KEELER DUNES DUST CONTROL PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT / ENVIRONMENTAL ASSESSMENT

VOLUME II

Prepared for:

Bureau of Land Management, Bishop Field Office
351 Pacu Lane Suite 100
Bishop, California 93514

and

Great Basin Unified Air Pollution Control District
157 Short Street
Bishop, California 93514

Prepared by:

Sapphos Environmental, Inc.
430 N. Halstead Street
Pasadena, California 91107

March 21, 2014

APPENDIX A
NOTICE OF PREPARATION

Theodore D. Schade
Air Pollution Control Officer

GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT
157 Short Street, Bishop, California 93514-3537
760-872-8211 Fax: 760-872-6109

Notice of Preparation

TO: Distribution List

FROM: Great Basin Unified Air
Pollution Control District
157 Short Street
Bishop, California 93514-3537

Subject: **Notice of Preparation of a Draft Environmental Impact Report for the Keeler Dunes Particulate Matter Air Pollution (PM_{10}) Non-attainment Area Project (Proposed Project)**

The Great Basin Unified Air Pollution Control District (District), in coordination with the U.S. Department of Interior Bureau of Land Management (BLM) Bishop Field Office, intends to prepare an Environmental Impact Report (EIR) for the development of strategies to mitigate windblown dust that is contributing to the non-attainment of the National Ambient Air Quality Standards for the PM_{10} air pollutant in the Keeler Dunes (proposed project site) near the community of Keeler, Inyo County, California. The District and the BLM will be the lead agencies responsible for coordinating the environmental analysis pursuant to the California Environmental Quality Act and the National Environmental Policy Act (NEPA), respectively. The U.S. Environmental Protection Agency will be a cooperating federal agency. A separate Notice of Intent will be prepared for the environmental analysis under NEPA.

The District is seeking input from regulatory agencies and other interested parties regarding the scope and intent of the information to be included in the EIR. Scoping has been helpful to agencies in identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating detailed studies of issues not found to be significant. Responsible and trustee agencies will need to use the EIR when considering permits or related approvals for the proposed project.

The proposed project site is located northwest of Keeler, on lands administered by the BLM and the City of Los Angeles Department of Water and Power, and is approximately 1.0 square mile in size. The proposed project site is bounded approximately by California State Route 136 on the east-northeast and the dry Owens Lake bed shoreline on the west-southwest, and extends approximately 2.5 miles to the northwest from Keeler.

The District's goal is to use dust mitigation measures that stabilize the sand dunes and have a low impact to natural resources within the Keeler Dunes. Dust-control efforts may include a variety of measures, such as establishment and management of native vegetation, wind breaks, and barriers; spraying of the sand with water or other dust-suppressing substances; and placement of gravel with or without an underlying geotextile fabric in selected areas.

Due to the time limit mandated by State law, responses must be submitted no later than 5:00 p.m. on Friday, November 25, 2011. Please send letters of comment (including the name of the designated contact person for your agency) on the Notice of Preparation to the following address:

Great Basin Unified Air Pollution Control District
Attn: Mr. Theodore D. Shade
157 Short Street, Suite 6
Bishop, California 93514-3537

Comments can also be submitted electronically at: keelerdunesproject@gmail.com

Agencies and organizations should identify a point of contact for future coordination.

Scoping meetings: On Monday, November 14, 2011, the District and BLM will host two scoping meetings to review the various project elements and solicit information in relation to CEQA analysis for the proposed project. Both meetings will take place at the Board of Supervisors Chamber of the Inyo County Administrative Center, located at 168 North Edwards Street, Independence, California 93526. The public agency meeting will be from 2:00 p.m. to 4:00 p.m. and the general public meeting will be from 6:00 p.m. to 8:00 p.m.

Signature: S.8. Schade
Mr. Theodore D. Schade

Telephone: (760) 872-8211

Title: Air Pollution Control Officer

Date: October 25, 2011

APPENDIX B
VISUAL RESOURCES
TECHNICAL REPORT

KEELER DUNES DUST CONTROL PROJECT
VISUAL RESOURCES TECHNICAL REPORT

Prepared for:

Great Basin Unified Air Pollution Control District
154 Short Street
Bishop, California 93514

Prepared by:

Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

March 21, 2014

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SECTION 1.0
INTRODUCTION

1.1 PURPOSE AND SCOPE

This Visual Resources Technical Report was prepared by Sapphos Environmental, Inc. for the Great Basin Unified Air Pollution Control District (District) to provide the characterization of baseline resources and visualization of the proposed Keeler Dunes Dust Control Project (proposed project / proposed action) that will serve as the basis for analyzing the potential impacts to visual character or visual quality. This Visual Resources Technical Report was prepared to compile the Visual Resource Inventory (VRI) as required by the Bureau of Land Management (BLM) and characterize the visual resources that would potentially be affected by construction and operation of the proposed project / proposed action. Acting in its capacity as a lead agency under the National Environmental Policy Act (NEPA), the BLM would need to determine the potential for the proposed action to result in significant impacts, consider mitigation measures and alternatives capable of avoiding significant impacts, and take the environmental effects of the proposed project / proposed action into consideration as part of its decision-making process. The visual character and quality at the proposed project / proposed action were evaluated using the BLM VRI and the Visual Resource Management (VRM) Manual to determine the extent of proposed action impacts.[1,2]

This Visual Resources Technical Report provides baseline data completed by the District's consultant in coordination with the BLM Bishop, California, office. The baseline data serves as evidence of existing conditions upon which the required evaluation of proposed project / proposed action impacts and the feasibility of mitigation measures in relation to visual resources can be made. This technical study identifies and evaluates key visual resources in the proposed project / proposed action area and determines the degree of visual impacts that could occur from the proposed project / proposed action on the existing landscape and built environment. This technical study evaluates potential aesthetic impacts associated with the proposed project / proposed action and provides a graphic visualization of the proposed project / proposed action elements and the surface viewsheds from selected points within and near the approximately 194-acre proposed project / proposed action area as necessary.

This Visual Resources Technical Report provides baseline information that was prepared by regulatory agencies and the District's consultant. Site-specific data records from BLM-approved key observation points (KOPs) were prepared by the District's consultant. This Visual Resources Technical Report was prepared based on information provided by the BLM Bishop Field Office, including KOP locations.[3]

[1] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[2] Bureau of Land Management. n.d. *Visual Resources Management*. Manual 8400. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8400.html

[3] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Proposed Project Site Visit with Grace Holder, Great Basin Unified Air Pollution District, Bishop, CA, and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

1.2 TERMS AND CONCEPTS

The following terms and concepts are used to describe and assess the aesthetics setting and impacts from the proposed project / proposed action on BLM-administered land:[4]

- **Color:** The hue (e.g., red, brown) and value (e.g., light, dark) of the light reflected by objects in the visual landscape.

- **Contrast:** The opposition or unlikeness of different forms, lines, colors, or textures in a landscape.

- **Cultural modification:** Any human-caused change in the land form, water form, or vegetation, or addition of a structure that creates a visual contrast in the basic elements (form, line, color, and texture) of the naturalistic character of a landscape.

- **Form:** The visual mass, bulk, or shape of an object or objects in the visual landscape that appear unified. This element of visual character is usually the strongest.

- **Key Observation Point (KOP):** One or a series of points on a travel route or at a use area or potential use area where the view of a management activity (action) would be the most revealing.

- **Line:** The well-defined edges of shapes or masses created in the visual landscape by horizons, silhouettes, or human-made features. This element of visual character is usually the second strongest.

- **Texture:** The apparent surface coarseness of the visual landscape caused by the aggregation or density of surface features and vegetation (e.g., fine, medium, coarse). This element of visual character is usually the least dominant.

- **Viewshed:** The landscape that can be directly seen under favorable atmospheric conditions, from a viewpoint or along a transportation corridor.

- **Visual (sensitive) receptor:** Any scenic vista, scenic highway, residence, or public recreational area located within the proposed project / proposed action viewshed that provides people with views of a site.

[4] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

SECTION 2.0
PROJECT DESCRIPTION

2.1 LOCATION

The proposed project / proposed action is located immediately northwest of the community of Keeler in Inyo County, California and is approximately 194 acres in size and located within an 870-acre (1.36-square-mile) study area. The proposed project / proposed action is located east of the 110-square-mile (70,000-acre) Owens Lake Bed, located within the Owens Valley in Inyo County, California (Figure 2.1-1, *Regional Vicinity Map*). The proposed project / proposed action is located approximately 10 miles southeast of the town of Lone Pine and approximately 65 miles southeast of the City of Bishop. The proposed project / proposed action is located approximately 10 miles to the west of Death Valley National Park, approximately 11 miles to the east of Inyo National Forest, approximately 23 miles to the east of Sequoia National Park, and approximately 48 miles north of the City of Ridgecrest (Figure 2.1-1). There are two communities in the vicinity of the proposed project / proposed action located in the unincorporated area of Inyo County: the community of Keeler southeast and adjacent to the proposed project / proposed action, and the community of Swansea to the north (Figure 2.1-2, *Project Location Map*). One designated Native American reservation, the Lone Pine Paiute-Shoshone Indian Reservation, is located approximately 10 miles to the northwest (Figure 2.1-1). The proposed project / proposed action study area is located within the Owens Valley Planning Area (OVPA) (Figure 2.1-3, *Proposed Project in Relation to Owens Valley Planning Area*). The OVPA is situated in the southern end of the Owens Valley, and implementation of various dust control measures (DCMs) on the former bed of Owens Lake has been ongoing since the year 2000.

The location of the study area is depicted on the U.S. Geological Survey (USGS) 7.5-minute series, Owens Lake and Dolomite, topographic quadrangles[1,2] (Figure 2.1-4, *Topographic Map of Project Study Area with USGS 7.5-Minute Quadrangle Index*). There is a 280-foot elevation difference between the highest and the lowest area of the study area. The topography of the study area consists of alluvial fan and former shorelines of Owens Lake covered by sand sheets and sand dunes; elevation ranges from approximately 3,600 feet above mean sea level (MSL) to approximately 3,885 feet above MSL.

The study area is bounded approximately by the Inyo Mountains on the east-northeast and the historic Owens Lake bed on the west-southwest, and extends approximately 2.5 miles to the northwest from the community of Keeler. California State Highway 136 (SR 136) bisects the 870-acre study area. The study area is located primarily on lands administered by the U.S. Department of Interior Bureau of Land Management Bishop Office (BLM) and the City of Los Angeles Department of Water and Power (LADWP). Other stakeholders include Inyo County, the local Lone Pine-Paiute Shoshone Tribes, California Department of Transportation (Caltrans) District 9, Southern Pacific Railroad, Keeler Community Services District, and Keeler residents.

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[1] U.S. Geological Survey. 1987. *7.5-Minute Series, Owens Lake, California, Topographic Quadrangle*. Reston, VA.

[2] U.S. Geological Survey. 1987. *7.5-Minute Series, Dolomite, California, Topographic Quadrangle*. Reston, VA.

2.2 STUDY AREA

The 1.36-square-mile study area is inclusive of the proposed project / proposed action area and six alternatives evaluated in the Environmental Impact Report / Environmental Assessment prepared to support the respective land use decision-making processes of the Great Basin Unified Air Pollution Control District (District) and the BLM. The proposed project / proposed action involves DCMs applied to 194 acres using irrigation water transported by water trucks from the Fault Test (FT) well, located approximately 3/4-mile west of the northern portion of the study area, to staging areas for delivery via all-terrain vehicles (ATVs). Alternatives 1 and 2 consider DCMs in the same area as the proposed project / proposed action with an increase in DCMs applied to 214 (20 additional acres) and 197 acres (3 additional acres), respectively. Alternative 3 involves DCMs applied to the same 194 acres as the proposed project / proposed action using a combination of supplemental irrigation water delivered by temporary aboveground polyvinyl chloride (PVC) pipelines and manual watering in selected areas of environmental sensitivity, with irrigation water for watering events supplied by water delivery trucks and three 20,000-gallon dark olive green painted water storage tanks with manifolds and booster pumps at Staging Areas 1, 2, and 3. Alternative 4 involves DCMs applied to the same 194 acres as the proposed project / proposed action using water transported by water trucks to roadside turnouts on the west side of State Route 136 for direct connection to a combination of irrigation water delivered by temporary aboveground PVC pipelines through beige/tan painted trunk lines at the turnouts and manual watering in selected areas of environmental sensitivity. Alternative 5 involves DCMs applied to the same 194 acres as the proposed project / proposed action using water supplied via the existing Keeler Community Service District (KCSD) well and a beige/tan painted pipeline and delivered using a combination of irrigation water delivered by temporary aboveground PVC pipelines and manual watering in selected areas. Alternative 6 is the no project / no action alternative. This Visual Resources Technical Report covers the entire area for the proposed project / proposed action study area and Alternatives 1 through 5.

2.3 PROPOSED PROJECT / PROPOSED ACTION

The proposed project / proposed action is a program to stabilize a portion of the Keeler sand dunes and associated sand deposits and reduce dust emissions that are causing and contributing to exceedances of the National Ambient Air Quality Standards (NAAQS) and California State Standard for PM_{10} in the communities of Keeler and Swansea, California. The proposed project / proposed action is designed to meet the required standards for healthful air quality in these communities. Elements of the proposed project / proposed action include placement of straw bales as a temporary windbreak, planting and establishment of native vegetation, and long-term air monitoring.

2.2.1 Elements

The DCM involves the establishment of a mix of native vegetation within specified dust emitting areas of the Keeler Dunes. The goal would be to create a natural vegetated dune environment that mimics comparable natural environments such as the existing Swansea Dunes (located to the northeast) and other stable shoreline dunes in the region. The establishment of native vegetation would act to prevent high emissions of dust by breaking up the wind and lowering the wind speed at the ground surface.

The proposed project / proposed action would entail placement of 123,185 straw bales and 369,555 native plants in approximately 194 acres within the dunes to achieve 85 percent (17

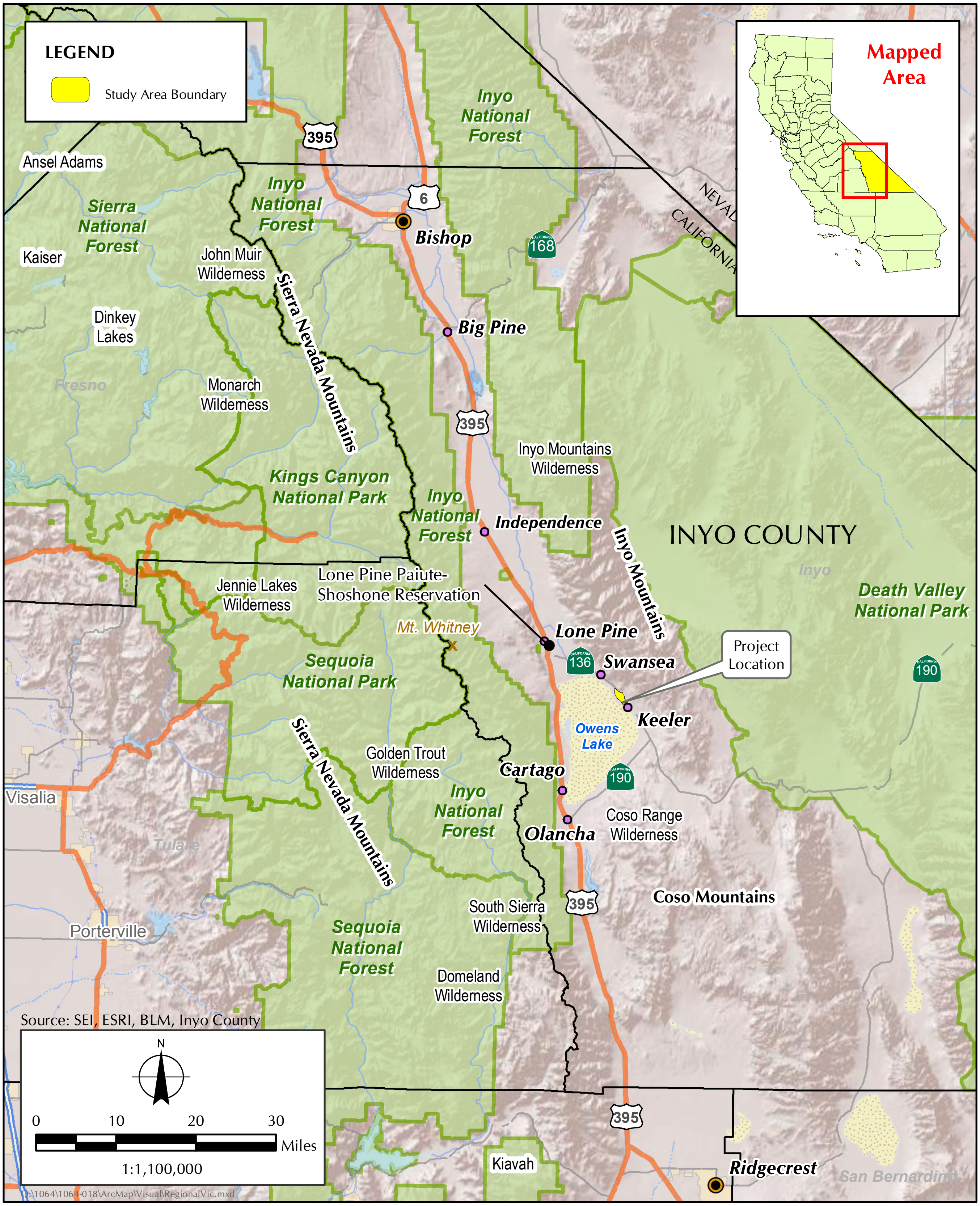

FIGURE 2.1-1
Regional Vicinity Map

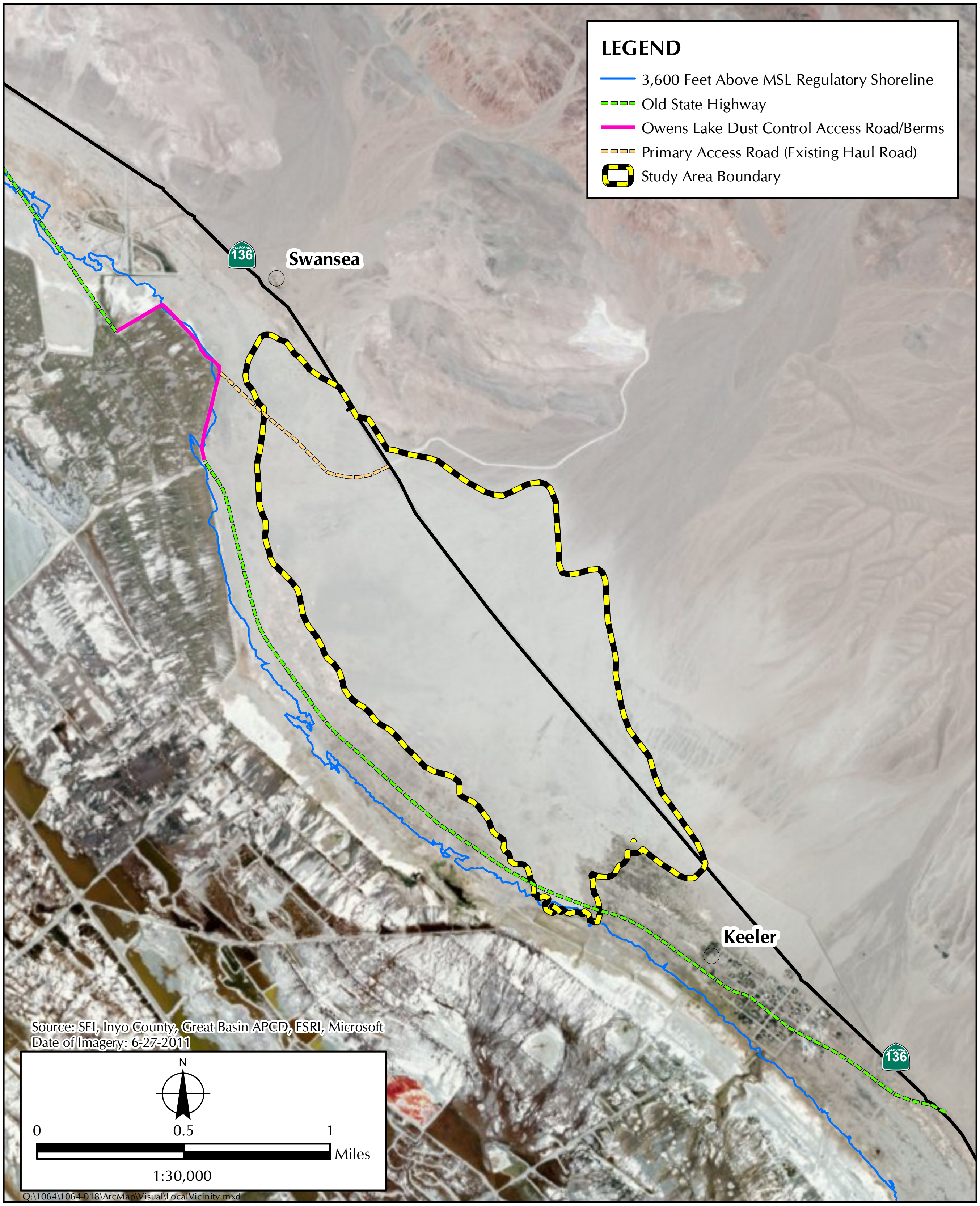

FIGURE 2.1-2

Project Location Map

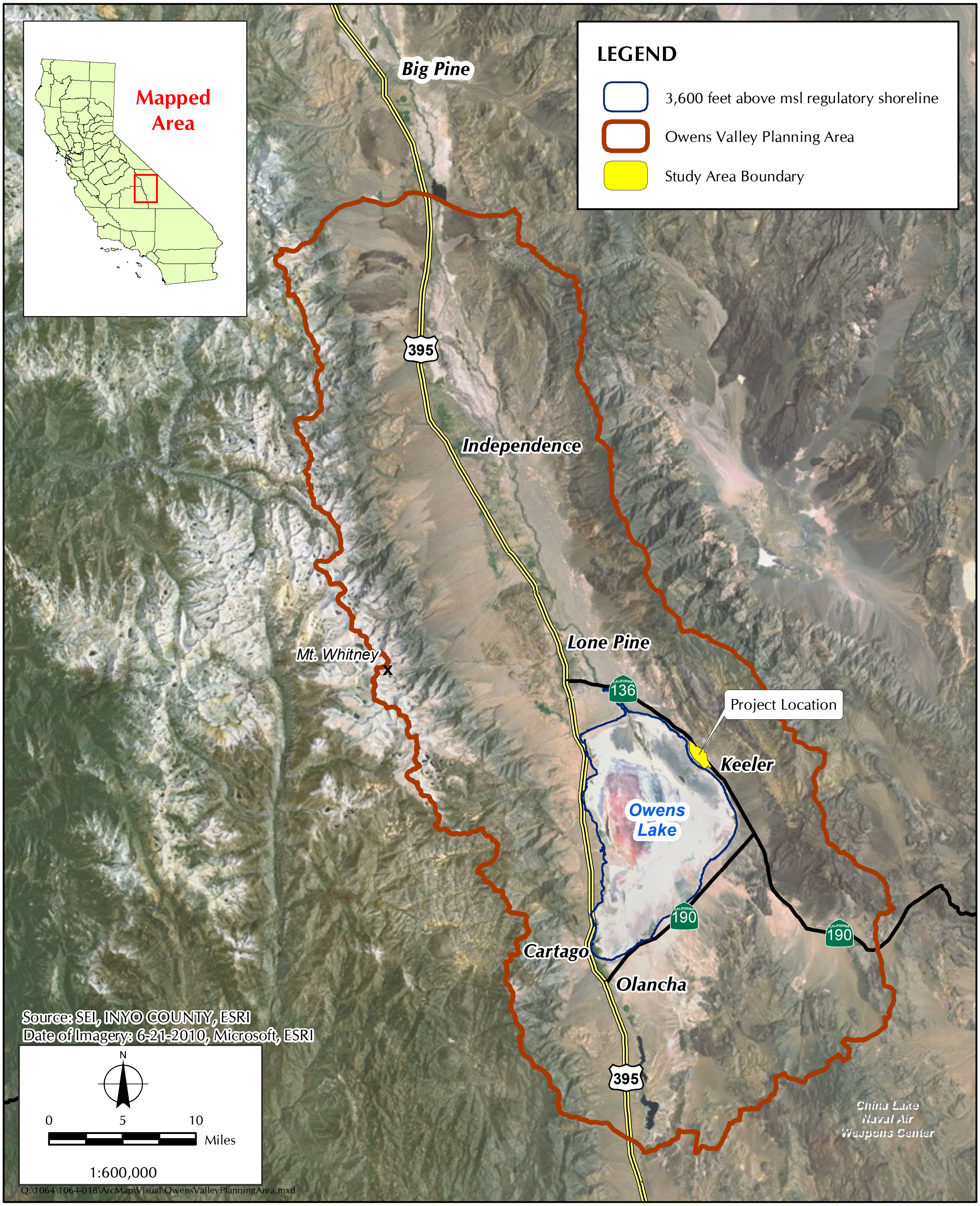

FIGURE 2.1-3

Proposed Project in Relation to Owens Valley Planning Area

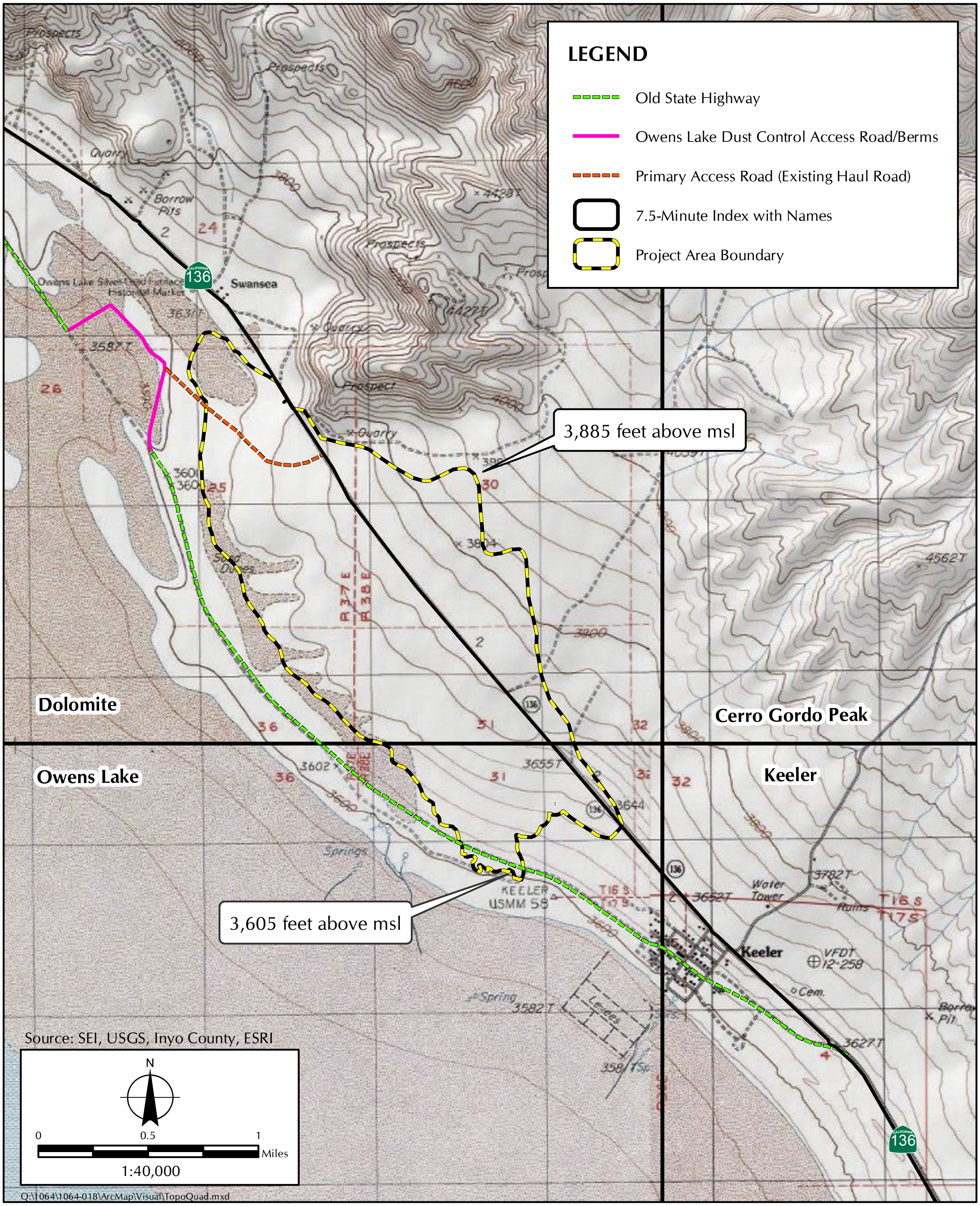

FIGURE 2.1-4

Topographic Map of Project Study Area
with USGS 7.5-Minute Quadrangle Index

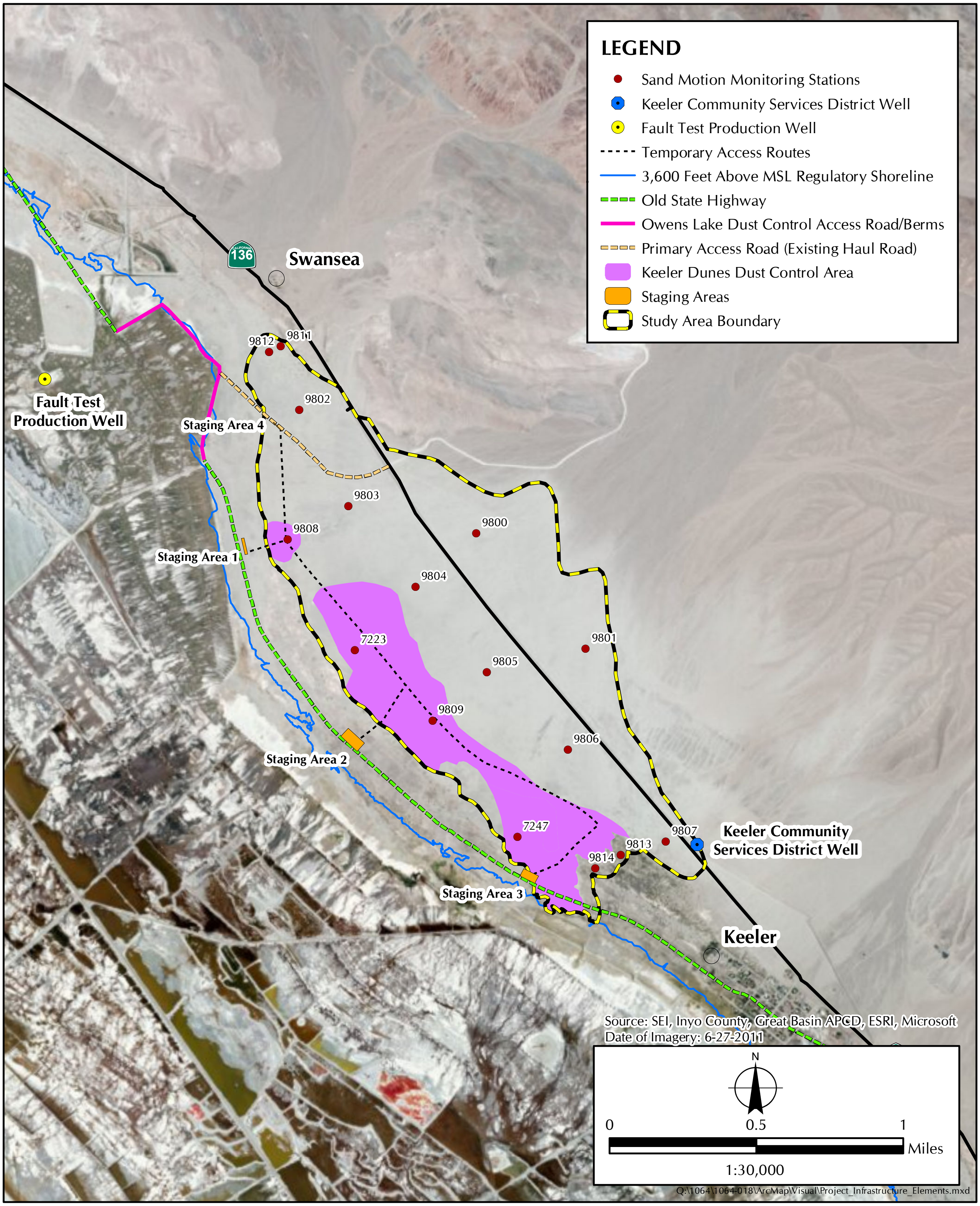

FIGURE 2.2.1-1

Location of Infrastructure Elements
Common to All Action Alternatives

acres) and 95 percent (177 acres) dust control efficiency (Figure 2.2.1-1, *Location of Infrastructure Elements Common to All Action Alternatives*). A random pattern would be used for straw bale placement, to mimic natural vegetation patterns. *Atriplex polycarpa* and a mixture of other types of native vegetation will be planted. Initially, the dust control reduction will be achieved through the array of straw bales. Over time, dust control will be taken over by the plants as they grow and mature. In addition, the straw bales provide a protected environment for the plants. Periodic watering of the plants in the springtime (March) may be needed in low-rainfall years for up to 3 years until the vegetation is sufficiently established. The long-term goal of this DCM would be the establishment of a self-sustaining native vegetation cover to control dust with minimal long-term maintenance. Continued air monitoring would be required, and minimal long-term maintenance would be anticipated.

Other infrastructure elements include temporary access routes; temporary staging areas for equipment, straw bales, and plants; and an effectiveness monitoring program (existing air monitoring stations). The estimated time period for construction is approximately 11 months. Supplemental watering, if necessary, would be conducted in late winter / early spring and late summer / early fall and would require approximately 1 to 3 months to complete. More specific details of the proposed project / proposed action elements are detailed below.

