DATE: January 5, 2005

BRIEFING FOR THE ASSOCIATE STATE DIRECTOR

SUBJECT: Completing Clear Creek Route Selection and the Hollister RMP revision.

BACKGROUND: The Hollister Field Office is in the process of selecting a route network for the Clear Creek Management Area. They have issued a Draft EIS and have begun analyzing comments they have received.

EPA Concerns - The EPA has submitted a letter requesting that the BLM delay the Final EIS, pending the completion of a study they are conducting that is assessing the human health risk associated with asbestos exposure in the Clear Creek Management Area. EPA suggests that BLM complete a Supplemental EIS analyzing a broader range of alternatives in light of this pending information, which may show that BLM did not properly address asbestos exposure in the Draft EIS. Subsequent conversations with EPA indicate that EPA is not necessarily insistent on the BLM developing a Supplemental EIS; rather, they would like to see BLM adequately address the pending study and the associated health risks.

California Native Plant Society (CNPS) lawsuit – The CNPS has filed suit against the BLM for its management of OHVs and special status species in the Clear Creek Management Area. The lawsuit charges BLM with failure to implement the Record of Decision (1999), which includes route designation.

Hollister RMP revision - The BLM has also initiated an RMP revision for the Hollister Field Office area. Scoping has been completed and work on the Draft RMP / Draft EIS will begin shortly. A request for quotations (RFQ) and statement of work (SOW) was distributed to prospective contractors; award of the contract is expected February 7, 2005.

ISSUES FOR DECISION:

How can BLM most effectively and efficiently move forward with management decisions while addressing EPA concerns and the CNPS lawsuit.

ALTERNATIVES:

Complete Clear Creek Route Selection on current schedule and address predicted EPA data and concerns and special status species concerns in the Hollister RMP revision – This option would remove RMP-level decisions from the current Clear Creek planning effort and narrow the scope to route selection. Route selection would be complete and decisions related to individual routes would not be revisited in the Hollister RMP revision. An analysis of designating the Clear Creek area as open, closed, or limited to OHV use would be included in the RMP using the

selected route network. This analysis would also include limitations and conditions related to season of use and duration of use. The RMP-level decisions on Clear Creek could be made under a separate record of decision (ROD) from the rest of the Hollister RMP decisions if the level of controversy and resolution of issues in Clear Creek would delay completion of the revision. Any seasonal or emergency closures that BLM deems prudent (in response to EPA concerns or special status species concerns) before the completion of the RMP-level decision could be accomplished under the 43 CFR 8300 regulations.

Advantages:

- Completes route selection more quickly; meets BLM commitments from 1999 ROD
- Keeps the Hollister RMP revision comprehensive of the entire field office

Disadvantages:

- Does not respond to EPA concerns in the way they outline
- Some decisions discussed in current Draft EIS are delayed
- 10-year route selection process to be followed immediately by analysis of open, closed, or limited designation for entire CCMA creates high potential for public controversy.

Complete Clear Creek Route Selection and RMP-level decisions on a delayed schedule to incorporate predicted EPA data and concerns and special status species concerns; Hollister RMP revision would not include decisions on Clear Creek – This option would address all Clear Creek issues, RMP-level and route selection, separately from the Hollister RMP revision. BLM would wait until defensible data is available from EPA to develop an expanded Supplemental EIS for the Clear Creek area. This Supplemental EIS would analyze a broader range of alternatives than the current Clear Creek Draft EIS, including alternatives for all RMP-level decisions. This range would include an analysis of open, closed, and limited to OHV use, including limitations and conditions related to season of use and duration of use. The Hollister RMP revision would address all RMP-level decisions in the rest of the field office area.

Advantages:

- Responds to EPA concerns in the way they outline
- Addresses all Clear Creek issues at one time

Disadvantages:

- Delays completion of route selection; does not keep commitments from 1999 ROD
- Separates Clear Creek from the entire field office in the Hollister RMP
- All decisions are delayed, supporting plaintiff's claims in pending litigation.

CONTACTS:

- Eli Ilano, California BLM Planning Coordinator: 916-978-4427
- Sky Murphy, Hollister BLM Planning Coordinator: 831-630-5039

DATE: January 28, 2005

BRIEFING FOR THE STATE DIRECTOR

SUBJECT: Completing Clear Creek Route Selection and the Hollister RMP revision.

BACKGROUND: The Hollister Field Office is in the process of selecting a route network for the Clear Creek Management Area. They have issued a Draft EIS and have begun analyzing comments they have received.

EPA Concerns - The EPA has submitted a letter requesting that the BLM delay the Final EIS, pending the completion of a study they are conducting that is assessing the asbestos exposure in the Clear Creek Management Area. The EPA study will likely not be complete before January 2006. EPA's letter suggests that BLM complete a Supplemental EIS analyzing a broader range of alternatives in light of this pending information, which may show that BLM did not properly address asbestos exposure in the Draft EIS. Subsequent conversations with EPA indicate that EPA is not necessarily insistent on the BLM developing a Supplemental EIS; rather, they would like to see BLM adequately address the pending study and the associated health risks.

California Native Plant Society (CNPS) lawsuit – The CNPS has filed suit against the BLM for its management of OHVs and special status species in the Clear Creek Management Area. The lawsuit charges that BLM violated US Fish & Wildlife Service's Biological opinion (1997) and failed to implement the CCMA Plan Amendment Record of Decision (1999), which includes route designation.

US Fish & Wildlife Service – USFWS Biological Opinion (1997) required BLM to monitor known populations of San Benito evening primrose (*Camissonia benetensis*) and implement emergency closures or re-initiate consultation on the CCMA Plan Amendment (1995) if incidences of "damage" exceeded agreed upon thresholds within any one year. Subsequently, annual monitoring reports indicated that incidences of "damage" had exceeded the threshold for re-initiation of consultation on the CCMA Plan Amendment (1995). However, USFWS declined a BLM request for re-consultation on the CCMA Plan Amendment (1995) in favor of consultation on the Draft CCMA Plan Amendment for Route Designation that was completed in 2004.

Hollister RMP revision - The BLM has also initiated an RMP revision for the Hollister Field Office area. Scoping has been completed and work on the Draft RMP / Draft EIS will begin shortly. A request for quotations (RFQ) and statement of work (SOW) was distributed to prospective contractors; award of the contract is expected February 7, 2005. BLM is considering options to omit any land use plan (or RMP-level) decisions for the Clear Creek Management Area from the Hollister RMP revision.

ISSUES FOR DECISION: How can BLM most effectively and efficiently move forward with management decisions while addressing EPA concerns and the CNPS lawsuit.

OPTION #1: Complete Clear Creek Route Selection on current schedule and address findings from EPA study in a subsequent Clear Creek RMP – This option would finalize the route selection process Spring 2005 and address the findings from the EPA asbestos study in a Clear Creek RMP. The Clear Creek RMP would begin scoping in fiscal year 2006 and make RMP-level decisions for the Clear Creek management area. Route selection would be complete and decisions related to individual routes would not be revisited in the Clear Creek RMP. An analysis of Clear Creek as closed or limited to OHV use would be included in the Clear Creek RMP using the selected route network. This analysis would also address issues related to season of use and duration of use. The density of routes would probably not be re-visited.

Advantages:

- Completes route selection more quickly; meets BLM commitments from 1999 ROD.
- Demonstrates progress on the USFWS Biological Opinion (1997), refuting claims in the CNPS lawsuit.
- Provides BLM with immediate measures to protect San Benito evening primrose.
- Provides BLM with immediate measures to benefit protection of watershed resources.

Disadvantages:

- May not adequately address EPA concerns. EPA/CEQ may close Clear Creek.
- Fragments decision-making; revisiting analysis of closed or limited designation for entire CCMA creates high potential for public controversy.
- May not fulfill NEPA requirements for using best available information.
- Three concurrent planning processes affecting staffing and funding capabilities.

OPTION #2: Complete Clear Creek Route Selection on current schedule addressing potential findings from EPA study and include remaining Clear Creek issues in Hollister RMP- This option would finalize route selection process Spring 2005. The FEIS would expand on the issue of wet and dry season closures, user registration, establish a new compliance monitoring plan for *Camissonia*, and specifically address the pending Health Risk Assessment and potential management actions (i.e. administrative closure) should the risk be determined to be unacceptable. BLM would implement a dry season closure for 2005 through a Federal Register Notice under 43 CFR 8300. BLM would work closely with EPA to obtain their support for completing route designation and expansion of RNA as an interim measure to provide improved management for critical issues pending outcome of final Risk Report. With the designation process complete the remaining issues for Clear Creek would be addressed in the Hollister RMP.

Advantages:

- Completes route selection more quickly; meets BLM commitments from 1999 ROD.
- Demonstrates progress on the USFWS Biological Opinion (1997), refuting claims in the CNPS lawsuit.
- Provides BLM with immediate measures to protect San Benito evening primrose.
- Provides BLM with immediate measures to benefit health risk.
- Provides BLM with immediate measures to benefit protection of watershed resources.
- Completes project as scoped to the public.
- Primarily one sequential planning process for most efficient staffing and funding.

- Provides best level of credibility for BLM and Field Office with all stakeholders.
- Potential future closure would be accomplished through administrative action rather than planning process.
- RMP planning process is comprehensive rather than fragmented.
- Findings from EPA risk assessment would be addressed in Hollister RMP.

Disadvantages:

- May not adequately address EPA concerns.
- Will delay completion of Hollister RMP due to Clear Creek issues.
- May not fulfill NEPA requirements for using best available information.
- Fragments decision-making process for the Clear Creek management area.
- Dry season closure could be controversial.

OPTION #3: Complete Clear Creek Route Selection and RMP-level decisions on a delayed schedule to incorporate predicted EPA data and concerns and special status species concerns in a new Clear Creek RMP – This option would address all Clear Creek issues, RMP-level and route selection, in a Clear Creek RMP. BLM would wait until the asbestos study is available from EPA to develop an RMP and route network for the Clear Creek management area. This Clear Creek RMP and EIS would analyze a broader range of alternatives than the current Clear Creek Draft EIS, including alternatives for all RMP-level decisions. This range would include an analysis of closed and limited to OHV use, including limitations and conditions related to season of use and duration of use. Any seasonal or emergency closures that BLM deems prudent (in response to EPA concerns or special status species concerns) before the completion of the RMP and route selection could be accomplished under the 43 CFR 8300 regulations.

Advantages:

- Likely responds adequately to EPA concerns.
- Addresses all Clear Creek issues at one time.
- Makes all decisions related to Clear Creek using the same information.

Disadvantages:

- Delays completion of route selection, supporting plaintiff's claims in pending litigation. CNPS/CBD and courts may close Clear Creek.
- May require BLM and USFWS to re-initiate consultation on the 1995 CCMA Plan Amendment.
- Two concurrent planning processes affecting staffing and funding capabilities.

OPTION #4: Complete Clear Creek Route Selection on a delayed schedule to incorporate predicted EPA data and concerns and special status species concerns, implement an aggressive interim management strategy, and include route designation and RMP-level decisions for Clear Creek in Hollister RMP – This option would delay route and RNA designations until completion of EPA risk assessment. An aggressive interim management strategy would be developed to address critical issues pending EPA's final report. This would include a variety of administrative actions, including implementing a dry season closure

commencing 2005, closure of the Larious watershed and other critical watersheds, and registration of users through a Federal Register Notice. The Hollister RMP would address route designation and all other Clear Creek issues and RMP-level decisions. The Hollister RMP and EIS would analyze a broader range of alternatives than the current Clear Creek Draft EIS, including alternatives for all RMP-level decisions. This range would include an analysis of closed and limited use area designations for Clear Creek, including limitations and conditions related to season of use and duration of use.

Advantages:

- Responds to EPA and CNPS concerns with aggressive interim management strategy.
- RMP planning process is comprehensive rather than fragmented.
- Makes all decisions related to Clear Creek using the same information.
- Provides BLM with some additional measures to protect San Benito evening primrose.
- Primarily one sequential planning process for most efficient staffing and funding.

Disadvantages:

- Delays completion of route selection, supporting plaintiff's claims in pending litigation. CNPS/CBD and courts may close Clear Creek.
- May require BLM and USFWS to re-initiate consultation on the 1995 CCMA Plan Amendment.
- Implementation of interim management strategy would likely stir considerable controversy among some stakeholders.
- Will delay release of Draft RMP.

PREPARED BY:

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- Eli Ilano, California BLM Planning Coordinator: 916-978-4427
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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
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February 28, 2005

In Reply refer to:
1610 (CA-930)P

U.S. Environmental Protection Agency
Region 9 Headquarters
75 Hawthorne St.
San Francisco, CA 94105

Dear Mr. Enrique Manzanilla;

On December 1, 2004 BLM received EPA's comment letter on the Clear Creek Management Area (CCMA) Draft Resource Management Plan Amendment and Draft Environmental Impact Statement (DRMP/DEIS). The comment letter indicates that EPA is concerned that BLM has used inadequate information in the DRMP/DEIS to analyze human health risks from exposure to naturally occurring asbestos, which is based on a risk assessment contracted by BLM in 1992. The comment letter also suggests that BLM should consider issuing a Supplemental DRMP/DEIS to incorporate results of an on-going risk assessment by EPA to determine the human health risks from exposure to naturally occurring asbestos that will be complete in 12-18 months. Furthermore, EPA's comment letter offers alternatives for consideration in a Supplemental DRMP/DEIS, and states that BLM could be referred to the Council on Environmental Quality (CEQ) if the agency does not adequately address EPA's concerns. Finally, EPA's comment letter recommends that BLM immediately implement all mitigation and monitoring commitments from a 1999 Record of Decision.

BLM recognizes the importance of utilizing the best available information to conduct analyses for the protection of human health and safety as critical to the mission of the BLM to promote the use and enjoyment of public lands. Therefore, BLM will address EPA's concerns in a subsequent public review process to evaluate alternatives for public use of the Clear Creek Management Area when the results of the on-going risk assessment become available. However, BLM is requesting that EPA withhold referral to the CEQ on the current DRMP/DEIS to allow BLM to complete the route designation process, pursuant to the 1999 Record of Decision (ROD) that EPA referenced in the comment letter, which is also the primary purpose the current CCMA Plan Amendment was developed.

To further discuss these issues and elaborate on the process and techniques BLM would use to address EPA's concerns, representatives from both agencies met on February 8, 2005 to develop agreement on a planning process that meets the needs of both the EPA and BLM. Representatives from EPA included: Lynn Suer, Jeanne Geselbracht, Arnold Den, Lisa Hanf, and

Bob Fitzgerald. Representatives from BLM included: Bob Beehler, George Hill, Sky Murphy, Eli Ilano, and Jack Mills.

Issues discussed and addressed included the following:

- The pending results of EPA's risk assessment study do not directly relate to the specific designation of a route network, but rather to the overall public use of the CCMA.
- Upon completion of the CCMA Designation EIS/Plan Amendment, there would be immediate benefits to BLM's management ability to address the resource condition objectives identified in the 1999 ROD, including furthering protection of special status species, watershed resources (erosion, sediment transport, water quality), and limitations on public use (dry season closure, registration.)
- A current lawsuit filed by California Native Plant Society (CNPS) and Center for Biological Diversity (CBD) charges BLM with failure to implement the 1999 Record of Decision, which includes route designation.

During the discussion, EPA and BLM tentatively agreed to terms that would allow BLM to complete the route designation process and convince EPA that referral to CEQ would not be necessary provided BLM addresses issues identified below in Final EIS.

- EPA wants assurance that should BLM proceed with route designation that it will address results of risk assessment upon completion of study (Jan. 2006 ?) in a subsequent Clear Creek Plan.
- Should Clear Creek designation EIS proceed, EPA wants the following issues addressed in the document:
  - expand on mitigation measures to meet resource condition objectives and implementation of commitments from the 1999 Record of Decision (ROD), including dry season closure and registration and limitations of public use;
  - acknowledge uncertainties in data/information presented in the current DEIS with regard to the 1992 Human Health Risk Assessment;
  - fully disclose the pending risk assessment and specifically identify how the results of this study will be addressed in a separate planning process;
  - identify immediate actions to be taken to reduce human health risks from exposure to naturally occurring asbestos; and
  - the Final EIS must clearly show environmental benefits of route designation.
- EPA requests review of administrative draft of Final EIS prior to public release.

The BLM believes the best course of action is to complete route designation EIS, to avoid consequences of current litigation and provide critical management tools to address resource concerns in the interim while awaiting results of EPA risk study.

BLM is committed to addressing EPA's risk assessment in future land use planning decisions for the CCMA. Upon completion of EPA's risk study in 2006, BLM would begin preparation of a Clear Creek Management Plan (Resource Management Plan Amendment) addressing overall public recreation use of the CCMA incorporating findings from the study. This plan would analyze a broad range of alternatives, including a range of "Limited Use" area designations

which could further restrict public use to include potential closure based on health risk. BLM has receipt of the first EPA Technical Report relating to dry season sampling in September 2004 and based on the results, proposes to implement a dry season closure through a Federal Register Notice for the summer 2005 season.

BLM has made significant progress over the past few years in implementing decisions from the 1999 ROD, and it is critical to continuing this progress that the current designations be completed in a timely manner. There is a great deal of public interest in the CCMA and honoring our commitments to our stakeholders in this planning process is also an important consideration. BLM formally requests a Letter of Support from EPA for BLM to complete the route designation process prior to the release of EPA's on-going risk assessment, under the terms and conditions as discussed in this letter and in the meeting of February 8, 2005.

Sincerely,

Mike Pool
California State Director

The ELCR was calculated for three exposure scenarios, representing three levels of user activity: one-day per year exposure (low use); five days per year (designated "reasonable maximum exposure" (RME); 12 days per year (high use). These scenarios were developed by BLM for their 1992 asbestos exposure and risk assessment, and were used in EPA's technical memorandum to facilitate comparisons between the results of the two studies. EPA's final study report will evaluate a larger range of exposure scenarios.

The estimated ELCR values were compared to EPA's health risk management range. For all three exposure scenarios, the estimated ELCR values were within or exceeded the health risk management range (Table 2). This range is equal to an increased cancer risk for one in 10,000 persons (1E-04) to one in 1,000,000 persons (1E-06). When ELCR values fall within this range (i.e. more than 1 in 10,000 persons are affected), EPA would generally support remediation (e.g., removal or treatment) of the cancer-causing substance. Because naturally occurring asbestos cannot be removed or treated, more aggressive risk management may be the best option. Therefore, within this range, health risk may be managed by reducing exposure through administrative or other means (e.g. by use limitations).

United States Department of the Interior

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23 March 2005

1610 (CA-190)P

Memorandum

To: State Director

From: Hollister Field Office Manager

Subject: Completion of Clear Creek RMP Amendment and FEIS for Route Designations

BLM Hollister Field Office sent a letter, dated March 9, 2005, to U.S. Environmental Protection Agency Region 9 to summarize issues and strategies for completion of Clear Creek RMP Amendment and FEIS for Route Designations as discussed at a meeting with U.S. EPA on February 8, 2005. BLM has requested concurrence from EPA for BLM to complete the route designation process prior to the release of EPA's on-going risk assessment, under the terms and conditions as discussed in this letter and in the meeting of February 8, 2005.

During the discussion, EPA and BLM tentatively agreed to terms that would allow BLM to complete the route designation process and convince EPA that referral to CEQ would not be necessary provided BLM addresses issues identified below in Final EIS.

- EPA wants assurance that should BLM proceed with route designation that it will address results of risk assessment upon completion of study (Jan. 2006 >) in a subsequent Clear Creek Management Plan.
- Should Clear Creek designation EIS proceed, EPA wants the following issues addressed in the document:
  - expand on mitigation measures to meet resource condition objectives and implementation of commitments from the 1999 Record of Decision (ROD), including dry season closure and registration and limitations of public use;
  - acknowledge uncertainties in data/information presented in the current DEIS with regard to the 1992 Human Health Risk Assessment;
  - fully disclose the pending risk assessment and specifically identify how the results of this study will be addressed in a separate planning process;
  - identify immediate actions to be taken to reduce human health risks from exposure to naturally occurring asbestos; and
  - Final EIS must clearly show environmental benefits of route designation.
- EPA requests review of administrative draft of Final EIS prior to public release.

BLM will address these issues in the FEIS. Provided BLM receives a positive response from EPA by mid-April, the following outlines the HFO schedule for preparation and completion of the Proposed Plan Amendment and FEIS for the Clear Creek Management Area.

Jan 12, 2005	Letter to USFWS requesting consultation
Apr 1	BA to USFWS
April 15 – May 16	Preparation of Proposed Plan Amendment and response to public comment
May 17 – June 10	CASO and WO review
June 13 – June 17	Incorporate comments
June 20	Send Proposed Plan Amendment and FEIS to publish
July 22	NOA and release of FEIS
July 22- Aug 22	30 day Protest Period
Aug	Biological Opinion
Aug 22 – Sep 26	Resolution of protests
Sep 30	ROD

The HFO believes this schedule attainable provided a timely response from EPA is received. BLM would address results of EPA's Health Risk Assessment when available, in a subsequent Clear Creek Management Plan in 2006 if necessary.

Robert E. Beehler

United States Department of the Interior

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1610 (CA-190)P

Memorandum

To: State Director

From: Hollister Field Office Manager

Subject: Completion of Clear Creek Route Designations and EPA Comment Letter.

On February 8, 2005, BLM met with the U.S. Environmental Protection Agency Region 9 in San Francisco. Those in attendance included: EPA; Lynn Suer, Jeanne Geselbracht, Arnold Den, Lisa Hanf, Bob Fitzgerald and BLM; Bob Beehler, George Hill, Sky Murphy, Eli Ilano, Jack Mills. BLM's goal for meeting was identified as how to implement route designations at Clear Creek as soon as possible and address EPA comment letter and concerns.

Issues discussed and addressed included the following:

- The results of EPA's risk assessment study do not directly relate to the specific designation of a route network, but relate to the overall public use of the CCMA.
- Upon completion of the CCMA Designation EIS/Plan Amendment, there would be immediate benefits to BLM's management ability to address resource condition objectives, including furthering protection of special status species, watershed resources (erosion, sediment transport, water quality), and limitations on public use (dry season closure, registration.)
- A current lawsuit filed by California Native Plant Society (CNPS) and Center for Biological Diversity (CBD) charges BLM with failure to implement a 1999 Record of Decision, which includes route designation. Delay in the route designation process would likely have negative impacts related to current litigation between CNPS/CBD and BLM.

During the discussion, EPA and BLM tentatively agreed to terms that would allow BLM to complete the route designation process and convince EPA that referral to CEQ would not be necessary provided BLM addresses issues identified below in Final EIS.

- EPA wants assurance that should BLM proceed with route designation that it will address results of risk assessment upon completion of study (Jan. 2006 >) in a subsequent Clear Creek Management Plan.
- Should Clear Creek designation EIS proceed, EPA wants the following issues addressed in the document:
  - expand on mitigation measures to meet resource condition objectives and implementation of commitments from the 1999 Record of Decision (ROD), including dry season closure and registration and limitations of public use;

- acknowledge uncertainties in data/information presented in the current DEIS with regard to the 1992 Human Health Risk Assessment;
- fully disclose the pending risk assessment and specifically identify how the results of this study will be addressed in a separate planning process;
- identify immediate actions to be taken to reduce human health risks from exposure to naturally occurring asbestos; and
- Final EIS must clearly show environmental benefits of route designation.

- EPA requests review of administrative draft of Final EIS prior to public release.

The Hollister Field Office (HFO) believes the best course of action is to complete the route designation EIS, to avoid consequences of current litigation and provide critical management tools to address resource concerns in the interim while awaiting results of EPA risk study. BLM has receipt of the first EPA Technical Report relating to dry season sampling in September 2004 and based on the results, proposes to implement a dry season closure through a Federal Register Notice for the summer 2005 season. Upon completion of EPA's risk study in 2006, BLM would begin preparation of a Clear Creek Management Plan addressing overall public recreation use of the CCMA incorporating findings from the study. This plan would analyze a broad range of alternatives, including a range of "Limited Use" area designations which could further restrict public use to include potential closure based on health risk.

The BLM has made significant progress over the past few years in implementing decisions from the 1999 ROD. It would be a failure on BLM's part to derail this progress and our credibility with our stakeholders. The HFO believes it is critical to finish the route designations and complete this process which began in 1992, so that we may focus on the broader issues relating to long-term management of the CCMA. Delaying and then readdressing the current designation efforts again in a subsequent supplemental EIS, while at the same time combining in the risk assessment and revisiting the overall area designation with a full range of alternatives, would be confusing at best for the public. Two distinct planning processes are involved; the designation of specific routes of travel (not dependent on health risk) and the area designation (dependent on health risk.) The HFO believes the most efficient and effective approach is to address these planning issues separately. As the CCMA is currently withdrawn from the Hollister RMP revision, a subsequent Clear Creek Management plan would also fill this void and provide management direction for the long-term using the best available information. A draft letter summarizing discussions between BLM and EPA at the February 8, 2005 meeting is attached.

Attachment 1. Draft letter to EPA requesting a letter of support with terms of agreement to complete route designation for CCMA.

ISSUE PAPER CONCERNING NATURALLY OCCURRING ASBESTOS (NOA) EMPLOYEE EXPOSURE, PUBLIC RECREATIONAL USE AND EPA'S HEALTH RISK ASSESSMENT FOR THE CLEAR CREEK MANAGEMENT AREA FY 2005

BACKGROUND:

BLM manages land in California that contain deposits of naturally occurring asbestos (NOA). BLM employees and the visiting public who frequent these areas may be exposed to airborne asbestos above the Personal Exposure Level (PEL) as determined by OSHA. When the PEL is exceeded, as required by BLM management, respirators are worn by BLM employees due to the significant level of risk due to this asbestos exposure. EPA, Cal-EPA and BLM have conducted three air monitoring studies in the Clear Creek Management Area in September 2004, November and March 2005. The results of the first sampling event (Sept. 2004) have been summarized in a EPA tech memo and were recently presented in a Geological Society of America conference in April 29, 2005. Due to this new data, as compared to BLM's 1992 Risk Assessment, the dry season sampling indicated that for certain motorcycle use (trailing riders,) the risk of developing cancer from asbestos exposure increases from 1 in 10,000 to about 1 in 1,000. This is a risk range that is often considered unacceptable by EPA and other government agencies.

BLM NOA PROPOSED MITIGATION:

BLM identified dry season closure as a management action in the 1992 DEIS, 1995 FEIS and 1999 ROD, however these practices were not implemented, and are being reviewed for implementation this June 2005. In 2006 BLM planning and engineering will commence on a proposed $2,000,000 asbestos decontamination facility for public and BLM. Similar analysis of NOA was performed in the Ukiah Field Office in October 2002, but no risk assessments were prepared by BLM. Ukiah office manages Knoxville OHV area, where there is no decontamination facility, no health and safety plan nor air monitoring. The Hollister Field Office has been performing air monitoring since 1988, adopted a Health and Safety Plan, but has not been formally approved by the BLM State Office management, using the latest risk assessment matrix.

