

**Appendix E**

**Notice of Intent, Draft Scope, and Final Scope**

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SERVICE DATE - JANUARY 28, 2004

## **SURFACE TRANSPORTATION BOARD**

Finance Docket No. 34284

Southwest Gulf Railroad Company – Construction and Operation Exemption –  
Medina County, TX

Decided: January, 22, 2004.

**ACTION:** Notice of Intent to Prepare an Environmental Impact Statement; Notice of Initiation of the Scoping Process; Notice of Availability of Draft Scope of Study for the Environmental Impact Statement and Request for Comments.

**SUMMARY:** On February 27, 2003, Southwest Gulf Railroad Company (SGR) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. 10502 for authority to construct and operate a new rail line in Medina County, Texas. The proposed project would involve the construction and operation of approximately seven miles of new rail line. Because the effects of the proposed project on the quality of the human environment are likely to be highly controversial, the Board's Section of Environmental Analysis (SEA) has determined that the preparation of an Environmental Impact Statement (EIS) is appropriate. The purpose of this Notice is to notify individuals and agencies interested in or affected by the proposed project of SEA's decision to prepare an EIS and to initiate the formal scoping process. This Notice also announces the availability of a draft scope of study and requests comments on the draft scope of study.

**DATES:** Comments are due by February 26, 2004.

**SUBMITTING ENVIRONMENTAL COMMENTS:** If you wish to submit written comments regarding the attached proposed draft scope of study, please send an original and two copies to the Surface Transportation Board, Case Control Unit, 1925 K Street, NW, Washington, DC 20423-0001, to the attention of Rini Ghosh. Please refer to STB Finance Docket No. 34284 in all correspondence addressed to the Board.

**FOR FURTHER INFORMATION CONTACT:** Ms. Rini Ghosh, Section of Environmental Analysis, Surface Transportation Board, 1925 K Street, NW, Washington, DC 20423-0001, or 512-419-5941 (the project information line). Assistance for the hearing impaired is available through the Federal Information Relay Service (FIRS) at 1-800-877-8339. The website for the Surface Transportation Board is [www.stb.dot.gov](http://www.stb.dot.gov).

## **SUPPLEMENTARY INFORMATION:**

**Background:** By petition filed on February 27, 2003, SGR sought an exemption from the Board under 49 U.S.C. 10502 from the prior approval requirements of 49 U.S.C. 10901 for authority to construct and operate an approximately seven mile line of railroad in Medina County, TX. The proposed rail line would connect a proposed Vulcan Construction Materials, LP quarry and the Del Rio subdivision of the Union Pacific Railroad Company (UP) at milepost 250, near Dunlay, Texas. SGR would use the new rail line to transport limestone from the proposed quarry to the UP rail line, for shipment to markets in the Houston area, as well as other markets in the Southeast, Gulf Coast, and Rio Grande Valley regions of Texas. Although the primary purpose of the proposed construction is to provide rail service to the quarry site, SGR would hold itself out as a common carrier and provide service to other industries that might locate in the area in the future. In a decision served on May 19, 2003, the Board granted conditional approval to SGR's petition, subject to completion of the environmental review process.

Pursuant to the Board's responsibilities under the National Environmental Policy Act (NEPA), SEA has begun the environmental review of SGR's proposal by consulting with appropriate Federal, state, and local agencies, as well as SGR, and conducting technical surveys and analyses. SEA has also consulted with the Texas Historical Commission (THC) in accordance with the regulations implementing section 106 of the National Historic Preservation Act (NHPA) at 36 CFR Part 800 and identified appropriate consulting parties to the section 106 process.

On October 10, 2003, SEA issued a Preliminary Cultural Resources Assessment report to the section 106 consulting parties for review and comment. The report set forth SEA's preliminary findings and recommendations regarding cultural resources in the proposed project area. THC, the consulting parties, and other individuals submitted comment letters in response to the report; many of the comments addressed environmental concerns not related to cultural resources.

Due to substantial early public interest in the proposed project, SEA has also conducted extensive public outreach and informal scoping,<sup>1</sup> including holding an informational Open House in Hondo, Texas on June 12, 2003. Approximately 200 people attended the Open House and over 100 comment letters were received in response to the Open House.

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<sup>1</sup> Agencies may conduct informal scoping prior to issuance of the Notice of Intent to prepare an EIS. See Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18026 (1981), Question 13.

Based on the nature and content of the numerous public and agency comments received, including the comments on the Preliminary Cultural Resources Assessment report,<sup>2</sup> SEA has determined that the effects of the proposed project on the quality of the human environment are likely to be highly controversial, and that thus, preparation of an EIS is appropriate.<sup>3</sup> At this point in the environmental review process, SEA intends to analyze the potential environmental impacts of the proposed route, the no-action or no-build alternative (i.e., transporting the limestone by truck instead of rail), and three possible alternative routes. We welcome comments on these or additional alternatives.

**Environmental Review Process:** The NEPA process is intended to assist the Board and the public in identifying and assessing the potential environmental consequences of a proposed action before a decision on the proposed action is made. SEA is responsible for ensuring that the Board complies with NEPA and related environmental statutes. The first stage of the EIS process is scoping. Scoping is an open process for determining the scope of environmental issues to be addressed in the EIS. SEA has developed a draft scope of study for the EIS for public review and comment, which incorporates the issues and concerns raised in the comment letters SEA has received thus far. SEA is soliciting written comments on this draft scope of study. After the close of the comment period on the draft scope of study, SEA will review all comments received and then issue a final scope of study for the EIS.

Following the issuance of the final scope of study, SEA will prepare a Draft EIS (DEIS) for the project. The DEIS will address those environmental issues and concerns identified during the scoping process. It will also contain SEA's preliminary recommendations for environmental mitigation measures. Upon its completion, the DEIS will be made available for public and agency review and comment for at least 45 days. A public meeting will also be held during the comment period for the Draft EIS. The details of the public meeting, including the specific format, location, and date, will be available in the Draft EIS. SEA will then prepare a Final EIS (FEIS) that addresses the comments on the DEIS from the public and agencies. Then, in reaching its decision in this case, the Board will take into account the DEIS, the FEIS, and all environmental comments that are received.

### **Draft Scope of Study for the EIS:**

### **Proposed Action and Alternatives**

The proposed project would involve the construction and operation of a single-track rail line to connect a proposed Vulcan Construction Materials, LP quarry and UP's Del Rio

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<sup>2</sup> All comments received are available on the Board's website at [www.stb.dot.gov](http://www.stb.dot.gov), by clicking on "Environmental Issues," clicking on "Environmental Correspondence," and then searching the materials under "FD 34284."

<sup>3</sup> See 40 CFR 1508.27(b)(4).

subdivision line. The proposed rail line would extend about seven miles from the quarry site to approximately milepost 250 of the UP line, at a point near Dunlay, Texas. SGR would use the new rail line to transport limestone from the proposed quarry to the UP rail line, for shipment to markets in the Houston area, as well as other markets in the Southeast, Gulf Coast, and Rio Grande Valley regions of Texas. Although the primary purpose of the proposed construction is to provide rail service to the quarry site, SGR would hold itself out as a common carrier and provide service to other industries that might locate in the area in the future.

The reasonable and feasible alternatives that will be evaluated in the EIS are (1) construction and operation of the proposed project along SGR's proposed alignment (including a rail loading facility, consisting of a loading loop or a series of parallel tracks, that would be constructed and operated on the quarry property and is not subject to the Board's jurisdiction), (2) three alternative routes that have been developed to date, as well as other alternatives that might be identified during the scoping process, and (3) the no-action or no-build alternative (this would involve transportation of the limestone by truck from the proposed quarry to the UP rail line, instead of by rail). We welcome comments on these or additional alternatives.

## **Environmental Impact Analysis**

### **Proposed New Construction**

Analysis in the EIS will address the proposed activities associated with the construction and operation of the proposed new rail line and their potential environmental impacts, as appropriate.

### **Impact Categories**

The EIS will address potential impacts from the proposed construction and operation of the new rail line on the human and natural environment. Impact areas addressed will include the effects of the proposal on transportation and traffic safety, public health and worker health and safety, water resources, biological resources, air quality, geology and soils (including any karst features), land use, environmental justice, noise, vibration, recreation and visual resources, cultural resources and socioeconomics. The EIS will include a discussion of each of these categories as they currently exist in the project area and will address the potential impacts from the proposed project on each category, as described below:

#### **1. Transportation and Traffic Safety**

The EIS will:

- a. Describe the potential impacts of the proposed new rail line construction and operation on the existing transportation network in the project area, including vehicular delays at grade crossings.

- b. Describe the potential for train derailments or accidents from proposed rail operations.
- c. Describe potential pipeline safety issues at rail/pipeline crossings, as appropriate.
- d. Propose mitigative measures to minimize or eliminate potential project impacts to transportation and traffic safety, as appropriate.

## **2. Public Health and Worker Health and Safety**

The EIS will:

- a. Describe potential public health impacts from the proposed new rail line construction and operation.
- b. Describe potential impacts to worker health and safety from the proposed new rail line construction and operation.
- c. Propose mitigative measures to minimize or eliminate potential project impacts to public health and worker health and safety, as appropriate.

## **3. Water Resources**

The EIS will:

- a. Describe the existing groundwater resources within the project area, such as aquifers and springs, and the potential impacts on these resources resulting from construction and operation of the proposed new rail line.
- b. Describe the existing surface water resources within the project area, including watersheds, streams, rivers, and creeks, and the potential impacts on these resources resulting from construction and operation of the proposed new rail line.
- c. Describe existing wetlands in the project area and the potential impacts on these resources resulting from construction and operation of the proposed new rail line.
- d. Describe the permitting requirements that are appropriate for the proposed new rail line construction and operation regarding wetlands, stream and river crossings (including floodplains), water quality, and erosion control.
- e. Propose mitigative measures to minimize or eliminate potential project impacts to water resources, as appropriate.

## **4. Biological Resources**

The EIS will:

- a. Describe the existing biological resources within the project area, including vegetative communities, wildlife and fisheries, and Federal and state threatened or endangered species and the potential impacts to these resources resulting from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to biological resources, as appropriate.

## **5. Air Quality Impacts**

The EIS will:

- a. Describe the potential air quality impacts resulting from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to air quality, as appropriate.

## **6. Geology and Soils**

The EIS will:

- a. Describe the native soils and geology of the proposed project area.
- b. Describe the existing karst features of the project area, if any, and the potential impacts to karst features from the proposed new rail line construction and operation.
- c. Propose mitigative measures to minimize or eliminate potential project impacts on soils and geology and to karst features, as appropriate.

## **7. Land Use**

The EIS will:

- a. Describe existing land use patterns within the project area and identify those land uses that would be potentially impacted by the proposed new rail line construction and operation.
- b. Describe the potential impacts associated with the proposed new rail line construction and operation to land uses identified within the project area.
- c. Propose mitigative measures to minimize or eliminate potential project impacts to land use, as appropriate.

## **8. Environmental Justice**

The EIS will:

- a. Describe the demographics of the communities potentially impacted by the construction and operation of the proposed new rail line.
- b. Evaluate whether new rail line construction or operation would have a disproportionately high adverse impact on any minority or low-income group.
- c. Propose mitigative measures to minimize or eliminate potential project impacts on environmental justice communities of concern, as appropriate.

## **9. Noise**

The EIS will:

- a. Describe the existing noise environment of the project area and potential noise impacts from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to noise receptors, as appropriate.

## **10. Vibration**

The EIS will:

- a. Describe the potential vibration impacts from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts from vibration, as appropriate.

## **11. Recreation and Visual Resources**

The EIS will:

- a. Describe existing recreation and visual resources in the proposed project area and potential impacts to recreation and visual resources from construction and operation of the proposed new rail line.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to recreation and visual resources, as appropriate.

## **12. Cultural Resources**

The EIS will:

- a. Describe the cultural resources environment in the area of the proposed project and potential impacts to cultural resources from the proposed new rail line construction and operation.
- b. Describe the ongoing NHPA section 106 process for the proposed project, and propose mitigative measures to minimize or eliminate potential project impacts to cultural resources, as appropriate.

## **13. Socioeconomics**

The EIS will:

- a. Describe the demographic characteristics of the project area and the current sources of income.
- b. Describe the potential environmental impacts to employment and the local economy as a result of the proposed new rail line construction and operation.

- c. Propose mitigative measures to minimize or eliminate potential project adverse impacts to socioeconomic resources, as appropriate.

#### **14. Cumulative and Indirect Impacts**

The EIS will:

- a. Address any identified potential cumulative impacts of the proposed new rail line construction and operation, as appropriate. Cumulative impacts are the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions (for example, Vulcan Construction Materials, LP's proposed new quarry).
- b. Address any identified potential indirect impacts of the proposed new rail line construction and operation, as appropriate. Indirect impacts are impacts that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

By the Board, Victoria Rutson, Chief, Section of Environmental Analysis.

Vernon A. Williams  
Secretary

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SEA

SERVICE DATE - MAY 7, 2004

## **SURFACE TRANSPORTATION BOARD**

Finance Docket No. 34284

Southwest Gulf Railroad Company – Construction and Operation Exemption –  
Medina County, TX

Decided: April 30, 2004.

**ACTION:** Notice of Availability of the Final Scope of Study for the Environmental Impact Statement.

**SUMMARY:** On February 27, 2003, Southwest Gulf Railroad Company (SGR) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. 10502 for authority to construct and operate a new rail line in Medina County, Texas. The proposed project would involve the construction and operation of approximately seven miles of new rail line. Because the effects of the proposed project on the quality of the human environment are likely to be highly controversial, the Board's Section of Environmental Analysis (SEA) has determined that the preparation of an Environmental Impact Statement (EIS) is appropriate. SEA issued a Notice of Intent to Prepare an EIS; Notice of Initiation of the Scoping Process; Notice of Availability of Draft Scope of Study for the Environmental Impact Statement and Request for Comments on January 28, 2004. Comments were requested by February 26, 2004. However, comments that were received after February 26, 2004 have been accepted and considered in the Final Scope of study (Final Scope) of the EIS. Changes made to the Draft Scope of study (Draft Scope) are detailed in the Response to Comments section of this notice. The Final Scope, which is included at the end of this notice, adopts the Draft Scope and reflects any changes to the Draft Scope as a result of the comments.

**FOR FURTHER INFORMATION CONTACT:** Ms. Rini Ghosh, Section of Environmental Analysis, Surface Transportation Board, 1925 K Street, NW, Washington, DC 20423-0001, or 512-419-5941 (the project information line). Assistance for the hearing impaired is available through the Federal Information Relay Service (FIRS) at 1-800-877-8339. The website for the Surface Transportation Board is [www.stb.dot.gov](http://www.stb.dot.gov).

### **SUPPLEMENTARY INFORMATION:**

**Background:** By petition filed on February 27, 2003, SGR sought an exemption from the Board under 49 U.S.C. 10502 from the formal application procedures of 49 U.S.C. 10901 for authority to construct and operate an approximately seven mile line of railroad in Medina County, TX. The proposed rail line would connect a proposed Vulcan Construction Materials, LP (VCM) quarry and the Del Rio subdivision of the Union Pacific Railroad Company (UP) at milepost 250,

near Dunlay, Texas.<sup>1</sup> SGR would use the new rail line to transport limestone from the proposed quarry to the UP rail line, for shipment to markets in the Houston area, as well as other markets in the Southeast, Gulf Coast, and Rio Grande Valley regions of Texas. Although the primary purpose of the proposed construction is to provide rail service to the quarry site, SGR would hold itself out as a common carrier and provide service to other industries that might locate in the area in the future. In a decision served on May 19, 2003, the Board issued a decision finding that, from a transportation perspective, the proposed construction met the standards of 49 U.S.C. 10502. The Board will issue a final decision as to whether the exemption authority should be allowed to go into effect after completion of the environmental review process.

**Environmental Review Process:** The National Environmental Policy Act (NEPA) is intended to assist the Board and the public in identifying and assessing the potential environmental consequences of a proposed action before a decision on the proposed action is made. SEA is the office within the Board responsible for carrying out the Board's responsibilities under NEPA and related environmental laws, such as the National Historic Preservation Act (NHPA).

SEA has begun the environmental review of SGR's proposal by consulting with appropriate Federal, state, and local agencies, as well as SGR, and conducting technical surveys and analyses. SEA issued a Preliminary Cultural Resources Assessment report on October 10, 2003 to the then-identified consulting parties, pursuant to Section 106 of NHPA, for review and comment. The Texas Historical Commission, the consulting parties, and other individuals submitted comment letters in response to the report; many of the comments addressed environmental concerns not related to cultural resources. SEA also solicited written comments from the public during an informational Open House held in Hondo, Texas on June 12, 2003. Approximately 200 people attended the Open House and over 100 comment letters were received in response to the Open House. Based on the nature and content of the numerous public and agency comments received, SEA determined that the effects of the proposed project on the quality of the human environment are likely to be highly controversial, and that, thus, preparation of an EIS is appropriate.

The first stage of the EIS process is scoping. Scoping is an open process for determining the scope of environmental issues to be addressed in the EIS. SEA developed the Draft Scope, incorporating the issues and concerns raised in the comment letters SEA had then received, and issued the Draft Scope for public review and comment. SEA received approximately 100 comment letters in response to the Draft Scope. Although some of the comment letters expressed support for the proposed project, the majority of the comment letters expressed strong opposition to the proposed project and identified numerous concerns and questions. SEA has taken these comment letters into consideration in preparing the Final Scope.

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<sup>1</sup> VCM is a subsidiary of Vulcan Materials Company (Vulcan), which is affiliated through common ownership with SGR.

SEA is currently preparing a Draft EIS (DEIS) for the project. The DEIS will address those environmental issues and concerns identified during the scoping process. It will also contain SEA's preliminary recommendations for environmental mitigation measures. Upon its completion, the DEIS will be made available for public and agency review and comment for at least 45 days. A public meeting will also be held during the comment period for the DEIS. The details of the public meeting, including the specific format, location, and date, will be available in the DEIS. SEA will then prepare a Final EIS (FEIS) that addresses the comments on the DEIS from the public and agencies. Then, in reaching its final decision in this case, the Board will take into account the DEIS, the FEIS, and all environmental comments that are received.

## **Response to Comments**

The discussion below summarizes and addresses the principal environmental concerns raised by the comments, and presents additional discussion to further clarify the Final Scope, which is included at the end of this notice.

Many of the comment letters were written on behalf of an organization or a family and many of the comment letters raised the same or similar issues. Thus, SEA has used the plural term "commenters" to refer to all persons submitting comments, including individuals.

### ***A. Proposed Action and Alternatives***

In the Draft Scope, SEA described the proposed action as the construction and operation of a single-track rail line to connect VCM's proposed quarry and UP's Del Rio subdivision line. SGR would use the rail line to transport limestone from the proposed quarry to the UP rail line, for shipment to markets in the Houston area, as well as other markets in the Southeast, Gulf Coast, and Rio Grande Valley regions of Texas. Although the primary purpose of the proposed rail line construction would be to provide rail service to the quarry site, SGR would hold itself out as a common carrier and provide service to other industries that might locate in the area in the future. SEA stated in the Draft Scope that the reasonable and feasible alternatives that would be evaluated in the EIS were (1) construction and operation of the proposed project along SGR's proposed alignment (including a rail loading facility, consisting of a loading loop or a series of parallel tracks, that would be constructed and operated on the quarry property and is not subject to the Board's jurisdiction), (2) three alternative routes that have been developed to date, as well as other alternatives that might be identified during the scoping process, and (3) the no-action or no-build alternative (which would involve transportation of the limestone by truck from the proposed quarry to the UP rail line, instead of by rail). SEA received numerous comments requesting that the environmental review be expanded to include other actions and other alternatives, which have been summarized below.

#### ***Comments Regarding VCM's Proposed Quarry:***

- Commenters stated that VCM's proposed quarry and SGR's proposed rail line are connected actions that should be examined together in the EIS.

- Commenters requested that the EIS examine alternatives to the quarry, as well as conduct an analysis of all potential direct impacts from quarry development and operations.
- Commenters requested that the EIS include analysis of the following different phases of the quarry: Phase 1 (which is pre-rail, though it will ultimately use the rail and deliver rock to the rail from the crushing unit); Phase 2 (rail connection and first expansion of the quarry); and full build-out (quarry operations at maximum production capacity).
- Commenters stated that because development and operation of the proposed quarry would take place regardless of whether the proposed rail line were constructed and operated, the quarry and the rail line were not connected actions, and the EIS should only consider the quarry as part of the cumulative impacts analysis.
- Commenters requested that the EIS include detailed information on how the quarry will be designed, including the exact equipment to be used and all operations that will be conducted.

**Response:** SEA is continuing to gather information to determine the proper level of analysis for VCM's proposed quarry, based on established Board precedent, NEPA regulations, and court decisions, and appreciates the information that has been provided in the comment letters. Other agencies also will play a role in how the quarry is developed. The quarry would not require any Federal permits that would necessitate NEPA review; however, the quarry would require an air emissions permit from the Texas Commission on Environmental Quality (TCEQ) for stack and fugitive air pollution emissions, a water discharge permit from TCEQ for stormwater and process wastewater discharges, and be required to comply with the provisions of the Edwards Aquifer Rule at Title 30 Texas Administrative Code Chapter 213. Operations at the quarry would also be required to comply with appropriate Federal, state, and local regulations. The DEIS will include an appropriate discussion and analysis of VCM's proposed quarry, which will be made available for public review and comment.

***Range of Alternatives:***

- Commenters requested that the EIS study the rail line route that was used to facilitate the construction of the Medina Dam in the early 1900s as a possible alternative rail route. Commenters stated that this rail line began at Dunlay, Texas, near the origin of the proposed route and Alternative 3. According to commenters, the route traversed north over level terrain and avoided the major part of Quihi Creek and its floodplain, passing near the proposed quarry site. Commenters suggested that this route could be advantageous because it would avoid the main portion of the Quihi Creek floodplain and its artesian creek beds, the floodplains of Cherry and Elm Creek, the historic areas of Quihi, the Texas Heritage Lands, and the major areas of buried artifacts. Commenters stated that the route would cross fewer roads and the crossings of FM 2676 and County Road 4516 could be located at safer points. Although the route would be longer and would involve more property owners, according to commenters, some of the property owners along the route are known to favor the quarry and would be expected to support this route. Commenters requested that the route be evaluated assuming that a grade-separated crossing would be constructed across U.S. Highway 90, and that the cost of

constructing this route should be compared to the costs of constructing the proposed route.

- Commenters suggested that moving the rail line a little further in either direction or to a completely different location could cause much less damage and destruction.
- Commenters stated that the EIS should consider an alternative route that would bypass Cherry Creek, Elm Creek and the lower portion of Quihi Creek and accompanying floodplains.
- Commenters requested that the EIS include at a minimum an analysis of the following: proposed route; Alternative 1; Alternative 2; Alternative 3; a trucking-only alternative; and a no-action alternative of no quarry, no rail line and no trucks.
- Commenters suggested that the EIS include the alternative of using trucks to transport 15 percent of the limestone and rail to transport 85 percent of the limestone.
- Commenters expressed opposition to the trucking-only alternative, noting the possible adverse environmental effects of this alternative.
- Commenters stated that alternatives should not be excluded from further consideration because a grade-separated crossing or other mitigation could be required.
- Commenters stated that perhaps a quarry site could be found that would not impact the major regional water supply and would have a shorter distance to a rail line.
- Commenters requested that all alternatives be equally addressed and compared in the EIS and that reasonable and viable alternatives be analyzed in the same manner as the proposed action.
- Commenters questioned the financial relationship between the quarry and the mitigation or exclusion of certain alternatives.

***Response:*** The Council on Environmental Quality’s (CEQ) guidance and regulations for implementing NEPA set forth an agency’s responsibilities for analyzing alternatives to the proposed action in the environmental review process. An agency must evaluate all reasonable alternatives and the no-action alternative, and briefly discuss reasons for eliminating any unreasonable alternatives from further consideration. 42 U.S.C. 4332(2)(C)(iii). The reasonable alternatives considered in detail, including the proposed action, should be analyzed in enough depth for reviewers to evaluate their comparative merits.<sup>2</sup> The goals of an action delimit the universe of the action’s reasonable alternatives.<sup>3</sup> The objectives must not be defined so narrowly that all alternatives are effectively foreclosed, nor should they be defined so broadly that an “infinite number” of alternatives might further the goals and the project would “collapse under

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<sup>2</sup> See 40 CFR 1502.14.

<sup>3</sup> Citizens Against Burlington v. Busey, 938 F.2d 190, 195 (D.C. Cir. 1990).

the weight” of the resulting EIS analysis.<sup>4</sup> An alternative that does not effectuate the project’s purposes is, by definition, unreasonable, and the agency need not evaluate it in detail.<sup>5</sup>

SEA appreciates the comments received regarding possible additional alternatives to the proposed project. As required by NEPA, the DEIS will include appropriate analysis of all reasonable alternatives, and the no-action alternative, and discuss reasons for eliminating any unreasonable alternatives from detailed study. SEA is currently gathering information regarding the old rail route that led to the Medina Dam and will include an appropriate discussion of this alternative in the DEIS. SEA has also requested more information from SGR regarding the feasibility of the trucking-only alternative, as discussed below. SEA will assess the potential environmental impacts of this alternative, as appropriate, in the DEIS.

***Feasibility of Truck Transportation:***

- Commenters questioned the feasibility of using truck transportation as an alternative to rail transportation.

***Response:*** SGR has submitted information stating that if the rail line were not built, VCM would use trucks to transport the limestone from the quarry to the UP rail line. SEA has requested additional information from SGR regarding the feasibility of using trucks as an alternative to rail. SEA will discuss this issue in the DEIS.

***B. Purpose and Need***

- Commenters questioned the purpose and need for SGR’s proposed rail line.
- Commenters requested that SEA obtain information regarding the financial dependence of the rail line on the quarry and the profitability of rail versus truck transport, as well as information on when the quarry may need rail transport to be profitable.
- Commenters questioned the economic feasibility of developing and operating the quarry without the rail line.

***Response:*** SGR has stated that the primary purpose of rail line construction and operation would be to transport limestone from VCM’s quarry to the UP rail line, for shipment to markets in the Houston area, as well as other markets in the Southeast, Gulf Coast, and Rio Grande Valley regions of Texas. SGR would also hold itself out as a common carrier and provide service to other industries that might locate in the area in the future. According to SGR, if the proposed rail line were not built, VCM would use trucks to transport the limestone to the UP rail line, which would require the construction of a remote truck-to-rail loading facility near the UP rail line, and the number of truck trips that would be required to transport the limestone

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<sup>4</sup> Id. at 196. See also Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, 46 Fed. Reg. 18026 (1981), Question 1.