Native Vegetation

This DCM involves the establishment of a mix of native vegetation within the dust emitting areas shown on Figure 2.2.1-1. The goal would be to create a natural vegetated dune environment, similar to the existing Swansea Dunes (located to the northeast) and other stable shoreline dunes in the region (Swansea, California) that would act to prevent high emissions of dust by breaking up the wind and lowering the wind speed at the surface (Figure 2.2.1-2, *Example of Stabilized Dune at Swansea, California*). The approximate number of plants and straw bales necessary to achieve an estimated 85 and 95 percent dust control efficiency is summarized in Table 2.2.1-1, *Dust Control Measure Elements*. Examples of native vegetation that may be planted at the dunes are shown in Table 2.2.1-2, *Native Vegetation List*.

TABLE 2.2.1-1
DUST CONTROL MEASURE ELEMENTS

Element	Minimum Control Efficiency (%)	Number of Acres	No. Required per Acre	Total No. Required
Native Vegetation (ATPO)*	95	177	1,983	350,991
Native Vegetation (ATPO)	85	17	1,092	18,564
Total ATPO				369,555
Straw Bales**	95	177	661	116,997
Straw Bales	85	17	365	6,188
Total Bales				123,185

NOTES: * *Atriplex polycarpa* ** The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters (2.0 x 1.3 x 3.8 feet, or 24 x 16 x 48 inches).

TABLE 2.2.1-2
NATIVE VEGETATION LIST

Scientific Name	Common Name	Form
Atriplex polycarpa	Cattle spinach, cattle saltbush	Shrub
Atriplex confertifolia	Shadscale saltbush	Shrub
Atriplex parryi	Parry's saltbush	Shrub
Atriplex phyllostegia	Arrowscale	Annual herb
Cleomella obtusifolia	Mojave stinkweed, Mojave cleomella	Annual herb
Cleome sparsifolia	Fewleaf cleome, fewleaf spiderflower	Annual herb
Psathyrotes ramoissima	Turtleback	Annual or perennial herb
Sarcobatus vermiculatus	Greasewood	Shrub
Suaeda moquinii	Inkweed, Mojave seablite	Perennial herb/subshrub

Atriplex polycarpa (ATPO) (66 percent) and a mixture of other types of native vegetation (33 percent) will be planted. Native plants will be cultivated in a nursery and will be approximately 15 centimeters (5.9 inches) in height. Planting will involve initial placement of a straw bale (see Other Elements, below) followed by installation of native plants along the base of the straw bale. In addition, seeds of native plants will be dispersed in open areas between the straw bales.

It is expected that supplemental watering may be provided to the plants during the first 3 years of the proposed project / proposed action when rainfall is less than 50 percent of the average annual rainfall or is needed based on poor plant health. During the first year of the proposed project / proposed action, the plants may be provided with supplemental water, if needed, in the springtime when they are breaking dormancy for the growing season and again in the late summer as they go into their late season growth spurt. A decision to provide supplemental water will be based on the precipitation and the overall health of the plants.

During each of the first, second, and third years of operation of the proposed project / proposed action, there may be up to two supplemental watering events. The decision to provide supplemental water will be based on the precipitation during the year and the overall health of the plants. The potential watering events will occur in the later winter / early spring and late summer/early fall.

Straw Bales

This is a temporary element of the DCM that would be used to stabilize emissive dust areas and provide a sheltered environment for plants during establishment. The proposed project / proposed action will utilize straw bales (24 x 16 x 48 inches or similar size) installed in an irregular pattern across the emissive areas. Table 2.2.1-1 provides the number of straw bales necessary for 85 and 95 percent dust control. All straw bales used at the dunes would be certified weed free to minimize the threat from invasive weeds. Straw bales are anticipated to degrade over a period of several years and would provide organic material to the existing soil. Limited maintenance of straw bales (replacement of broken bales) is anticipated.

FIGURE 2.2.1-2
Example of Stabilized Dune at Swansea, California

Other Elements

Other proposed project / proposed action elements include infrastructure elements that may consist of access routes; staging areas; water supply, conveyance, and distribution facilities; and an effectiveness monitoring program.

Staging Areas

Temporary staging areas will be established to provide contractor(s) with storage and placement of equipment and straw bales, native plants, and supplies. Several staging area(s) will be provided on land near the revegetation locations (Figure 2.2.1-1). The total area of the proposed staging areas is approximately 3.2 acres that would be in place for 3 years following the installation of the revegetation program and then decommissioned.

One main staging area (Staging Area 1) will be established within the northwestern edge of the proposed project / proposed action area on land administered by the BLM (Figure 2.2.1-1). Located immediately east of Old State Highway, the facility will measure 50 feet by 300 feet in area and will be used by the contractor(s) for the storage of equipment, fuel, all-terrain vehicles (ATVs), native plants, and other supplies.

Staging Area 2 will also be constructed for the proposed project / proposed action along the Old State Highway, on land managed by the LADWP (Figure 2.2.1-1). Staging Area 2 will measure 200 feet by 400 feet.

Staging Area 3 will be located on land managed by the BLM, and will measure 150 feet by 300 feet. Both of these areas will be used for the temporary storage of equipment and materials needed for DCMs in the central and southern portions of the proposed project / proposed action area.

Staging Area 4 will be established adjacent to the gravel haul road constructed by the LADWP for dust mitigation on the Owens Lake, adjacent to the turn-off onto SR 136 (Figure 2.2.1-1). This staging area will be placed on previously disturbed land within the graveled limits of the existing road; thus, no vegetative removal is necessary. The area will measure approximately 10 feet by 200 feet and will be used primarily for temporary straw bale storage.

Staging Areas 1, 2, and 3 will require the brushing and grubbing, which leaves the vegetation roots intact within the ground and avoids the greater visual impact of grading. These staging areas will be restored and revegetated after the proposed project / proposed action has been completed.

Access Routes

A temporary access route for ATV travel will be constructed for use during placement of straw bales, planting, and watering activities. The temporary access route will be constructed without the use of supplemental materials such as asphalt or gravel. Following completion of planting and watering activities, the temporary access route will be restored utilizing straw bales and native plants as for the dust control areas of the proposed project / proposed action. The temporary access route from the staging areas will be approximately 13,478 feet long (2.5 miles), 20 feet wide, and even with the existing grade (the total temporary route disturbance area is 6 acres). The approximate location of access routes is shown in Figure 2.2.1-1. Currently, the proposed project / proposed action area can be accessed from State Route 136 and from Old State Highway (the Keeler Dump Road).

Water Supply, Conveyance, and Distribution

Approximately 5 gallons of water will be applied under each straw bale prior to planting the ATPO.[3] Total water needs for the ATPO are expected to be approximately 3.02 acre-feet (985,480 gallons). It is expected that supplemental watering will be implemented when rainfall is less than 50 percent of the average annual rainfall during the first 3 years until plants are well established.

The proposed project / proposed action assumes that the water for plant irrigation will be supplied from the District's 12-inch production well, located at the Fault Test Site, located about 0.7 mile northwest of the proposed project / proposed action boundary (Figure 2.2.1-3, *Water Supply*). The Fault Test well is an artesian (flowing) well and is capable of producing 250 gallons per minute (gpm).[4] An initial application of water at each straw bale installed in the dust control areas is expected to require approximately 615,925 gallons, which would be applied over a 2- to 4-month period. The Fault Test production well can supply 120,000 gallons over an 8-hour period, almost 8 times more than would be needed per day of watering. Other available water sources include the District's River Wells or purchased water from the Keeler Community Services District Well or the Agrarian Wells, located approximately 1 mile north-northeast from the project area.[5]

Water will be transported to the proposed project / proposed action via water trucks that will park at Staging Areas 1, 2, and 3, and transferred to small 150- to 200-gallon water tanks mounted to all-terrain vehicles (ATVs). Temporary standard piping, water storage tanks, and possible water pumping equipment may be required for the proposed project / proposed action. Subsequent distribution to individual plants in the proposed project / proposed action would be conducted through hoses from smaller water tanks mounted on a trailer and pulled with an ATV transported to the dust control areas via the access route or alternative temporary irrigation distribution system.

Effectiveness Monitoring Program

The District is currently monitoring dust activity in the proposed project / proposed action area with a network of 16 sand motion monitoring sites. The monitoring program will continue to operate during and after DCM implementation.

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[3] Groeneveld, D.P. HydroBio Advanced Remote Sensing. 12 September 2012. Telephone conversation with Donna Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

[4] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 9 October 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

[5] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 20 September 2013. Email to Eric Charlton, Sapphos Environmental, Inc., Pasadena, CA.

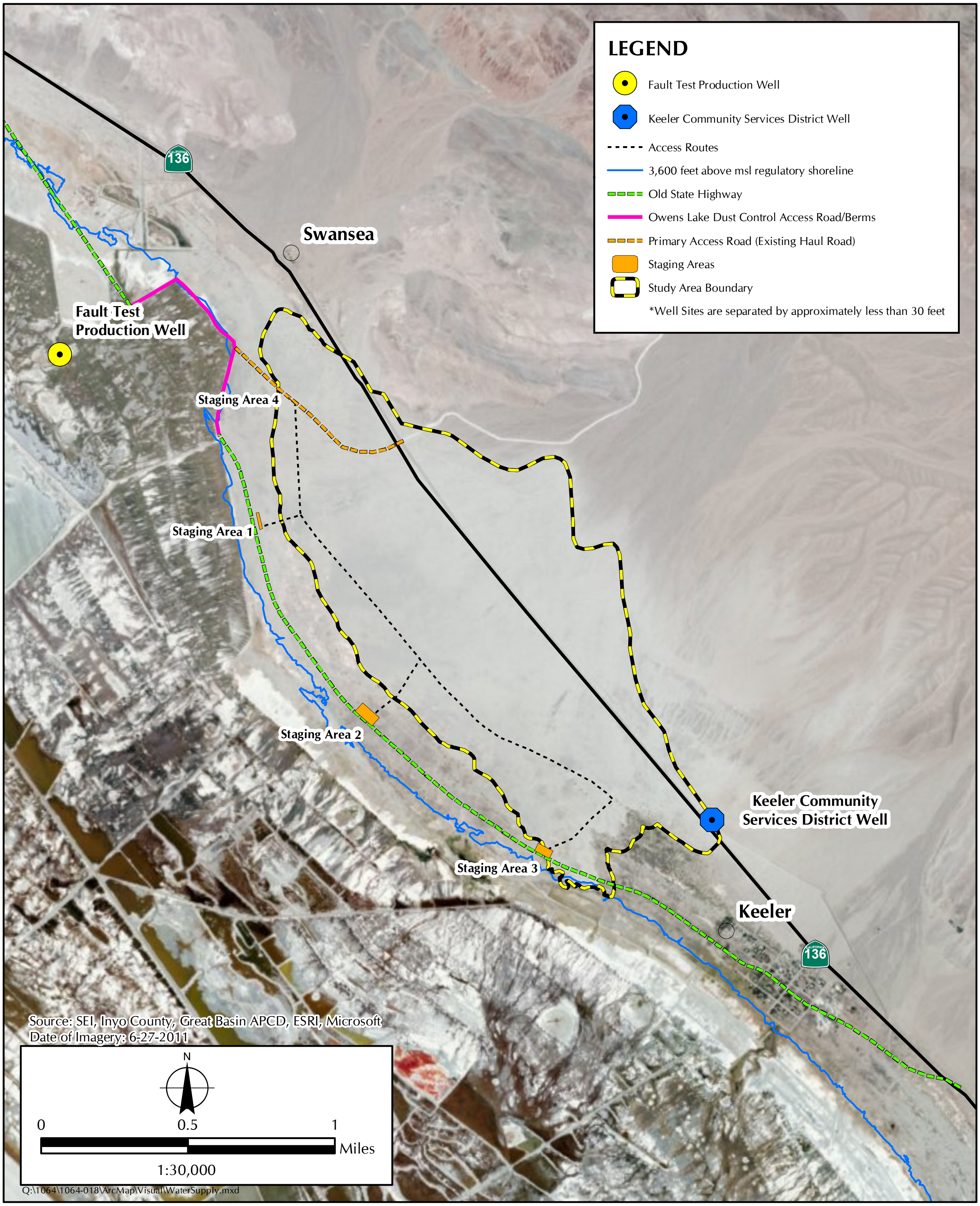

FIGURE 2.2.1-3

Water Supply

SECTION 3.0
METHODS

3.1 METHODS FOR CHARACTERIZING VISUAL RESOURCES

The visual resources technical approach utilizes the BLM's Visual Resource Contrast Rating (VRCR) system for BLM-administered public lands. This methodology utilizes field analysis, photo-documentation, viewshed mapping, and visual simulation techniques.

The factors considered for visual resources include: (1) scenic quality of the proposed project / proposed action site and vicinity; (2) available visual access and visibility, frequency, and duration that the landscape is viewed; (3) viewing conditions and how the proposed project / proposed action would dominate the view of the observer; (4) resulting contrast (form, line, color, and texture) of the proposed project / proposed action; (5) the extent to which the proposed project / proposed action would block views of the existing landscape features; and (6) the level of public interest in the existing landscape characteristics and concern over potential changes.

Visual simulations are used to produce simulations of implementation of the proposed project / proposed action, as seen from several key observation points (KOPs) that are selected in coordination with BLM.[1,2]

3.1.1 Bureau of Land Management Visual Resources Management

As part of its resource planning efforts, the BLM conducts an inventory and analysis of scenic values of the public lands it administers in order to establish objectives for the management of activities that may affect visual resources located on those lands. Only activities that occur on BLM-administered property are subject to the management objectives related to designated Visual Resource Management (VRM) methodology and the VRCR system. The VRM and VRCR system involves inventorying scenic values and establishing management objectives for those values through the resource management planning process, and then evaluating proposed activities to determine whether those actions would conform to the management objectives.[3] This process helps to ensure that the actions taken on public lands today will benefit the landscape and adjacent communities in the future. Proposed changes to public lands are evaluated based on BLM's VRM manual[4] and VRCR manual.[5] The VRM system evaluates visual resources impacts to BLM lands by classifying scenic quality, viewer sensitivity, and distance into one of four categories (Class I, II, III, or IV), with Class I having the highest visual sensitivity and Class IV having the least sensitivity.[6]

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[1] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Project Site Visit with Grace Holders, Great Basin Unified Air Pollution District, Bishop, CA., and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

[2] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 11 April 2012. Conference Call with Laura Kaufman, Donna Grotzinger, and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

[3] Bureau of Land Management. n.d. *Visual Resources Management*. Manual 8400. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8400.html

[4] Bureau of Land Management. n.d. *Visual Resources Management*. Manual 8400. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8400.html

[5] Bureau of Land Management. n.d. *Visual Resource Contrast Rating*. Manual 8431. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8431.html

[6] Bureau of Land Management. n.d. *VRM System*. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/vrmsys.html

Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. This includes areas such as national wilderness areas, the wild section of national wild and scenic rivers, and other congressionally and administratively designated areas. Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level, and distance zones.[7] The following lists the BLM objectives for each class:

- **Class I Objective:** The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

- **Class II Objective:** The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

- **Class III Objective:** The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

- **Class IV Objective:** The objective of this class is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.[8]

VRM classifications are designated through BLM land use plans and resource management plans; however, if VRM classifications are not established for an area, then the local BLM office will establish an interim VRM classification on an action-by-action basis. The proposed action property VRM classification is Class III.[9] The classifications indicate the relative visual value of the resource itself, where (as described above) Classes I and II are the most valued, Class III represents a moderate value, and Class IV is of least value. The process involves rating the visual appeal of a tract of land, measuring public concern for scenic quality, and determining whether the tract of land is visible from travel routes or observation points.[10] Therefore, a Visual Resources Inventory (VRI) Summary was included in this technical appendix.

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[7] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[8] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[9] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 11 April 2012. Conference Call with Laura Kaufman, Donna Grotzinger, and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

[10] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

BLM Visual Resource Management Visual Resource Contrast Rating System Approach

The BLM's VRM classification rating policy contains three primary elements:

- **Determining Resource Values:** The primary means to establish visual resource values is through a VRI that results in the assignment of one of four VRI Classes (I to IV). VRI Class I is reserved for special congressional designations or administrative decisions such as wilderness areas, visually sensitive areas of critical environmental concern (ACECs), or wild and scenic rivers, and so forth. VRI Classes II through IV are determined through a systematic process that documents the landscape's scenic quality, public sensitivity, and visibility. Rating units for each of the three factors are mapped individually, evaluated, and then combined through an overlayering analysis. The factors contributing to the VRI Class determination are described below.

    - Scenic quality
    - Sensitivity
    - Distance zones
    - Visual contrast ratings

    These factors are then analyzed to determine the applicable VRI Class. VRI Classes are informational in nature and provide the baseline for existing conditions. They do not establish management direction and should not be used as a basis for constraining or encouraging surface disturbing activities.

- **Establishing Management Objectives:** VRM Classes are determined through careful consideration of the VRI Summary (visual values), land use and demands, and the resource allocations and/or management decisions made in the applicable land use plan for a given area. VRM Class designations set the level of visual change to the landscape that may be permitted for any surface-disturbing activity. The objective of VRM Class I is to preserve the character of the landscape, whereas VRM Class IV provides for activities that require major modification to the landscape. VRI Classes are not intended to automatically become VRM Class designations. VRM Classes may be different from the VRI Classes assigned during the inventory, as the former should reflect a balance between the protection of visual values and other resource use needs. For example, an area with a VRI Class II designation may be assigned a VRM Class IV designation, based on its overriding value for mineral resource extraction or its designation as a utility corridor.

- **Evaluating Conformance:** Finally, proposed plans of development are evaluated for conformance to the VRM Class objectives through the use of the Visual Resource Contrast Rating process set forth within the BLM Handbook 8431-1.[11]

[11] Bureau of Land Management. n.d. *Visual Resource Contrast Rating*. Manual 8431. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8431.html

3.2 VISUAL RESOURCES INVENTORY ASSUMPTIONS AND DEFINITIONS

VRI determination is based on an assessment of four factors: scenic quality, sensitivity, distance zones, and visual contrast ratings. KOPs were selected by BLM for use as locations from which to assess the proposed project / proposed action's impacts with regard to these four factors.

The proposed project / proposed action area for visual resources is defined by the on-site landscapes directly affected by the various components of the proposed project / proposed action and the surrounding off-site area from which the proposed project / proposed action may be visible. A viewshed is defined as a surface area visible from a particular location or a linear location (a road or trail).The proposed project / proposed action site is 194 acres within the dust control measure study area. Viewshed maps, prepared by the District's consultants, are enclosed in this report.

3.2.1 Key Observation Points

KOPs are representative viewpoints for proposed project / proposed action visual impacts and mitigation measures. KOPs were generally selected to be representative of the most critical locations from which the proposed project / proposed action would be seen. The KOPs and their locations for the proposed action were selected by BLM (see Figure 4.2.1-1, *Key Observation Point Index Map*).[12]

3.2.2 Scenic Quality

Scenic quality is defined as "a measure of the visual appeal of a tract of land."[13] The highest scenic quality ratings are assigned to landscapes that have the most variety and most harmonious composition in relation to the natural landscape. Scenic quality can be used to describe the existing conditions, the standard for management, or the desired future conditions. For this analysis, the BLM's VRM resource inventory method was used, which allows the various landscape elements that make up scenic quality to be quantified and rated, with a minimum of ambiguity or subjectivity. In the BLM's visual resource inventory process, lands are given an A, B, or C rating based on the apparent scenic quality, which is determined using seven key factors (landscape features): landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. These landscape features were rated numerically on a comparative basis with similar features within the viewshed, and a total score of scenic quality was tabulated. A total of 32 points is possible according to the rating scheme. View scores are:

- 19 points or more (Class A): Exceptional or an overall very high scenic quality rating, defined as rare, or unique;[14]

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[12] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Proposed Project Site Visit with Grace Holders, Great Basin Unified Air Pollution District, Bishop, CA., and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

[13] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[14] A very high scenic quality rating can be composed of any mixture of the elements ratings listed above. For example, a project may receive a high scenic quality rating if the landform is deemed to be a 5 (high), there is substantial amount of water (lake, streams) present, and the vegetation is unique and rare; whereas another site might receive a high scenic quality rating because of the cultural modification, the scarcity of the view, and the color palette within the view.

- 12–18 points (Class B): Representative scenic quality and an overall high level of scenic quality rating, defined as landscapes that have visual qualities typically seen; and

- 11 points or fewer (Class C): Common or indistinctive and average to low scenic quality rating, defined as landscapes lacking visual diversity or features.

These ratings are delineated on a basis of like physiographic characteristics; similar visual patterns, such as texture, color, and variety; and areas that have similar impacts from human-made modifications.[15] The rating system of each of the seven categories (landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications) is given on a scale of 0 to 5, where a 0 rating is the lowest (or least impact) and a 5 rating is the highest. The view scores constitute one of the elements used by the BLM to assist in determining the VRI index or classification. Under BLM methodology (for unclassified BLM-administered lands), scenic quality is determined by the score and/or ratings the proposed action receives when evaluated by the criteria on BLM Form 8400-1, Scenic Quality Field Inventory, that is completed for each KOP; and Form 8400-5, Scenic Quality Rating Summary, that summarizes the findings in each Form 8400-1.

3.2.3 Sensitivity

The sensitivity level is a measure of public sensitivity toward the scenic value of an area. The sensitivity level within the proposed action area was determined following methods described in BLM Manual H-8410.[16] Sensitivity levels are a measure of public concern for scenic quality. Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern. Following BLM's methodology, the components below were evaluated and given a ranking of high to low:

- **Type of User:** Visual sensitivity will vary with the type of users. Recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.

- **Amount of Use:** Areas seen by and used by large numbers of people are potentially more sensitive. Protection of visual values usually becomes more important as the number of viewers increases.

- **Public Interest:** The visual quality of an area may be of concern to local, state, or national groups. Indicators of this concern are usually expressed in public meetings, letters, newspaper or magazine articles, newsletters, land-use plans, and so forth. Public controversy created in response to proposed activities that would change the landscape character should also be considered.

- **Adjacent Land Use:** The interrelationship with land uses in adjacent lands can affect the visual sensitivity of an area. For example, an area within the viewshed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be visually sensitive.

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[15] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[16] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

- **Special Management Areas:** Management objectives for special areas such as natural areas, wilderness areas or wilderness study areas, wild and scenic rivers, scenic roads or trails, and areas of critical environmental concern (ACEC) frequently require special consideration for the protection of visual values. This does not necessarily mean that these areas are scenic, but, that one of the management objectives may be to preserve the natural landscape setting. The management objectives for these areas may be used as a basis for assigning sensitivity levels.[17]

As noted in BLM Manual 8410, "There is no standard procedure for delineating Sensitivity Level Rating Units (SLRUs). The boundaries will depend on the factor that is driving the sensitivity consideration."[18] Sensitivity levels range from medium/low to high/medium and are summarized in the BLM Form 8400-6, Sensitivity Level Rating Summary. For the purposes of determining VRM classifications, the higher overall rating of sensitivity level is used to calculate the appropriate classification.

3.2.4 Distance Zones

The BLM has subdivided landscapes into three distance categories, or zones, based on relative visibility from travel routes or observation points. The three zones are: foreground-middleground, background, and seldom seen. The foreground-middleground zone includes areas seen from highways, rivers, or other viewing locations, which are up to 3 to 5 miles away. Areas beyond the foreground-middleground zone and usually less than 15 miles away are in the background zone. Areas not seen as foreground-middleground or background (i.e., largely hidden from view) are in the seldom-seen zone.[19] Distance zones are typically delineated based on visibility, not a uniformly applied buffer. The proposed project / proposed action components (i.e., straw bales) create visibility potential for these components to foreground-middleground distances of 3 to 5 miles.

3.2.5 Visual Contrast Ratings

The basic philosophy underlying the visual contrast system is the degree to which an activity affects the visual quality of a landscape depends on the visual contrast created between a proposed project / proposed action and the existing landscape.[20] The contrast can be measured by comparing the proposed project / proposed action features with the major features in the existing landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the proposed project / proposed action. This assessment process provides a means for determining visual impacts and for identifying measures to mitigate these impacts.

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[17] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[18] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[19] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

[20] Bureau of Land Management. n.d. *Visual Resource Contrast Rating*. Manual 8431. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8431.html

The visual contrast can be measured by comparing the proposed project / proposed action features with the major features in the existing landscape (Table 3.2.5-1, *BLM Degree of Contrast Criteria*). Each of the four categories was analyzed using a four-factor scale: strong, moderate, weak, or none on the BLM Form 8400-4, Visual Contrast Rating Worksheet (Appendix B, *Form 8400-4 Forms*).

TABLE 3.2.5-1
BLM DEGREE OF CONTRAST CRITERIA

Degree of Contrast	Definition
None	The element contrast is not visible or perceived.
Weak	The element contrast can be seen but does not attract attention.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

SOURCE: Bureau of Land Management. n.d. *Visual Resource Contrast Rating*. Manual 8431. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8431.html

3.2.6 Visual Simulations

For the visual simulations, a Google Earth Keyhole Markup Language (KML) of the KOPs and control points was created. The dust control area of Owens Lake was added to the Google Earth KML as a translucent red shading. Three PDFs were created that correspond to the camera angles for KOPs 2 through 4 for the visibility simulation. Reference points were added to the PDFs and to the original photographs. The PDF and photographs were superimposed and transformed to align the reference points. The straw bales were then added to the corresponding areas. This analysis takes into account the height of the proposed project / proposed action components and the local and regional terrain. This analysis determines what portions of the proposed project / proposed action property are in visible range from the combined viewsheds of KOPs within and surrounding the proposed project / proposed action property. This analysis includes a graphic representation of those areas of the proposed project / proposed action that would be visible from the combined viewsheds of the KOPs.

SECTION 4.0
RESULTS

This Visual Resource Inventory (VRI) Summary provides information regarding the existing visual characteristics of the proposed project / proposed action property and surrounding area. BLM visual resource methodologies (Section 3.0) were used to determine the consistency of the proposed action with any federal, state, regional, and local laws governing the regulations of aesthetic resources, including scenic resources, scenic highways, visual character, and light and glare, specifically the methodologies in the BLM's Visual Resource Management (VRM) policy and Visual Resource Contrast Rating (VRCR) system. This VRI Summary contains Key Observation Points (KOPs) that were selected in coordination with the BLM Bishop Field Office to evaluate the current status of the visual resources.[1]

4.1 BASELINE

The proposed project / proposed action is located immediately northwest of the community of Keeler in Inyo County, California. The proposed project / proposed action consists of dust control measures (DCMs) applied to 194 acres of land within an 870-acre (1.36-square-mile) study area. The proposed project / proposed action study area is bounded approximately by the Inyo Mountains on the east-northeast and the dry Owens Lake bed shoreline on the west-southwest, and extends approximately 2.5 miles to the northwest from the community of Keeler. California State Route (SR) 136 bisects the study area. The proposed project / proposed action is located on lands administered by the BLM Bishop Office and the LADWP. Other stakeholders include Inyo County, the local Lone Pine-Paiute Shoshone Tribes, Caltrans District 9, Southern Pacific Railroad, Keeler Community Services District, and Keeler residents.

The visual character of the proposed project / proposed action site includes the Keeler Dunes geologic feature, with the dry Owens Lake bed to the west, the nearby Inyo and White mountain ranges to the east, the more distant Coso mountain range to the south, and the Sierra Nevada range to the far west. Although the proposed project / proposed action site is uninhabited, the community of Keeler (population: 66) is located downwind and adjacent to the southern border of the site.[2] Residents of Keeler are known to use the Keeler Dunes for low-impact recreational activities, such as hiking and dog walking.[3] The proposed project / proposed action site may also be visible to outside recreationalists, such as birders, hikers, and visitors to the historic mining/smelter sites of Swansea and Cerro Gordo, as part of the viewshed from nearby recreational areas, such as the Lower Owens River/Lake area. Inyo County and LADWP are currently evaluating the potential opportunities and constraints with regard to existing recreational activities in the adjacent Lower Owens River/Lake area.

The nearest highways to the proposed project / proposed action site are SR 136, which bisects the study area, and SR 190, located south of the proposed project / proposed action site. SR 136 is not an officially designated state scenic highway. A segment of SR 190, approximately 23 miles from the

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[1] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Proposed Project Site Visit with Grace Holders, Great Basin Unified Air Pollution District, Bishop, CA, and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

[2] U.S. Census Bureau. 2010 Census. Washington, DC.

[3] Sapphos Environmental, Inc. 12 July 2011. Memorandum for the Record No. 1. Subject: Summary of the June 29, 2011, Project Kickoff Meeting for the Keeler Dunes Environmental Impact Report / Environmental Impact Statement. Pasadena, CA.

proposed project / proposed action site, is designated a state scenic highway near the entrance to Death Valley National Park.[1] However, the portion of SR 190 that is located near the proposed project / proposed action site is only an eligible, not designated, state scenic highway. SR 190 is located approximately 5 miles south of the community of Keeler and the proposed project / proposed action site is not likely to be visible to travelers on that highway.

The proposed project / proposed action site is visible from the vantage points of residents at Keeler, at the historic mining/smelter sites of Swansea and Cerro Gordo, recreationalists at the Lower Owens River/Lake area, and corridor users at SR 136.

4.1.1 Pilot Demonstration Test

The District is currently conducting a pilot study to validate the efficacy of using native vegetation to stabilize the dune complex and reduce emissivity, as well as to provide site-specific information that will be utilized for the final design of the proposed project / proposed action. Figure 4.1.1-1, *Pilot Demonstration Test Photographs*, demonstrates the visibility of the test site.

4.2 BLM VISUAL RESOURCES INVENTORY

The BLM VRI and VRCR were based on an assessment of scenic quality, sensitivity, distance zones, and visual contrast ratings. The project action's VRM classification is a Class III.[4] The objective of Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities attract attention, but should not dominate the view of casual observers. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. KOPs[5] and the existing Class III VRM classification for the proposed action and the surrounding area[6] were used for the proposed action to assess these factors.

4.2.1 Key Observation Points

KOPs were located based on their usefulness in evaluating existing landscapes and potential impacts on visual resources with various levels of sensitivity, in different terrain, and from various vantage points. Visual simulations were prepared from KOPs that were selected[7] at the most critical viewpoints, as determined by the BLM office.[8] The observation points were chosen to represent typical views of the proposed project / proposed action property from various directions and to find potential areas of most viewer sensitivity. These KOPs were used to evaluate potential sensitive viewpoints, potential scenic resources, and recreational resources. These observational points represent the views from corridor users at SR 136 and the community of Keeler within the

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[4] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 11 April 2012. Conference Call with Laura Kaufman, Donna Grotzinger, and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

[5] Selection of the KOPs was coordinated with the BLM Bishop Field Office. All KOP locations were approved during the site visit and photo documentation occurred.

[6] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 11 April 2012. Conference Call with Laura Kaufman, Donna Grotzinger, and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

[7] Selection of the KOPs was coordinated with the BLM Bishop Field Office. All KOP locations were approved during the site visit and photo documentation occurred.

[8] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Proposed Project Site Visit with Grace Holders, Great Basin Unified Air Pollution District, Bishop, CA, and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

Pilot Demonstration Test Site
Altitude: 1,101 meters
3,612 feet

FIGURE 4.1.1-1
Pilot Demonstration Test Photographs

Old State Highway Looking Northeast at Test Site
View of Pilot Demonstration Test Site from approximately 951 feet southwest of Test Site on Old State Highway, Altitude: 3,599 feet

FIGURE 4.1.1-1
Pilot Demonstration Test Photographs

Inyo Mountains Looking Southwest at Test Site
View of Pilot Demonstration Test Site from approximately 4,600 feet northeast of Test Site on a ridge, Altitude: 4,278 feet

FIGURE 4.1.1-1
Pilot Demonstration Test Photographs

proposed project / proposed action vicinity. Geographic information system (GIS) coordinates where each existing condition photograph was taken were recorded (Table 4.2.1-1, *Key Observation Points*; and Figure 4.2.1-1, *Key Observation Point Index Map*). Type, amount of use, and level of public access of KOPs are reflected in BLM Form 8400-6 (Appendix C, *BLM 8400-6 Forms*). Four KOPs were used for the analysis of scenic quality, visual contrast, and sensitivity (Figure 4.2.1-1).

TABLE 4.2.1-1
KEY OBSERVATION POINTS

KOP ID	GIS Coordinate X	GIS Coordinate Y	Distance from Proposed Project / Proposed Action Area	Landscape Character
KOP 1	421321	4038764	0.5 mile (2,492 feet) southeast	A point KOP from the community of Keeler, representing a public gathering place, where the proposed project / proposed action would occupy the foreground
KOP 2	421270.7	4039446	0.2 mile (1,080 feet) east	A linear KOP along State Route 136, representing a public road, where the proposed project / proposed action would occupy the foreground
KOP 3	420415.9	4040433	Within the proposed project / proposed action boundary	A point KOP from the LADWP scenic overlook, representing viewers on LADWP point of interest overlooks; where the proposed project / proposed action would occupy the foreground
KOP 4	419672	4041418	0.03 mile (164 feet) east	A linear KOP along State Route 136; representing a public road, where the proposed project / proposed action would occupy the foreground

KEY: KOP = key observation point
GIS = geographic information system
LADWP = Los Angeles Department of Water and Power

Existing Visual Setting

Photographs were taken at each KOP inventory location as part of the visual impact assessment process, to identify the existing visual setting. Visual resources surveys of the proposed project / proposed action property were conducted in order to understand the existing visual resources in the vicinity of the proposed project / proposed action. BLM protocol forms and worksheets were completed for the proposed action to determine the level of contrast the proposed action would have on the existing visual resources. Then, based on the classification of the visual resources for the proposed action property, it was determined whether the visual resources management objectives for the proposed action property were met.

An interdisciplinary team of visual resource management practitioners from Sapphos Environmental, Inc. conducted a collaborative analysis of the landscape's scenic quality using a quantitative method adapted from the BLM's VRM methodology.[9,10,11] Photo documentation was conducted to document the existing conditions and provide a visual simulation of the proposed project / proposed action in operation from the three observation points. The KOPs have been analyzed as representations of the proposed project / proposed action area from potential areas of viewer sensitivity. Therefore, the ratings that are designated for the KOPs are also ratings designated for the proposed project / proposed action area.