SUMMARY:

According to the BLM's Safety and Health Management Handbook 1112-1, the policy is to integrate risk management into decision making to: a identify the hazard, assess the risk using the Risk Assessment Matrix, develop control measures that eliminate or reduce the risk, until the risks are reduced to a level where the benefits outweigh potential costs.

BLM can mitigate the employees exposure by administrative controls (deny entry), engineering controls (dust suppression, asbestos respirators, air sampling, personal & vehicle

decontamination), but the general public could not employ all of the BLM's engineering controls.

If the dry season closure was implemented by closing the two access roads, similar to the wet season closure, it may affect up to 12 persons per day (BLM FEIS 1995, page 79). Not closing the area, but elimination of motorcycles, quads and overnight camping and having restricted routes of travel, would be a health risk reduction, but it is not quantifiable. It is probable the continued SUV access during the 18 week summer period would expose the public and possibly BLM employees to asbestos levels in the risk range of 1 to 1,000. If this was to be implemented BLM employees may be required to wear respirators during this dry season period.

OHV motorcycle use using three riders, found the tail rider has the highest risk, and according to the EPA 2004/2005 study, the SUV 4-wheel drive vehicles with open windows have a similarly corresponding high health risk, in that while driving/riding in an open vehicle all three vehicles (lead, mid and tail) had asbestos emissions above the Occupation Health & Safety Administration (OSHA) Personal Exposure Limit (PEL) of 0.100 fibers/cubic centimeter. Any exposure above the OSHA's PEL requires BLM employees to wear a respirator.

CONCLUSION & RECOMMENDATION

Validate the dry season mitigation risk using the risk assessment matrix, for both public and BLM exposure. Formally approve the Hollister Asbestos Health and Safety Plan, with special consideration to work performed during the dry season.

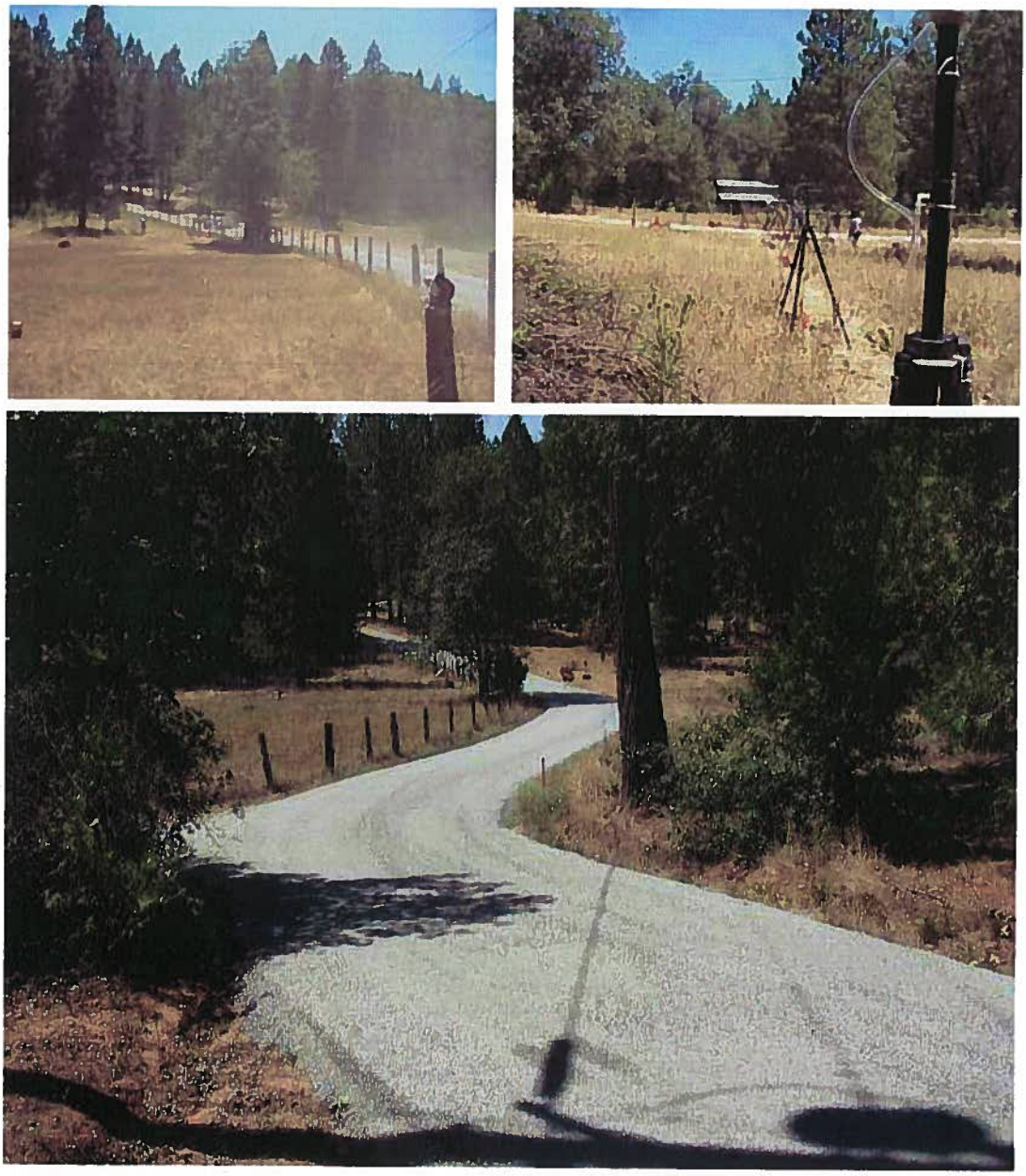
Allan C. Lloyd, Ph.D.
Agency Secretary
Cal/EPA

Department of Toxic Substances Control

B. B. Blevins, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Arnold Schwarzenegger
Governor

STUDY OF AIRBORNE ASBESTOS FROM A SERPENTINE ROAD IN GARDEN VALLEY, CALIFORNIA



April 2005

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1.0 EXECUTIVE SUMMARY

In response to concerns about Naturally Occurring Asbestos (NOA) concentrations in the air in the community of Garden Valley, DTSC has conducted surface soil and air studies to identify potential sources of NOA emissions in the community. DTSC concluded that roads surfaced with serpentine aggregate were the primary source of airborne NOA in the Garden Valley community. Based on elevated NOA concentrations, the report recommended that a NOA emission study be conducted on a typical road in Garden Valley.

In 2002 and 2003, DTSC conducted a study to measure airborne NOA emissions from a serpentine aggregate covered road. As part of the study the road was resurfaced and the NOA emissions study was repeated. The study was intended to evaluate the effectiveness in reducing NOA emissions by sealing the road. This report summarizes the design, results, conclusions and recommendations from the studies. Technical details of the studies are included in appendices to this report.

An airborne asbestos emission study was conducted on Slodusty Road. Bulk samples of the road surfacing materials and soil were collected to measure the NOA content. Stationary monitors were set up adjacent to the road ranging from 5 to 190 feet from the road edge. Two vehicles were driven back and forth on the road in two traffic patterns. In the first pattern, vehicles were driven at 10 miles per hour (mph) at a rate of 10 vehicles per hour (vph). This condition simulated the posted speed and number of vehicles reasonably expected to use this road. In the second pattern, vehicles were driven at 25 mph at a rate of 30 vph to simulate the maximum safe speed and number of vehicles using the road. After the initial emission study, the road was resurfaced with a chipseal and limestone aggregate cover. The emission study was then repeated.

The study concluded that there was an average of approximately two percent NOA in the surfacing materials and soils. Both traffic study patterns yielded significant concentrations of NOA at distances up to the maximum distance measured of 190 feet. NOA concentrations in air decreased with distance from the road. Fibers were detected at greater distances than visible dust was observed. NOA emissions were reduced by an average of 98% after resurfacing the road.

Potential human health risk associated with exposure to emissions from the serpentine surfaced roads was estimated for three hypothetical exposure durations: 9, 30 and 70 years (adjusted to reflect more realistic exposure conditions of 16-hours per day and 306 days per year). For a "lifetime" (70 year) exposure to the 10 vph/10 mph traffic pattern, the time adjusted estimated risk decreased from 3 additional potential cancer occurrences in one thousand (3×10^{-3}) to 3 additional potential cancer occurrences in 100,000 (3×10^{-5}) as the distance from the road increased from 5 to 190 feet. For the 30 vph/25mph traffic pattern, the airborne asbestos concentrations and associated estimated risk was approximately 10 times higher. These cancer risk estimates likely have substantial uncertainty associated with the exposure estimates.

The study recommends that property owners and agencies responsible for maintaining serpentine roads resurface their roads with non-NOA-containing materials. Until resurfacing is completed, vehicles should be driven slowly over these roads to lessen NOA emissions. The study also made technical recommendations to improve on the design for any future emission studies. Additional Information about measures to reduce exposure to NOA can be found at:
http://www.arb.ca.gov/toxics/Asbestos/general.htm.

2.0 INTRODUCTION

This report describes a NOA emission study conducted by the California Environmental Protection Agency (EPA), Department of Toxic Substances Control (DTSC) on a serpentine covered road located in the community of Garden Valley, California. The purpose of the study was to first measure concentrations of asbestos in the air at selected distances from the road during modeled traffic patterns and to evaluate the effectiveness of resurfacing the road in reducing the concentrations of asbestos in the air near the road. This report describes this study, and includes findings and recommendations for property owners and the public to reduce potential exposure to asbestos from roads that are surfaced with materials that may contain NOA. For the purposes of this document, NOA refers to all mineral forms of asbestos that have been or potentially could be disturbed through human or natural activities. NOA does not include manufactured building or other manufactured products that may contain asbestos. Unless specified, the term "soil" will refer to a heterogeneous mixture of dirt, rock, and/or crushed aggregate.

3.0 BACKGROUND

Garden Valley is located in the foothills of the Sierra Nevada Mountains in El Dorado County, California (Figure 1). The geographic coordinates are approximately 38°51' 15" N latitude and 120° 51'30" W longitude (Township12N, Range10E, Section 5). The average elevation is approximately 2,000 feet above mean sea level. DTSC chose the boundary of the Garden Valley Site Discovery Area (GVSDA) area as approximately a two-mile radius around the Golden Sierra High School (Figure 2). The community of Garden Valley is located between two north-south trending serpentine deposits. These deposits contain one active serpentine aggregate quarry (Bear Creek Quarry) and one inactive serpentine quarry (Garden Valley Aggregates). NOA is associated with serpentine and other altered ultramafic rocks. Furthermore, serpentine aggregate has been used in many surfacing applications throughout the community, particularly for surfacing private roads and driveways.

In November 1998 and September 1999, the California Air Resources Board (CARB) collected ambient air samples in the Garden Valley community and found NOA concentrations that might pose a risk to human health. Visual observation by DTSC indicated that there were numerous potential sources of NOA within the community that may have been responsible for the measured NOA emissions. NOA in this area is associated with serpentine rock, which is a form of ultramafic rock.

To begin identifying potential NOA sources, DTSC collected soil samples within the sixteen square mile area around the Garden Valley community in the summer of 2000. Figure 2 shows the study area location. The soil samples were collected as part of a site discovery project funded by a Superfund grant from the U.S. EPA. The soil sampling project was the initial step in collecting information to identify potential sources of NOA that might be released to the air within the GVSDA. Potential NOA sources identified in the GVSDA include:

- Two serpentine rock quarries (one active and one inactive);
- Numerous unpaved roads and driveways;
- Road cuts;
- Road shoulders; and
- School bus stops

DTSC collected soil samples in August and September of 2000. Private road samples were collected with property owner's consent. Inspection warrants were obtained to gain access and collect samples at the Bear Creek Quarry and Garden Valley Aggregates. DTSC collected a total of 137 samples within the GVSDA. Samples were analyzed by Polarized Light Microscopy (PLM) using the CARB 435 Method and by Transmission Electron Microscopy (TEM) according to the U. S. EPA's "Method for the Determination of Asbestos in Bulk Building Materials" (EPA 600/R-93-116).

The mean concentration of samples from all potential sources listed above analyzed by PLM was 1.1% (number of structures identified). Chrysotile was the only NOA type found during the PLM analysis. The TEM analysis results showed a mean

concentration of 2.1% (by weight) NOA. The majority of the NOA detected was chrysotile, although trace amounts of actinolite, tremolite, and anthophyllite were detected in several samples. This data indicates that the serpentine found throughout the GVSDA contains low levels of NOA.

Based upon results of this study and air sampling conducted by DTSC and the ARB, DTSC concluded that the serpentine covered roads in the GVSDA are the primary source of NOA found in ambient air samples. DTSC recommended that the highest priority for further studies should be assessing emissions from the unpaved serpentine roads. Information on the Garden Valley Discovery project can be found in DTSC's "Report on Surface Soil Sampling for Naturally Occurring Asbestos, Garden Valley, California, October 2002".

4.0 HEALTH CONCERNS

There are six minerals whose fibrous forms are defined as asbestos and that are currently regulated. The six regulated forms of asbestos fibers are one from the serpentine family of minerals: chrysotile, and five from the amphibole family: actinolite asbestos, fibrous grunerite (amosite), anthophyllite, fibrous reibeckite (crocidolite), and tremolite. Asbestos minerals may be created from ultramafic rocks. Ultramafic rocks contain two asbestos bearing groups: serpentine asbestos and amphibole asbestos. Serpentine asbestos, which includes the mineral chrysotile, is a magnesium silicate mineral, possessing flexible crystalline fibers that are capable of being woven. Serpentine minerals are usually formed from peridotite by hydrothermal metamorphic processes. Amphibole asbestos, which includes the mineral series tremolite-actinolite, forms crystalline fibers that are substantially more brittle than chrysotile asbestos. Amphiboles, such as the tremolite-actinolite series, are formed principally from metamorphic processes involving ultramafic deposits and are often associated with faulting. While the chrysotile asbestos is often associated with serpentine rock outcrops, amphibole asbestos can also be found in some serpentine formations.

All asbestos minerals are hazardous and when inhaled may cause lung disease and cancer. Health risks are dependent upon human exposure to asbestos fiber. The longer a person is exposed to asbestos and the greater the intensity of exposure, the greater the chances for a health problem. Asbestos-related disease, such as lung cancer, asbestosis, and mesothelioma, may not occur for decades after breathing asbestiform fibers. For mesothelioma cancer, age and time of asbestiform exposure are also factors in increasing risk. For example a ten-year-old child exposed to a certain dose of asbestos for a period of 20 years is at higher risk than a 30 year old with the same exposure. Risk assessment for asbestos is based on fiber concentrations in air. No safe level of asbestos has been established for soil. More information on health effects from asbestos exposure can be found in the fact sheet prepared by the California Office of Environmental Health Hazard Assessment (OEHHA) contained in Appendix A "Asbestos Fact Sheet" and the Agency for Toxic Substances and Disease Registry (ATSDR) "Toxicological Profile for Asbestos", dated September 2001 and published by the Atlanta, Georgia office of the United States Department of Health and Human Services, Public Health Service.

5.0 OTHER NOA ROAD STUDIES IN CALIFORNIA

Roads surfaced with serpentine aggregate have been previously studied in California. The following sections summarize the protocols used in these studies:

5.1 Garden Valley Ranch Estates, California

In July 1986, a resident of the Garden Valley Ranch Estates collected a soil sample from a road within the Garden Valley Ranch Estates subdivision and submitted the material to Thermal Analytical/EAL laboratory. The laboratory analyzed the sample by phase-contrast microscopy. Results indicated the presence of chrysotile NOA ranging in concentration from ten to twenty percent. The resident then contacted the U.S. EPA Emergency Response Program to inform them of the results. U.S. EPA used the National Emissions Standards for Hazardous Air Pollutants (NESHAP) maximum level of one percent asbestos to re-use mine tailings as their action level. USEPA dispatched a Technical Assistance Team (TAT) to the area to collect further samples.

The TAT collected composite soil samples at various locations along the unpaved roads. Sample results showed chrysotile NOA concentrations ranging from two to twenty-five percent. This data along with other factors (e.g., roads located in a residential area) provided U.S. EPA with the rationale to chipseal the serpentine aggregate roads. No emission studies were conducted.

5.2 Knoxville, California

This road study was conducted in 1988 as part of an environmental review evaluation for a United States Department of the Interior Bureau of Land Management (BLM) proposal to construct an off road vehicle park. Roads in the proposed area were covered with serpentine aggregate. Three test runs of one hour each were conducted over three different roads in the vicinity of Knoxville, California. Each test run consisted of driving a Ramcharger four wheel drive vehicle at approximately 16 miles per hour (mph). Polycarbonate sample cassettes where mounted on the right side mirror of a Suburban four wheel drive that followed the Ramcharger during the test runs. Samples were analyzed using TEM. Results ranged from 10.7 to 17.8 NOA structures per cubic centimeter (s/cc) of air.

5.3 Jackson, California

In 1988 U. S. EPA conducted a road study near the City of Jackson, Amador County, California. A 100 foot road segment was selected in an area with relatively flat terrain and open spaces on either side of the road. Three bulk samples were collected across each end and the middle of the road segment being tested. The three samples from each portion of the road were then composited into one sample resulting in one sample each for the middle and ends of the road segment. A fourth bulk sample was collected from the dust that had settled on the rear bumper of the test vehicle at the conclusion of the testing. Ten bulk samples had been collected in September 1987 to confirm the presence of NOA in the road surfacing material. Air sampling stations were established

at the midpoint of the road segment and distributed perpendicular to the road with one station placed upwind at 10 feet from the road and five placed downwind of the road at 10, 25, 50,100 and 300 feet. Air samples were collected at one and eight hour intervals over a six day period. Meteorological data was also collected. A compact size vehicle traveled the road segment every 15 minutes at 30 mph. Bulk samples were analyzed using PLM and TEM analysis methods. Bulk sample results ranged from 0 to 7.8% NOA by weight (TEM). Air samples were analyzed using both PCM and TEM. Air sample results for NOA assessed using the TEM method ranged from non-detect at the 100 foot downwind station to 8.996 s/cc at the 10 foot downwind station for the one hour test runs. The eight hour test results for NOA using the TEM method ranged from non-detect to a maximum of 1.068 s/cc, at the 50 foot downwind station.

5.4 Oakdale, California

In August 1991, The CARB conducted a road study in the vicinity of Oakdale. Four road sites surfaced with serpentine aggregate were selected for testing. At each site, a network of four to five NOA monitoring stations was established at distances of 25, 50, 75 and 250 feet from the road in the downwind direction, and 50 feet from the road in the upwind direction. Meteorological stations measured wind speed, wind direction, temperature and humidity. Five to eight tests of one hour each were conducted at each site. Traffic was simulated over a 500 foot section of the road by repeated van trips while air samples were taken and meteorological conditions were monitored. Vehicle speeds were 0, 10, and 25 mph with frequencies of 0, 15, and 45 vehicles per test run. Bulk samples of the road material were also collected and analyzed by PLM using CARB Method 435. The NOA content of the bulk material ranged from 14 to 18.3 % by PLM count. Air samples were analyzed for NOA using both optical and electron microscopes. Measurable levels of NOA were detected at down wind distances up to 250 feet. TEM results for all NOA structures ranged from 0.01 to 10.04 NOA s/cc of air. Results for structures greater than 5 microns ranged from 0.00 to 1.57 NOA s/cc of which chrysotile was the predominant NOA fiber type detected. Some amphiboles were detected.

5.5 Diamond XX, Copperopolis, California

In September 1993, U. S. EPA conducted a serpentine road study in the Diamond XX residential development near Copperopolis, California. Two roads were chosen that had segments that were relatively straight for at least 300 feet, were clear of obstructions for several hundred feet on either side of the road, and ran approximately perpendicular to the prevailing winds. Tests were conducted for three days with two three-hour test runs each day. The test vehicle drove back and forth at 30 mph at 0, 5, and 15 vehicles per hour. Air sampling stations were set up perpendicular to the midpoint of the road segment at distances from the road of 150 feet upwind and 25, 75 and 150 feet downwind. Each station had a high volume sampler to collect samples of total dust and a low volume sampler to collect samples suitable for NOA analysis. NOA air sample filters with heavy loading were analyzed using an indirect preparation method (Chatfield and Berman 1990). A conversion factor was developed to equate the indirect counts to equivalent direct counts. The ISO 10312 method using TEM was used to quantify NOA concentrations on the air filters. Results ranged from 1.04 $X10^{-4}$

to 1.55 s/cc Phase Contrast Microscopy Equivalent (PCME). Bulk soil samples were collected and analyzed using the Berman and Kolk, 1994 Elutriator Method. Average results were 5 X 10^7 structures/gram. The Diamond XX study also calculated risk to various potential receptors and concluded that the level of risk potentially experienced by children riding bicycles along these roads was of particular concern.

6.0 SERPENTINE AGGREGATE ROAD STUDY DESIGN

The serpentine aggregate road study is based upon the recommendation outlined in DTSC's October 2002 Garden Valley Study Area report to conduct emissions studies from a typical road surfaced with serpentine aggregate in the Garden Valley area. The goal is to begin understanding the contribution to air concentrations of NOA from roads. The specific objectives of the Slodusty Road study were to:

- Measure NOA concentrations in the road surfacing materials to identify potential source concentrations
- Using stationary samplers, measure concentrations of NOA in the air at prescribed distances from the road under controlled traffic conditions,
- Examine the use of hand held particulate meters as an indicator of NOA concentrations
- Evaluate the effectiveness of resurfacing the road in reducing the concentrations of NOA in the air near the road.
- Estimate the potential risk from NOA emissions and the risk reduction from resurfacing the road

The focused objectives, methodologies, results, conclusions and recommendations from this study are summarized in this report. The full study is described in appendices to this report.

The following criteria were used to select a study road within the Garden Valley area:

- Must be surfaced with serpentine aggregate;
- Must contain typical concentrations of NOA,
- Must be a fairly straight road for at least 100 feet;
- Must be located where native soils are not serpentine (the only source of NOA would be the serpentine gravel on the road);
- Should have little to no tree cover that would interfere with wind movement;
- Should have fairly flat topography to collect up-wind and down-wind samples; and,
- Permission can be obtained from property owners to do the study, including resurfacing the road.

Slodusty Road met all of these criteria. See Figure 2 for location of Slodusty Road in the Garden Valley Study Area. Slodusty Road was surfaced with serpentine aggregate. The NOA concentrations from bulk samples collected from Slodusty Road during the previous discovery project showed concentrations that were typical for the Garden Valley area. The road is straight to slightly curving for approximately 175 linear feet. The native soils in the immediate vicinity of the road did not originate from serpentine minerals. Open fields with only a few trees are located on both sides of the road for approximately 200 feet, and the property owners provided consent to do the study.

7.0 NOA CONCENTRATIONS IN THE ROAD SURFACING MATERIAL

7.1 Study Objectives and Design

The objective of sampling the road surface was to obtain representative bulk concentrations of NOA by collecting bulk samples at several locations across and over the length of the road segment being studied. The results would represent the source concentrations that could potentially be emitted to the air. Fine and coarse size fractions were evaluated to look at the NOA concentration that could be immediately released (fine fraction) and the NOA concentrations that could be released over time (coarse fraction). In addition samples were analyzed by two different methods: a method commonly used to determine asbestos in bulk building material (Bulk Method), and a modified Superfund method designed to measure releasable asbestos in soils (Elutriator Method).

Currently, risk from asbestos exposures, including NOA, is assessed by measuring concentrations in air. These studies are costly and time consuming. A long term goal is to find an inexpensive way to measure NOA concentrations in bulk materials so that the results can be used for making decisions about when actions are needed to mitigate exposures. To do so, a method is needed that can link bulk material concentrations with air concentrations of NOA. The Elutriator Method is one such method developed in an attempt to bridge this gap. A second method is currently being reviewed by USEPA, called the "glove box" method. Both methods take bulk soil samples and mechanically disturb the sample to generate dust that is collected on a filter that is analyzed using standard air analysis methods. As part of the road sampling study, DTSC looked at the fine fraction of bulk material to see if there is a correlation between this measurement and the Elutriator Method. If a correlation exists, measuring NOA concentrations in the fine fraction of bulk material may be the least expensive approach to evaluate NOA exposure conditions.

The DTSC October 2002 report showed concentrations of NOA in bulk samples ranging from 1.20 to 2.80% by weight from the four samples collected on Slodusty Road. Chrysotile was the primary type of asbestos detected. These NOA concentrations were within the typical range of NOA found in bulk samples collected from roads in the Garden Valley Discovery Project.

As part of the Initial Study, DTSC collected bulk samples from the road segment being tested for NOA analysis. Details of the bulk sample collection and analysis procedure are contained in Appendix B to this report and are summarized in the following discussion.

The Elutriator Method and the Bulk Method are very different methods. The Elutriator Method attempts to mimic soil disturbance that would be expected to occur from activities such as driving on aggregate surfaced roads. The Elutriator Method is considered a direct method. A bulk sample is agitated creating dust which is passed into the elutriator and collected directly onto a filter. The Bulk Method is considered an indirect method. The bulk sample is processed by milling (grinding) to a size that will

pass through a #200 mesh sieve. A small sub-sample is placed in a known volume of water and sonicated to disperse the particles evenly throughout the water. The water sample is then filtered through a millipore filter to collect the dispersed particles evenly over the filter surface. The indirect method may result in more of the asbestos clusters being broken into fibers. The direct method may result in retaining more of the bundle, cluster and other matrix structures found in the original sample. Once the sample is deposited on the filter from either method, the sample preparation for TEM analysis is essentially identical.

As shown in the Figure 3, five transects crossing the road perpendicular to the direction of traffic flow were evenly spaced along the length of the road segment being tested. Five discrete samples were collected from each transect as follows: each of the tire paths (two samples) the center of the road (one sample), and each edge (two samples). Twenty-five discrete samples were collected. The transects were spaced 30 feet apart covering a total road distance of 120 feet.

Each of the twenty-five samples was divided into two portions using a riffle splitter. One portion from each of the five samples from each transect was composited into one sample to represent each transect yielding a total of five samples. Each of the composited samples was analyzed using the Elutriator Method.

Each of the remaining portions of the discrete samples was further divided into a coarse and a fine fraction by sieving with a #200 mesh (75 micron) sieve. Each of the coarse and fine fractions was separately analyzed for a total of 50 samples. These samples were analyzed using the Bulk Method.

There are some differences in the asbestos fiber counting rules which are primarily important for the Elutriator Method because of all the complex structures that appear on the filter. The two methods report asbestos content differently. The Elutriator Method reports total and long structures by type of asbestos according to a protocol. To be counted a fiber must be longer than 5um (micrometer or micron) and less than 0.5 um diameter. Long structures are greater than 10 um and less than 0.5 um in diameter. All other structures are excluded. For this road study, all structures greater than 0.5 um with a 3:1 aspect ratio were also reported by the lab. The results are reported in units of the number of structures per gram of PM_{10} dust particles and structures per gram of total sample weight. The PM_{10} particles represent the fraction of particles that measure less than 10 um in length. Scientists believe that the PM_{10} fraction is the critical particle size capable of penetrating deep into the lungs.