<sup>5</sup> Ringsred v. Dole, 828 F.2d 1300, 1304 (8<sup>th</sup> Cir. 1987).

would far exceed the number of train trips. As stated above, SEA has requested additional information from SGR regarding the feasibility of using truck transportation as an alternative to rail transportation. SEA will discuss this issue in the DEIS. SEA does not believe that a detailed cost-benefit analysis of rail versus truck transport (if feasible) would be appropriate. CEQ regulations state that in an EIS “the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations.”<sup>6</sup>

### ***C. Transportation and Traffic Safety***

#### ***Grade Crossings:***

- Commenters expressed concern about at-grade rail crossings of roadways and requested that a grade-separated crossing be built for the crossings of FM 2676 and County Road 4516, suggesting that the EIS include a study by the Texas Department of Transportation (TxDOT) regarding a grade-separated crossing of FM 2676. Commenters stated that FM 2676 and County Road 4516 are heavily traveled and County Road 4516 has been studied for state highway status; FM 2676 is the only road Quihi, Texas residents can use to reach Hondo, and FM 2676 and County Road 4516 are the only roads these residents can use to reach San Antonio. Commenters stated that County Road 4516 has curves and hills and an at-grade rail line crossing of this road would be dangerous, because of the low visibility, proximity to Cherry Creek, and the unstable condition of the roadbed.
- Commenters stated that alternative routes for the roads that would be crossed are miles out of the way.
- Commenters requested that the effects of rail operations on transportation and traffic safety be studied with projections made for the next 50 years, taking into consideration population growth patterns and the additional traffic generated by the quarry and resulting industrialization.
- Commenters expressed concern about traffic delays for emergency vehicles, school buses, and regular traffic, and requested that the EIS include a study of traffic delays and stopping distance times for trains.
- Commenters requested that the EIS study the risks of rail-related accidents both with and without grade separations.
- Commenters stated that since no accident data exists for the new crossings, the EIS cannot use the familiar Federal Railroad Administration model that it has used in the past and will need to find some other way of conducting an analysis of risk of accidents.
- Commenters requested that the EIS use the most recent road traffic data available from TxDOT to analyze road traffic and grade crossing impacts and field verify the data to make sure that it is up to date and accurate.
- Commenters stated that SGR should have to pay for the costs of the crossings, not local taxpayers.

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<sup>6</sup> 40 CFR 1502.23.

- Commenters requested that the EIS consider the costs of replacing grade-level crossings with grade-separated crossings, if the crossings are initially constructed at-grade and then later changed.
- Commenters stated that at-grade rail crossings would not cause traffic hazards, due to the low level of traffic on the roadways, and accidents from derailment would be unlikely.

**Response:** As stated in the Draft Scope, the DEIS will assess the potential impacts of the proposed new rail line construction and operation on the existing transportation network in the project area, including vehicular delays at grade crossings; describe the potential for train derailments or accidents from proposed rail operations; and propose mitigative measures to minimize or eliminate potential project impacts to transportation and traffic safety, as appropriate. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of transportation and traffic safety issues in the EIS. Although SEA has been in consultation with TxDOT and will provide TxDOT a copy of the DEIS for review and comment, SEA cannot require TxDOT to undertake a study of a grade-separated crossing of FM 2676.

***Analysis of Truck Traffic:***

- Commenters requested that the EIS examine air, noise, and traffic congestion from the trucking-only alternative, as well as traffic safety concerns and roadway maintenance.
- Commenters suggested that a divided highway be built along the rail line going directly to U.S. Highway 90, and that VCM should be required to absorb the costs of any roadway upgrades, instead of local taxpayers.
- Commenters stated that the EIS assess the impacts from the increased traffic on area roadways that would occur regardless of whether the rail line were built (truck traffic from the quarry to local markets and traffic from quarry employee cars.)

**Response:** As stated above, SEA is continuing to gather information regarding the feasibility of the trucking-only alternative and the appropriate level of analysis of the quarry. SEA will assess potential impacts from the trucking-only alternative and other quarry-generated traffic, as appropriate, in the EIS.

***Pipeline Crossings:***

- Commenters requested that the EIS examine impacts of the proposed rail line crossing gas and oil pipelines.

**Response:** As stated in the Draft Scope, the DEIS will describe potential pipeline safety issues at rail/pipeline crossings as appropriate, and propose mitigative measures to minimize or eliminate potential project impacts to such crossings, as appropriate.

***Other Issues:***

- Commenters requested that the EIS include information on whether rail cars would be parked or pre-positioned along the rail line and whether hazardous materials would be stored along the line.
- Commenters stated that fire routes would be needed.
- Commenters requested information on whether and where rail traffic would be switched when it reaches the UP rail line.
- Commenters stated that the analysis of rail traffic must include the level of traffic that would occur at full build-out (maximum production capacity) of the quarry.

***Response:*** SEA appreciates these comments and will take these requests into consideration, as appropriate, in the environmental review of transportation and traffic safety issues.

***D. Public Health and Worker Health and Safety***

- Commenters requested that the dust-related impacts of the rail line construction and operation and quarry development and operation be examined to understand how people with lung diseases would be affected.
- Commenters stated that sources of food would be contaminated by dust from trains and trucks.
- Commenters stated that workers should be careful, since hunting activities are prevalent in the area.
- Commenters stated that cement could be manufactured at the quarry in the future, which could lead to health hazards, since there is a possible link between cement factories and Creutzfeldt-Jakob disease.
- Commenters stated that appropriate safety measures would include posting warning signs for construction hazards, fencing the right-of-way of the rail line, maintaining flashing lights and barrier-arms at grade crossings, and proper maintenance of the tracks and trains.
- Commenters requested information about possible spills of chemicals, diesel fuels, or any other hazardous materials being transported.

***Response:*** As stated in the Draft Scope, the EIS will describe potential public health impacts from the proposed new rail line construction and operation, describe potential impacts to worker health and safety from the proposed new rail line construction and operation, and propose mitigative measures to minimize or eliminate potential project impacts to public health and worker health and safety, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of public health and worker health and safety impacts.

## ***E. Water Resources***

### ***Impacts to Groundwater:***

- The Edwards Aquifer Authority (EAA) submitted comments requesting that Impact Category 3.a. in the Draft Scope be changed to read as follows: “Describe the existing groundwater resources within the project area, such as aquifers and springs, and the potential impacts on these resources resulting from construction and operation of the proposed new rail line. Locate all water wells in the project area and identify the aquifer in which they are completed.”
- Commenters stated that rail operations could contaminate the Edwards Aquifer and disturb natural water runoff. Commenters requested that the EIS examine the effect of the rail line on underground water supplies, including wells, the Leona Gravel aquifer and the Edwards Aquifer.
- Commenters stated that the EIS should study potential impacts from quarry development and operation to the Edwards Aquifer and compliance with the Edwards Aquifer Protection Plan.
- Commenters requested that the EIS study the present condition of the wells that are within two miles of the proposed quarry for documentation should the wells be damaged, as well as consider having an independent third party monitor wells for nitrate contamination and study VCM’s policies regarding removing pollutants from wells.
- Commenters requested that the EIS include monitoring the quality and flow of all existing water wells within two miles of the quarry perimeter and that VCM install permanent water monitoring stations around the quarry for periodic testing by unbiased certified water quality testing laboratories, which would be paid for by VCM.
- Commenters questioned whether test wells should be required to detect any contamination or damage to the Edwards Aquifer or the Leona Gravel Aquifer and suggested that seismographs be installed in the area for several miles.
- Commenters requested that the EIS examine impacts to springs in the area, including the main spring that supplies water to Quihi Creek from County Road 4512.
- Commenters said that impacts to agricultural water pipelines should be examined, as well as impacts to water tanks.
- Commenters stated that dust from rail operations would pollute waterways and shallow water wells.
- Commenters requested that the EIS study impacts to water quality from quarry blasting and mining activities and impacts to water quality from chemicals used at the quarry.
- Commenters stated that the EIS should study the lowering of the water table due to quarry excavation.
- Commenters requested information regarding the exact location of the fuel storage area to determine whether it is on the Edwards Aquifer recharge zone.

***Response:*** As stated in the Draft Scope, the EIS will describe the existing groundwater resources within the project area, such as aquifers and springs, and the potential impacts on these resources resulting from construction and operation of the proposed new rail line. As indicated above,

SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of groundwater resources. SEA will also provide the EAA with a copy of the DEIS for review and comment.

***Creek Crossings and Flooding Concerns:***

- Commenters stated that the area is prone to flash flooding events and residents are greatly concerned about impacts from the rail line on flooding.
- Commenters expressed concern about the type of rail crossings at creeks. Commenters indicated that crossings would be likely to create flooding hazards and could lead to the destruction of homes, historic resources, and other facilities and establishments.
- Commenters requested that a full flood analysis be performed for all rail routes.
- Commenters stated that analysis of potential flood impacts should be an integral part of the elimination of alternatives from consideration, and such analysis should include detailed modeling. Such modeling should include a basin model (defining the watershed with all of its parameters), a design rainfall (the statistical level of rainfall over a given time span), a runoff output, a water surface elevation, and floodplain analysis. The most up-to-date methodology should be used and commenters recommended employing certain specific methodology that is currently being used throughout Texas. Reliance on Federal Emergency Management Agency (FEMA) floodplain maps would not be sufficient, since these maps have not been updated since 1980 and modeling technology would likely lead to different results.
- Commenters requested that the crossing of Quihi Creek be elevated to prevent water from being impounded, and to prevent flooding impacts to County Road 365, nearby homes and historic structures. Commenters stated that residents are trapped in their homes two or three times per year due to the flooding of Quihi Creek, and the rail crossing of the creek would increase these flooding problems.
- Commenters requested that the EIS compare the use of trestles to the use of wide span bridges with respect to flooding and other surface water issues.
- Commenters questioned how many trestle bridges SGR could afford to build.
- Commenters expressed concern that the wooden trestles, pilings, cross ties and piers to be used in the rail line construction would be treated with creosote or pressure-treated arsenic based chemicals, which would introduce toxic chemicals into the soil and water.
- Commenters expressed concern that railroad berms would cause flooding hazards.
- Commenters stated that the EIS should include all relevant flood data, including data collected by the EAA, the U.S. Army Corps of Engineers (Corps), and FEMA.
- Commenters stated that the rail line would cause increased water flow, which would lead to erosion problems.
- Commenters requested information on the conditions of roadways after flooding, and the amount of time and money needed to restore roadways to pre-flood conditions.
- Commenters requested that the EIS conduct detailed analysis of flooding impacts from quarry development and operations and disclose where there would be alterations of and additions to runoff flows. Commenters questioned what the buffer plan would be for the

streams in each quarry development phase, whether any streams would be filled at the quarry, and how drainage would be handled from the excavated areas of the quarry. Commenters requested that detailed flood modeling be done to determine the flooding impact of increased runoff entering the streams from the quarry and whether the construction of a detention pond at the quarry site to decrease peak flood flows would be a necessary or appropriate mitigation tool.

- Commenters stated that the area is generally dry and flooding in the area is rare.

**Response:** As stated in the Draft Scope, the EIS will describe the existing surface water resources within the project area, including watersheds, streams, rivers, and creeks, and the potential impacts on these resources resulting from construction and operation of the proposed rail line; describe the existing regulatory requirements that exist to protect stream and river crossings (including floodplains) in the event the proposed line is constructed and operated, water quality, and erosion control; and propose mitigative measures to minimize or eliminate potential project impacts to water resources, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of surface water resources (including creek crossings and flooding concerns). SEA has consulted with EAA, the Corps, and FEMA and will provide these agencies a copy of the DEIS for review and comment.

#### ***Wetlands and U.S. Army Corps of Engineers' Permits***

- The Corps stated that a Corps permit pursuant to Section 404 of the Clean Water Act could be required for the proposed rail line construction. The Corps provided specific information regarding permitting requirements and procedures, and requested that impacts to streams, wetlands, and other waters of the United States be minimized.
- Commenters stated that the EIS should include a map of both jurisdictional and nonjurisdictional wetlands in the area of each alternative and indicate the volume and area of and map the stream fills necessary for bridge construction. Commenters suggested that the entire wetlands delineation be included as an appendix to the EIS.

**Response:** The location and nature of the creek crossings will determine whether a Section 404 Corps permit would be required. Thus, a determination by the Corps regarding permitting requirements would likely be made after completion of the environmental review process and only if the Board's final decision approves SGR's proposal to construct and operate the rail line along a route where the Section 404 permitting requirements would be triggered. However, SEA will provide the Corps a copy of the DEIS for review and comment.

As stated in the Draft Scope, the EIS will describe existing wetlands in the project area and potential impacts on these resources resulting from construction and operation of the proposed new rail line; describe the permitting requirements that are appropriate for the proposed new rail line construction and operation regarding wetlands, stream and river crossings (including floodplains), water quality, and erosion control; and propose mitigative measures to

minimize or eliminate potential project impacts to water resources, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the comments received and will take them into consideration, as appropriate, in the environmental review of wetlands and other water resources.

#### ***F. Biological Resources***

- The U.S. Fish and Wildlife Service (FWS) submitted comments stating that the proposed rail line may impact two endangered species, the golden-cheeked warbler (*Dendroica chrysoparia*) and the black-capped vireo (*Vireo atricapillus*). FWS requested information including habitat assessment and survey results to determine the presence of these species in the rail loading area on the proposed quarry site.
- Commenters expressed concern about impacts to cattle and wildlife. Commenters expressed concern about impacts to songbirds that nest in the area. Commenters stated the rail line would destroy blue bonnets, wine cups, agaritas, and cactus, and affect rabbits, racoons, squirrels, quail, doves, deer, bass, floridas, shad, and catfish.
- Commenters requested that the EIS include a detailed assessment of the actual types of plants and animals that are present in the project area, based on field surveys that focus on streambeds, riparian areas, and bridge construction areas.
- Commenters stated that the EIS should study how the rail line would change water flow patterns and impact fish, birds, bobcats, deer, crayfish, and other animals that depend on streams in the area.
- Commenters stated that SEA should undertake a Biological Assessment (BA) of both the quarry and the rail line, pursuant to the requirements of Section 7 of the Endangered Species Act (ESA), and that the phased approach that Vulcan has developed to conduct field surveys of the quarry area violates the ESA.
- Commenters stated that SEA does not need to undertake a BA of the quarry.
- Commenters stated that three years of focused counting of endangered species along the rail line alternatives be conducted to prepare a sufficient BA. The BA should be included in the EIS for public review and comment.
- Commenters requested that the EIS study the migration of birds to and from Mexico and how the quarry and the rail line would comply with the Migratory Bird Treaty Act.
- Commenters requested that the EIS study impacts to nocturnal animals from the quarry operations.
- Commenters requested that the EIS study impacts from the quarry to bats, wild turkeys, and sources of food.

***Response:*** SEA has consulted with FWS regarding its recommendations and the provisions of the ESA, and FWS has indicated that if the EIS includes the information specified at 50 CFR 402.12(f), a separate BA need not be prepared. SEA will ensure that the appropriate information is included in the DEIS for FWS' review and comment and review and comment by the public. As stated in the Draft Scope, the EIS will describe existing biological resources within the project area, including vegetative communities, wildlife and fisheries, and the Federal

and state threatened or endangered species, and the potential impacts to these resources resulting from the proposed new rail line construction and operation, and propose mitigative measures to minimize or eliminate potential project impacts to biological resources, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of biological resources.

### ***G. Air Quality Impacts***

- Commenters expressed concern about air pollution from rail operations.
- Commenters stated that transporting the limestone by rail would affect air quality less than transporting the limestone by trucks.
- Commenters suggested that the EIS assess air quality impacts from the quarry development and operation and the rail line construction and operation by modeling Particulate Matter 10 and Particulate Matter 2.5 and determining how far from the quarry site and rail line any impacts would occur. The EIS should also include calculations of the atmospheric particle formation that may occur from reactions with volatile organic compounds from the quarry development and operation and the rail line construction and operation. The information should be presented graphically and all assumptions used in the model should be disclosed. The EIS should also include an analysis of particulate emissions from uncovered rail cars.
- Commenters requested that VCM be required to provide dust abatement equipment at each dust emitting location and a minimum of eight air quality monitoring stations be installed around the proposed quarry perimeter for continuous air monitoring for a three year period prior to operating the quarry.
- Commenters requested that one air quality monitoring station be installed for each mile of rail line for continuous air monitoring for a three year period prior to operating the quarry.
- Commenters requested that the EIS study impacts on machinery from quarry-generated dust.

***Response:*** As stated in the draft scope, the EIS will describe potential air quality impacts resulting from the proposed new rail line construction and operation and propose mitigative measures to minimize or eliminate potential project impacts to air quality, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of air quality impacts.

### ***H. Geology and Soils***

- Commenters requested that the EIS conduct a survey of geologic and soil features in the area and consult with agencies with jurisdiction over the Edwards Aquifer to obtain an inventory of these features; the inventory should be presented in map form in the EIS.

- Commenters requested that the EIS include an evaluation of karst topography in the area as well as an analysis of construction and operation impacts to geology and soils. The EIS should be provided to agencies with jurisdiction over the Edwards Aquifer for review and concurrence.
- Commenters requested that the geologic impacts of water withdrawal from the quarry be examined.
- Commenters requested information on the depth of mining activities at the quarry in relation to the depth of the Edwards Aquifer.
- Commenters said the EIS should study the loss of top soil due to the rail line crossing creeks and flood zones.
- Commenters stated that soil erosion could be prevented by planting native grasses and shrubs.

**Response:** As stated in the Draft Scope, the EIS will describe the native soils and geology of the proposed project area; describe the existing karst features of the project area, if any, and the potential impacts to karst features from the proposed new rail line construction and operation; and propose mitigative measures to minimize or eliminate potential project impacts on soils and geology and to karst features, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of geology and soils. SEA has consulted with and received comments from the EAA and will provide the EAA with a copy of the DEIS for review and comment.

### ***I. Land Use***

- Commenters expressed concern that the rail line would divide private property and ranches, including ranches that have been recognized as Texas Family Land Heritage properties, and adversely affect the operation of these ranches.
- Commenters stated that the rail line would divide farmland and destroy established soil erosion control systems, as well as divide hay fields and cattle pastures.
- Commenters suggested that SEA contact all of the landowners along each rail route to determine where ranching, agriculture and hunting activities currently occur, where residences are located, and the distance of the residences from the rail line alternatives and quarry site. Each category of land use should be analyzed separately.
- Commenters questioned the use of condemnation authority or eminent domain to acquire land for the rail line and asked why Medina County should be required to support a project that is designed to meet the needs of distant places.
- Commenters requested information regarding impacts to vegetable farms.
- Commenters requested that the EIS study how weeds and vegetation would be controlled along railroad tracks and assess the use of pesticides.
- Commenters requested that the EIS consider how to prevent and control flash fires along the rail line during times of dry vegetation.

- Commenters requested that the EIS include a study of what will happen to the land on the quarry site after it has been mined.
- Commenters requested that the EIS study the destruction of homesteads from the quarry.

**Response:** As stated in the Draft Scope, the EIS will describe existing land use patterns within the project area and identify those land uses that would be potentially impacted by the proposed new rail line construction and operation; describe the potential impacts associated with the proposed new rail line construction and operation to land uses identified within the project area; and propose mitigative measures to minimize or eliminate potential project impacts to land use, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of land use impacts.

#### ***J. Environmental Justice***

- Commenters questioned the need for an environmental justice study and requested that the EIS consider the concerns of the majority of residents in the area.
- Commenters requested that a detailed environmental justice analysis be conducted for each alternative. According to commenters, Census 2000 data indicates that Medina County is 45.5 percent Hispanic.

**Response:** Executive Order No. 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” sets forth recommendations to Federal agencies for conducting environmental justice analyses. As stated in the Draft Scope, the EIS will describe the demographics of the communities potentially impacted by the construction and operation of the proposed new rail line; evaluate whether new rail line construction or operation would have a disproportionately high adverse impact on any minority or low-income group; and propose mitigative measures to minimize or eliminate potential project impacts on environmental justice communities of concern, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the comments and will take these comments into consideration, as appropriate, in the environmental review of environmental justice issues.

#### ***K. Noise***

- Commenters expressed concern about noise pollution from rail operations, particularly train whistles at crossings.
- Commenters requested that the EIS study the noise impacts of the rail interchange of the SGR rail line and the UP rail line at Dunlay, Texas.
- Commenters expressed concern about noise impacts to wildlife and cattle, as well as noise impacts to local churches.
- Commenters suggested that the following methodology be used for noise analysis: apply the nighttime weighting penalty if operations will occur at night; take background

measurements on land crossed by rail alternatives and outside of the “buffer area” properties; locate all noise receptors; do computer modeling of noise from both the quarry and the rail line, accounting for all sources of rail construction, all sources of quarry construction and excavation, and all sources of noise at the quarry; disclose the results of the modeling as the cumulative noise impact, presenting all results graphically in the EIS and disclosing all modeling assumptions in the EIS; and discuss the rationale behind all mitigation measures or lack of mitigation measures.

- Commenters recommended that SGR be required to use the newly developed “Quiet Tracks” to reduce noise from train operations.
- Commenters requested that noise monitoring stations be installed around the proposed quarry perimeter for continuous monitoring for a three year period prior to operating the quarry or rail line.
- Commenters suggested that trucks should use noiseless “solar like” technology for signaling when they are moving and loading materials.
- Commenters stated that train operations would not affect schools, churches, parks or hospitals.

**Response:** As stated in the Draft Scope, the EIS will describe the existing noise environment of the project area and potential noise impacts from the proposed new rail line construction and operation, and propose mitigative measures to minimize or eliminate potential project impacts to noise receptors, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of noise impacts.

#### ***L. Vibration***

- Commenters requested that the EIS assess vibration impacts from train operations to wells, pipelines, water lines, springs, and old homes, as well as vibration impacts to sleep patterns and the gates at Medina Lake. Commenters requested that vibration impacts to the Medina Lake canals be studied.
- Commenters requested information about whether full trains or empty trains cause more vibrations, how far out vibration impacts would travel and whether vibrations would increase with added rail cars.
- Commenters expressed concern about vibration impacts to wildlife.
- Commenters requested that the EIS study vibration impacts from quarry blasting activities to nearby wells, septic tanks, open tanks of water for livestock, the Medina Dam (fault lines run from the quarry site to the dam), and historic structures.

**Response:** As stated in the Draft Scope, the EIS will describe the potential vibration impacts from the proposed new rail line construction and operation and propose mitigative measures to minimize or eliminate potential project impacts from vibration, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take

these comments into consideration, as appropriate, in the environmental review of vibration impacts.

#### ***M. Recreation and Visual Resources***

- Commenters requested that the EIS study impacts to the aesthetics of cultural resources.
- Commenters requested that the EIS study impacts to aesthetics from additional industry that may locate along the rail line and impacts to aesthetics from the quarry development and operation.
- Commenters stated that visitors desiring a nice drive in the county would be adversely impacted.
- Commenters stated that County Road 365 was originally the Upper Quihi Road and connected the homes of early Quihi settlers. A train crossing over County Road 365 would divide this historic district and would adversely affect the aesthetics of the area.
- Commenters stated that the quarry and the proposed rail line would affect stargazing activities. In particular, train operations over Alternative 1 would impact the activities of Trinity University Astronomy and Physics students.
- Commenters stated that quarry activities would cause light pollution.
- Commenters stated that the Quihi dance hall would be adversely affected, as well as fishing, swimming, family gatherings and hunting activities.

***Response:*** As stated in the Draft Scope, the EIS will describe existing recreation and visual resources in the proposed project area and potential impacts to recreation and visual resources from construction and operation of the proposed new rail line, and propose mitigative measures to minimize or eliminate potential project impacts to recreation and visual resources, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of recreation and visual resources.

#### ***N. Cultural Resources***

- Commenters expressed interest in preserving cultural resources in the area and stated that numerous historic homes would be near the proposed rail line.
- Commenters requested that the areas of potential effect be defined for both rail construction and rail operation and impacts to cultural resources be thoroughly assessed, including flooding hazards, vibration from bridge construction, noise impacts, and aesthetic impacts.
- Commenters suggested that the option of creating buffer zones by the purchase of additional lands be explored.
- Commenters stated that County Road 4516 is a historic road and impacts to this road from a rail line crossing must be studied.

- Commenters requested that the EIS identify and document all the cultural, historic, and prehistoric sites in the area, as well as make recommendations to protect and preserve any sites that may be impacted by the rail line or the quarry.
- Commenters stated that approximately 60 historic homes and sites are in the area, and expressed concern about flooding impacts to these homes as well as impacts from blasting at the quarry.
- Commenters said the area may be eligible to become a Federal Historic District and stressed the importance of the preservation of the cultural resources of the area, including archeological sites.
- Commenters stated that two prehistoric tribal sites are in the area and more such sites could exist in the area as well.
- Commenters stated that the Schuele-Saathoff home that is listed on the National Register of Historic Places and is also a Texas State Historical Landmark would be impacted by train vibrations.
- Commenters stated that the proposed route would destroy portions of an old rock wall and the remaining wall would then be damaged by train vibrations.
- Commenters expressed concern that historic structures and homes would be adversely impacted by long term, low frequency ground vibration from rail operations.
- Commenters stated that First Lady Laura Bush recently recognized the Castroville, Texas area as a rich historical area.
- Commenters stated that cultural resources must be studied in detail by archeologists and historians who should conduct surface surveys, examine test excavations, and work with a geomorphologist, due to the unusual drainage of Quihi Creek.
- Commenters stated that two state archeological sites have the potential to be impacted by Alternative 3.

**Response:** As stated in the Draft Scope, the EIS will describe the cultural resources environment in the area of the proposed project and potential impacts to cultural resources from the proposed new rail line construction and operation; describe the ongoing NHPA Section 106 process for the proposed project; and propose mitigative measures to minimize or eliminate potential project impacts to cultural resources, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA is also developing a Draft Programmatic Agreement (PA), pursuant to 36 CFR 800.14(b), to govern part of the Section 106 process. Moreover, SEA has identified several tribes that may have interests in the project area and is formally inviting them to participate in the environmental review process and become official Section 106 consulting parties. The Draft PA will be made available for Section 106 consulting party and public review and comment in draft form as part of the DEIS. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of cultural resources.

## ***O. Socioeconomics***

- Commenters expressed concern about impacts from the quarry and the rail line to property values, impacts to hunting activities, and impacts to planned subdivisions.
- Commenters stated that there would be impacts to businesses that need quiet, rural settings to operate, such as sheep and goat embryo transplants.
- Commenters stated that the EIS should provide specific information regarding tax revenues, jobs and economics. This information should include whether any equipment would be owned or leased, whether any equipment would be subcontracted, and how the quarry and the rail would be taxed.
- Commenters requested that the EIS examine long term development impacts. According to commenters, the proposed rail line would physically divide Medina County and would directly influence the long-term growth of the county.
- Commenters requested that the EIS examine how residents would be protected or compensated for loss of health, quality of life, and livelihood from proposed quarry operations, and suggested that the EIS assess the costs from quarry operations to residents.
- Commenters requested that impacts to the Medina Oaks subdivision and Rocky Creek subdivision be studied.
- Commenters suggested that a fund be created to settle claims of loss due to quarry operations and a procedure be devised to adjudicate claims of loss due to quarry operations.
- Commenters expressed support for the economic development that would result from the quarry and the rail line, and stated that schools would benefit from the tax revenue generated by the quarry.
- Commenters stated that the quarry would bring more jobs to the county.
- Commenters stated that the rail line would increase property values because the availability of commercial transportation would make agricultural land more marketable.

***Response:*** As stated in the Draft Scope, the EIS will describe the demographic characteristics of the project area and the current sources of income; describe the potential environmental impacts to employment and the local economy as a result of the proposed new rail line construction and operation; and propose mitigative measures to minimize or eliminate potential project adverse impacts to socioeconomic resources, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of socioeconomic impacts.

## ***P. Cumulative and Indirect Impacts***

- Commenters requested that the EIS include a study of the cumulative effects of new industries that could be brought into the area by the quarry and the rail line, with a full cost/benefit study.