Key Observation Point 1

This KOP provides a view toward the proposed project / proposed action area from the community of Keeler. This KOP illustrates little to no diversity in the landscape. Vegetation is low, sparse, simple, and indistinct under BLM definitions (Figure 4.2.1-2, *Observation Point 1*). The landform can be characterized as an expansive, relatively flat valley bottom. The foreground shows a low road, shrubs, native vegetation, dunes, and the Owens lake bed. The Owens lake bed can be viewed in the middleground, while the mountain ridgelines can be seen in the background.

Key Observation Point 2

This KOP provides a view from the paved SR 136. Vegetation is native, low, and simple in foreground. The dark grey, smooth, straight SR 136 can also be seen in the foreground. The landform is extremely coarse and relatively flat valley in the foreground, the Owens lake bed in the middleground, and the Sierra Nevada ridgeline occupies the background (Figure 4.2.1-3, *Observation Point 2*). The features of this KOP are coarse, with colors varying from the beige of the landform, green and tan of the vegetation, and blue and brown of the mountains.

Key Observation Point 3

This KOP was taken at the LADWP overlook for the Owens Lake dust control project / proposed action. The KOP illustrates flat land with minimal vertical relief in the foreground and middleground with the mountain ridgeline in the background (Figure 4.2.1-4, *Observation Point 3*). Vertical electrical transmission line poles are located less than 150 feet northwest of KOP 3 and visible in the foreground. The vegetation is low and scattered, consisting of native vegetation. The features of this KOP are coarse, with colors varying from the beige of the landform, green and tan of the vegetation, and blue and brown of the mountains. The Owens lake bed can be seen in the middleground. This view is very representative of typical landscapes found in this area.

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[9] BLM's visual resource management methodology is based on the BLM's Manual 8400—*Visual Resources Management* and BLM Manual 8431—*Visual Resource Contrast Rating* and the instructions found within each document.

[10] Bureau of Land Management. n.d. *Visual Resources Management*. Manual 8400. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8400.html

[11] Bureau of Land Management. n.d. *Visual Resource Contrast Rating*. Manual 8431. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8431.html

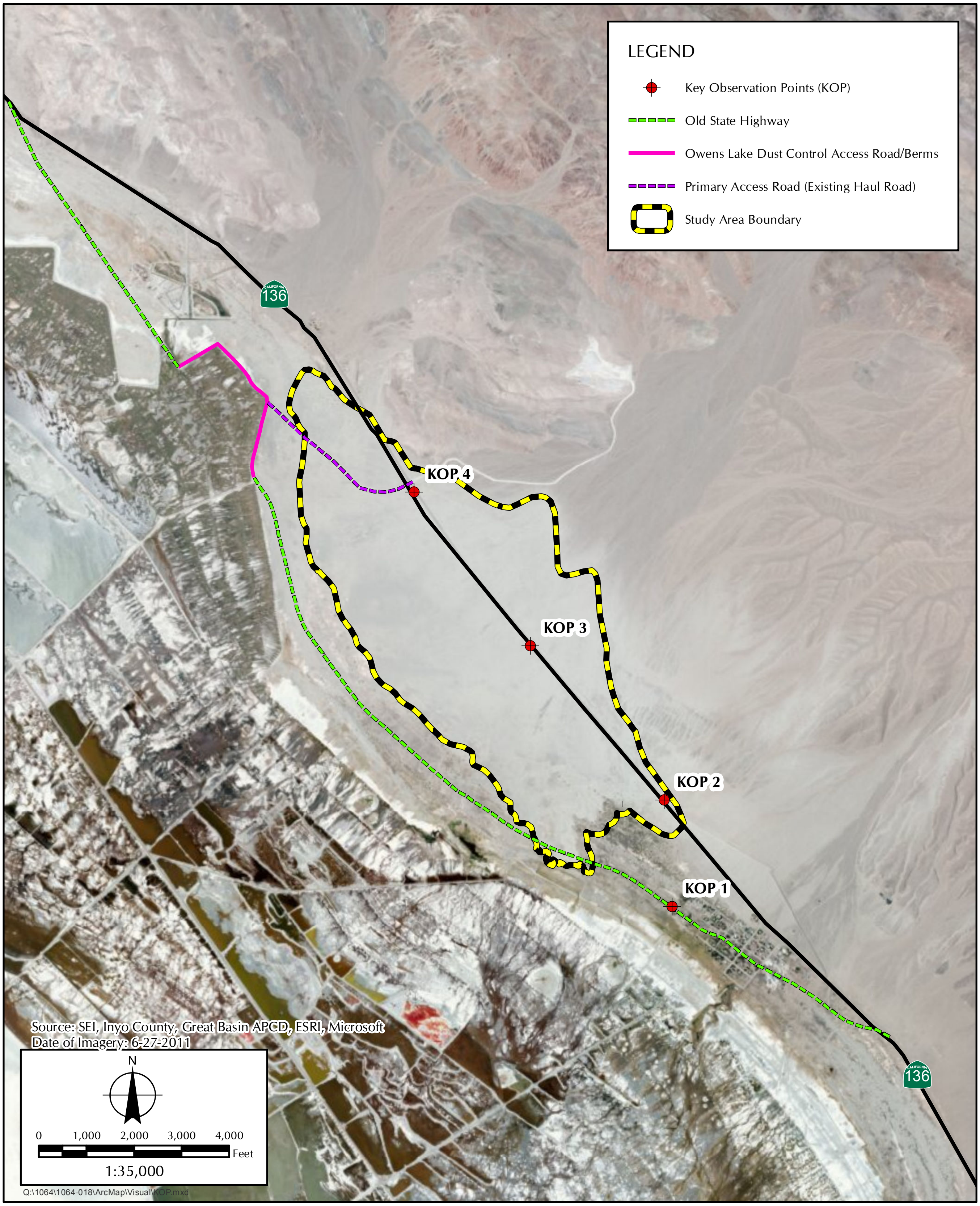

FIGURE 4.2.1-1

Key Observation Point Index Map

PHOTO 1
Existing Conditions

FIGURE 4.2.1-2
Observation Point 1

PHOTO 1
Existing Conditions

PHOTO 2
Visual Simulation

FIGURE 4.2.1-3
Observation Point 2

PHOTO 1
Existing Conditions

PHOTO 2
Visual Simulation

FIGURE 4.2.1-4
Observation Point 3

Key Observation Point 4

This KOP illustrates the vast flat, valley bottom in the foreground, the Owens lake bed in the middle ground, and the mountain ridgeline in the background (Figure 4.2.1-5, *Observation Point 4*). Vertical electrical transmission line poles can be seen in the foreground, along with the coarse, scattered, native vegetation. The view depicts a beige landform, green and tan vegetation, and dark blue and brown mountains. This view is very representative of typical landscapes found in this area.

Visual Simulation

For the visual simulations, a Google Earth Keyhole Markup Language (KML) of the KOPs and control points was created. The dust control area (proposed project / proposed action site) of the Owens Lake was added to the Google Earth KML as a translucent red shading. Three images, in portable document format (PDF) were created that correspond to the camera angles for KOPs 2, 3, and 4 for the visibility simulation. Reference points were added to the PDFs and to the original photographs. The PDF and photographs were superimposed and transformed to align the reference points. The straw bales were then added to the corresponding areas proposed for mitigation. A viewshed analysis determined what portions of the proposed project / proposed action site were within a visible range from the combined viewsheds of four key observation points within and surrounding the proposed project / proposed action property. The analysis includes a graphic representation of those areas of the proposed project / proposed action that would be visible from the combined viewsheds of the KOPs.

Key Observation Point 1

Under direction of the BLM Bishop Field Office, no visual simulation was created for this KOP due to the low visibility of the proposed project / proposed action components (straw bales) in the view.[12]

The additional straw bales for Alternatives 1 and 2 would have similar low visibility of straw bales to the proposed project / proposed action. The 20,000-gallon dark olive green painted water storage tanks at Staging Areas 2 and 3 under Alternative 3 would be barely visible from KOP 1 and occupy less than 1 percent of the foreground view. The white PVC irrigation lines under Alternative 3, 4, and 5 would be predominantly shielded from view by the dune topography and the straw bales and existing shrubs, with the small sections of visible irrigation lines perceived as portions of a line in the distance. The trunk lines leading from the roadside turnouts along SR 136 under Alternative 4 and the trunk line leading from the KCSD well to the white PVC irrigation lines under Alternative 5 would also be predominantly shielded from view by the dune topography and the straw bales and existing shrubs; due to their proximity to SR 136, they would be painted a beige/tan color to blend in with the colors of the existing environment for reduced visibility. KOP 1 is located approximately 4,000 feet southeast of the nearest proposed trunk line proposed under Alternative 4 and approximately 1,960 feet south of the proposed trunk line proposed under Alternative 5.

[12] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Proposed Project Site Visit with Grace Holders, Great Basin Unified Air Pollution District, Bishop, CA, and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

Key Observation Point 2

The proposed project / proposed action would be visible from this vantage point in the foreground as it is less than 2 miles from the vantage point (Figure 4.2.1-3). The existing vegetation is tan in color. With project / proposed action implementation, the view from this point has tan-colored straw bales covering a portion of the previously beige valley bottom (Figure 4.2.1-3). From this view, the straw bales appear inter-mixed, blend in, and are compatible in the view with the existing vegetation because the straw bales and the existing, native vegetation are both tan in color and appear at similar heights. The other infrastructure elements (temporary access routes, temporary staging areas for equipment, and a water storage tank) are not visible from this vantage point and would appear intermixed within the existing visual setting. The proposed project / proposed action components are visible but mixed with the already existing vegetation in the foreground.

Similarly, the components of Alternatives 1 and 2, including additional straw bales, would be visible but intermixed with the existing vegetation in the foreground. The 20,000-gallon dark olive green painted water storage tanks at Staging Area 2 under Alternative 3 would be barely visible from KOP 2 and occupy less than 1 percent of the foreground view. The white PVC irrigation lines under Alternative 3, 4, and 5 would be predominantly shielded from view by the dune topography and the straw bales and existing shrubs, with the small sections of visible irrigation lines blending in with the reflective surface of other Owens Lake dust control measures in the distance. The trunk lines leading from the roadside turnouts along SR 136 under Alternative 4 and the trunk line leading from the KCSD well to the white PVC irrigation lines under Alternative 5 would also be predominantly shielded from view by the dune topography and the straw bales and existing shrubs; due to their proximity to SR 136, they would be painted a beige/tan color to blend in with the colors of the existing environment for further reduced visibility. KOP 2 is located approximately 2,400 feet southeast of the nearest trunk line proposed under Alternative 4 and approximately 210 feet north of the trunk line proposed under Alternative 5.

Key Observation Point 3

The visual simulation depicts the addition of the proposed project / proposed action features, with straw bales visible in horizontal lines within 2 miles of the vantage point (Figure 4.2.1-4). Therefore, the proposed project / proposed action components are visible in the foreground. The existing vegetation is tan and green in color, with the tan similar to the tan in the straw bales. The vegetation is coarsely scattered throughout the proposed project / proposed action site and surrounding area. The straw bales that are visible from this view point are tan and coarse; which are similar to the color and characteristics of the existing vegetation. From this view, the straw bales are of the same height and blend in and are compatible with the color of the existing, native vegetation. The other infrastructure proposed project / proposed action elements (temporary access routes, temporary staging areas for equipment, and a water storage tank) are not visible from this KOP and would appear intermixed within the existing visual setting. The proposed project / proposed action components are visible but mixed with the existing vegetation in the foreground.

Similarly, the components of Alternatives 1 and 2, including additional straw bales, would be visible but intermixed with the existing vegetation in the foreground. The 20,000-gallon dark olive green painted water storage tanks at Staging Areas 2 and 3 under Alternative 3 would be barely visible from KOP 3 and occupy less than 1 percent of the foreground view. The white PVC irrigation lines under Alternative 3, 4, and 5 would be predominantly shielded from view by the dune topography and the straw bales and existing shrubs, with the small sections of visible

PHOTO 1
Existing Conditions

PHOTO 2
Visual Simulation

FIGURE 4.2.1-5
Observation Point 4

irrigation lines blending in with the reflective surface of other Owens Lake dust control measures in the distance. The trunk lines leading from the roadside turnouts along SR 136 under Alternative 4 would also be predominantly shielded from view by the dune topography and the straw bales and existing shrubs; due to their proximity to SR 136, they would be painted a beige/tan color to blend in with the colors of the existing environment for further reduced visibility. Under Alternative 3, KOP 3 would periodically be used as a roadside turnout for water delivery trucks to connect to the aboveground irrigation system. The trunk line leading from the KCSD well to the white PVC irrigation lines under Alternative 5 would be located at least 3,500 feet southeast of KOP 3 and not be visible from this distance.

Key Observation Point 4

The proposed project / proposed action would be visible from this vantage point in the foreground as it is less than 2 miles of the vantage point (Figure 4.2.1-5). The straw bales from the proposed project / proposed action are visible in the center-right side of the photograph. The straw bales are a tan color and appear coarse in this vantage point. The existing vegetation is tan and green in color, with the tan similar to the tan in the straw bales. The vegetation is coarsely scattered throughout the proposed project / proposed action site and surrounding area. From this view, the straw bales are of the same height blend in and are compatible with the color of the existing, native vegetation. The other infrastructure proposed project / proposed action elements (temporary access routes, temporary staging areas for equipment, and a water storage tank) are not visible from this view point and would appear intermixed within the existing visual setting. The proposed project / proposed action components are visible but mixed with the already existing vegetation in the foreground.

Similarly, the components of Alternatives 1 and 2, including additional straw bales, would be visible but intermixed with the existing vegetation in the foreground. The 20,000-gallon dark olive green painted water storage tanks at Staging Area 1 under Alternative 3 would be barely visible from KOP 4 and occupy less than 1 percent of the foreground view. The white PVC irrigation lines under Alternative 3, 4, and 5 would be predominantly shielded from view by the dune topography and the straw bales and existing shrubs, with the small sections of visible irrigation lines blending in with the reflective surface of other Owens Lake dust control measures in the distance. The trunk lines leading from the roadside turnouts along SR 136 under Alternative 4 would be located approximately 620 feet southeast of KOP 4 at the nearest point and be predominantly shielded from view by the dune topography and the straw bales and existing shrubs; due to their proximity to SR 136, they would be painted a beige/tan color to blend in with the colors of the existing environment for further reduced visibility. The trunk line leading from the KCSD well to the white PVC irrigation lines under Alternative 5 would be located at least 1.4 miles southeast of KOP 4 and not be visible from this distance.

4.2.2 Scenic Quality

Under BLM methodology, scenic quality is determined by the score and or ratings the proposed action receives when evaluated by the criteria on BLM Form 8400-1. Photographs were taken at each KOP. The scenic quality of landforms, water, vegetation, and structure at each location was then assessed in terms of texture, color, form, and line. Each location was then ranked using seven factors, including landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modification (Appendix A*, BLM 8400-1 and BLM 8400-5 Forms*).

The BLM VRM process offers guidance regarding the fact that landscapes with low scenic quality need not be scrutinized as extensively as those that exhibit high scenic variety. The proposed action property is currently classified as a Class III, which represents a moderate value, and the objective of Class III is to partially retain the existing character of the landscape.

Scenic Quality Rating Units

The Scenic Quality Rating Units (SQRU) are defined in the BLM Scenic Quality Field Inventory, Form 8400-1 (Appendix A, *BLM 8400-1 and BLM 8400-5 Forms*) and BLM Scenic Quality Rating Summary, Form 8400-5 analysis (Appendix A and Table 4.2.2-1, *Scenic Quality Rating*), which were prepared to classify the scenic quality of each KOP prior to proposed action implementation. The scenic quality of an area is a measure of the visual appeal of a tract of land. In the BLM VRI process, public lands are given an A, B, or C rating based on the apparent scenic quality,[13] with A being of highest scenic value, as determined by an evaluation of the seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. The KOPs used on each BLM form are representative of the proposed action area as a whole due to the homogeneity of the landscape of the area in which the proposed action is located. Therefore, the SQRUs given to each KOP are the ratings given to the proposed action area prior to implementation of the proposed action.

TABLE 4.2.2-1
SCENIC QUALITY RATING

Location	Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modification	Total Score	Scenic Quality Rating
KOP 1	3	1	0	3	2	2	0	11	C
KOP 2	3	2	0	3	2	2	0	12	B
KOP 3	3	1	0	2	1	2	0	9	C
KOP 4	3	1	0	2	2	2	0	10	C

KEY: KOP = key observation point
NOTE: The rating system of each of the seven categories (landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications) is given on a scale of 0 to 5, where a 0 rating is the lowest (or least impact) and a 5 rating is the highest. The scenic quality ratings are scored as A, B, and C, with A being the highest scenic value.

4.2.3 Sensitivity

Under BLM methodology, sensitivity is determined by the score and or ratings the proposed action receives when evaluated by the criteria on BLM Form 8400-6. Photographs were taken at each KOP. Sensitivity was evaluated on several levels (Appendix C, *BLM 8400-6 Forms*). Sensitivity levels range from medium/low to high/medium.

For the purposes of VRI, the higher overall rating of sensitivity level is used to calculate the appropriate classification. BLM Form 8400-6 (Appendix C, *BLM 8400-6 Forms*) was used to determine sensitivity levels for the proposed action area. The KOPs used on the BLM form are representative of the proposed action area as a whole due to the homogeneity of the landscape in the proposed action area. Therefore, the Sensitivity Level Rating Units (SLRUs) given to each KOP

[13] Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

are the ratings given to the proposed action area (Table 4.2.3-1, *Sensitivity Level Rating*), displays the sensitivity levels near the proposed action, as determined by this analysis.

TABLE 4.2.3-1
SENSITIVITY LEVEL RATING

Location	Type of Users	Amount of Use	Public Interest	Adjacent Land Uses	Special Area Sensitivity	Other Factors	Overall Rating
KOP 1	L	M	L	M	NP	NP	L
KOP 2	L	M	L	M	NP	NP	L
KOP 3	L	M	L	M	NP	NP	L

KEY: KOP = key observation point; NP = Not Present; L = Low; M = Medium

4.2.4 Distance Zones

Distance zones are typically delineated based on visibility, not a uniformly applied buffer. However, due to the homogeneity of the proposed project / proposed action area's landscape and the homogeneity of the surrounding landscape overall, the distance zones were delineated in 1-mile increments. Additionally, the KOPs used for the proposed project / proposed action are representative of the proposed project / proposed action area because of the similar landscape. Therefore, the distance zones assigned to each KOP are the distance zones assigned to the proposed project / proposed action area.

4.2.5 Visual Contrast

Under BLM methodology (for unclassified BLM-administered lands), visual contrast is determined by the score and or ratings the proposed action receives when evaluated by the criteria on BLM Form 8400-4. Photographs were taken at each KOP. Visual contrast ratings were defined based on the four categories described in Section 3.0, *Method* (see Table 3.2.5-1, *BLM Degree of Contrast Criteria*).

Visual contrast rating forms were used to evaluate several factors (Appendix B, *BLM 8400-4 Forms*). The visual contrast rating forms describe the existing landscape character and visual sensitivity at each KOP; document the proposed project / proposed action and alternative facilities and actions that would be viewed at each KOP; and estimate the degree of change in line, form, color, and texture of the proposed project / proposed action.

Various BLM protocol forms and worksheets were completed for the proposed action to determine the level of contrast the proposed action would have on the existing visual resources (Appendix B). The visual contrast of landforms/water, vegetation, and structures at each location were then assessed in terms of texture, color, form, and line. Each KOP location was then evaluated examining the change from existing conditions anticipated from the proposed activity, as displayed in the visual simulation (Table 4.2.5-1, *Visual Contrast Rating Worksheet*).

TABLE 4.2.5-1
VISUAL CONTRAST RATING WORKSHEET

	Land/Water Body				Vegetation				Structures			
	Strong	**Moderate**	**Weak**	**None**	**Strong**	**Moderate**	**Weak**	**None**	**Strong**	**Moderate**	**Weak**	**None**
KOP 1												
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture		X				X				X		
KOP 2												
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture		X				X				X		
KOP 3												
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture			X				X			X		
KOP 4												
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture			X				X				X	

KEY: KOP = key observation point

4.3 VISUAL RESOURCE INVENTORY SUMMARY

The VRI is determined in a spatial context by combining overlays for scenic quality, sensitivity levels, distance zones, and visual contrast ratings, or by using a tabular matrix. Visual simulations were conducted so that a visual comparison could be made to existing conditions. The results of the VRI are presented in Table 4.3-1, *Visual Resource Inventory Summary*.

TABLE 4.3-1
VISUAL RESOURCE INVENTORY SUMMARY

Key Observation Point (KOP) Number and Description	Scenic Quality Rating	Visual Sensitivity	Distance Zones
KOP 1: A point KOP from the community of Keeler; representing a public gathering place	C	Low, considering minor local land use, existing native vegetation, no special area sensitivity, and no other factors	Foreground. Barely visible and intermixed with existing vegetation.
KOP 2: A linear KOP along SR 136; representing a public road	B	Low, considering minor local land use, existing native vegetation, no special area sensitivity, and no other factors	Foreground. Barely visible and intermixed with existing vegetation.
KOP 3: A point KOP from the County of Los Angeles Department of Water and Power scenic overlook; representing viewers on County of Los Angeles Department of Water and Power point of interest overlooks.	C	Low, considering minor local land use, existing native vegetation, no special area sensitivity, and no other factors	Foreground. Barely visible and intermixed with existing vegetation.
KOP 4: A linear KOP along SR 136; representing a public road; where the proposed project / proposed action would occupy the foreground	C	Low, considering minor local land use, existing native vegetation, no special area sensitivity, and no other factors	Foreground. Barely visible and intermixed with existing vegetation.

Bureau of Land Management. n.d. *Visual Resource Contrast Rating*. Manual 8431. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8431.html

Bureau of Land Management. n.d. *Visual Resources Inventory*. Manual H-8410-1. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8410.html

Bureau of Land Management. n.d. *Visual Resources Management*. Manual 8400. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8400.html

Bureau of Land Management. n.d. *VRM System*. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/vrmsys.html

Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 11 April 2012. Conference Call with Laura Kaufman, Donna Grotzinger, and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Proposed Project Site Visit with Grace Holders, Great Basin Unified Air Pollution District, Bishop, CA, and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

Sapphos Environmental, Inc. 12 July 2011. Memorandum for the Record No. 1. Subject: Summary of the June 29, 2011, Project Kickoff Meeting for the Keeler Dunes Environmental Impact Report / Environmental Impact Statement. Pasadena, CA.

U.S. Census Bureau. 2010 Census. Washington, DC.

U.S. Geological Survey. 1987. *7.5-Minute Series, Dolomite, California, Topographic Quadrangle*. Reston, VA.

U.S. Geological Survey. 1987. *7.5-Minute Series, Owens Lake, California, Topographic Quadrangle*. Reston, VA.

APPENDIX A
BLM 8400-1 AND BLM 8400-5 FORMS

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date	05/18/12
District	
Resource Area	
Scenic quality rating unit	KOP 1

1. Evaluators (*names*)

Leanna Guillermo

2. LANDSCAPE CHARACTER (*Feature*)

	a. LANDFORM/WATER	b. VEGETATION	c. STRUCTURE (*General*)
FORM	Large, low, flat valley bottom; rolling mountain tops	Low, simple, native vegetation	Undeveloped with gravel road
LINE	Horizontal floor; slightly sloping ridgeline	Weak; follows landform	Undeveloped with straight gravel road
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Undeveloped with dark-gray gravel road
TEXTURE	Smooth bases; subtle texture	Stippled; random	Smooth, uniform

3. Narrative

A low, flat valley bottom. Colors vary from brown to shades of gray to white. Little to no development is present.

4. SCORE (*Circle Appropriate Level*)*

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	(3)	1	Low but interesting with mountains
b. Vegetation	5	3	(1)	Minimal diversity
c. Water	5	3	(0)	Not noticeable
d. Color	5	(3)	1	Some interesting variety and intensity
e. Adjacent Scenery	5	3 (2)	0	Minimal influence
f. Scarcity	5+	3 (2)	1	Commonly seen in area
g. Cultural Modification	2	(0)	-4	Undeveloped
TOTALS	+	+	= 11	

SCENIC QUALITY CLASSIFICATION

- [ ] A 19 or more
- [ ] B – 12–18
- [X] C – 11 or less

(*Instructions on reverse*)

INSTRUCTIONS

Following are the instructions for completing the form. The numbers correspond with the item numbers on the form.

1. **Evaluators**. List the names of the persons involved in the rating.
2. **Landscape Character**. Briefly describe the major features and elements in the landscape. Refer to illustrations 4, 5, 6, and 7 of the BLM Handbook 1-8431-1 for guidelines on the terminology to be used to describe the elements.
3. **Narrative**. Briefly describe the general character of the landscape as it relates to the immediate surroundings and to similar landscape features within the physiographic province.
4. **Scores**. Rate the scenic quality using the criteria and guidelines in the BLM Handbook 1-8410-1 Section II. Record the scores by circling the appropriate numbers. If the rating more appropriately falls between the listed numbers, write in the desired number and circle it. For example, if the desired number for "color" falls between 3 and 5, write in the number 4 and circle it. Explain any unusual factors affecting a rating under the "explanation and rationale" column. If more space is needed, continue the explanation on this page. After the ratings are completed total the scores and check the appropriate classification block.

U.S. Government Printing Office: 1988-573-01 //81455 R8

Form 8400–1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date	05/18/12
District	
Resource Area	
Scenic quality rating unit	KOP 2

1. Evaluators *(names)*

Leanna Guillermo

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM/WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Large, low, flat valley bottom; rolling mountain tops	Low, simple, native vegetation	Paved road
LINE	Horizontal floor; slightly sloping ridgeline	Weak; follows landform	Straight, paved road
COLOR	Gray; off-white; dark brown	Green and tan vegetation	Black paved road
TEXTURE	Smooth bases; subtle texture	Stippled; coarse; random	Smooth, uniform

3. Narrative

A low, flat valley bottom. Colors vary from brown to off-white. Little to no development is present.

4. SCORE *(Circle Appropriate Level)**

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	(3)	1	Low but interesting with mountains
b. Vegetation	5	3 (2)	1	Minimal diversity
c. Water	5	3	(0)	Not noticeable
d. Color	5	(3)	1	Some interesting variety with intensity
e. Adjacent Scenery	5	3 (2)	0	Minimal influence
f. Scarcity	5+	3 (2)	1	Commonly seen in area
g. Cultural Modification	2	(0)	-4	Little development
TOTALS	+	+	= 12	

SCENIC QUALITY CLASSIFICATION

- [ ] A 19 or more
- [X] B – 12–18
- [ ] C – 11 or less

(Instructions on reverse)

INSTRUCTIONS

Following are the instructions for completing the form. The numbers correspond with the item numbers on the form.

1. **Evaluators.** List the names of the persons involved in the rating.
2. **Landscape Character.** Briefly describe the major features and elements in the landscape. Refer to illustrations 4, 5, 6, and 7 of the BLM Handbook 1-8431-1 for guidelines on the terminology to be used to describe the elements.
3. **Narrative.** Briefly describe the general character of the landscape as it relates to the immediate surroundings and to similar landscape features within the physiographic province.
4. **Scores.** Rate the scenic quality using the criteria and guidelines in the BLM Handbook 1-8410-1 Section II. Record the scores by circling the appropriate numbers. If the rating more appropriately falls between the listed numbers, write in the desired number and circle it. For example, if the desired number for "color" falls between 3 and 5, write in the number 4 and circle it. Explain any unusual factors affecting a rating under the "explanation and rationale" column. If more space is needed, continue the explanation on this page. After the ratings are completed total the scores and check the appropriate classification block.

U.S. Government Printing Office: 1988-573-01 /81455 R8

Form 8400–1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date	05/18/12
District	
Resource Area	
Scenic quality rating unit	KOP 3

1. Evaluators *(names)*

Leanna Guillermo

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM/WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Large, low, flat valley bottom; rolling mountain tops	Low, simple, native vegetation	Undeveloped
LINE	Horizontal floor; slightly sloping ridgeline	Weak; follows landform	Undeveloped
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Undeveloped
...URE	Smooth bases; subtle texture	Stippled; random	Undeveloped

3. Narrative

A low, flat valley bottom. Colors vary from brown to white. No development is present.

4. SCORE *(Circle Appropriate Level)**

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	(3)	1	Low but interesting with mountains
b. Vegetation	5	3	(1)	Minimal diversity
c. Water	5	3	(0)	Not noticeable
d. Color	5	3 (2)	1	Some variety
e. Adjacent Scenery	5	3	0 (1)	Minimal influence
f. Scarcity	5+	3 (2)	1	Commonly seen in area
g. Cultural Modification	2	(0)	-4	Undeveloped
TOTALS		+	+	= 9

SCENIC QUALITY CLASSIFICATION

- [ ] A 19 or more
- [X] B – 12–18
- [ ] C – 11 or less

(Instructions on reverse)

INSTRUCTIONS

Following are the instructions for completing the form. The numbers correspond with the item numbers on the form.

1. **Evaluators.** List the names of the persons involved in the rating.
2. **Landscape Character.** Briefly describe the major features and elements in the landscape. Refer to illustrations 4, 5, 6, and 7 of the BLM Handbook 1-8431-1 for guidelines on the terminology to be used to describe the elements.
3. **Narrative.** Briefly describe the general character of the landscape as it relates to the immediate surroundings and to similar landscape features within the physiographic province.
4. **Scores.** Rate the scenic quality using the criteria and guidelines in the BLM Handbook 1-8410-1 Section II. Record the scores by circling the appropriate numbers. If the rating more appropriately falls between the listed numbers, write in the desired number and circle it. For example, if the desired number for "color" falls between 3 and 5, write in the number 4 and circle it. Explain any unusual factors affecting a rating under the "explanation and rationale" column. If more space is needed, continue the explanation on this page. After the ratings are completed total the scores and check the appropriate classification block.

U.S. Government Printing Office: 1988-573-017/81455 R8

Form 8400–1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date	05/18/12
District	
Resource Area	
Scenic quality rating unit	KOP 4

1. Evaluators *(names)*

Leanna Guillermo

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM/WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Large, low valley bottom; sloping mountain tops	Low, simple, native vegetation	Vertical power poles
LINE	Horizontal floor; sloping hilltops	Weak; follows landform	Vertical, straight power poles
COLOR	Gray, off-white, brown	Green and tan vegetation	Brown power poles
TEXTURE	Subtle texture	Stippled, coarse, random	Smooth, uniform

3. Narrative

A low valley bottom; Colors vary from brown to off-white. Little to no development is present.

4. SCORE *(Circle Appropriate Level)***

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	(3)	1	Low but interesting with mountains
b. Vegetation	5	3	(1)	Minimal diversity
c. Water	5	3	(0)	Not noticeable
d. Color	5	3 (2)	1	Some variety
e. Adjacent Scenery	5	3 (2)	0	Minimal influence
f. Scarcity	5+	3 (2)	1	Commonly seen in area
g. Cultural Modification	2	(0)	-4	Little development
TOTALS	+	+	=	10

SCENIC QUALITY CLASSIFICATION

- [ ] A 19 or more
- [ ] B – 12–18
- [X] C – 11 or less

(Instructions on reverse)

INSTRUCTIONS

Following are the instructions for completing the form. The numbers correspond with the item numbers on the form.

1. **Evaluators.** List the names of the persons involved in the rating.
2. **Landscape Character.** Briefly describe the major features and elements in the landscape. Refer to illustrations 4, 5, 6, and 7 of the BLM Handbook 1-8431-1 for guidelines on the terminology to be used to describe the elements.
3. **Narrative.** Briefly describe the general character of the landscape as it relates to the immediate surroundings and to similar landscape features within the physiographic province.
4. **Scores.** Rate the scenic quality using the criteria and guidelines in the BLM Handbook 1-8410-1 Section II. Record the scores by circling the appropriate numbers. If the rating more appropriately falls between the listed numbers, write in the desired number and circle it. For example, if the desired number for "color" falls between 3 and 5, write in the number 4 and circle it. Explain any unusual factors affecting a rating under the "explanation and rationale" column. If more space is needed, continue the explanation on this page. After the ratings are completed total the scores and check the appropriate classification block.

U.S. Government Printing Office: 1988-573-017/81455 R8

Form 8400-5
(May 1984)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY RATING SUMMARY

Date 05/18/12

District

Resource Area

1. Evaluators (*names*)

Leanna Guillermo

SCENIC QUALITY RATING UNITS (1)	Landform (2)	Vegetation (3)	Water (4)	Color (5)	Adjacent Scenery (6)	Scarcity (7)	Cultural Modification (8)	Total Score (9)	Scenic Quality Rating (10)	EXPLANATION (11)
KOP 1	3	1	0	3	2	2	0	11	C	A low valley bottom with little to no development.
KOP 2	3	2	0	3	2	2	0	12	B	A low valley bottom with little development and some interesting variety/intensity of color.
KOP 3	3	1	0	2	1	2	0	9	C	A low valley bottom with no development.
KOP 4	3	1	0	2	2	2	0	10	C	A low valley bottom with little development.

INSTRUCTIONS

Form is used in conjunction with the Scenic Quality Inventory and Evaluation Chart.