The Bulk Method reports asbestos concentration by percent weight of asbestos to the sample weight. To determine the weight of asbestos, the volume of each type of asbestos structure is calculated and multiplied by the density of the type of asbestos identified. The weights of each type of asbestos in the sample are then summed to obtain the total asbestos weight.

7.2 Bulk Sample Results

Table 1 "NOA Bulk Data Results" summarizes the results of these analyses. This table compares the NOA concentrations measured by the Bulk Method for both the less than 200 mesh and greater than 200 mesh fractions with the results from the Elutriator Method. Results are shown for each discrete sample, the average content for each transect and the single sample results for each transect using the Elutriator Method. It is important to note that the results are reported in different units. The Bulk Method results are reported as percent by weight and the elutriator results are reported in structures counted per gram of solid material or per gram PM_{10} particulate matter in the total sample.

The study results show that the average bulk concentration ranged from 0.2% to 7.8% in the discrete samples. Average concentrations among the transects range from 1.14% to 2.82%. These NOA concentrations are typical for serpentine aggregate surfaced roads within the Garden Valley area. These concentrations were generally lower than bulk concentrations measured in the road studies conducted in other areas of California as described earlier in this report. The NOA concentrations are less than the 5.0 % allowed in road surfacing materials under CARBs' 1990 ATCM. The ATCM was revised in November 2001. Currently, new road surfacing materials must contain less than 0.25 % NOA as measured by CARB method 435 using a 400 point count procedure. The ATCM only addresses NOA content in new materials. NOA content in existing roads are not addressed in the ATCM.

As described in Appendix B and shown in Figure 4, there appears to be a correlation between the less than 200 mesh fraction analyzed by the Bulk Method and the Elutriator Method results. Due to the limited number of samples, additional studies are needed to evaluate the potential correlation with greater certainty.

A linear regression is a mathematical method of comparing data sets to see if there may be a relationship or correlation. Regressions were run comparing the results of the Bulk Method to the Elutriator Method. Because the samples for the Elutriator Method were sector composites, the average results for each sector of the Bulk Method were used for the comparison. The regression comparing the less than 200 mesh fraction (by Bulk Method) shows good correlation with the PM_{10} fraction results produced by the Elutriator Method (R^2=0.945). While the correlation was good, only five data point pairs were involved which is insufficient to draw any conclusion. The data suggests that there may be a strong correlation. However, to confirm these findings, further studies are needed. Such a correlation could allow the use of the Bulk Method results from the fine fraction to assess risk to the same extent as the Elutriator Method results.

High variability in NOA concentrations was noted for the greater than 200 mesh fraction analyzed using the Bulk Method. The reasons for this variability could be due to the following factors:

- Environmental variability
- Use of a second lab to mill the samples
- The process of milling the larger particles

8.0 NOA EMISSION STUDY

8.1 Study Objectives and Design:

The objectives of the emission study were to measure NOA concentrations at prescribed distances on each side of the road segment under two traffic patterns. The first pattern represents typical driving speeds and frequency used by the residents along the road and the second represents the safe maximum velocity and vehicle frequency on the road. The tests were run before and after resurfacing the road in order to evaluate the reduction in NOA emissions from resurfacing the road.

In 2002, DTSC established an Interagency Agreement with the U.S. Department of Transportation's, John A. Volpe National Transportation Systems Center (Volpe). The agreement was established to assist DTSC in addressing concerns regarding potential exposure to airborne NOA fibers resulting from vehicular traffic along unpaved roadways known to contain NOA within the Garden Valley community. Volpe support included providing DTSC with a variety of technical and scientific services related to assessing NOA emissions from unpaved roads.

In July 2002, Volpe and DTSC conducted the Initial Study phase, as described below and in Appendix C. In early August 2003, DTSC resurfaced Slodusty Road with chipseal and limestone aggregate surfacing materials that did not contain NOA. These materials were presumed to provide an effective seal to prevent releases of NOA from the underlying materials. Approximately four inches of ¾ inch aggregate was added to the road and the road surface was compacted. The road was then covered with a chipseal solution to seal and cement the aggregate. A top surface of fine limestone aggregate was subsequently applied. Approximately one week later, Volpe returned with DTSC to resample NOA air emissions along the roadway.

Both the Initial Study and the Post-Resurfacing Study sampling events involved monitoring levels of airborne NOA on a selected section of the road. The sampling was completed at discrete distances on either side the road. Figure 5 shows the location of stationary samplers in relation to the road. Two traffic patterns were tested using the same two test vehicles, a four wheel drive truck and a compact sedan. A 25 miles per hour (mph)/30 vehicles per hour (vph) traffic pattern was chosen to represent a worst case traffic condition for Slodusty Road and a 10 mph/10 vph traffic pattern was chosen to represent typical speed and traffic conditions expected on Slodusty Road. Residents have informally posted 10 mph as the speed limit for the road. Local traffic frequencies observed during both sampling events confirmed the 10 mph/10 vph traffic pattern to be representative of typical driving conditions. Each traffic pattern was tested for two hours. Stationary sample cassettes where collected for analysis at the end of each run. Details of the sampler flow rates, volumes of air drawn through individual cartridges, and specific sample results are described in Appendix C.

The stationary air samplers were located at similar distances on both (east and west) sides of the road, along a transect approximately perpendicular to the road. Samplers were stationed at 5, 10, 30, 50, 80, 100, 160, and 190 feet from the road. In order to

directly compare sampling results collected during the Initial Study and Post-Resurfacing Study, the air samplers were positioned at the same locations, with two exceptions. During the post resurfacing study, an additional air station was established at a further distance (300 ft) on the west side of the road. A similar station was not established on the east side due to physical barriers. Another air station was established at a residence on Bayleaf Drive approximately 1.5 miles from the site to serve as an ambient background location.

Ambient air samples were collected by drawing a measured volume of air through a 25 mm diameter mixed cellulose ester membrane filter of pore size 0.45 um by means of a battery powered pump. The stationary sampler cartridges were collected for analysis after each run. Flow rates were calibrated before and after each run. All analyses were performed by laboratories that are fully accredited under the National Voluntary Laboratory Accreditation Program (NVLAP).

During each emission air sampling event meteorological data, particulate data, and personal air samples were also collected. Information about these studies is described in sections following the Stationary Air Sampling sections.

8.2 Stationary Air Sampling

Stationary air samples were collected to represent both tested traffic patterns. Stationary air samples were analyzed using the ISO 10312 TEM (ISO) Method. The ISO Method was selected in order to be able to gain a better understanding of the fiber distribution within the samples. Some laboratory difficulties were encountered during this study. The laboratory problems were primarily based on the analyst's interpretation of scrolled lizardite vs. chrysotile. Many of the structures were observed to have splayed ends ("weathered") and some of them also were observed to have a tubular appearance. Based on these observations the two laboratories used in the study had differences in analyzing the samples. One of the laboratories classified many of the chrysotile structures as "scrolled lizardite". However, based on further evaluation of micrographs, and numerous discussions among several experienced microscopists, it was determined that these structures should be classified as chrysotile structures. The AHERA method was also used for analysis of the stationary samples. A stopping rule of ten grid openings was established in order to assure analytical efficiencies of resources, time, production and cost.

The AHERA Method requires that a minimum of 580 liters (L) of air be collected for each sample and that the analytical sensitivity be no greater than 0.005 s/cc. One of the purposes of the Initial Study was to maximize the flow rate for each sample location during each traffic pattern in order to collect the largest volume possible without overloading the sample with particulates. Due to the experimental nature of the Initial Study, twelve samples were collected with volumes less than the 580 L required. All twelve samples were collected within 10 ft of the road during 25 mph (30 vph) traffic patterns, which were observed to generate greater amounts of particulate requiring reduced flow rates within immediate proximity to the road. Based on the Initial Study samples the flow rates were adjusted during the Post Resurfacing sampling and consequently only four of the 96 samples were collected with volumes less than the

AHERA 580 L requirement. All four samples were collected within 5 ft of the road during 25 mph (30 vph) traffic patterns with volumes ranging from 462 L to 494 L and sensitivities ranging from 0.0069 s/cc to 0.0074 s/cc. In the case of each of the four samples the asbestos concentration exceeded the analytical sensitivity. A maximum of ten grid openings are analyzed for an AHERA analysis, regardless of sample volume and as a result in some instances the specified analytical sensitivity of 0.005 s/cc was not reached.

The Initial Study results indicated the presence of NOA at all distances. The NOA concentrations of the air samples varied with proximity to the road and the traffic pattern. Tables 2 and 3 compare the results of the Initial Study and the Post-Resurfacing Study for the 10mph/10 vph and 25mph/30vph traffic patterns respectively. Initial Study results ranged from 0.0093 s /cc at the farthest station during the 10mph/10 vph pattern to 9.5 s/cc at 5 feet from the road during the 25mph/30 vph pattern. At 190 ft, which was the furthest sample collected during the Initial Study, the average concentration was still a significant 0.1870 s/cc for the 25 mph/30 vph traffic pattern. Figures 6, 7 and 8 show plots of the Initial Study results averaged for the same distances on both sides of the road. The full data set showing discrete concentrations for each side of the road is contained in Appendix C and estimated risk associated with each location is contained in Appendix D. The figures show that the NOA concentrations were significantly higher 5 feet from the roadway, with the concentration at 10 feet being 64% to 70% lower for both traffic pattern runs. As the distance from the roadway increases beyond 10 feet, the concentration reduction was much more gradual, dropping by approximately 40% every 20 feet. In addition to distance, traffic conditions appear to significantly affect the levels of NOA that were emitted from the road. The concentrations at all distances were approximately an order of magnitude higher for the 25 mph/30 vph pattern compared to the 10 mph/10 vph pattern.

Following completion of the resurfacing activities, the stationary sampling was repeated during the summer of 2003 (Post- Resurfacing Study) following the same protocols used for the initial study. None of the sample filters were overloaded so all the samples were analyzed using a direct sample preparation procedure. The NOA concentrations of these samples also varied with proximity and traffic pattern, ranging from less than 0.0043 s/cc to 0.0654 s/cc. The sample result from the background station shows a NOA concentration of 0.0047 s/cc. As shown in Table 5 and Figure 9, unlike the Initial Study, there is no apparent trend to the NOA concentrations based on distance from the road for the 10 mph/10 vph pattern. For the 25 mph/30 vph pattern, sample results measured at 5 feet from the road show elevated results compared to sampling stations further from the roadway. Post -Resurfacing sample results show up to a 100 fold reduction in NOA concentrations in air adjacent to the road as compared to the Initial Study results. The lowest NOA concentrations measured were similar to background levels in the community. The 10 mph/10 vph NOA concentration results were generally lower than those measured during the 25 mph/35 vph pattern. The results from both traffic patterns tended to be slightly higher than the results from the no traffic pattern and the background sample. It should be noted that these observed reductions are based on Post Resurfacing sampling that was performed one week following the completion of the road resurfacing activities and that there was no precipitation during the week.

The Post Resurfacing Study sample results show that NOA concentrations generally decline with distance from the road. NOA fibers were primarily complex chrysotile structures less than 5 microns in length, with a few free scattered chrysotile fibers. Approximately 90% of the NOA structures observed are less than 5.0 microns in length. Table 5 shows post resurfacing results. Figure 9 shows a comparison of post resurfacing average concentrations for all scenarios.

8.3 Meteorological Sampling:

Meteorological data was collected to measure wind speed and direction, as well as temperature and humidity. Details of the monitoring are described in Appendix C. Ideally, meteorological conditions should be similar for the Initial Study and the Post Resurfacing Study in order to have higher confidence in comparing the results and estimating the reduction of NOA emissions due to resurfacing the road. The measured meteorological conditions were very similar during both the Initial Study and Post-Resurfacing Study sampling events. Wind conditions were on average very consistent between the two studies, with little fluctuation during the day. The winds were predominantly out of the west and northwest direction and were generally less than 8 mph. The average morning temperature readings ranged from 82.4 to 88.6 degrees Fahrenheit, with temperatures increasing in the afternoon ranging from 89.8 to 90.0 degrees Fahrenheit. The afternoon relative humidity readings were also similar, ranging from 23.3% to 26.0%. However, the average morning relative humidity readings were higher during the Initial Study than they were during the Post-Resurfacing Study (49.5% compared to 27.6%).

8.4 Particulate Sampling:

Dust meters that provide instantaneous (real time) readings were used to collect measurements at different times near several of the stationary samplers. The objective was to examine the viability of using dust meters as indicators of NOA concentrations in the air. Particulate measurements were collected by DTSC during both the Initial Study and Post-Resurfacing Study emissions sampling events as field screening indicators for assessing dust generation. During the Initial Study, spot measurements were taken west of the roadway at various distances (5, 10, 30, 50, 80, and 100 ft) during the two different traffic pattern tests. The particulate measurements ranged from 0.02 to 3.48 milligram per cubic meter (mg/m^3) of air, depending on proximity to the roadway. Post - Resurfacing Study measurements were taken only within immediate proximity to the road. Comparison of measurements between the two studies shows a dramatic decrease in dust generated from the road. Measurements ranged from 0.005 to 0.015 mg/m^3 for the Post-Resurfacing Study compared to Initial Study readings of 1.01 to 2.54 mg/m^3 at the same distances.

Based on a limited set of particulate readings it appears the resurfacing activities reduced particulate emissions by more than 99% near Slodusty Road. No direct correlation between particulate meter readings and NOA concentrations was found. Qualitatively, visible dust is an indicator that NOA may be released. However, airborne NOA may be present at significant levels even when dust is not visibly observed, as

was indicated by the Initial Study results that showed significant NOA concentrations at 190 feet from the road despite the lack of visible dust at that distance.

8.5 Personal Air Sampling:

Air samples were collected using personal air pumps worn by workers to monitor NOA concentrations during the Initial Study, the road resurfacing, and the Post-Resurfacing Study. The objective of the personal air monitoring was to monitor staff to protect their health and safety and to comply with OSHA worker health and safety requirements. The Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) is based on PCM analytical results. The OSHA 8-hour time-weighted-average (TWA) PEL is 0.1 f/cc.

As a precautionary measure, DTSC staff working in areas with highly visible dust wore full face respirators equipped with air purifying cartridges to trap dust and NOA fibers. Staff activities included driving vehicles, controlling traffic, setting up and maintaining stationary monitors, and observing resurfacing operations. No attempt was made to link specific activities to specific staff. As a result, the data cannot be used to evaluate airborne NOA exposure for specific field activities.

Air samples were collected on 25 mm diameter, 0.8 um pore cellulose ester membranes in conductive cowl cassettes. Air volumes drawn through the samplers ranged from 140 liters to 752 liters of air. All personal samples were analyzed via both Phase Contrast Microscopy (PCM) and Transmission Electron Microscopy (AHERA TEM analysis). A limitation of PCM technology is that it is unable to distinguish between NOA fibers and non-NOA fibers. Due to this known limitation the personal samples were also analyzed via TEM-AHERA, in order to identify asbestos fibers.

Results of these analyses are included in Table 4 . Initial Study PCM TWA results ranged from less than 0.0033 f/cc to 0.0158 f/cc. TEM TWA results ranged from 0.056 s/cc to 1.6875 s/cc. All of the Post-Resurfacing Study personal PCM TWA concentrations were significantly below the OSHA PCM PEL of 0.1 f/cc. Results ranged from less than 0.0045 f/cc to 0.0158 f/cc. TEM TWA results ranged from less than 0.0044 s/cc to 0.3825 s/cc.

All of the Initial Study and Post-Resurfacing Study PCM TWA concentrations are significantly below the OSHA PCM PEL. The TEM results were not used to make decisions for compliance with Cal OSHA requirements. A comparison of the Initial Study PCM and TEM results indicated no apparent trend between the results other than the TEM results were higher in concentration because TEM is able to detect smaller and thinner structures than PCM.

A personal air monitor was also placed in a test vehicle for four hours to assess NOA air concentrations inside the vehicle. TWA results using PCM analysis were 0.0130 f/cc and 0.2844 s/cc using TEM analysis. The test vehicle was driven with windows up and the air condition venting system was on recirculation. As such these conditions do not represent typical driving conditions where the vehicle ventilation system is open or

windows are down. Also, because the vehicles were driven for a brief time on a few isolated days, the measured NOA concentrations inside the vehicle do not represent long term exposures from riding in vehicles being driven over the road. Other studies conducted by USEPA in Libby, Montana and at the Clear Creek Recreational Area have shown that NOA concentrations inside vehicles can be much higher than measured in this study.

8.6 Resurfacing Measures

Between the Initial Study and the Post Resurfacing Study, the test section of Slodusty Road was resurfaced. In addition Garden View Court, Garden View Road, and approximately 100 feet of Bayleaf Drive were resurfaced using an asphalt chip seal. These roads are adjacent to Golden Sierra High School and were sealed to prevent the release of airborne asbestos from traffic that could impact the school. A total of 8,775 linear feet (approximately 1.7 miles) of road were sealed during this study. The purpose of sealing the roads was to provide an effective barrier between the serpentine gravel and vehicle traffic. Figure 10 shows the location of the roads that were resurfaced.

This sealing process involves wetting and compacting the existing serpentine gravel road then wetting and compacting (to 95% of maximum compaction) 4-inches of class 2 limestone aggregate base (AB). Asphalt tack coat was then sprayed on the AB. Finally limestone pea gravel was spread over the tack coat layer. The limestone pea gravel was then compacted.

9.0 RISK ASSESSMENT:

Using the emissions data collected, the Cal EPA, Office of Environmental Health Hazard Assessment (OEHHA) prepared a report describing the potential health risk from exposure to NOA concentrations measured in the emission studies. The OEHHA report is included as Appendix D to this report and summarized below.

Potential cancer risk estimates were calculated using OEHHA protocols with conservative assumptions for chronic exposure. These protocols include using all the NOA structures counted regardless of their size. Because the cancer slope factors are based on studies where PCM technology was used, OEHHA uses a conversion factor of 320 to equate TEM structure counts to approximate the number of PCM structures in the sample. The TEM concentration in s/cc is converted to s/m^3 by multiplying by 10^6. The result is then divided by 320 to obtain the equivalent PCM concentration. Potential risk is estimated by multiplying the calculated PCM concentration of NOA by the unit risk factor which is 1.9/100 PCM s/m^3.

Several exposure scenarios were evaluated for potential airborne NOA exposures. Risk calculations were performed for each sampling station for each of the traffic patterns with the different exposure scenarios.

The first scenario is the most conservative and assumes a person spends every hour of every day for a 70 year lifetime at the same distance from the road where the NOA concentration was measured. It also assumes that the NOA concentrations measured at the respective distance from the road remain in the air at that concentration for the entire 70 years. This scenario is unlikely to occur.

The second set of scenarios adjusts the exposure factors for fewer hours per day, days per year, and years of potential exposure. In the second scenario the number of hours per day of exposure is reduced to 16 hours. Traffic is reasonably expected to use the road from approximately 5 AM – 9 PM. This scenario still assumes that the measured NOA concentrations remain constant at the levels measured for respective distances from the road for the entire 16 hours. In addition, the number of days per year that exposure occurs was reduced to 306 days to account for 59 rain days per year. This is the average number of rain days in the Sacramento area as recorded by the US National Weather Service. It is expected that NOA emissions to the air would be minimal on rain days. Risk calculations were made for three different exposure durations including 70 years (lifetime), 30 years and 9 years. As was done for the first scenario, estimated risks were calculated for each distance from the road where data was collected.

Table 6 shows the range of estimated potential risk for each of these exposure durations for the Initial Study results. Table 7 shows the range of estimated potential risk for each of the exposure durations using Post-Resurfacing Study results. Tables showing the results of all risk calculations for each distance from the road, each traffic pattern, and each of the three exposure durations are in Appendix D.

For the Initial Study, calculated risks range from 4 x 10^{-6} or 4 potential excess cancers in a population of one million people to 3.x 10^{-2}, or 3 potential additional cancers in a population of 100 people. The lowest estimated risk is associated with NOA concentrations at the farthest distance from the road, the fewest vehicles, the lowest speeds, and a 9 year exposure duration. The highest calculated risk occurs closest to the road with 70 years of exposure, higher number of vehicles, and higher speeds. For a 70 year exposure to the "typical" 10 vph/10 mph traffic pattern, the time adjusted estimated risk decreased from 3 additional potential cancer occurrences in one thousand (3 X 10^{-3}) to 3 additional potential cancer occurrences in 100,000 (3 X 10^{-5}) as the distance from the road increased from 5 to 190 feet. For the 30 vph/25mph traffic pattern, the airborne asbestos concentrations and associated estimated risk was approximately 10 times higher. The risk estimates show that the potential risk decreases with increasing distance from the roadside. Also, that estimated risk is greater downwind of the road as compared with the upwind direction. Also, it is important to note that significant potential risk is estimated for the farthest distance where airborne NOA was measured, particularly for the 25 mph/30 vph traffic pattern.

For the Post-Resurfacing Study, calculated risks for the 10 mph/10 vph traffic pattern range from 5.3x10^{-6} to 1.5x10^{-4} and for the 25 mph/30 vph pattern range from 1.3x10^{-5} to 2.9x10^{-4}.

The estimated cancer risks associated with the post-resurfacing 10 mph/10 vph traffic pattern were approximately 10 to 100 times less than those of the corresponding Initial Study 10 vph/10 mph traffic pattern, depending on wind direction and sampling distance from the road. The estimated cancer risks associated with the Post-Resurfacing 25 mph/30 vph traffic pattern were approximately 10 to 1000 times less than those of the corresponding Initial Study 25 mph/30 vph traffic pattern, depending on wind direction and sampling distance from the road. Sample results at the farthest station from the road were comparable to the measured background NOA concentration.

There is substantial uncertainty in these risk estimates. Sources of uncertainty include:

- Short term data were applied to long term exposure assumptions
- The data collected may or may not represent typical conditions
- Measured wind speed and directions may or may not represent typical weather conditions
- The number of vehicles and their speed may or may not represent typical use of the road
- The time adjusted estimates also assume that the average number of rain days in Garden Valley is the same as Sacramento
- Residents may or may not live on Slodusty Road for 9, 30 or 70 years, and
- Residents may or may not spend 16 hours per day for 306 days per year at home.

10.0 GENERAL CONCLUSIONS:

- Slodusty Road serpentine road surfacing material had an average NOA concentration of 1.9 % by weight. NOA concentrations in bulk soil samples from this study were less than NOA concentrations identified in previous road emission studies.

- Vehicular traffic created significant NOA emissions to the air at these relatively low concentrations of NOA in the road surface.

- Results from this NOA emissions study demonstrated that resurfacing the serpentine aggregate road with a multi-layered chipseal surface resulted in a dramatic reduction in NOA emissions.

- Other potential sources of NOA releases around Slodusty Road were not evaluated or included in the risk assessment.

- This study shows that the air borne NOA concentration decreases with distance from a serpentine aggregate covered road. While distance from the road appears to reduce exposure to airborne NOA for this road, local conditions around other serpentine covered roads may show different results. Factors such as wind direction or velocity, NOA concentration in the road surfacing material, presence of trees and shrubs, moisture conditions, topography and presence of NOA in native soil or fill material among others may result in different emissions from a specific road or driveway.

- Driving slower reduced emissions. Emission results from the 10 mph/10 vph traffic pattern were 10-fold lower than 25 mph/30 vph traffic pattern results.

- NOA fibers were detected at greater distances than visible dust. When you cannot see dust, it does not mean that NOA is not present in the air.

- The risk assessment calculations demonstrate that risk was significantly reduced following the resurfacing of the road.

- The post resurfacing samples were collected within one week of resurfacing the road and no rain events occurred between the resurfacing and air sample collection. As a result, dust and NOA fibers that had previously been deposited on vegetation and soil adjacent to the road could have been re-suspended by wind and air disturbances from passing vehicles during the post-resurfacing traffic simulations. It is anticipated that air sample results would show lower NOA concentrations following rain events that would "clean" the adjacent vegetation.

- Because the NOA containing serpentine aggregate is covered and sealed by the new resurfacing materials, it is anticipated that NOA concentrations in the air adjacent to the road will continue to remain low.

11.0 GENERAL RECOMMENDATIONS:

- Roads that are presently surfaced with serpentine aggregate should be resurfaced to reduce NOA emissions. The goal of resurfacing is to reduce emissions by selecting resurfacing materials and techniques that fully cover or encapsulate the road bed. Consideration should also be given to how long the surfacing material effectively contains the NOA and the cost of installation and maintenance. For Slodusty Road, the chipseal was determined to be cost-effective and acceptable to residents and property owners responsible for road maintenance. Other road surfacing materials and techniques were not evaluated as part of this study. Other methods may be as effective or more effective in reducing NOA emissions.

- Until serpentine aggregate surface roads can be resurfaced, users should drive slowly to minimize dust generation.

- Results from this study and other studies conducted on serpentine aggregate roads show that significant concentrations of NOA can be released to the air from vehicle traffic and that resurfacing roads with non-NOA-containing materials can significantly reduce air concentrations and lower risk to residents and users of these roads. In Garden Valley, serpentine roads are primarily privately owned. However, local, state and federal agencies responsible for maintaining public roads should also prioritize and resurface existing serpentine roads where significant public exposure occurs.

- Other activities, particularly if they occur on or near roads, driveways or walkways that are surfaced with materials that contain NOA, may result in release of NOA to air. Rototilling, lawn mowing, clearing vegetation, digging and recreational activities in areas that contain NOA or are secondarily impacted by NOA emissions may result in release of NOA fibers and potential increased exposure over ambient conditions. When engaging in these activities, residents and workers should take precautions to minimize emissions.

- Consult ARB website for measures to reduce exposure from other sources of NOA such as dust in homes, vehicles, walkways and driveways.

12.0 RECOMMENDATIONS FOR TECHINCAL EVALUATIONS IF FUTURE STUDIES ARE CONDUCTED:

Considering the findings from these studies, if future investigative activities related to NOA emissions along serpentine roadways are conducted, DTSC has that following technical recommendations.

- **Operational Improvements:** Potential operational improvements were identified during the Initial Study. These improvements were incorporated into the Post-Resurfacing Study sampling activities. In addition to those already incorporated, future air emission sampling events should consider the following:

  1. Collecting replicate (co-located) stationary samples at a frequency of 10% to increase quality control and quality assurance of the data collected.
  2. Collecting specific activity based samples for the personnel conducting the studies using personal air monitors as well as sampling for the duration of the complete study, in order to obtain a better understanding of potential exposure from the activities.
  3. Collecting additional "background" samples, in order to obtain a better representation of actual background levels for the area
  4. Collecting additional stationary samples at further distances from the roadside (i.e. greater than 300 feet, if possible) to evaluate the distance NOA fibers can travel under study conditions and
  5. If possible, selecting a test area with no vegetative or physical barriers, on either side of the road, that may alter meteorological conditions or limit stationary sample locations.