- Commenters requested that SEA’s analysis of cumulative effects be conducted in the following manner: first identify the types of resources that could experience cumulative environmental impacts; then, for each resource, conduct an analysis of the additive effects of past, present, and reasonably foreseeable future actions to the no-action alternative (no quarry and no rail line) and to all possible combinations of action alternatives for the rail line and the quarry by adding their direct effects (using full build-out levels (maximum production capacity) of quarry and rail line operations).
- Commenters stated that presenting the cumulative impacts analysis in a matrix or table format would not be sufficient.
- Commenters stated that cumulative flood impacts may be significant and should be evaluated in as detailed a manner as direct flood impacts.
- Commenters stated that the cumulative vibration impacts from blasting at the quarry and train operations should be assessed.
- Commenters suggested that the EIS include a study of cumulative noise impacts from the following sources: rail shipments from expanded quarrying; added common carrier customers; and population expansion. The study should take into consideration winter north winds, prevailing southeast winds and temperature changes. Specific sources of noise include explosions from quarry operations, whistles, bells, warning signals, quarry loaders, trucks, conveyors, and crushers.
- Commenters requested that the cumulative impacts of industrialization along the rail line be studied and assessed for all categories of land use, including residential, hunting, ranching, and agriculture, as well as the combined impacts from the quarry and rail line on all land use categories. Commenters requested that the EIS make a determination of whether there would be a cumulatively negative effect to land values, and indicate precisely where any negative impacts would occur.
- Commenters requested that downstream air quality impacts of transporting limestone to distant cities be taken into consideration, particularly impacts to the Houston area, which has a nonattainment plan provision for railroads.
- Commenters requested that the EIS include a study of the capacity of UP rail lines to transport limestone into the already crowded rail traffic in the Houston/Galveston area.
- Commenters requested information on the final destination of the trains carrying the aggregate (rail yard or transloading facility or other). Commenters also requested that the EIS assess the road traffic impacts of the increased rail traffic in Houston, when combined with other reasonably foreseeable future actions.
- Commenters expressed concern over possible future uses of the rail line by other types of industries, such as chemical plants.
- Commenters stated that SEA should not undertake an analysis of the impacts on the national rail system resulting from traffic originating on SGR’s rail line, since such analysis would be speculative and require guesswork.

**Response:** Cumulative impacts are the impacts on the environment which result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person

undertakes such actions. 40 CFR 1508.7. In the Draft Scope, SEA stated that the EIS will address any identified potential cumulative impacts of the proposed new rail line construction and operation, as appropriate. As stated above, SEA is continuing to gather information to determine the appropriate level of analysis of the quarry, which, at a minimum, will be addressed as a cumulative impact. SEA appreciates the suggestions and concerns raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of cumulative impacts.

Indirect impacts are impacts that are caused by the proposed action and are later in time or farther removed in distance, but are still reasonably foreseeable. 40 CFR 1508.8(b). In the Draft Scope, SEA stated that the EIS will address any identified potential indirect impacts of the proposed new rail line construction and operation, as appropriate. SEA appreciates the suggestions and concerns regarding potential indirect effects raised in the comment letters and will take these comments into consideration, as appropriate, in the environmental review of indirect impacts.

#### ***Q. Other Issues***

##### ***Public Involvement:***

- Commenters stated that a meeting or a canvas of the area should be held to better accumulate public concerns.
- Commenters requested that the public be allowed to review and comment on the DEIS for a period of 60 days.
- Commenters requested that a public hearing with oral testimony be held no sooner than 45 days after the issuance of the DEIS. Commenters stated that the public hearing not be held between Thanksgiving and Christmas or on the Our Lady of Guadalupe feast day. Commenters suggested holding the hearing on a Monday or Tuesday with an afternoon and evening session so that there would be no need for pre-registration. Commenters suggested holding the public hearing at the Bethany Lutheran Church Hall in Quihi, Texas or in a location in Hondo, Texas.
- Commenters stated that written communication is not adequate.

***Response:*** SEA believes that the public has been provided with adequate opportunity to participate in the scoping process. SEA conducted an Open House in Hondo, Texas on June 12, 2003, and received over 100 comment letters in response to the Open House. SEA also received additional comment letters from the public regarding specific areas of concern. Based on the nature and extent of the numerous comment letters received, SEA determined that the effects of the proposed project on the quality of the human environment are likely to be highly controversial, and that, thus, preparation of an EIS is appropriate. SEA then issued a Notice of Intent to Prepare an EIS (NOI) and Draft Scope for public review and comment.

SEA mailed the NOI and Draft Scope to over 200 parties, including Federal, state, and local agencies, tribes, elected officials, local organizations, and interested members of the public.

The NOI described the EIS process and opportunities for public involvement. The Draft Scope incorporated the issues and concerns raised in the comment letters SEA had received thus far. SEA has received approximately 100 comment letters in response to the Draft Scope, which raise specific issues and concerns, as discussed in this notice.

SEA is currently preparing a DEIS for the project. The DEIS will address those environmental issues and concerns identified during the scoping process. It will also contain SEA's preliminary recommendations for environmental mitigation measures. Upon its completion, the DEIS will be made available for public and agency review and comment for at least 45 days. A public meeting will also be held during the comment period for the DEIS. The details of the public meeting, including the specific format, location, and date, will be available in the DEIS. SEA will then prepare a Final EIS (FEIS) that addresses the comments on the DEIS from the public and agencies. Then, in reaching its final decision in this case deciding whether to allow the exemption to become effective, the Board will take into account the DEIS, the FEIS, and all environmental comments that are received. In short, throughout the Board's process, there has and will continue to be ample opportunity for public participation and public comment.

***Maps:***

- Commenters stated that detailed maps are needed for all potential rail routes.
- Commenters requested that the exact location of the proposed rail route and alternatives be released to the public at this time in Geographic Information System format.
- Commenters requested that the potential rail routes be staked and flagged in the field to assist public review of the routes.

***Response:*** SEA appreciates the suggestions of the commenters and will take these comments into consideration, as appropriate, when preparing maps of the proposed project area. Appropriate maps will be included in the DEIS for public review and comment. SEA believes that requesting private landowners to maintain stakes and flags of the various rail routes on their properties would be unduly burdensome for these landowners and is not necessary for the environmental review process.

***Other:***

- Commenters requested that the DEIS clearly present all methodology used to reach conclusions.
- Commenters stated that information should not be hidden from the administrative record and decisions regarding matters of agency discretion should be referenced and documented in the DEIS.
- Commenters stated that no analysis or information should appear in the FEIS that the public has not had a chance to comment on in a DEIS or a Supplemental EIS.

***Response:*** SEA will ensure that all appropriate information for this proceeding is made available to the public, either as part of the EIS or separately as part of the administrative record. Environmental correspondence and other documents regarding this proceeding are already (and

will continue to be) publicly available on the Board's website at [www.stb.dot.gov](http://www.stb.dot.gov). The EIS also will be available on the Board's website.

### **Final Scope of Study for the EIS:**

#### **Proposed Action and Alternatives**

The proposed project would involve the construction and operation of a single-track rail line to connect VCM's proposed quarry and UP's Del Rio subdivision line. The proposed rail line would extend about seven miles from the quarry site to approximately milepost 250 of the UP line, at a point near Dunlay, Texas. SGR would use the new rail line to transport limestone from the proposed quarry to the UP rail line, for shipment to markets in the Houston area, as well as other markets in the Southeast, Gulf Coast, and Rio Grande Valley regions of Texas. Although the primary purpose of the proposed construction is to provide rail service to the quarry site, SGR would hold itself out as a common carrier and provide service to other industries that might locate in the area in the future. SEA is continuing to gather information to determine the appropriate level of analysis of the quarry.

The alternatives that will be evaluated in detail in the EIS are (1) construction and operation of the proposed project along SGR's proposed alignment (including a rail loading facility, consisting of a loading loop or a series of parallel tracks, that would be constructed and operated on the quarry property and is not subject to the Board's jurisdiction), (2) three alternative rail routes, and (3) the no-action alternative. Other alternatives that may be evaluated in detail in the EIS, if SEA determines that they are reasonable and feasible, are (1) the old rail route leading to the Medina Dam, (2) the trucking-only alternative, and (3) any other alternatives SEA may identify in its appropriate analysis of the quarry. Depending on the appropriate level of analysis of the quarry, the no-action alternative may include the analysis of transportation of the limestone by truck from the proposed quarry to the UP rail line (if feasible).

#### **Environmental Impact Analysis**

##### **Proposed New Construction**

Analysis in the EIS will address the proposed activities associated with the construction and operation of the proposed new rail line and their potential environmental impacts, as appropriate. Because SEA has not yet determined the appropriate level of analysis of the quarry, SEA will not discuss the specifics of the environmental review of the quarry development and operation in this document. However, the EIS will include an appropriate discussion of the quarry.

## **Impact Categories**

The EIS will address potential impacts from the proposed construction and operation of the new rail line on the human and natural environment. Impact areas addressed will include the effects of the proposal on transportation and traffic safety, public health and worker health and safety, water resources, biological resources, air quality, geology and soils (including any karst features), land use, environmental justice, noise, vibration, recreation and visual resources, cultural resources and socioeconomics. The EIS will include a discussion of each of these categories as they currently exist in the project area and will address the potential impacts from the proposed project on each category, as described below:

### **1. Transportation and Traffic Safety**

The EIS will:

- a. Describe the potential impacts of the proposed new rail line construction and operation on the existing transportation network in the project area, including vehicular delays at grade crossings.
- b. Describe the potential for train derailments or accidents from proposed rail operations.
- c. Describe potential pipeline safety issues at rail/pipeline crossings, as appropriate.
- d. Propose mitigative measures to minimize or eliminate potential project impacts to transportation and traffic safety, as appropriate.

### **2. Public Health and Worker Health and Safety**

The EIS will:

- a. Describe potential public health impacts from the proposed new rail line construction and operation.
- b. Describe potential impacts to worker health and safety from the proposed new rail line construction and operation.
- c. Propose mitigative measures to minimize or eliminate potential project impacts to public health and worker health and safety, as appropriate.

### **3. Water Resources**

The EIS will:

- a. Describe the existing groundwater resources within the project area, such as aquifers and springs, and the potential impacts on these resources resulting from construction and operation of the proposed new rail line.
- b. Describe the existing surface water resources within the project area, including watersheds, streams, rivers, and creeks, and the potential impacts on these resources resulting from construction and operation of the proposed new rail line.

- c. Describe existing wetlands in the project area and the potential impacts on these resources resulting from construction and operation of the proposed new rail line.
- d. Describe the permitting requirements that are appropriate for the proposed new rail line construction and operation regarding wetlands, stream and river crossings (including floodplains), water quality, and erosion control.
- e. Propose mitigative measures to minimize or eliminate potential project impacts to water resources, as appropriate.

#### **4. Biological Resources**

The EIS will:

- a. Describe the existing biological resources within the project area, including vegetative communities, wildlife and fisheries, and Federal and state threatened or endangered species and the potential impacts to these resources resulting from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to biological resources, as appropriate.

#### **5. Air Quality Impacts**

The EIS will:

- a. Describe the potential air quality impacts resulting from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to air quality, as appropriate.

#### **6. Geology and Soils**

The EIS will:

- a. Describe the native soils and geology of the proposed project area.
- b. Describe the existing karst features of the project area, if any, and the potential impacts to karst features from the proposed new rail line construction and operation.
- c. Propose mitigative measures to minimize or eliminate potential project impacts on soils and geology and to karst features, as appropriate.

#### **7. Land Use**

The EIS will:

- a. Describe existing land use patterns within the project area and identify those land uses that would be potentially impacted by the proposed new rail line construction and operation.

- b. Describe the potential impacts associated with the proposed new rail line construction and operation to land uses identified within the project area.
- c. Propose mitigative measures to minimize or eliminate potential project impacts to land use, as appropriate.

**8. Environmental Justice**

The EIS will:

- a. Describe the demographics of the communities potentially impacted by the construction and operation of the proposed new rail line.
- b. Evaluate whether new rail line construction or operation would have a disproportionately high adverse impact on any minority or low-income group.
- c. Propose mitigative measures to minimize or eliminate potential project impacts on environmental justice communities of concern, as appropriate.

**9. Noise**

The EIS will:

- a. Describe the existing noise environment of the project area and potential noise impacts from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to noise receptors, as appropriate.

**10. Vibration**

The EIS will:

- a. Describe the potential vibration impacts from the proposed new rail line construction and operation.
- b. Propose mitigative measures to minimize or eliminate potential project impacts from vibration, as appropriate.

**11. Recreation and Visual Resources**

The EIS will:

- a. Describe existing recreation and visual resources in the proposed project area and potential impacts to recreation and visual resources from construction and operation of the proposed new rail line.
- b. Propose mitigative measures to minimize or eliminate potential project impacts to recreation and visual resources, as appropriate.

**12. Cultural Resources**

The EIS will:

- a. Describe the cultural resources environment in the area of the proposed project and potential impacts to cultural resources from the proposed new rail line construction and operation.
- b. Describe the ongoing NHPA section 106 process for the proposed project, and propose mitigative measures to minimize or eliminate potential project impacts to cultural resources, as appropriate.

**13. Socioeconomics**

The EIS will:

- a. Describe the demographic characteristics of the project area and the current sources of income.
- b. Describe the potential environmental impacts to employment and the local economy as a result of the proposed new rail line construction and operation.
- c. Propose mitigative measures to minimize or eliminate potential project adverse impacts to socioeconomic resources, as appropriate.

**14. Cumulative and Indirect Impacts**

The EIS will:

- a. Address any identified potential cumulative impacts of the proposed new rail line construction and operation, as appropriate. Cumulative impacts are the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions.
- b. Address any identified potential indirect impacts of the proposed new rail line construction and operation, as appropriate. Indirect impacts are impacts that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

By the Board, Victoria Rutson, Chief, Section of Environmental Analysis.

Vernon A. Williams  
Secretary

**Appendix F**

**Vulcan Materials Company Biological Assessments**

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**BIOLOGICAL ASSESSMENT**

**PHASE I  
MEDINA COUNTY PROJECT**

**Submitted by:**

**Vulcan Materials Company**

**October, 2001**

**Phase I**  
**Medina County Project**  
**Biological Assessment**

**INTRODUCTION**

The proposed Medina County Project is located approximately 5 miles north of Quihi, Texas in north central Medina County. Vulcan Materials Company (Vulcan) is currently evaluating the project in terms of economic and environmental feasibility. The proposed project would involve a multi-phased development and operation of a limestone quarry and associated crushing and screening facilities for the production and sale of construction aggregates for the building of roads, bridges, and other related construction industry needs. Due to the nature of the business and the size of the property involved, the project area has been broken into five (5) individual phases, with each phase representing an Environmental Survey Area. The Environmental Survey Areas include those areas proposed for the facility maintenance area, the production facility area, the mine area and the environmental management and buffer areas. Additional areas are currently being evaluated for a proposed rail alignment. The specific rail alignment has not been identified at this time and will not be fully delineated until access agreements have been obtained. The rail spur will be included in Phase II for the proposed project. Vulcan has obtained leased land in excess of that needed for the mining operation and is in the process of obtaining excess rail right-of-way so that adequate lands are available to allow avoidance of sensitive environmental resources and for adequate buffer areas between mining and transportation activities and those resources. Over the conceivable life of the project, implementation of each of these phases will be based upon market demands and completion of environmental surveys and any potential mitigation plans. In addition to these plans, other factors that will impact the implementation of the project phases include: availability of limestone reserves, construction suitability, access availability, and avoidance of environmental and cultural resources. Vulcan's ultimate goal is to develop an environmentally compatible project with net improvement in the local environment.

This report and assessment focuses on the initial phase of the project (Phase 1 Environmental Survey Area) as well as the establishment of baseline environmental and screening information for the entire project including all phases (Phase 2-5 Environmental Survey Areas). Using this approach, adequate data and stakeholder input can be collected to develop an overall environmentally protective project with specific data needs being developed in each Phase. Based upon the elements defined above, similar detailed assessments for the future phases will be performed at times when the field observations and studies are closer time-wise and consequently more relevant to the actual implementation of that particular phase. Vulcan, through its environmental management team, plans to continue focused environmental surveys on the initial Phase I Environmental Survey Area (receiving focused survey in 2001) and will extend those focused surveys into the remaining Phase I Environmental Survey Area. Screening

level surveys will be continued on the Phase 2-5 Environmental Survey Areas. These survey efforts will be conducted primarily in the March-May, 2002 time frame to coincide with the U.S.F.W.S. sanctioned survey protocols for Golden-cheeked warblers and Black-capped vireos as well as the optimum flowering period for the Bracted Twistflower and the Texas Mock-orange. These surveys will be conducted to confirm the survey results collected in the 2001 survey effort and to provide detailed survey data on the remainder of the Phase I Environmental Survey Area. Additional site-specific focused surveys are anticipated in the Phase 2-5 Environmental Survey Areas identified as exhibiting potential T&E or sensitive species potential habitat or sightings. Using this approach, several years of data on potential species habitat and occurrence will be available prior to initiation of subsequent Phases of the project assuring that potential habitat is identified and protected precluding the potential for "taking" threatened and/or endangered species.

Based upon the geology of the site and preliminary exploration studies performed at the site, areas within three separate but contiguous parcels could yield substantial quantities of high quality construction aggregate materials. In addition to the potential for yielding aggregate, each of these parcels includes areas that could be utilized for buffer zones, greenbelts, habitat conservation and enhancement, and potential mitigation areas. Consequently, the size of the properties involved is not simply a function of how much product they may yield, rather, the size of the properties allows for greater flexibility in the development of the environmental plans. Much of the project area will not be disturbed and will be managed to improve the habitat value in the area.

A major portion of the project site (that being the quarry area) lies over the Edwards Aquifer Recharge Zone within the rocky and hilly terrain of the Edwards Limestone (Devil's River Limestone equivalent) with the southeastern corner extending into the transition zone. The rail corridor to the south of the project area overlies Quaternary gravels and shales, stratigraphically over a thousand feet above the Edwards Aquifer, and principally across flat lying agricultural areas and mesquite pasture. Information in this report represents a comprehensive multi-phased fifty-year plan, the actual implementation of which will be based on market demands and completion of environmental surveys.

As indicated previously, this report focuses on the Phase I Environmental Survey Area. The proposed buffer areas (outlined in blue) have been established to protect drainage and riparian habitat and to provide habitat corridors through the project area to adjacent habitats. Phase I of the project would consist of construction of the Production Facility that would include establishment of the plant crushing site and the opening of quarry area #1.

The Plant maintenance facility and fuel storage area would be located off the Edwards Recharge Zone on the transition zone. Only the amount of fuel and lubricants required for short-term operations would be maintained at the site and all storage tanks and drums will be placed in secondary containment facilities in accordance with all local, state, and federal requirements. The material generated from this project would consist of crushed limestone principally for use in making readymix concrete, asphaltic paving material, and road base materials. The mining operation would involve modern blasting and conventional mining techniques. Explosive

material components (typically ammonium nitrate and diesel) used in the blasting would be brought in by outside contractors with no onsite bulk storage of explosive material. Explosives will be consumed in the detonation and any residues would be removed with the excavated limestone materials. Periodic groundwater monitoring will be conducted to assure that the shallow groundwater is not being affected by mining operations.

In April, 1999 Vulcan assembled a team of environmental experts to assess the potential environmental and cultural resources at the site, potential environmental impacts from mining operations, avoidance and mitigation plans as well as wildlife habitat improvement projects to compensate any losses. Horizon Environmental Services, Inc., of Austin, Texas, was contracted to conduct biological and threatened and endangered species surveys.

Vulcan's ultimate goal is to develop an environmentally compatible project with net improvement in the local environment. The team is to evaluate an area of over 1,720 acres as well as any potential impacts to surrounding areas. The total leased land area is far more than required for the proposed project, however, as stated earlier, having such a large tract of land allows for evaluation of alternate project features, buffer areas, mitigation areas and habitat enhancement areas. To accomplish the goal of developing a model environmental project, Vulcan proposes working closely with both the regulatory and public stakeholders.

## SETTING

The project area is located in the northeastern corner of Medina County south of Medina Lake. In the county, farming and ranching are the major enterprises with over 633,000 acres being used for cattle grazing and approximately 213,500 acres being used for crops. Farming is typically dryland with less than 32,000 acres under irrigation. Typical crops include, grain sorghums, small grains, corn, cotton, peanuts and improved pasture. Irrigated crops include vegetable and truck crops. Irrigation water is taken from deep wells in the Edwards Limestone formation or Carrizo Sands formation and also from Median Lake. Medina County has some oil and gas exploration in the southeastern part of the county but no wells are located on the project site.

The project, Environmental Survey Areas (Phases 1-5), is used primarily for cattle grazing with a few scattered agricultural fields. The proposed rail alignment has deeper soils that support more agriculture fields.

Horizon Environmental Services, Inc. biologists characterized the project area (support facilities and quarry site-Environmental Survey Areas Phases 1-5) as typical second growth South Texas rangeland vegetation on the uplands with a denser woodland component in the drainages. In the uplands, dominant canopy species include mesquite (*Prosopis glandulosa*), live oak (*Quercus fusiformis*), huisance (*Acacia farnesiana*), and coma (*Bumelia lanuginose*). Ground species include prickly pear (*Opuntia lindheimerii*), plantain (*Plantage* ssp.), bluebonnet (*Lupinus texensis*) and various wildflower species. The drainages exhibit a denser woodland component composed of Ashe juniper (*Juniperus ashei*), hackberry (*Celtis laevigata*), and live oak (*Quercus fusiformis*). Ground species include agarita (*Berberis trifoliolata*), greenbriar (*Smilax bona-nox*), devil's shoestring (*Nolina texana*), twisted-leaf yucca (*Yucca rupicola*) and various wildflowers

and forbs. The entire project area has been used primarily for cattle grazing with small areas being used for hay and other crop production.

The Creeks located on the project site flow only for a very short period after rainfall events. Surveys indicate that no standing water remains within several hours after rainfall events in the creeks on the proposed site.

**Phase I Environmental Survey Area:** The southern portion of the Phase I area includes the plant maintenance facility and fuel storage area which is predominantly cultivated area bordered to the south by rangeland. The dry creek drainage is proposed as a buffer and management area. The production facility area is dominated by upland rangeland vegetation and is bordered to the north and to the west by Creek drainage and to the south by the agricultural lands and the proposed plant maintenance facility. Both drainages are characterized by the denser woodland component. Both drainages are proposed as buffer and management areas. The initial quarry would begin in the upland area north of the Creek buffer area and would extend north into the Phase I Environmental Survey Area as reserves are mined. The entire mining area within the Phase I Environmental Survey Area is dominated by heavily grazed upland South Texas rangeland.

**Phase II Environmental Survey Area:** The Phase II project area is dominated entirely by heavily grazed South Texas upland rangeland. The area is bordered to the west by Creek Drainage and to the south by an unnamed drainage. Both drainages are proposed as buffer and management and are dominated by the denser woodland component.

**Phase III Environmental Survey Area:** The Phase III area is dominated by the heavily grazed South Texas upland rangeland. The area is bordered to the west by the Elm Creek drainage that is dominated by the denser woodland component. Several areas have, in the past been selectively cleared of woody vegetation. The Elm Creek drainage is proposed as buffer and management area.

**Phase IV Environmental Survey Area:** The Phase IV area is dominated by the dense woodland component in the northern portion. This area has several smaller drainages that merge into an unnamed tributary of Creek. This area supports a dense growth of mesquite and mature junipers and as such may offer potential management area to improve habitat for Golden Cheeked Warblers. Screening level surveys did not reveal presence of Golden Cheeked Warblers but the area has been mapped as potential habitat and as an area to receive intense survey in future survey seasons. To the south, the area is characterized by a fairly dense second growth South Texas upland rangeland vegetation. On the southern end, the area is bordered by Creek. A large area, adjacent to the Creek drainage, has been cleared for agriculture. Both drainages are proposed as buffer and management areas.

**Phase V Environmental Survey Area:** This area is dominated by South Texas upland rangeland. It is bordered on the east, west and south by unnamed drainages that are proposed as buffer management areas. The drainages do not support the density of woodland vegetation found in the other drainages.

## **GEOLOGY/SOILS**

The project is located in the north central portion of Medina County, Texas. The proposed quarry site exists within the outcrop portion of the Cretaceous Devil's River Limestone (Kdvr). This unit is equivalent to the Cretaceous Edwards Limestone (Ked) and represents only a nomenclature change and for the purposes of this report the names are used interchangeably. Like all Edwards Limestone quarries in south and central Texas, this quarry is located within the Edwards Aquifer Recharge Zone. In general, in this area, the land surface is extremely rugged with abundant rock outcroppings consisting of chert and limestone. In some areas, a thin layer of black or red clay rich soil, typically less than a foot thick, supports modest ground vegetation. In the approximate center of the proposed quarry area, alluvium is found in the Creek basin but no hydric soils have developed. The actual mineable thickness depends on a variety of factors including mine safety practices, operational and quarry design considerations, as well as the nature and level of the market demand.

Because of the limestone's physical properties (relative strength, durability, and chemistry), the Edwards Limestone has been and will undoubtedly continue to be a primary source of construction aggregate material. Limestone from the Edward's formation is used in all large and small metropolitan areas in south, central, and east Texas, including San Antonio, Austin, Houston, and to some extent, even Corpus Christi and the valley portion of Texas.

Moving immediately south of the proposed production facilities and quarry area, a major northeast / southwest trending fault exists. South of this fault line, the depth of the Edwards Limestone increases dramatically. It is reported that at a distance of approximately ½ mile south from this fault line, the Edwards Limestone is over 1,000 feet below surface.

In early August, 2001, Lynn Post, of the Medina County Natural Resources Conservation Service, stated that the only hydric soil class in the project areas (from the proposed quarry and plant site location as well as the area of the proposed rail line) would be the Tiocano series (To) that are poorly drained and found on uplands over clayey materials. This soil series was not identified on any of the proposed project areas. In general, the proposed site is dominated by the Tarrant-Rock outcrop association (TAD), Tarrant-Rock association-hilly (TAF), Real association (RED), Dina association (DNC), with small areas of Mercedes clay (McB), Tarrant and Speck soils (TeD), Topia clay (TpB). Kavett-Tarrant association (KAD) can be found in the creek beds on the project area. Divot clay loam (Dp) is not found until the creek approaches the Edwards transition zone south of the project site.

The soils found along the proposed rail alignment are predominantly characterized as the Knippa-Mercedes-Castroville association. These soils are relatively deep, nearly level to gently sloping, loamy and clayey, calcareous soils suitable for agricultural cropping. Isolated Tiocano series soils can be found in depressions and areas of poor drainage. Review of aerial photographs, topographic maps and soils maps indicate that a rail alignment can be selected that will avoid jurisdictional wetlands and any other potential sensitive habitat.