APPENDIX B
BLM 8400-4 FORMS

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 5/18/12

District

Resource Area

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Keeler Dunes Dust Control Project	4. Location Township ____________ Range ____________ Section ____________	5. Location Sketch
2. Key Observation Point KOP #1		
3. VRM Class		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low, flat valley bottom; rolling mountain tops	Low, sparse, simple native vegetation	Undeveloped with gravel road
LINE	Horizontal floor, slightly sloping ridgeline	Weak; follows landform	Undeveloped, straight gravel road
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Undeveloped with dark gray gravel road
TEXTURE	Smooth bases; subtle texture	Stippled; random	Smooth, uniform

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low flat valley bottom; rolling mountain tops	Low, sparse, simple native vegetation	Undeveloped with gravel road and low straw bales
LINE	Horizontal floor, slightly sloping ridgeline	Weak; follows landform	Undeveloped, straight gravel road; and weak landform following straw bales
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Undeveloped with dark gray gravel road; tan straw bales
TEXTURE	Smooth bases; subtle texture	Stippled; random	Coarse; uniform

SECTION D. CONTRAST RATING ■ SHORT TERM ☐ LONG TERM

1\. DEGREE OF CONSTRAST

ELEMENTS	Land/Water Body (1) Strong	Land/Water Body (1) Moderate	Land/Water Body (1) Weak	Land/Water Body (1) None	Vegetation (2) Strong	Vegetation (2) Moderate	Vegetation (2) Weak	Vegetation (2) None	Structures (3) Strong	Structures (3) Moderate	Structures (3) Weak	Structures (3) None
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture		X				X				X		

2\. Does project design meet visual resource management objectives? ■ Yes ☐ No (Explain on reverse side)

3\. Additional mitigating measures recommended? ☐ Yes ■ No (Explain on reverse side)

Evaluator's Names	Date
Leanna Guillermo	
David Lee	

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 5/18/12

District

Resource Area

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name
Keeler Dunes Dust Control Project

2. Key Observation Point
KOP #2

3. VRM Class

4. Location

Township ____________

Range ____________

Section ____________

5. Location Sketch

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low, flat valley bottom; rolling mountain tops	Low, simple native vegetation	Undeveloped with paved road
LINE	Horizontal floor, slightly sloping ridgeline	Weak; follows landform	Undeveloped, straight paved road
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Undeveloped with dark gray paved road
TEXTURE	Smooth bases; subtle texture	Stippled; random	Smooth, uniform

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low flat valley bottom; rolling mountain tops	Low, simple native vegetation	Undeveloped with paved road and low straw bales
LINE	Horizontal floor, slightly sloping ridgeline	Weak; follows landform	Undeveloped, straight paved road; and weak landform following straw bales
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Undeveloped with dark gray paved road; tan straw bales
TEXTURE	Smooth bases; subtle texture	Stippled; random	Coarse; uniform

SECTION D. CONTRAST RATING ■ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	Land/Water Body (1) Strong	Land/Water Body (1) Moderate	Land/Water Body (1) Weak	Land/Water Body (1) None	Vegetation (2) Strong	Vegetation (2) Moderate	Vegetation (2) Weak	Vegetation (2) None	Structures (3) Strong	Structures (3) Moderate	Structures (3) Weak	Structures (3) None
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture		X				X				X		

2. Does project design meet visual resource management objectives? ■ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended? ☐ Yes ■ No (Explain on reverse side)

Evaluator's Names | Date

Leanna Guillermo
David Lee

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 5/18/12

District

Resource Area

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Keeler Dunes Dust Control Project	4. Location Township ____________ Range ____________ Section ____________	5. Location Sketch
2. Key Observation Point KOP #3		
3. VRM Class		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low, flat valley bottom; rolling mountain tops	Low, simple native vegetation	Undeveloped
LINE	Horizontal floor, slightly sloping ridgeline	Weak; follows landform	Undeveloped
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Undeveloped
TEXTURE	Smooth bases; subtle texture	Stippled; random	Undeveloped

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low flat valley bottom; rolling mountain tops	Low, simple native vegetation	Low straw bales
LINE	Horizontal floor, slightly sloping ridgeline	Weak; follows landform	Weak landform following straw bales
COLOR	Shades of gray; white; dark brown	Green and tan vegetation	Tan straw bales
TEXTURE	Smooth bases; subtle texture	Stippled; random	Coarse; uniform

SECTION D. CONTRAST RATING ■ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture			X				X			X		

2. Does project design meet visual resource management objectives? ■ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended? ☐ Yes ■ No (Explain on reverse side)

Evaluator's Names	Date
Leanna Guillermo David Lee	

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 5/18/12

District

Resource Area

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name
Keeler Dunes Dust Control Project

2. Key Observation Point
KOP #4

3. VRM Class

4. Location

Township ____________

Range ____________

Section ____________

5. Location Sketch

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low, flat valley bottom; rolling mountain tops	Low, simple native vegetation	Vertical power poles
LINE	Horizontal floor, sloping hilltops	Weak; follows landform	Vertical, straight power poles
COLOR	Gray; off-white; brown	Green and tan vegetation	Brown power poles
TEXTURE	Subtle texture	Stippled; coarse; random	Smooth; uniform

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, low flat valley bottom; rolling mountain tops	Low, simple native vegetation	Vertical power poles; low straw bales
LINE	Horizontal floor, sloping hilltops	Weak; follows landform	Vertical, straight power poles; weak landform following straw bales
COLOR	Gray; off-white; brown	Green and tan vegetation	Brown power poles and tan straw bales
TEXTURE	Subtle texture	Stippled; coarse; random	Coarse; uniform

SECTION D. CONTRAST RATING ■ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONSTRAST

	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form			X				X				X	
Line			X				X				X	
Color			X				X				X	
Texture			X				X				X	

2. Does project design meet visual resource management objectives? ■ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended? ☐ Yes ■ No (Explain on reverse side)

Evaluator's Names | Date

Leanna Guillermo
David Lee

APPENDIX C
BLM 8400-6 FORMS

Form 8400-6
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SENSITIVITY LEVEL RATING SHEET

Date
District
Resource Area

1. Evaluators *(names)*

SENSITIVITY LEVEL RATING UNIT (1)	Type of User (2)	Amount of Use (3)	Public Interest (4)	Adjacent Land Uses (5)	Special Areas (6)	Other Factors (7)	Overall Rating (8)	EXPLANATION (9)
KOP 1	L	M	L	M	NP	NP	L	Landscape features scattered, low, native vegetation. Adjacent to the community of Keeler and State Route (SR) 136.
KOP 2	L	M	L	M	NP	NP	L	Landscape features scattered, low, native vegetation and undisturbed. Adjacent to the community of Keeler and SR 136.
KOP 3	L	M	L	M	NP	NP	L	Landscape features scattered, low, native vegetation and undisturbed. Adjacent to the community of Keeler and SR 136.
KOP 4	L	M	L	M	NP	NP	L	Landscape features scattered, low, native vegetation and largely undisturbed. Adjacent to the community of Keeler and SR 136.

(Instructions on reverse)

APPENDIX C
AIR QUALITY AND GREENHOUSE GAS EMISSIONS TECHNICAL REPORT

KEELER DUNES DUST CONTROL PROJECT
AIR QUALITY AND GREENHOUSE GAS EMISSIONS TECHNICAL REPORT

Prepared for:

Great Basin Unified Air Pollution Control District
157 Short Street
Bishop, California 93514

Prepared by:

Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

March 21, 2014

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EXECUTIVE SUMMARY

This Air Quality and Greenhouse Gas Emissions Technical Report was undertaken by Sapphos Environmental, Inc. for the Great Basin Unified Air Pollution Control District (District) and the U.S. Department of the Interior Bureau of Land Management (BLM) in support of the proposed Keeler Dunes Dust Control Project (proposed project / proposed action). The District anticipates that the proposed project / proposed action would need to be implemented partially on quasi-public lands owned by the LADWP and partially on lands administered by the BLM. Work on lands administered by the BLM would require issuance of a right-of-way permit by the BLM.

This report was prepared to address potential construction-related air quality and greenhouse gas (GHG) emissions issues identified as requiring further analysis to define significance levels of air quality and GHG emissions impacts pursuant to the California Environmental Quality Act (CEQA). Construction of the proposed project / proposed action would entail the planting and establishment of native vegetation and placement of straw bales as a temporary wind break.

The main conclusions of this report are as follows:

- Construction of the proposed project / proposed action would generate short-term emissions of criteria pollutants. Particulates would be generated from traversing the site to place the straw bales and planting. The annual emissions of particulate matter (PM_{10}) associated with the proposed project / proposed action's construction activities are anticipated to be below the thresholds of significance and, as such, would be expected to result in a less than significant impact to air quality.

- Operation of the proposed project / proposed action would not result in significant emissions of criteria pollutants. The proposed project / proposed action is a vegetation and dust management program. The vegetation effort would reduce dust emissions such that the Federal and State PM10 standards are met in Keeler; therefore, PM_{10} associated with the operational activities would be below the thresholds of significance and, as such, would be expected to result in a less than significant impact to air quality.

- The nearest sensitive receptors in the vicinity of the proposed project / proposed action site include the community of Swansea located adjacent and to the north and the community of Keeler to the southeast, one designated Native American reservation (Lone Pine Paiute-Shoshone Indian Reservation) approximately 10 miles to the northwest, and the town of Lone Pine approximately 10 miles to the northwest. Fugitive dust impacts to these sensitive receptors would be below the level of significance.

- Impacts to sensitive receptors in the vicinity of the proposed project / proposed action property related to toxic air contaminant emissions would be expected to be below the level of significance.

- Odor impacts associated with the proposed project / proposed action would be expected to be below the level of significance.

- The proposed project / proposed action would be consistent with the Owens Valley 2008 Air Quality Attainment Plan.

- The proposed project / proposed action's construction and operation phases would not be expected to result in substantial increases in GHG emissions, and the cumulative impact to global climate change would be expected to be below the level of significance. Operation of the proposed project / proposed action would sequester carbon emissions and, therefore, would be expected to reduce GHG emissions.

- In accordance with the 2008 State Implementation Plan (SIP), compliance with District Rules 400 and 401 is required to reduce fugitive dust emissions to the maximum extent feasible during construction.

- Air quality impacts related to PM_{10} emissions during construction would not result in a potentially significant cumulative impact when considering the proposed project / proposed action in conjunction with related past, present, or reasonably foreseeable probable future projects.

- Air quality impacts related to PM_{10} emissions during operation would result in a reduction in cumulative impact when considering the proposed project / proposed action in conjunction with related past, present, or reasonably foreseeable probable future projects.

Table ES-1, *Summary of Findings*, summarizes the main conclusions of this report on construction and operation impacts.

TABLE ES-1
SUMMARY OF FINDINGS

	Annual Impacts	Emissions					
		VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Unmitigated (Significant?)	Construction	N/A	N/A	N/A	N/A	N/A	No
	Operation	N/A	N/A	N/A	N/A	N/A	No
	Cumulative construction	N/A	N/A	N/A	N/A	N/A	No
	Cumulative operation	N/A	N/A	N/A	N/A	N/A	No
		Other Emission Impacts					
	Impacts to sensitive receptors	No					
	Toxic air contaminants (TACs)	No					
	Odor	No					
	Inconsistent with Inyo County 2008 Air Quality Attainment Plan	No					
	Greenhouse gas emissions	No					
After compliance with Rules 400, 401, and the 2008 SIP (Significant?)	Construction	N/A	N/A	N/A	N/A	N/A	No
	Operation	N/A	N/A	N/A	N/A	N/A	No
	Cumulative construction	N/A	N/A	N/A	N/A	N/A	No
	Cumulative operation	N/A	N/A	N/A	N/A	N/A	No
		Other Emission Impacts					
	Impacts to sensitive receptors	No					
	Toxic air contaminants (TACs)	No					
	Odor	No					
	Inconsistent with Inyo County 2008 Air Quality Attainment Plan	No					
	Greenhouse gas emissions	No					

KEY: N/A = not applicable

In conclusion, construction-related air quality impacts would be below the level of significance. Compliance with District Rules 400 and 401 and additional measures required in the 2008 SIP would further avoid and reduce construction-related emissions. Direct impacts from the operation of the proposed project / proposed action would be below the level of significance. Cumulative impacts related to PM_{10} emissions during construction would also be reduced to the maximum extent feasible by placing straw bales prior to planting. In addition, the proposed project / proposed action's planting of carbon-sequestering vegetation would create long-term benefits to air quality and GHG emissions. Overall, implementation of the proposed project / proposed action would produce long-term reductions of PM_{10} that may benefit nearby communities.

SECTION 1.0
INTRODUCTION

1.1 PURPOSE AND SCOPE

This Air Quality and Greenhouse Gas Emissions Technical Report was undertaken by Sapphos Environmental, Inc. for the Great Basin Unified Air Pollution Control District (District) and the U.S. Department of the Interior Bureau of Land Management (BLM), in support of the proposed Keeler Dunes Dust Control Project (proposed project / proposed action). This report identifies existing conditions in the study area as they relate to air quality and relevant regulatory framework. In addition, this report evaluates potential air quality impacts associated with the proposed project / proposed action; proposes measures to mitigate any potentially significant impacts to air quality caused by implementation of the proposed project / proposed action; and documents the findings of the levels of significance after mitigation, where recommended. This report evaluates all phases (that is, construction, operation, and maintenance phases) of the proposed project / proposed action, as well as the potential cumulative impacts and impacts related to greenhouse gas (GHG) emissions.

The purpose of the proposed project / proposed action, in combination with other ongoing dust control measures that have been and are being implemented on the lake bed, is to improve air quality through the reduction of particulate matter (PM_{10}) emissions throughout the Owens Valley Planning Area (OVPA), consistent with the 2008 State Implementation Plan Demonstration of Attainment Project (2008 SIP). In particular, the purpose of this proposed project / proposed action is to reduce the exposure of residents of the communities of Swansea and Keeler to unhealthy levels of PM_{10} emissions. Dust control measures (DCMs) are necessary at the Keeler Dunes to bring these areas into compliance with the National Ambient Air Quality Standards (NAAQS) and California State standards for PM_{10}.

1.2 LOCATION

The proposed project / proposed action is located immediately north-northwest of the community of Keeler, California, and east of the 110-square-mile (70,000-acre) Owens Lake bed within the Owens Valley, Inyo County, California (Figure 1.2-1, *Regional Vicinity Map*). The proposed project / proposed action is located approximately 10 miles southeast of the town of Lone Pine and approximately 65 miles south of the City of Bishop. The proposed project / proposed action is located approximately 10 miles to the west of Death Valley National Park, approximately 11 miles to the east of Sequoia National Park, and approximately 48 miles north of the City of Ridgecrest (Figure 1.2-1). The nearest sensitive receptors include the community of Keeler southeast of the proposed project / proposed action and Swansea to the north (Figure 1.2-2, *Study Area Location Map*). One designated Native American reservation, the Lone Pine Paiute-Shoshone Indian Reservation, is located approximately 10 miles to the northwest (Figure 1.2-1). The proposed project / proposed action is located within the Owens Valley Planning Area (OVPA) of the District (Figure 1.2-3, *Study Area Boundary in Relation to Owens Valley Planning Area*). The OVPA is situated in the southern end of the Owens Valley, and implementation of various DCMs on the Owens Lake Bed has been ongoing since the year 2001.

The location of the study area is depicted on the U.S. Geological Survey (USGS) 7.5-minute series, Owens Lake and Dolomite, topographic quadrangles[1,2] (Figure 1.2-4, *Topographic Map with USGS 7.5-Minute Quadrangle Index*). The topography of the study area consists of alluvial fan and former shorelines of Owens Lake covered by sand sheets and sand dunes. Elevation ranges from approximately 3,600 feet above mean sea level (MSL) to approximately 3,885 feet above MSL.

The proposed project / proposed action site is approximately 194 acres in size and is located within a 1.36-square-mile (870.6-acre) study area. The study area is bounded approximately by the Inyo Mountains on the east-northeast and the historic Owens Lake bed on the west-southwest and extends approximately 2.5 miles to the northwest from the community of Keeler. California State Route (SR) 136 bisects the 1.36-square-mile study area. The proposed project / proposed action is located on lands administered by the BLM Bishop Office and the City of Los Angeles Department of Water and Power (LADWP).

In addition to the BLM and LADWP, other stakeholders have an interest in the proposed project / proposed action: Inyo County, Lahontan Regional Water Quality Control Board, Lone Pine-Paiute Shoshone Tribe, Big Pine Band of Owens Valley, Bishop Paiute Tribe, Fort Independence Indian Community of Paiute Indians, Timbisha Shoshone Tribe, California State Lands Commission, Office of Historic Preservation, Native American Lands Commission, Caltrans District 9, Southern Pacific Railroad, Keeler Community Services District, and Keeler and Swansea residents.

1.3 DESCRIPTION OF THE PROPOSED PROJECT / PROPOSED ACTION

The proposed project / proposed action is a program to stabilize a portion of the emissive Keeler Dunes and associated sand deposits to reduce dust emissions that are causing and contributing to exceedances of the NAAQS and California State standards for PM_{10} in the OVPA. The basis of an effective dust control strategy must be to stabilize the Keeler Dunes such that high wind events will not result in fugitive dust emissions that exceed the federal and state standards in Keeler and Swansea. The District has determined, based in its expertise in dust control, that the preferred method to control fugitive dust emissions in the Keeler Dunes and to meet ambient air quality standards and be consistent with the BLM Resource Management Plan involves establishment of a native vegetation surface protection coupled with straw bales as a temporary wind barrier.

1.3.1 Elements of the Proposed Project / Proposed Action

The DCM involves the establishment of a mix of native vegetation within specified dust emitting areas of the Keeler Dunes. The goal would be to create a natural vegetated dune environment that mimics comparable natural environments such as the existing Swansea Dunes (located to the northeast) and other stable shoreline dunes in the region. The establishment of native vegetation would act to prevent high emissions of dust by breaking up the wind and lowering the wind speed at the ground surface.

The proposed project / proposed action would entail placement of straw bales and native plants in approximately 194 acres within the dunes to achieve 85 percent (17 acres) and 95 percent (177 acres) dust control efficiency. A random pattern would be used for straw bale placement to mimic natural vegetation patterns. *Atriplex polycarpa* and a mixture of other types of native vegetation will be planted. Initially, the dust control reduction will be achieved through the array of straw

[1] U.S. Geological Survey. 1987. *7.5-Minute Series, Owens Lake, California, Topographic Quadrangle*. Reston, VA.

[2] U.S. Geological Survey. 1987. *7.5-Minute Series, Dolomite, California, Topographic Quadrangle*. Reston, VA.

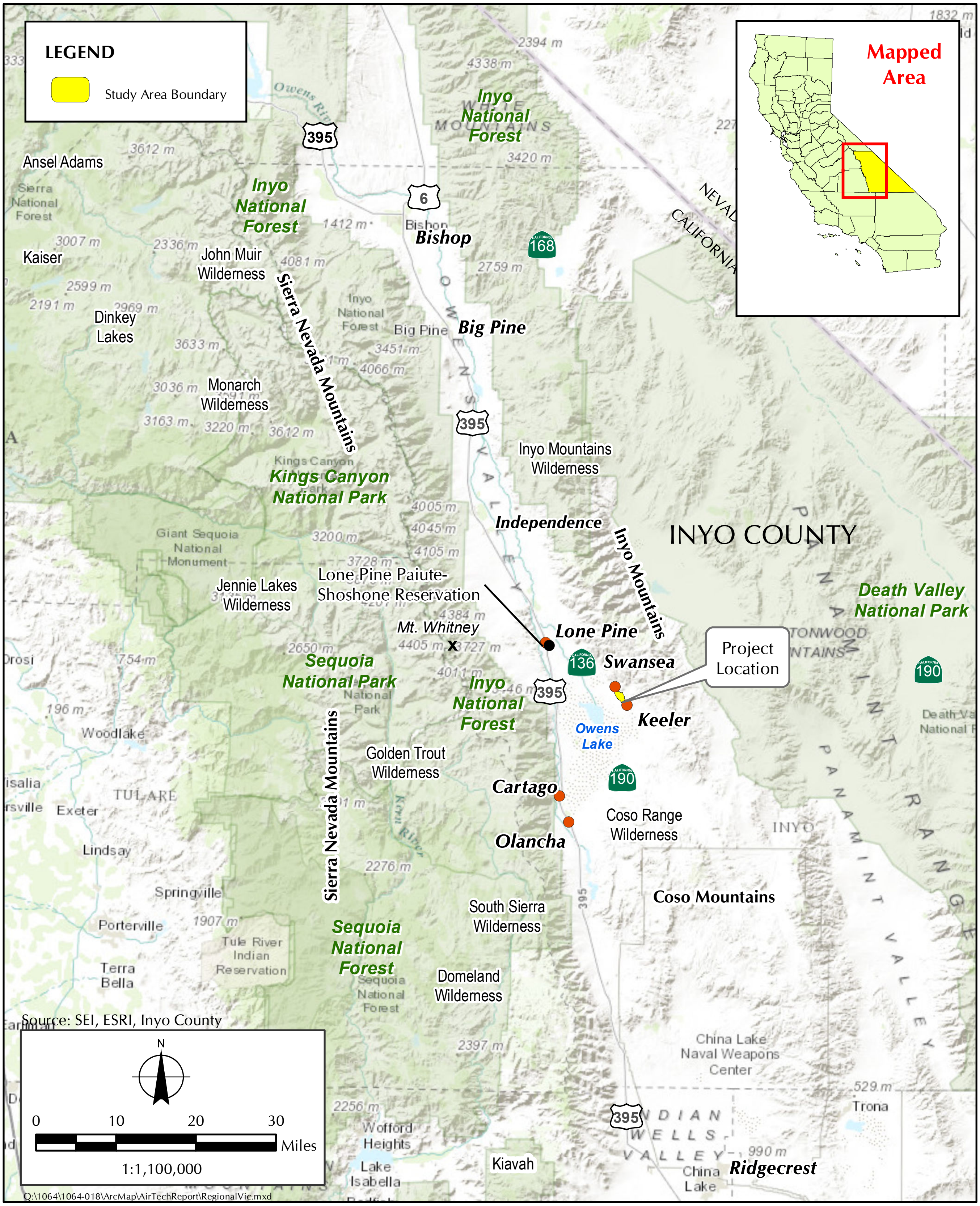

FIGURE 1.2-1

Regional Vicinity Map

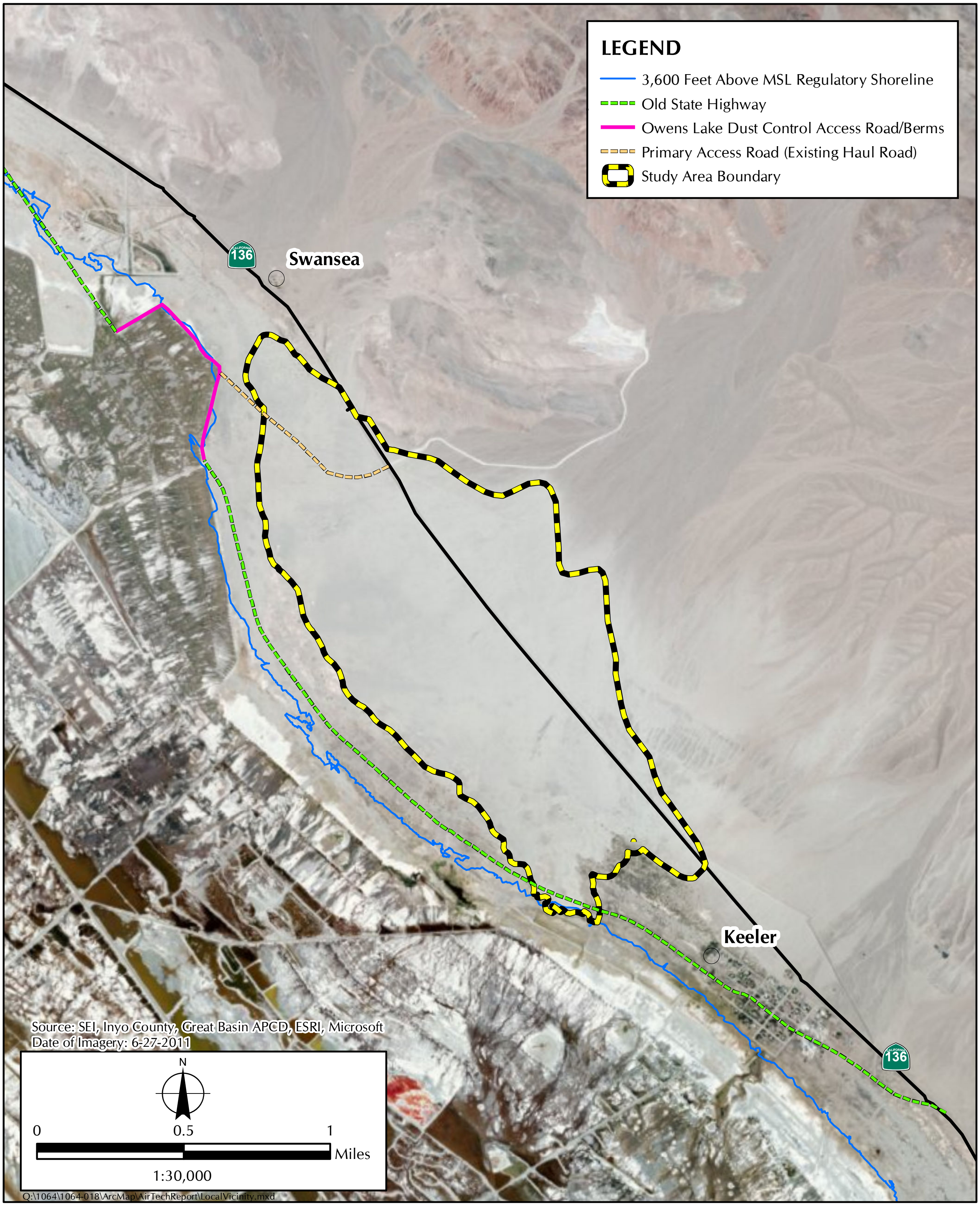

FIGURE 1.2-2

Study Area Location Map

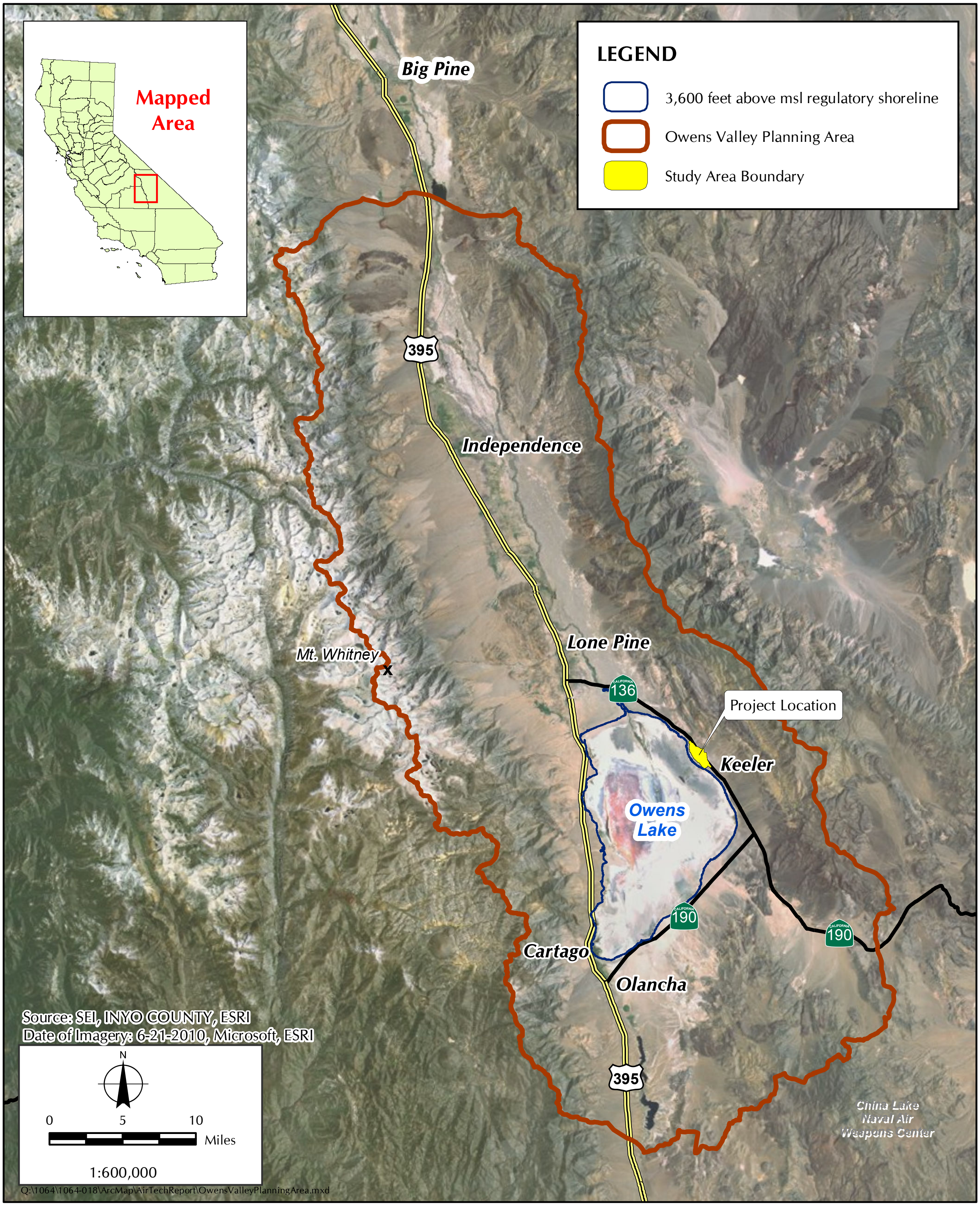

FIGURE 1.2-3

Study Area Boundary in Relation to Owens Valley Planning Area

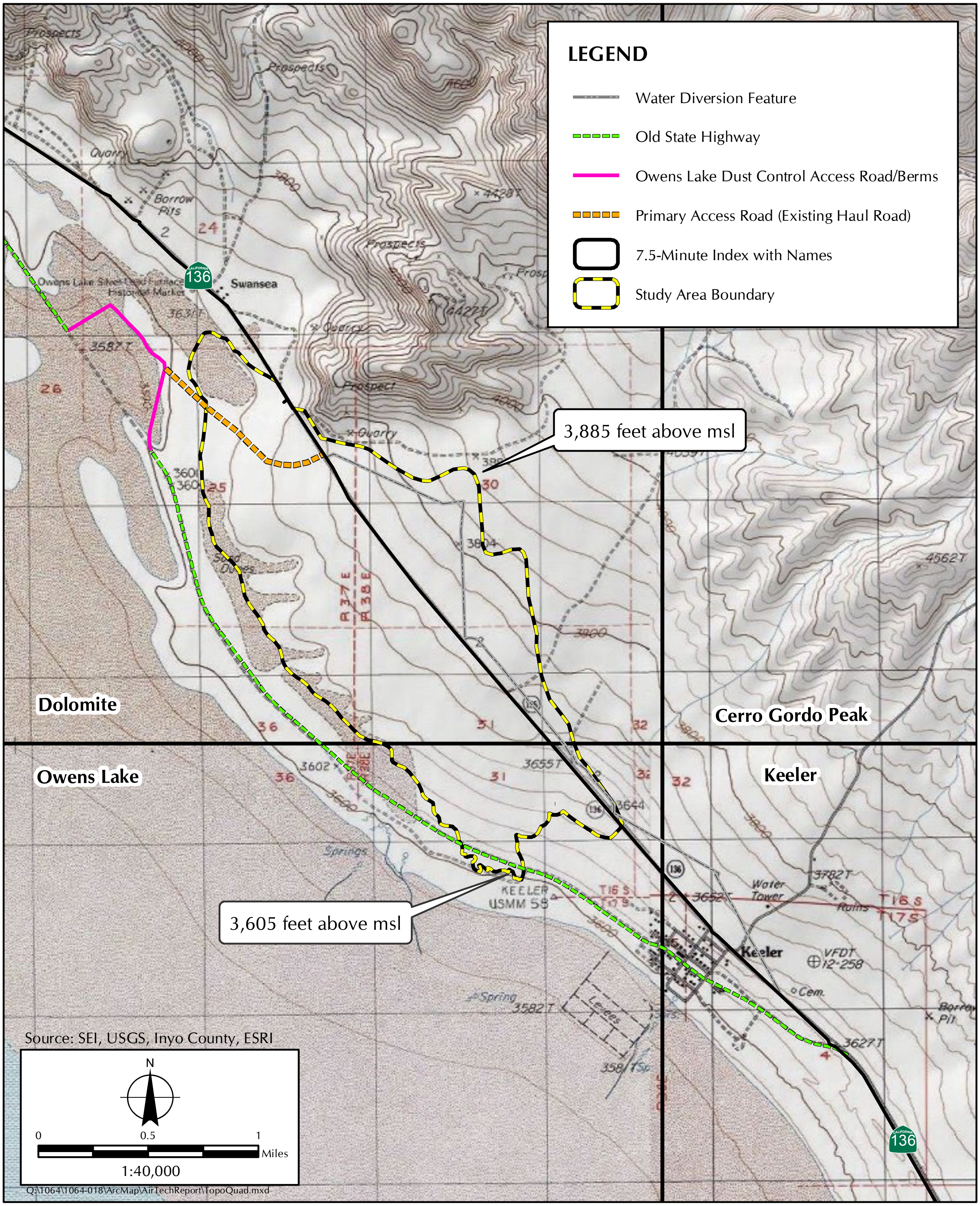

FIGURE 1.2-4

Topographic Map with USGS
7.5-Minute Quadrangle Index

bales. Over time, dust control will be taken over by the plants as they grow and mature. In addition, the straw bales provide a protected environment for the plants. Periodic watering of the plants in the spring (March/April) and fall (September/October)may be needed in low-rainfall years for up to 3 years until the vegetation is sufficiently established. The long-term goal of this DCM would be the establishment of a self-sustaining native vegetation cover to control dust with minimal long-term maintenance. Continued monitoring would be required and minimal long-term maintenance would be anticipated with this DCM.

Other elements include infrastructure elements such as temporary access routes, temporary staging area for equipment, straw bales and plants, a water storage tank, and an effectiveness monitoring program (existing air monitoring stations). The estimated time period for construction is approximately 11 months with planting occurring in October through January. Supplemental watering, if necessary, would be conducted in spring and fall and would require approximately 2–3 months to complete. More specific details of the proposed project / proposed action elements are detailed below.