- **Follow-up Monitoring Along Slodusty Road:** Based on a comparison of the Initial Study and Post-Resurfacing Study results, it appears that the resurfacing activities reduced airborne NOA concentrations by 93% to 98%, near Slodusty Road. However, the long-term effectiveness of the resurfacing approach is unknown. The Post-Resurfacing Study sampling activities should be repeated along Slodusty Road in the future to verify vehicular traffic has not over time broken down the chipseal barrier to release the NOA fibers present within the original roadbed.

- **Monitoring of Airborne NOA Near Additional Unpaved Serpentine Roads:** The Post-Resurfacing Study sampling activities could be repeated along other similar unpaved roadways that have been sampled and identified to contain levels of NOA within the roadbed that are less than those found in Garden Valley, including an unpaved serpentine roadway where bulk samples were collected and found not to contain NOA within the roadbed. Sampling along a roadway where NOA is identified to be non-detect is important due to known limitations associated with analyzing for NOA within environmental media, such as a soil or gravel matrix.

The results from these sampling events could supplement the data from the Initial Study to create a data matrix for assessing potential NOA emissions at other unpaved serpentine roadways based on the level of NOA identified to be within the roadbed. A "screening" matrix of this type would enable decision makers to make initial conclusions based on bulk sampling of roadways which is a more economical and efficient approach than conducting air sampling along each of an area's unpaved serpentine roadways. A screening matrix will also enable decision makers to prioritize among roadways determined to require further investigative and/or resurfacing activities.

- **Investigations for Other Sources of NOA Emissions:** The resurfacing activities have significantly reduced airborne NOA concentrations associated with vehicular traffic along Slodusty Road. The Initial Study results have indicated that NOA fibers have been transported from the roadway and potentially at distances greater than 300 feet. NOA fibers are environmentally persistent and as such, may still be present and a potential concern. Other sources and exposure routes should be investigated. Potential other sources include, but are not limited to dust inside residences, dust in vehicles driven or stored in the area, and soil adjacent to the roadway. Past studies have indicated that due to the persistent and physical characteristics of NOA fibers they have the potential to accumulate over time within residences and vehicles.

13.0 REFERENCES

40 Code of Federal Regulations – Chapter I – Part 763 –Appendix A to Subpart E: "Asbestos Hazard Emergency Response Act".

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California Air Resources Board: Method 435 "Determination of Asbestos Content of Serpentine Aggregate"; adopted June 6, 1991

California Code of Regulations: Title 8, Section 5208; "Asbestos"; Subchapter 7. "General Industry Safety Orders"; Group 16. "Control of Hazardous Substances"; Article 110. "Regulated Carcinogens"

Department of Toxic Substances Control: "Report on Surface Soil Sampling for Naturally Occurring Asbestos, Garden Valley, California", October 2002.

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U. S. EPA: "Environmental Asbestos Roads Study, Field Work Report," prepared by Lauren Volpini, Emergency Response Section, Field Operations Branch, U. S. EPA Region IX, March 1988.

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U. S. EPA; "Garden Valley Ranch Estates Community Services District Asbestos Site", Garden Valley, CA; prepared by Roy F. Weston, Inc et al October 10, 1986

U. S. EPA "Superfund Method for Determination of Releasable Asbestos in Soils and Bulk Material; EPA 540R-97-028"; 1997

U. S. EPA draft "Modified Elutriator Method for the Determination of Asbestos in Soils and Bulk Material," D. Berman & A. Kolk, May 23, 2000.

14.0 LIST OF ACRONYMS

AHERA	Asbestos Hazard Emergency Response Act
ATSDR:	Agency for Toxic Substances and Disease Registry
CARB	California Air Resources Board
DTSC	Department of Toxic Substances Control
EDDs	Electronic Data Deliverables
GVSDA	Garden Valley Study Area
MG/M^3	Milligrams per cubic meter
MPH	Miles per hour
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NOA	Naturally Occurring Asbestos
NVLAP	National Voluntary Laboratory Accreditation Program
OSHA	Occupational Safety and Health Administration
PCM	Phase Contrast Microscopy
PCME	Phase Contrast Microscopy Equivalent
PEL	Permissible Exposure Level
PLM	Polarized Light Microscopy
S/CC	Structures per cubic centimeter
TAMS	Transportable Automated MET Station
TEM	Transmission Electron Microscopy
TWA	Time Weighted Average
USBLM	United States Bureau of Land Management
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
VPH	Vehicles per hour

TABLE 1
NOA Bulk Data Results

Bulk Method					Elutriator Method			
Sample ID	Asbestos Concentration <200 Mesh (% by weight)	Asbestos Concentration >200 Mesh (% by weight)	Transect Average % NOA <200 Mesh (% by weight)	Transect Average % NOA >200 Mesh (% by weight)	Protocol Structures/ gram PM10	Total Structures/ gram PM10	Protocol Structures/ gram Solid	Total Structures/ gram Solid
C1	0.4	1.3						
C2	1.4	1.2						
C3	0.9	0.6						
C4	2	0.9						
C5	1	0.2	1.14	0.84	3.74E+09	2.89E+10	1.27E+03	9.79E+03
S6	1.3	0.5						
S7	3.2	1.2						
S8	3.1	1.1						
S9	2.8	1.4						
S10	2.6	2.3	2.6	1.3	<1.09E9	8.60E+10	3.33E+02	2.63E+04
SS11	1.7	1.5						
SS12	2	1.5						
SS13	1.8	0.9						
SS14	3.1	2.8						
SS15	1.8	2.9	2.08	1.92	4.05E+09	7.36E+10	2.13E+03	3.88E+04
N16	1.5	2.6						
N17	1.7	1						
N18	1.8	0.6						
N19	1.8	7.1						
N20	0.6	1.4	1.48	2.54	1.04E+09	3.57E+10	4.45E+02	1.54E+04
NN21	1	1.5						
NN22	3.1	0.9						
NN23	3.6	1.9						
NN24	1.5	2						
NN25	1	7.8	2.04	2.82	5.15E+09	7.34E+10	1.56E+03	2.22E+04

Table 2
Comparison of Average Airborne Asbestos Results
10 mph / 10 vph Average Traffic Pattern Airborne Asbestos Results

Distance From Road (feet)	Initial (S/cc)	Post (S/cc)	% Difference (Initial & Post)	No Traffic (S/cc)	Background (S/cc)
5	0.7550	0.0155	98%	0.0585	0.0047
10	0.2250	NA		NA	0.0047
30	0.3300	< 0.0139	96%	0.0069	0.0047
50	NM	NA		NA	0.0047
80	0.2115	0.0250	88%	0.0046	0.0047
130	0.0477	NA		NA	0.0047
160	NM	NA		NA	0.0047
190	NM	NA		NA	0.0047
300	NM	0.0360		0.0091	0.0047
Average Asbestos Reduction 94%					

Background samples were collected from sample locations approximately 500 feet west of Slodusty Road study area.
NA =Not Analyzed
NM =Not Measured

Table 3
Comparison of Average Airborne Asbestos Results
25 mph / 30 vph Traffic Pattern

Distance From Road (feet)	Initial Airborne Asbestos Concentration (S/cc)	Post Airborne Asbestos Concentration (S/cc)	% Diff (Initial & Post)	No Traffic Simulation Airborne Asbestos Concentration (S/cc)	Background Airborne Asbestos Concentration (S/cc)
5	6.3000	0.0654	99%	0.0585	0.0047
10	2.2750	NA		NA	0.0047
30	1.5350	0.0218	99%	0.0069	0.0047
50	0.9100	NA		NA	0.0047
80	0.7100	0.0076	99%	0.0046	0.0047
100	0.4265	0.0130	97%	NA	0.0047
130	0.5050	NA		NA	0.0047
160	0.3500	< 0.0046	99%	NA	0.0047
190	0.1870	0.0090	95%	NA	0.0047
300	nm	< 0.0043		0.0091	0.0047

AVERAGE PERCENT DIFFERENCE **98%**

Not Analyzed

Not Measured

Table 4
Summary of Initial Study Personal Sample Results

Index IDs	Date collected	Notes	Estimated Exposure Period (hr)	TEM TWA (s/cc)	LAB	PCM TWA (f/cc)	LAB
P0-00016	07/15/02	Sedan Driver (DTSC personnel)	3.0	0.0056	EMSL++	could not analyze, filter type is PC	EMSL
P0-00017	07/15/02	Traffic Controller	3.0	0.2325	EMSL++	could not analyze, filter type is PC	EMSL
P1-00060	07/16/02	In pick-up truck	6.5	0.2844	EMSL++	0.0130	EMSL
				0.2681	RESI		
P1-00061	07/16/02	Field Personnel	6.5	0.2275	EMSL++	0.0049	EMSL
P1-00062	07/16/02	Traffic Controller	6.5	0.0114	EMSL++	< 0.0033	EMSL
P2-00002	07/17/02	Field Personnel	6.5	0.2763	EMSL++	0.0049	EMSL
				0.3819	RESI		
P2-00003	07/17/02	Traffic Controller	6.5	0.0496	EMSL++	< 0.0033	EMSL
				0.0496	RESI		
P2-00004	07/17/02	Field Personnel	6.5	0.3331	EMSL++	< 0.0033	EMSL
				0.4469	RESI		
				0.2113	RESI QC-RPs		
P3-00002	07/18/02	Field Personnel	3.0	0.1538	RESI	< 0.0034	EMSL
				0.0788	EMSL++		
P3-00003	07/18/02	Field Personnel	3.0	1.6875	RESI	0.0045	EMSL
				0.0525	EMSL++		
P3-00004	07/18/02	Sedan Driver	3.0	0.0413	RESI	< 0.0034	EMSL
				0.0563	EMSL++		
11	**Total Personal Samples**	**AVERAGE**		**0.2552**		**< 0.0049**	

NOTE: "++" EMSL concentrations excluded structures that appeared as "scrolled lizardite". concentrations were determined by EMSL prior to reaching a consensus among laboratories that structures that appear as "scrolled lizardite"

Table 5
Comparison of Average Airborne Asbestos Results Post Resurfacing All Traffic Patterns

Distance From Road (feet)	Post 10mph/10vph Airborne Asbestos Concentration (S/cc)	Post 25mph/30vph Airborne Asbestos Concentration (S/cc)	No Traffic Simulation Airborne Asbestos Concentration (S/cc)	Background Airborne Asbestos Concentration (S/cc)
5	0.0155	0.0654	0.0585	0.0047
10	NA	NA	NA	0.0047
30	< 0.0139	0.0218	0.0069	0.0047
50	NA	NA	NA	0.0047
80	0.0250	0.0076	0.0046	0.0047
100	NA	0.0130	NA	0.0047
130	NA	NA	NA	0.0047
160	NA	< 0.0046	NA	0.0047
190	NA	0.0090	NA	0.0047
300	0.0360	< 0.0043	0.0091	0.0047

NA Not Analyzed

Table 6
Initial Study NOA Emission Risk Ranges

TIME ADJUSTED HEALTH BASED RISK	10 mph/10vph SCENARIO	25mph/30vph SCENARIO
Lifetime/70 year exposure	3.1×10^{-5} to 3.3×10^{-3}	2.7×10^{-4} to 3.2×10^{-2}
30 year exposure	1.3×10^{-5} to 1.4×10^{-3}	1.1×10^{-4} to 1.4×10^{-2}
9 year exposure	4.0×10^{-6} to 4.2×10^{-4}	3.4×10^{-5} to 4.1×10^{-3}

Table 7
Post Resurfacing Study
NOA Emission Risk Ranges

TIME ADJUSTED HEALTH BASED RISK	10 mph/10vph SCENARIO	25mph/30vph SCENARIO
Lifetime/70 year exposure	$5.3x10^{-6}$ to $1.5x10^{-4}$	$1.3x10^{-5}$ to$2.9x10^{-4}$
30 year exposure	$2.3x10^{-6}$ to $6.4x10^{-5}$	$3.1x10^{-6}$ to $1.3x10^{-4}$
9 year exposure	$6.8x10^{-7}$ to $1.9x10^{-5}$	$9.4x10^{-7}$ to $3.8x10^{-5}$

Figure 1: Location of Garden Valley

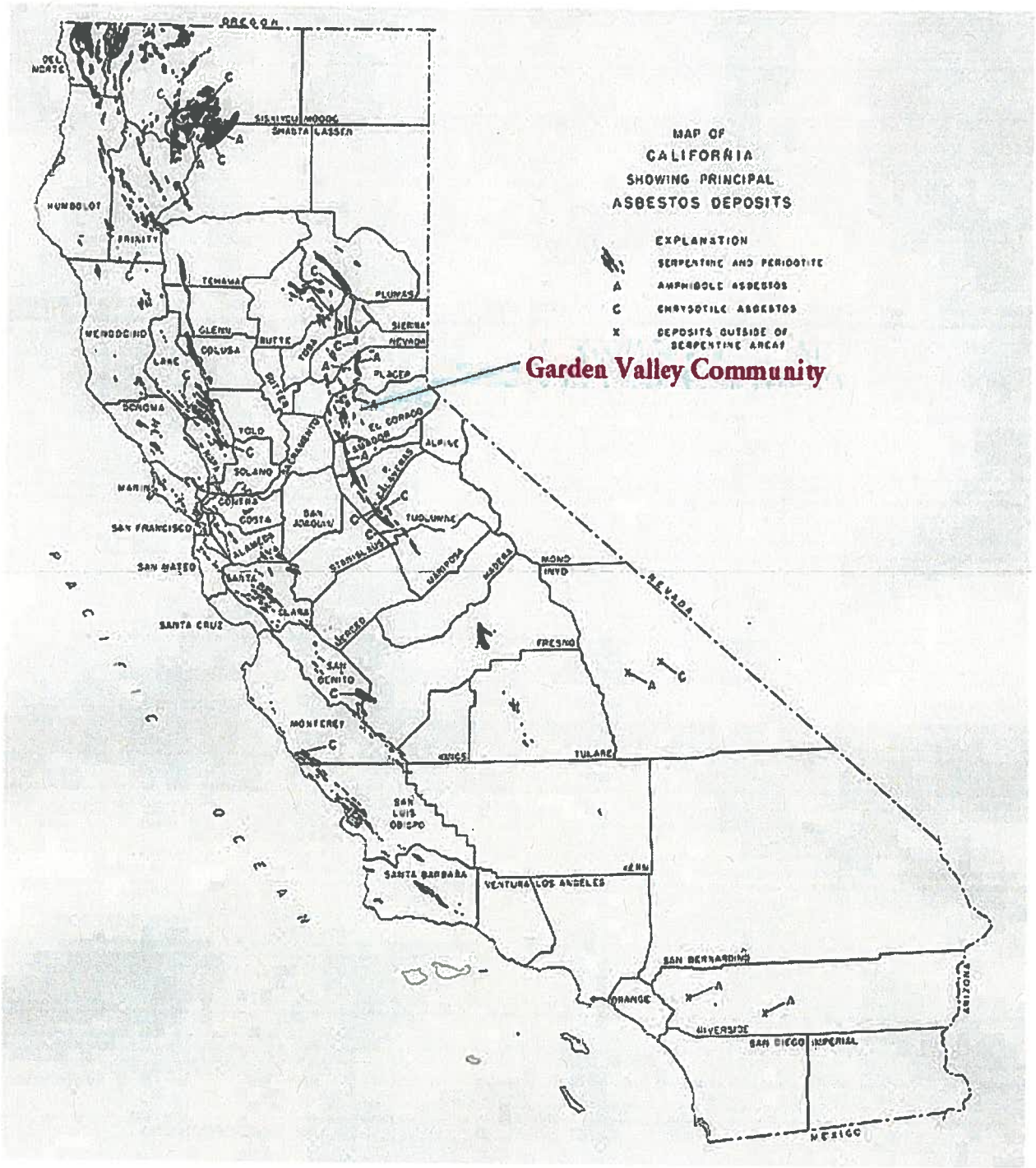


Figure 2: Garden Valley Study (Slodusty Road)

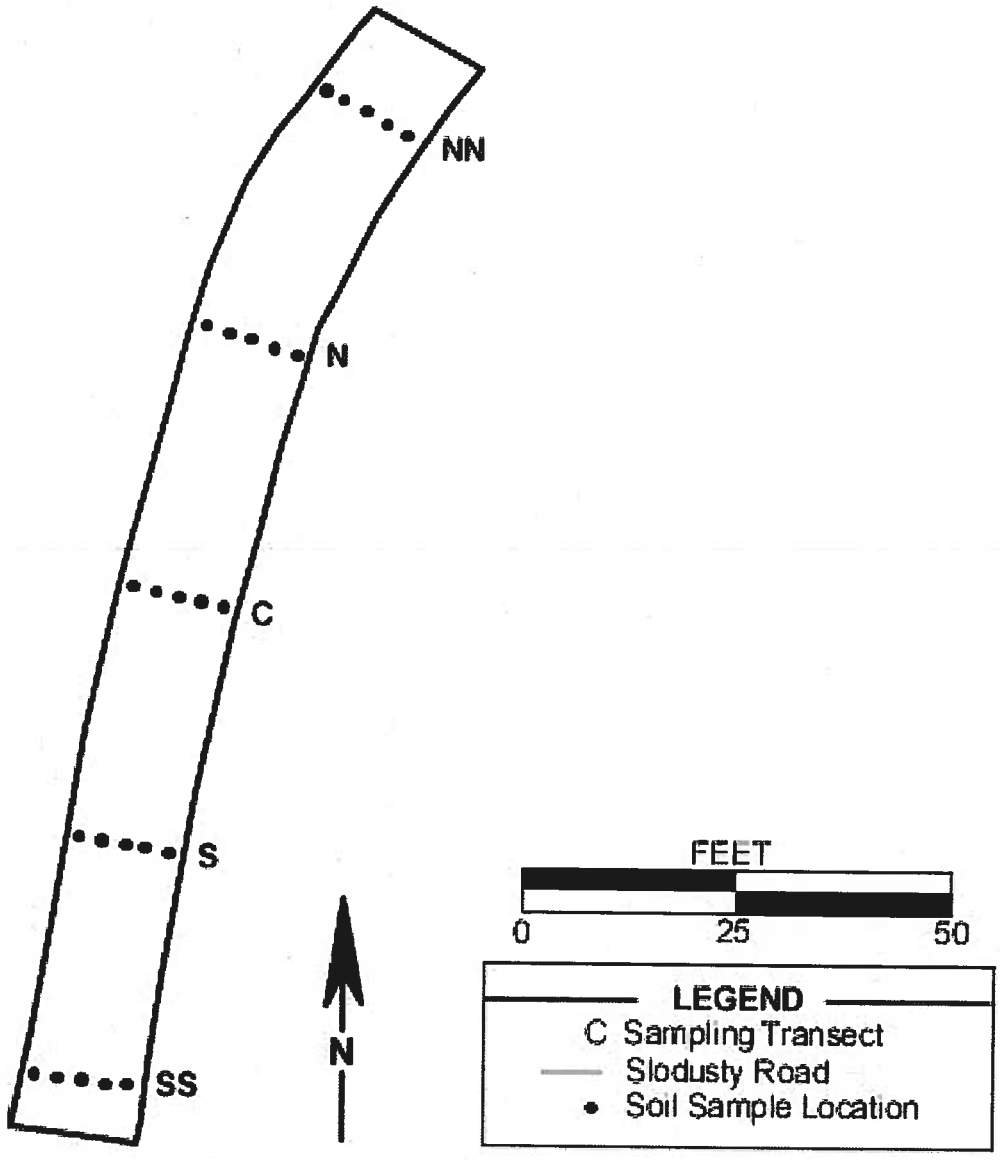


Figure 3

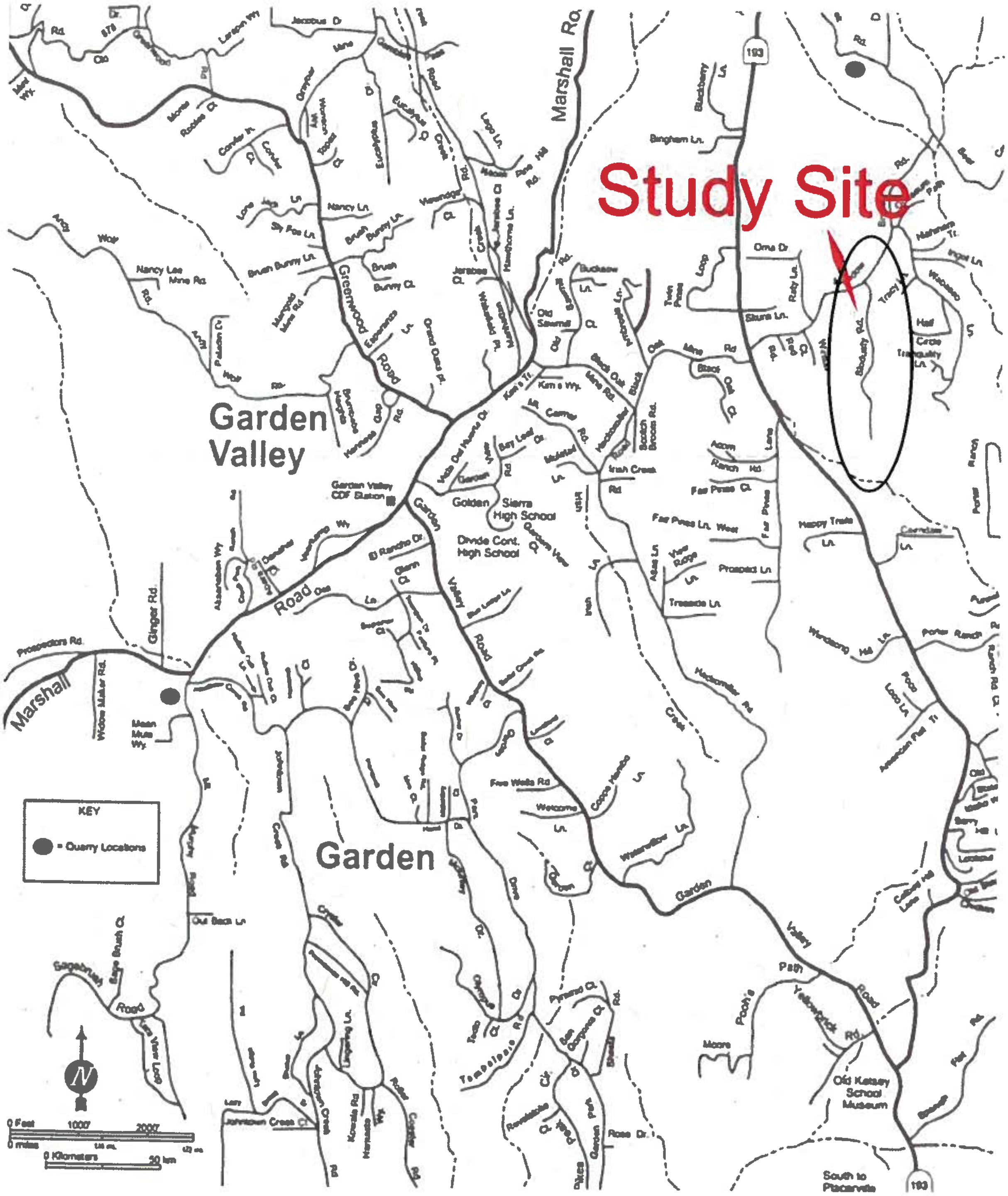

Study Site
Garden Valley
Garden
Marshall Rd.
Marshall
KEY
= Quarry Locations
Garden Valley CDF Station
Golden Sierra High School
Divide Cont. High School
Old Kelsey School Museum
South to Placerville
193
Greenwood Road
Garden Valley Road
Ginger Rd.
Prospectors Rd.
Widow Maker Rd.
Bingham Ln.
Blackberry Ln.
Omo Dr.
Happy Trails Ln.
Prospect Ln.
Treasure Ln.
Fair Pines Ln. West
Fair Pines Ct.
Irish Creek Rd
Pooh's Path
Moore
Rose Dr.
Garden Park
0 Feet 1000' 2000'
0 Kilometers

Figure 4
Regression Plot Comparing Elutriator and Bulk Method Analysis

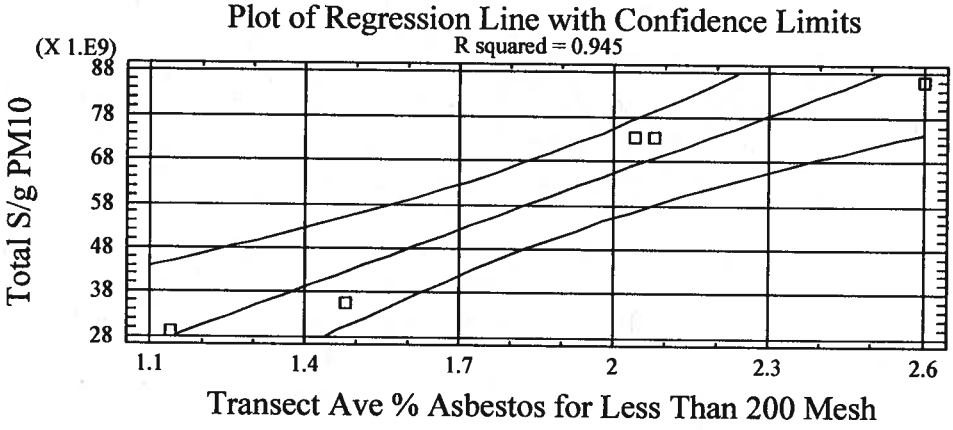
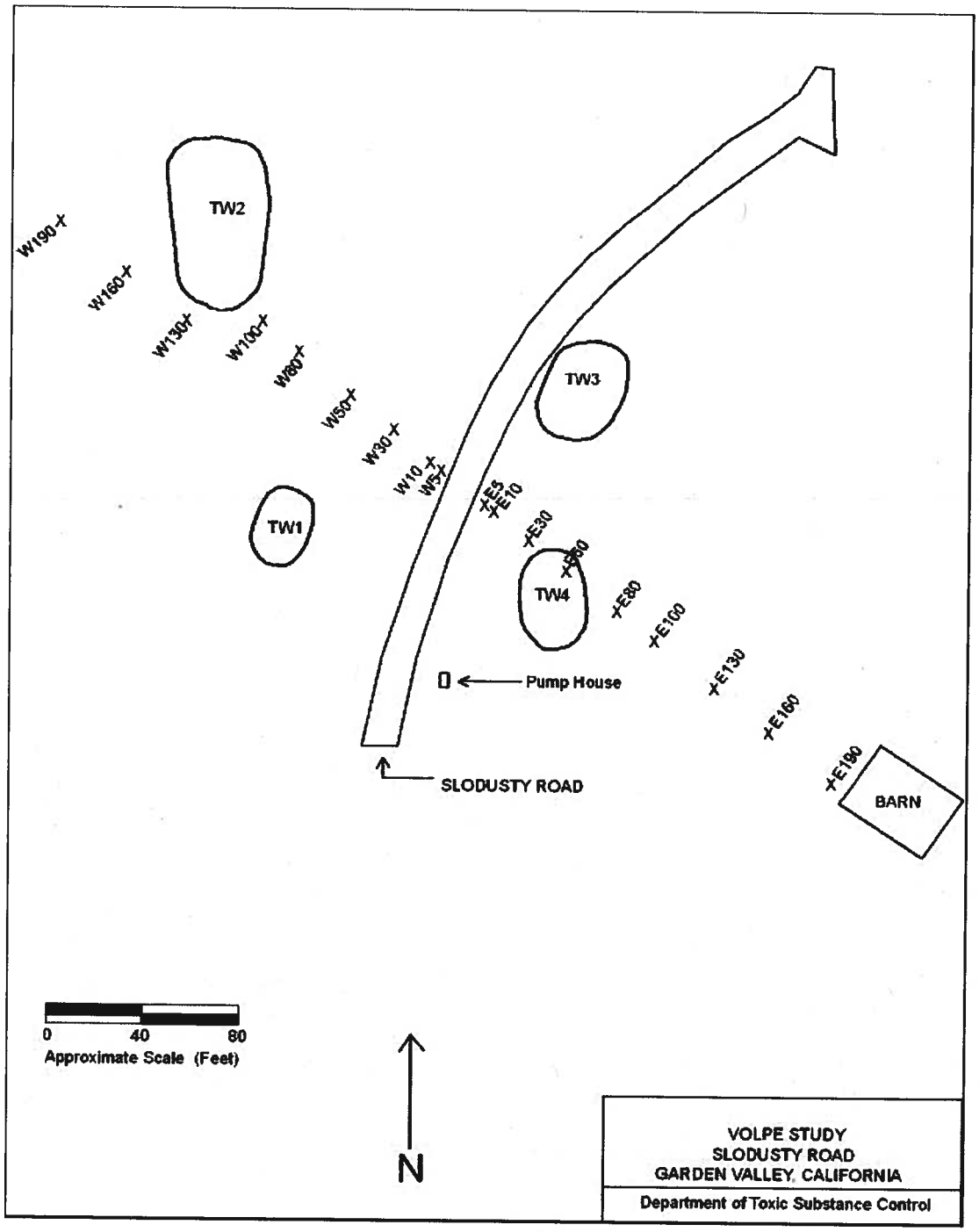