## **SITE INVESTIGATIONS**

Site visits were conducted in July, August and September (2000) as well as in April, May, June and July (2001). During these visits virtually all of the areas within the leased land boundaries were walked. The terrain can be best described a rugged to rolling hill country dominated by cedar and oak woodlands. The area has been heavily grazed. Most shrubs exhibit elevated browse lines from domestic livestock and wildlife. Aerial photographs were taken and have been used to identify potentially sensitive habitats, avoidance areas and potential areas for habitat mitigation. The maps have been ground verified during field surveys. Vulcan technical experts met with Ms. Mary Orms and Mr. Ray Brown of the U.S.F.W.S. Austin Ecological Services Office on April 16, 2001 to discuss the endangered species survey strategy. Technical Experts visited the site to map potential T&E and sensitive habitats on April 9, 2001. During the months of April and May, 2001 numerous site visits were made to survey for T&E species and sensitive species by Dr. Rogers and Horizon Environmental Services, Inc., endangered species specialists using U.S.F.W.S. sanctioned survey techniques. As discussed with the U.S.F.W.S. the project surveys focused on the Phase I area to identify potential occurrence of Golden-Cheeked Warblers and their habitat and other T&E species and habitat with screening level surveys of the remaining areas. Annual surveys are planned for the remaining project areas. Again the focus each year will be on identifying potential T&E species existence in those areas proposed for mining with screening level studies planned for potential future expansion areas. This will provide extensive survey data and opportunity to coordinate any planned construction with the U.S.F.W.S. prior to any brush removal or land disturbance. Vulcan has retained rights to significantly more land than is currently proposed for mining. This provides adequate land for an “avoidance first” approach to project planning and suitable land for mitigation of any potential T&E or sensitive species habitat.

The project description presents the maximum potential footprint of the proposed project and as such identification of final mining areas and transportation right-of-ways have not been identified. The team was able to drive the adjacent roadways and observe most of the corridors or to walk and observe other representative corridor habitat. Based on these observations and the use of U.S.G.S. 7.5 minute topographical maps and U.S.F.W.S. National Wetland Inventory Maps, we were able to characterized potential wetland areas as well as potential sensitive habitats. The status of each resource is as follows:

### **Wetlands**

The Phase 1-5 Environmental Survey areas serve as a drainage basin but in most cases do not have the soil type, hydrology or vegetation to support “jurisdictional wetlands”. The area has several drainages with narrow bands of woody vegetation. A plan is being developed to address “nonpoint source” runoff and recommendations for protecting the water quality in the Edwards Aquifer as outlined in the “U.S. Fish and Wildlife Service Recommendations for Protecting Water Quality of the Edwards Aquifer” dated June 9, 2000 as well as the restrictions imposed on

development on the recharge zone. The guidance specifies buffer zones based on drainage features and development type. The proposed buffer were developed to protect corridor vegetation and floodplain features as outlined in these determinations and requirements. Lists of hydric soils and plants from the U.S.D.A. Natural Resources Conservation Services Office located in Hondo, Texas, have been collected to support the jurisdictional wetland delineations. National Wetland Inventory maps of the project area that correspond to the U.S.G.S. 7.5 minute quadrangle maps have also been obtained to assist in the wetland delineations and identification of sensitive habitats. No “jurisdictional wetlands” were identified by Drs. Rogers and Brownlow in the Phase 1-5 Environmental Survey Areas.

The proposed rail alignment crosses deeper, gently sloping soils that can support Tiocano soils and small areas that can be characterized as “jurisdictional wetlands”. Adequate easement will be obtained to implement an “avoidance first” approach to protecting wetlands and to provide for ample land for mitigation of any unavoidable losses. In the unlikely event that “jurisdictional wetlands” cannot be avoided, Vulcan will apply for the appropriate Clean Water Act, Section 404 dredge and fill permit from the U.S. Corps of Engineers (COE) regional engineer and his staff prior to any “jurisdictional wetland” disturbance.

#### **Photograph 1: Drainage and adjacent vegetation**

**Photograph 1** shows a typical drainage and the adjacent vegetation in the Phase 1-5 Environmental Survey Areas. It should be noted that “jurisdictional wetlands” were identified, outside the proposed Phase 1-5 Environmental Survey Areas, in an area just below a point at which the proposed corridor crosses FM 2676. In the proposed rail alignment area, wetlands and jurisdictional wetlands have been identified and will be avoided in the final alignment and rail spur construction. Final wetland delineations are being confirmed with the COE regional engineer and his staff. Prior to initiation of Phase 1 activities, Vulcan will request a preconstruction conference to confirm that jurisdictional wetlands will not be impacted by the project. In the 404 permitting process, the COE requires that the wetlands be avoided if at all possible and if they cannot be avoided, the area of impact must be minimized as much as possible. In the unlikely event that these wetlands cannot be avoided, losses can be mitigated by wetland improvements in the same watershed and general area. Disturbance of jurisdictional wetlands, not related to this project, were evident in areas adjacent to the project area near FM 2676. By carefully selecting the rail alignment, these wetlands can be avoided entirely.

In meetings with Vulcan technical and design staff, project alterations and realignments were identified that resulted in complete avoidance of wetland areas in the Phase 1-5 Environmental Survey Areas as well as along potential rail alignments.

Any small unavoidable disturbances will be identified and through coordination with the U.S. C.O.E. will be addressed by agreed upon mitigation through wetland habitat improvement on and off the project site. A “wetland” awareness stimulated by the project could actually raise awareness of wetland values in the area and reduce the observed disturbances, unrelated to this project, in the wetland areas outside the project boundaries.

**Federal Threatened and Endangered Species (U.S.F.W.S. Listing)**

On June 15, 2000 the U.S.F.W.S. Austin Ecological Services Office provided Vulcan Materials, LP with a letter outlining potential T&E and other environmental considerations to be considered in the development of the Medina County Limestone Project. Vulcan had already initiated studies to address most of these concerns and reviewed its investigation approach to assure that all of the U.S.F.W.S concerns were being addressed. On June 4, 2001, Vulcan requested an updated species listing and requested initiation of informal consultation. On July 19, 2001 the U.S.F.W.S provided an updated species listing. A similar request was made for an updated species listing from the Texas Natural Resources Conservation Commission (TNRCC) Diversity Program. On July 30, 2001 the TNRCC provided a listing of state T&E as well as other species of concern. This "Biological Assessment" and project description has been prepared to fulfill the early consultation requirements for both agencies. Due to the phased approach to this project, it is anticipated that annual surveys and updates will be required and that the coordination and consultation process will be required as each phase is developed. It is anticipated that the project will fall under Section 7 of the Endangered Species Act due to required federal permits. While this is not a federal project, the federal agencies, such as the U.S. C.O.E will consider the issuance of permits, such as point and nonpoint discharge permits, as federal actions. Regardless of federal activity, Vulcan acknowledges that a Section 10 permit and the associated consultations would be required if "take" of a listed species is expected. "Take" is defined as to, "harass, harm, pursue, hunt, shoot, wound, kill, capture or collect, or to attempt to engage in any such conduct". It is Vulcan's intent to develop a project "not likely to jeopardize" listed threatened or endangered species and other sensitive species and habitats.

**The FWS July 30, 2001 species listing identified the following species as potentially occurring in the project area:**

**Medina County Vertebrate Species-** Two listed endangered birds are known to occur in Medina County and one is proposed for listing as follows:

Black-capped Vireo	<i>Vireo atricapillus</i>	E
Golden-cheeked Warbler	<i>Dendroica chrysoparia</i>	E
Mountain Plover (concern)	<i>Charadrius montanus</i>	

**Karst and Cave Invertebrates-** The following listed species have a high probability of occurring in Karst terrain (limestone formations containing caves, sinks or fissures):

Madla's Cave Meshweaver	<i>Cicurina madla</i>	E
Robber Baron Cave Meshweaver	<i>Cicurina baroni</i>	E
Braken Bat Cave Meshweaver	<i>Cicurina venii</i>	E
Government Canyon Bat Cave Meshweaver	<i>Cicurina vespera</i>	E
Government Canyon Bat Cave Spider	<i>Neoleptoneta microps</i>	E
Cokendolpher Cave Harvestman	<i>Texella cokendolperi</i>	E
Ground Beetle (no common name)	<i>Rhadine exilis</i>	E
Ground Beetle (no common name)	<i>Rhadine infernalis</i>	E
Helotes Mold Beetle	<i>Batrissodes venyivi</i>	E

**Edwards Aquifer (San Marcos and Comal springs) Species**-The following springs and species are affected by water withdrawals from the Edward Aquifer and the resulting dewatering of the springs.

Comal Springs Riffle Beetle	<i>Heterelmis comalensis</i>	E
Comal Springs Dryopid Beetle	<i>Stygoparnus comalensis</i>	E
Fountain Darter	<i>Etheostoma fonticola</i>	E
Peck's Cave Amphipod	<i>Stygobromus (=Stygonectes) pecki</i>	E
San Marcos Gambusia	<i>Gambusia georgei</i>	E
Texas Wild-rice	<i>Zizania texana</i>	E
Texas Blind Salamander	<i>Typhlomoge rathbun</i>	E
San Marcos Salamander	<i>Eurycea nana</i>	T

**TNRCC Species Listing**

**The July 30, 2001 TNRCC species listing identified the following listed Threatened, Endangered and Species of Concern, as potentially occurring in Median County:**

**Vertebrates**

Edwards Plateau Spring Salamanders	<i>Eurycea sp</i>	
Valdina Farms Sinkhole Salamander	<i>Eurycea troglodytes</i>	
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	E
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	T
Black-capped Vireo*	<i>Vireo atricapillus</i>	E
Golden-cheeked Warbler*	<i>Dendroica chrysoparia</i>	E
Henslow's Sparrow	<i>Ammodramus henslowii</i>	
Zone-tailed Hawk	<i>Buteo albonotatus</i>	T
Frio Pocket Gopher	<i>Geomys texensis bakeri</i>	
Keeled Earless Lizard	<i>Holbrookia propinqua</i>	
Spot-tailed earless Lizard	<i>Holbrookia lacerata</i>	
Texas Garter Snake	<i>Thamnophis sirtalis annectens</i>	
Texas Horned Lizard	<i>Phrynosoma cornutum</i>	T
Texas Tortoise	<i>Gopherus berlandieri</i>	T

**Plants**

Bracted Twistflower	<i>Streptanthus bracteatus</i>	
Texas Mock-orange	<i>Philadelphus texensis</i>	
Sandhill Woollywhite	<i>Hymenopappus carrizoanus</i>	

\* Listing is duplicated in U.S.F.W.S. list  
 ("blank" –rare but with no regulatory status)  
 T-U.S.F.W.S Listed Threatened  
 E-U.S.F.W.S Listed Endangered

**Assessment Federal Threatened and Endangered Species (U.S.F.W.S. Listing**

The following assessment focuses on the Phase I Environmental Survey Area. Discussion is also included on the screening level surveys and observations on the Phase 2-5 areas and the general area of potential rail alignment. These areas will be evaluated in detail prior to any activity in those areas. Baseline data has already been collected for these areas and will continue to be collected throughout the projected life of the project.

### **Medina County Vertebrate Species (U.S.F.W.S. Listing)**

**Black-capped Vireo (*Vireo atricapillus*)**-Black-capped Vireo habitat does not occur in the Phase 1 and Phase 2-5 Environmental Survey Areas. The species is found in oak-juniper woodlands with a distinctive patchy, two-layered aspect, which consists of a shrub and tree layer with open grassy spaces. They require foliage reaching to ground level for nesting cover, and have been known to return to the same general area year after year. They feed on insects that thrive on deciduous and broad-leaved shrubs. Within the Phase 1-5 Environmental Survey Areas the vegetative mix, intense livestock and wildlife grazing of the 2-4 foot high shrubs has all but eliminated any suitable nesting habitat (See Photograph 2).

#### **Photograph 2: Typical habitat resulting from extensive livestock and wildlife grazing.**

Some potential marginal habitat exists for Golden-Cheeked Warblers along the drainage ways but the density of juniper (cedars) limits the habitat value to Black-capped Vireo. Juniper removal, typically a recommended management option to improve the vireo habitat, would compromise the Golden-cheeked Warbler habitat. The area, as it exists today, has little, if any, habitat value for Black-capped Vireos. The buffer areas proposed for the project, if managed properly, could provide improved habitat and potential sanctuary nesting areas for Golden-cheeked Warblers but it is unlikely that any actions taken in this project would have either a positive or negative impact on Black-capped Vireos. Detailed surveys in the Phase I Environmental Survey Area and screening surveys of the Phase 2-5 Environmental Survey Areas were conducted in April and May, 2001, to confirm the habitat evaluation and did not reveal any vireo sightings or calls. If, during subsequent surveys, it is determined that there is some potential for vireo habitat, the habitat can be protected and avoided by establishing protective buffer and management areas. Based on previous assessments conducted by Dr. Loren Smith on Fort Hood, the birds seem quite tolerant of military activities and vehicle movement. Dr. Smith, working with the U.S.F.W.S. and TNRCC will provide management recommendations for the project.

Aerial photographs have been used to map the general area of potential rail spur alignments but these will need to be ground truthed in Phase 2 once access has been obtained. As discussed above, the rail alignment habitat is markedly different from that found in the Phase 1-5 Environmental Survey Areas. The area is dominated by deeper soils which support more intense agricultural. Any areas offering potential vireo habitat, if found, can be avoided and managed to improve habitat quality.

**Golden-cheeked Warbler (*Dendroica chrysoparia*)**-The Golden-cheeked Warbler habitat is also limited because of past land practices. The warbler does, however, depend upon Ashe juniper/hardwood cover along steep slopes and canyons. They use long fine bark strips from the mature Ashe juniper trees as nesting material, so this species must have mature juniper trees in an area where it lives. Mature Ashe juniper and hardwoods areas have been identified and are found primarily in those areas proposed as buffer areas. Aerial photographs have been used to prepare “overlays” of the project site to determine areas of potential impact and suitable buffer zones. A 200’ buffer zone along each side of the drainages has been proposed for the project. Detailed surveys of the Phase I Environmental Survey Area and screening surveys of the Phase 2-5 Environmental Survey Areas were conducted in April and May, 2001 by Horizon Environmental Services, Inc., and endangered species specialists of the Technical Team. No warblers were observed or calls heard.

Vulcan’s technical team met with Ms. Mary Orms and Mr. Ray Brown of the U.S.F.W.S. Austin Ecological Services Office on April 16, 2001 to discuss the endangered species survey strategy. Technical experts visited the site to map potential T&E and sensitive habitats on April 9, 2001. During the months of April and May 2001 numerous site visits were made to survey for T&E species and sensitive species by Dr. Rogers and Horizon Environmental Services, Inc., endangered species specialists. The Phase 1 Environmental Survey Area was visited on April 9, April 16, April 24, April 29, May 4, May 9 and May 14, 2001. A total of over 64 hours of survey time was spent in the Phase 1 Environmental Survey Area. Numerous additional hours were spent in screening level surveys and in delineation of habitat and potential habitat on the entire Phase 1-5 Environmental Survey Areas. Technical experts will review the proposed project features and habitat maps and will provide recommendations of areas to be avoided and potential enhancement practices. In summary, while several small areas of potential habitat exist in the over-all project area (Environmental Survey Areas 1-5), the habitat value is significantly reduced due to livestock and wildlife grazing. Aerial photographs were used to map the proposed rail corridor but these will need to be ground truthed in Phase 2 once access has been obtained. The rail alignment habitat is markedly different from that found in the Phase 1-5 Environmental Survey Areas. The general rail spur area is dominated deeper soils that support more intense agricultural and little if any potential Golden-cheeked Warbler habitat.

### **Karst and Cave Invertebrates**

The entire range of the above listed Karst species occurs in north and/or northwest Bexar County. The species and their habitat may be threatened by destruction of habitat by construction, filling of caves, increase in impervious cover, potential contamination from septic tank effluent, sewer leaks, runoff, pesticides and competition with nonnative fire ants and vandalism. Guidelines for determining whether or not a project or activity is likely to result in the take of these invertebrates is based on review of Karst zone maps prepared by George Veni (1994). In addition, James Cokendolpher is gathering published reports by George Veni and William R. Elliot including “Caves and Karsts of Texas” for further review. Veni defines five Karst zones that reflect the likelihood of finding Karst features that may provide habitat for the above listed species as follows:

Zone 1 – Areas known to contain the proposed endemic Karst invertebrates.

Zone 2 – Areas having high probability of suitable habitat for proposed or other endemic Karst invertebrates.

Zone 3 – Areas that probably do not contain proposed endemic Karst invertebrates.

Zone 4 – Areas that require further research but are generally equivalent to zone 3, although they may include sections that could be classified as zone 2 or zone 5.

Zone 5 – Areas that do not contain proposed or endemic Karst invertebrates.

A review of Veni's maps, indicate that the proposed project site is outside the mapped area. As such, the area does not have a classification. The team is currently obtaining more recent information from Veni that will support a classification of the project site. Several of the most recent reports have not yet been released. Vulcan's technical team is currently collecting this information and will also discuss the project location and features with Veni. Vulcan's technical experts walked the entire Phase 1-5 Environmental Survey Areas and did not find any inclusions, caves, sinks or fissures that would harbor the above referenced species. While these areas have Karst formations, they do not support the cave and fissure habitat similar to that found in Bexar County. Discussions with James Cokendolpher, confirms that due to the lack of these features there is little potential that listed Karst invertebrates exist in the area. Several faults and inclusion/caves exist on property adjacent to the proposed project site. The sites are approximately one mile from the proposed project site boundary and topographically up-stream of all project phases. Since the inclusions are upstream, there is no potential that surface flows can be altered by project activities subjecting the inclusions and the karst flora and fauna to flooding. Discussions with Vulcan engineers indicate that use of modern blasting technology virtually precludes potential for impact from blasting and quarry operations on these adjacent fissures and inclusions. Due to the proximity of the sites and the extent of the buffer area, it is unlikely that the proposed project will affect the above listed species. Vulcan is currently attempting to gain access to the inclusions on the adjacent property so that they can be monitored and protected to assure that any project related activities do not affect the integrity of the inclusions. James Cokendolpher has included Medina County on his collecting and survey permit in the event that surveys are required.

Vulcan proposes that during operations the identified features would be monitored for potential impact from its mining operations. Considering the distance of the inclusions from the blasting activities and the use of modern blasting technology, from an engineering and physics standpoint, it is unlikely that blasting would impact the inclusions or resident flora or fauna.

### **Edwards Aquifer (San Marcos and Comal Springs) Species (U.S.F.W.S. Listing)**

In addressing potential impacts on these species, one must address the variety of mechanisms that support the quantity and quality of water coming from the Comal and San Marcos springs. Species within areas downstream of these springs can be impacted by the reduction in spring

flows as a result of heavy pumping of water from the Edward Aquifer during times of drought or other critical periods. Medina County, like many of the counties to its east and west (including Bexar County), relies almost exclusively on water pumped from the Edwards Aquifer. Any Edwards Aquifer water utilized in this project would be regulated by permit from the Edwards Aquifer Authority (EAA). The EAA's function is to oversee the protection, conservation, and utilization of the aquifer water and as a result, reduce the potential for negative impacts on the springs. As a result, Vulcan can only utilize that amount of Edwards Aquifer water that complies with the EAA's rules. Other potential sources of water for this project include surface water piped to the project site from the Medina Lake Irrigation Canal, the use of which could lessen the demand on the Edwards Aquifer.

The amount of water utilized in the project will be a function of the market demand and the resultant volume of material sold from the operations. Included within this estimate is Vulcan's utilization of extensive water re-use equipment and technology. In 2000, Vulcan Material's received an award for "Outstanding Water Saver of the Year – Big Business Category" from the San Antonio Water Systems, for using water re-use technology in its Bexar County quarry operations. Vulcan is the only aggregate producer in the area to utilize this water saving approach. Implementation of this technology resulted in Vulcan recovering as much as 75% of the water they would have otherwise lost. The same technology is planned for this project. Therefore, regarding Vulcan's potential use of water (pumpage) from the Edwards Aquifer, no impact on the species in the Comal and San Marcos springs would occur as a result of this operation.

Although the proposed project will utilize water in a variety of ways for the production of the materials (for dust suppression, material washing, etc.), the overall impact on water levels within the Edwards Aquifer could actually be improved as a result of this quarry operation. This could occur by potentially increasing the recharge to the aquifer via the quarry, which in turn could potentially benefit the springs. In fact, a variety of recharge enhancement projects could be evaluated which would conceivably allow water from Creek during heavy flood periods and at various flood stages to be directed into the quarry for direct recharge into the aquifer. An additional benefit in such a conceptual design would be to potentially lessen the economic losses resulting from downstream flood damage that has historically occurred during heavy rain events. The drainage basin for creeks are sparsely populated and undeveloped rural ranch land that could contribute high quality recharge water to the recharge zone. However, any efforts to enhance recharge in the quarries to improve recharge and potential T&E spring habitat will be pursued only with the involvement and cooperation of the EAA, the F.W.S., and the TNRCC.

Through extensive field observations and consultation with landowners, no sensitive recharge features have been identified in any of the five (5) Environmental Survey Areas on any of the other parts of the project site. As a result, there is no potential harm to the recharge effectiveness to the aquifer as a result of potential destruction of sensitive features, and consequently there should be no impact on the species within the Comal and San Marcos springs.

Regarding water quality, by design, the primary quarry locations exist in the topographically higher elevations of the project site. Because of this, only minor run-off water and water from

direct rainfall will enter the quarry locations (apart from any separately designed and approved aquifer recharge project). The only potential aquifer contaminant existing in the quarry operations is the relatively small amount of diesel fuel housed within the fuel tanks on the motorized heavy equipment. All major fuel storage areas are located outside of the quarry area in well regulated and controlled secondary fuel containment facilities. In the unlikely event of an accident resulting in a ruptured fuel tank on a piece of heavy equipment within the quarry operations, emergency spill clean up kits would be utilized to reduce any potential harm to the aquifer.

Quarry operations do involve the use of explosives. These explosives are a mixture of ammonium nitrate and diesel along with blasting caps. These components are brought into the quarry area and mixed together during placement within the shot holes. Upon detonation, these components are consumed during the explosion. Any trace and or minor residual components remaining from the explosion will be adhered to the broken aggregate that is transported out of the quarry. Using these practices and by exercising prudent mining approaches, including extensive environmental and safety awareness programs, it is unlikely that the proposed operations would have any negative impact on the Edwards Aquifer water quality and consequently any potential negative impact on the identified species in Comal and San Marcos springs. The project could have a small positive impact on the springs if recharge features are developed that could improve flow in the springs during critical periods.

#### **Assessment Federal Threatened and Endangered Species (TNRCC Listing)**

##### **Medina County Vertebrate Species (TNRCC Listing)**

**Edwards Plateau Spring Salamander (*Eurycea sp*)-** These are a troglobitic species which live in springs, seeps, cave streams, and creek headwaters. They often hide under rocks and leaves and are found in the Edwards Plateau area from near Austin to Val Verde County. A complete survey of the Phase 1-5 Environmental Survey Areas did not reveal any permanent or semi-permanent springs, seeps or other suitable habitat. The deeper soils, found within the general area of the potential rail alignment, do not provide Karst features suitable for this species. In addition, the project is setting aside the Creek drainages as buffer areas. The project is unlikely to have either a positive or negative effect on the species.

**Valdina Farms Sinkhole Salamander (*Eurycea troglodytes*)-** This is an isolated species, found in intermittent pools of a subterranean stream, which is located in Medina County. Valdina Farms is located at 29°29'39"N 99°22'49"W; at an elevation of 1,167 feet in the northwestern part on Medina County near the Uvalde County line. The Valdina Farms is topographically upgradient and not within the project area. The project is unlikely to have either a positive or negative effect on the species.

**American Peregrine Falcon (*Falco peregrinus anatum*)-** This raptor is generally not found in the proposed project area, but it is a potential migrant. The species nests in Tans Pecos area of Texas. The project buffer areas and improved habitat in those areas could have some limited

value to migrating Peregrine Falcons. However, the project is not expected to have either significant positive or negative affect on the species.

**Arctic Peregrine Falcon (*Falco peregrinus tundrius*)-** This bird is also a potential migrant, and all Peregrine Falcons should be treated as federally listed endangered species. The project buffer areas and improved habitat in those areas could have some limited value to migrating Arctic Peregrine Falcons. However, the project is not expected to have either significant positive or negative affect on the species.

**Black-capped Vireo (*Vireo atricapillus*)-** See above discussion (FWS Listing).

**Golden-cheeked Warbler (*Dendroica chrysoparia*)-** See above discussion (FWS Listing).

**Henslow's Sparrow (*Ammodramus henslowii*)-** These are wintering individuals usually found in weedy fields or cutover areas where bunch grasses occur along with vines and brambles. They must have bare ground for walking or running. There have been a few records within Medina county but it is unlikely to be found in the project area. The proposed quarry (Phase 1-5 Environmental Survey Areas) would be located in areas adjacent to the drainage basins but would not significantly disturb potent habitat for this species. It is thought that the establishment of the buffer zones and continuous corridors could slightly benefit this species by providing continuous margins of habitat that could allow establishment of some vine/bramble habitat. Removal of grazing and/or controlled grazing would also benefit the species. The habitat found in the general area of the potential rail spur alignments could provide potential habitat, however, heavy livestock grazing and intense agriculture limit the habitat value in most areas. Management of the rail spur corridors could provide improved habitat for this species.

**Zone-tailed Hawk (*Buteo albonotatus*)-** This species is found in arid-open country, including open deciduous or pine-oak woodland, mesa or mountain country and is unlikely to be found in the project area. They are often found near watercourses and wooded canyons or tree-lined rivers along middle slopes of desert mountains. They nest in a wide variety of habitat ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions. The proposed project corridors and buffer zones would provide improved habitat for this species. Controlled grazing would have a significant positive affect on the more arid high rangeland in the areas found in the Phase 1-5 Environmental Survey Areas. The project, once the habitat improvements are implemented, could have a net positive affect on the species in this area. It is unlikely that the rail spur corridor and management would have a significant negative or positive effect on this species. Management of the corridor could slightly improve habitat for prey species used by this raptor.

**Frio Pocket Gopher (*Geomys texensis bakeri*)-** These mammals are associated with nearly level Atco (AtA, AtB) soil. Atco soil is well drained and consists of sandy surface layers with loam extending to as deep as two meters. Atco soils are not found within the Phase 1-5 Environmental Survey Areas. A review of the soil maps of the general area of potential rail spur alignments also did not indicate the presence of Atco soils. Adequate soil type does not exist

within the project boundaries to support this species. It is unlikely that the project could have a negative or positive affect on the species.

**Keeled Earless Lizard (*Holbrookia propinqua*)-** This species is found in coastal dunes, barrier islands, and other sandy areas. They prefer to live in dry sandy places. They eat insects and small invertebrates, and lay their eggs underground March-September. Sandy, dune-forming soils are not found in the project area. It is unlikely the species could be found in the area and as such it is unlikely that the project will have a positive or negative affect on the species.

**Spot-tailed Earless Lizard (*Holbrookia lacerata*)-** This species is found in central and southern Texas and Adjacent Mexico in oak-juniper woodlands with prickly pear associations. The lizards prefer rocky desert flats, areas with sparse vegetation or mesquite-prickly pear associations, and the uplands of the Edwards Plateau. They lay their eggs underground and eat small invertebrates. The range maps prepared by the University of Texas College of Natural Sciences and Texas Memorial Museum do not show Medina County as having reported sightings. The habitat found the project area does not offer the open dry habitat preferred by the species. It is unlikely the species could be found in the area and as such there is virtually no significant negative affect on the species.

**Texas Garter Snake (*Thamnophis sirtalis annectens*)-** This species is usually found in wet or moist microhabitats, but it is not restricted to them. They hibernate underground or under surface cover and breed March-August. Due to the lack of moist habitats the species is not expected to be found at the site. However, establishment of the buffer areas would protect any potential habitat and result in a slight improvement for the species.