Native Vegetation

This DCM involves the establishment of a mix of native vegetation within the dust emitting areas shown on Figure 1.3.1-1, *Location of Infrastructure Elements Common to All Action Alternatives*. The goal would be to create a natural vegetated dune environment that would act to prevent high emissions of dust by breaking up the wind and lowering the wind speed at the surface. The District designed the proposed project / proposed action to minimize environmental impacts by applying two different control levels at the site. The approximate number of plants and straw bales necessary to achieve anestimated 85- and 95-percent dust control efficiency is summarized in Table 1.3.1-1, *Dust Control Measure Elements*.

TABLE 1.3.1-1
DUST CONTROL MEASURE ELEMENTS

Element	Minimum Control Efficiency (%)	Number of Acres	No. Required per Acre	Total No. Required
Native vegetation	95	177	1,983	350,991
Native vegetation	85	17	1,092	18,564
Total	—	—	—	369,555
Straw bales*	95	177	661	116,997
Straw bales	85	17	364	6,188
Total bales	—	—	—	123,185

NOTE: * The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters.

Native vegetation to be planted within the dust control areas include *Atriplex polycarpa* (ATPO; 66 percent) and a mixture of other native plant species (33 percent). Planting will involve initial placement of a straw bale (see *Other Elements*, below), followed by installation of native plants along the base of the straw bale. In addition, seeds of native plants may be dispersed in open areas between the straw bales.

Straw Bales

This is a temporary element of the dust control measure that would be used to stabilize emissive dust areas and provide a sheltered environment for plants during establishment. The proposed project / proposed action will utilize straw bales (24 x 16 x 48 inches or similar size) installed in an irregular pattern across the emissive areas. Table 1.3.1-1 provides the number of straw bales necessary for 85 and 95 percent dust control. All straw bales used at the dunes would be certified weed free to minimize the threat from invasive weeds. Straw bales are anticipated to degrade over a period of several years and would provide organic material to the existing soil. Limited maintenance of straw bales (replacement of broken bales) is anticipated.

Other Elements

Other elements include infrastructure elements that may consist of access routes, staging areas, water supply, conveyance and water distribution facilities, and an effectiveness monitoring program.

Staging Areas

Four temporary staging areas will be established to provide contractor(s) with storage and placement of equipment, straw bales, native plants, supplies, and in Alternative 3 only, temporary water storage tanks. The staging area(s) will be located on land near the proposed project / proposed action area (Figure 1.3.1-1). The total area of the proposed staging areas is approximately 3.2 acres, all of which are considered temporary impacts.

One main staging area (Staging Area 1) will be established within the northwestern edge of the proposed project / proposed action area on land administered by the BLM (Figure 1.3.1-1). Located immediately east of Old State Highway, the staging facility will measure 50 feet by 300 feet in area and will be used by the contractor(s) for the storage of equipment, fuel, all-terrain vehicles (ATVs), native plants, and other supplies.

Staging Area 2 will also be constructed for the proposed project / proposed action along the Old State Highway, on land managed by the LADWP (Figure 1.3.1-1). Staging area 2 will measure 200 feet by 400 feet and construction crew may park at this location.

Staging Area 3 is located on land managed by the BLM and will measure 150 feet by 300 feet, and has been designed to accommodate the ability for trucks to turn around. Both Staging Area 2 and 3 will be used for the temporary storage of equipment and materials needed for DCMs in the central and southern portions of the proposed project / proposed action area.

Staging Area 4 will be established adjacent to the gravel haul road constructed by the LADWP for dust mitigation on the Owens Lake, adjacent to the turn-off onto SR 136 (Figure 1.3.1-1). This staging area will be placed on previously disturbed land within the graveled limits of the existing road; thus, no vegetative removal is necessary. The area will measure approximately 10 feet by 200 feet and will be used primarily for temporary straw bale storage.

Staging Areas 1, 2, and 3 will require the brushing of vegetation in order for them to function. These staging areas will be restored and revegetated after the proposed project / proposed action has been completed.

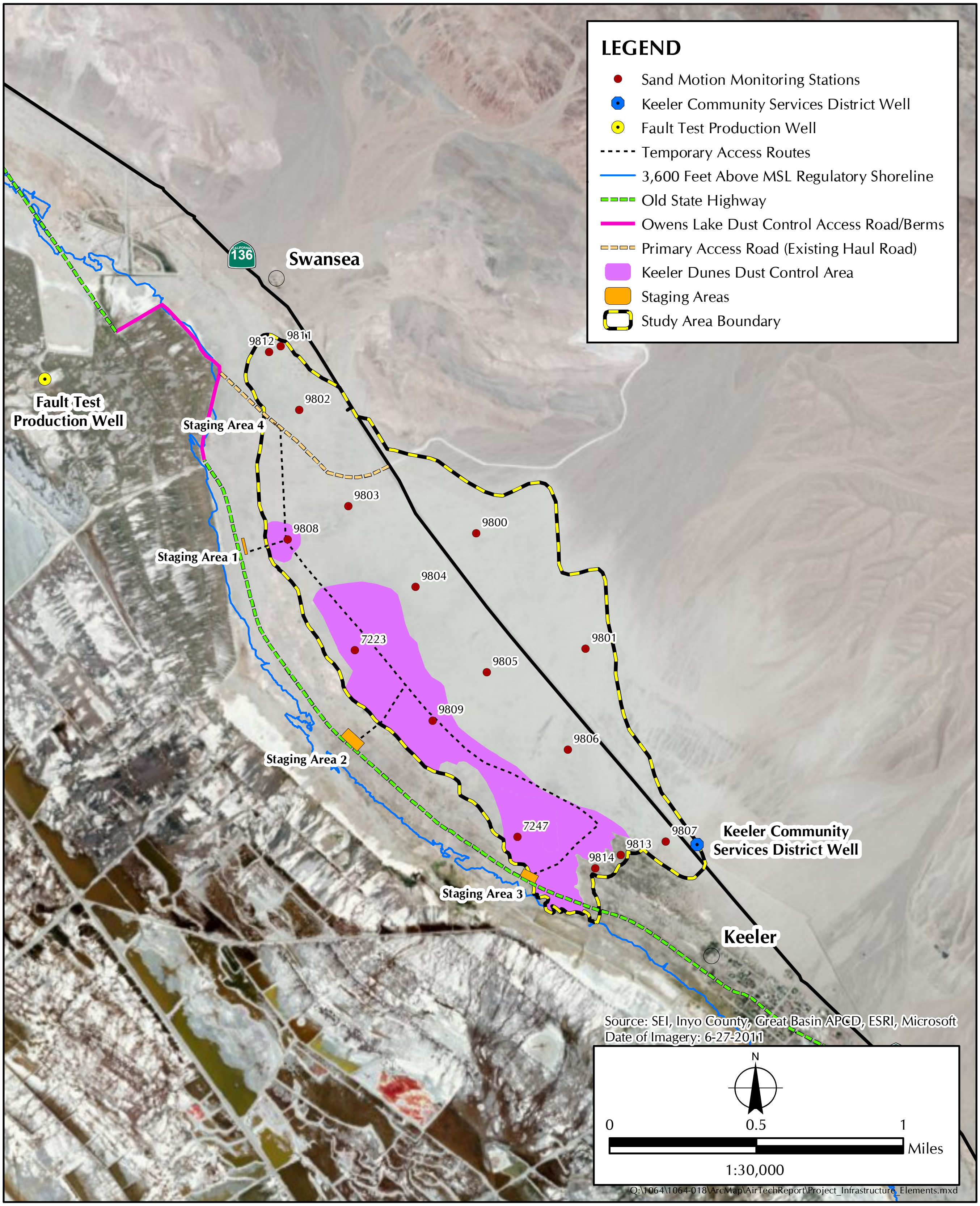

FIGURE 1.3.1-1
Location of Infrastructure Elements
Common to All Action Alternatives

Access Routes

A temporary access route for ATV travel will be established for use during placement of straw bales and planting and watering activities. ATVs will be used to haul straw bales, plants, and water to the dust control areas. The temporary access route will be sited to minimize impacts to existing vegetation and cultural resources. The temporary access route will be prepared by brushing and grubbing (leaving the roots in place). No supplemental materials such as asphalt or gravel will be used. Following completion of planting and watering activities, the temporary access route will be restored utilizing straw bales and native plants (the same as used for the dust control areas of the proposed project / proposed action). The temporary access route from Staging Areas 1, 2, 3, and 4 will be approximately 13,478 feet long (2.5 miles) by 20 feet wide following the existing grade (total temporary access route disturbance area is 6 acres). The approximate location of access routes is shown in Figure 1.3.1-1.The proposed project / proposed action area can be accessed from State Route 136 via the gravel haul road and Old State Highway

Water Supply, Conveyance, and Distribution

Approximately 5 gallons of water will be applied under each straw bale prior to planting.[3] The plants would also be watered with approximately 3 gallons of water per bale immediately after the plants are placed in the ground. Total water needs during planting are expected to amount to approximately 3.02 acre-feet (985,480 gallons). It is expected that supplemental watering may be provided to the plants during the first 3 years of the proposed project / proposed action when rainfall is less than 50 percent of the average annual rainfall or is needed based on poor plant health. A total of about 5.29 acre-feet of water may be applied during the first year of the proposed project / proposed action. During each of the second, third, years of the proposed project / proposed action the estimated total annual water duty would be about 2.27 acre-feet. The total water demand for the proposed project / proposed action and proposed project / proposed action alternatives is estimated at up to 9.83 acre-feet (3.2 million gallons) over the 3-year period (Table 1.3.1-1, *Water Requirements for Proposed Project / Proposed Action*.

TABLE 1.3.1-1
WATER REQUIREMENTS FOR PROPOSED PROJECT / PROPOSED ACTION

Irrigation Event	Year	Gallons per Bale	Gallons	Acre-feet
Initial irrigation	Fall 2014	5	615,925	1.89
Irrigation at time of planting	Fall 2014	3	369,555	1.13
Supplemental #1	Spring 2015	3	369,555	1.13
Supplemental #2	Fall 2015	3	369,555	1.13
Supplemental #3	Spring 2016	3	369,555	1.13
Supplemental #4	Fall 2016	3	369,555	1.13
Supplemental #5	Spring 2017	3	369,555	1.13
Supplemental #6	Fall 2017	3	369,555	1.13
		Total	**3,203,120**	**9.83**

[3] Groeneveld, D.P., HydroBio Advanced Remote Sensing. 12 September 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

During the time of planting there will be two irrigation events associated with planting. The first will be conducted prior to planting to pre-wet/pre-condition the soil. The second irrigation will be conducted immediately following planting of the shrubs. Additionally, during the first year of the proposed project / proposed action, the plants may be provided with supplemental water, if needed, in the spring time when they are breaking dormancy for the growing season and again in the late summer as they go into their late season growth spurt. A decision to provide supplemental water will be based on the precipitation and the overall health of the plants.

During each of the first, second, and third years of operation of the proposed project / proposed action, there may be up to two supplemental watering events. The decision to provide supplemental water will be based on the precipitation during the year and the overall health of the plants. The potential watering events will occur in the later winter / early spring and late summer/early fall.

The proposed project / proposed action and action alternatives 1, 2, 3, and 4 assume that the water for plant irrigation will be supplied from the District's 12-inch production well, located at the Fault Test Site, located about 0.7 mile northwest of the proposed project / proposed action boundary. The Fault Test well is an artesian (flowing) well and is capable of producing 250 gallons per minute (gpm) on a sustained basis.[4] An initial application of water at each straw bale installed in the dust control areas is expected to require approximately 985,480 gallons, which would be applied over a 2- to 4-month period (this includes the pre-planting watering as well as the watering at the time of planting). The Fault Test production well can produce a sustained flow rate of 250 gpm and thus only requires a total flow of 2.7 days to produce enough water for the initial watering. Flow tests conducted at the Fault Test Site have included continuous flows for periods up to 90 days with no observed impacts to the surrounding area. Thus production of the relatively small amount of water needed for the plants on the proposed project / proposed action would not be expected to cause impacts to the local area. Another available water source includes purchased water from the Keeler Community Services District (KCSD) Well located within the southeastern portion of the proposed project / proposed action study area.[5]

Effectiveness Monitoring Program

The District is currently monitoring dust activity in the proposed project / proposed action study area with a network of 16 sand motion monitoring sites (see Figure 1.3.1-1 for Keeler Dunes monitoring sites). The monitoring program will continue to operate during and after DCM implementation. Review of sand motion monitoring, plant, and PM_{10} data will be completed at least one time per year and will be evaluated by the District to determine the progress of the proposed project / proposed action in attaining the NAAQS and state standard for PM_{10} and for the need to add supplemental plants and/or straw bales. The District will coordinate the monitoring results with the BLM.

[4] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 9 October 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

[5] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 20 September 2013. Email to Eric Charlton, Sapphos Environmental, Inc., Pasadena, CA.

1.3.2 Construction Scenario

Installation of the proposed project / proposed action would require approximately 11 months to complete. Construction of the proposed project / proposed action would be divided into the following parts: (1) temporary access routes and staging area(s), (2) bale placement and planting and watering, (3) project oversight and monitoring, and (4) supplemental watering and planting, as required. Additionally for Alternatives 3, 4, and 5 there will be installation and removal of a temporary irrigation system.

Preparation of the staging areas and access routes include brushing and grubbing Construction of the proposed project / proposed action will require a temporary disturbance of 33.1 acres. Fugitive dust emissions shall be controlled and minimized, to comply with District Rules 400 and 401 through the application of best available control measures during implementation of the proposed project / proposed action. ATVs will be restricted to travel at less than 15 miles per hour to minimize dust levels. Restoration of disturbed areas, such as staging areas and temporary access routes, would occur at the end of 3 years or when the plants are established enough such that they did not need any supplemental watering.

Supporting activities would include material delivery, planting, placement of straw bales, water delivery to plants, ongoing monitoring, and transportation of work crews. Site preparation and construction of the proposed project / proposed action would be undertaken in accordance with all federal, state, and County of Inyo building codes. A Worker Education and Awareness Plan (WEAP) and Weed Control Plan would be implemented to avoid and minimize potential impacts to resources at the proposed project / proposed action site. The contractor for the proposed project / proposed action would be required to prepare and submit these plans to the County, BLM, and the District for review and approval prior to conducting work at the proposed project / proposed action site.

Construction would be scheduled in compliance with County of Inyo regulations. Construction employees would be expected to carpool from respective population centers such as Lone Pine, Olancha, or Keeler, California, and report to the designated construction staging area prior to the beginning of each work day. It is anticipated that the employees would use SR 136 and the Gravel Haul Road and Old State Highway for ingress/egress to the proposed project / proposed action property and that, once on-site, they would access various sections by foot and ATV on the temporary access route. Workers would be present at the proposed project / proposed action site between 7:00 a.m. and 5:00 p.m., Monday through Friday. During periods of high temperature, work may begin as early as 5:00 a.m.

Up to 72 workers would be expected to be on-site during peak construction activity periods. Construction equipment would be turned off when not in use. The construction contractor would be required to ensure that all equipment is properly maintained. All vehicles would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

The plans and specifications for the proposed project / proposed action would include the requirement for construction equipment and average number of hours of operation of the type specified in Table 1.3.2-1, *Dust Control Activity, Duration, Equipment, and Workers*. Table 1.3.2-1 lists the duration of each activity, types of equipment, and the maximum number of workers on the site each day.

TABLE 1.3.2-1
DUST CONTROL ACTIVITY, DURATION, EQUIPMENT, AND WORKERS

Activity	Duration (months)	Equipment	Workers (maximum)
Site preparation	~ 1 week	GrubberAll-terrain vehicle Pickup truck Trailers	10
Deliver and distribute straw bales over the dust control areas	6 to 8 months	Semi-trucks with tandem trailers Loader with forks Hay Squeeze All-terrain Vehicles	72
Planting and watering	6 to 8 months	All-terrain vehicles Loader with forks Water Trucks	72
Cleanup/restoration	~ 2 weeks	Semi-trucks with tandem trailers All-terrain vehicles Loader with forks Dozers and trailers Water trucks Pick-up trucks	20
Supplemental Watering	1 to 3 months	All-terrain vehicles Water trucks	13

Site ingress and egress locations for construction, delivery vehicles, haul routes, and emergency response and evacuation would be located at one entrance/exit road junction along Old State Highway 136 (Figure 1.3.1-1).

Once the proposed project / proposed action elements are in place, the site would be monitored regularly for a period of 3 years to evaluate the vegetation growth progress, assess plant mortality and predation, provide water according to a specified schedule, check the physical condition of straw bales, replace plants that do not survive, and supplement native vegetation in accordance with air monitoring data. Review of DCM effectiveness will be completed one time per year and will be evaluated to provide recommendations, as appropriate, for adding supplemental plants and/or straw bales as needed to achieve the NAAQS for PM_{10}.

SECTION 2.0
AIR QUALITY AND GREENHOUSE GAS EMISSIONS ANALYSIS

The analysis provided in this section evaluates the air quality and GHG emissions impact level of significance associated with the construction, operation, and maintenance activities of the proposed project / proposed action. The analysis contained herein focuses on GHG emissions and criteria pollutants designated by the federal Clean Air Act (CAA). Relevant regulatory framework is used to determine the consistency of the proposed project / proposed action with federal and state laws that govern the regulation of air quality and to determine the level of significance of the proposed project / proposed action impacts to air quality. Mitigation measures are subsequently provided to reduce air quality impacts identified to be potentially significant. The information used in this analysis is based on a review of relevant literature and technical reports (see Section 3.0, *References*, for a list of reference materials consulted). The conclusion of this analysis is supported by relevant climate data (Appendix A, *Wind and Climate Data*) and air quality modeling results (Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*).

2.1 POLLUTANTS AND THEIR EFFECTS

Criteria air pollutants are defined as pollutants that are hazardous to human health and are regulated by federal and state ambient air quality standards or criteria for outdoor concentrations. The federal and state standards have been set at levels above which concentrations would be harmful to human health and are designed to protect the most sensitive persons from illness or discomfort. Criteria pollutants of concern include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). *Hazardous air pollutants* is a term used by the federal CAA that refers to a variety of pollutants generated or emitted by industrial production activities. Called *toxic air contaminants* (TACs) under the CAA, 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. On April 2, 2007, the Supreme Court in *Massachusetts, et al. v. Environmental Protection Agency, et al.* ruled that the CAA gives the U.S. Environmental Protection Agency (EPA) the authority to regulate emissions of GHGs, including carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); and fluorinated gases, such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride,[1] thereby legitimizing GHGs as air pollutants under the CAA.

GHGs trap energy from the sun and help maintain the temperature of the Earth's surface, creating a process known as the greenhouse effect. The sun emits solar radiation and provides energy to the Earth. Six percent of the solar radiation emitted by the sun is reflected back by the atmosphere surrounding the Earth, 20 percent is scattered and reflected by clouds, 19 percent is absorbed by the atmosphere and clouds, 4 percent is reflected back to the atmosphere by the Earth's surface, and 51 percent is absorbed by the Earth. GHGs such as CO_2 and CH_4 are naturally present in the atmosphere. The presence of these gases prevents outgoing infrared radiation from escaping the Earth's surface and lower atmosphere, allowing incoming solar radiation to be absorbed by living organisms on Earth. Without these GHGs, the earth would be too cold to be habitable; however, an excess of GHGs in the atmosphere can cause global climate change by raising the Earth's temperature, resulting in environmental consequences related to snowpack losses, flood hazards, sea-level rises, and fire hazards.

[1] U.S. Supreme Court. 2 April 2007. *Massachusetts, et al. v. Environmental Protection Agency, et al.* 549 U.S. 1438; 127 S. Ct. 1438. Washington, DC.

Global climate change results from a combination of three factors: (1) natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun; (2) natural processes within the Earth's climate system, such as changes in ocean circulation; and (3) anthropogenic activities, such as fossil fuel combustion, deforestation, reforestation, urbanization, and desertification, that change the composition of atmospheric gases. In its 2007 climate change synthesis report to policy makers, the Intergovernmental Panel on Climate Change (IPCC) concluded, "Global GHG emissions due to human activities have grown since pre-industrial times, with an increase of 70 percent between 1970 and 2004."[2] Therefore, significant attention is being given to the anthropogenic causes of the increased GHG emissions level. In review of regulatory publications from the California Air Pollution Control Officers Association (CAPCOA),[3,4] the California Air Resources Board (CARB),[5] the California Attorney General,[6] and the Governor's Office of Planning and Research (OPR),[7] there is a consensus on the close association between fossil fuel combustion, in conjunction with other human activities, and GHG emissions.

In the United States, from 1990 through 2009, the total GHG emissions rose 7.3 percent and were largely contributed by CO_2 from fossil fuel combustion from the electricity generation sector, which was responsible for 30 and 33 percent of 1990 and 2009 GHG emissions nationwide.[8] After the electricity generation sector followed the transportation sector, which was responsible for 25 and 27 percent of nationwide 1990 and 2009 GHG emissions; the industrial sector, which was responsible for 25 and 20 percent of nationwide 1990 and 2009 GHG emissions; and the agriculture sector, which was responsible for 0.07 percent of nationwide emissions in both 1990 and 2009.[9] In California, GHG emissions are largely contributed by the transportation sector, which was responsible for 35 and 38 percent of 1990 and 2004 GHG emissions statewide, respectively. After transportation followed the electricity generation sector, which was responsible for 25 percent of statewide emissions in both 1990 and 2004; the industrial sector, which was responsible for 24 and 20 percent of statewide 1990 and 2004 GHG emissions; and the

[2] Intergovernmental Panel on Climate Change. Approved 12–17 November 2007. *Climate Change 2007: Synthesis Report, Summary for Policymakers*, p. 5. Valencia, Spain. Available at: http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

[3] California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Sacramento, CA.

[4] California Air Pollution Control Officers Association. August 2010. *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emissions Reduction from Greenhouse Gas Mitigation Measures*. Sacramento, CA.

[5] California Air Resources Board. 24 October 2008. *Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*. Sacramento, CA. Available at: http://www.opr.ca.gov/ceqa/pdfs/Prelim_Draft_Staff_Proposal_10-24-08.pdf

[6] California Department of Justice, Office of the Attorney General. Updated 9 December 2008. *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. Sacramento, CA.

[7] California Governor's Office of Planning and Research. 19 June 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. Technical Advisory. Sacramento, CA.

[8] U.S. Environmental Protection Agency. 5 August 2011. *Fast Facts: Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2009*. Washington, DC. Available at: http://epa.gov/climatechange/emissions/downloads11/GHG-Fast-Facts-2009.pdf

[9] U.S. Environmental Protection Agency. 5 August 2011. *Fast Facts: Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2009*. Washington, DC. Available at: http://epa.gov/climatechange/emissions/downloads11/GHG-Fast-Facts-2009.pdf

commercial sector, which was responsible for 3 percent of statewide emissions in both 1990 and 2004.[10]

A detailed description of the characteristics and effects of criteria pollutants and GHGs is provided in the following sections to contextualize the analysis.

2.1.1 Carbon Monoxide

CO is a colorless, odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircrafts, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, including wind speed, topography, and atmospheric stability. CO produced by motor vehicle exhaust can be locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, such as situations at dusk in urban areas between November and February.[11] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. CO has a higher binding affinity to hemoglobin than atmospheric oxygen (O_2), so it can replace O_2 in the blood and reduce the ability of blood to transport O_2 to vital organs. Low CO concentrations can cause fatigue in healthy persons and chest pain in persons with heart disease. At moderate concentrations, CO can cause angina, impaired vision, and reduced brain function. At high concentrations, CO can cause impaired vision and coordination, headaches, dizziness, confusion, and nausea. At very high concentrations, CO exposure can be fatal.

2.1.2 Volatile Organic Compounds

Volatile organic compounds (VOCs; also known as reactive organic gases, ROGs) include any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and it excludes a list of organic compounds that are considered to be non- or low-reactive organic gases that are not considered to be precursors to the formation of atmospheric ozone. The U.S. EPA and CARB maintain separate but similar lists of organic gases that are excluded as regulated VOCs, or ROGs as termed by CARB.[12] VOCs are emitted from incomplete combustion of hydrocarbons or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry-cleaning solutions, and paint.

The primary health effects of hydrocarbons result from the formation of O_3 and its related health effects (see Section 2.1.3, *Ozone*). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate federal or California ambient air quality standards for VOCs. Carcinogenic forms of

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[10] California Air Resources Board. 16 November 2007. *California 1990 Greenhouse Gas Emissions Level and 2020 Limit.* Sacramento, CA.

[11] Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

[12] California Air Resources Board, Planning and Technical Support Division, Emission Inventory Branch. Revised January 2009. "Definitions of VOC and ROG." Sacramento, CA. Available at: http://www.arb.ca.gov/ei/speciate/voc_rog_dfn_1_09.pdf

VOCs are considered TACs. An example is benzene, which is a carcinogen. The health effects of individual VOCs are described in Section 2.1.16.

2.1.3 Ozone

O_3 is a colorless gas that is formed in the atmosphere when VOCs and nitrogen oxides (NO_x), react in the atmosphere in the presence of ultraviolet sunlight. The primary sources of VOCs and NO_x are automobile exhaust emissions and industrial emissions. Ideal conditions for O_3 formation occur during summer and early fall on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 is one of the main components of photochemical smog in urban areas. Health effects associated with exposure to O_3 include increased respiratory and cardiovascular disease; increased symptoms of respiratory illness such as cough, phlegm, and wheeze; decreased lung function; increased bronchodilator usage; and increased daily mortalities.

2.1.4 Nitrogen Dioxide

NO_2 is a highly reactive, brownish-red gas that plays a major role in the formation of ground-level O_3 and acid rain. NO_2 is produced in the atmosphere from the reaction of O_2 with nitric oxide (NO). NO_x collectively refers to both NO and NO_2. The main sources of NO_2 include fuel combustion in industry and motor vehicles. High concentrations of NO_2 can cause breathing difficulties and can result in a brownish-red cast to the atmosphere with reduced visibility. NO_2 is toxic to various animals and to humans because it can react with water to form nitric acid in the eyes, lungs, mucus membranes, and skin. Epidemiological studies have shown associations between NO_2 concentrations and chronic pulmonary fibrosis and daily mortalities from respiratory and cardiovascular causes. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm).

2.1.5 Sulfur Dioxide

SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Generally, the highest levels of SO_2 are found near large industrial complexes where coal and oil are used in power plants and industries. In recent years, SO_2 concentrations have been reduced due to the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 causes its irritant effects by stimulating nerves in the lining of the nose and throat and the lung's airways. This causes a reflex cough, irritation, and a feeling of chest tightness, which may lead to narrowing of the airways. Acute respiratory symptoms and diminished ventilator function in children can be caused by SO_2 emissions, which can also damage plants and erode metals. When SO_2 and NO_x react with water, oxygen, and oxidants, they form acidic compounds that can be deposited as dry particulate matter or in the wet form as acid rain, snow, or fog. Acid rain harms lakes, streams, trees, crops, and historic buildings and monuments.[13]

2.1.6 Particulate Matter

Particulate matter (PM) consists of very small liquid and solid particles suspended in air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can be formed when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Fine particulate matter ($PM_{2.5}$) refers to particles that are 2.5 microns or less in diameter, which is

[13] U.S. Environmental Protection Agency. Updated 11 June 2013. "Sulfur Dioxide (SO_2)—NAAQS Implementation." Washington, DC. Available at: http://www.epa.gov/ttn/naaqs/so2/index.html

roughly 1/28th the diameter of a human hair. PM_{10} refers to particles that are 10 microns or less in diameter, which is about 1/7th the thickness of a human hair. Primary sources of $PM_{2.5}$ emissions include fuel combustion from motor vehicles, power generation, industrial facilities, residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_x, and VOCs. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning activities; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-sized particles. When inhaled, small particles can penetrate the natural defenses of the human respiratory system and damage the respiratory tract. Elevated particulate levels have been strongly linked to premature deaths, hospital admissions, emergency room visits, and asthma attacks;[14] particulate matter inhalations can also significantly reduce development of lung function in children.[15] In addition, inhalation of increased level of PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infection.[16] Of greatest concern are recent studies that link PM_{10} exposure to the premature death of people who have preexisting heart and lung disease, especially the elderly. Components of PM can include substances such as Pb, sulfates (SO_4), and nitrates, which can cause lung damage directly; they can also be absorbed into the bloodstream and cause damage elsewhere in the body. Moreover, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. PM_{10} tends to collect in the upper portion of the respiratory system, whereas $PM_{2.5}$ can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle and produce haze in the atmosphere that reduces regional visibility.

2.1.7 Lead

Pb in the atmosphere occurs as PM. Main sources of Pb emissions include leaded gasoline, battery manufacture, paint, ink, ceramics, ammunition, and secondary Pb smelters. Prior to 1978, mobile emissions were the primary source of atmospheric Pb. After the phase-out of leaded gasoline between 1978 and 1987, secondary Pb smelters, battery recycling, and manufacturing facilities became Pb emission sources of greater concern. Prolonged exposure to atmospheric Pb poses a serious threat to human health, effects of which include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Infants and young children are particularly sensitive, even to very low levels of Pb, and such exposure could result in decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

[14] California Air Resources Board. November 2007. *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution, November 2007*. Sacramento, CA. Available at: http://www.arb.ca.gov/research/health/fs/pm_ozone-fs.pdf

[15] California Air Resources Board. November 2007. *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution, November 2007*. Sacramento, CA. Available at: http://www.arb.ca.gov/research/health/fs/pm_ozone-fs.pdf

[16] Great Basin Unified Air Pollution Control District. Accessed 4 January 2012. *Particular Matter Air Pollution*. Bishop, CA. Available at: http://www.gbuapcd.org/pm10.htm

2.1.8 Sulfates

Sulfates (SO_4^{2-}) are particulate products of combustion of sulfur-containing fossil fuels. When SO or SO_2 are exposed to oxygen they precipitate out into sulfates (SO_3 or SO_4). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (that is, gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO_2) during the combustion process and is subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place relatively rapidly and completely in urban areas of California due to regional meteorological features. CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardiopulmonary disease. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property.[17] See also acid rain in Section 2.1.5.

2.1.9 Hydrogen Sulfide

Hydrogen sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations.

Exposure to low concentrations of H_2S may irritate the eyes, nose, and throat. It may also cause difficulty in breathing for some asthmatics. Exposure to higher concentrations (above 100 ppm) of H_2S can cause olfactory fatigue, respiratory paralysis, and death. Brief exposures to high concentrations of H_2S (greater than 500 ppm) can cause a loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in many individuals, there may be permanent or long-term effects, such as headaches, poor attention span, poor memory, and poor motor function. No health effects have been found in humans exposed to typical environmental concentrations of H_2S (0.00011 to 0.00033 ppm). Deaths due to inhaling large amounts of H_2S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools.

2.1.10 Visibility-Reducing Particles

This standard is a measure of visibility. Visibility is often characterized by visual range (VR). VR is the maximum distance at which a person can barely perceive a dark object. The ability to perceive an object is determined by the difference in contrast between the object and the background. A 2 percent contrast is considered barely perceptible, but typically at least a 5 percent change in contrast is needed. The less water vapor, sea salt particulate, and pollutants in the air, the greater the VR. VRs of up to about 150 miles (240 kilometers) can occur in clean desert areas where there is very low relative humidity. In coastal regions, the occurrence of sea salt particulate and water vapor can significantly reduce the maximum VR that could occur. The CARB does not yet have a measurement method that is accurate or precise enough to designate areas in the state as being in attainment or nonattainment. The entire state is unclassified.

[17] California Air Resources Board. Updated 24 November 2009. "History of Sulfates Air Quality Standard." Sacramento, CA. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/sulf-1/sulf-1.htm

2.1.11 Vinyl Chloride

Vinyl chloride monomer is a sweet smelling, colorless gas at ambient temperature. Landfills, publicly owned treatment works, and polyvinyl chloride (PVC) production are the major identified sources of vinyl chloride emissions in California. PVC can be fabricated into several products, such as pipes, pipefittings, and plastics. In humans, epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of liver angiosarcoma, which is a rare cancer, and have suggested a relationship between exposure and cancers of the lung and brain. There are currently no adopted ambient air standards for vinyl chloride.

Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.

Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness, irritation to the lungs and kidneys, and inhibition of blood clotting in humans; and cardiac arrhythmias in animals.

Tests involving acute exposure of mice to vinyl chloride have shown a high acute toxicity from inhalation exposure to the substance. Long-term exposure to vinyl chloride concentrations has been linked with chronic health effects:[18,19]

- Liver damage may result in humans from chronic exposure to vinyl chloride through both inhalation and oral exposure.

- A small percentage of individuals occupationally exposed to high levels of vinyl chloride in the air have developed a set of symptoms termed *vinyl chloride disease*, which is characterized by Raynaud's phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).

- Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances), as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified:[20,21]

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[18] Agency for Toxic Substances and Disease Registry. Updated 2006. "Toxicological Profile for Vinyl Chloride." Atlanta, GA.

[19] U.S. Environmental Protection Agency. Updated 6 November 2007. Technology Transfer Network Air Toxics Web Site: "Vinyl Chloride." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/vinylchl.html

[20] Agency for Toxic Substances and Disease Registry. Updated 2006. "Toxicological Profile for Vinyl Chloride." Atlanta, GA.

[21] U.S. Environmental Protection Agency. Updated 6 November 2007. Technology Transfer Network Air Toxics Web Site: "Vinyl Chloride." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/vinylchl.html

- Several case reports suggest that male sexual performance may be affected by vinyl chloride. However, these studies are limited by lack of quantitative exposure information and possible co-occurring exposure to other chemicals.

- Several epidemiological studies have reported an association between vinyl chloride exposure in pregnant women and an increased incidence of birth defects, while other studies have not reported similar findings.

- Epidemiological studies have suggested an association between men occupationally exposed to vinyl chloride and miscarriages in their wives' pregnancies, although other studies have not supported these findings.

