Company's (Vulcan) Azusa Rock Quarry were comprehensive and that the results of the surveys are valid. Concerns were raised over the survey methodology in a comment letter on the Draft Environmental Impact Report: Azusa Rock Quarry, Modification to C-98-20, Development Agreement and Revised Reclamation Plan, SCH No. 2009051057 (DEIR).

The objectives of the botanical survey were to note all plant taxa present, to map the vegetation communities, to determine if the existing vegetation communities and site conditions were suitable for sensitive plant species, and to accurately report what was found. Prior to conducting the botanical survey, the botanists conducted an extensive literature review to determine if any sensitive plant species had a potential to occur in the habitats present on the site. In addition, they determined whether or not the regional location and physical characteristics (including soils, elevation, orientation, slope/aspect) were suitable for the sensitive plants that were identified as potentially occurring in the habitats present on the site. Those species that were determined to have a potential to occur were then researched further by the botanists so they would be able to identify the plant species in the field and suitable habitat conditions, if they were present. In addition, many of the sensitive plant species that typically occur in the chaparral community are fire or disturbance followers. The botanists studied the life histories of the species to determine whether they were fire or disturbance followers. If they were, then they know that if a chaparral community is dense and hasn't burned for an extended period of time, then the focus of the search will be on the edges of trails and any other disturbed areas they can access. So, prior to going out to the site to conduct the survey, the botanists were very well prepared.

In addition, ECORP's botanists are highly qualified to conduct these types of surveys and they possess the qualifications stated in the CNPS Botanical Survey Guidelines (California Native Plant Society, December 9, 1983, revised June 2, 2001), which include:

- Experience conducting floristic field surveys;
- Knowledge of plant taxonomy and plant community ecology and classification;
- Familiarity with the plants of the area, including special status and locally significant plants;

- Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- Experience with analyzing impacts of a project on native plants and communities.

ECORP's botanists conducted the botanical survey according to industry accepted protocols. According to the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (State of California, California Natural Resources Agency, Department of Fish and Game, November 24, 2009), the field survey method should be conducted as follows:

- Conduct surveys using **systematic field techniques** in all habitats of the site to ensure thorough coverage of potential impact areas. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa observed. The level of effort should be sufficient to provide comprehensive reporting.

According to the CNPS Botanical Survey Guidelines, botanical surveys should be:

- Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas. All habitats within the project site must be surveyed thoroughly in order to properly inventory and document the plants present. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity.

The key phrases in both of these guidelines are "The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified." and "The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity."

The botanist is required to utilize the tools they have to conduct a survey using a methodology that is appropriate for the conditions on the site. These conditions relate not only to the overall diversity of the vegetation but also to the structural complexity and these variables determine the level of effort needed to adequately survey the site. In the case of the Azusa site, the old growth chaparral on the site supports a relatively low diversity of plant species. The monotypic nature of the chaparral, which is dominated by dense stands of chamise (*Adenostoma fasciculatum*), also exhibit a low structural complexity.

When the botanists conducted the surveys at the Azusa site, they were aware that the rare plants they were looking for were generally restricted to openings in the dense canopy created by the chaparral plants or along the edges of the trails. Because most of the rare plants occurring in chaparral are fire or disturbance followers, the botanists put most of their effort into documenting all plant species they observed in these locations. In addition, they surveyed the coastal sage scrub areas, which are less dense, and they pushed through into the chaparral along the edges of the trails so they could look for indications of openings in the canopy. At the same time, they were recording the plant species they saw in order to be assured that they had recorded all species in the chaparral community. The botanists are confident that they conducted a survey that is accurate and the sensitive plant species in question were not present on the site when they conducted their survey. In addition, they are confident that the species in question likely do not occur on the site.

For the surveys of the sheer canyon walls, the botanists utilized the most appropriate tools (binoculars) for the conditions on the site. Conducting botanical surveys of sheer cliffs, talus slopes, and other steep topographic areas using binoculars is an industry accepted methodology when the conditions do not allow safe access. The resources agencies do not expect botanists to put their lives in danger to conduct a botanical survey and that's what would happen if the botanists tried to survey the sheer canyon walls. However, they do expect the botanists to utilize the most appropriate tools for surveying these sorts of areas. Just as ornithologists utilize binoculars to identify small birds in vegetation at a distance, botanists can do the same to identify plants at a distance. The botanists that surveyed the sheer canyon walls with binoculars knew what species they were looking for and they knew the characteristics of the growth habit and flowers of those species. The binoculars allowed them to get a good view of the inaccessible areas. If they had seen anything on the sheer canyon walls that even vaguely resembled a sensitive plant, then they would have documented that in the report and they would have explained that the plants were in an inaccessible location. They are confident that they did not see any sensitive plants on the sheer canyon walls.

In conclusion, ECORP is confident that the botanical survey that was conducted on the Azusa site during the spring of 2007 was accurate and valid and we stand behind the results of the surveys. If you have any questions regarding the content of this letter, please contact me at (714) 648-0630.

Sincerely,

ECORP Consulting, Inc.



Mari Quillman
Principal Biological Resources Program Manager