Figure 5
Location of Ambient Air Samplers



TW=tree, X=air sampler (E or W of road and distance (feet) away from road sampler was located)

Figure 6
Comparison of Average Airborne Asbestos Results 10 mph / 10 vph Traffic Pattern

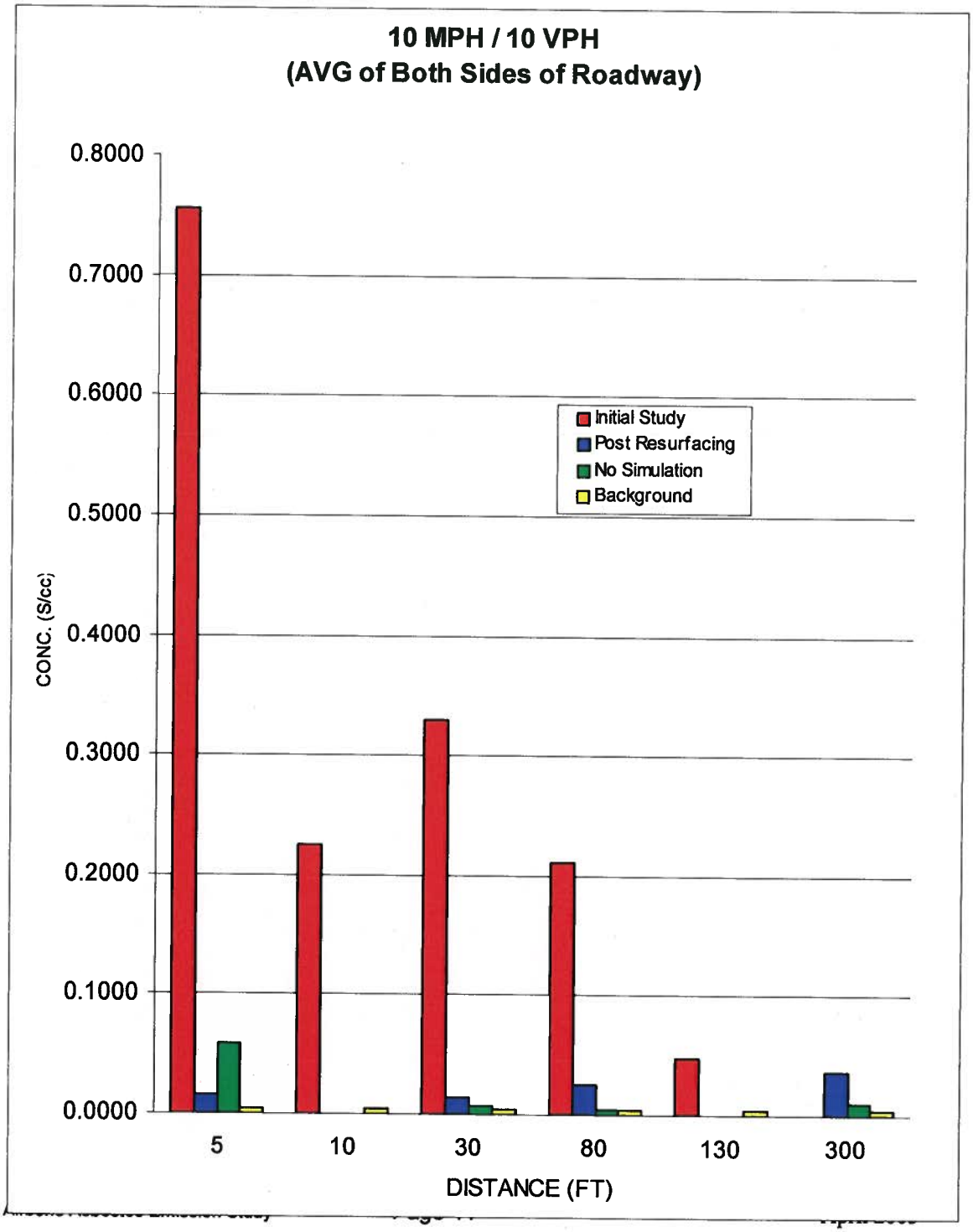


Figure 7
Comparison of Average Airborne Asbestos Results
25 mph / 30 vph Traffic Pattern

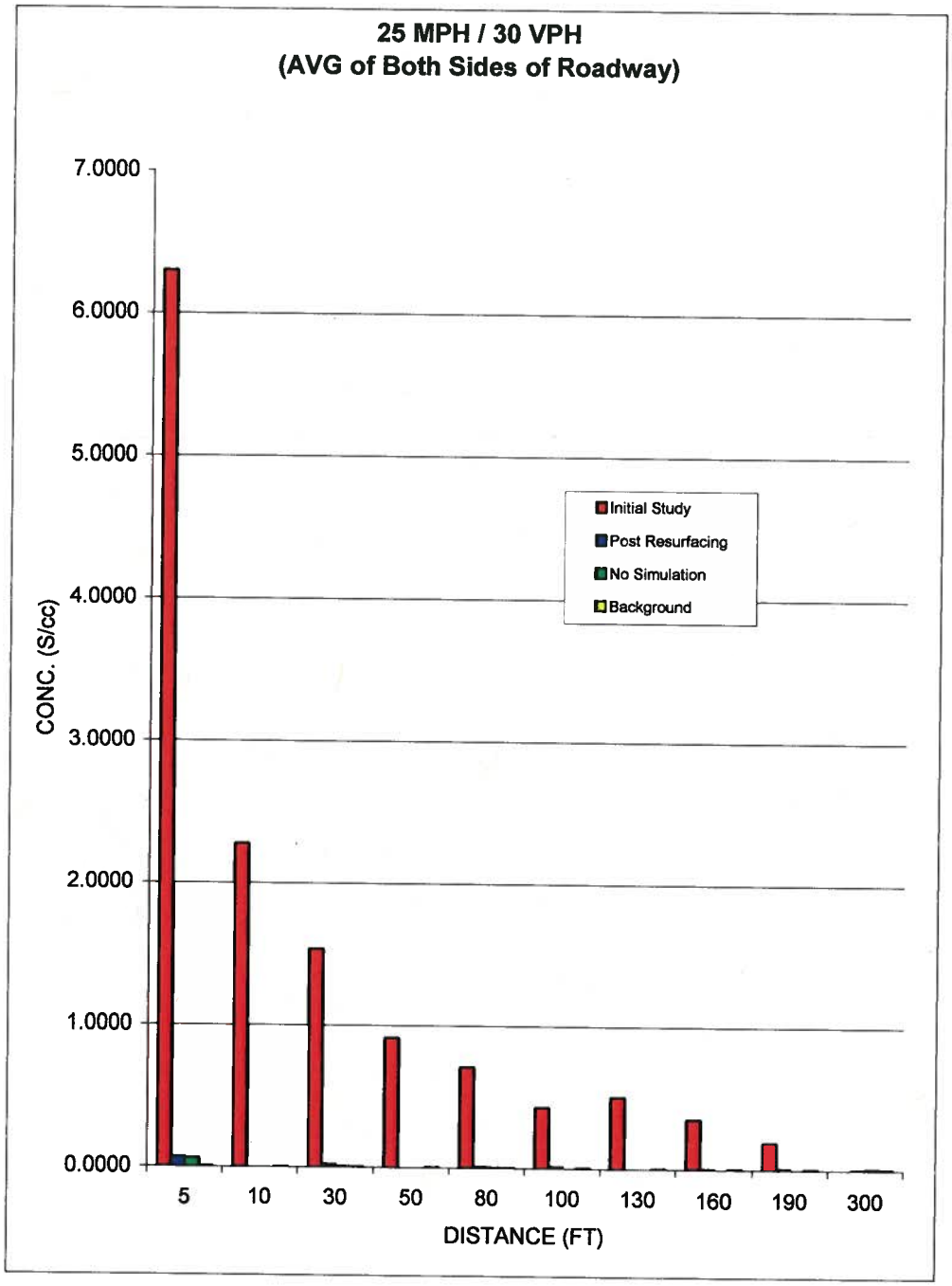


Figure 8
Comparison of Average Airborne Asbestos Results
25 mph / 30 vph Traffic Pattern (Magnified Scale)

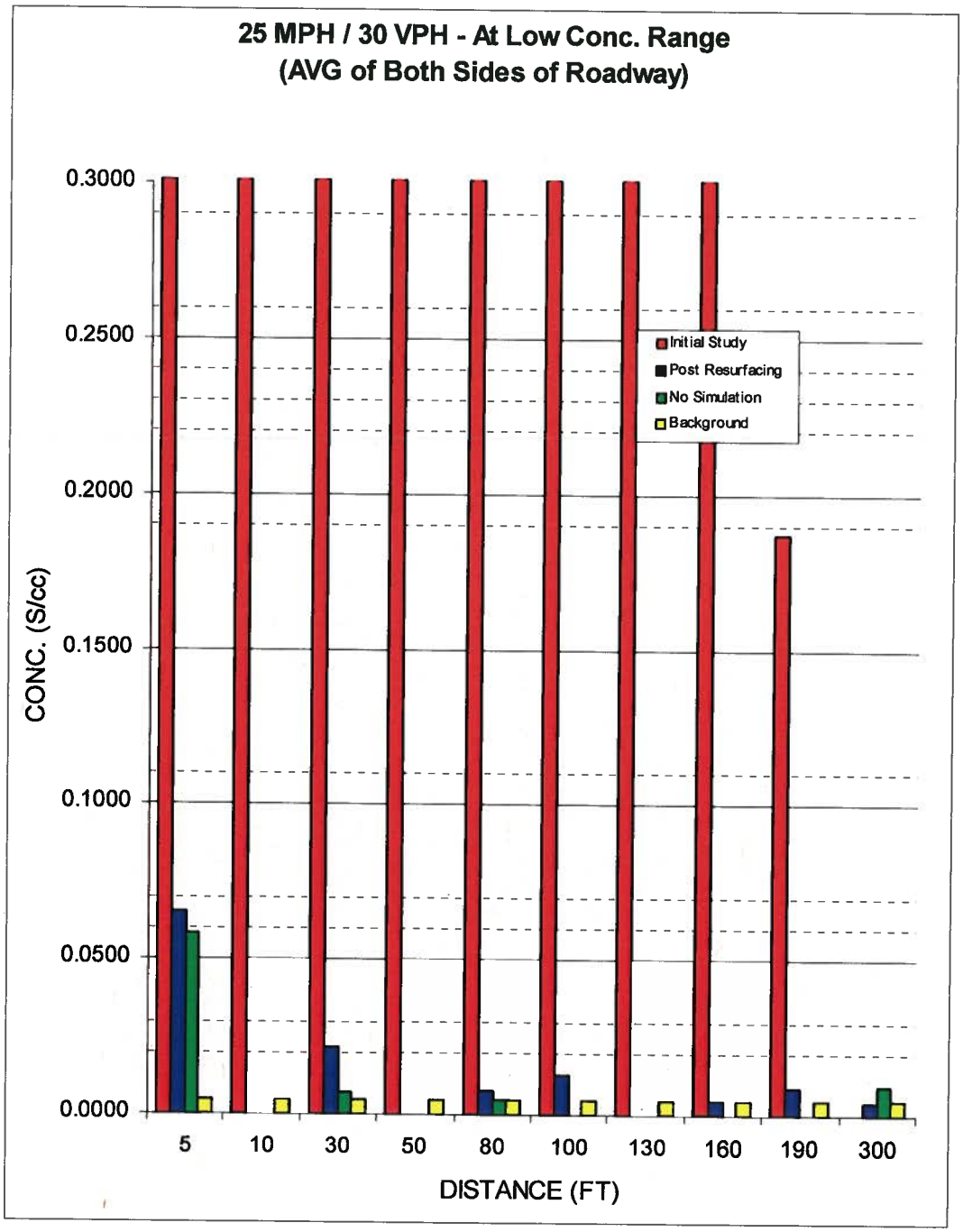


Figure 9
Comparison of Average Airborne Asbestos Results
Post Resurfacing All Traffic Patterns

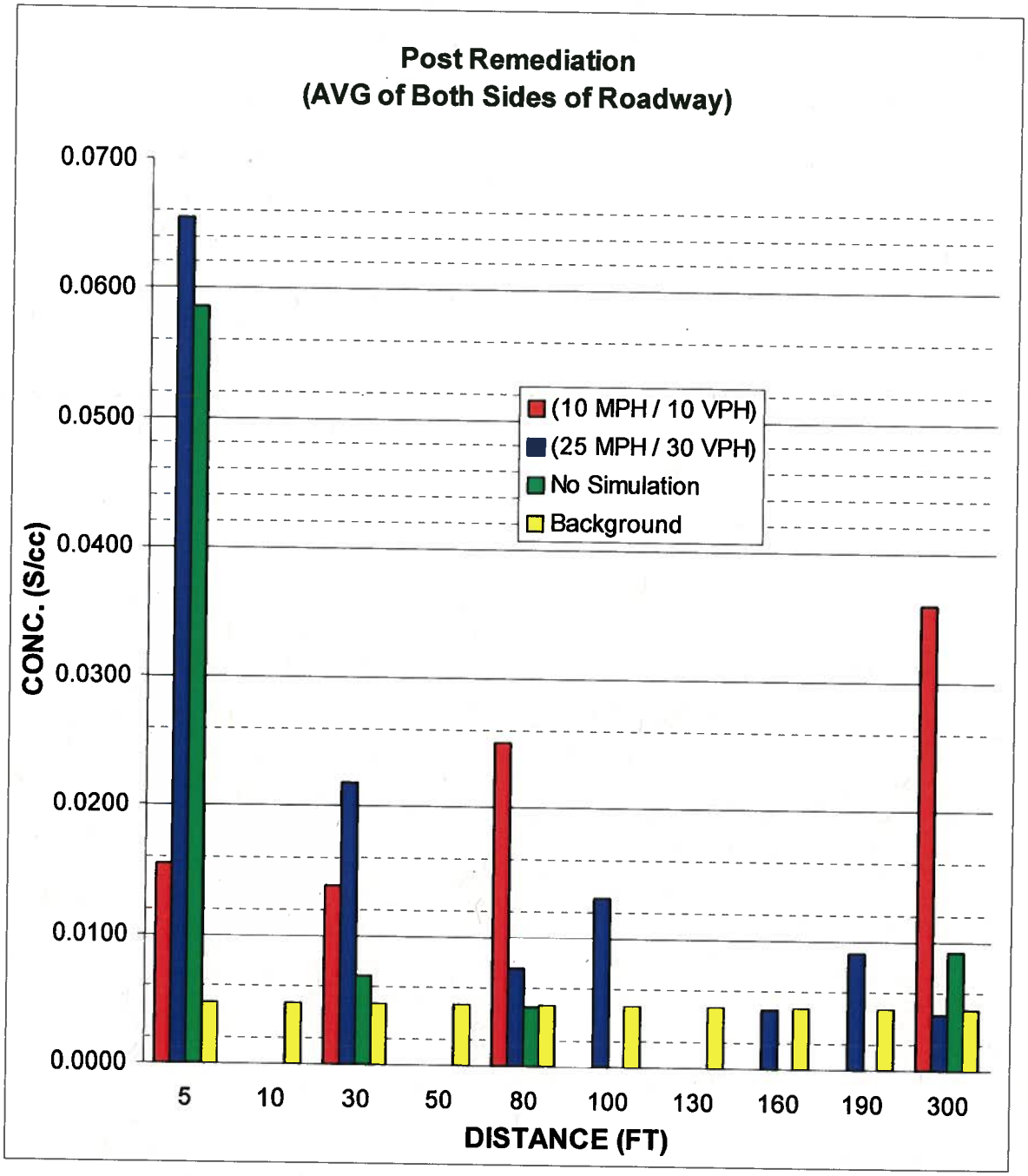
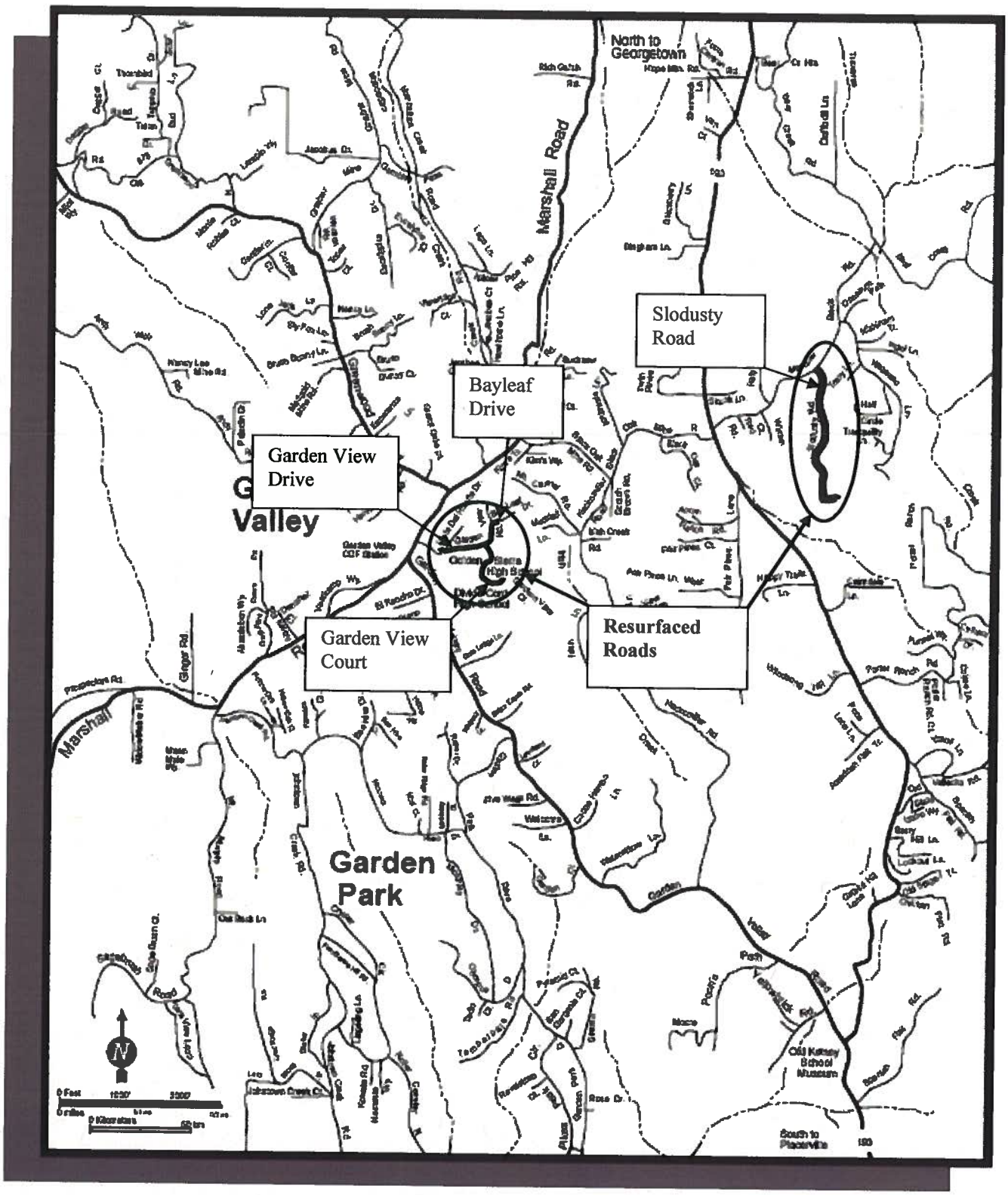


Figure 10
Location of Resurfaced Roads



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Hollister Field Office
20 Hamilton Court
Hollister, CA 95023
www.ca.blm.gov/hollister

May 5, 2005

Subject: Motor vehicle dry-season use restrictions within the Clear Creek Management Area

Introduction
The Bureau of Land Management (BLM), in conjunction with recent studies by the U.S. Environmental Protection Agency (EPA), will be implementing dry season motorized vehicle use restrictions within the Clear Creek Management Area (CCMA). This is in response to the risk assessment conducted by EPA in September of 2004 which found elevated levels of airborne asbestos fibers present during various activities. This action is also in accordance with the 1995 Final Environmental Impact Statement (FEIS) and Resource Management Plan Amendment for the CCMA.

The primary goal of these use restrictions is to reduce public exposure to airborne asbestos during off-highway vehicle (OHV) activities. Public health and safety is always the top priority for BLM.

Background
In 2004, BLM prepared a Draft Environmental Impact Statement and Resource Management Plan (DEIS) for the CCMA. The DEIS is being revised into a Final EIS and Proposed Plan Amendment with release expected summer of 2005. This planning effort is focused on designating routes within the CCMA. Completing this process is deemed to be critical to managing vehicular use and resources within the management area.

The Management Guidance and Determinations Common to all Alternatives section of the 1995 FEIS/Plan Amendment for the CCMA states that "A seasonal restriction to OHV use would be enforced throughout the CCMA…during dry soil and dusty conditions" (p. 12). The same document also refers to "seasonal access closures" during "months of extreme dry and dusty. . ." road conditions (p. 23). The 1999 Record of Decision (ROD) reaffirms limiting the number of vehicles within CCMA, or establishing vehicle quotas during certain seasons. BLM has posted asbestos information throughout the area, and also includes this information monthly to the public in the CCMA bulletin.

2004/2005 EPA Risk Assessment
In September of 2004, EPA initiated an asbestos exposure risk assessment study within CCMA. Sampling was conducted in September, November, and again in February of 2005. Results from the September sampling event found up to .955 fibers per milliliter. In the three "exposure scenarios" sampled, all three exceeded the "risk management range generally used by EPA" (EPA Technical Memo, p. 6). EPA did state, however, that "further sampling is needed to confirm the results of this one-time sampling event. . ." (EPA Technical Memo, p. 6).

Preliminary results from EPA sampling conducted in November of 2004 will be available soon from EPA. BLM will review and coordinate with EPA upon receipt of the results.

Additional sampling was conducted by EPA during an OHV event on February 19, 2005. Results from this sampling event will also be reviewed with EPA upon receipt.

EPA/BLM Correspondence

EPA commented on the Draft EIS and Plan Amendment, and found it provided "inadequate information" regarding human asbestos exposure within CCMA. In light of the 2004/2005 risk assessment, EPA concluded that BLM should either wait to complete the FEIS after EPAs final report, or prepare a Supplemental EIS once the report is available in 2006 (Letter dated December 1, 2004).

A meeting was conducted February 8, 2005 between BLM and EPA. EPA emphasized during the meeting that BLM must better address public asbestos exposure during preparation of an FEIS. BLM maintained that it was critical to resource and recreation management within the area that route designation planning proceed without delay. This issue is compounded by a pending lawsuit against BLM for failure to adequately protect a federally threatened plant species, the San Benito evening primrose. BLM held that delaying the route designation process (focal point of the EIS/Plan Amendment) would detract from management efforts to protect the species, and perhaps affect the outcome of litigation.

It was agreed at the meeting, and reiterated in a March 9 letter from BLM to EPA, that BLM would consider implementing interim dry-season use restrictions as discussed with EPA. In an April 14 letter, EPA acknowledged that completing the route designation planning process in a timely manner was in the best interest of the public and would help improve natural resource management within the CCMA.

BLM maintained in its March 9, 2005 letter to EPA, that the FEIS/Plan Amendment for route designation should proceed as scheduled, with BLM agreeing to the following conditions:
1) Address asbestos exposure hazard issues in a future EIS/Plan amendment process upon receipt of EPAs final Risk Assessment in 2006.
2) Implement adequate mitigation measures to protect human health, including "dry-season closure and registration and limitations of public use
3) Acknowledge asbestos risk uncertainties in the FEIS
4) Identify immediate actions to reduce human health risks from asbestos exposure within CCMA
5) Allow EPA review of the FEIS prior to public release.
6) Fully disclose information on the pending risk assessment in the FEIS, and how it will be addressed in a future planning process.

Alternatives

Common to all alternatives:

All actions are considered to be interim pending EPA's final risk assessment results, expected in July of 2006.

Complete closure of the Serpentine ACEC to OHV (ATVs, motorcycles, any other open-air vehicles) uses from June 1 through October 15.

BLM would utilize motorized access to CCMA as required for administrative purposes during any restriction period(s).

BLM has no authority to restrict use or close roadways owned by San Benito or Fresno Counties. These routes include Clear Creek/New Idria Road (R001), T158, R015, and the western portion of R011.

Alternatives:
Alternative 1
A complete closure of the management area to motorized vehicles from June 1 through October 15.

Alternative 2
Restrict motorized access to full sized, fully enclosed 4-wheeled vehicles, and limit such travel only to Clear Creek/New Idria Road (R001). Overnight camping within the Serpentine ACEC would not be allowed during this period. Vehicle use and overnight camping restrictions would only apply within the ACEC.

Alternative 3
Same as alternative 2, with Spanish Lake Road (R011) also open to limited vehicle travel.

Alternative 4
Same as alternative 3, but with R015, R016, and R017 also open to limited vehicle travel.