- Long-term exposure to vinyl chloride has also been identified as a cancer risk:

    - Inhaled vinyl chloride has been shown to increase the risk of a rare form of liver cancer (angiosarcoma of the liver) in humans.

    - Animal studies have shown that vinyl chloride, via inhalation, increases the incidence of angiosarcoma of the liver and cancer of the liver.

2.1.12 Carbon Dioxide

CO_2 is a colorless, odorless, and nonflammable gas that is the most abundant GHG in the earth's atmosphere after water vapor. CO_2 enters the atmosphere through natural processes, such as respiration and forest fires, and through human activities such as the burning of fossil fuels (oils, natural gas, and coal) and solid waste, deforestation, and industrial processes. CO_2 absorbs terrestrial infrared radiation that would otherwise escape to space, and therefore plays an important role in atmospheric warming. CO_2 has an atmospheric lifetime of up to 200 years and, therefore, is a more important GHG than water vapor, which has an atmospheric residence time of only a few days. CO_2 provides the reference point for the global warming potential (GWP) of other gases; thus, the GWP of CO_2 is equal to 1. Global warming potential (GWP) is a relative measure of how much heat a greenhouse gas traps in the atmosphere.

2.1.13 Methane

Methane (CH_4) is a principal component of natural gas and consists of a single carbon atom bonded to four hydrogen atoms. It is formed and released to the atmosphere by biological processes from livestock and other agricultural practices and by the decay of organic waste in anaerobic environments such as municipal solid waste landfills. CH_4 is also emitted during the production and transport of coal, natural gas, and oil. CH_4 is about 21 times more powerful at warming the atmosphere than CO_2 (GWP of 21).

The chemical lifetime of CH_4 in the atmosphere is approximately 12 years. The relatively short atmospheric lifetime of CH_4, coupled with its potency as a GHG, makes it a candidate for mitigating global warming over the short term. CH_4 can be removed from the atmosphere by a variety of processes, such as the oxidation reaction with hydroxyl radicals (OH), microbial uptake in soils, and reaction with chlorine (Cl) atoms in the marine boundary layer.

2.1.14 Nitrous Oxide

N_2O is a clear, colorless gas with a slightly sweet odor. N_2O has a long atmospheric lifetime (approximately 120 years) and heat-trapping effects about 310 times more powerful than CO_2 on a per molecule basis (a GWP of 310). N_2O is produced by both natural and human-related sources. The primary anthropogenic sources of N_2O are agricultural soil management-like soil cultivation practices, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, and production of adipic and nitric acids. The natural process of producing N_2O ranges from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests.

2.1.15 Fluorinated Gases

Hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride are powerful synthetic GHGs that are emitted from a variety of industrial processes, including aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and the production of chlorodifluoromethane (HCFC-22). Fluorinated gases are being used as substitutes for ozone-depleting chlorofluorocarbons (CFCs). Fluorinated gases are typically emitted in small quantities; however, they have high GWPs of between 140 and 23,900.[22]

2.1.16 Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne pollutants that potentially pose a hazard to human health or may be expected to result in an increased rate of mortality or serious illness. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system, and respiratory disorders. In addition, effects from TACs may be both chronic and acute on human health. Acute health effects are attributable to sudden exposure to high quantities of air toxics. These effects include nausea, skin irritation, respiratory illness, and, in some cases, death. Chronic health effects result from low-dose, long-term exposure from routine releases of air toxics. The effect of major concern for this type of exposure is cancer, which requires a period of 10–30 years after exposure to develop.[23]

Hazardous air pollutants is a term used by the federal CAA that includes a variety of pollutants generated or emitted by industrial production activities. Called TACs under the CAA, 10 pollutants have been identified in the Toxic Air Contaminant Identification List through ambient air quality data as posing the most substantial health risk in California.[24] In 1998, California identified diesel engine PM (diesel PM or soot) as a TAC based on its potential to cause cancer, premature death, and other health problems.[25] Sources for diesel PM include exhaust from vehicles, diesel engines, and diesel-powered portable equipment. According to the CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as

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[22] California Climate Action Registry. January 2009. *California Climate Action Registry General Reporting Protocol, Version 3.1*. Los Angeles, CA.

[23] California Air Resources Board. Updated 30 March 2012. *Air Quality Analysis Guidance Handbook*. Sacramento, CA. Available at: http://www.aqmd.gov/ceqa/hdbk.html

[24] California Air Resources Board. 18 July 2011. *Toxic Air Contaminant Identification List*. Sacramento, CA. Available at: http://www.arb.ca.gov/toxics/id/taclist.htm

[25] California Air Resources Board. 25 January 2010. *Diesel Programs and Activities*. Sacramento, CA. Available at: http://www.arb.ca.gov/diesel/diesel.htm

benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program. The U.S. EPA has adopted low-sulfur diesel fuel standards that will reduce diesel particulate matter substantially. These programs went into effect in June 2006.

In 1991, the District Board made a policy decision to make the state Air Toxics "Hot Spots" Information and Assessment Act (Act; AB 2588, 1987),[26] which is a state law requiring sources of toxics to do plans, inventories, source tests, and reports, a low priority for staff enforcement.[27]

TACs do not have ambient air quality standards since no safe levels of TACs can be determined. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports and periodically update those reports.

2.1.16.1 Health Effects and Risks of Toxic Air Contaminants

2.1.16.1.1 Acetaldehyde

Acetaldehyde is classified as a federal hazardous air pollutant and as a California TAC. Acetaldehyde is a carcinogen that also causes chronic non-cancer toxicity in the respiratory system. Symptoms of chronic intoxication of acetaldehyde in humans resemble those of alcoholism.

The primary acute effect of inhalation exposure to acetaldehyde is irritation of the eyes, skin, and respiratory tract in humans. At higher exposure levels, erythema, coughing, pulmonary edema (fluid in lungs), and necrosis may also occur. Acute inhalation of acetaldehyde resulted in a depressed respiratory rate and elevated blood pressure in experimental animals. Tests involving acute exposure of rats, rabbits, and hamsters have demonstrated acetaldehyde to have low acute toxicity from inhalation and moderate acute toxicity from oral or dermal exposure.[28]

2.1.16.1.2 Benzene

Benzene is highly carcinogenic and occurs throughout California. Benzene also has non-cancer-related health effects. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness.[29]

Neurological symptoms of inhalation exposure to benzene include drowsiness, dizziness, headaches, and unconsciousness in humans. Ingestion of large amounts of benzene may result in vomiting, dizziness, and convulsions in humans. Exposure to benzene in liquid and vapor form

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[26] California Air Resources Board. 25 April 2011. *AB 2588 Air Toxics "Hot Spots" Program*. Sacramento, CA. Available at: http://www.arb.ca.gov/ab2588/ab2588.htm

[27] Great Basin Unified Air Pollution District. Accessed 4 January 2012. *Major Past Policy Decisions*. Bishop, CA. Available at: http://www.gbuapcd.org/background.htm

[28] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Acetaldehyde." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/acetalde.html

[29] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Benzene." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/benzene.html

may irritate the skin, eyes, and upper respiratory tract in humans. Redness and blisters may result from dermal exposure to benzene.

Chronic inhalation of certain levels of benzene causes blood disorders in humans; specifically, benzene affects bone marrow (the tissues that produce blood cells). Aplastic anemia, excessive bleeding, and damage to the immune system (by changes in blood levels of antibodies and loss of white blood cells) may develop. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans who have been occupationally exposed to benzene.[30]

2.1.16.1.3 1,3-Butadiene

1,3-butadiene has been identified as a carcinogen in California. At very high levels, butadiene vapors cause neurological effects, such as blurred vision, fatigue, headache, and vertigo. Dermal exposure of humans to 1,3-butadiene causes a sensation of cold, followed by a burning sensation, which may lead to frostbite.[31]

One epidemiological study reported that chronic (long-term) exposure to 1,3-butadiene by inhalation resulted in an increase in cardiovascular diseases, such as rheumatic and arteriosclerotic heart diseases, while other human studies have reported effects on the blood. A large epidemiological study of synthetic rubber industry workers demonstrated a consistent association between 1,3-butadiene exposure and occurrence of leukemia. Several epidemiological studies of workers in styrene-butadiene rubber factories have shown an increased incidence of respiratory, bladder, stomach, and lymphato-hematopoietic cancers. However, these studies are not sufficient to determine a causal association between 1,3-butadiene exposure and cancer, due to possible exposure to other chemicals and other confounding factors.[32]

2.1.16.1.4 Carbon Tetrachloride

Carbon tetrachloride is a central nervous system depressant, which the U.S. EPA has classified as Group B2, a probable human carcinogen.[33]

Acute inhalation and oral exposures to high levels of carbon tetrachloride have been observed primarily to damage the liver (swollen, tender liver, changes in enzyme levels, and jaundice) and kidneys (nephritis, nephrosis, and proteinurea) of humans. Depression of the central nervous system has also been reported. Symptoms of acute exposure in humans include headache, weakness, lethargy, nausea, and vomiting. Delayed pulmonary edema has been observed in humans who have been exposed to high levels of carbon tetrachloride by inhalation and ingestion, but this is believed to be due to injury to the kidney rather than direct action of carbon

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[30] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Benzene." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/benzene.html

[31] U.S. Environmental Protection Agency. Revised March 2009. Technology Transfer Network Air Toxics Web Site: "1,3-butadiene." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/butadien.html

[32] U.S. Environmental Protection Agency. Revised March 2009. Technology Transfer Network Air Toxics Web Site: "1,3-butadiene." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/butadien.html

[33] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Carbon Tetrachloride." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/carbonte.html

tetrachloride on the lung. Chronic inhalation or oral exposure to carbon tetrachloride produces liver and kidney damage in humans and animals.[34]

2.1.16.1.5 Hexavalent Chromium

In California, hexavalent chromium has been identified as a carcinogen. Epidemiological evidence suggests that exposure to inhaled hexavalent chromium may result in lung cancer.

The respiratory tract is the major target organ for chromium (VI) following inhalation exposure in humans. Other effects noted from acute inhalation exposure to very high concentrations of chromium (VI) include gastrointestinal and neurological effects, while dermal exposure causes skin burns in humans. Chronic inhalation exposure to chromium (VI) in humans results in effects on the respiratory tract, with perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, asthma, and nasal itching and soreness reported. Chronic human exposure to high levels of chromium (VI) by inhalation or oral exposure may produce effects on the liver, kidney, gastrointestinal and immune systems, and possibly in the blood.[35]

2.1.16.1.6 Para-dichlorobenzene

In California, para-dichlorobenzene has been identified as a carcinogen. Acute exposure to 1,4-dichlorobenzene via inhalation in humans results in irritation to the eyes, skin, and throat. In addition, long-term inhalation exposure may affect the liver, skin, and central nervous system in humans (for example, cerebellar ataxia, dysarthria, weakness in limbs, and hyporeflexia).[36]

2.1.16.1.7 Formaldehyde

The major toxic effects caused by acute formaldehyde exposure via inhalation are eye, nose, and throat irritation and effects on the nasal cavity. Other effects seen from exposure to high levels of formaldehyde in humans are coughing, wheezing, chest pains, and bronchitis. Chronic exposure to formaldehyde by inhalation in humans has been associated with respiratory symptoms and irritation of the eye, nose, and throat. Animal studies have reported effects on the nasal respiratory epithelium and lesions in the respiratory system from chronic inhalation exposure to formaldehyde.

Occupational studies have noted statistically significant associations between exposure to formaldehyde and increased incidence of lung and nasopharyngeal cancer. This evidence is considered to be "limited," rather than "sufficient," due to possible exposure to other agents that may have contributed to the excess cancers. The U.S. EPA considers formaldehyde to be a probable human carcinogen and has ranked it in the U.S. EPA's Group B1.[37] In California, formaldehyde has been identified as a carcinogen.

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[34] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Carbon Tetrachloride." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/carbonte.html

[35] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Chromium Compounds." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/chromium.html#ref1

[36] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "1,4-Dichlorobenzene (para-Dichlorobenzene)." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/dich-ben.html

[37] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Formaldehyde." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/formalde.html

2.1.16.1.8 Methylene Chloride

Case studies of methylene chloride poisoning during paint stripping operations have demonstrated that inhalation exposure to extremely high levels of methylene chloride can be fatal to humans. Acute inhalation exposure to high levels of methylene chloride in humans has affected the central nervous system including decreased visual, auditory, and psychomotor functions, but these effects are reversible once exposure ceases. Methylene chloride also irritates the nose and throat at high concentrations. The major effects from chronic inhalation exposure to methylene chloride in humans are effects on the central nervous system, such as headaches, dizziness, nausea, and memory loss. In addition, chronic exposure can lead to bone marrow, hepatic, and renal toxicity. The U.S. EPA considers methylene chloride to be a probable human carcinogen and has ranked it in U.S. EPA's Group B2.[38] The State of California considers methylene chloride to be a carcinogen.

2.1.16.1.9 Perchloroethylene

In California, perchloroethylene has been identified as a carcinogen. Perchloroethylene vapors are irritating to the eyes and respiratory tract. Following chronic exposure, workers have shown signs of liver toxicity, as well as kidney dysfunction, and neurological disorders.[39]

2.1.16.1.10 Diesel Particulate Matter

Diesel exhaust and many individual substances contained in it (including arsenic, benzene, formaldehyde, and nickel) have the potential to contribute to mutations in cells that can lead to cancer. Long-term exposure to diesel exhaust particles poses the highest cancer risk of any TAC evaluated by the California Office of Environmental Health Hazard Assessment (OEHHA). CARB estimates that about 70 percent of the cancer risk that the average Californian faces from breathing TACs stems from diesel exhaust particles.

In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely than workers who were not exposed to diesel emissions to develop lung cancer. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA's assessment, CARB estimates that diesel-particle levels measured in California's air in 2000 could cause 540 "excess" cancers (beyond what would occur if there were no diesel particles in the air) in a population of 1 million people over a 70-year lifetime.

Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health, have calculated similar cancer risks from diesel exhaust as those calculated by OEHHA and CARB.[40]

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[38] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Methylene Chloride (Dichloromethane)." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/methylen.html

[39] U.S. Environmental Protection Agency. Revised January 2000. Technology Transfer Network Air Toxics Web Site: "Tetrachloroethylene (Perchloroethylene)." Washington, DC. Available at: httphttp://www.epa.gov/ttn/atw/hlthef/tet-ethy.html

[40] California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, and the American Lung Association. Accessed on 2 February 2010. "Health Effects of Diesel Exhaust." Sacramento, CA. Available at: http://www.oehha.org/public_info/facts/dieselfacts.html

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

Diesel engines are a major source of fine-particle pollution. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among people suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can reduce lung function in children. In California, diesel exhaust particles have been identified as carcinogens.

2.1.16.1.11 Arsenic

Arsenic, a naturally occurring element, is found throughout the environment; for most people, food is the major source of exposure. Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain); central and peripheral nervous system disorders have occurred in workers acutely exposed to inorganic arsenic. Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Chronic oral exposure has resulted in gastrointestinal effects, anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans. Inorganic arsenic exposure in humans, by the inhalation route, has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer.[41]

2.1.16.1.12 Cadmium

Cadmium is a metal found in natural deposits such as ores containing other elements. Some people who drink water containing cadmium well in excess of the maximum contaminant level (MCL) for many years could experience kidney damage.

2.2 REGULATORY FRAMEWORK

This regulatory framework identifies the federal and state laws that govern the regulation of air quality and must be considered by the project proponent regarding decisions on projects that involve construction, operation, or maintenance activities that would result in air emissions.

Responsibility for attaining and maintaining ambient air quality standards in California is divided between CARB and regional air pollution control or air quality management districts. Areas of control for the regional districts are set by CARB, which divides the state into air basins. These air basins are based largely on topography that limits air flow access or by county boundaries. The project property is located in Inyo County, California, within the District.

[41] U.S. Environmental Protection Agency. Revised December 2012. Technology Transfer Network Air Toxics Web Site: "Arsenic Compounds." Washington, DC. Available at: http://www.epa.gov/ttn/atw/hlthef/arsenic.html

In October 2007, the CARB published a list of 44 early action measures to reduce GHG emissions in California.[42] In August 2010, the CAPCOA published a list of GHG emissions reduction mitigation measures that are grouped into nine categories, including energy, transportation, water, area landscaping, solid waste, vegetation, construction, miscellaneous, and general plans.[43] This regulatory framework identifies state guidance on GHG emissions reduction measures that warrants consideration by the District.

2.2.1 Federal

2.2.1.1 National Environmental Policy Act

The NEPA and its supporting federal regulations establish certain requirements that must be adhered to for any project "financed, assisted, conducted or approved by a federal agency." In making a decision on the issuance of federal grant monies or a permit to conduct work on federal lands for components of the proposed action, the federally designated lead agency pursuant to NEPA is required to "determine whether the proposed action may significantly affect the quality of the human environment." The proposed action site is partially located on land owned by the BLM, so the proposed action would require compliance with NEPA.

2.2.1.2 Federal Clean Air Act

The federal CAA authorizes the U.S. EPA to establish the NAAQS to protect public health and welfare and to regulate emissions of hazardous air pollutants. Existing national standards and state standards were considered in the evaluation of air quality impacts (Table 2.2.1.2-1, *2013 Ambient Air Quality Standards*). The CAA requires the U.S. EPA to routinely review and update the NAAQS in accordance with the latest available scientific evidence. For example, the 1-hour standard for O_3 was revoked in 2005 in favor of a new 8-hour standard that is intended to better protect public health.

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[42] California Air Resources Board. October 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. Sacramento, CA. Available at: http://www.arb.ca.gov/cc/ccea/meetings/ea_final_report.pdf

[43] California Air Pollution Control Officers Association. August 2010. *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emissions Reduction from Greenhouse Gas Mitigation Measures*. Sacramento, CA.

TABLE 2.2.1.2-1
2013 AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration	Primary[c]	Secondary[d]
Ozone (O_3)	1 hour	0.09 ppm (180 μg/m^3)	—	Same as primary standard
	8 hour	0.070 ppm (137 μg/m^3)	0.075 ppm (147 μg/m^3)	
Respirable particulate matter (PM_{10})	24 hour	50 μg/m^3	150 μg/m^3	Same as primary standard
	Annual arithmetic mean	20 μg/m^3	—	
Fine particulate matter ($PM_{2.5}$)	24 hour		35 μg/m^3	Same as primary standard
	Annual arithmetic mean	12 μg/m^3	12 μg/m^3	
Carbon monoxide (CO)	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8 hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	8 hour (Lake Tahoe)	6 ppm (7 mg/m^3)	—	—
Nitrogen dioxide (NO_2)	1 hour	0.18 ppm (339 μg/m^3)	100 ppb (188 μg/m^3)	—
	Annual arithmetic mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	Same as primary standard
Sulfur dioxide (SO_2) [e]	1 hour	0.25 ppm (655 μg/m^3)	75 ppb (196 μg/m^3)	—
	3 hour	—	—	0.5 ppm (1,300 μg/m^3)
	24 hour	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas)	—
	Annual arithmetic mean	—	0.030 ppm (for certain areas)	—
Lead [f]	30-day average	1.5 μg/m^3	—	—
	Calendar quarter	—	1.5 μg/m^3 (for certain areas)	Same as primary standard
	Rolling 3-month average	—	0.15 μg/m^3	
Visibility reducing particles	8 hour	See footnote g	No national standard	
Sulfates	24 hour	25 μg/m^3		
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m^3)		
Vinyl chloride [f]	24 hour	0.01 ppm (26 μg/m^3)		

NOTES:

a: California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b: National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

TABLE 2.2.1.2-1
AMBIENT AIR QUALITY STANDARDS, *Continued*

c: National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
d: National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
e: The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
f: The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
g: In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
SOURCES:
California Air Resources Board. Updated 7 June 2012. Ambient Air Quality Standards. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf
U.S. Environmental Protection Agency. Updated 14 July 2009. *National Ambient Air Quality Standards (NAAQS)*. Available at: http://www.epa.gov/air/criteria.html
California Air Resources Board. Reviewed 24 November 2009. *California Ambient Air Quality Standards (CAAQS)*. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm

2.2.1.2.1 National Ambient Air Quality Standards

There are seven federally regulated pollutants (ozone [O_3], nitrogen dioxide [NO_2], sulfur dioxide [SO_2], carbon monoxide [CO], lead [Pb], respirable particulate matter [PM_{10}], and fine particulate matter [PM_{10}]). The O_3 standard was historically measured over 1 hour. In 2004, a new 8-hour O_3 standard superseded the 1-hour standard. Also in 2004, a new $PM_{2.5}$ standard for very fine particulates (those particulates measuring 2.5 micrometers or less in diameter) was added to the existing PM_{10} (particulates measuring 10 micrometers or less) standard. Pursuant to the California Code of Regulations, Title 17, Section 60201, the area is designated nonattainment for ozone.[44]

On August 7, 1987, the U.S. EPA designated the southern Owens Valley (known as the Owens Valley Planning Area [OVPA], see Figure 1.2-3) as one of the areas in the nation that violated the new PM_{10} NAAQS. Subsequent air quality monitoring by the District has shown that the bed of Owens Lake, most of which is owned by the State of California and managed by the California State Lands Commission (CSLC), is the major source of PM_{10} emissions contributing to air quality violations in the OVPA. The Owens Lake bed is considered an anthropogenic (human-caused) source of PM_{10} because the City of Los Angeles's Aqueduct diverts water sources that historically supplied the lake. The 1990 CAA sets CO and PM_{10} attainment deadlines in "serious" nonattainment areas at year 2000 and 2005, respectively. In January 1993, the southern Owens Valley was reclassified as "serious nonattainment" for PM_{10}.

The U.S. EPA required the State of California to prepare a State Implementation Plan (SIP) for the OVPA that demonstrated how PM_{10} emissions would be decreased to prevent exceedances of the NAAQS. The District is the agency delegated by the State of California to fulfill this requirement. In accordance with Section 189(b) of the CAA, an Attainment SIP that demonstrates conformance

[44] California Air Resources Board. Accessed 15 November 2012. *California Code of Regulations*, Title 17, Sections 60201, 60202, 60205, and 60210: "Final Regulation Order, Area Designations for State Ambient Air Quality Standards." Sacramento, CA.

with the federal air quality standards through the implementation of a program of control measures was required to be submitted to the U.S. EPA by February 8, 1997. In November 1998, the District adopted the SIP, which was approved by the U.S. EPA on August 17, 1999. In November 2003, the District adopted a revised SIP requiring supplemental dust control measures (DCMs) in the OVPA.

2.2.1.3 General Conformity Rule

The U.S. EPA has authority over SIP general conformity in areas that do not meet federal air quality standards, and the federal land managers have review authority over any new projects that may affect federal Class I areas, as defined in 40 CFR, Part 51.166; 40 CFR, Part 51, Subpart W; and 40 CFR, Part 93, Subpart B: General Conformity. These regulations ensure that federal actions conform to state and local plans for attainment. The District adopted these general conformity requirements in District Regulation XIII and is delegated to enforce the federal regulations for projects that take place in the District. As the federal lead agency, the BLM must determine if the proposed action requires a conformity determination, and it is determined that this proposed project / proposed action is exempt from the conformity requirements under District Rule 1303.c.4 because the implementation of DCMs in the Keeler Dunes is required by the 2008 Owens Valley SIP (Section 7.5).

2.2.1.4 Bureau of Land Management Bishop Resource Management Plan

This proposed project / proposed action is subject to the BLM's Bishop Resource Management Plan (RMP). The Keeler Dunes are located within the Owens Lake Management Area and South Inyo Management Area, two of nine management areas identified in the RMP. The proposed DCMs would be implemented within the Owens Lake Management Area only.

The RMP includes decisions that are presented in two parts: (1) the area-wide decisions that present management prescriptions valid throughout the entire Bishop Resource Area and (2) the decisions for individual management areas. The RMP specifies one goal regarding air quality for the Owens Lake Management Area:

- Incorporate dust abatement measures in all discretionary actions.

The RMP includes three standard operating procedures that are relevant to air quality:

- Avoid the use of soil-disturbing equipment or vehicles on wet, poorly drained or erosive soils.

- Require soil layer separation and topsoil stockpiling for any activity that involves mechanical soil disturbance. Soil layers will be re-deposited and re-contoured to their natural configuration following project completion.

- Secure any necessary permits or clearances from state and local agencies relative to air quality requirements for projects that may impact air quality.

2.2.1.5 Bureau of Land Management Guidance on Greenhouse Gases

On September 14, 2009, Secretary of the Interior Ken Salazar issued Order No. 3289, addressing the impacts of climate change on domestic water, land, and other natural and cultural resources.

The Order establishes an approach for increasing understanding of climate change and responding to potential climate change related impacts as relevant to the resources that the Department of the Interior (DOI) manages. The document specifically identifies potential impact areas, including potential changes in flood risk and water supply, sea level rise, changes in wildlife and habitat populations and their migration patterns, new invasions of exotic species, and increased threat of wildland fire. The Order includes Climate Change Response Planning Requirements, which require each bureau and office within the DOI (including BLM) to consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, developing multiyear management plans, and making major decisions regarding potential use of resources under DOI's purview.

2.2.1.6 Draft National Environmental Policy Act Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions

On February 18, 2010, the White House Council on Environmental Quality (CEQ) released, for public review and comment, a draft Guidance Memorandum for Heads of Federal Departments and Agencies (Guidance) on the consideration of GHG emissions and climate change impacts as part of compliance with the NEPA.[45] All federal agency actions requiring NEPA review, except federal land and resource management activities, are covered by this Guidance. The draft Guidance provides formal guidance from CEQ to the federal agencies on the treatment of GHG emissions within NEPA: (1) the treatment of GHG emissions that may directly or indirectly result from a proposed federal action and (2) the analysis of potential climate change impacts on a proposed federal action. In addition, the draft Guidance proposes several key elements for the examination of GHG emissions and climate change impacts:

- A "reference point" of 25,000 metric tons of direct CO_{2e} GHG emissions is proposed as an "indicator" to determine if a proposed federal action's anticipated GHG emissions warrant detailed consideration in a NEPA review. However, for indirect GHG emissions, there is no proposed reference point.

2.2.2 State

2.2.2.1 California Clean Air Act

The California CAA of 1988 requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for O_3, CO, and NO_2 by the earliest practicable date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM_{10} standard. The CARB, which became part of the California EPA in 1991, is responsible for meeting state requirements of the federal CAA, administrating the CAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CAA, amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants, but there is no penalty for nonattainment. California has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles, for which there are no national standards (see Table 2.3.4-1).

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[45] The White House Council on Environmental Quality. 18 February 2010. *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*. Washington, DC. Available at: http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf

2.2.2.2 *Executive Order S-3-05*

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. Recognizing that California is particularly vulnerable to the impacts of climate change, Executive Order S-3-05 establishes statewide climate change emission reduction targets to reduce CO_{2e} to the year 2000 level (473 million metric tons) by 2010, to the 1990 level (427 million metric tons of CO_{2e}) by 2020, and to 80 percent below the 1990 level (85 million metric tons of CO_{2e}) by 2050 (Table 2.2.2.2-1, *California Business-as-Usual GHG Emissions and Targets*).[46,47] The executive order directs the California EPA Secretary to coordinate and oversee efforts from multiple agencies (i.e., Secretary of the Business, Transportation, and Housing Agency; Secretary of the Department of Food and Agriculture; Secretary of the Resources Agency; Chairperson of the Air Resources Board; Chairperson of the Energy Commission; and President of the Public Utilities Commission) to reduce GHG emissions to achieve the target levels. In addition, the California EPA Secretary is responsible for submitting biannual reports to the governor and state legislature that outline: (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) measures and adaptation plans to mitigate these impacts. To further ensure accomplishment of the targets, the California EPA Secretary created a Climate Action Team composed of representatives from the aforementioned agencies to implement global warming emission reduction programs and report on the progress made toward meeting the statewide GHG targets established in this executive order. In December 2005, the first report was released, which stated, "the climate change emission reduction targets [could] be met without adversely affecting the California economy," and "when all [the] strategies are implemented, those underway and those needed to meet the Governor's targets, the economy will benefit."[48]

TABLE 2.2.2.2-1
CALIFORNIA BUSINESS-AS-USUAL GHG EMISSIONS AND TARGETS

Emission Level	California Greenhouse Gas Business-as-Usual Emissions and Targets (Million Metric Tons of CO_{2e})				
	1990	2000	2010	2020	2050
Business-as-usual emissions *	427	473	532	596	762
Target emissions	—	—	473	427	85

NOTE: * Business-as-usual emissions reflect the projected emissions under a scenario without GHG control measures, where California would continue to emit GHGs at the same per capita rate. The CARB has not yet projected 2050 emissions under a business-as-usual scenario. Therefore, 2050 business-as-usual emissions were calculated assuming a linear increase of emissions from 1990 to 2050.

[46] California Office of the Governor. 1 June 2005. Executive Order S-3-05. Sacramento, CA.

[47] California Climate Action Team. 3 April 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. Sacramento, CA.

[48] California Climate Action Team. 3 April 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. Sacramento, CA.

2.2.2.3 *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*

In October 2007, the CARB published a list of 44 early action measures to reduce GHG emissions in California pursuant to the Global Warming Solutions Act of 2006 (known as AB 32).[49] The early action measures identified by the CARB included previously approved discrete early action items, such as low carbon fuel standard, restriction on high global warming potential refrigerants, and landfill methane capture. Additional early actions such as smartway truck efficiency, tire inflation program, and anti-idling enforcement were recommended. This list reflected state guidance on GHG emission reduction measures that warrants consideration by the District.

2.2.2.4 *California Air Pollution Control Officers Association*

In August 2010, the CAPCOA published guidance on quantifying GHG emissions mitigation measures. The guidance was a resource tool for the local government to assess emission reductions from GHG mitigation measures.[50] The guidance listed various purposes for quantifying GHG emission reduction, including voluntary reductions of GHG emissions, reductions to mitigate current or future GHG emissions at a project level, reductions for regulatory compliance with command and control regulations, permitting programs, cap-and-trade programs, and mandatory reporting rule for specified stationary sources, and reductions to obtaining GHG emission credits. In addition, the guidance listed quantification concepts, approaches, and methodologies. Quantification methodologies for a selection of GHG emission reduction measures such as vegetation (including trees), construction equipment, and transportation were discussed. This guidance demonstrated state-recommended methods on how to quantify GHG emission mitigation measures that warrants consideration by the District.

2.2.3 Regional

2.2.3.1 *Great Basin Unified Air Pollution Control District Plans, Rules, and Regulations*

The District was formed through a joint power agreement in 1974 for Inyo, Mono, and Alpine Counties and covers the Great Basin Valleys Air Basin in California. The District regulates PM_{10} emissions in the OVPA consistent with the requirements of the NAAQS.

The District has the responsibility to enforce federal, state, and local air quality regulations and to ensure that the federal and state air quality standards are met within the district. These standards are set to protect the health of sensitive individuals by restricting how much pollution is allowed in the air. To meet these standards the District aims to enforce those federal laws and state laws on stationary sources of pollution and pass and enforce its own regulations as they become necessary for air quality issues.

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[49] California Air Resources Board. October 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. Sacramento, CA. Available at: http://www.arb.ca.gov/cc/ccea/meetings/ea_final_report.pdf

[50] California Air Pollution Control Officers Association. August 2010. *Quantifying Greenhouse Gas Mitigation Measures*. Sacramento, CA. Available at: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

For transportation conformity purpose and as required by District Rule 1231(e),[51] areas such as the OVPA, where construction-related fugitive PM_{10} is a contributor to the nonattainment problem, regional PM_{10} emissions analysis must consider construction-related fugitive PM_{10}, including emissions generated by new highway construction projects in the OVPA. The level of construction activity, fugitive PM_{10} control measures in the SIP, and the dust-producing capacity of the proposed activities in the applicable implementation plan must also be included in the analysis.

General conformity requirements contained in District Regulation XIII[52] implement Section 176 (c) of the federal CAA, as amended (42 U.S.C. 7401 *et seq.*), and regulations under 40 CFR Part 51 Subpart W. This regulation requires that federal actions and federally funded projects conform to SIP rules and do not interfere with efforts to attain federal air quality standards.

All fugitive dust sources are required to meet District Rule 400[53] and Rule 401,[54] which limit visible emissions to less than 20 percent opacity and require reasonable precautions to be taken to prevent visible emissions from leaving the proposed project / proposed action area. Reasonable precautions include, but are not limited to, water suppression, chemical stabilizers, windbreaks, and surface coverings. Fugitive dust sources such as vehicles on unpaved roadways, earthmoving, and gravel mining operations are affected by these District Rules.

There are three measures included in Appendix D, *Mitigation Monitoring Reporting Program*, of the 2008 SIP:

Measure Air-1 Fugitive Dust Emissions Control and Minimization

Fugitive dust emissions shall be controlled and minimized, to comply with Great Basin Unified Air Pollution Control District Rules 400 and 401 (EPA 1992), through the application of best available control measures during construction and operation of the proposed project. This may include, but would not be limited to, the use of chemical soil stabilizers, surface coverings, windbreaks, water trucks, and water sprays, or comparable measures that prevent visible dust from leaving the proposed project area. The primary areas of treatment for dust control will be in the construction staging areas and the primary access roads in the proposed project area. A daily log will be maintained by the site operator during the construction phase of the proposed project to note the time of water or surface treatment applications. During the construction phase, straw bales will be placed near vehicle access areas and along the distribution routes in the proposed project area to serve as windbreaks to control windblown dust along the travel routes. By working outward from the staging areas and access routes in placing the straw bales, construction of the proposed project will serve to control windblown dust in the proposed project area. In addition, all vehicles travelling on unpaved surfaces inside the proposed project area will have a posted speed limit of 15 miles per hour in order to reduce dust from vehicle traffic. The site operator (or contractor) shall demonstrate

[51] Great Basin Unified Air Pollution Control District. Adopted 10 May 1994. *Regulation XII—Conformity to State Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved under Title 23 U.S.C. or the Federal Transit Act, District Rule 1231(e)—Procedures for Determining Regional Transportation-Related Emissions*. Bishop, CA. Available at: http://www.arb.ca.gov/drdb/gbu/curhtml/reg-12.htm

[52] Great Basin Unified Air Pollution Control District. Adopted 10 May 1994. *Regulation XIII—Conformity of General Federal Actions to State Implementation Plans*. Bishop, CA. Available at: http://www.arb.ca.gov/drdb/gbu/curhtml/reg-13.htm

[53] Great Basin Unified Air Pollution Control District. Revised 18 January 1979. *Rule 400—Ringelmann Chart*. Bishop, CA. Available at: http://www.District.org/rulesandregulations/PDF/Rule401.pdf

[54] Great Basin Unified Air Pollution Control District. Revised 4 December 2006. *Rule 401—Fugitive Dust*. Bishop, CA. Available at: http://www.District.org/rulesandregulations/PDF/Rule401.pdf

compliance with this measure through the submission of weekly monitoring reports to the Great Basin Unified Air Pollution Control District, which will, in return, monitor the application of best available control measures at least once a week on an ongoing basis during the construction phase of the proposed project, and maintain a monitoring log on file.