**Texas Horned Lizard (*Phrynosoma cornutum*)-** This species is found in open arid and semi arid regions with sparse vegetation including grass, cactus, scattered brush, or scrubby trees. Soil varies from sandy to rocky. Prefers warm sandy, arid environments and is typically found in flat, open areas with little vegetation. They burrow into the soil, enter rodent burrows, or hide under rocks when inactive. They breed from March-September. Originally the species was seen throughout the state but numbers dropped dramatically. Declines have been attributed to a variety of causes including; insecticides use, fire ants and habitat alteration. Today they are only seen in the western third of the state. The site offers marginal habitat for the species that would be disturbed by quarry operations. However, management of the buffer areas and protection from pesticide use could slightly improve the habitat for this species.

**Texas Tortoise (*Gopherus berlandieri*)-** Found in open brush areas with a grass understory. Open grass and bare ground are avoided by this species. When they are inactive, they occupy shallow depressions at base of brush or cactus, sometimes in underground burrows, or under objects. They usually live longer than 50 years. They are active March-November and breed April-November. The species depends on sandy soils for burrowing which are not found in the project area. It is unlikely that this species occurs in the project area.

#### **Medina County Plant Species (TNRCC Listing)**

**Bracted twistflower (*Streptanthus bracteatus*)-** Usually occurring in shallow clay soils over limestone, mostly on rocky slopes and in openings in juniper-oak woodlands. This plant flowers April-May. The species has been reported in other parts of Medina County coincidental to Golden-cheeked Warbler surveys. Survey periods for Golden-cheeked warblers coincide with the optimum flowering of this plant and none were observed in the April-May 2001 surveys in the Phase I-5 Environmental survey Areas. Clay soils are limited on the project site; however, the rocky slopes are found within the buffer areas that can be managed to optimize species diversity. The project has the potential to improve habitat conditions by reducing grazing in potential habitat. The species will be added to the annual April-May warbler surveys to identify any populations that can then be protected.

**Texas Mock-orange (*Philadelphus texensis*)-** This plant is found in limestone cliffs and boulders in mesic stream bottoms and canyons. This plant is usually found in shade of mostly deciduous sloped forest and flowers April-May. Mesic stream bottom habitat is limited in the project areas but there is a potential for the habitat within the buffer areas that will be managed to optimize species diversity. The project has the potential to improve habitat conditions by reducing grazing in potential habitat. The species will be added to the annual vireo and warbler surveys to identify any populations that can then be protected.

**Sandhill Woollywhite (*Hymenopappus carrizoanus*)-** This plant is found in open areas in deep sands derived from Carrizo and similar Eocene formations, including disturbed areas. It flowers late spring-fall. Deep sandy soils are not found in the project areas so it is unlikely that the species would be found in the area. The project is unlikely to have either a positive or negative affect on the species.

#### **Antiquities-Texas State Historical Preservation Officer**

**Antiquities-**Based on a records review, there are no registered cultural sites on the project area. Based on field visits, there is little likelihood that any major sites exist on the property. A 100% survey will be needed once access is obtained. Only small hunting sites are anticipated and there is little potential for large sites due to the historic lack of water in the area. Also, the shallow soils in the Phase 1-5 Environmental Survey Areas preclude the potential for significant buried cultural sites. Deeper soils exist in the general area of the potential rail spur alignment; however, agricultural tilling has disturbed much of the area. If sites are located they will be avoided if possible. If avoidance is not possible the sites will be documented and recovered artifacts will be documented and archived. Arrangements are also being made for one hundred percent surveys and for archival of any recovered artifacts. Once the rail alignments have been finalized and access agreements are obtained, a notification letter will be prepared for the State Historical Preservation Office describing the project, survey methods, notification protocol in the effect significant sites or resources are identified and archival arrangements.

#### **SUMMARY OF PROJECT AND POTENTIAL IMPACTS ON PROTECTED SPECIES**

## **Project Construction**

Due to the long-term nature of the project, Vulcan proposes using a phased approach in developing the proposed quarry and processing facilities. The goal will be to develop an environmentally sustainable project that either does no harm or may actually improve over-all habitat and species diversity in the area. Vulcan has briefed the Edwards Aquifer Authority staff on this project and the potential viability of it eventually becoming a substantial recharge feature to the Edwards Aquifer. The EAA Staff and General Manager's only expressed concerns have focused on Vulcan's need to incorporate adequate protections against the potential for fuel spills over the recharge zone. Vulcan's approach will meet and or exceed all local, state, and federal regulations regarding the containment and protection of fuel supplies for the quarry and plant operations. All major fuel supplies for plant operations are to be located within secondary containment facilities constructed outside of the recharge zone and on the transition zone that lies to the south of the site.

One species, the Golden-cheeked Warbler, has recently been found in a variety of habitats, other than Ashe juniper/hardwood, so the U.S.F.W.S. does not currently allow the use of habitat surveys to determine presence of the species in a proposed disturbance area. Vulcan, through its consultants, have completed surveys on land which would be partially disturbed during the first year of the Phase I construction. The project would involve the establishment of a plant maintenance facility that would require previously farmed land that lies on the transition zone. All fuel facilities would be constructed with secondary containment meeting all Edwards Aquifer protection requirements. The production facility would require land that borders a Creek. A portion of this land was previously cleared for pasture by the landowner in excess of 20 years ago. All of the land within the proposed project site has been heavily grazed by domestic stock and wildlife. A 400' corridor has been set aside as a buffer zone/wildlife corridor. The corridor extends completely through the project site, offering both a north-south and east-west corridor. Extensive, U.S.F.W.S. sanctioned, Golden-cheeked Warbler surveys were conducted in the Phase I Environmental Survey Area. No warblers or calls were observed. While more than one years worth of survey data are desirable, Vulcan has voluntarily established corridors and buffer zones in those areas that could potentially be used as warbler habitat. By protecting these areas, Vulcan has assured that there is no potential to disturb potential habitat and to "take" the species. Annual surveys are proposed to determine if any warblers are present and if so to establish a population baseline. The project goal would be to improve habitat so that habitat for the warbler and other species of concern would be improved. Vulcan proposes that a "Phased Biological Assessment" be prepared based on the annual surveys and cumulative data collected in the screening level and site-specific surveys. Prior to any brush clearing or earth disturbing activities, U.S.F.W.S. sanctioned surveys will be completed and a full "Biological Assessment" be prepared. The Site Environmental Management Plan will be updated reflecting the U.S.F.W.S. and TNRCC recommendations as well as those of the Vulcan environmental management team.

A roadway will be required across the buffer corridor; however, the roadway is not expected to significantly impact the effectiveness of the corridor. The roadway will cross the corridor at a location selected by the planning and environmental management team as approved by the

U.S.F.W.S. and the TNRCC. It is estimated that the roadway would require less than 8,000 square feet. It should be noted that only a fraction of the Phase I area would be disturbed in the first year of operation. It is anticipated that the Phase I Areas would provide many years of quarrying operations before there would be a need to extend into the identified Phase II Environmental Survey Area. By conducting annual surveys well ahead of planned mining activities, Vulcan can identify potential sensitive habitat and species and avoid those areas. The areas would then be incorporated into the Site Environmental Management Plan.

### **Project Operation**

The mining operation would consist of breaking the in-place limestone using engineered blasting. The broken limestone would then be removed by heavy equipment and transported to the Production Facility for crushing, segregation, washing, and transport preparation. Prior to the project start-up, discussions with appropriate county and state officials regarding routes and necessary road improvements will be held. Following these meetings, a transportation plan, defining precise routes, will be implemented. Within the mining operation, a variety of dust abatement techniques will be used during the mining and rock handling activities. Many of the elements within the crushing and screening circuits are wet systems and produce little dust. Water trucks will be used to spray quarry roads to reduce dust within the quarry. If nesting warblers, or other sensitive species, are identified mining activities can be modified to avoid disturbing those species.

Vulcan proposes that during operations, adjacent property karst inclusions be monitored for potential impact from its mining operations. Considering the distance of the inclusions from the blasting activities and the use of modern blasting technology, from an engineering and physics standpoint, it is unlikely that blasting would impact the inclusions or resident flora or fauna.

Vulcan, proposes to add two Texas listed species to the annual surveys, the Bracted Twistflower and the Texas Mock-orange. The project management, including managed grazing and the establishment of buffer zones should improve the habitat for these species. Baseline surveys will be conducted to monitor any improvements in population status and to identify additional management areas to be included in the site Environmental Management Plan.

Explosive material components (typically ammonium nitrate and diesel) used in the blasting would be brought in by outside contractors with no onsite bulk storage of explosive material. Explosives will be consumed in the detonation and any residues would be removed with the excavated limestone materials. Periodic groundwater monitoring will be conducted to assure that the shallow groundwater, and subsequently the Edwards Aquifer and any protected Edwards Aquifer species, would not be affected by mining operations.

### **Scheduled Continuing Surveys**

Vulcan, through its environmental management team, will continue focused environmental surveys on the initial Phase I Environmental Survey Area (receiving focused survey in 2001) and will extend those focused surveys into the remaining Phase I Environmental Survey Area.

Screening level surveys will be continued on the Phase 2-5 Environmental Survey Areas. These survey efforts will be conducted primarily in the March-May, 2002 time frame to coincide with the U.S.F.W.S. sanctioned survey protocols for Golden-cheeked warblers and Black-capped vireos as well as the optimum flowering period for the Bracted Twistflower and the Texas Mock-orange. These surveys will be conducted to confirm the survey results collected in the 2001 survey effort and to provide detailed survey data on the remainder of the Phase I Environmental Survey Area. Additional site-specific focused surveys are anticipated in the Phase 2-5 Environmental Survey Areas identified as exhibiting potential T&E or sensitive species potential habitat or sightings. Using this approach, Vulcan will collect several years of survey data as well U.S.F.W.S. and TNRCC concurrence on management options on all areas prior to disturbance of any potential T&E and sensitive species habitat.

Vulcan proposes a close working relationship with the U.S.F.W.S. and the TNRCC in developing a Site Environmental Management Plan that demonstrates that wildlife diversity in the area can be maintained and even improved through responsible mining practices, planning, avoidance and management of sensitive habitats. Through this cooperative effort Vulcan envisions a showcase project demonstrating techniques that provide needed aggregate resources but at the same time protect potential endangered species habitat and species. Based on the above findings, cooperation of the U.S.F.W.S. and TNRCC, Vulcan is committed to including avoidance measures and management features into the project design to assure that the project is “unlikely to affect” federal or state threatened, endangered or sensitive species or their habitat.

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April 30, 2003

**VIA HAND DELIVERY**

Ms. Rini Ghosh  
Section of Environmental Analysis  
Surface Transportation Board  
1925 K Street, N.W.  
Washington, DC 20402-0001

**Re: Finance Docket No. 34284 -- Southwest Gulf Railroad Company --  
Petition for Exemption from 49 U.S.C. § 10901 to Construct and  
Operate a Rail Line In Medina County, Texas**

Dear Ms. Ghosh:

Enclosed please find the non-confidential figures and photographs that accompany the Biological Assessment forwarded to you previously. Please let me know if you have any questions.

Sincerely,



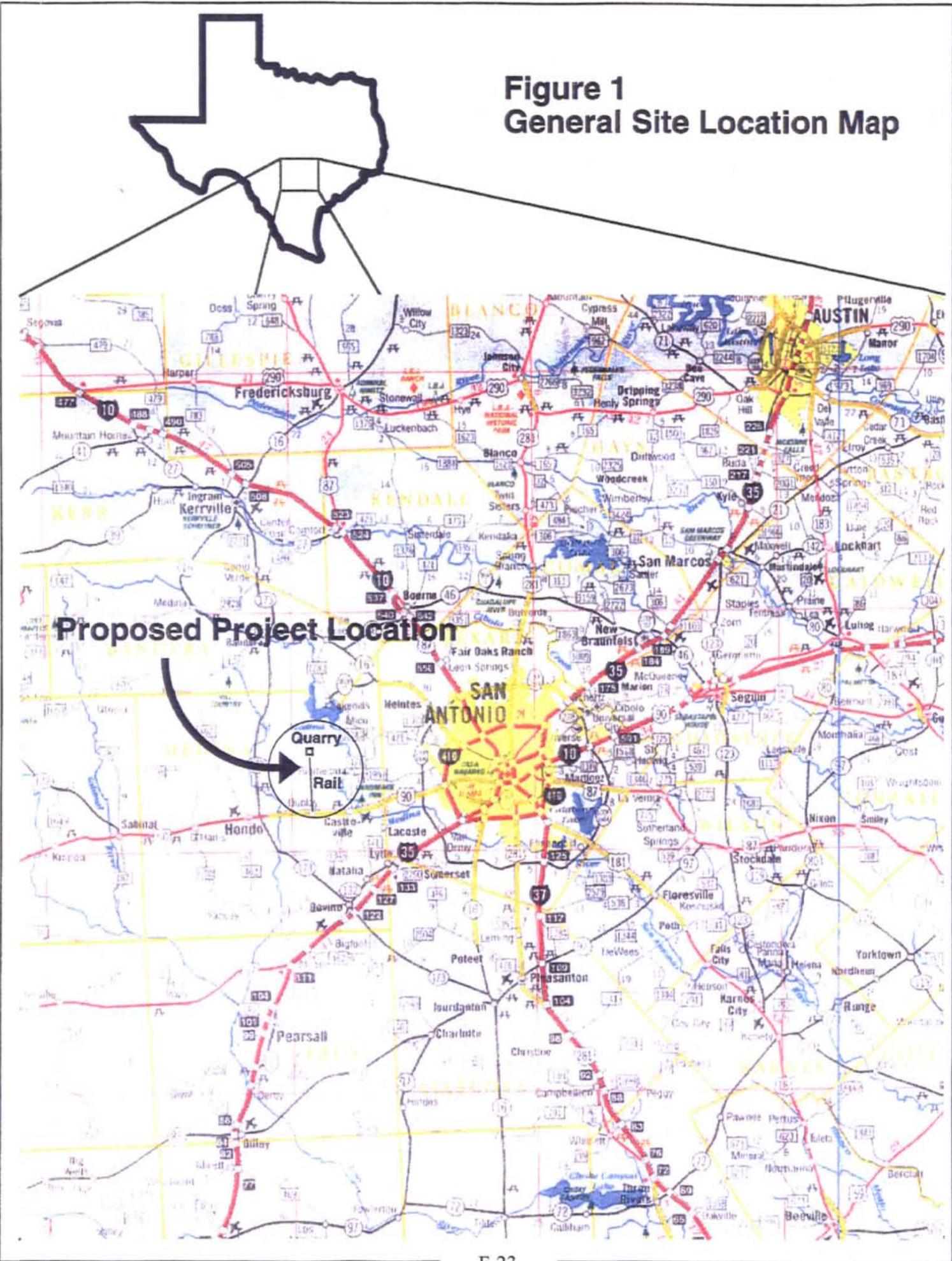
David H. Coburn  
Attorney for Southwest Gulf Railroad  
Company

Enclosure

cc: Jaya Zyman-Ponebshek

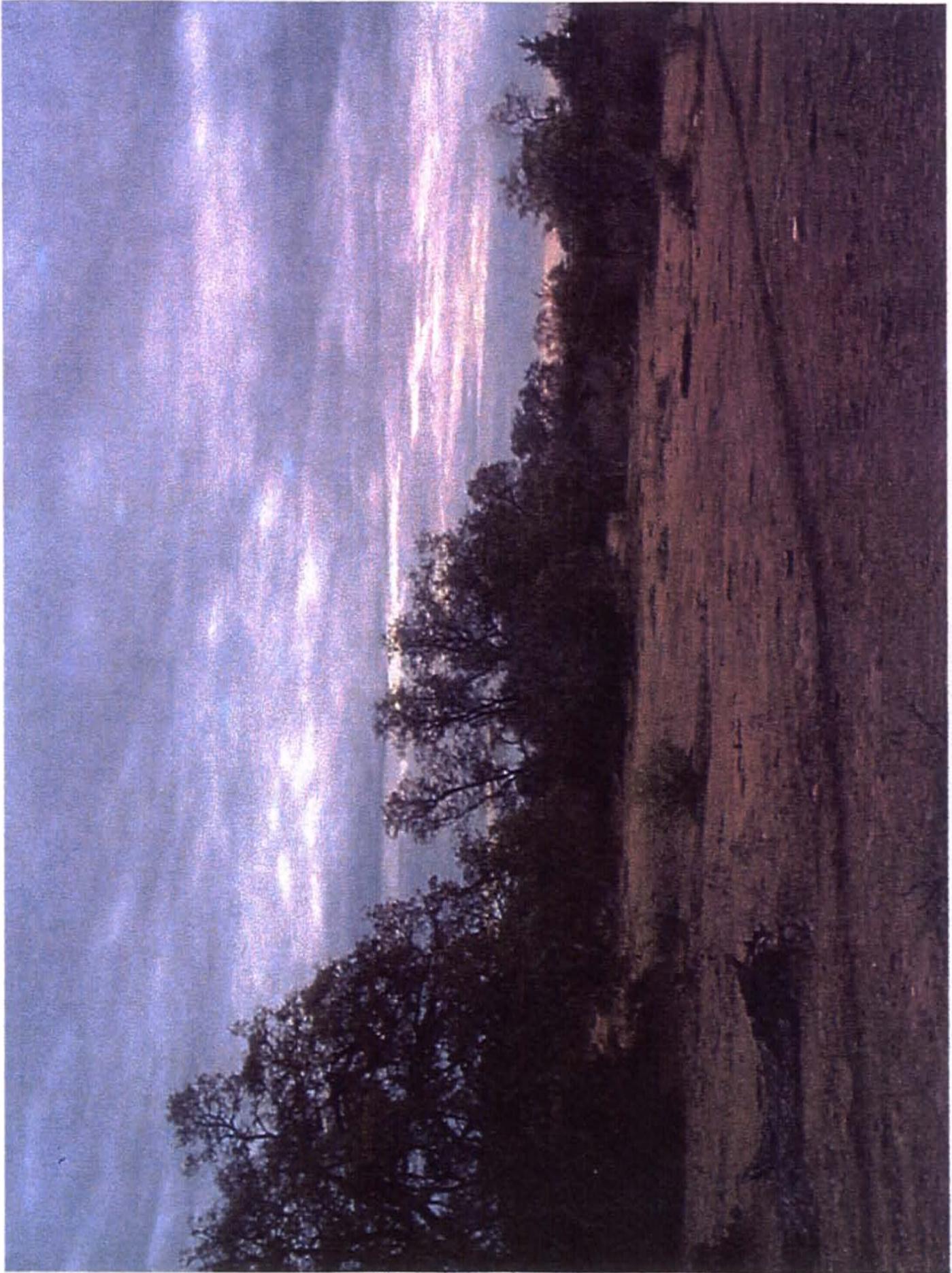
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**Figure 1  
General Site Location Map**

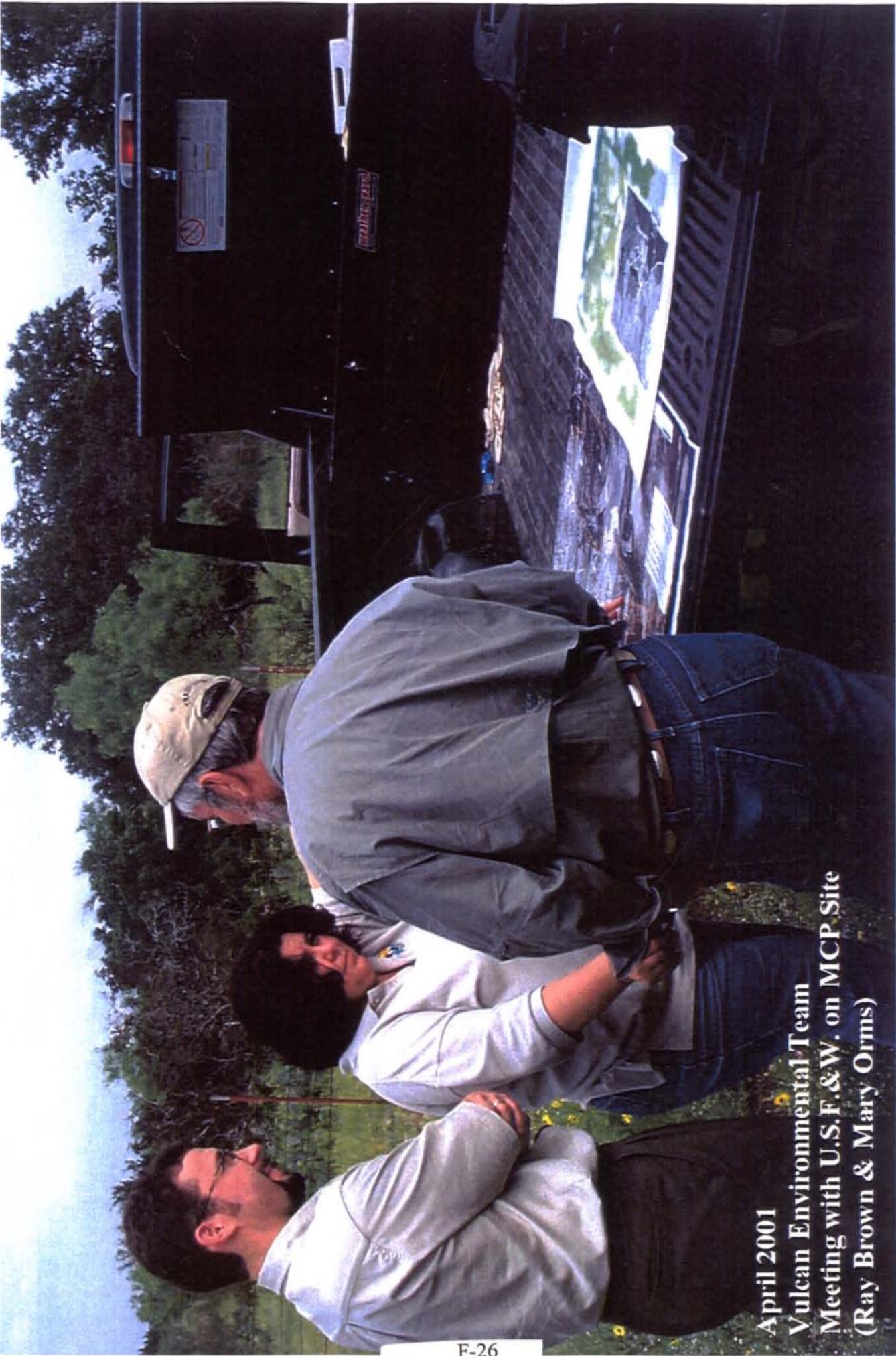




**Photograph 1: Drainage and adjacent vegetation**



**Photograph 2: Typical habitat resulting from extensive livestock and wildlife grazing.**



April 2001  
Vulcan Environmental Team  
Meeting with U.S.F. & W. on MCP-Site  
(Ray Brown & Mary Orms)

DAVID H. COBURN  
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September 2, 2003

**VIA HAND DELIVERY**

Ms. Rini Ghosh  
Section of Environmental Analysis  
Surface Transportation Board  
1925 K Street, N.W.  
Washington, DC 20402-0001

**Re: Finance Docket No. 34284 -- Southwest Gulf Railroad Company --  
Petition for Exemption from 49 U.S.C. § 10901 to Construct and  
Operate a Rail Line In Medina County, Texas**

Dear Ms. Ghosh:

Enclosed please find a copy of the final Phase I Biological Assessment report prepared in connection with Vulcan Material Company's Medina County project. This Assessment, which has recently been submitted to the U.S. Fish and Wildlife Service, discusses the proposed Southwest Gulf Railroad rail corridor, including the area near the quarry at which the proposed fuel and maintenance facility would be located and the rail loop loading area. It thus may be of interest in connection with SEA's pending assessment of the SGR proposal. An initial Biological Assessment report has previously been submitted to SEA by SGR.

I have also attached for your information a recent article that appeared in the San Antonio Express-News entitled, *Restoring a Pioneer Homestead*. The article describes the restoration of two historic homes in the Quihi area and notes Vulcan's support for that preservation effort.

Please let me know if you have any questions.

Sincerely,



David H. Coburn  
Attorney for Southwest Gulf Railroad  
Company

Enclosures

cc: Ms. Jaya Zyman-Ponebshek  
Dr. Darrell Brownlow

## Restoring a pioneer homestead

By Zeke MacCormack  
San Antonio Express-News

Web Posted : 08/27/2003 12:00 AM

**QUIHI** — After letting treasured heirlooms slip from their control once, descendants of Texas pioneers Schweer and Zeda Balzen are trying to make the most of a second chance.

They've formed a foundation that aims to restore two historic family homes still standing here and, if possible, establish a larger park that recreates the living conditions of frontier settlers.

"We're hell bent to make it happen," Don Schoch, 70, of New Braunfels said of preserving the 19th-century houses built by his great-grandfather, Heinrich Schweer, and a brother, Wilhelm Schweer.

The Schweers were among the early settlers on the banks of Quihi Creek, where Henri Castro first led an expedition from recently-founded Castroville in 1844. The area was named for the white-necked Mexican eagle buzzard, the quichie or keechie, seen there.



Carol and John Carpenter walk through the Schweers family house in Quihi. Indoor staircases were a rare feature at the time it was built.  
Bahram Mark Sobhani/Express-News

Attacks by American Indians claimed many lives in the early years, and a severe drought in 1848-49 — followed by a deadly cholera outbreak — led to talk of abandoning the area.

But the settlers endured, opening Medina County's first public school here in 1875, although efforts to make their town the county seat never panned out.

Wilhelm and Elisabeth Schweers built a two-story home nearby in 1874, where 16 children were born, with 11 reaching adulthood.

In keeping with German tradition, descendants of Schweer Balzen took his first name as their surname and added an "s" at the end, making it Schweers.

The most recent occupant of the site was Wilhelm's grandson "Willie Boy" Schweers, a bachelor who died in his 70s in 1999. Today, weeds encircle the deteriorating limestone dwelling with wooden floors, two fireplaces and — unusual for the era — an indoor staircase. An indoor bathroom was added in the 1960s.

Heinrich and Johanna Schweers raised 14 children in the home they built in 1858. Their house is in far worse shape, having served most recently as Willie Boy's barn.

In a small cemetery nearby, family elders lie beside seven youngsters.

The Schweers Historical Foundation's first step in the lengthy restoration process will be replacing the old cemetery fence.

The entire house restoration project may take several years and \$500,000 or more, but dozens of kin are bringing their respective talents to bear on it.

"It's going to happen," said Ray Schoch, 74, an accountant in New Braunfels. "The first thing is to get enough people interested to donate some money."

The group has raised about \$6,000 in cash donations and plans to seek grants, he said. Ray Schoch and his brother, Don, didn't know the homes existed until a mention of them at a family gathering in 1996 led to an impromptu tour.

Inspecting "Henry's" home, Ray quoted Don — a contractor — as exclaiming, "Heck, this thing is restorable!" But the family's hopes were nearly dashed when Willie Boy's estate sold the houses and about 175 acres in 2000.

"It made me so blue, I didn't even want to think about it," said Carol Carpenter of Boerne, a great-great granddaughter of Wilhelm and Elisabeth Schweers, and president of the foundation.

Vulcan Materials bought the properties to run railroad tracks across them to reach a planned quarry site to the north.

But fate smiled on the efforts of the Schweers clan, whose annual reunions in Hondo have been a tradition since 1934, drawing as many as 500 attendees.

In meetings with the company arranged by Doug Riff — a Schweers kin and former Vulcan president in San Antonio — the firm went beyond just granting the family's request to sell the homes.