Alternative 5
Same as alternative 2, but with only the County Road network open to limited vehicle travel. This includes R001, R015, R011. Sawmill Creek Road (T158) would remain closed to motorized vehicles although it is a County Road.

Please see enclosed map for range of alternative limited use routes.

Rationale
All alternatives would reduce potential public exposure to asbestos. Alternatives 2-5 would allow limited public access to the area during the dry season. Alternatives 2-5 would all limit use to specific access routes and to full-sized enclosed vehicles only. All alternatives would eliminate all OHV use during the dry season, and therefore reduce potential public exposure to airborne asbestos fibers. These restrictions are expected to affect approximately 4000 to 5000 users or 10 percent of overall annual use.

Implementation
A public forum has been scheduled on May 17, 2005 to inform local area users and interest groups about the use restrictions. BLM and EPA would also produce press releases to notify and inform the public of the purpose of the restrictions. BLM would prepare maps of open routes, restriction signs, and perform local public outreach. Maps of open routes would be made available to the public throughout the dry season use restriction period.

BLM would place signs and information at all area entry points on or before June 1. BLM Law Enforcement Officers would patrol the area and entrance points to ensure compliance during the use restriction period.

Any public notice (and Federal Register Notice) would be drafted to indicate that the restrictions would be lifted October 15 "unless continued dry conditions warrant continuation of the use restrictions." Field observations, asbestos sampling data, climatic conditions, and rainfall data

from remote stations would be used as criteria for extending or lifting the restrictions on that date.

Conclusion

BLM will continue to coordinate efforts to protect public health throughout the planning process. An interim dry-season motor vehicle use restriction will be developed based upon the above alternatives. It is expected for the restrictions to be implemented during June of 2005. This will be considered an interim plan until final results of EPAs 2004/2005 Risk Assessment are received by July 2006.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Hollister Field Office
20 Hamilton Court
Hollister, CA 95023
www.ca.blm.gov/hollister

May 20, 2005

In Reply refer to:
1610 (CA-190)P

U.S. Environmental Protection Agency
Region 9 Headquarters
75 Hawthorne St.
San Francisco, CA 94105

Dear Mr. Enrique Manzanilla;

Thank for your letter of April 14, 2005 regarding strategies to complete the National Environmental Policy Act (NEPA) process for route designations for the Clear Creek Management Area (CCMA). BLM welcomes your concurrence on implementing route designations for the CCMA as soon as possible through issuance of a Final EIS and Record of Decision. Completing this planning process will greatly improve BLM's management ability related to minimizing impacts to watershed resources, protection of special status species, and management of OHV recreation.

BLM is in receipt of EPA's Technical Memorandum **Human Health Risk Assessment - Asbestos Air Sampling Clear Creek Management Area, California September 15th, 2004.** As acknowledged in this Technical Memorandum, specific uncertainties exist that should be considered when interpreting the results for this risk assessment, and that further sampling and evaluation is necessary for completion of this risk assessment. Upon completion of the asbestos exposure studies and a final report by EPA, BLM will better be able to assess impacts from exposure to naturally occurring asbestos (NOA) as related to recreation use at the CCMA. As you are aware, NOA and issues related to public exposure and public use have become a "hot" topic of interest in California and may have far-reaching implications beyond the CCMA.

BLM is committed to managing public lands to provide for public health and safety. Dry season use restrictions have been identified as a management tool in previous plans for the CCMA, including the 1995 FEIS, although have not been implemented in the past. The Management Guidance and Determinations Common to all Alternatives section of the 1995 FEIS/Plan Amendment for the CCMA states that "A seasonal restriction to OHV use would be enforced throughout the CCMA…during dry soil and dusty conditions" (p. 12). The same document also refers to "seasonal access closures" during "months of extreme dry and dusty. . ." road conditions (p. 23). The 1999 Record of Decision (ROD) reaffirms limiting the number of vehicles within CCMA, or establishing vehicle quotas during certain seasons.

After review of EPA's Technical Memorandum (Sept. 2004), BLM believes that in the interim it is in the public interest to restrict public use of the Serpentine ACEC (Hazardous Asbestos Area) during the driest period to reduce potential risks to public health. Considering that dry season use restrictions were not described or analyzed in detail in the 1995 FEIS, BLM has determined that any dry season closure plan would require an environmental analysis to meet NEPA requirements. Implementation decisions are made with the appropriate level of NEPA analysis along with any procedural and regulatory requirements for individual programs in accordance with BLM's H-1601-1 — LAND USE PLANNING HANDBOOK. An environmental assessment has been prepared and is attached. All alternatives would reduce potential public exposure to asbestos.

Due to the high level of interest and degree of controversy related to this proposed action, BLM has determined that a 30 day public comment period is necessary to fulfill NEPA requirements. This could delay implementation of planned dry season restrictions intended to begin June 1, 2005. In the interim during the public comment period BLM would significantly expand its signage and public information program to clearly identify potential health risks related to asbestos exposure during the dry season. BLM would encourage self registration that would include a "permit" that would contain an explicit asbestos warning and would be placed with the vehicle. BLM would appreciate assistance of your staff in drafting of this warning language.

Several issues complicate implementation of dry season restrictions is for the CCMA, including; BLM has no authority to restrict use or close roadways owned by San Benito or Fresno Counties. These routes include Clear Creek/New Idria Road (R001), T158, R015, and R011 (Spanish Lake Road). This network of roads is approximately 27 miles and traverses the heart of the Serpentine ACEC. BLM is currently in discussion with the San Benito County Board of Supervisors on this issue. There are a number of parcels of private land within the CCMA which require access for these landowners. There are also rights-of-way holders including communications sites on both Santa Rita Peak and San Benito Mountain that are primarily accessed from the New Idria side by various entities for maintenance purposes.

Dry Season use restrictions would be in accordance with 43 CFR 8365.1 as follows: "Closure and restriction orders. (a) To protect persons, property, and public lands and resources, the authorized officer may issue and order to close or restrict use of designated lands." Closures and restrictions pursuant to this CFR require publishing of the orders in the *Federal Register*. A draft copy of the *Federal Register Notice* is also attached to this letter. As results of the November sampling are not public information at this point, these use restrictions will be based solely on the Sept. 2004 Technical Memorandum. The *Federal Register Notice* would be drafted to indicate that the restrictions would be lifted October 15 "unless continued dry conditions warrant continuation of the use restrictions." Field observations, asbestos sampling data, climatic conditions, and rainfall data from remote stations would be used as criteria for extending or lifting the restrictions on that date.

BLM has met with a variety of stakeholders and interested agencies to solicit input on this issue, including Blue Ribbon Coalition, American Motorcycle Association, California State Parks Off-Highway Motor Vehicle Recreation Division, California Department of Toxic Substance Control, and San Benito County. A public workshop was held on May 17, 2005 to inform local

area users and interest groups about the use restrictions. Several of these parties have expressed a great deal of concern over implementation of a seasonal closure at the CCMA.

Upon selection of the alternative and proposed action and subsequent decision, BLM will prepare a detailed Dry Season Restriction Implementation Plan. Implementation actions will include producing press releases to notify and inform the public of the purpose of the restrictions. BLM will prepare any necessary maps, place restriction signs and information at all area entry points, and perform local public outreach. BLM Law Enforcement Rangers will patrol the area and entrance points to ensure compliance during the use restriction period. BLM will continue to post asbestos information throughout the area and include this information monthly to the public in the CCMA bulletin.

BLM anticipates completion of the Proposed Plan Amendment and FEIS for the CCMA in June 2005. This plan will describe the 2005 Dry Season Use Restrictions, incorporate available sampling data from EPA's risk assessment, and identify planning issues that may require subsequent environmental analysis relating to overall public use of the CCMA. BLM appreciates your willingness to commit to a priority review of the administrative draft of this plan.

BLM will continue to coordinate with EPA and interested parties on efforts to protect public health throughout the planning process. An interim dry-season motor vehicle use restriction will be developed based upon the alternatives identified in the environmental assessment. It is expected for the restrictions to be implemented during June of 2005. This will be considered an interim action until final results of EPAs 2004/2005 Risk Assessment are received by July 2006.

Sincerely,

Robert E. Beehler
Hollister Field Office Manager

BUREAU OF LAND MANAGEMENT
HOLLISTER FIELD OFFICE

Briefing for Congressman Sam Farr

ISSUES:

1. *Reduce risks to human health from airborne asbestos.*
2. *Respond to EPA's Technical Memorandum titled "Human Health Risk Assessment – Asbestos Air Sampling Clear Creek Management Area, California, September 15, 2004."*
3. *Issue Final EIS for route designation for Clear Creek.*

Health Risks and Dry Season Restrictions

In September of 2004, the Environmental Protection Agency (EPA) initiated an asbestos exposure health risk assessment (HRA) study within the CCMA after the release of the Draft Environmental Impact Statement and Resource Management Plan (DEIS) for the CCMA. Sampling was conducted in September and November of 2004, and again in February of 2005. Preliminary sampling revealed substantially higher exposure values than those used in the 1992 HRA. Results from the September sampling event found up to .955 fibers per milliliter, which is nine times the highest concentration reported for a tail rider in the 1992 assessment and nine times the OHSA permissible exposure limit. In February 2005, BLM received EPA's Technical Memorandum "Human Health Risk Assessment -Asbestos Air Sampling Clear Creek Management Area, California," regarding sampling on September 15, 2004. These air sampling studies being undertaken by EPA in connection with an ongoing risk assessment at CCMA indicate a higher risk from airborne asbestos exposure in CCMA than EPA and BLM previously thought.

BLM received comments from EPA on the Draft EIS for the CCMA in December 2004 that expressed significant concerns related to human health risks related to exposure to asbestos. After several discussions and meetings between BLM and EPA; based on preliminary EPA exposure results, the agencies determined that use restrictions in CCMA may be needed to reduce risk to the public from asbestos exposure, particularly during the dry season. Upon completion of the asbestos exposure studies and EPA's final report (expected June 2006), both agencies will better be able to assess exposure to naturally occurring asbestos (NOA) from recreational uses at the CCMA.

Until that data is available, BLM agreed to EPA to the following three actions, as stated in EPA's April 18 letter, which will allow us to protect public health and safety, our highest priority, and complete the CCMA Route Designation Final EIS and ROD:

1) A Dry Season Closure for the 2005 summer season;

2) Incorporation of Dry Season Data in the Final EIS; and

3) Identification of an Expedited Decision-making Process to address EPA's completed study. In response to the studies being conducted and comments on the DEIS by EPA, BLM determined it in the public interest to restrict public access in the interim

during the dry season within the CCMA. This action is also in accordance with the 1995 Final Environmental Impact Statement (FEIS) and Resource Management Plan Amendment for the CCMA.

Pursuant to 43 Code of Federal Regulations (CFR) subpart 8364, BLM seasonally restricted public access to certain BLM-administered public lands at the CCMA during the period of June 4, 2005 through October 15, 2005. This seasonal closure is needed to ensure visitor safety and protect public land users from potential health risks associated with naturally occurring asbestos found within the closure area.

This seasonal closure affects public lands located within the 30,000-acre Serpentine Area of Critical Environmental Concern (ACEC) situated within the Clear Creek Management Area (CCMA). Except for travel on county roads, public access (motorized and non-motorized) within this area will be allowed only by written authorization from the Hollister Field Manager. A Closure Order was signed on May, 25, 2005.

A Notice of Appeal to the Interior Board of Land Appeals (IBLA) was sent by Paul A. Turcke, attorney for Appellants, and received by BLM on July 5, 2005. Appellants are Salinas Ramblers Motorcycle Club, American Motorcycle Association District 36, California Association of 4 Wheel Drive Clubs, California Off-Road Vehicle Association, Off-Road Business Association, and the Blue Ribbon Coalition. The Notice of Appeal concerns environmental assessment EA-CA-190-05-21 and Closure Order both signed May 25, 2005.

The Closure Order, EA-CA-190-05-21, and a News Release were e-mailed to several members of Appellant's organizations, including Ed Tobin of Salinas Ramblers, on May 26, 2005. The Closure Order was issued pursuant to 43 CFR 8364.1 for the immediate protection of public safety and health related to exposure to naturally occurring asbestos. The regulation reads: "To protect persons, property, and public lands and resources, the authorized officer may issue an order to close or restrict use of designated public lands."

Despite the Appellant's claim that BLM failed to include the public in the subject dry season closure decision-making process, information regarding the potential for human health risks from naturally occurring asbestos at CCMA has been available for many years. The long history of involvement of Appellants and other recreational groups in CCMA planning processes contradicts their claims that they have been excluded from agency decision-making and that BLM has failed to conduct "formal agency analysis involving the interested public."

In addition to this historical involvement, a conference call was held with several leaders and members of the Appellants' organizations, including Blue Ribbon Coalition, AMA, and Cal 4WD on May 5, 2005, with a subsequent meeting on May 12, to discuss the potential closure and provide background information on the situation. A public workshop was also held at the Hollister Field Office on May 17, 2005 and the potential for a closure and alternatives were discussed at the meeting. BLM sought to involve the public in the process as was reasonable under the circumstances.

In subsequent discussions with the attorney for Appellants, BLM believes an agreement is in place to withdraw the Petition for Stay on the Notice of Appeal.

BLM is currently in litigation with Center for Biological Diversity and California Native Plant Society. The Federal Judge in this case appears to have a strong interest in maintaining this interim closure.

FEIS

Designation of a route network for off-highway vehicle (OHV) use at the CCMA is currently under consideration. A Draft EIS was issued in May 2004 on this process with comments received through November 2004. BLM received comments on this Draft EIS from the EPA that expressed concern about the lack of information and analysis related to protection of human health related to NOA. However, BLM and EPA have agreed that these issues will not be addressed in this route designation process and will be addressed in a subsequent planning process. The DEIS is being revised into a Final EIS and Proposed Plan Amendment and is expected to be released to the public in the September of 2005. This planning effort is focused on designating routes and barrens within the CCMA for sustainable OHV recreation opportunities. Completing this process is deemed to be critical to managing vehicular use and protecting resources, particularly *camissonia benitensis* (federally threatened), within the management area.

For further information contact George Hill at (831) 630-5036 or George_Hill@ca.blm.gov.

In Reply Refer To:
1703/CA-190.36

Mr. Ray Iddings
142 Iowa Drive
Santa Cruz, CA. 95060

Thanks for your recent response to BLM's emergency summer closure of the Clear Creek Hazardous Asbestos Area of the Clear Creek Management Area.

The points you brought up in your letter which suggest that the closure may have been based on inaccurate information, have been reviewed. Some references have been cited or attached for you to read.

BLM, in cooperation with the EPA, has been conducting studies and public workshops over the last ten years, regarding the Clear Creek Hazardous Asbestos Area. We appreciate your concern over the latest EPA study, and hope you will be able to review some of the information we are providing you, to help you understand the need for this recent summer closure, in 2005. The EPA is planning on releasing another technical memorandum within a few months on the results of the November 2004 air sampling. We are considering jointly sponsoring a public workshop for

the local community to review and discuss these relevant issues, later this summer.

Below are some of the points you raised, along with comments that support EPA's technical study.

1- "There is no scientific evidence demonstrating chrysotile etiology" (Bernstein)

2- "It is well established that chrysotile , which is proven tremolite free" (Ilgren)

Comment - In 1997, The World Health Organization and the International Programme on Chemical Safety (IPCS), reviewed the extensive body of scientific studies and concluded that "....commerical grades of chrysotile have been associated with an increased risk of pneumoconiosis, lung cancer and mesothelioma in numerous epidemiological studies of exposed workers" (Environmental Health Criteria 203: Chrysotile Asbestos, IPCS).

A review of scientific studies completed on Calidria chrysotile, by Dr. David Egilman, has reviewed and pointed out several serious technical errors in Dr. Ilgren's conclusions. Also, BLM and EPA have conducted air sampling in the CCMA and analyzed these samp;es using high magnification Transmission Electron Microscope. These sample analysis confirm the presence of amphibole asbestos, despite prior claims that the area is free of amphibole asbestos.

3- "The EPA Technical Memorandum, Human Health Risk Assessment, September 15, 2004, fails to differentiate between serpentine and amphibole asbestos....."

Comment - The EPA's risk assessment protocol does not recognize any different risks associated with the regulated asbestos fiber types, such as tremolite or chrysotile. All asbestos fibers have, according to the EPA's Integrated Risk Information System (IRIS) the same cancer potency factor.

4- "....In fact, the evidence regarding people exposed to airborne asbestos (chrysotile) in CCMA demonstrates that there is no risk." (Holmes)

Comment- The Holmes Bulletin uses the same data source as Dr. Ilgren, attached is a published rebuttal to those conclusions, by Dr. David Egilman. (January/March 2004 International Journal of Occupational Environmental Health, www.ijoeh.com).

In summary, the current naturally occurring asbestos rules are administered under regulatory authority of the Occupational Safety and Health Administration (OSHA) for worker safety. EPA is taking a role in the Clear Creek Management Area, due to the Superfund actions taken at the Atlas Asbestos Mine.

OSHA and EPA, do not differentiate any higher or lower risks between the various asbestos fiber types and the current EPA cancer slope factor is based primarily on effects of chrysotile asbestos. Since amphibole asbestos is considered more toxic than chrysotile, the existing protocol may actually underestimate risk when amphiboles are present.

EPA is responsible for the IRIS and risk assessment protocols. BLM has no authority to change asbestos regulations or conduct asbestos etiology or epidemiology studies, these roles are performed by other agencies, including OSHA, EPA, ATSDR, and Cal EPA.

The recent air samples, taken in the Clear Creek Management Area do contain a small amount of tremolite asbestos fibers, as confirmed by high magnification transmission electron microscope (TEM).

BLM's 1992 Risk Assessment did calculate a risk to the visiting public of increased potential of cancer due to the asbestos exposure. The 2004 EPA study confirms that specific seasonal risks can be much higher, such as during the dry summer, than was previously estimated by the 1992 BLM Risk Assessment.

BLM recognizes that there continues to be a scientific interest and at times disagreements of the public health issues relating to naturally occurring asbestos exposure. However, the recent studies and actions

taken by EPA in California in El Dorado County, and in Libby, Montana, indicate that greater precautions to protect the health of residents and public land stakeholders such as yourself, may be warranted.

If there are any questions, or you would like to discuss this further, please contact me or Tim Moore of my staff, at 831.630.5027.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
HOLLISTER FIELD OFFICE
ENVIRONMENTAL ASSESSMENT

Clear Creek Management Area Seasonal Use Restrictions
EA-CA-190-05-21

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
HOLLISTER FIELD OFFICE

ENVIRONMENTAL ASSESSMENT

DATE INITIATED: 5/11/2005

DIRECTORY/FOLDER: m\NEPA\fy 2005\dry season use restrictions

CONTROL NUMBER: CA-190-EA05-21

CASE FILE/SERIAL NUMBER:

PROPONENT: BLM

PROJECT:

LOCATION: **Clear Creek Management Area – Hazardous Asbestos Area**

AFFECTED ACREAGE: 30,000

7.5' QUADRANGLE:

LAND STATUS: MIXED OWNERSHIP

SPECIAL DESIGNATION AREA: **Serpentine ACEC**

AUTHORITY:

LAND USE PLAN CONFORMANCE:

The proposed action is subject to and in conformance with the Clear Creek Management Plan of 1995 (as amended) and in accordance with Title 43 Code of Federal Regulations 1610.5-3, and Title 43 Code of Federal Regulations 8360.

I. INTRODUCTION

- Clear Creek Management Area

The Clear Creek Management Area (CCMA) spans 75,000 acres and includes approximately 60,000 acres of public land administered by the Bureau of Land Management (BLM). The CCMA is located in southern San Benito and western Fresno counties. Visitors have been using CCMA extensively for off-highway vehicle (OHV) recreation for many years. Other recreation activities also occur within the CCMA, including hunting, rock-hounding, wildlife watching, and hiking. Visitation to the area during the dry summer months averages 1200 visitors per month. The BLM's CCMA Proposed Resource Management Plan (RMP) Amendment and Final Environmental Impact Statement (CCMA EIS), published in August 1995, state that the area is frequently hot, dry and dusty between May and October. The soil moisture during this time is at the lowest level annually and therefore, the potential for generating dust is greatest. Because of higher than average rainfall, the dry season this year is expected to occur from early June to mid-October.

There are approximately 440 miles of roads and trails within CCMA available to visitors. San Benito and Fresno counties own and maintain several roads as well.

- Serpentine Area of Critical Environmental Concern

Approximately 30,000 acres of the CCMA are in the Serpentine Area of Critical Environmental Concern (ACEC). The serpentine soils within the ACEC contain high concentrations of naturally occurring asbestos and support an environment with a unique assemblage of plant and animal species. The ACEC is the focus of this environmental assessment (EA).

More complete descriptions of CCMA and the Serpentine ACEC are part of the CCMA Proposed RMP Amendment and Final EIS EIS.

II. PURPOSE AND NEED FOR THE ACTION

The purpose of this action is to:

- Implement dry season closures, as identified in the CCMA RMP
- Reduce risks to human health from airborne asbestos
- Respond to EPA's Technical Memorandum titled "Human Health Risk Assessment – Asbestos Air Sampling Clear Creek Management Area, California, September 15, 2004."

The need for this action arises from the following factors:

- Need to Consider Measures to Implement the 1999 CCMA Plan

BLM has been managing the CCMA since 1999 under an approved management plan. BLM identified use restrictions, including dry season closures, in the 1995 RMP/EIS but has not fully implemented them. This EA considers implementing such restrictions in light of new information provided by the US Environmental Protection Agency (EPA).

BLM has attempted to use chemical dust control on selected main roads as a way to reduce asbestos emissions and mitigate hazard to people from breathing asbestos. These techniques have not been successful, and the costs to implement projects to stabilize dust have been very high.

- Need to protect the public from hazardous asbestos.

BLM and other state and federal agencies are chiefly concerned with protecting human health and safety. BLM must determine how to appropriately protect the public from the health risks associated with airborne asbestos at the CCMA.

- EPA Risk Assessment Indicates Higher Risk Than Previously Thought

With technical advice from EPA, BLM has already implemented measures to ensure BLM employee safety at CCMA with regard to airborne asbestos exposure. Air sampling studies being undertaken by EPA are part of an ongoing risk assessment at CCMA. The studies indicate a higher risk to people from exposure to airborne asbestos in CCMA than EPA and BLM had previously thought. Based on preliminary EPA results, BLM may need to restrict the public's presence in the CCMA and thus may reduce risk to the public from asbestos exposure during the dry season.

Analysis of airborne asbestos exposure in this EA relies on EPA's Technical Memorandum titled "Human Health Risk Assessment – Asbestos Air Sampling Clear Creek Management Area, California, September 15, 2004." EPA collected air sampling data for the Technical Memorandum in September of 2004. EPA is currently analyzing air samples from November 2004 and February 2005. EPA may continue to collect, additional samples in 2005; however, EPA has stated that initial analysis of 2004 results indicates significantly higher levels of airborne asbestos fibers than stated in previous studies published as part of BLM's 1995 CCMA EIS. EPA expects to produce a final report from this study by July 2006.

- Related BLM Actions

The use restrictions under consideration in this EA relate to other actions BLM is undertaking at CCMA. Those actions include route designation (Final

EIS expected in June 2005) and the Resource Management Plan (Draft RMP/EIS expected in 2006). BLM is also working with EPA to address potential naturally occurring asbestos issues in other parts of California.

Use restrictions may be necessary for appropriate interim management of the CCMA while the EPA completes its scientific studies.

III. DESCRIPTION OF ALTERNATIVES

Common to all alternatives except No Action:

BLM would:

- Consider all actions to be interim pending EPA's final risk assessment results expected in July 2006.

- Allow overnight camping at the Oak Flat campground and in the Condon Peak and Wright Mountain areas, all of which are outside the Serpentine ACEC.

- Not allow overnight camping within the Serpentine ACEC from June 1 to October 15.

- Require users to register and obtain a permit before entering the Serpentine ACEC.

- Authorize in writing from the BLM Hollister Field Office manager public access beyond that described in the selected alternative on a case by case basis after BLM staff complete an activity-based risk assessment

BLM has no authority to restrict use or close roadways owned by San Benito County without their concurrence and approval. These routes include Clear Creek/New Idria Road (R001), T158, R015, and the western portion of R011. BLM will consult and inform San Benito County about the alternatives and the proposed action.

Alternatives:

No Action

- Makes no change from current management.
- Leaves the Serpentine ACEC route network open to public use, subject to provisions in the Clear Creek Resource Management Plan, as amended.

Alternative 1

- Closes the Serpentine ACEC to motorized vehicles from June 4 to October 15.

- Holds BLM public meetings to discuss strategies for long-term risk reduction to people.

Alternative 2 – Proposed Action

- Closes the Serpentine ACEC completely to the public from June 4 to October 15.
- Holds BLM public meetings to discuss strategies for long-term risk reduction to people.

Alternative 3

- Allows use on BLM roads R016 and R017 to fully enclosed vehicles from June 4 to October 15 provided that county roads R001, R011, and R015 remain open.
- Otherwise, closes the Serpentine ACEC to motorized vehicles from June 4 to October 15.
- Holds BLM public meetings to discuss strategies for long-term risk reduction to people.

Alternative 4

- Closes the Serpentine ACEC completely to motorized vehicles until EPA completes its exposure and risk assessment.

Alternative 5

- Closes the Serpentine ACEC to the public until EPA completes its exposure and risk assessment.

Alternative 6

- Allows motorized and non-motorized use with a required signed informed consent statement.
- Requires visitors to sign a statement that they are informed about the risk in the area and about methods for reducing risk based on existing health and safety precautions employed by BLM employees.
- Holds BLM public meetings to discuss strategies for long-term risk reduction to people.

IV. ENVIRONMENTAL CONSEQUENCES

Chapter 4 of the Clear Creek Management Area (CCMA) Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS)(August 1995) discusses impacts of general use restrictions. The analysis of environmental consequences focuses on the impacts of alternative means of implementing use restrictions. Impacts to the following critical elements of the human environment would either not be adversely affected or would not change from those discussed in the Clear Creek Management Area (CCMA) Proposed

Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) (August 1995):

- Cultural and paleontological resources
- Environmental justice
- Farm lands – prime or unique
- Floodplain
- Invasive and nonnative species
- Native American Religious concerns
- Threatened, endangered, or sensitive species and habitats
- Wastes, hazardous or solid
- Water quality – drinking or ground
- Wetlands and riparian zones
- Wild and scenic rivers
- Wilderness

Cumulative impacts would not change from those discussed in the CCMA Proposed RMP and Final EIS (August 1995) on pages 137 and 138.