Measure Air-2 Low-Sulfur Fuel Utilization

To mitigate the air quality impact related to greenhouse gas emissions, the City of Los Angeles Department of Water and Power shall apply best available control measures during construction by utilizing low-sulfur and/or alternative fuels for on-site stationary equipment. Diesel-fired stationary sources of air emissions, such as pumps, compressors, generators, and motor vehicles shall be fueled with diesel that meets California Air Resources Board standards or with an alternative diesel fuel that meets the requirements of the Standard of Motor Vehicle Fuel found in 13 CCR Section 2281. The fuel shall comply with the standard of 15 parts per million or less of sulfur content by weight.

Measure Air-3 Low-Emission Motor Vehicle and Engine Utilization during Construction

To mitigate the air quality impact related to greenhouse gas emissions and toxic air contaminants, all motor vehicles, including diesel trucks, all-terrain vehicles, diesel generators, and off-road equipment shall be compliant with California Air Resources Board emission standards and regulations. In addition, carpooling of construction workers should be considered and encouraged by the site operator or contractor to reduce vehicular emissions.

2.2.3.2 Inyo County General Plan

The Inyo County General Plan contains policies related to air quality in its Safety element.[55] The goal of the Safety element is to foster compatible land use arrangements that contribute to reduced energy consumption and improved air quality. The Safety element contains a summary of the existing conditions in the planning area, major issues, and policies designed to aid Inyo County in achieving its goal. There are three policies in the Inyo County General Plan that are relevant to the proposed project / proposed action:

- Policy AQ-1.1: Regulations to Reduce PM_{10}. Support the implementation of the State Implementation Plan and the agreement between the District and the LADWP.
- Policy AQ-1.2: Attainment Programs. Participate in the District's attainment programs.
- Policy AQ-1.3: Dust Suppression During Construction. Require dust-suppression measures for grading activities.

[55] Inyo County Planning Department. December 2001. *Inyo County General Plan, Public Safety Element*. Independence, CA.

2.3 EXISTING CONDITIONS

2.3.1 Great Basin Valleys Air Basin

The proposed project / proposed action property is located in the Great Basin Valleys Air Basin (GBVAB), in eastern California, and is composed of a 13,975-square-mile (9-million-acre) area encompassing Inyo County, Mono County, and Alpine County. In 1974, these three counties joined together in a joint powers agreement to form the District, which governs the GBVAB. The analysis of existing conditions related to air quality summarizes pollutant levels that exist prior to implementation of each component of the proposed project / proposed action. All components of the proposed project / proposed action are located within the GBVAB; therefore, all air quality data and analysis are presented as an aggregate of the entire proposed project / proposed action site.

The climate of the proposed project / proposed action site is characterized as a desert climate with hot summers, cold winters, infrequent rainfalls, moderate- to high-wind episodes, and low humidity. Average temperature and precipitation data have been recorded at the Independence Monitoring Station (Station Number 044232, located approximately 30 miles northwest of the proposed project / proposed action site at latitude 36° 48′ north, longitude 118° 11′ west). From 1893 to 2013, the annual average maximum temperature recorded was 75.2 degrees Fahrenheit (ºF), with an average maximum winter (December, January, and February) temperature of approximately 55.6ºF and an average maximum summer (June, July, and August) temperature of approximately 95.1ºF (Appendix A). Average minimum temperatures were recorded as approximately 28.9ºF in winter and 61.6ºF in summer. The average precipitation per year is approximately 5.21 inches, which occurs mostly during the winter, and relatively infrequently during the summer (Appendix A). Precipitation averages approximately 1.00 inch per month during the winter (December, January, and February), approximately 0.28 inch per month during the spring (March, April, and May), approximately 0.33 inch per month during the fall (September, October, and November), and approximately 0.12 inch per month during the summer (June, July, and August; Appendix A). The average wind speed, as recorded at the Independence Monitoring Station from 2004 to 2013, was approximately 4.8 miles per hour (mph; Appendix A).

The GBVAB is relatively rural and sparsely populated with a total of approximately 32,000 people. The GBVAB contains many mountain ranges to the east of Sierra Nevada. The mountain peaks on either side of the Owens Valley reach above 14,000 feet in elevation. Prevailing winds in the GBVAB are out of the north with a strong high-pressure area over the Basin and flow out of the Basin into the Central Valley, the Southeastern Desert Basin, and the South Coast. During the summer months of July and August, the prevailing winds in the GBVAB are out of the south and southeast. The mountain ranges of the GBVAB to the east form a barrier that protects much of California from extremely cold air from the east in winter. The Sierra Nevada to the west blocks the majority of cool, moist coastal air from entering the GBVAB from the west, so the GBVAB experiences infrequent rainfalls and prevalent low humidity.

2.3.2 Climatic Conditions

Severe weather is common in the Owens Valley. The average maximum temperature exceeds 90°F in summer, while average minimum temperatures drop to below 32°F in winter (Appendix A).

2.3.3 Emission Sources

The Keeler Dunes and associated sand deposits are a source of fugitive dust emissions that impact air quality in the communities of Swansea and Keeler. The Keeler Dune field and associated sand sheet is approximately 856 acres in size and is located adjacent to the dried bed of historic Owens Lake between the communities of Swansea and Keeler. Dust concentrations measured within the community of Keeler from the Keeler Dunes continue to exceed the federal and state PM_{10} 24-hour standards of 150 and 50 $\mu g/m^3$, respectively. The number of exceedances of the federal PM_{10} standard in the community of Keeler that are attributed to Owens Lake Bed emissions has decreased with time, from as many as 16 per year in 1994 to just over 1 per year from 2006 to 2012. This air quality improvement in Keeler is due to the implementation of dust control projects on the lake bed. However, the uncontrolled Keeler Dunes continue to cause an average of six PM_{10} standard exceedances every year since 1993.[56] These standard exceedances threaten the health, property, and environment of the residents of the Keeler/Swansea area.

In addition to the high levels of fine particulate matter, Owens Lake dust also contains cadmium, arsenic, and other toxic metals that are at levels above those in soils in the Owens Valley due to natural concentration in the terminal lake.[57] These metals pose a significant risk for additional cancer cases in the areas of greatest dust impact. Table 2.3.3-1, *Inhalation Cancer Risk at Keeler due to Owens Lake Dust Storms*, shows that the cancer risk at Keeler, associated with cadmium and arsenic in the Owens Lake dust, is estimated at 23 additional cases in a million. This is based on an annual concentration average of 45 $\mu g/m^3$ from the dust storms, breathed over a 70-year period. The value of 45 $\mu g/m^3$ is taken from the 7-year average of PM_{10} concentrations measured using a tapered-element oscillating microbalance (TEOM) at Keeler (1993–2000). This average represents the annual average prior to the implementation of controls. Under the District's adopted air toxics policy, a toxic risk greater than 1 in a million additional cancer cases is considered to be significant. This policy requires implementation of controls on sources that pose a risk greater than 1 in a million in order to reduce the risk, and it prohibits the issuance of a permit to sources that exceed a risk of 10 in a million.[58] A revised cancer risk from arsenic and cadmium, using the reduced average dust concentration of 34 $\mu g/m^3$ at Keeler, would result in 17 cases per million, a significant reduction in cancer risk. Model calculations project an average Keeler PM_{10} concentration of 21 $\mu g/m^3$ after all DCMs are operational. This would result in even greater reduction in cancer risk. Since this residual dust would contain a smaller fraction of lake bed–derived material than under pre-dust-control conditions, the benefits for reduction in cancer risk would be compounded.

[56] Great Basin Unified Air Pollution Control District. 7 September 2012. *Preliminary Staff Report: Origin and Development of the Keeler Dunes*. Bishop, CA.

[57] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

[58] Great Basin Unified Air Pollution Control District. 9 December 1987. *Toxic Risk Assessment Policy*. Bishop, CA.

TABLE 2.3.3-1
INHALATION CANCER RISK AT KEELER DUE TO OWENS LAKE DUST STORMS

Toxic Metal	Cancer Potency* (μg/m^3)$^{-1}$	Toxic Metal Concentration** (parts per million)	Inhalation Cancer Risk***
Cadmium	4.2×10^{-3}	29	5 per million
Arsenic	3.3×10^{-3}	118	18 per million
Lifetime Cancer Risk = 23 per million			

NOTES:
* Cancer potency data are from the Air Toxics Hot Spots Program (Office of Environmental Health Hazard Assessment, August 2003).
** Dust samples are taken from Keeler PM_{10} filters, with concentrations measured by x-ray fluorescence (Chester LabNet, 1996).
*** 70-year cancer risk with PM_{10} = 45 μg/m^3 (Keeler annual average from 1993–2000).
SOURCE: Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

2.3.4 Air Monitoring Stations

Ambient air quality data for the proposed project / proposed action vicinity was recorded at the Keeler monitoring site for PM_{10} and $PM_{2.5}$. For ozone, the nearest representative monitor site is located at Furnace Creek, California, about 50 miles east of the proposed project / proposed action site. Table 2.3.4-1, *Comparison of 2009–2011 Ambient Air Quality Data in the Vicinity of the Proposed project / proposed action*, shows the monitor readings at these sites as they compare to the National Ambient Air Quality Standards. There is no representative data available for CO, NO_2, or SO_2. For the three-year monitoring period from 2009 through 2011, the project area was in compliance with the federal 8-hour ozone standard and the annual $PM_{2.5}$ standard, and in violation of the federal 24-hour $PM_{2.5}$ and PM_{10} standards. Violations of the particulate matter standards in Keeler are primarily due to windblown dust from the Keeler Dunes.

TABLE 2.3.4-1
COMPARISON OF 2009–2011 AMBIENT AIR QUALITY DATA IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION

Pollutant	National Ambient Air Quality Standard (NAAQS)	Pollutant Concentrations		
		2009	2010	2011
Ozone (O_3) Furnace Creek, CA	4th highest 8-hr concentration (ppm)	0.070 ppm	0.069 ppm	0.075 ppm
	NAAQS: 3-year average < 0.075 ppm Monitor: 3-year average = 0.071 ppm	Compliant	Compliant	Compliant
Suspended particulate matter (PM_{10}) Keeler, CA	Maximum 24-hr concentration (μg/m^3)	463 μg/m3	270 μg/m3	999 μg/m3
	NAAQS: 4th highest in 3 years < 150 μg/m^3 Monitor: 4th highest in 3 years = 430 μg/m^3	Violation	Violation	Violation
Fine particulate matter ($PM_{2.5}$)	98th-percentile 24-hour concentration (μg/m^3)	36.0 μg/m^3	28.2 μg/m^3	44.1 μg/m^3
	NAAQS: 3-year average < 35 μg/m^3 Monitor: 3-year average = 36.1 μg/m^3	Violation	Compliant	Violation
	Annual average concentration (μg/m^3)	6.8 μg/m^3	7.1 μg/m^3	8.2 μg/m^3
	3-year average < 15.0 μg/m^3 [3-year average = 7.4 μg/m^3]	Compliant	Compliant	Compliant

KEY: *ppm = parts per million. ** μg/m^3 = micrograms per cubic meter.
SOURCE: California Air Resources Board. Accessed 6 November 2013. "Top 4 Summary" Website. Available at: http://www.arb.ca.gov/adam/topfour/topfour1.php

The District operates 15 air quality monitoring stations within the District (Figure 2.3.4-1, *Great Basin Unified Air Pollution Control District Air Quality Monitoring Sites*). These stations are located in four planning areas (Coso Junction, OVPA, Mono Basin, and Mammoth Lakes) and in two of the District's three counties (Inyo and Mono)).[59] Each of the 15 stations monitors PM_{10} concentrations, but only the Keeler station monitors $PM_{2.5}$ concentrations. Because the District is primarily rural, only the monitoring station at Mammoth Lakes reflects a more urban influence. Yearly concentrations of PM_{10} from 2009 through 2012 were recorded across the District (Table 2.3.4-2, *Summary of 2009–2012 PM_{10} Concentrations at the District's 15 Air Quality Monitoring Sites*). During this 4-year period, particulate levels exceeded the 24-hour federal PM_{10} standard 307 times.[60] During windy conditions, dust from the beds of Mono Lake and Owens Lake produce extremely high PM_{10} concentrations, which reached 14,147μg/m^3 in over 24 hours in 2009. The highest recent concentrations have occurred at the Keeler and Mono North Shore (north of the OVPA) monitoring sites. Annual average $PM_{2.5}$ concentrations at the Keeler monitoring site are low (maximum of 8.58 μg/m^3). Lizard Tail (2 kilometers north) and Keeler (1 kilometer south) are the closest PM monitor sites to the proposed project / proposed action site. In addition to the air monitoring stations, the District also operates 16 sand motion monitoring sites within the proposed project / proposed action study area.

[59] Kiddoo, Phill, Great Basin Unified Air Pollution Control District, Bishop, CA. 10 October 2012. Email to Makeba Pease, Sapphos Environmental, Inc., Pasadena, CA.

[60] Kiddoo, Phill, Great Basin Unified Air Pollution Control District, Bishop, CA. 8 November 2013. Email to Adam Furman, Sapphos Environmental, Inc., Pasadena CA.

TABLE 2.3.4-2
SUMMARY OF 2009–2012 PM_{10} CONCENTRATIONS AT THE DISTRICT'S 15 AIR QUALITY MONITORING SITES

Monitoring Site	PM_{10} ($\mu g/m^3$) Maximum 24-hr	PM_{10} NAAQS Exceedances
Coso Junction	219	5
Dirty Sox	1,437	33
Flat Rock	871	12
Keeler	13,380	31
Lee Vining	115	0
Lizard Tail	4,571	42
Lone Pine	264	3
Mammoth Lakes	128	0
Mill Site	754	7
Mono North Shore	14,147	81
North Beach	2,067	37
Olancha	779	16
Shell Cut	2149	23
Stanley	1507	12
White Mountain Research Station	626	5

SOURCE: Kiddoo, Phill, Great Basin Unified Air Pollution Control District, Bishop, CA. 8 November 2013. Email to Adam Furman, Sapphos Environmental, Inc., Pasadena CA.

2.3.5 Greenhouse Gas Emissions

In order to establish a reference point for future GHG emissions, CO_{2e} emissions have been projected based on an unregulated, business-as-usual, GHG emissions scenario that does not consider the reductions in GHG emissions required by Executive Order S-3-05 or AB 32. CARB has stated that California contributed 427 million metric tons of GHG emissions in CO_{2e} in 1990 and, under a business-as-usual development scenario, will contribute approximately 596 million metric tons of CO_{2e} emissions in 2020, which presents a linear upward trend in California's total GHG emissions. To characterize the business-as-usual GHG emissions specifically for Inyo County, information on population has been collected from the California Department of Finance. It has been projected that the population of Inyo County will increase by approximately 24 percent from 2010 to 2050.[61] Using the current CO_{2e} emissions factor of 14 metric tons per capita,[62] Inyo County would be responsible for the emission of approximately 0.26 million metric ton of CO_{2e} in 2010 and 0.32 million metric tons of CO_{2e} in 2050 under a business-as-usual emissions scenario (Table 2.3.5-1, *Characterization of Business-as-Usual GHG Emissions for Inyo County*).

[61] California Department of Finance. January 2013. *State and County Population Projections by County, by Race/Ethnicity, and by Major Age Groups, 2010-2060 (by decade)*. Available at: http://www.dof.ca.gov/research/demographic/reports/projections/view.php

[62] California Air Resources Board. 15 October 2008. *Climate Change Proposed Scoping Plan: A Framework for Change*. Sacramento, CA. Available at: http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm

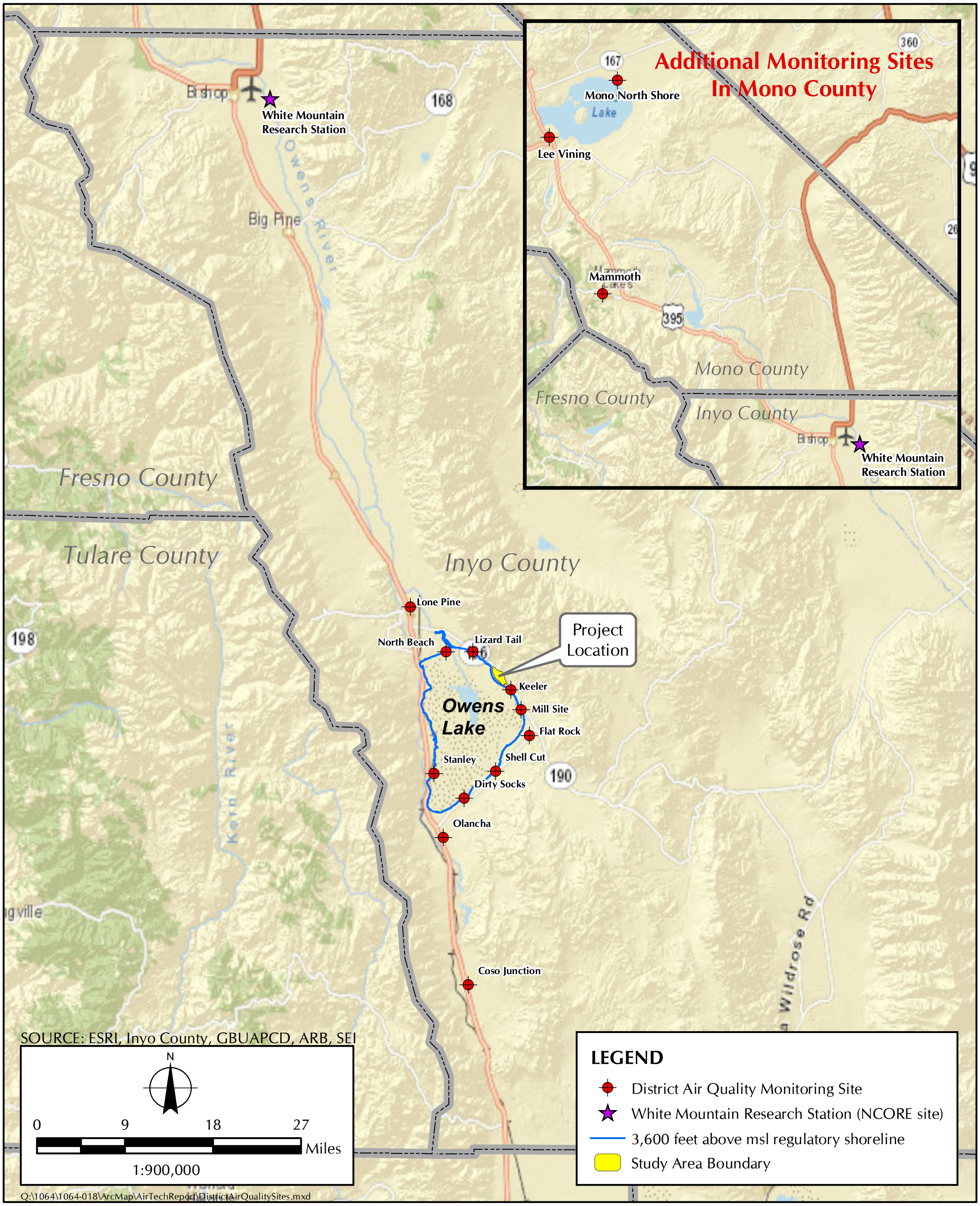

FIGURE 2.3.4-1

Great Basin Unified Air Pollution Control District
Air Quality Monitoring Sites

TABLE 2.3.5-1
CHARACTERIZATION OF BUSINESS-AS-USUAL GHG EMISSIONS FOR INYO COUNTY

	Year						
	1990	**2000**	**2010**	**2020**	**2030**	**2040**	**2050**
Population	18,281	17,945	18,528	19,350	20,428	22,009	23,053
CARB emission factor (metric tons of CO_{2e} per capita)	14	14	14	14	14	14	14
Annual GHG emissions for Inyo County (million metric tons of CO_{2e})	0.26	0.25	0.26	0.27	0.29	0.31	0.32

SOURCES:
California Department of Finance. January 2013. *State and County Population Projections by County, by Race/Ethnicity, and by Major Age Groups, 2010-2060 (by decade)*. Available at:
http://www.dof.ca.gov/research/demographic/reports/projections/view.php
California Department of Finance. August 2011. *Historic Census Populations of Counties and Incorporated Cities in California 1850–2010*. Available at:
http://www.dof.ca.gov/research/demographic/state_census_data_center/historical_census_1850-2010/view.php

2.3.6 Sensitive Receptors

Locations that can be considered sensitive receptors for air quality impacts include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.[63] Sensitive individuals with compromised immune systems, such as children and the elderly, have the potential to be exposed to emissions from the construction-related activities associated with the proposed project / proposed action, but the emissions during wind events are far greater in magnitude than any potential emissions from construction activities. The greatest potential for exposure of sensitive receptors to air contaminants would occur under strong wind events during site preparation and planting phases, when soil would be disturbed and equipment would be used for grading, materials delivery, and planting.

The purpose of the proposed project / proposed action, in combination with other ongoing dust control projects that have been and are being implemented on the Owens Lake bed, is to improve air quality through the reduction of PM_{10} emissions throughout the OVPA, consistent with the 2008 State Implementation Demonstration of Attainment Plan.[64] In particular, the purpose of this proposed project / proposed action is to reduce the exposure of residents of the communities of Swansea and Keeler to unhealthful levels of PM_{10} emissions. Although DCMs are necessary at the Keeler Dunes to bring the community of Keeler into compliance with the NAAQS for PM_{10} by 2017, it is anticipated that due to delays in getting funding for the project and in completing this EIR/EA, the proposed project / proposed action would be installed by spring 2015 and be able to demonstrate attainment by 2018.

[63] California Air Resources Board. 29 March 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Sacramento, CA.

[64] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

Potential exposure to construction emissions would vary substantially from day to day, depending on the amount of work being conducted, weather conditions, location of receptors, and exposure time. The planting-phase emissions in this analysis are estimated conservatively based on worst-case conditions, with maximum levels of construction activity occurring simultaneously within a short period of time. The nearest sensitive receptors include the community of Swansea located north and adjacent to the proposed project / proposed action and the community of Keeler southeast and adjacent to the proposed project / proposed action. One designated Native American reservation (Lone Pine Paiute-Shoshone Indian Reservation) and the town of Lone Pine are approximately 10 miles to the northwest (Figure 2.3.6-1, *Sensitive Receptors*).

2.4 ASSESSMENT METHODS AND MODELS

As discussed in Section 1.0, *Introduction*, the proposed project / proposed action would entail planting approximately 370,000 native vegetation plants and placing approximately 124,000 straw bales as a temporary DCM as part of the mitigation plan to reduce particulate matter emissions from the site.

2.4.1 CalEEMod Model

The California Emissions Estimator Model (CalEEMod 2013.2.2) was used to estimate construction emissions from the preparation of the temporary access routes, delivery and placement of straw bales, delivery and placement of native plants, and periodic watering of plants. CalEEMod is a computer program that can be used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, and office buildings; area sources such as gas appliances, wood stoves, fireplaces, and landscape maintenance equipment; and construction projects. The CalEEMod, version 2013.2.2, emissions model directly calculates criteria pollutant emissions, as well as GHG (CH_4 and N_2O and CO_2) emissions. The proposed project / proposed action property lacks an industrial component that would be considered a Pb emission source, so the concentrations and emissions of Pb were not analyzed. The analysis of construction impacts to air quality is based on the construction scenario summarized in Section 1.3.2, *Construction Scenario*, of this report.

The air quality impacts from the proposed project / proposed action can be separated into construction-related short-term impacts and operation-related long-term, permanent impacts. Both types of impacts may occur on a local or regional scale.

2.4.2 Short-Term Greenhouse Gas Emissions Inputs

The proposed project / proposed action would include the placement of approximately 124,000 straw bales and 370,000 native plants on the approximately 194-acre property. The following factors were assumed in the technical analyses of air quality using the CalEEMod, version 2013.2.2, emission model:

1. Total construction would take a maximum of 11 months, starting in August 2014 and extending to March 2015.

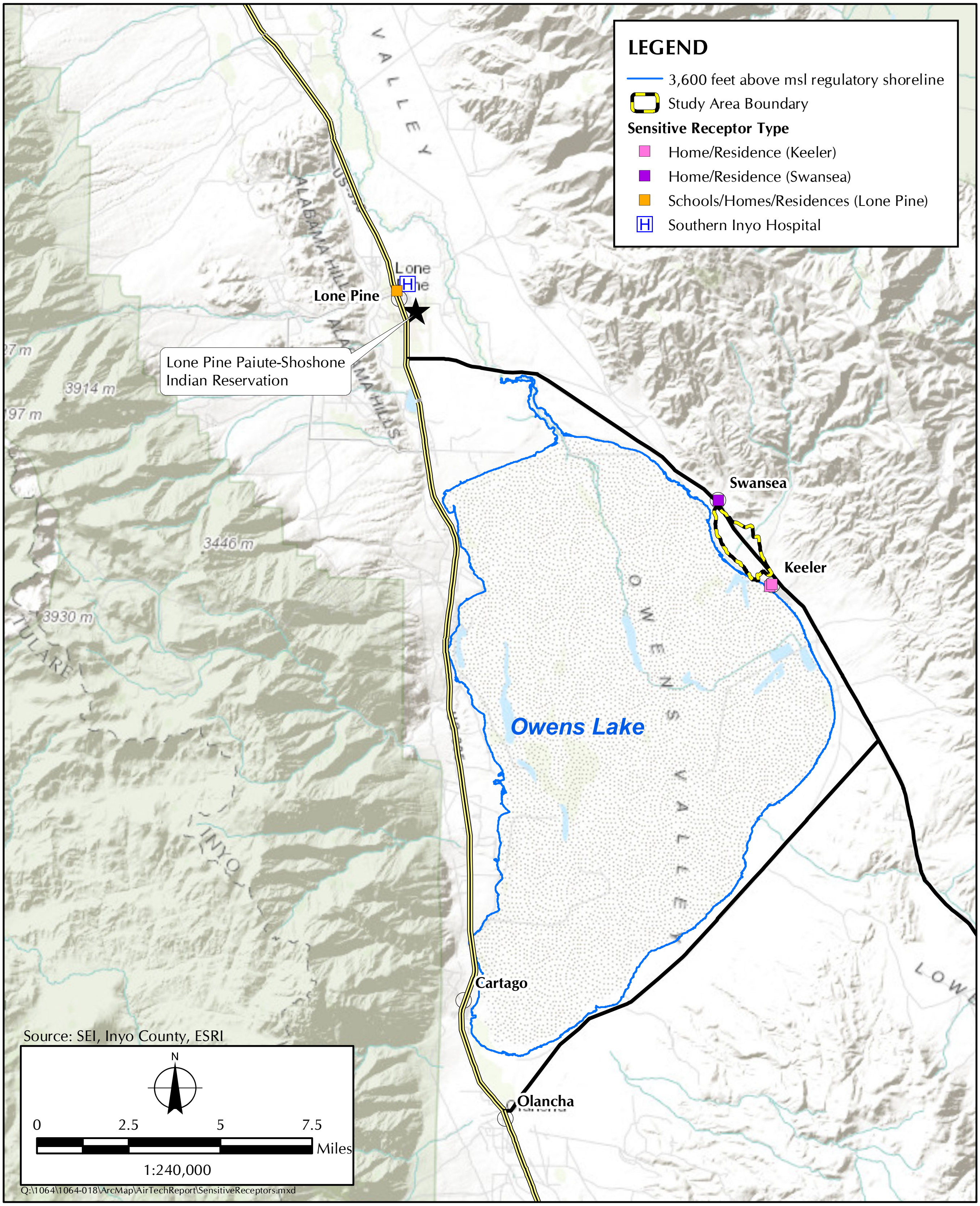

FIGURE 2.3.6-1

Sensitive Receptors

2. The construction activities undertaken would be as follows:

Month 1:	Site preparation
Months 2-5:	Distribute straw bales on sand dunes
Months 3-7:	Planting and watering
Month 8:	Clean up and restoration

3. A maximum of 33.1 acres would be disturbed temporarily during the site preparation phase.

4. Following construction, supplemental monitoring and watering would occur from 2015–2017. This would include watering, in March/April and September/October of each year.

5. The climate zone was set to 9, and the wind speed was set to 3.8 meters per second.

6. 95 percent of worker trips were assumed to occur on unpaved roads.

7. Default parameters, such as the horsepower and the load factor, were used for all construction equipment anticipated to be used for the proposed project / proposed action.

2.4.3 Long-Term Greenhouse Gas Emissions and Potential Savings

Annual GHG emissions and the potential reduction in PM_{10} associated with operation of the proposed project / proposed action were quantified using CalEEMod, version 2013.2.2. Assuming that planting is 50 percent successful, the proposed project / proposed action would generate a net CO_2 benefit and reduce PM_{10} emissions by as much as 95 percent. The potential GHG emissions from construction and maintenance of the proposed project / proposed action were calculated by using the CalEEMod model.

2.5 SIGNIFICANCE CRITERIA

2.5.1 Significance Thresholds

The majority of the proposed DCMs are located on BLM-administrated land, and the BLM is required to demonstrate that it would undertake, approve, permit, or support an action that would conform to the SIP. The proposed project / proposed action site is located in an area that is designated as nonattainment for the 24-hour NAAQS for PM_{10} pursuant to the provisions of the federal CAA.

Neither the District nor Inyo County has established CEQA thresholds for criteria pollutants. However, the U.S. EPA *de minimis* threshold of 70 tons of PM_{10} per year applies to all federally regulated air pollutants in the GBVAB.

The CAPCOA has discussed several approaches to consider the potential cumulative significance of projects with respect to GHGs.[65] A zero-threshold approach can be considered based on the concept that climate change is a global phenomenon and all GHG emissions generated throughout the Earth contribute to climate change. However, State CEQA Guidelines also recognize that there may be a point at which a project's contribution, although above zero, to the cumulative impact would not be considerable (State CEQA Guidelines, Section 15130 [a]). Therefore, a threshold of greater than zero is considered more appropriate for the analysis of GHG emissions under CEQA. The CAPCOA's summary of suggested thresholds for GHG emissions includes efficiency-based thresholds, quantitative emission limits, and limits on the size of projects (Table 2.5.1-1, *CAPCOA-Suggested Thresholds for Greenhouse Gases*).

For the purposes of the analysis presented in this document, the suggested reporting threshold of 25,000 metric tons CO_{2e} per year will be used as a quantitative threshold to assist with determining significance. The reporting threshold was selected because it corresponds to the threshold set by the U.S. EPA for the Mandatory Reporting of GHG Rule.

TABLE 2.5.1-1
CAPCOA-SUGGESTED THRESHOLDS FOR GREENHOUSE GASES

Description	Suggested Threshold
Quantitative (900 tons)	Approximately 900 metric tons CO_{2e}/year for residential, office, and non-office commercial projects
Quantitative CARB reporting threshold / cap and trade	Report: 25,000 metric tons CO_{2e}/year Cap and trade: 10,000 metric tons CO_{2e}/year
Quantitative regulated inventory capture	Approximately 40,000 to 50,000 metric tons CO_{2e}/year
Unit-based threshold based on market capture	Commercial space $>$ 50,000 square feet
Projects of statewide, regional, or area-wide significance	Residential development $>$ 500 units Shopping center/business establishment $>$ 500,000 square feet Commercial office space $>$ 250,000 square feet Industrial park $>$ 600,000 square feet

SOURCE: California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.* Sacramento, CA.

[65] California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Sacramento, CA.

2.6 IMPACT ANALYSIS

This section analyzes the potential for the proposed project / proposed action to have significant impacts to air quality and GHG emissions. Air quality impacts of a proposed project / proposed action generally fall into four major categories:

1. Construction impacts are temporary impacts, including airborne dust from grading, demolition, and dirt hauling and emissions of GHGs and criteria pollutants from heavy equipment, delivery and dirt-hauling trucks, employee vehicles, and paints and coatings. Construction emissions vary substantially from day to day, depending on the construction activities and weather conditions.

2. Operational regional impacts are primarily emissions of GHGs and criteria pollutants from natural gas and electricity usage and vehicles traveling to and from a proposed project / proposed action site.

3. Operational local impacts are increases in pollutant concentrations, primarily CO, which result from traffic increases in the immediate vicinity of a proposed project / proposed action, as well as any toxic and odor emissions generated on-site.

4. Cumulative impacts are air quality and GHG changes that result from the incremental impact of the proposed project / proposed action when added to other projects in the vicinity.

2.6.1 Construction Phase

Construction of the proposed project / proposed action has the potential to create air quality and GHG emissions impacts through the use of construction equipment and through vehicle trips generated from construction workers traveling to and from the proposed project / proposed action property. Fugitive dust emissions would primarily result from site preparation activities, whereas NO_x and GHG emissions would primarily result from delivery and hauling of construction materials and equipment, the use of construction equipment, and the construction workers' commute trips to and from the proposed project / proposed action property. The assessment of construction air quality impacts considers each of these potential sources during each part of the construction phase. Although construction emissions can vary substantially from day to day, depending on the level of activity and the specific type of operation, and the fact that fugitive dust emissions can vary based on the prevailing weather conditions, the analysis considers a worst-case scenario with concurrent use of construction equipment to ensure that impacts are not underestimated.