"We indicated that we would donate those two houses to the foundation as part of our good will to the community," said Tom Ransdell, president of Vulcan's southwest division.

While Vulcan is supporting the preservation effort, critics of the firm's quarry and rail plan say the Schweers homes and other historic structures in the area would be threatened by vibrations from passing trains and by the tracks, which they contend would increase the threat of floods.

Those issues are among numerous factors being considered as the federal Surface Transportation Board assesses Vulcan's request for approval of the rail line.

Carpenter expressed doubt that the trains and tracks would damage the homes.

The foundation's five-year goal is to have the homes serve as centerpieces of frontier-era living history exhibits similar to those that will be featured Sept. 6 at Castroville Pioneer Day.

The first-of-its-kind event at Landmark Inn State Historical Park in Castroville will include demonstrations of 19th century skills, such as Dutch oven cooking, blacksmithing, leather working and quilting.

Foundation officials hope their efforts inspire locals to restore other nearby historic homes — including the former residences of the Balzens' other two children, son Heyo Schweers and daughter Trientje Saathoff.

Among those watching the Schweers project with great interest is Minnie Nietenhoefer, 98, of Hondo, who reportedly was born in the home of her grandparents, Wilhelm and Elisabeth Schweers.

"I think it's wonderful," Nietenhoefer said. "I sure would love to see the homes fixed up again, if I live that long."

---

[zmaccormack@express-news.net](mailto:zmaccormack@express-news.net)

08/27/2003

[Click here to return](#)

# **BIOLOGICAL ASSESSMENT**

## **PHASE I MEDINA PROJECT**

**Submitted by:**

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**August, 2003**

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**Attachment A: Threatened and Endangered Species Survey Report 2001**

**Attachment B: Threatened and Endangered Species Survey Report 2002**

**Attachment C: Threatened and Endangered Species Survey Report 2003**

**Phase 1  
Medina Project  
Biological Assessment**

**INTRODUCTION**

The proposed Medina Project is located approximately 5 miles north of Quihi, Texas in north central Medina County (**Figure 1**). Vulcan Materials Company (Vulcan) is currently evaluating the project in terms of economic and environmental feasibility. The proposed project would involve a multi-phased development and operation of a limestone quarry and associated crushing and screening facilities for the production and sale of construction aggregates for the building of roads, bridges, and other related construction industry needs. Due to the nature of the business and the size of the property involved, the project area has been broken into five (5) individual phases, with each phase representing an Environmental Survey Area. The Environmental Survey Areas include those areas proposed for the facility maintenance area, the production facility area, the mine area and the environmental management and buffer areas. Additional areas are currently being evaluated for a proposed rail alignment. The rail alignment is being evaluated under a separate study being conducted by the Federal Surface Transportation Board. The rail spur (Southwest Gulf Railroad Company) will extend approximately 7 miles from the proposed quarry site to Dunlay, Texas and join with the Del Rio Subdivision of the Union Pacific Railroad Company line. This biological assessment is being prepared to address requirements under the Endangered Species Act as well as State of Texas requirements.

Vulcan has obtained leased land in excess of that needed for the mining operation and is in the process of obtaining excess rail right-of-way so that adequate lands are available to allow for avoidance of any potentially sensitive environmental resources and for adequate buffer areas between mining and transportation activities and those resources. Over the conceivable life of the project (potentially in excess of 50 years), implementation of each of these phases will be based upon market demands and completion of environmental surveys and any potential mitigation plans. In addition to these plans, other factors that will impact the implementation of the project phases include: availability of limestone reserves, construction suitability, access availability, and avoidance of potential environmental and cultural resources. Vulcan's ultimate goal is to develop an environmentally compatible project with net improvement in the local environment.

This report and assessment focuses on the initial phase of the project (Phase 1 Environmental Survey Area) as well as the establishment of baseline environmental and screening information for the entire project including all phases (Phase 2-5 Environmental Survey Areas). Using this approach, adequate data and stakeholder input can be collected to develop an overall environmentally protective project with specific data needs being developed in each Phase. Based upon the elements defined above, similar detailed assessments for the future phases will be performed at times when the field observations and studies are closer time-wise and consequently more relevant to the actual implementation of that particular phase. Vulcan, through its environmental management team, plans to continue focused environmental surveys

on the initial Phase 1 Environmental Survey Area (receiving focused survey in 2001-2003) and will extend those focused surveys into the remaining Environmental Survey Areas. Screening level surveys have been conducted and will continue to be conducted on the Phase 2-5 Environmental Survey Areas. Detailed surveys the Phase 1 Environmental Survey Area were conducted primarily in the March-May, 2001-2003 time frames to coincide with the U.S.F.W.S. sanctioned survey protocols for golden-cheeked warblers and black-capped vireos. These surveys were conducted to confirm the survey results collected in the initial 2001 survey effort and to provide detailed survey data on the remainder of the Phase I Environmental Survey Area. Additional site-specific focused surveys are anticipated in the Phase 2-5 Environmental Survey Areas identified as exhibiting potential T&E or sensitive species potential habitat or sightings. Current U.S.F.W.S. survey protocol for both the golden-cheeked warblers and black-capped vireos requires three years of survey data prior finalization of the biological assessment. Using the approach outlined above, a minimum of three years of intense survey data and an additional 3-6 years of screening level data will be available on each Environmental Survey Area assuring that potential habitat is identified and protected precluding the potential for "taking" threatened and/or endangered species or their habitat.

The general site location, area roads and proposed rail corridor are illustrated in **Figure 2**. Based upon the geology of the site and preliminary exploration studies performed at the site, areas within three separate but contiguous parcels (**Figure 3**) could yield substantial quantities of high quality construction aggregate materials. **Figure 3** also illustrates topographical features found in the project area. In addition to the potential for yielding aggregate, each of these parcels includes areas that could be utilized for buffer zones, greenbelts, habitat conservation and enhancement and potential mitigation areas. Consequently, the size of the properties involved is not simply a function of how much product they may yield, rather, the size of the properties that allows for greater flexibility in the development of the environmental plans. Much of the project area will not be disturbed and will be managed to improve the habitat value in the area. The three parcels are identified as the Boehme/Balzen (640 acres), the Schweers (480 acres) and the Wurzbach (640 acres).

**Figure 4** is a general geologic map of the project area including the proposed rail corridor. A major portion of the project site (that being the quarry area) lies over the Edwards Aquifer Recharge Zone within the rocky and hilly terrain of the Edwards Limestone (Devil's River Limestone equivalent). The rail corridor to the south of the project area overlies Quaternary gravels and shales, stratigraphically over a thousand feet above the Edwards Aquifer, and principally across flat lying agricultural areas and mesquite pasture. **Figure 5** is an aerial photograph of the project area with overlays illustrating the leased parcels, proposed production facility location that would include the plant crushing site, the plant maintenance and fuel storage areas and proposed buffer areas. Information in this report represents a comprehensive multi-phased fifty-year plan, the actual implementation of which will be based on market demands and completion of environmental surveys.

As indicated previously, this report focuses on the Phase 1 Environmental Survey Area. The proposed buffer areas (outlined in blue) have been established to protect drainage and riparian habitat and to provide habitat corridors through the project area to adjacent habitats. **Phase I** of

the project (**Figure 6**) would consist of construction of the Production Facility that would include establishment of the plant crushing site and the opening of quarry area #1.

The Plant maintenance facility and fuel storage area would be located off the Edwards Recharge Zone. Only the amount of fuel and lubricants required for short-term operations would be maintained at the site and all storage tanks and drums will be placed in secondary containment facilities in accordance with all local, state, and federal requirements. The material generated from this project would consist of crushed limestone principally for use in making readymix concrete, asphaltic paving material, and road base materials. The mining operation would involve modern blasting and conventional mining techniques. Explosive material components (typically ammonium nitrate and diesel) used in the blasting would be brought in by outside contractors with no onsite bulk storage of explosive material. Explosives will be consumed in the detonation and any residues would be removed with the excavated limestone materials. Periodic groundwater monitoring will be conducted to assure that the shallow groundwater is not being affected by mining operations.

During Phase 2 and subsequent phases (**Figure 5**) additional quarry areas would be opened and a rail service transportation facility would be constructed to allow material generated from the mining operation to be delivered to remote markets by rail directly connected to the plant area. The rail facility would require approximately seven miles of new rail track connecting the quarry operation to the main rail line intercept located near Dunlay, Texas (**Figure 2**). The alignment of the railroad is currently being evaluated in an assessment being conducted by the Federal Surface Transportation Board.

In April, 1999 Vulcan assembled a team of environmental experts to assess the potential environmental and cultural resources at the site, potential environmental impacts from mining operations, avoidance and mitigation plans as well as wildlife habitat improvement projects to compensate any potential losses. The team consisted of Dr. Loren Smith (Texas Tech University expert on the black-capped vireo and golden-cheeked warbler), Dr. Darrell Brownlow (Expert on the local hydrology, geology, and limestone deposits) and Dr. Jim Rogers (Expert on environmental compliance, planning and permitting). Horizon Environmental Services, Inc., of Austin, Texas, was contracted to conduct biological and threatened and endangered species surveys. James C. Cokendolpher (Expert on karst and cave invertebrates) and Roberta Speer (Expert on Texas antiquities and cultural heritage) were also consulted.

Vulcan's ultimate goal is to develop an environmentally compatible project with net improvement in the local environment. The team is to evaluate an area of over 1,720 acres as well as any potential impacts to surrounding areas. The total leased land area is far more than required for the actual proposed quarry and plant area, however, as stated earlier, having such a large tract of land allows for evaluation of alternate project features, buffer areas, mitigation areas and habitat enhancement areas. To accomplish the goal of developing a model environmental project, Vulcan has to date and will continue in the future to work closely with both the regulatory and public stakeholders.

## SETTING

The project area is located in north central Medina County (**Figure 1**). In the county, farming and ranching are the major enterprises with over 633,000 acres being used for cattle grazing and approximately 213,500 acres being used for crops. Farming is typically dryland with less than 32,000 acres under irrigation. Typical crops include, grain sorghums, small grains, corn, cotton, peanuts and improved pasture. Irrigated crops include vegetable and truck crops. Irrigation water is taken from deep wells in the Edwards Limestone formation or Carrizo Sands formation and also from Medina Lake. Medina County has some oil and gas exploration in the southeastern part of the county but no wells are located on the project site.

The project Environmental Survey Areas (Phases 1-5), are currently used primarily for cattle grazing with a few scattered agriculture fields. The proposed rail alignment has deeper soils that support more agriculture fields.

Horizon Environmental Services, Inc. biologists characterized the project area (support facilities and quarry site-Environmental Survey Areas Phases 1-5) as typical second growth South Texas rangeland vegetation on the uplands with a denser woodland component in the drainages. In the uplands, dominant canopy species include mesquite (*Prosopis glandulosa*), live oak (*Quercus fusiformis*), huisance (*Acacia farnesiana*), and coma (*Bumelia lanuginosa*). Ground species include prickly pear (*Opuntia lindheimerii*), plantain (*Plantago* spp.), bluebonnet (*Lupinus texensis*) and various wildflower species. The drainages exhibit a denser woodland component composed of Ashe juniper (*Juniperus ashei*), hackberry (*Celtis laevigata*), and live oak (*Quercus fusiformis*). Ground species include agarita (*Berberis trifoliolata*), greenbriar (*Smilax bona-nox*), devil's shoestring (*Nolina texana*), twisted-leaf yucca (*Yucca rupicola*) and various wildflowers and forbs. The entire project area has been used primarily for cattle grazing with small areas being used for hay and other crop production.

As illustrated in **Figure 3**, the northern part of the site is crossed by Elm Creek. The creek then borders the project site to the east. Polecat Creek crosses the southern portion of the proposed site. All of the creeks in the area are ephemeral in nature.

**Phase 1 Environmental Survey Area:** The southern portion of the Phase 1 area includes the plant maintenance facility and fuel storage area that is predominantly cultivated area bordered to the south by rangeland. The area is crossed by Elm Creek. The dry creek drainage is proposed as a buffer and management area (See **Figure 6**). The production facility area is dominated by upland rangeland vegetation and is bordered to the north by Polecat Creek, to the west by the Elm Creek drainage and to the south by the agricultural lands and the proposed plant maintenance facility. Both drainages are characterized by the denser woodland component. Both drainages are proposed as buffer and management areas as illustrated in **Figure 6**. The initial quarry would begin in the upland area north of the Polecat Creek buffer area and would extend north into the Phase 1 Environmental Survey Area as reserves are mined. The entire mining area within the Phase 1 Environmental Survey Area is dominated by heavily grazed upland South Texas rangeland.

**Phase II Environmental Survey Area:** The Phase 2 area consists of the area delineated in **Figure 5**. The project area shown in **Figure 5** is dominated entirely by heavily grazed South Texas upland rangeland. The area is bordered to the west by the Elm Creek Drainage and to the south by an unnamed drainage. Both drainages are proposed as buffer and management areas as illustrated in **Figure 6** and are dominated by the denser woodland component. The rail alignment lies to the east of the Elm Creek drainage and extends southward to the rail junction near Dunlay, Texas. The alignment lies in the more level to gently sloping loamy and clayey, calcareous soils typically used for agriculture in the area. Most of the alignment is currently being used for agricultural crops with some being used for rangeland grazing.

**Phase 3 Environmental Survey Area:** The Phase 3 area is dominated by the heavily grazed South Texas upland rangeland. The area is bordered to the west by the Elm Creek drainage that is dominated by the denser woodland component. Several areas have, in the past been selectively cleared of woody vegetation. The Elm Creek drainage is proposed as buffer and management area as illustrated in **Figure 6**.

**Phase 4 Environmental Survey Area:** The Phase 4 area is dominated by the dense woodland component in the northern portion. This area has several smaller drainages that merge into an unnamed tributary of Elm Creek. This area supports a dense growth of mesquite and mature junipers and as such may offer potential management area to improve habitat for golden-cheeked warblers. Screening level surveys did not reveal presence of golden-cheeked warblers but the area has been mapped as marginal potential habitat and as an area to receive intense survey in future survey seasons. To the south, the area is characterized by a fairly dense second growth South Texas upland rangeland vegetation. On the southern end, the area is bordered by Elm Creek. A large area adjacent to the Elm Creek drainage has been cleared for agriculture. Both drainages are proposed as buffer and management areas as illustrated in **Figure 6**.

**Phase 5 Environmental Survey Area:** This area is dominated by South Texas upland rangeland. It is bordered on the east, west and south by unnamed drainages that are proposed as buffer management areas (**Figure 6**). The drainages do not support the density of woodland vegetation found in the other drainages.

## **GEOLOGY/SOILS**

The project is located in the north central portion of Medina County, Texas. **Figure 4** is the University of Texas Bureau of Economic Geology's geologic map of the area. This map shows the location of the proposed quarry site and the proposed general path of the rail line. As illustrated in this figure, the proposed quarry site exists within the outcrop portion of the Cretaceous Devil's River Limestone (Kdvr). This unit is equivalent to the Cretaceous Edwards Limestone (Ked) and represents only a nomenclature change and for the purposes of this report the names are used interchangeably. Like all Edwards Limestone quarries in south and central Texas, this quarry is located within the Edwards Aquifer Recharge Zone. In general, the land surface is extremely rugged with abundant rock outcroppings consisting of chert and limestone. In some areas, a thin layer of black or red clay rich soil, typically less than a foot thick, supports modest ground vegetation. In the approximate center of the proposed quarry area, alluvium is found in the Elm Creek basin but no hydric soils have developed. Data collected from a core

drilling effort on the properties indicates that the thickness of the limestone generally exceeds 400 feet. However, the mineable thickness (that thickness which is considered for mining purposes) of the limestone varies from as thin as 40 feet in some areas to as great as 180 feet in others. The actual mineable thickness depends on a variety of factors including mine safety practices, operational and quarry design considerations, as well as the nature and level of the market demand.

Because of the limestone's physical properties (relative strength, durability, and chemistry), the Edwards Limestone has been and will undoubtedly continue to be a primary source of construction aggregate material. Limestone from the Edwards formation is used in all large and small metropolitan areas in south, central, and east Texas, including San Antonio, Austin, Houston, and to some extent even Corpus Christi and the valley portion of Texas.

Moving immediately south of the proposed production facilities and quarry area (see **Figure 5**), a major northeast / southwest trending fault exists. South of this fault line, the depth of the Edwards Limestone increases dramatically. It is reported that at a distance of approximately ½ mile south from this fault line, the Edwards Limestone is over 1,000 feet below surface.

**Figure 7** illustrates the distribution of soils in the Phase 1-5 Environmental Survey Areas as taken from the U.S.D.A. Soil Conservation Service, Soil Survey of Medina, County (August, 1977). In early August, 2001, Lynn Post of the Medina County Natural Resources Conservation Service stated that the only hydric soil class in the project areas (from the proposed quarry and plant site location as well as the area of the proposed rail line) would be the Tiocano series (To) that are poorly drained and found on uplands over clayey materials. This soil series was not identified on any of the proposed project areas. In general, the proposed site is dominated by the Tarrant-Rock outcrop association (TAD), Tarrant-Rock association-hilly (TAF), Real association (RED), Dina association (DNC), with small areas of Mercedes clay (McB), Tarrant and Speck soils (TeD), Topia clay (TpB). Kavett-Tarrant association (KAD) can be found in the creek beds on the project area. Divot clay loam (Dp) is not found until the creek approaches the Edwards transition zone south of the project site.

The soils found along the proposed rail alignment are predominantly characterized as the Knippa-Mercedes-Castroville association. These soils are relatively deep, nearly level to gently sloping, loamy and clayey, calcareous soils suitable for agricultural cropping. Isolated Tiocano series soils can be found in depressions and areas of poor drainage. Review of aerial photographs, topographic maps and soils maps indicate that a rail alignment can be selected that will avoid jurisdictional wetlands and any other potential sensitive habitat. Rail crossings can be designed to avoid direct disturbance to the wetlands and local hydrology forming those wetlands.

## **SITE INVESTIGATIONS**

Site visits were conducted in July, August and September (2000), April, May, June and July (2001) and in March, April and May of 2002 and 2003. Annual summary reports are included as attachments to this report. During these visits virtually all of the areas within the leased land boundaries were walked. The terrain can be best described as rugged to rolling hill country dominated by cedar and oak woodlands. The area has been heavily grazed. Most shrubs exhibit

elevated browse lines from domestic livestock and wildlife. Aerial photographs were taken and have been used to identify potentially sensitive habitats, avoidance areas and potential areas for habitat mitigation. The maps have been ground verified during field surveys. Drs. Rogers and Brownlow met with Ms. Mary Orms and Mr. Ray Brown of the U.S.F.W.S. Austin Ecological Services Office on April 16, 2001 to discuss the endangered species survey strategy. Drs. Smith and Rogers visited the site to map potential T&E species and sensitive habitats on April 9, 2001. During the months of April and May, 2001 numerous site visits were made to survey for T&E species and sensitive species by Dr. Rogers and Horizon Environmental Services, Inc., endangered species specialists using U.S.F.W.S. sanctioned survey techniques. As discussed with the U.S.F.W.S. on April 16, 2001 and confirmed by a letter from that agency dated March 20, 2002 the endangered bird surveys were to be conducted in a phased approach by (1) periodically conducting broad-scale low intensity surveys over the entire 1700+ acre site throughout the life of the project to get a general idea of the distribution of endangered species across the site, and (2) conduct Service-approved high intensity annual presence/absence surveys beginning a minimum of three years prior to vegetation disturbing activities for each phase of the project. The broad-scale low intensity were to be conducted over the life of the project for several reasons: (1) these surveys will help Vulcan's environmental team monitor the populations and locations of endangered birds on the property (if any) to help Vulcan avoid any major surprises from arising in the future during the high-intensity Service-approved bird surveys; (2) these low-intensity surveys will help Vulcan plan for any on-site or off-site mitigation of endangered species habitat that may be deemed necessary to compensate for any destruction of endangered species habitat associated with quarry operations; (3) the low-intensity surveys will help to provide the Service with reassurance that Vulcan's environmental team is aware of the natural resources on the entire site and that no areas of potential endangered species habitat will be cleared or disturbed without proper surveys and adequate mitigation.

Broad-scale surveys of the entire project areas were initiated in July, 2000 and detailed Service-approved project surveys focused on the Phase 1 area were conducted in 2001, 2002, and 2003 as recommended by Ms. Orms and Mr. Ray Brown of the F.W.S.. Additional surveys are now being planned for the remaining project phase areas. Again the focus of each years surveys were and will continue to be to identifying potential T&E species existence in those areas proposed for mining with screening level studies planned for potential future expansion areas. This will provide extensive survey data and opportunity to coordinate any planned construction with the U.S.F.W.S. prior to any brush removal or land disturbance. Vulcan has retained rights to significantly more land than is currently proposed for mining. This provides adequate land for an "avoidance first" approach to project planning and suitable land for mitigation of any potential T&E or sensitive species habitat.

The project description presents the maximum potential footprint of the proposed project and as such identification of final mining areas and transportation right-of-ways will be adjusted to avoid environmentally sensitive areas such as potential T&E habitat and wetlands. The team was able to walk portions and to drive the adjacent roadways and observe most of the proposed rail corridor. Based on these observations and the use of U.S.G.S. 7.5 minute topographical maps and U.S.F.W.S. National Wetland Inventory Maps, the team was able to characterized potential wetland areas as well as potential sensitive habitats. The status of each resource is as follows:

## Wetlands

The Phase 1-5 Environmental Survey areas serve as a drainage basin but in most cases do not have the soil type, hydrology or vegetation to support “jurisdictional wetlands”. The area has several drainages with narrow bands of woody vegetation as illustrated in **Figure 5**. A plan is being developed to address “nonpoint source” runoff and recommendations for protecting the water quality in the Edwards Aquifer as outlined in the “U.S. Fish and Wildlife Service Recommendations for Protecting Water Quality of the Edwards Aquifer” dated June 9, 2000 as well as the restrictions imposed on development on the recharge zone. The guidance specifies buffer zones based on drainage features and development type. The proposed buffer zones illustrated in **Figures 5 and 6** were developed to protect corridor vegetation and floodplain features as outlined in these determinations and requirements. Lists of hydric soils and plants from the U.S.D.A. Natural Resources Conservation Services Office located in Hondo, Texas have been collected to support the jurisdictional wetland delineations. National Wetland Inventory maps of the project area that correspond to the U.S.G.S. 7.5 minute quadrangle maps have also been obtained to assist in the wetland delineations and identification of sensitive habitats. No “jurisdictional wetlands” were identified by Drs. Rogers and Brownlow in the Phase 1-5 Environmental Survey Areas.

The proposed rail alignment crosses deeper, gently sloping soils that can support Tiocano soils and small areas that can be characterized as “jurisdictional wetlands”. Adequate easement will be obtained to implement an “avoidance first” approach to protecting wetlands and to provide for ample land for mitigation of any unavoidable losses. In the unlikely event that “jurisdictional wetlands” cannot be avoided, Vulcan will apply for the appropriate Clean Water Act, Section 404 dredge and fill permit from the U.S. Corps of Engineers (COE) regional engineer and his staff prior to any “jurisdictional wetland” disturbance.



**Photograph 1: Drainage and adjacent vegetation**

**Photograph 1** shows a typical drainage and the adjacent vegetation in the Phase 1-5 Environmental Survey Areas. In the proposed rail alignment area, wetlands and jurisdictional wetlands have been identified and will be avoided in the final alignment and rail spur construction. Final wetland delineations are being confirmed with the COE regional engineer and his staff. Prior to initiation of Phase 1 activities, Vulcan will request a “preconstruction conference” to confirm that jurisdictional wetlands will not be impacted by the project. In the 404 permitting process, the COE requires that the wetlands be avoided if at all possible and if they cannot be avoided, the area of impact must be minimized as much as possible. In the unlikely event that these wetlands cannot be avoided, the COE District Engineer will be notified to obtain 404 permits which will include mitigation of wetland losses by wetland improvements in the same watershed and general area. By carefully selecting the rail alignment, these wetlands can be avoided entirely.

In meetings with Vulcan technical and design staff, project alterations and realignments were identified that resulted in complete avoidance of wetland areas in the Phase 1-5 Environmental Survey Areas as well as along potential rail alignments.

Any small unavoidable disturbances will be identified and through coordination with the U.S. C.O.E. will be addressed by agreed upon mitigation through wetland habitat improvement on and off the project site. A “wetland” awareness stimulated by the project could actually raise awareness of wetland values in the area and reduce the observed disturbances, unrelated to this project, in the wetland areas outside the project boundaries.

**Federal Threatened and Endangered Species (U.S.F.W.S. Listing)**

On June 4, 2001, Vulcan requested an updated species listing and requested initiation of informal consultation. On June 15, 2000 the U.S.F.W.S. Austin Ecological Services Office provided Vulcan Materials, LP with a letter outlining potential T&E species and other environmental considerations to be considered in the development of the Medina County Limestone Project. Vulcan had already initiated studies to address most of these concerns and reviewed its investigation approach to assure that all of the U.S.F.W.S concerns were being addressed. On July 19, 2001 the U.S.F.W.S provided an updated species listing. A similar request was made for an updated species listing from the Texas Parks and Wildlife (TPW) Diversity Program. Drs. Rogers and Brownlow met with Ms. Mary Orms and Mr. Ray Brown of the U.S.F.W.S. Austin Ecological Services Office on April 16, 2001 to discuss the endangered species survey strategy. On July 30, 2001 the TPW provided a listing of state T&E as well as other species of concern. A “Biological Assessment” and project description was prepared to fulfill the early consultation requirements for both agencies in October, 2001. Due to the phased approach to this project, it is anticipated that annual surveys and updates will be required and that the coordination and consultation process will be required as each phase is developed. It is anticipated that the project will fall under Section 7 of the Endangered Species Act due to required federal permits. While this is not a federal project, the federal agencies, such as the U.S. C.O.E, will consider the issuance of permits, such as point and nonpoint discharge permits, as federal actions. Regardless of federal activity, Vulcan acknowledges that a Section 10 permit and the associated consultations would be required if “take” of a listed species is expected. “Take” is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, capture or collect, or to attempt to engage in any such conduct”. It is Vulcan’s intent to develop a project “not likely to jeopardize” listed threatened or endangered species and other sensitive species and habitats.

**The FWS July 30, 2001 species listing identified the following species as potentially occurring in the project area:**

**Medina County Vertebrate Species-** Two listed endangered birds are known to occur in Medina County and one is proposed for listing as follows:

Black-capped vireo	<i>Vireo atricapillus</i>	<i>E</i>
Golden-cheeked warbler	<i>Dendroica chrysoparia</i>	<i>E</i>
Mountain Plover (concern)	<i>Charadrius montanus</i>	

**Karst and Cave Invertebrates-** The following listed species have a high probability of occurring in Karst terrain (limestone formations containing caves, sinks or fissures):

Madla's Cave Meshweaver	<i>Cicurina madla</i>	E
Robber Baron Cave Meshweaver	<i>Cicurina baroni</i>	E
Braken Bat Cave Meshweaver	<i>Cicurina venii</i>	E
Government Canyon Bat Cave Meshweaver	<i>Cicurina vespera</i>	E
Government Canyon Bat Cave Spider	<i>Neoleptoneta microps</i>	E
Cokendolpher Cave Harvestman	<i>Texella cokendolperi</i>	E
Ground Beetle (no common name)	<i>Rhadine exilis</i>	E
Ground Beetle (no common name)	<i>Rhadine infernalis</i>	E
Helotes Mold Beetle	<i>Batrisodes venyivi</i>	E

**Edwards Aquifer (San Marcos and Comal Springs) Species-**The following springs and species are affected by water withdrawals from the Edward Aquifer and the resulting dewatering of the springs.