IMPACT ASSUMPTIONS

Recreation
Historically, recreational use of the Serpentine ACEC drops significantly in the dry and hot summer months. Visitation of the CCMA has averaged 1200 visitors per month between June 1 and October 15. A recent state regulation that may further limit use by off-road motorcycles and ATV's in CCMA during the dry season is the "Red Sticker" program. OHV's in the 2003 and newer model years that do not meet emission standards established by California Air Resources Board (CARB) are issued a Red Sticker rather than a Green Sticker. Red Sticker vehicles are not allowed to be operated in specific air quality districts during specific seasons. In the case of CCMA, the closed season is May 31 through October 1. It is difficult to quantify the additional limitation in use this may add to the dry season at CCMA. Visitation during the rest of the year has averaged 5000 visitors per month, depending on weather conditions. Assumptions about visitation rely on data in BLM's Recreation Management Information System.

Longer restrictions on use would affect more users. Restrictions on use from October 15 to June 1 would affect significantly more users than restrictions on use between June 1 and October 15. Motorized recreation is the use that most visitors to the CCMA engage in. Restrictions on motorized use would affect more visitors than restrictions on non-motorized use.

Air Quality
Recreational vehicle riding in the Serpentine ACEC disturbs soil and creates airborne asbestos. Motorized recreation creates a greater disturbance to soil

than non-motorized recreation and leads to higher densities of airborne asbestos along OHV routes. The BLM 1995 FEIS states that the CCMA is frequently hot, dry, and dusty between May and October. Soil moisture during this period is at the lowest level annually. Therefore, the potential to generate dust is greatest in this period.

Human Health and Safety
Visitor exposure to airborne asbestos is a human health concern. A higher level of exposure to airborne asbestos leads to a greater health risk. Motorized recreation leads to a higher level of exposure to airborne asbestos than non-motorized recreation. Data on exposure levels from motorized recreation during drier conditions come from EPA's Asbestos Exposure Assessment September Technical Report (see Attachment 1).

IMPACTS BY ALTERNATIVE

No Action

Recreation
Recreation visitation would not change. This alternative would lead to the highest recreational use of the alternatives.

Air Quality
Mechanical disturbance of soil would not change. This alternative would lead to the highest concentrations of airborne asbestos among all alternatives.

Human Health and Safety
Visitor exposure to airborne asbestos would continue at current levels. This alternative would lead to the greatest human health risk. (Refer to Attachment 1 for current exposure levels).

Alternative 1

Recreation
This alternative would have an adverse effect on the recreational opportunities of the fewer than 5400 visitors anticipated to use motorized vehicles in the Serpentine ACEC between June 1 and October 15. BLM would not allow these visitors to engage in vehicular recreation in the Serpentine ACEC. This alternative would impact more visitors than No Action, Alternative 3, and Alternative 6; it would impact fewer visitors than Alternative 2, Alternative 4, and Alternative 5.

Air Quality

This alternative would have less soil disturbance than No Action, Alternative 3 and Alternative 6; it would have higher soil disturbance than Alternative 2, Alternative 4, and Alternative 5.

Human Health and Safety
This alternative would lead to a lower human health risk from airborne asbestos than No Action, Alternative 3 and Alternative 6; it would lead to a higher human health risk from airborne asbestos than Alternative 2, Alternative 4, and Alternative 5.

Alternative 2 – Proposed Action

Recreation
This alternative would affect adversely the recreational opportunities of all of the approximately 5400 visitors anticipated to use the Serpentine ACEC during this period. BLM would not allow these potential visitors to enter the Serpentine ACEC to recreate. This alternative would impact more visitors than No Action, Alternative 1, Alternative 3, and Alternative 6; it would impact fewer visitors than Alternative 4 and Alternative 5.

Air Quality
This alternative would have less soil disturbance than No Action, Alternative 1, Alternative 3, and Alternative 6; it would have more soil disturbance than Alternative 4 and Alternative 5.

Human Health and Safety
This alternative would lead to a lower human health risk from airborne asbestos than No Action, Alternative 1, Alternative 3, and Alternative 6; it would lead to a higher human health risk from airborne asbestos than Alternative 4 and Alternative 5.

Alternative 3

Recreation
This alternative would adversely affect the recreational opportunities of the fewer than 5400 visitors anticipated to use motorized vehicles in the Serpentine ACEC from June 1 to October 15. BLM would not allow these visitors to use motorized vehicles in the ACEC except on two roads. This alternative would impact more visitors than No Action and Alternative 6; it would impact fewer visitors than Alternative 1, Alternative 2, Alternative 4, and Alternative 5.

Air Quality
This alternative would have less soil disturbance than No Action, and Alternative 6; it would have more soil disturbance than Alternative 1, Alternative 2, Alternative 4, and Alternative 5.

Human Health and Safety
This alternative would lead to a lower human health risk from airborne asbestos than No Action and Alternative 6; it would lead to a higher human health risk from airborne asbestos than Alternative 1, Alternative 2, Alternative 4, and Alternative 5.

Alternative 4

Recreation
The motorized vehicle closure of the Serpentine ACEC in this alternative and Alternative 5 would be significantly longer than in all other alternatives. This alternative would impact more visitors than No Action, Alternative 1, Alternative 2, Alternative 3 and Alternative 6; it would impact fewer visitors than Alternative 5.

Air Quality
This alternative would have less soil disturbance than No Action, Alternative 1, Alternative 2, Alternative 3 and Alternative 6; it would have more soil disturbance than Alternative 5.

Human Health and Safety
This alternative would lead to a lower human health risk from airborne asbestos than No Action, Alternative 1, Alternative 2, Alternative 3 and Alternative 6; it would lead to a higher human health risk from airborne asbestos than Alternative 5.

Alternative 5

Recreation
This alternative would reduce recreational use more than all other alternatives. All potential visitors would not be allowed to enter the Serpentine ACEC to recreate for the longest period of all alternatives.

Air Quality
This alternative would have less soil disturbance than all other alternatives.

Human Health and Safety
This alternative would lead to a lower human health risk from airborne asbestos than all other alternatives.

Alternative 6

Recreation
Recreational use would not be expected to significantly decrease under this alternative. BLM would require visitors to sign an informed consent statement

before they enter the Serpentine ACEC. This requirement may dissuade some visitors from entering the ACEC or from engaging in motorized recreation. This alternative would reduce visitation more than No Action; it reduce visitation less than Alternative 1, Alternative 2, Alternative 3, Alternative 4, and Alternative 5.

Air Quality
This alternative would have less soil disturbance than No Action; it would have more soil disturbance than Alternative 1, Alternative 2, Alternative 3, Alternative 4, and Alternative 5.

Human Health and Safety
This alternative would reduce exposure to airborne asbestos because of slightly decreased visitation. Some users may choose to adopt the risk-reducing actions contained in the consent statement. Because risk-reducing technologies are expensive, not available nearby, not comfortable, and not typically used by visitors, BLM does not expect visitors' use of these technologies to increase significantly. This alternative would lead to a lower human health risk from airborne asbestos than No Action; it would lead to a higher human health risk from airborne asbestos than Alternative 1, Alternative 2, Alternative 3, Alternative 4, and Alternative 5.

CONSULTATION

EPA
San Benito County
California State Parks Off-Highway Motor Vehicle Recreation Division

NOTIFICATION

The BLM Hollister Field Office manager has prominently posted notification of the proposed action and analysis in the Hollister Field Office public area.

DOCUMENT REVIEW

_____ _____

Planning and Environmental Coordinator Date

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
HOLLISTER FIELD OFFICE

FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD
Project Title
CA-190-EA05-21

DECISION: It is my decision to approve and implement the Proposed Action as evaluated in the attached environmental assessment (also see Attachment 2, Closure Order).

FINDING OF NO SIGNIFICANT IMPACT: Upon review of the Environmental Assessment associated with the proposed action and the Clear Creek Management Area Proposed Resource Management Plan Amendment and Final Environmental Impact Statement, I find that the proposed action will not significantly affect the quality of the human environment. Specific factors I have considered in making this finding include the following:

- Visitor use will not be significantly impacted because use restrictions in the Proposed Action occur during a time of minimal visitation and will be limited to 4 and a half months.
- Air quality would be improved as a result of the Proposed Action
- Human health risks associated with airborne asbestos would decline as a result of the Proposed Action.

Because I find no significant impact on the quality of the human environment, preparation of an Environmental Impact Statement (EIS) pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969 is not required.

RATIONALE FOR DECISION: The Proposed Action best implements decisions contained in the Clear Creek Management Plan, as amended. It also reduces risks to human health from exposure to airborne asbestos and provides protection to human health during the time that a full assessment of exposure and risk is being conducted by the Environmental Protection Agency. The Proposed Action does not result in any unnecessary or undue environmental degradation and is in conformance with the Hollister Resource Management Plan, as amended; the Clear Creek Management Plan, as amended; and with other applicable law, regulation and policy. My decision is based on these findings and on the finding of no significant impact described above.

Reviewed by: _____ _____
Environmental Coordinator Date

Approved by: _____ _____
Assistant Field Manager Date
Hollister Field Office

APPEAL:

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in Title 43 Code of Federal Regulations (CFR) Part 4 and the enclosed Form 1842-1. If an appeal is taken, a notice of appeal must be filed in the Hollister Field Office, Bureau of Land Management, U.S. Department of the Interior, 20 Hamilton Court, California 95023, within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If the appellant wishes to file a petition pursuant to regulation for a stay of the effectiveness of this decision during the time that the appeal is being reviewed by the Board, the petition for a stay must accompany the notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If a stay is requested, the appellant has the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

1. The relative harm to the parties if the stay is granted or denied;
2. The likelihood of the appellant's success on the merits;
3. The likelihood of immediate and irreparable harm if the stay is not granted; and
4. Whether the public interest favors granting the stay

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Hollister Field Office
20 Hamilton Court
Hollister, CA 95023
www.ca.blm.gov/hollister

25 May 2005

In Reply refer to:
1610 (CA-190)P

Nova Blazej, Acting Manager
Office of Federal Activities
U.S. Environmental Protection Agency, Region IX
75 Hawthorne St.
San Francisco, CA 94105

Dear Ms. Blazej:

We appreciated your letter of April 14, 2005, to the Bureau of Land Management (BLM) regarding strategies to complete the environmental review process for BLM's pending Resource Management Plan Amendment for the Clear Creek Management Area (CCMA). This letter provided us important further directions from EPA to clarify the December 1, 2004, letter on this project from Director Wayne Nastri to BLM State Director Mike Pool.

BLM welcomes EPA's concurrence on an appropriate process to implement route designations for the CCMA as soon as possible through issuance of a Final Environmental Impact Statement (EIS) and Record of Decision for the plan amendment. We agree that completing this planning process will greatly improve BLM's management ability related to minimizing impacts to watershed resources, protection of special status species, and management of OHV recreation.

BLM is in receipt of EPA's Feb. 5, 2005 Technical Memorandum "Human Health Risk Assessment -Asbestos Air Sampling Clear Creek Management Area, California," regarding sampling on September 15, 2004. As acknowledged in this Technical Memorandum, specific uncertainties exist that should be considered when interpreting the results for this risk assessment, and that further sampling and evaluation is necessary for completion of this risk assessment. Upon completion of the asbestos exposure studies and your final report, both our agencies will better be able to assess exposure to naturally occurring asbestos (NOA) from recreational uses at the CCMA.

Until that data is available, BLM agrees to the following three actions, as stated in EPA's April 18 letter, which will allow us to protect public health and safety, our highest priority, and complete the CCMA Route Designation Final EIS and ROD:

1) A Dry Season Closure for the 2005 summer season;
2) Incorporation of Dry Season Data in the Final EIS; and
3) Identification of an Expedited Decision-making Process to address EPA's completed study.

Dry season use restrictions have been identified as a management tool in previous plans for the CCMA, including the 1995 FEIS, although have not been implemented in the past. The Management Guidance and Determinations Common to all Alternatives section of the 1995 FEIS/Plan Amendment for the CCMA states that "A seasonal restriction to OHV use would be enforced throughout the CCMA...during dry soil and dusty conditions" (p. 12). The same document also refers to "seasonal access closures" during "months of extreme dry and dusty. . ." road conditions (p. 23). The 1999 Record of Decision (ROD) reaffirms limiting the number of vehicles within CCMA, or establishing vehicle quotas during certain seasons.

In compliance with EPA's Technical Memorandum for the September 2004 sampling, BLM believes that in the interim it is in the public interest to restrict public use of the Serpentine ACEC (Hazardous Asbestos Area) during the driest period to reduce potential risks to public health. Considering that dry season use restrictions were not described or analyzed in detail in the 1995 FEIS, BLM has completed an environmental assessment in compliance with NEPA requirements (see attached).

While your letter states that the dry season closure "should begin as soon as possible, but not later than Memorial Day weekend, and continue through mid-November based on historical precipitation and stream gage data," we anticipate completing our required regulatory procedures for the closure as described below in time to implement a closure by the first weekend in June (June 4-5). For reasons cited below, the dry season closure would end in Oct. 15, 2005.

BLM is committed to significantly expanding our signage and other public information materials to clearly identify potential health risks related to asbestos exposure during the dry season. BLM would appreciate assistance of your staff in drafting of this warning language.

Dry season use restrictions would be in accordance with 43 CFR 8364.1 as follows: "Closure and restriction orders. (a) To protect persons, property, and public lands and resources, the authorized officer may issue and order to close or restrict use of designated lands." Closures and restrictions pursuant to this regulation become effective immediately upon signature and also require publishing of the orders in the *Federal Register*. As results of the November sampling are not public information at this point, these use restrictions will be based solely on EPA's Technical Memorandum from the September 2004 sampling. The closure will indicate that the restrictions would be lifted October 15 , based on field observations, asbestos sampling data, climatic conditions, and rainfall data from remote stations. An evaluation of conditions at that time would be conducted to determine if any further use restrictions were warranted.

It is important to note that BLM has no authority to restrict use or close roadways owned by San Benito County, including Clear Creek/New Idria Road (R001), T158, R015, and R011 (Spanish Lake Road). This network of roads is approximately 27 miles and traverses the heart of the Serpentine ACEC. BLM is discussing this issue with the San Benito County Board of Supervisors who will have the authority to close or not close these routes.

There are a number of parcels of private land within the CCMA which require legal access for these landowners. There are also rights-of-way holders including communications sites on both Santa Rita Peak and San Benito Mountain that are primarily accessed from the New Idria side by

various entities for maintenance purposes. These access rights must be recognized and exemptions to the closure can be granted by BLM if requested. We will, of course, provide safety information to minimize asbestos exposure.

BLM has met with a variety of stakeholders and interested agencies to solicit input on this issue, including Blue Ribbon Coalition, American Motorcycle Association, California State Parks Off-Highway Motor Vehicle Recreation Division, California Department of Toxic Substance Control, and San Benito County. A public workshop was held on May 17, 2005 to inform local area users and interest groups about the use restrictions. We point out that several of these parties have expressed a great deal of concern over implementation of a seasonal closure at the CCMA, particularly if aimed solely at OHV use. Because public safety is the reason for this closure, it will apply to all users of the public lands, with the exception of those granted exemptions due to valid access rights or other legal requirements.

Implementation of the closure will include producing press releases to notify and inform the public of the purpose of the restrictions. BLM will prepare any necessary maps, place restriction signs and information at all area entry points, and perform local public outreach. BLM Law Enforcement Rangers will patrol the area and entrance points to ensure compliance during the use restriction period. BLM will continue to post asbestos information throughout the area and include this information monthly to the public in the CCMA bulletin.

BLM anticipates completion of the CCMA Route Designation EIS later this summer. The plan amendment, as required by EPA in your April 18 letter, will describe the 2005 Dry Season Use Restrictions, incorporate available sampling data from EPA's risk assessment, and identify planning issues that may require subsequent environmental analysis relating to overall public use of the CCMA. BLM appreciates your willingness to commit to a priority review of the administrative draft of this plan.

BLM will continue to coordinate with EPA and interested parties on efforts to protect public health and safety throughout the interim dry season closure and the plan amendment process. Please let us know if you have any questions regarding this matter, or feel free to contact me at (831) 630-5010.

Sincerely,

Robert Beehler
Field Manager, Hollister Field Office

Enclosure: Environmental Assessment

U.S. Department of Interior
Bureau of Land Management

CLOSURE ORDER

Pursuant to 43 CFR 8364.1, notice is hereby given that the BLM is seasonally restricting access to portions of public lands within the Clear Creek Management Area (CCMA) located in the southern portion of San Benito County and western Fresno County, California. **All public access, including motorized and non-motorized recreation use is restricted on public lands within the Serpentine ACEC from June 4, 2005 through October 15, 2005.** These lands are located in portions of T.17 S., R. 11 E.; T. 17 S., R. 12 E.; T. 18 S., R 11 E.; T. 18 S., R. 12 E.; T. 18 S., R. 13 E.; T. 19 S., R. 13 E.

This seasonal closure is necessary to ensure visitor safety and protect public land users from potential health risks associated with naturally occurring asbestos found within the restricted area. Dry soil conditions and high dust generating potential from public use activities during this time period create a significant hazard and risk associated with exposure to asbestos.

Except for travel on San Benito County roads, all public access and motorized vehicle travel will be allowed only by written authorization of the Hollister Field Manager. The following persons are exempt from the identified restrictions:

1) Federal, State, or local law enforcement officers, while engaged in the execution of their official duties.
2) BLM personnel or their representatives while engaged in the execution of their official duties.
3) Any member of an organized rescue, fire-fighting force, or emergency medical services organization while in the performance of their official duties.
4) Any member of a federal, state, or local public works department while in the performance of an official duty.
5) Any person in receipt of a written authorization of exemption obtained from the authorized officer from the Hollister Field Office.
6) Private landowners with in-holdings within the restricted area who have a responsibility or need to access their property, and persons with valid existing rights-of-way or lease operations, or representatives thereof.

During the closure period, the area will be clearly posted. Closure signs will be posted at main entry points to all locations affected by this Notice. Maps of the area will be posted with this notice at key locations that provide access into the closure areas, and may be obtained with further information at the Hollister Field Office, 20 Hamilton Court, Hollister, California 95023.

Seasonal closure orders may be implemented as provided in 43 CFR, subpart 8364.1. Violations of this closure are punishable by a fine not to exceed $1,000 and/or imprisonment not to exceed 12 months.

BLM
Hollister Field Office, 20 Hamilton Court, Hollister CA. 95023, 831 630-5000

Approved By: _____ **Date:** May 25, 2005
George B. Hill
Assistant Field Manager, Hollister Field Office, BLM

CLEAR CREEK MANAGEMENT AREA
DRY SEASON USE RESTRICTIONS
IMPLEMENTATION PLAN
Bureau of Land Management
Hollister Field Office

I. INTRODUCTION

All public access to the Serpentine Area of Critical Environmental Concern has been restricted within the Clear Creek Management Area (CCMA) from June 4, 2005 through October 15, 2005. The closure is intended to reduce the human health risk associated with the naturally occurring asbestos found within the management unit. This Plan outlines agency strategy for implementing and maintaining the closure. Please see the attached Closure Order for additional information.

The authority for the closure is Code of Federal Regulations Title 43 Section 8364.1(a), protection of public health and safety. The Federal Register notice for this action was transmitted to the BLM Washington Office on May 26, 2005.

II. PUBLIC NOTIFICATION AND INFORMATION

A public informational workshop was held May 17, 2005 at the Hollister Field Office. The public was notified of alternative actions intended to reduce human health risks associated with recreational uses in the CCMA. Over twenty members of the public and other agencies attended.

Approximately 35 individuals and organizations with past interest in the area were contacted via email regarding the use restrictions. The group was sent the approved environmental assessment, official BLM news release, and a copy of the Federal Register Notice associated with the action.

Two conference calls were conducted with members of the BLM California State Office, Hollister Field Office, and leaders of off-highway vehicle user organizations. Background information was provided during these discussions, and various alternative actions were described.

The May Clear Creek Monthly Bulletin was distributed via email, as well as posted at the Field Office and on kiosks within CCMA. The June edition also prominently featured the use restrictions.

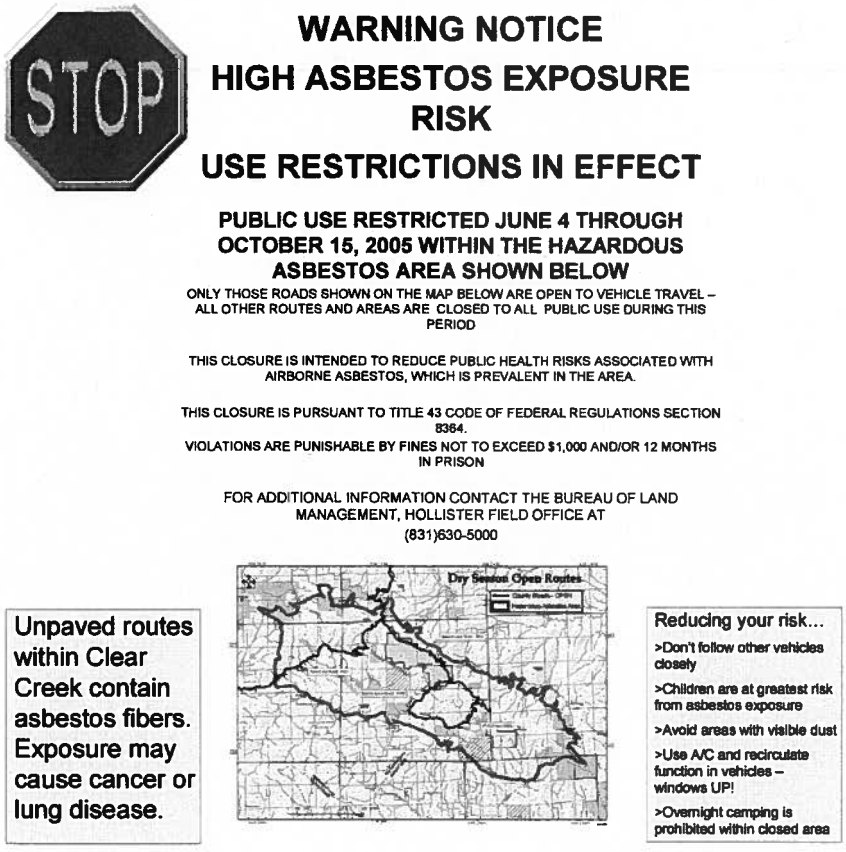
Five local and regional newspapers were sent the official BLM News Release and the Federal Register Notice associated with this action. A story ran in the Hollister Free Lance, and the San Jose Mercury News responded requesting information via email.

The California State Office (BLM) posted official information on the BLM website in the form of a Press Release.

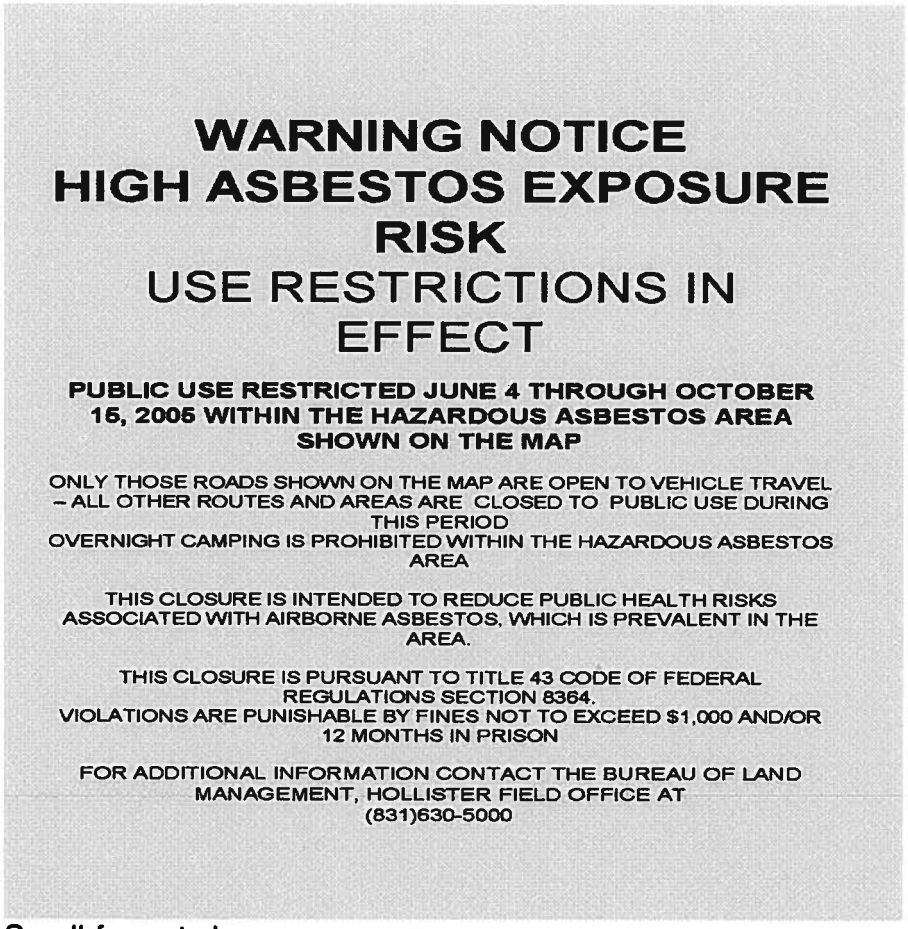
Official information was posted on all kiosks within CCMA on June 3, 2005 pertaining to the effective date of the closure, June 4, 2005.

Large-format regulatory and informational signs were posted at the two primary entrances to the area (See Large Format Sign, below). A total of three large-format signs were posted prominently at these locations. Additional smaller signs and maps will be posted at turnoffs from the open County Road network. BLM staff will monitor and maintain these signs twice per week at a minimum. The yellow sign (See Small Format Sign, below) will be posted at each kiosk along with a map. The other will be plotted at 35x35 inches and placed at primary entrances after being laminated and mounted on plywood.

Two additional signs (See County Road Turnoff Signs, below) will be posted near Coalinga on Coalinga Road, and also at the turnoff onto Coalinga Road from State Highway 25.



Large-format sign



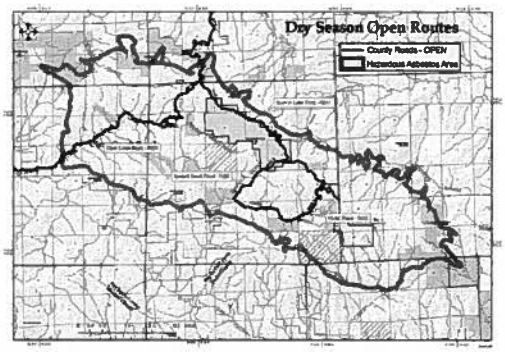
Small-format sign

CLEAR CREEK MANAGEMENT AREA
HAZARDOUS ASBESTOS AREA
CLOSED

THIS CLOSURE IS INTENDED TO REDUCE PUBLIC HEALTH RISKS ASSOCIATED WITH AIRBORNE ASBESTOS, WHICH IS PREVALENT IN THE AREA.