Comal Springs Riffle Beetle	<i>Heterelmis comalensis</i>	E
Comal Springs Dryopid Beetle	<i>Stygoparnus comalensis</i>	E
Fountain Darter	<i>Etheostoma fonticola</i>	E
Peck's Cave Amphipod	<i>Stygobromus (=Stygonectes) pecki</i>	E
San Marcos Gambusia	<i>Gambusia georgei</i>	E
Texas Wild-Rice	<i>Zizania texana</i>	E
Texas Blind Salamander	<i>Typhlomoge rathbun</i>	E
San Marcos Salamander	<i>Eurycea nana</i>	T

### TPW Species Listing

**The July 30, 2001 TPW species listing identified the following listed Threatened, Endangered and Species of Concern, as potentially occurring in Medina County:**

#### **Vertebrates**

Edwards Plateau Spring Salamanders	<i>Eurycea sp</i>	
Valdina Farms Sinkhole Salamander	<i>Eurycea troglodytes</i>	
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	E
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	T
Black-capped vireo*	<i>Vireo atricapillus</i>	E
Golden-cheeked warbler*	<i>Dendroica chrysoparia</i>	E
Henslow's Sparrow	<i>Ammodramus henslowii</i>	
Zone-tailed Hawk	<i>Buteo albonotatus</i>	T
Frio Pocket Gopher	<i>Geomys texensis bakeri</i>	
Keeled Earless Lizard	<i>Holbrookia propinqua</i>	
Spot-tailed earless Lizard	<i>Holbrookia lacerata</i>	
Texas Garter Snake	<i>Thamnophis sirtalis annectens</i>	
Texas Horned Lizard	<i>Phrynosoma cornutum</i>	T
Texas Tortoise	<i>Gopherus berlandieri</i>	T

## Plants

Bracted Twistflower  
Texas Mock-Orange  
Sandhill Woollywhite

*Streptanthus bracteatus*  
*Philadelphus texensis*  
*Hymenopappus carrizoanus*

\* Listing is duplicated in U.S.F.W.S. list  
("blank" –rare but with no regulatory status)

T-U.S.F.W.S Listed Threatened  
E-U.S.F.W.S Listed Endangered

## ASSESSMENT: FEDERAL THREATENED AND ENDANGERED SPECIES (U.S.F.W.S. LISTING)

The following assessment focuses on the Phase 1 Environmental Survey Area. Discussion is also included on the screening level surveys and observations on the Phase 2-5 areas and the general area of potential rail alignment. All areas will be evaluated in detail prior to any construction activity in those areas. Baseline data has already been collected for these areas and will continue to be collected throughout the projected 50-year life of the project.

### Medina County Vertebrate Species (U.S.F.W.S. Listing)

**Black-capped vireo (*Vireo atricapillus*)**-Black-capped vireo habitat does not occur in the Phase 1 and Phase 2-5 Environmental Survey Areas (confirmed by FWS Ms. Orms and Mr. Brown). The species is found in oak-juniper woodlands with a distinctive patchy, two-layered aspect, which consists of a shrub and tree layer with open grassy spaces. They require foliage reaching to ground level for nesting cover, and have been known to return to the same general area year after year. They feed on insects that thrive on deciduous and broad-leaved shrubs. Within the Phase 1-5 Environmental Survey Areas the vegetative mix, intense livestock and wildlife grazing of the 2-4 foot high shrubs has all but eliminated any suitable nesting habitat (**See Photograph 2**).

Some potential marginal habitat exists for golden-cheeked warblers along the drainage ways but the density of juniper (cedars) limits the habitat value to black-capped vireo. Juniper removal, typically a recommended management option to improve the vireo habitat, would compromise the golden-cheeked warbler habitat. The area, as it exists today, has little, if any, habitat value for black-capped vireos. The buffer areas proposed for the project, if managed properly (**Figure 5 and 6**), could provide improved habitat and potential sanctuary nesting areas for golden-cheeked warblers but it is unlikely that any actions taken in this project would have either a positive or negative impact on black-capped vireos. Detailed surveys in the Phase 1 Environmental Survey Area and screening surveys of the Phase 2-5 Environmental Survey Areas were conducted in April and May, 2001, as well as in March, April and May of 2002 and 2003 to



**Photograph 2: Typical habitat resulting from extensive livestock and wildlife grazing.**

confirm the habitat evaluation and did not reveal any vireos sightings or calls. If, during subsequent surveys, it is determined that there is some potential for Vireo habitat, the habitat can be protected and avoided by establishing protective buffer and management areas. Based on previous assessments conducted by Dr. Loren Smith on Fort Hood, the birds seem quite tolerant of military activities and vehicle movement. Aerial photographs have been used to map the general area of proposed rail spur alignments but these will need to be ground truthed in Phase 2 once access has been obtained. As discussed above, the rail alignment habitat is markedly different from that found in the Phase 1-5 Environmental Survey Areas. The area is dominated by deeper soils which support more intense agriculture. Any areas offering potential Vireo habitat, if found, can be avoided and managed to improve habitat quality.

**Golden-cheeked warbler (*Dendroica chrysoparia*)**-The golden-cheeked warbler habitat is also limited because of past land practices. The warbler does, however, depend upon Ashe juniper/hardwood cover along steep slopes and canyons. They use long fine bark strips from the mature Ashe juniper trees as nesting material, so this species must have mature juniper trees in an area where it lives. Mature Ashe juniper and hardwoods areas have been identified and are found primarily in those areas proposed as buffer areas. Aerial photographs (**Figure 5 and 6**)

have been used to prepare “overlays” of the project site to determine areas of potential impact and suitable buffer zones. As illustrated in **Figures 5 and 6**, a 200’ buffer zone along each side of the drainages has been proposed for the project.

Drs. Rogers and Brownlow met with Ms. Mary Orms and Mr. Ray Brown of the U.S.F.W.S. Austin Ecological Services Office on April 16, 2001 to discuss the endangered species survey strategy. Drs. Smith and Rogers visited the site to map potential T&E and sensitive habitats on April 9, 2001. During the months of April and May 2001 numerous site visits were made to survey for T&E species and sensitive species by Dr. Rogers and Horizon Environmental Services, Inc., endangered species specialists. The 400-acre portion of the Phase 1 Environmental Survey Area was visited on April 9, April 16, April 24, April 29, May 4, May 9 and May 14, 2001. A total of over 64 hours of survey time was spent in the Phase 1 Environmental Survey Area. Numerous additional hours were spent in screening level surveys and in delineation of habitat and potential habitat on the entire Phase 1-5 Environmental Survey Areas. Detailed surveys of the Phase 1 Environmental Survey Area and screening surveys of the Phase 2-5 Environmental Survey areas were conducted on the following dates by Horizon Environmental Services, Inc., endangered species specialists:

**2003**

4/29/03	7:00 – 11:00 No T&E species heard/observed
4/16/03	7:30 – 11:30 (GCW heard off-site to northeast)
4/1/03	6:45 – 10:45 No T&E species heard/observed
3/24/03	6:40 – 10:40 No T&E species heard/observed
3/16/03	6:35 – 10:35 No T&E species heard/observed

**2002**

4/30/02	7:30 – 11:30 No T&E species heard/observed
4/24/02	7:30 – 11:30 No T&E species heard/observed
4/15/02	7:30 – 11:30 No T&E species heard/observed
4/9/02	7:30 – 11:30 No T&E species heard/observed
4/4/02	7:30 – 11:30 No T&E species heard/observed

**2001**

5/14/01	10:15 – 2:15 No T&E species heard/observed
5/9/01	9:45 – 1:45 No T&E species heard/observed
5/4/01	10:00 – 2:00 No T&E species heard/observed
4/29/01	10:00 – 2:00 No T&E species heard/observed
4/24/01	10:00 – 2:00 No T&E species heard/observed

Horizon's final report submitted on May 16, 2003 (Attached) states,

**"The majority of this area does not exhibit preferred GCW habitat. However, all drainages and small mottes on the site more closely exhibiting preferred GCW habitat were surveyed."**

Generally, on-site vegetation outside of the drainages is typical of South Texas rangeland with a significant grassland component and little developed canopy. Tree species include mesquite (*Prosopis glandulosa*), live oak (*Quercus fusiformis*), huisache (*Acacia farnesiana*), and coma (*Bumelia lanuginosa*). Understory species include immature Ashe juniper (*Juniperus ashei*), prickly pear (*Opuntia lindheimerii*), plantain (*Plantago* spp.), bluebonnet (*Lupinus texensis*), and various other wildflower species. Conversely, vegetation in drainages and a few small mottes exhibit a more dense woodland component, with a developed canopy, and are composed of Ashe juniper, hackberry (*Celtis laevigata*), and live oak. Understory species include agarita (*Berberis trifoliolata*), greenbrier (*Smilax bona-nox*), devil's shoestring (*Nolina texana*), twisted-leaf yucca (*Yucca rupicola*), and various wildflowers and forbs.

GCW habitat in central Texas typically consists of mature Ashe juniper and broad-leaved oak woodlands, with a high percentage of canopy coverage within and adjacent to incised canyons (Figure 1). Therefore, Horizon concentrated the survey effort in drainages exhibiting vegetation described by the U.S.F.W.S. as being potential habitat for the GCW. However, mottes and small drainages adjacent to potential habitat were also surveyed. Horizon believes that this, along with previous survey efforts, is satisfactory to determine if GCWs are present on the site.

**Results of this survey did not indicate use of the subject site by GCWs. No birds were observed or heard on the site.** In addition, a literature review at the Texas Biological Conservation Data System revealed no reported GCW sightings on the subject site. However, a single GCW was heard calling while surveyors were in the northeastern corner of the site on April 16, 2003. This bird was calling from off the site and was never located on the site. A subsequent survey event on April 29, as well as an on-site meeting with Dr. Jim Rogers and Dr. Darrell Brownlow on May 7, 2003, failed to locate a GCW in the area. Previous survey efforts in 2001 and 2002 also indicated no GCW utilization of the site.

Due to low vegetational diversity, on-site habitat would generally be described as poor to marginal, with the majority of the site exhibiting no habitat. In Horizon's opinion, the low-quality habitat, coupled with negative survey results, indicates only a potential transient utilization of the site by GCWs. Horizon does not believe that development of the site will adversely affect the GCW."

In summary, while several small areas of potential habitat exist in the over-all project area (Environmental Survey Areas 1-5), the habitat value is significantly reduced due to livestock and wildlife grazing. Based on extensive surveys, following FWS protocols, and the absence of sightings or calls it is unlikely that activities in the Phase 1 areas will adversely affect golden-cheeked warblers or their habitat.

Aerial photographs were used to map the proposed rail corridor but these will need to be ground truthed in Phase 2 once access has been obtained. The rail alignment habitat is markedly different from that found in the Phase 1-5 Environmental Survey Areas. The general rail spur area is dominated deeper soils that support more intense agricultural and little, if any, potential golden-cheeked warbler habitat. Copies of the annual survey reports are attached to this report.

### **Karst and Cave Invertebrates (U.S.F.W.S. Listing)**

The entire range of the above listed Karst species occurs in north and/or northwest Bexar County. The species and their habitat may be threatened by destruction of habitat by construction, filling of caves, increase in impervious cover, potential contamination from septic tank effluent, sewer leaks, runoff, pesticides and competition with nonnative fire ants and vandalism. Guidelines for determining whether or not a project or activity is likely to result in the take of these invertebrates is based on review of Karst zone maps prepared by George Veni (1994). In addition, James Cokendolpher is gathering published reports by George Veni and William R. Elliot including "Caves and Karsts of Texas" for further review. Veni defines five Karst zones that reflect the likelihood of finding Karst features that may provide habitat for the above listed species as follows:

Zone 1 – Areas known to contain the proposed endemic Karst invertebrates.

Zone 2 – Areas having high probability of suitable habitat for proposed or other endemic Karst invertebrates.

Zone 3 – Areas that probably do not contain proposed endemic Karst invertebrates.

Zone 4 – Areas that require further research but are generally equivalent to Zone 3, although they may include sections that could be classified as Zone 2 or Zone 5.

Zone 5 – Areas that do not contain proposed or endemic Karst invertebrates.

A review of Veni's maps indicate that the proposed project site is outside the mapped area. As such, the area does not have a classification. Any new information will be reviewed and utilized as it becomes available and will be useful in Phase 2-5 surveys. Dr. Brownlow and Dr. Rogers walked the entire Phase 1-5 Environmental Survey Areas and did not find any inclusions, caves, sinks or fissures that would harbor the above referenced species. Numerous site visits and surveys in 2001, 2002 and 2003 did not reveal suitable features for Karst species. While these areas have Karst formations, they do not support the cave and fissure habitat similar to that found in Bexar County. Discussions with James Cokendolpher, confirms that due to the lack of these

features there is little potential that listed Karst invertebrates exist in the area. Several faults and inclusion/caves exist on property adjacent to the proposed project site. The sites are approximately one mile from the proposed project site boundary and topographically up-stream of all project phases. Since the inclusions are upstream, there is no potential that surface flows can be altered by project activities subjecting the inclusions and the karst flora and fauna to flooding. Discussions with Vulcan engineers indicate that use of modern blasting technology virtually precludes potential for impact from blasting and quarry operations on these adjacent fissures and inclusions. Due to the proximity of the sites and the extent of the buffer area, it is unlikely that the proposed project will affect the above listed species. James Cokendolpher has included Medina County on his collecting and survey permit in the event that surveys are required.

Vulcan proposes that during operations any identified significant features would be monitored for potential impact from its mining operations. Considering the distance of the inclusions from the blasting activities and the use of modern blasting technology, from an engineering and physics standpoint, it is unlikely that blasting would impact the inclusions or resident flora or fauna.

#### **Edwards Aquifer (San Marcos and Comal Springs) Species (U.S.F.W.S. Listing)**

In addressing potential impacts on these species, one must address the variety of mechanisms that support the quantity and quality of water coming from the Comal and San Marcos springs. Species within areas downstream of these springs can be impacted by the reduction in spring flows as a result of heavy pumping of water from the Edwards Aquifer during times of drought or other critical periods. Medina County, like many of the counties to its east and west (including Bexar County), relies almost exclusively on water pumped from the Edwards Aquifer. Any Edwards Aquifer water utilized in this project would be regulated by permit from the Edwards Aquifer Authority (EAA). The EAA's function is to oversee the protection, conservation, and utilization of the aquifer water and as a result, reduce the potential for negative impacts on the springs. As a result, Vulcan can only utilize that amount of Edwards Aquifer water that complies with the EAA's rules. Apart from Edwards Aquifer water, other potential sources of water for this project include surface water piped to the project site from the Medina Lake Irrigation Canal and or Trinity Aquifer water produced from new wells on site, all of which's use would lessen the demand on the Edwards Aquifer.

The amount of water utilized in the project will be a function of the market demand and the resultant volume of material sold from the operations. It is estimated that in the early stages of the project, the volume of water to be utilized may range from 500 to 2,000 acre/feet annually. Included within this estimate is Vulcan's utilization of extensive water re-use equipment and technology. In 2000, Vulcan Material's received an award for "Outstanding Water Saver of the Year – Big Business Category" from the San Antonio Water Systems, for using water re-use technology in its Bexar County quarry operations. Vulcan is the only aggregate producer in the area to utilize this water saving approach. Implementation of this technology resulted in Vulcan recovering as much as 75% of the water they would have otherwise lost. The same technology is planned for this project. Therefore, regarding Vulcan's potential use of water (pumpage) from

the Edwards Aquifer, no impact on the species in the Comal and San Marcos springs would occur as a result of this operation.

Although the proposed project will utilize water in a variety of ways for the production of the materials (for dust suppression, material washing, etc.), the overall impact on water levels within the Edwards Aquifer could actually be improved as a result of this quarry operation. This could occur by potentially increasing the recharge to the aquifer via the quarry, which in turn could potentially benefit the springs. In fact, a variety of recharge enhancement projects could be evaluated which would conceivably allow water from Elm Creek during heavy flood periods and at various flood stages to be directed into the quarry for direct recharge into the aquifer. An additional benefit in such a conceptual design would be to potentially lessen the economic losses resulting from downstream flood damage that has historically occurred during heavy rain events. The drainage basin for Elm and Polecat creeks are sparsely populated and undeveloped rural ranch land that could contribute high quality recharge water to the recharge zone. However, any efforts to enhance recharge in the quarries to improve recharge and potential spring habitat will be pursued only with the involvement and cooperation of the EAA, the F.W.S., and the TPW.

Through extensive field observations and consultation with landowners, no sensitive recharge features have been identified in any of the five (5) Environmental Survey Areas (see Figure 5, Phase 1 – 5) or on any of the other parts of the 1,760 acre project site. As a result, there is no potential harm to the recharge effectiveness to the aquifer as a result of potential destruction of sensitive features, and consequently there should be no impact on the species within the Comal and San Marcos springs.

Regarding water quality, by design, the primary quarry locations exist in the topographically higher elevations of the project site. Because of this, only minor run-off water and water from direct rainfall will enter the quarry locations (apart from any separately designed and approved aquifer recharge project). The only potential aquifer contaminant existing in the quarry operations is the relatively small amount of diesel fuel housed within the fuel tanks on the motorized heavy equipment. All major fuel storage areas are located outside of the quarry area in well regulated and controlled secondary fuel containment facilities off of the recharge zone. In the unlikely event of an accident resulting in a ruptured fuel tank on a piece of heavy equipment within the quarry operations, emergency spill clean up kits would be utilized to reduce any potential harm to the aquifer.

Quarry operations do involve the use of explosives. These explosives are a mixture of ammonium nitrate and diesel along with blasting caps. These components are brought into the quarry area and mixed together during placement within the shot holes. Upon detonation, these components are consumed during the explosion. Any trace and or minor residual components remaining from the explosion will be adhered to the broken aggregate that is transported out of the quarry. Using these practices and by exercising prudent mining approaches, including extensive environmental and safety awareness programs, it is unlikely that the proposed operations would have any negative impact on the Edwards Aquifer water quality and consequently any potential negative impact on the identified species in Comal and San Marcos springs. The project could have a small positive impact on the springs if recharge features are developed that could improve flow in the springs during critical periods.

## ASSESSMENT THREATENED AND ENDANGERED SPECIES (TPW Listing)

### Medina County Vertebrate Species (TPW Listing)

**Edwards Plateau Spring Salamander (*Eurycea sp*)-** These are a troglobitic species which live in springs, seeps, cave streams, and creek headwaters. They often hide under rocks and leaves and are found in the Edwards Plateau area from near Austin to Val Verde County. A complete survey of the Phase 1-5 Environmental Survey Areas did not reveal any permanent or semi-permanent springs, seeps or other suitable habitat. The deeper soils, found within the general area of the potential rail alignment, do not provide Karst features suitable for this species. In addition, the project is setting aside the Elm and Polecat creek drainages as buffer areas. The project is unlikely to have either a positive or negative effect on the species.

**Valdina Farms Sinkhole Salamander (*Eurycea troglodytes*)-** This is an isolated species, found in intermittent pools of a subterranean stream, which is located in Medina County. Valdina Farms is located at 29°29'39"N 99°22'49"W; at an elevation of 1,167 feet in the northwestern part on Medina County near the Uvalde County line. The Valdina Farms is topographically upgradient and not within the project area. The project is unlikely to have either a positive or negative effect on the species.

**American Peregrine Falcon (*Falco peregrinus anatum*)-** This raptor is generally not found in the proposed project area, but it is a potential migrant. The species nests in Tans Pecos area of Texas. The project buffer areas and improved habitat in those areas could have some limited value to migrating Peregrine Falcons. However, the project is not expected to have either significant positive or negative affect on the species.

**Arctic Peregrine Falcon (*Falco peregrinus tundrius*)-** This bird is also a potential migrant, and all Peregrine Falcons should be treated as federally listed endangered species. The project buffer areas and improved habitat in those areas could have some limited value to migrating Arctic Peregrine Falcons. However, the project is not expected to have either significant positive or negative affect on the species.

**Black-capped vireo (*Vireo atricapillus*)-** See above discussion (U.S.F.W.S. Listing).

**Golden-cheeked warbler (*Dendroica chrysoparia*)-** See above discussion (U.S.F.W.S. Listing).

**Henslow's Sparrow (*Ammodramus henslowii*)-** These are wintering individuals usually found in weedy fields or cutover areas where bunch grasses occur along with vines and brambles. They must have bare ground for walking or running. There have been a few records within Medina County but it is unlikely to be found in the project area. The proposed quarry (Phase 1-5 Environmental Survey Areas) would be located in areas adjacent to the drainage basins but would not significantly disturb potent habitat for this species. It is thought that the establishment of the buffer zones and continuous corridors could slightly benefit this species by providing continuous margins of habitat that could allow establishment of some vine/bramble habitat. Removal of grazing and/or controlled grazing would also benefit the species. The habitat found

in the general area of the potential rail spur alignments could provide potential habitat, however, heavy livestock grazing and intense agriculture limit the habitat value in most areas. Management of the rail spur corridors could provide improved habitat for this species.

**Zone-tailed Hawk (*Buteo albonotatus*)-** This species is found in arid-open country, including open deciduous or pine-oak woodland, mesa or mountain country and is unlikely to be found in the project area. They are often found near watercourses and wooded canyons or tree-lined rivers along middle slopes of desert mountains. They nest in a wide variety of habitat ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions. The proposed project corridors and buffer zones would provide improved habitat for this species. Controlled grazing would have a significant positive affect on the more arid high rangeland in the areas found in the Phase 1-5 Environmental Survey Areas. The project, once the habitat improvements are implemented, could have a net positive affect on the species in this area. It is unlikely that the rail spur corridor and management would have a significant negative or positive effect on this species. Management of the corridor could slightly improve habitat for prey species used by this raptor.

**Frio Pocket Gopher (*Geomys texensis bakeri*)-** These mammals are associated with nearly level Atco (AtA, AtB) soil. Atco soil is well drained and consists of sandy surface layers with loam extending to as deep as two meters. As illustrated in **Figure 7**, Atco soils are not found within the Phase 1-5 Environmental Survey Areas. A review of the soil maps of the general area of potential rail spur alignments also did not indicate the presence of Atco soils. Adequate soil type does not exist within the project boundaries to support this species. It is unlikely that the project could have a negative or positive affect on the species.

**Keeled Earless Lizard (*Holbrookia propinqua*)-** This species is found in coastal dunes, barrier islands, and other sandy areas. They prefer to live in dry sandy places. They eat insects and small invertebrates, and lay their eggs underground March-September. Sandy, dune-forming soils are not found in the project area. It is unlikely the species could be found in the area and as such it is unlikely that the project will have a positive or negative affect on the species.

**Spot-tailed Earless Lizard (*Holbrookia lacerata*)-** This species is found in central and southern Texas and adjacent Mexico in oak-juniper woodlands with prickly pear associations. The lizards prefer rocky desert flats, areas with sparse vegetation or mesquite-prickly pear associations, and the uplands of the Edwards Plateau. They lay their eggs underground and eat small invertebrates. The range maps prepared by the University of Texas College of Natural Sciences and Texas Memorial Museum do not show Medina County as having reported sightings. The habitat found the project area does not offer the open dry habitat preferred by the species. It is unlikely the species could be found in the area and as such there is virtually no significant negative affect on the species.

**Texas Garter Snake (*Thamnophis sirtalis annectens*)-** This species is usually found in wet or moist microhabitats, but it is not restricted to them. They hibernate underground or under surface cover and breed March-August. Due to the lack of moist habitats the species is not expected to be found at the site. However, establishment of the buffer areas would protect any potential habitat and result in a slight improvement for the species.

**Texas Horned Lizard (*Phrynosoma cornutum*)-** This species is found in open arid and semi arid regions with sparse vegetation including grass, cactus, scattered brush, or scrubby trees. Soil varies from sandy to rocky. Prefers warm sandy, arid environments and is typically found in flat, open areas with little vegetation. They burrow into the soil, enter rodent burrows, or hide under rocks when inactive. They breed from March-September. Originally the species was seen throughout the state but numbers dropped dramatically. Declines have been attributed to a variety of causes including; insecticides use, fire ants and habitat alteration. Today they are only seen in the western third of the state. The site offers marginal habitat for the species that would be disturbed by quarry operations. However, management of the buffer areas and protection from pesticide use could slightly improve the habitat for this species.

**Texas Tortoise (*Gopherus berlandieri*)-** Found in open brush areas with a grass understory. Open grass and bare ground are avoided by this species. When they are inactive, they occupy shallow depressions at base of brush or cactus, sometimes in underground burrows, or under objects. They usually live longer than 50 years. They are active March-November and breed April-November. The species depends on sandy soils for burrowing which are not found in the project area. It is unlikely that this species occurs in the project area.

#### **Medina County Plant Species (TPW Listing)**

**Bracted twistflower (*Streptanthus bracteatus*)-** Usually occurring in shallow clay soils over limestone, mostly on rocky slopes and in openings in juniper-oak woodlands. This plant flowers April-May. The species has been reported in other parts of Medina County coincidental to golden-cheeked warbler surveys. Survey periods for golden-cheeked warblers coincide with the optimum flowering of this plant and none were observed in the April-May 2001 surveys in the Phase I-5 Environmental Survey Areas. Clay soils are limited on the project site; however, the rocky slopes are found within the buffer areas that can be managed to optimize species diversity. The project has the potential to improve habitat conditions by reducing grazing in potential habitat. The species was not observed in March, April and May 2001, 2002 and 2003 surveys. Optimum habitat for this species would be found in the proposed buffer and management areas. Establishment of these buffer areas and management could improve habitat for this species.

**Texas Mock-orange (*Philadelphus texensis*)-** This plant is found in limestone cliffs and boulders in mesic stream bottoms and canyons. This plant is usually found in shade of mostly deciduous sloped forest and flowers April-May. Mesic stream bottom habitat is limited in the project areas but there is a potential for the habitat within the buffer areas that will be managed to optimize species diversity. The species was not observed in March, April and May 2001, 2002 and 2003 surveys. The project has the potential to improve habitat conditions by reducing grazing in potential habitat.

**Sandhill Woollywhite (*Hymenopappus carrizoanus*)-** This plant is found in open areas in deep sands derived from Carrizo and similar Eocene formations, including disturbed areas. It flowers late spring-fall. Deep sandy soils are not found in the project areas (**Figure 7**) so it is unlikely that the species would be found in the area. The project is unlikely to have either a positive or negative affect on the species.

## **ANTIQUITIES-TEXAS STATE HISTORICAL PRESERVATION OFFICER**

Based on a records review, there are no registered cultural sites on the project area. Based on field visits, there is little likelihood that any major sites exist on the property. Only small hunting sites are anticipated and there is little potential for large sites due to the historic lack of water in the area. Also, the shallow soils in the Phase 1-5 Environmental Survey Areas preclude the potential for significant buried cultural sites. Deeper soils exist in the general area of the potential rail spur alignment; however, agricultural tilling has disturbed much of the area. If sites are located they will be avoided if possible. If avoidance is not possible the sites will be documented and recovered artifacts will be documented and archived. Arrangements are also being made for one hundred percent surveys and for archival of any recovered artifacts. Once the rail alignments have been finalized and access agreements are obtained, a notification letter will be prepared for the State Historical Preservation Office describing the project, survey methods, notification protocol in the event significant sites or resources are identified and archival arrangements. Much of this information is being collected as part of the Federal Surface Transportation Boards environmental research.

## **SUMMARY OF PROJECT AND POTENTIAL IMPACTS ON PROTECTED SPECIES**

**Phase 1-Project Construction-**Due to the long-term nature of the project, Vulcan proposed using a phased approach in developing the proposed quarry and processing facilities. This approach was accepted by the U.S.F.W.S. (transmittal dated July 19, 2001). The goal will be to develop an environmentally sustainable project that either does no harm or may actually improve over-all habitat and species diversity in the area. Vulcan has briefed the Edwards Aquifer Authority staff on this project and the potential viability of it eventually becoming a substantial recharge feature to the Edwards Aquifer. The EAA Staff and General Manager's only expressed concerns have focused on Vulcan's need to incorporate adequate protections against the potential for fuel spills over the recharge zone. Vulcan's approach will meet and or exceed all local, state, and federal regulations regarding the containment and protection of fuel supplies for the quarry and plant operations. All major fuel supplies for plant operations are to be located within secondary containment facilities constructed outside of the recharge zone.

One species, the golden-cheeked warbler, has recently been found in a variety of habitats, other than Ashe juniper/hardwood, so the U.S.F.W.S. does not currently allow the use of habitat surveys to determine presence of the species in a proposed disturbance area. Vulcan, through its consultants, have completed surveys on over 400 acres of land which would be partially disturbed during the first year of the Phase 1 construction following U.S.F.W.S. protocols (three years of survey in 2001, 2002 and 2003). The project would also involve the establishment of a plant maintenance facility that would require about 100 acres of previously farmed land that lies off the recharge zone. All fuel facilities would be constructed with secondary containment meeting all Edwards Aquifer protection requirements. The production facility would require approximately 150 acres of land that borders Polecat Creek. A portion of this land was previously cleared for pasture by the landowner in excess of 20 years ago. All of the land within the proposed project site (all 1,720 + acres) has been heavily grazed by domestic stock and wildlife. A 400' corridor has been set aside as a buffer zone/wildlife corridor. The corridor

extends completely through the project site, offering both a north-south and east-west corridor. Extensive, U.S.F.W.S. sanctioned golden-cheeked warbler surveys were conducted in the Phase 1 Environmental Survey Area. No warblers or calls were observed in the Phase 1 project area. Vulcan has voluntarily established corridors and buffer zones in those areas that could potentially be used as warbler habitat. By protecting these areas, Vulcan has assured that there is no potential to disturb potential habitat and to "take" the species. Future annual surveys are proposed to determine if management of the buffer areas improves habitat for the warblers and if so to establish a population baseline. The project goal would be to improve habitat for the warbler and other species of concern. Vulcan proposed that a "Phased Biological Assessment" be prepared based on the annual surveys and cumulative data collected in the screening level and site-specific surveys. Prior to any brush clearing or earth disturbing activities, U.S.F.W.S. sanctioned surveys would be completed and a full "Biological Assessment" would be prepared. A Site Environmental Management Plan will be prepared and updated reflecting the U.S.F.W.S. and TPW recommendations as well as those of the Vulcan environmental management team. This report represents the "Biological Assessment" for Phase 1 of the long-term project.

A roadway and aggregate conveyor system will be required across the buffer corridor to connect the quarry area with the crushing and screening plant; however, the roadway is not expected to significantly impact the effectiveness of the corridor. The roadway will cross the corridor at a location selected by the planning and environmental management team. It is estimated that the roadway would require less than approximately two acres. It should be noted that only a fraction of the Phase 1 area would be disturbed in the first year of operation. It is anticipated that the Phase 1 areas would provide many years of quarrying operations before there would be a need to extend into the identified Phase 2 Environmental Survey Area. By conducting annual surveys well ahead of planned mining activities, Vulcan can identify potential sensitive habitat and species and avoid those areas. The areas would then be incorporated into the Site Environmental Management Plan.

**Phase 1-Project Operation**-The mining operation would consist of breaking the in-place limestone using engineered blasting. The broken limestone would then be removed by heavy equipment and transported to the Production Facility for crushing, segregation, washing, and transport preparation. In the early stages of the project, until the rail facilities are completed, all sold materials would leave the project site via existing and improved roadway infrastructures. Prior to the project start-up, discussions with appropriate county and state officials regarding routes and necessary road improvements will be held. Following these meetings, a transportation plan, defining precise routes, will be implemented. Within the mining operation, a variety of dust abatement techniques will be used during the mining and rock handling activities. Many of the elements within the crushing and screening circuits are wet systems and produce little dust. Water trucks will be used to spray quarry roads to reduce dust within the quarry. If nesting warblers, or other sensitive species, are identified mining activities can be modified to avoid disturbing those species.

Vulcan proposes to continue to include the two Texas listed species in the annual surveys, the Bracted Twistflower and the Texas Mock-orange. The project management, including managed grazing and the establishment of buffer zones should improve the habitat for these species. Baseline surveys will be conducted to monitor any improvements in population status and to

identify additional management areas to be included in the site Environmental Management Plan.

Explosive material components (typically ammonium nitrate and diesel) used in the blasting would be brought in by outside contractors with no onsite bulk storage of explosive material. Explosives will be consumed in the detonation and any residues would be removed with the excavated limestone materials. Periodic groundwater monitoring will be conducted to assure that the shallow groundwater, and subsequently the Edwards Aquifer and any protected Edwards Aquifer species, would not be affected by mining operations.

**Scheduled Continuing Surveys-** Vulcan, through its environmental management team, will continue focused environmental surveys on the initial Phase 1 Environmental Survey Area (receiving focused survey in 2001, 2002 and 2003) and will extend those focused surveys into the remaining Phase 2-5 Environmental Survey Areas as agreed to by the U.S.F.W.S. and the Texas Diversity Program office in the Site Environmental Plan. Screening level surveys will be continued on the Phase 2-5 Environmental Survey Areas. These survey efforts will be conducted primarily in the March-May time frame to coincide with the U.S.F.W.S. sanctioned survey protocols for golden-cheeked warblers and black-capped vireos as well as the optimum flowering period for the Bracted Twistflower and the Texas Mock-orange. These surveys will be conducted to confirm the survey results collected in the 2001-2003 survey efforts and to provide detailed survey data on the remainder of the Phase 1 Environmental Survey Area. Additional site-specific focused surveys are anticipated in the Phase 2-5 Environmental Survey Areas identified as exhibiting potential T&E or sensitive species potential habitat or sightings. Using this approach, Vulcan will collect several years of survey data as well U.S.F.W.S. and TPW concurrence on management options on all areas prior to disturbance of any potential T&E and sensitive species habitat.

Vulcan proposes a close working relationship with the U.S.F.W.S. and the TPW in developing a Site Environmental Management Plan that demonstrates that wildlife diversity in the area can be maintained and even improved through responsible mining practices, planning, avoidance and management of sensitive habitats. Through this cooperative effort Vulcan envisions a showcase project demonstrating techniques that provide the region with needed aggregate resources but at the same time protect potential endangered species habitat and species. Based on the above findings, cooperation of the U.S.F.W.S. and TPW, Vulcan is committed to including avoidance measures and management features into the project design to assure that the project is "unlikely to affect" federal or state threatened, endangered or sensitive species or their habitat.

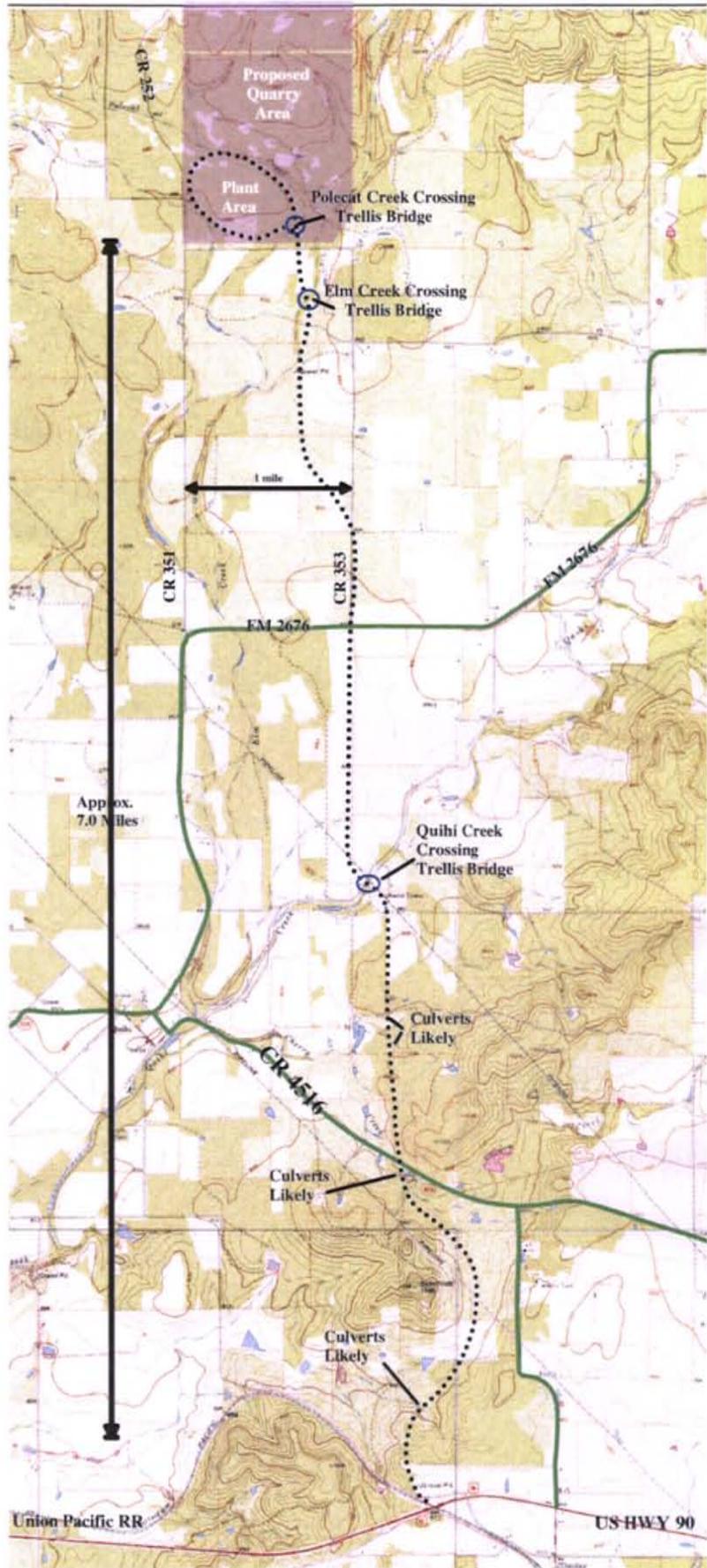
### **Conclusions**

Based on the results of the site surveys, proposed management of the project areas and this Biological Assessment, Vulcan and its environmental management team does not believe that development of Phase 1 of this project will adversely affect Federal or Texas threatened or endangered species or their habitat.

**Figure 2**

**Map of General Rail Route and Quarry Location**

Additional culverts may be necessary pursuant to final engineering design recommendations



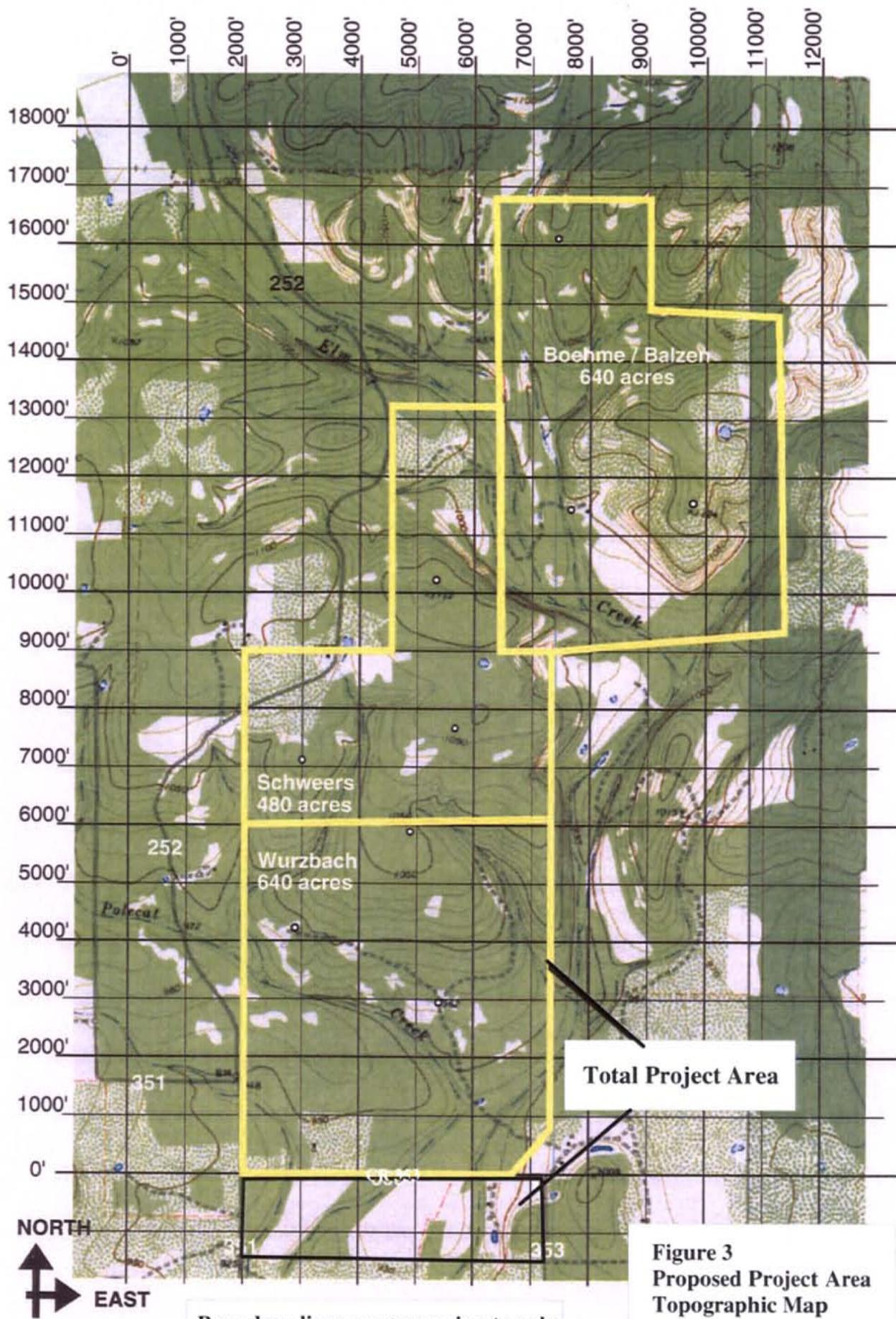
Prepared by  
Vulcan Materials Company  
August 2003



Sources: The Roads of Texas, Published by Shearer Publishing Copyright 1999 Brownlow Consulting 2003

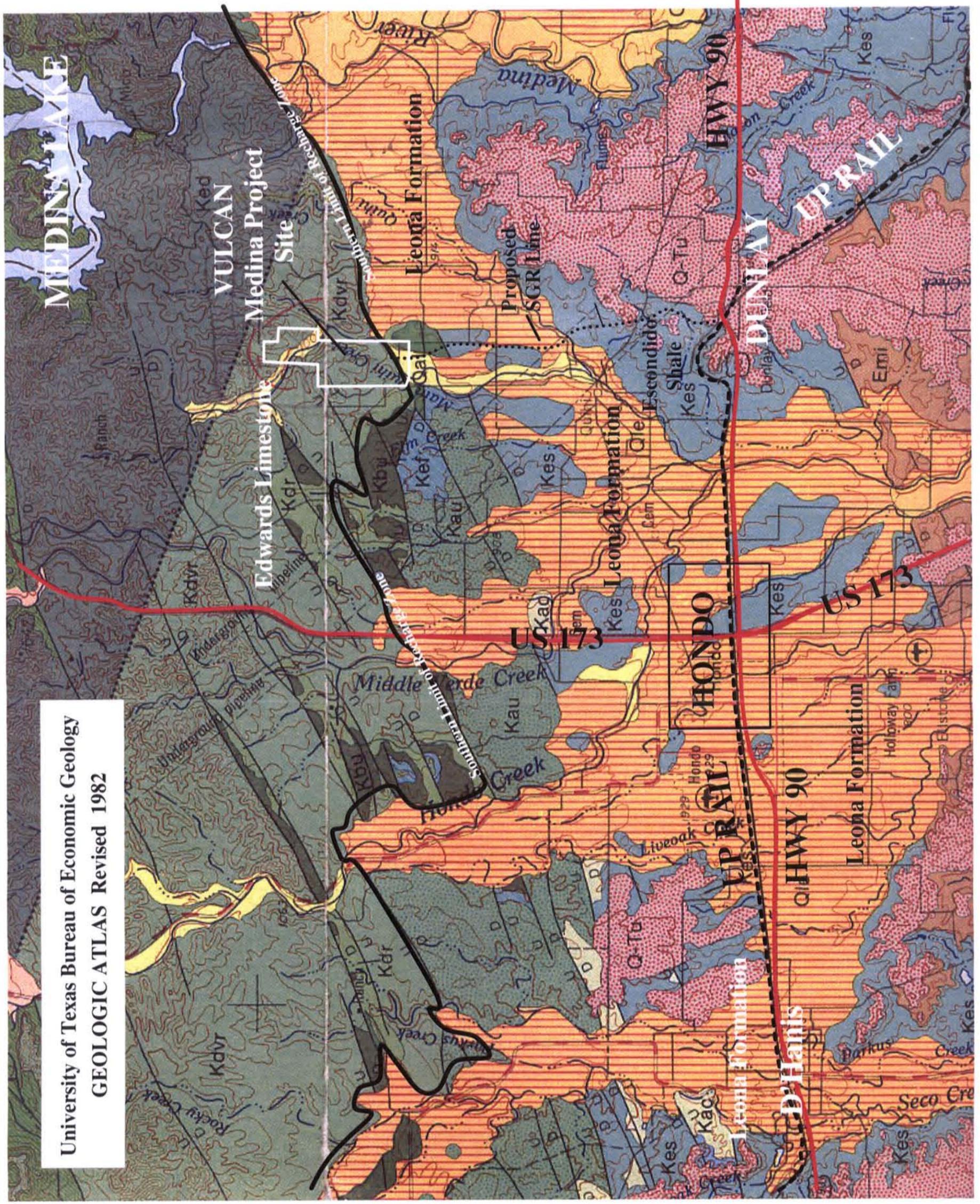
**NORTH**  
**1** Scale  
—  
1-mile

**Figure 1**  
**General Site Location Map**



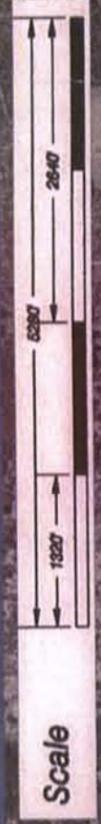
Boundary lines are approximate only

**Figure 3  
Proposed Project Area  
Topographic Map**



University of Texas Bureau of Economic Geology  
 GEOLOGIC ATLAS Revised 1982

Figure 4  
 General Geologic Map  
 of Proposed Quarry  
 and Rail Line

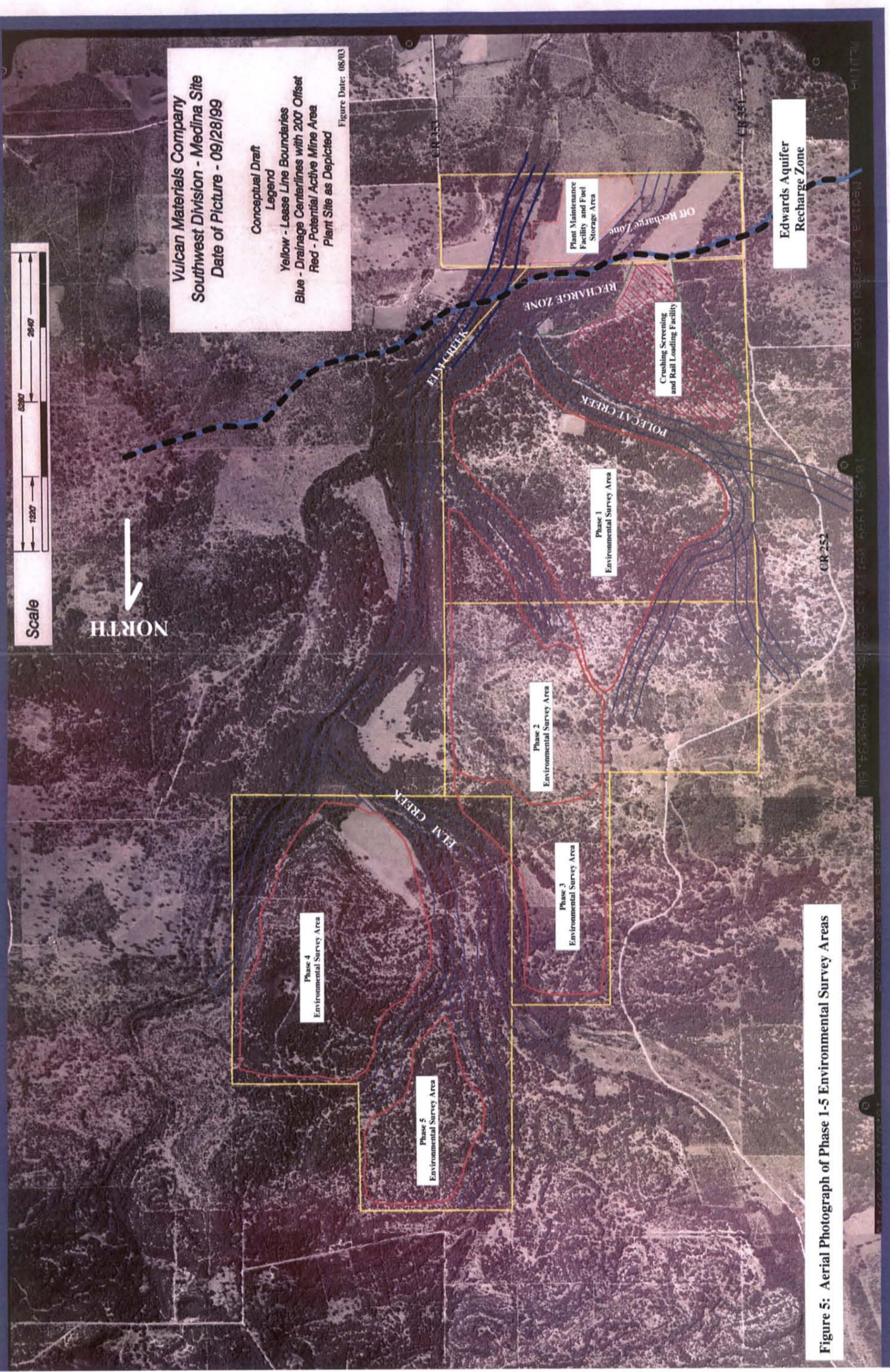


**Vulcan Materials Company**  
**Southwest Division - Medina Site**  
**Date of Picture - 09/28/99**

**Conceptual Draft**  
**Legend**

Yellow - Lease Line Boundaries  
 Blue - Drainage Centerlines with 200' Offset  
 Red - Potential Active Mine Area  
 Plant Site as Depicted

Figure Date: 08/03



**Figure 5: Aerial Photograph of Phase 1-5 Environmental Survey Areas**

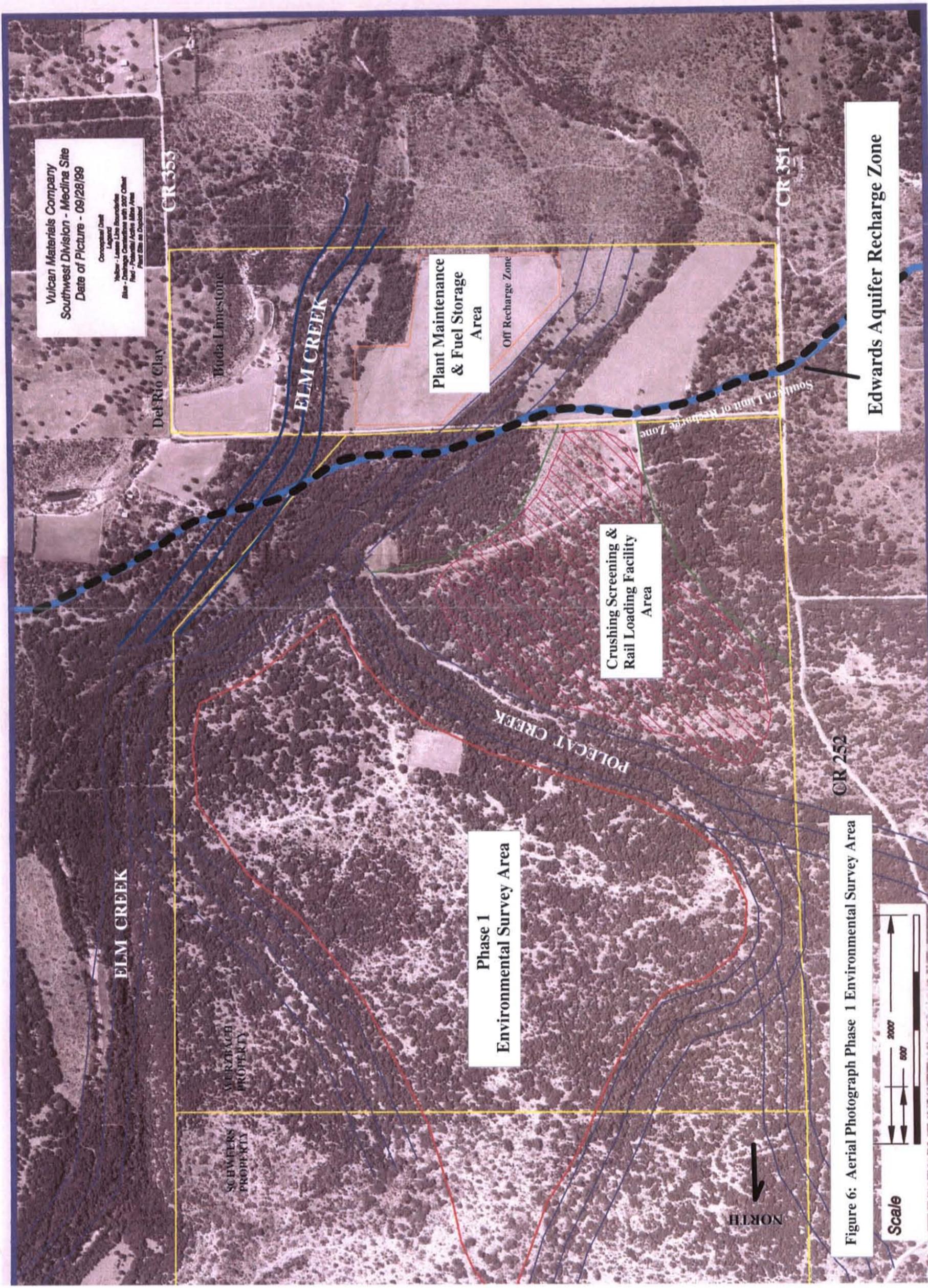


Figure 6: Aerial Photograph Phase 1 Environmental Survey Area