THIS CLOSURE IS PURSUANT TO TITLE 43 CODE OF FEDERAL REGULATIONS SECTION 8364.
VIOLATIONS ARE PUNISHABLE BY FINES NOT TO EXCEED $1,000 AND/OR 12 MONTHS IN PRISON

FOR ADDITIONAL INFORMATION CONTACT THE BUREAU OF LAND MANAGEMENT, HOLLISTER FIELD OFFICE AT
(831)630-5000



County Road – Turnoff signs

III. PUBLIC EDUCATION

Copies of all informational brochures, maps, and reports regarding the human health risk associated with naturally occurring asbestos are available at the field office and at kiosks within CCMA.

A map of the area has been prominently posted showing the County Road network which shall remain open unless San Benito County takes independent action to restrict public access.

Field staff were on hand the morning of June 4 to provide information and conduct compliance checks. This consisted of 2 BLM Law Enforcement Rangers, and the Clear Creek Project Coordinator.

Field Office staff will provide verbal or written information to the public upon request, and will make such materials available in the public room of the Hollister Field Office.

IV. ENFORCEMENT

BLM Law Enforcement staff will be on hand to monitor and enforce the closure. Additional non-Law Enforcement staff will conduct supplementary patrols and visitor contact during project work within the area. Any vehicular use off the county road network will be a violation of the Closure Order. Violations of the closure order are punishable by fines of up to $1,000 and/or up to 12 months in prison. It is anticipated that public education will take precedence over citations during the initial period of closure.

All BLM patrol efforts will be conducted with adherence to the Hollister Field Office Health and Safety Plan.

Patrol emphasis areas will include the primary county road network, which shall remain open to motorized vehicle use unless San Benito County takes action to restrict public access. Additional patrols will be conducted outside this area in performance of project work, and if non-compliance is recurring.

V. MONITORING

Electromagnetic traffic counters are in place at key entrance points within CCMA. This data will be monitored to indicate the level of compliance and vehicular use within the area. Compliance monitoring by this method is somewhat problematic due to the fact that primary roads will remain open unless San Benito County takes action to restrict public access via these routes.

Other actions such as installation of additional gates will be considered if non-compliance with the restrictions is occurring, and if dry-season closures occur on an annual basis after the release of EPA's final Risk Assessment during 2006.

VI. EXEMPTIONS AND ACCESS APPROVAL PROCESS

Members of the public may request, in writing, an Entry Authorization for activities within the closed area. Private property inholders have been notified of the closure in writing and will be provided automatic exemptions for customary access to their property. All individuals will be provided information and practices to reduce their potential exposure to airborne asbestos while in the area. Mining claimants, other agency personnel, and communication site operators will also be exempt from the Closure Order, but will be encouraged to contact BLM for information on reducing risk from asbestos exposure.

Other exceptions to the Closure Order are cited in the Order itself, attached.

Applications for Entry Authorizations must be made in writing to the Field Office Manager, and will be approved or denied on a case-by-case basis. The purpose of each request for access and the types of activities will be considered when approving or denying each request. This process will provide an opportunity for further education of individuals regarding asbestos health risks before entering the area, and offer BLM a measure of control over the activities to be conducted.

The approved Access Permit shall be in the holders possession while in the area.

VII. INTERIM NATURE OF THE RESTRICTIONS

This Plan is considered interim. The U.S. Environmental Protection Agency (EPA) is expected to release the Final Report on the Risk Assessment during 2006. At that time, EPA will be consulted and the results of the Final Report will be considered and this Plan and the Closure Order modified as needed. EPA will be consulted during this process

ATTACHMENT

Closure Order

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CA-190-05-1220-PN]

Notice of Seasonal Closure of Public Lands

AGENCY: Bureau of Land Management, Department of the Interior.

ACTION: Notice of seasonal closure of certain public lands referred to as the Serpentine Area of Critical Environmental Concern (ACEC), located in the southern portion of San Benito County and western Fresno County, Central Coast region of California, to all types of motorized and non-motorized recreation use.

SUMMARY: Pursuant to 43 Code of Federal Regulations (CFR) subpart 8364, notice is hereby given that the Bureau of Land Management (BLM), Hollister Field Office will seasonally restrict public access to certain BLM-administered public lands during the period of June 4, 2005 through October 15, 2005. This seasonal closure is needed to ensure visitor safety and protect public land users from potential health risks associated with naturally occurring asbestos found within the closure area. The BLM may also implement a visitor use permit system to control public access during the period October 16 – June 1. A permit system will provide an opportunity to educate the public on the risks related to recreation use in areas of naturally occurring asbestos.

This seasonal closure affects public lands located within the 30,000-acre Serpentine Area of Critical Environmental Concern (ACEC) situated within the Clear Creek Management Area (CCMA). Except for travel on county roads, public access within this area will be allowed only by written authorization from the Hollister Field Manager. Personnel of the BLM, California Department of Fish and Game, U.S. Fish &

Wildlife Service, and law enforcement, fire, and emergency personnel are exempt from this closure only when performing official duties. Operators of communication facilities may perform maintenance activities; livestock operators may perform permitted activities, and private in-holders may access their private property, as approved.

DATES: This seasonal closure will be effective from June 4, 2005 through October 15, 2005.

FOR FURTHER INFORMATION CONTACT: George Hill, Assistant Field Manager, BLM, Hollister Field Office, 20 Hamilton Court, Hollister, California, 95023. Telephone: 831-630-5036 Fax: 831-630-5055, during regular business hours, 7:30 a.m. to 4:00 p.m., Monday through Friday, except holidays.

SUPPLEMENTARY INFORMATION: The CCMA is a popular location for off-highway vehicle (OHV) recreation. A variety of other recreation activities also occur within the CCMA, including hunting, rock-hounding, wildlife watching, and hiking. This is a unique geological area with serpentine soils and a suite of rare plants and animals. The type and level of OHV use also must be carefully managed to create an environment that promotes the health and safety of visitors.

BLM will be restricting public access during the dry season within the CCMA, in response to studies being conducted by the U.S. Environmental Protection Agency (EPA), which are analyzing the exposure levels of various recreationists to naturally occurring asbestos at the CCMA. Studies conducted by EPA in September of 2004 found elevated levels of airborne asbestos fibers present during various recreation activities. This action is also in accordance with the 1995 Final Environmental Impact Statement (FEIS) and Resource Management Plan Amendment for the CCMA.

The soil moisture during the time period of June through October is at the lowest point and therefore the dust generating potential and release of naturally occurring airborne asbestos is greatest. Analysis of airborne asbestos exposure reflected in EPA's Technical Memorandum issued February 5, 2005, titled "Human Health Risk Assessment – Asbestos Air Sampling Clear Creek Management Area, California," based on samples collected September 15, 2004, indicate a higher risk from airborne asbestos exposure in CCMA than EPA and BLM previously thought. Based on preliminary EPA results, use restrictions in CCMA may be needed to reduce risk to the public from asbestos exposure, particularly during the dry season.

CLOSURE ORDER:

Pursuant to 43 CFR 8364.1, notice is hereby given that the BLM is seasonally restricting access to portions of public lands within the Clear Creek Management Area (CCMA) located in the southern portion of San Benito County and western Fresno County, California. A closure order was signed on May 25, 2005. All public access, including motorized and non-motorized recreation use is restricted on public lands within the Serpentine ACEC from June 4, 2005 through October 15, 2005. These lands are located in the Mount Diablo Meridian in portions of T.17 S., R. 11 E.; T. 17 S., R. 12 E.; T. 18 S., R 11 E.; T. 18 S., R. 12 E.; T. 18 S., R. 13 E.; T. 19 S., R. 13 E.

This seasonal closure is necessary to ensure visitor safety and protect public land users from potential health risks associated with naturally occurring asbestos found within the restricted area. Dry soil conditions and high dust generating potential from public use activities during this time period create a significant hazard and risk associated with exposure to asbestos.

Except for travel on San Benito County roads, all public access and motorized vehicle travel will be allowed only by written authorization of the Hollister Field Manager. The following persons are exempt from the identified restrictions:

1) Federal, State, or local law enforcement officers, while engaged in the execution of their official duties.
2) BLM personnel or their representatives while engaged in the execution of their official duties.
3) Any member of an organized rescue, fire-fighting force, or emergency medical services organization while in the performance of their official duties.
4) Any member of a federal, state, or local public works department while in the performance of an official duty.
5) Any person in receipt of a written authorization of exemption obtained from the authorized officer from the Hollister Field Office.
6) Private landowners with in-holdings within the restricted area who have a responsibility or need to access their property, and persons with valid existing rights-of-way or lease operations, or representatives thereof.

During the closure period, the area will be clearly posted. Closure signs are posted at main entry points to all locations affected by this Notice. Maps of the area are posted with this notice at key locations that provide access into the closure areas, and may be obtained with further information at the Hollister Field Office, 20 Hamilton Court, Hollister, California 95023.

Seasonal closure orders may be implemented as provided in 43 CFR, subpart 8364.1. Violations of this closure are punishable by a fine not to exceed $1,000 and/or imprisonment not to exceed 12 months.

Dated: May 25, 2005

Robert E. Beehler, Field Manager

Billing Code 4310-40-P

San Jose Mercury News Interview – June 20, 2005 - CCMA

Summary Notes

June 20, 2005, 9:30 AM, San Jose Mercury News Reporter, David Beck, questioned BLM Hollister Field Office Assistant Manager, George Hill, about the management situation at Clear Creek Management Area (CCMA).

Beck:
The general impression is there are two sides arguing over BLM's management of the CCMA. One side suggests that BLM is acting too precipitously, and the other side feels BLM is responding too slowly to issues of public concern.

Hill:
The management situation at CCMA has been debated for more than 10 years. The 2005 Dry Season Closure is authorized by the 1995 CCMA Plan Amendment. This land use planning decision was based on a 1992 Health Risk Assessment conducted by the Environmental Protection Agency (EPA), which indicated that the level of exposure to naturally occurring asbestos in CCMA is a reason for concern.

Meanwhile, a new Health Risk Assessment is being conducted by the EPA in 2004-2005. In conjunction with BLM, EPA collected activity based air samples in September and November 2004, and March 2005. The results of the September 2004 sampling event were published in a Technical Memorandum produced by the EPA, which indicate that exposure levels to airborne asbestos are significantly higher than the previous study.

Beck:
Is it true that use levels are historically low during the dry summer months? I seem to remember a figure of 5,000 visitors or something?

Hill:
BLM estimates that visitation in June and July average about 1,200 visits/month, and approximately 5,000 total visits from June to October.

Beck:
How does BLM collect visitation data, and do the numbers reflect actual visitors?

Hill:
The BLM has installed traffic counters that use an electromagnetic field to collect data. BLM estimates 50,000 annual visits to CCMA, but many are return visitors.

Beck:
What type of hunting activity occurs at CCMA?

Hill:
Primarily deer and pig hunting, and it's these hunters that will be most impacted by the Dry Season Closure because it will be difficult to access hunting areas outside the Hazardous Asbestos Area.

Beck:
Are private landowners exempt from the Dry Season Closure?

Hill:
Yes private landowners are exempt, and BLM has prepared a Federal Register Notice that lists other exemptions as well, including written authorization from the BLM.

Beck:
Does this mean that the public, say a member of the California Native Plant Society, can request authorization to hike in CCMA during the Dry Season Closure?

Hill:
Generally, casual use of CCMA during the Dry Season Closure would not be authorized. Requests for written authorization to access CCMA must be valid. For example, if the request was part of on-going research in CCMA, then BLM would consider authorization.

Beck:
Is the Closure related to the CNPS lawsuit?

Hill:
No, they are two separate issues. The Dry Season Closure is not related to the on-going lawsuit filed by the Center for Biological Diversity and CNPS. The primary reason for the Dry Season Closure stems from the EPA's new health risk assessment. Although there may be some impacts to Camissonia benitensis from dust generation as referenced in the 1997 BO (FWS), BLM's main concern is the public health risk from exposure to naturally occurring asbestos (NOA).

Beck:
How will BLM enforce the Dry Season Closure?

Hill:
The Dry Seaosn Closure will be enforced by BLM Law Enforcement and CCMA Park Rangers on patrol, through signage and postings at prominent locations in CCMA, and voluntary compliance.

Beck:
Where does BLM stand on the argument over implementation of the 1999 ROD?

Hill:
Basically, the 1995 Plan Amendment and the associated Record of Decision (1999) are a tool-box that authorizes various management actions to address issues of concern over the life of the plan, and are not necessarily all implemented immediately.

For example, a major component of the 1999 ROD was route designation, which required BLM to conduct an inventory of existing OHV routes to determine potential resource impacts and designate them as "open, closed, or limited" to motorized use. The inventory of OHV routes took place over a two year period, and the results were published in a draft environmental impact statement, which typically takes two to three years to complete before the route designations become official.

Other accomplishments in implementing the 1999 ROD include the fencing and protection of sensitive species habitat and riparian areas, hardened crossings in streams, route maintenance and constructing erosion control features, habitat monitoring, and visitor education efforts.

Beck:
Can we expect routes to be designated and the dry season closure to be lifted by next summer?

Hill:
In regard to route designation, the Final Environmental Impact Statement will be available in July (or August).

The Dry Season Closure is an interim management strategy based on the EPA's new health risk assessment, and BLM will determine the need for future use restrictions based on the final results of that study.

Beck:
As I understand, the EPA's study may not be available for several years?

Hill:
The final report should be available in 2006. The final release date of the EPA's study will depend on the need for additional sampling in the future. However, the November 2004 and March 2005 results will be available soon, and preliminary data of any future samples will be shared with BLM prior to the release of the final study.

Beck:
Is there a chance that no routes will be designated "open" if the EPA's study says that no place in CCMA is safe for the public due to the health risk of exposure to NOA?

Hill:
First of all, the route designation will be complete before the EPA's final health risk assessment; and deals solely with the specific designation of routes and areas and not with general public access and recreation use. These issues and any consideration of restrictions or closures would be addressed through a different planning process than route designation.

Beck:
Final question; What is the relationship of the Atlas Superfund Site to CCMA?

Hill:
The Atlas mine is a superfund site inside CCMA. BLM has been involved with EPA and the Atlas mine owners to manage the health risk posed by the abandoned mine and conduct remediation to control erosion. EPA is attempting to de-list the Atlas mine from superfund status, which requires a health risk assessment; so the EPA's health risk assessment for CCMA is related to this effort.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Hollister Field Office
20 Hamilton Court
Hollister, CA 95023
www.ca.blm.gov/hollister

December 15. 2005

In Reply Refer to:
CA-190 (1610) P

Enrique Manzanilla, Director
Communities & Ecosystems Division
US EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Dear Mr. Manzanilla:

Thank you for your letter dated November 8, 2005, which concludes BLM should issue the Record of Decision (ROD) for the Clear Creek Management Area Resource Management Plan Amendment. We appreciate your review and comments on the above referenced planning document, and believe implementation of this plan will greatly improve BLM's management ability related to minimizing impacts to watershed resources, protection of special status species, and management of OHV recreation. Consistent with previous correspondence and our discussions to date, the ROD will include BLM's commitment to continue working with EPA and incorporate the asbestos exposure evaluation into a subsequent NEPA document.

Management options that could be considered in the subsequent NEPA document include complete closure, more restrictive seasonal closures, further reductions in route designations, and changes or reductions in other recreational activities, and other mitigation measures (ie; CCMA visitor permits, informed consent waivers, annual use limits for individuals, restricting access by young children, prohibition of camping in the Hazardous Asbestos Areas, elimination of competitive OHV events, mandatory decontamination of vehicles, and mandatory use of respirators if warranted).

In the interim, BLM will take the following measures to reduce asbestos exposure in the CCMA. BLM will continue to provide asbestos information to the public, developed in cooperation with EPA, during visitor registration, on the CCMA Hot Line, and in the CCMA Monthly Bulletin. BLM will discontinue posting general BLM personnel asbestos monitoring data.

The results of EPA's Technical Reports (September/November 2004) will be incorporated into public education efforts to clearly describe risks associated with naturally occurring asbestos, and specifically to raise awareness of asbestos exposure related to young children. BLM will also use these reports along with stakeholder involvement to determine the criteria and conditions for future summer dry season closures.

In regard to EPA concerns about watershed resources in CCMA, the Record of Decision for the CCMA RMP Amendment states, "Implementation of the decision contained herein will be monitored to ensure that management actions follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring)." The ROD also commits BLM to continue monitoring water quality, soil erosion, and sediment conditions within the watersheds of the CCMA. The ROD states, "BLM will implement Best Management Practices (BMPs) to reduce impacts to watershed resources, and will continue to evaluate and update these measures as needed to minimize impacts to water quality, control erosion and sediment production, and protect sensitive resources." Such measures may include further reducing stream crossings, and/or road miles in affected watersheds.

BLM will continue to coordinate with EPA and interested parties on efforts to protect public health and safety at the CCMA. BLM would like to meet with EPA and interested stakeholders in January to discuss strategies for implementation of interim measures to reduce asbestos exposure in the CCMA. We will work with your staff to arrange for such a meeting as soon as possible to work on these important issues.

A copy of the ROD will be provided to EPA Region IX when it becomes comes available. Thank you for your comments. If you have any questions, please contact me at (831) 630-5036.

Sincerely,

George E. Hill
Field Manager
Hollister Field Office, BLM

BRIEFING FOR THE DIRECTOR

DATE: 22 December 2005
PREPARED BY: George Hill, Hollister Field Office Manager, 831 630-5036
FROM: Mike Pool, California State Director, 916-978-4600

SUBJECT: Record of Decision (ROD) for the Clear Creek Management Area (CCMA) Resource Management Plan (RMP) Amendment and Route Designations.

PURPOSE OF BRIEFING DOCUMENT: To support approval by the Director and the Office of the Secretary for the NOA. Publication in the Federal Register will finalize public notice of the Record of Decision for the Clear Creek Management Area (CCMA) Resource Management Plan (RMP) Amendment and Route Designations. Publication of the NOA will also begin the 30-day appeal period on the route designation decisions.

BACKGROUND: The Clear Creek Management Area (CCMA) is located in the southern portion of San Benito County and western Fresno County in the Central Coast region of California, and offers outstanding OHV recreational opportunities. CCMA is a popular area for OHV use. The area is also habitat for federally-listed plant species, most notably the San Benito evening primrose. In 1999, BLM committed to reducing the miles of routes in the area to a maximum of 270 miles and a maximum of 937 acres of barren areas for OHV use. The 2006 ROD designates 242 miles of routes and 478 acres of barren areas for OHV use in the area. In addition, this ROD approves expansion of the San Benito Mountain Research Natural Area to 4147 acres.

The BLM has consulted with a number of interested parties throughout the process. These include OHV clubs and organizations (including Salinas Ramblers, Blue Ribbon Coalition, American Motorcycle Association), environmental organizations (including California Native Plant Society, Sierra Club), US Fish and Wildlife Service, EPA, California Department of Parks and Recreation, and others. BLM made changes throughout the process as a result of public input. Changes as a result of protests included removing the "stopping and parking" rule and clarifying BLM's commitment to restore at least 50 miles of closed routes in the next five years. BLM also committed to EPA to initiate a NEPA process to consider ways to protect human health upon completion of the asbestos exposure study EPA is currently undertaking. This study is expected to be completed in the Summer of 2006.

BLM used the best available information in analyzing, considering, and arriving at the decisions contained in the ROD, including data on social and economic impacts.

ISSUES: The issues addressed in the ROD include:

1) providing for recreational OHV use with minimal impacts to sensitive resources; 2) affect of route and area designations on listed and/or sensitive species and watershed resources; 3) expansion of the Research Natural Area best to protect the values for which established; 4) the

designation of routes and areas to contribute providing a spectrum of OHV opportunities; 5) the affect of the designation of routes on other casual uses, including hunting, mining, and access to private land; 6) implementation of the designation as a Limited Use area and signing strategies to allow users to clearly understand the appropriate type of use for each area.

POSITIONS OF CONSTITUENCIES:

Environmental and Conservation Groups: Concerns of environmental and conservation groups are based upon the negative impact to the ecosystem due to OHV use. Their concerns include the protection of threatened, endangered, and sensitive species and their habitats within the CCMA, and protection and viability of the unique forest and vegetation communities within the San Benito Mountain RNA.

Off-Highway Vehicle Community: The off-highway vehicle community has used the CCMA for approximately 40 years. They believe they have been negatively impacted by the cumulative closures occurring over the past 20 years. This group would like to maintain the status quo of the route of travel system on existing routes and areas and to provide a greater number of miles of trails than the 242 miles specified in the Approved Resource Management Plan (RMP) Amendment.

EPA: EPA is concerned about the exposure of OHV users to naturally occurring asbestos. EPA is currently conducting a study on these risks and anticipates issuing its final study in Summer 2006. BLM will consider the findings and take appropriate action at that time, which may include the initiation of a NEPA process to consider the new information and any necessary management changes to protect human health.

BUREAU PERSPECTIVE: This ROD provides for OHV use on 242 miles of routes and 478 acres of barren areas while protecting threatened and endangered species. Most users will not notice any change in management, as the routes being closed are only used by a very small percentage of users. Protection of sensitive species has been assured by selecting routes and providing protective actions in consultation with the Fish and Wildlife Service. Measures to protect human health are continuing to be implemented and developed with EPA and the public.

ADMINISTRATION POLICY OR PRIORITY, OR A CONTROVERSIAL ISSUE:
The ROD relates to controversial issues as described above: limitations on motorized-vehicle access in areas traditionally used for off-highway vehicle activities; impacts of motorized-vehicle activities on threatened, endangered, and sensitive species and habitat; and, whether limitations on vehicular access will help restore these sensitive species populations and habitat, and better protect natural and cultural resources.

Management of the Clear Creek Management Area RMP is controversial. BLM management is the subject of current litigation and is likely to be the subject of future litigation. It is critical that the administrative process proceed quickly. On 21 March, 2004 the BLM received a Notice of Intent to File Suit from the California Native Plant Society and Center for Biological Diversity,

for violating the Endangered Species Act by not adequately protecting the federally threatened San Benito evening-primrose. BLM's approval of this ROD and publishing its NOA is important to resolving this issue before the court.

Coordination with State/Tribal/Local Government: BLM has engaged and worked with the following entities: Santa Rosa Valley Tachi-Yokut Tribe, San Benito and Fresno Counties, California Departments of Fish and Game, Fire, and Parks and Recreation, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, the Central California Resource Advisory Council, and numerous non-governmental organizations. BLM had no formal cooperating agency agreements.

Planning History: The Hollister Resource Management Plan (RMP), adopted in 1984, provides management guidance for the Clear Creek Management Area. The RMP outlined management goals and resource management decisions, and established a 31,000 acre Clear Creek Serpentine Area of Critical Environmental Concern (ACEC) and expanded the San Benito Mountain Natural Area to about 1880 acres. This RMP incorporated the existing OHV designations, which were originally adopted in 1982. In 1986, a more detailed activity plan was prepared for the CCMA. In 1993, a draft Environmental Impact Statement was issued for the Clear Creek Management Area, to better manage OHV use and protect sensitive species. The BLM issued a final EIS in 1995 with a substantially modified proposed action and adopted a further modified action in 1999 (1999 ROD).

CONTACT: Mike Pool, California State Director, 916-978-4600

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California State Office
2800 Cottage Way, Suite W1834
Sacramento, CA 95825
www.ca.blm.gov

CA190.00

Congressman Sam Farr
17th Congressional District, California
1221 Longworth House Office Building
Washington, D.C. 20515

Dear Congressman Farr:

Thank you for your ongoing interest in Bureau of Land Management's (BLM) management activities at the Clear Creek Management Area (CCMA). There have been a number of recent developments that I wanted to share with you so your office would have the most current information.

As you are aware, BLM released the draft resource management plan amendment and draft environmental impact statement (DEIS) for the CCMA on July 15, 2004. The plan amendment designates routes and barrens and clarifies the boundaries of the expanded San Benito Mountain Research Area. We received 845 public comments on the draft and we are currently evaluating those comments.

One of those critical comments was a letter on the draft from the Environmental Protection Agency (EPA) on December 1, 2004. EPA expressed concerns specifically regarding the adequacy and analysis of the information on the public health and environmental quality impacts. EPA made several recommendations that we should revise the document regarding the inclusion of risks to children and smokers; transportation of asbestos offsite by clothing and vehicles; compliance of the Occupational Safety and Health Administration (OSHA) regulations; and the characterization of chrysotile asbestos. EPA stated that there is a significant opportunity for the agencies to collaborate on the development of an asbestos exposure evaluation which was initially conducted by EPA during the past fall. EPA also recommended at that time that the BLM delay the release of they DEIS, suggesting that since there may be a potential for significant health impacts, the results be incorporated in a Revised or Supplemental DEIS wherein a full array of alternatives and mitigation measures to avoid or reduce these impacts could be analyzed.

During a meeting with EPA on February 8, 2005, BLM staff discussed ways to address their concerns, but still allow us to complete and release a Final EIS. As public health and safety is always BLM's top priority, we asked EPA on March 9, 2005 to provide us with a strategy to complete the National Environmental Policy Act (NEPA) process for the CCMA. Additionally, we agreed with EPA that we would consider implementing a summer closure for 2005 based on the results of air sampling conducted in September 2004 by EPA.

After numerous consultations between our staffs, EPA issued another letter on April 15, 2005, officially informing us that their asbestos exposure evaluation studies should be complete by July 2006 and that they supported BLM's interest to implement route designations as proposed in the DEIS. BLM's issuance of a Final EIS and Record of Decision (ROD) for route designation will reduce erosion and sediment loading in streams, and avoid impacts to special status species, including the San Benito Evening Primrose. EPA continues to feel strongly about the potential public health risks and recommends that in the interim, before the release of their final report: 1) the CCMA Route Designation FEIS and ROD should describe the 2005 summer closure plan and how BLM will use asbestos exposure data from the November 2004 sampling event to determine whether CCMA temporary closure should be extended beyond the "dry season"; 2) BLM should incorporate the dry season data in the FEIS; and 3) BLM should identify in the CCMA FEIS and ROD the specific NEPA process that will incorporate EPA's asbestos exposure evaluation into BLM's decision-making.

Accordingly, we are finishing evaluating the public comments received, incorporating EPA's comments and suggestions, and plan to issue a Proposed Plan/FEIS in June 2005. That proposed plan will be available for public protests for 30 days in accordance with our regulations. Those who have been involved in the planning process will have a final opportunity to protest the plan to BLM's Director in Washington, D.C. if they wish. Once the protests are resolved, we can issue a ROD on the plan, which will allow us to move forward on route designations in the CCMA. Per EPA's direction, once their risk assessment is complete in July 2006, we will further review our management situation at Clear Creek and make appropriate adjustments in the plan through a separate planning process with public involvement and NEPA compliance.

I hope this information is useful in updating you on the status of the CCMA. BLM is committed to managing these important public resources in a manner that protects public health and safety while allowing the public access to use and enjoy their public lands. Please feel free to call me at your convenience if you require additional clarification or have any questions.

Sincerely,

Mike Pool
State Director, California

Enclosures:
EPA letter, Dec. 1, 2004
EPA letter, April 15, 2005

cc: Environmental Protection Agency, Region IX
Attn: Jeanne Geselbracht
75 Hawthorne St.
San Francisco, CA 94105-3901
Fax 415-744-1598