2.6.1.1 Construction Scenario

The information contained in the construction scenario for the proposed project / proposed action, as described in Section 1.0 of this report, was developed from empirical data for construction of comparable projects and was used in the assessment of potential construction impacts to air quality. A summary of the construction scenario is presented here.

Installation of the proposed project / proposed action would require a maximum of 11 months. Construction of the proposed project / proposed action would be divided into the following parts: (1) temporary access routes and staging area(s), (2) bale placement and planting and watering, (3) project oversight and monitoring and supplemental watering (up to one per year for 3 years) and planting as required, and (4) staging area and access route restoration.

Site preparation of the staging area and access routes would require brushing and grubbing of existing vegetation. Construction of the proposed project / proposed action will require a temporary disturbance of approximately 33.1 acres. Restoration of disturbed areas, such as staging areas and temporary access routes, would occur at the end of 3 years or when the plants become established enough such that they did not need any supplemental watering.

Straw bales would be placed over the 194-acre dust control areas prior to commencement of planting. The straw bales would provide immediate benefit to air quality by introducing a surface roughness that would break up wind speed and by reducing the amount of emissive area exposed to wind events, achieving an 85 to 95 percent reduction in emissions. As the native plant cover becomes established, it will eventually provide the same types of air quality benefits as the straw bales as a long-term solution to controlling the emissive areas.

2.6.2 Construction Impacts

During construction of the proposed project / proposed action, there is a potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the proposed project / proposed action property. Potential emission estimates from construction activities are based on emission factors and construction scenario information for development at the proposed project / proposed action property. The total amount of construction, including duration and level of construction activity occurring at the proposed project / proposed action property, would influence the estimated construction emissions and resulting potential impacts. Therefore, the emission forecasts are based on conservative assumptions about the construction scenario, with a large amount of construction activity occurring in a relatively short time frame. In addition, worker commute trips would vary throughout the construction period. This analysis used the highest estimated number of worker commute trips. Due to the conservative nature of these assumptions, actual emissions from construction of the proposed project / proposed action would most likely be less than estimated emissions.

Construction emissions are expected to result from the following activities:

- Establishment of temporary access routes
- Delivery and placement of straw bales and delivery and planting of plants required for vegetation of the site
- Fuel combustion by on-site equipment
- Construction worker commute trips
- ATV travel for bale placement and planting

2.6.2.1 Construction Emissions

The daily regional construction emissions for the proposed project / proposed action were estimated using the CalEEMod, version 2013.2.2, emissions model (Table 2.6.2.1-1, *Unmitigated Estimated Daily Regional Construction Emissions*).

TABLE 2.6.2.1-1
UNMITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS

Off-Road Emission Sources	Construction Emissions (Pounds/Day)					
	VOCs	NOx	CO	SOx	$PM_{2.5}$	PM_{10}
Site preparation	8.98	102.12	45.57	0.09	4.23	5.64
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	14.69	22.21
Planting and watering	56.67	660.60	328.34	0.65	35.46	48.09
Clean up and restoration	18.10	205.61	114.21	0.18	15.22	21.91
Maximum Off-Road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	**35.46**	**48.09**
Mobile Sources	**VOCs**	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Delivery trucks and employee commutes	0.25	0.31	3.62	0.00	41.97	420.41
Maximum Regional Total	**56.91**	**660.90**	**331.96**	**0.65**	**77.43**	**468.50**
Significant? *	NA	NA	NA	NA	NA	NA

KEY: NA = not applicable.
NOTE: * The District does not have daily CEQA thresholds for criteria pollutants; therefore, the U.S. EPA annual *de minimis* threshold of 70 tons of PM_{10} per year was used.
SOURCE: Sapphos Environmental, Inc., Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

The annual regional construction emissions were estimated using the CalEEMod, version 2013.2.2, emissions model (Table 2.6.2.1-2, *Unmitigated Estimated Annual Regional Construction Emissions*). The annual regional construction emissions associated with construction would not be expected to exceed the U.S. EPA *de minimis* threshold for PM_{10}.

TABLE 2.6.2.1-2
UNMITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Maximum off-road construction emissions	0.00	0.01	0.14	0.00	1.52	15.25
Delivery trucks and employee commutes	2.27	26.42	13.13	0.03	1.42	1.92
Maximum Regional Total	**3.48**	**39.93**	**21.00**	**0.04**	**5.36**	**32.56**
U.S. EPA *De Minimis* Thresholds (Tons/Year)*	NA	NA	NA	NA	NA	70
Significant?	NA	NA	NA	NA	NA	No

KEY: NA = not applicable.
NOTE: * The District does not have daily CEQA thresholds for criteria pollutants; therefore, the U.S. EPA annual *de minimis* threshold of 70 tons of PM_{10} per year was used.
SOURCE: Sapphos Environmental, Inc., Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

2.6.2.2 Localized Construction Impacts

Toxic air contaminants' (TACs) impacts at the proposed project / proposed action property can be attributed primarily to diesel particulate emissions associated with the use of heavy-duty equipment during construction and have been analyzed using the standard health risk assessment methodology to determine individual cancer risk of a person continuously exposed to TACs over a 70-year lifetime. Due to the relatively short-term construction schedule of approximately 11 months, construction-related TACs emissions of the proposed project / proposed action would be expected to be below the level of significance.

Odors at the proposed project / proposed action property can be emitted from equipment exhaust. However, since the construction of the proposed project / proposed action has a relatively short-term schedule and since odors are normally localized and confined, an odor nuisance is less likely to happen. The construction of the proposed project / proposed action would use typical construction equipment, and odors at the site would be typical for most construction sites. In addition, construction of the proposed project / proposed action would be required to comply with District Rule 419; therefore, odor impacts from the construction would be expected to be below the level of significance.

Localized on-site (off-road) emissions are the maximum construction emissions due to off-road construction equipment and unpaved off-road travel by employees and delivery trucks (Tables 2.6.2.1-1 and 2.6.2.1-2). Localized on-site (off-road) emissions for the proposed project / proposed action would not exceed significance thresholds for PM.

CO is considered a localized problem and requires additional analysis when a proposed project / proposed action is likely to expose sensitive receptors to localized levels of CO concentrations from vehicles, which are known as CO "hotspots." The maximum daily regional total CO emissions from construction of the proposed project / proposed action is approximately 334.86 pounds/day (Table 2.6.2.1-1), and the maximum annual regional total CO emission from construction of the proposed project / proposed action is approximately 22.07 tons/year (Table 2.6.2.1-2). Construction of the proposed project / proposed action would require the use of off-road construction equipment, delivery trucks, and vehicles for employee commutes. CO concentrations could be increased during the construction. However, due to a maximum of 11-month construction period, the potential increase in CO concentrations at sensitive receptor locations would be limited to these 11 months. The District does not provide daily emission threshold for CO. Due to the short timeline of the construction and temporary nature of potential exposures to construction-related air emissions from the proposed project / proposed action, off-site residents, including adults and children, would not be expected to be significantly affected by the proposed project / proposed action. In addition, although off-site sensitive receptors would have a potentially longer exposure to the construction-related air emissions, the distance from the proposed project / proposed action property would be expected to minimize potential impacts to below the level of significance. There are no residences within the proposed project / proposed action site. However, the communities of Swansea and Keeler are adjacent to the proposed project / proposed action, and the Lone Pine Paiute-Shoshone Indian Reservation and the town of Lone Pine are approximately 10 miles to the northwest, all of which could potentially be defined as sensitive receptors (Figure 2.3.6-1). The nearest resident is 990 feet away from the boundary of the proposed project / proposed action and would not have significant impacts from the construction of the proposed project / proposed action. Therefore, impacts from the construction of the proposed project / proposed action at these sensitive receptors would be expected to be below the level of significance.

2.6.3 Operational Impacts

2.6.3.1 Operation and Maintenance Emissions

Operational air emissions at the proposed project / proposed action property are likely to result from mobile sources due to monitoring activities and annual watering, as needed. Operational equipment emissions were based on a worst-case scenario and calculated assuming a total of 100 days per year of equipment use, for a maximum 3-year time period. The CalEEMod emissions model was used to calculate emissions from operational equipment (Table 2.6.3.1-1, *Unmitigated Estimated Daily Operational Emissions*) and from mobile-source emissions due to employee commute trips.

TABLE 2.6.3.1-1
UNMITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Operational equipment	15.27	176.09	107.19	0.15	16.84	25.81
ATVs	0.07	0.03	0.40	0.00	2.27	22.72
Water trucks	5.15	60.69	27.30	0.07	2.16	2.58
Total	**20.49**	**236.81**	**134.89**	**0.22**	**21.27**	**51.11**
Mobile sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**20.52**	**236.82**	**135.07**	**0.22**	**22.28**	**62.21**
Significance?*	N/A	N/A	N/A	N/A	N/A	No

KEY: NA = not applicable.
NOTE: * The District does not have daily CEQA thresholds for criteria pollutants; therefore, the U.S. EPA annual *de minimis* threshold of 70 tons of PM_{10} per year was used.
SOURCE: Sapphos Environmental, Inc., Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

The annual operational emissions of PM_{10} were also shown to be below the U.S. EPA *de minimis* thresholds of significance for the proposed project / proposed action (Table 2.6.3.1-2*, Unmitigated Estimated Annual Operational Emissions*). It is also important to note that the estimated emissions are likely to be higher than actual emissions from the proposed project / proposed action due to the conservative assumptions used for emission modeling. The long-term goal of the proposed project / proposed action is the establishment of a self-sustaining native vegetation cover to control dust with minimal long-term maintenance; therefore, operation and maintenance and associated emissions would be expected to be minimal after the initial 3 years following construction. In addition, the proposed project / proposed action would be anticipated to have an overall benefit to air quality during operation due to the proposed project / proposed action's purpose to reduce PM_{10} emissions through vegetation.

TABLE 2.6.3.1-2
UNMITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS

Emission Sources	Air Pollutants (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	1.99	22.98	13.99	0.02	4.79	8.14
ATVs	0.00	0.00	0.06	0.00	0.27	2.69
Water trucks	0.67	7.92	3.56	0.00	0.29	0.40
Total	**2.66**	**30.90**	**17.61**	**0.02**	**5.35**	**11.23**
Mobile sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**2.66**	**30.90**	**17.64**	**0.02**	**5.47**	**12.42**
U.S. EPA *De Minimis* Threshold	NA	NA	NA	NA	NA	70
Exceedance of Significance?	NA	NA	NA	NA	NA	No

KEY: NA = not applicable.
NOTES: The District does not have daily CEQA thresholds for criteria pollutants; therefore, the U.S. EPA annual *de minimis* threshold of 70 tons of PM_{10} per year was used.
Annual operational equipment and mobile-source emissions are calculated assuming 48 working days per year.
SOURCE: Sapphos Environmental, Inc., Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

2.6.3.2 Local Operational Impacts

Carbon Monoxide

CO is considered a localized problem and requires additional analysis when a proposed project / proposed action is likely to expose sensitive receptors to localized levels of CO concentrations from vehicles, which are known as CO "hotspots." Due to the low number of vehicle trips anticipated for the proposed project / proposed action (8–10 per day), no significant increase in CO concentrations at sensitive receptor locations would be expected, and localized operational CO emissions would be below the level of significance.

Toxic Air Contaminants (TAC)

TAC impacts at the proposed project / proposed action property would result primarily from diesel particulate emissions associated with heavy-duty equipment operations. The operation of the proposed project / proposed action would not generate a substantial number of heavy-duty equipment operations or daily truck trips. Water truck trips during annual watering would be the primary contributor to the TAC level at the proposed project / proposed action property. However, the number of heavy-duty delivery trucks accessing the proposed project / proposed action property on a daily basis would be minimal, and the proposed project / proposed action area is remote and largely unpopulated; therefore, TAC emissions would not occur in large concentrations in populated areas. Therefore, operation-related TAC emissions would be below the level of significance and, consequently, the impact to human health would be below the level of significance. In addition, due to the fact that the proposed project / proposed action would significantly reduce Owens Lake dust emissions, which contain cadmium, arsenic, and other toxic metals, it would also serve to reduce TAC emissions in the area.

Visibility-Reducing Particles

The threshold for visibility under the CAAQS is correlated with the standard extinction coefficient of 0.23 per kilometer. Due to the fact that the proposed project / proposed action's operation does not involve area-source emissions that would be expected to impair visibility, the impact of the proposed project / proposed action to visibility would be below the level of significance**.**

Odor

Odor nuisances are typically associated with land uses and industrial operations, such as agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Since the proposed project / proposed action development includes placing straw bales and vegetation of an exposed sand dune, and does not include any land uses or industrial operations typically associated with odor nuisance, odor impacts from the proposed project / proposed action would be expected to be below the level of significance.

Daily operational emissions, TAC levels, visibility, and odor impacts would be expected to be below the level of significance. Therefore, the long-term exposure of sensitive receptors to the proposed project / proposed action's operational emissions would be expected to be below the level of significance. In addition, implementation of the proposed project / proposed action would greatly decrease the exposure of residents to PM_{10} emissions from Keeler Dunes in the long term.

2.6.4 Conformity Determination

The potential of the proposed project / proposed action to be subject to the conformity determination with the federal CAA and the NAAQS was analyzed. The General Conformity Rule requires the evaluation of the proposed project / proposed action's emissions against the *de minimis* level for all nonattainment pollutants in order to determine if the proposed project / proposed action would be subject to a conformity determination. The District is designated as nonattainment area for PM_{10} emissions; therefore, the proposed project / proposed action's annual unmitigated estimated construction and operational emissions were compared to the *de minimis* level for PM_{10} emissions (Table 2.6.4-1, *Conformity Determination*). Due to the fact that emissions of PM_{10} are expected to be below the *de minimis* threshold and that the overall purpose of the proposed project / proposed action is to reduce PM_{10} emissions, it is unlikely the proposed project / proposed action would be subject to a conformity determination.

TABLE 2.6.4-1
CONFORMITY DETERMINATION

Proposed Project / Proposed Action	Annual Unmitigated Estimated Nonattainment Air Pollutants (Tons/Year) PM_{10}
Construction	32.56
Operation	12.42
De minimis level	70
Subject to conformity determination?	No

2.6.5 Greenhouse Gas Emissions

The proposed project / proposed action's global climate change impacts were analyzed quantitatively considering the operational scenario, size, and location. To quantify the amount of GHG emissions contributed by construction and operation of the proposed project / proposed action, the CalEEMod emissions model and the California Climate Action Registry's General Reporting Protocol were used. The proposed project / proposed action would be expected to have the potential to result in significant impacts related to global climate change if the proposed project / proposed action conflicts with the goal of reducing California's GHG emissions to the 1990 levels (427 million metric tons CO_{2e}, which is equivalent to approximately 10 tons CO_{2e} per capita) by 2020 as required by AB 32. Based on the suggested thresholds proposed by the CAPCOA,[66,67] the proposed project / proposed action would be expected to have the potential to result in significant impacts related to global climate change if the proposed project / proposed action emits more than 25,000 metric tons of CO_{2e} per year.

2.6.5.1 Qualitative Analysis of Greenhouse Gas Emission Impacts

The proposed project / proposed action's incremental impact to GHG emissions would be potentially significant if the size, nature, or duration of the construction phase would emit a substantial amount of GHGs. The construction phase of the proposed project / proposed action would take approximately 11 months to complete and would include the entire 194-acre property. During delivery of straw bales and planting, heavy-duty equipment would be operated, which, together with the large area under construction, would be expected to produce significant, but temporary, GHG emissions. Therefore, the GHG emissions due to the proposed project / proposed action's straw bale delivery and planting phases warrant a quantitative analysis.

During the operational phase, the proposed project / proposed action's GHG emissions would be expected to be below the level of significance. As described in Section 1.0, the proposed project / proposed action is primarily the placement of straw bales and the planting of vegetation. Therefore, although the use of maintenance equipment for the proposed project / proposed action would be expected to emit GHGs, the operational phase would be expected to result in a net decrease in regional GHG emissions due to the long-term carbon sequestration from the vegetation to be planted, as well as a reduction of PM_{10} emissions. Operation of the proposed project / proposed action would not be expected to have a significant detrimental impact on GHG emissions and would reduce GHG emissions in compliance with the goals of AB 32 by providing an additional sink for CO_{2e}, which would reduce GHG emissions compared to a business-as-usual scenario.

2.6.5.2 Quantitative Analysis of Greenhouse Gas Emission Impacts

Based on emissions modeling, construction activities would result in the emission of a maximum of approximately 3,668.47 metric tons of CO_{2e} since construction is anticipated to take approximately 11 months (Table 2.6.5.2-1, *CO_2 and CO_{2e} Emissions*). Operation of the proposed project / proposed action would result in the emission of approximately 2,694.96 metric tons of CO_{2e} per year for up to 3 years (Table 2.6.5.2-1). The operational GHG emissions can be attributed to mobile sources and use of operational equipment such as water trucks. However, it is anticipated

[66] California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Sacramento, CA.

[67] U.S. Department of Energy, Energy Information Administration. Voluntary Reporting of Greenhouse Gases Program. Washington, DC. Available at: http://www.eia.gov/oiaf/1605/

that impacts to GHG emissions associated with operation of the proposed project / proposed action would be greatly reduced due to sequestration of approximately 836.14 metric tons of CO_{2e} per year by the native plants (Appendix B). Therefore, the operation of the proposed project / proposed action would be expected to have a less than significant impact on GHG emissions, would not trigger the reference point of 25,000 metric tons of direct CO_{2e} that would warrant detailed consideration in the NEPA review set forth in the draft guidance by CEQ, would not exceed the CAPCOA reporting threshold of 25,000 metric tons per year. Therefore, it is expected that the overall GHG emissions resulting from construction and operation of the proposed project / proposed action would be consistent with CEQ's guidance and AB 32, and would be below the level of significance.

TABLE 2.6.5.2-1
CO_2 AND CO_{2e} EMISSIONS

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	**Metric Tons/Year**
Maximum Construction Emissions	**3,645.93**	**3,668.47**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	3.18	3.19
Water Trucks	818.58	823.71
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**2,679.59**	**2,694.96**

NOTES: * Construction-related emissions are anticipated to last for up to 11 months.
** Operation-related emissions are anticipated to last for up to 3 years.

2.6.6 Valley Fever

The state has not adopted thresholds of significance for valley fever; however, the likelihood of the occurrence of valley fever can be determined based on the proposed project / proposed action location. The proposed project / proposed action is located immediately northwest of the community of Keeler in Inyo County, California and is approximately 194 acres in size and is located within a 1.36-square-mile study area. The North Sand Sheet (NSS) soil composition is primarily made up of sediment from the Owens River, with a smaller portion from the Inyo Mountains east of the lake. Exposure of the NSS to high winds following desiccation of Owens Lake resulted in movement of the lake bed sediments to the southeast, forming a deposit of aeolian material on the adjacent alluvial fan (Keeler Fan).[68] Over time, wind and water have reworked the Keeler Dunes sand deposits, which currently extend over an approximately 1.36-square-mile area. The Keeler Dunes appear to be spreading to the east and southeast toward the community of Keeler and the foothills of the Inyo Mountains. The proposed project / proposed action property is not underlain by the type of sediments that are known to contain valley fever spores. Considering that the proposed project / proposed action will comply with the District Rule 401 DCMs, the risk of contracting valley fever in connection with the proposed project / proposed action is considered to be below the level of significance.

[68] Lancaster, N. March 2012. *Development of the Keeler Dunefield, Inyo County, California, Part 1—Analysis of Aerial Photographs and Satellite Imagery*. Prepared by: DRI. Prepared for: Great Basin Unified Air Pollution Control District.

2.7 CUMULATIVE IMPACT ANALYSIS

2.7.1 Regional Impacts

In addition to coordinating with their internal planning personnel, the District and BLM contacted the State Lands Commission, Inyo County, and LADWP to seek out information regarding past, present, and reasonably foreseeable probable future projects within the OVPA. The District and the BLM identified nine past, present, and reasonably foreseeable probable future projects that were considered in the evaluation of the potential for the proposed project / proposed action to result in cumulative significant impacts (Figure 2.7.1-1, *Related Projects*).

2003 and 2008 SIP

The analysis of impacts to environmental resources resulting from construction, operation, and maintenance of the 194 acres of DCMs in the EIR/EA considers the cumulative effects of these measures when combined with the related 29.8 square miles (19,072 acres) of DCMs that were installed between 1999 and 2006 as provided in the 2003 SIP. Based on data from July 2002 through June 2004, in December 2006, the Air Pollution Control Officer completed the required supplemental control requirements analysis and issued determination that additional areas of the dry lake bed would require DCMs to meet the NAAQS. Based on that supplemental analysis and subsequent discussions with the LADWP, it was agreed that additional DCMs would be implemented on 15.2 square miles of the dry lake bed (13.2 square miles for Phases 7 and 7A and 2.0 square miles for Phase 8) in support of compliance with the NAAQS for PM_{10}.

Lower Owens River Project

The Lower Owens River Project (LORP) is a joint effort between LADWP and Inyo County, which proposes to implement a large-scale habitat restoration project in the Owens Valley north of Owens Lake and outside the proposed project / proposed action area. The project's main objective is to mitigate impacts related to groundwater pumping by LADWP from 1970 to 1990. The LORP's project elements include (1) releasing water to the Lower Owens River to enhance native and game fisheries and riparian habitats along 62 miles of the river, (2) providing water to the Owens River delta to maintain and enhance various wetland and aquatic habitats, (3) enhancing a 1,500-acre off-river area with seasonal flooding and land management to benefit wetlands and waterfowl, and (4) maintaining several off-river lakes and ponds. In addition, the project also includes the construction of a pump station to capture and recover some of the water released to the river as well as range improvements and modified grazing practices on leases in the LORP project area. The EIR/EA prepared for this proposed project / proposed action identified six immitigable significant impacts to the environment:[69]

- Water quality degradation and fish kills during initial releases to the river
- Possible reduction in existing flows to the delta that could adversely affect existing wetland habitats
- Degradation of brine pool transition and associated shorebird habitat due to reduced flow to the delta

[69] City of Los Angeles Department of Water and Power, and Inyo County Water Department. 23 June 2004. *Final Environmental Impact Report and Environmental Impact Statement, Lower Owens River Project, Inyo County, California*. Bishop, CA.

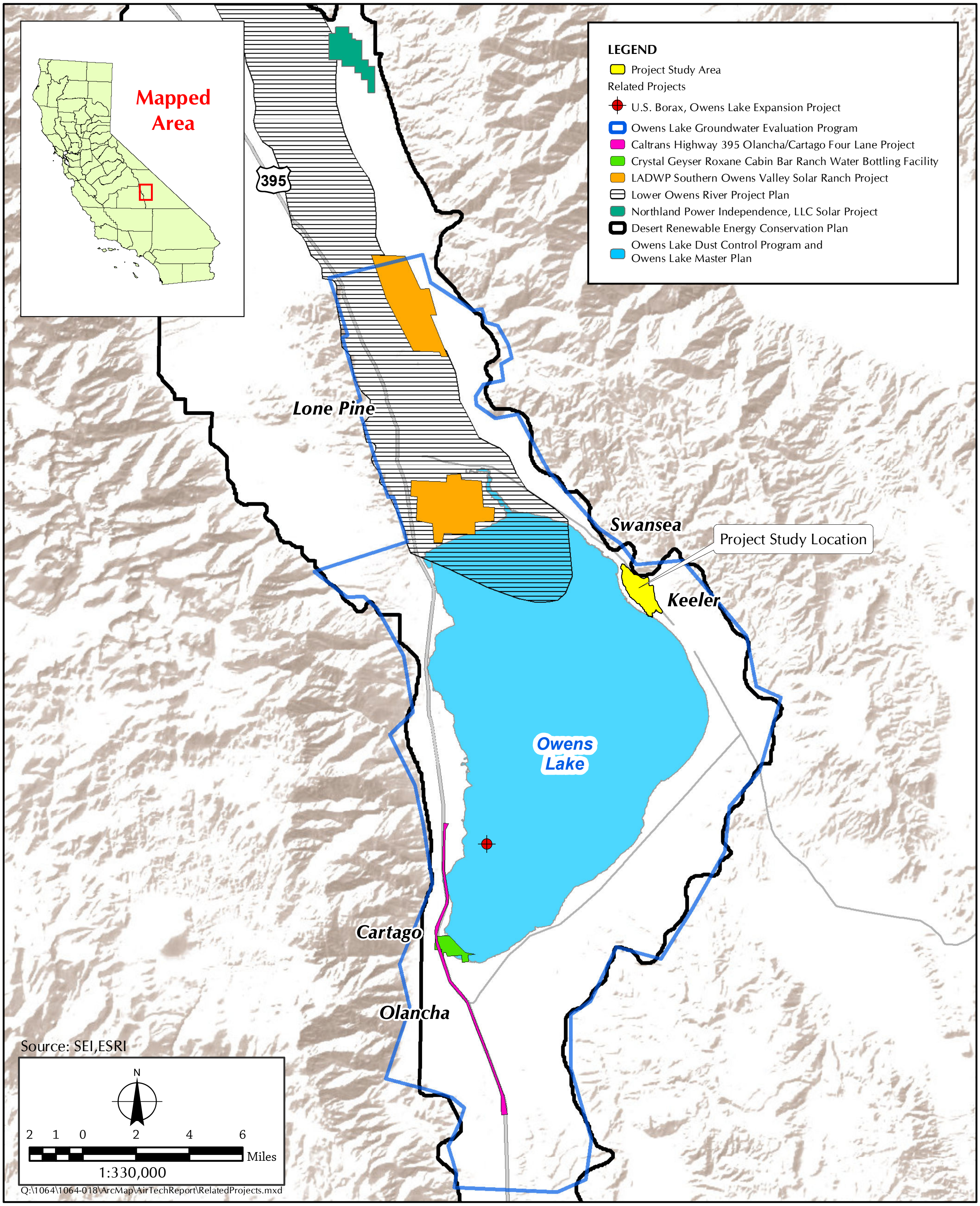

FIGURE 2.7.1-1

Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action

- Conversion of 2,873 acres of native upland habitats to wetlands
- Potential increase in mosquito populations along the river
- Potential increase in saltcedar (a nonnative weed)

Owens Lake Master Project

The intent of the draft Owens Lake Master Project (OLMP) is to provide a framework to manage the diverse resources of the lake, while continuing to control dust emissions. Owens Lake resources identified by OLMP include habitat, public access and recreation, open space and scenic amenities, a rich cultural history, grazing and mining resources, and opportunities for renewable energy and economic development. The Planning Committee for the OLMP is a decision making group made up of individuals representing diverse interests. The OLMP[70] includes eight goals:

- Control dust on the Owens Lake bed to obtain good air quality and reduce the dust-related public health risk

- Water use efficiency and water conservation shall be a priority when implementing dust control efforts on the Owens Lake bed

- Protect, create, and/or enhance ecological resources at Owens Lake

- Create a Master Plan that can be flexible in the future and that is sustainable from a climate-change and water-use-efficiency standpoint

- Promote economic development in the area as well as tourism, public access, an educational opportunities at Owens Lake

- Create a viewshed that is in harmony with the surrounding rural environment while recognizing the need for flexibility and balance between Public Trust values and potential future uses, including renewable energy projects

- Protect cultural resources

- Explore opportunities for renewable energy development

Owens Lake Groundwater Evaluation Program

The Owens Lake Groundwater Evaluation Program (OLGWEP) was initiated in 2009 by LADWP, in cooperation with the District and the Inyo County Water Department. The goal of the program is to ensure the future availability of water for the dust mitigation measures while protecting the Owens Lake environment. Specifically, the LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. A conceptual hydrogeological model has been completed to date.

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[70] Inyo County Planning Committee. December 2011. *Draft Owens Lake Master Plan*. Review Draft, Appendix B. Independence, CA.

Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility

The proposed project would involve construction of a spring water bottling facility and ancillary facilities utilizing groundwater from four existing groundwater wells on-site. A Draft EIR was prepared for the project and was submitted for public review on August 2012.[71] The water bottling facility would include a 198,500-square-foot bottling plant and an approximately 40,000-square-foot storage warehouse. Ancillary facilities include a rooftop solar array, fire suppression building, fire access road, parking and truck staging area, and a new access road to U.S. Highway 395. Construction of Phase I, which includes a new access road, storm water detention basin, leach mound system, fire suppression building, hydrants and access road, is anticipated to be initiated in 2013. Construction of the bottling facility is anticipated to be initiated in 2017.

U.S. Borax, Owens Lake Expansion Project / Conditional Use Permit #02-13 / Reclamation Plan #02-1

The U.S. Borax, Owens Lake Expansion Project / Conditional Use Permit #02-13 / Reclamation Plan #02-1 project proposes to install a trona ore processing facility at Owens Lake.[72] The facility would consist of portable and mobile washing equipment located on the lake bed and a calcining[73] and drying unit on the western shore. The project construction is anticipated to be constructed beyond 2015.[74] The project's main objective is to allow U.S. Borax's Boron, California, operations to meet its soda ash requirements without purchasing processed trona ore from the market. The EIR for this project identified evaluated impacts to 10 environmental resources:[75]

- Aesthetics
- Air quality
- Biological resources
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Noise
- Recreation
- Transportation and traffic
- Utilities and service systems

LADWP Southern Owens Valley Solar Ranch

A Notice of Preparation of an EIR was published in September 30, 2010. The project would be located adjacent to the Owens River and would involve the development of a net generation capacity of 200 megawatts of solar photovoltaic electrical energy and auxiliary equipment over

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71 Inyo County Planning Department. August 2012. *Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility, Draft Environmental Impact Report*. Independence, CA. Available at: http://inyoplanning.org/projects.htm

72 Inyo County Planning Department. January 2004. *Trona Processing Upgrade Project Environmental Impact Report.* State Clearinghouse No. 2003041127. Independence, CA.

73 Calcining is a high-temperature heating process.

74 Kingsley, Matt, Rio Tinto Minerals, Lone Pine, CA. 20 September 2012. Personal conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

75 Inyo County Planning Department. January 2004. *Trona Processing Upgrade Project Environmental Impact Report.* State Clearinghouse No. 2003041127. Independence, CA.

approximately 1,600 acres of a 3,100-acre site in southern Owens Valley north of Owens Lake. The EIR will address 17 environmental factors potentially affected by the project.

Desert Renewable Energy Conservation Plan

The Desert Renewable Energy Conservation Plan (DRECP)[76] is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California while facilitating timely permitting of renewable energy projects to help meet the state's goal of providing at least 33 percent of electricity generation through renewable energy by 2020 and the federal government's goal of increasing renewable energy generation on public land. The plan is intended to serve as a Natural Community Conservation Plan (NCCP) under the California Fish and Game code and a multiple-species Habitat Conservation Plan under the federal Endangered Species Act and will provide a basis for the issuance of take authorizations allowing the lawful take of covered species incidental to covered activities.

Caltrans Highway 395 Olancha/Cartago Four-Lane Project

The Caltrans Highway 395 Olancha/Cartago Four-Lane Project will widen approximately 12.6 miles of the two-lane highway to four lanes. The Initial Study with Proposed Mitigated Negative Declaration / Environmental Assessment was issued in August 2010.[77] The highway project is anticipated to be initiated in 2016. The Initial Study determined there would be no significant impact and no significant adverse effect with mitigation measures on floodplain, seismic hazards, recreation, air quality, water quality, noise, traffic, endangered species and wetlands, visual resources, utilities, and cultural resources.

Cumulative Regional Impacts

The proposed project, in consideration with the 2003 and 2008 State Implementation Plans (SIPs), the Owens Lake Master Plan, the Lower Owens River Project, and the Owens Lake Groundwater Evaluation Program, would not contribute to significant cumulative impacts to air quality and greenhouse gases. The goals and objectives of these related projects are similar to those of the proposed project with regard to controlling the dust emissions from the Keeler Dunes while minimizing impacts to the environment. The other five projects—Crystal Geyser Roxanne Cabin Bar Ranch Water Bottling Facility; U.S. Borax, Owens Lake Expansion Project / Conditional Use Permit #02-13 / Reclamation Plant #02-1; LADWP Southern Owens Valley Solar Ranch Project; Desert Renewable Energy Conservation Plan; and California Department of Transportation Highway 395 Olancha/Cartago Four-Lane Project—would not be constructed during the same time period as the proposed project / proposed action. In sum, the air quality impact of the proposed project / proposed action would not be cumulatively significant when viewed in connection with the air quality effects of the related past, current, and reasonably foreseeable future projects that have been identified.

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[76] California Energy Commission. Accessed 22 September 2012. Desert Renewable Energy Conservation Plan. Website. Available at: http://www.drecp.org

[77] U.S. Department of Transportation Federal Highway Administration, and State of California Department of Transportation. August 2010. *Olancha/Cartago Four-Lane Project, Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment*. Washington, DC, and Sacramento, CA. Available at: http://www.dot.ca.gov/dist9/projects/olancha/docs/draft_olancha-cartago_envir_doc.pdf

2.7.2 Consistency with Existing Air Quality Attainment Plans

The proposed project / proposed action would be expected to be consistent with the District's Air Quality Attainment Plans. The federal *Guideline on Air Quality Models* considers "nearby" sources to determine cumulative ambient impacts, where a nearby source is any source expected to cause a significant concentration gradient in the vicinity of the proposed new source.[78] Vicinity is defined as the impact area, which is a circular area with a radius extending from the source to the most distant point where the model predicts an impact in excess of the significance threshold.[79] Under federal guidance, no additional modeling would be required if the maximum impacts do not exceed the significance threshold. The initial modeling indicated that, after incorporation of mitigation measures, operation and maintenance of the proposed project / proposed action would not exceed the annual thresholds of significance; therefore, in accordance with New Source Review (NSR) regulations and PSD guidelines issued by the U.S. EPA, the proposed project / proposed action would not conflict with or obstruct implementation of the District's Air Quality Attainment Plans, cause a violation of the standards, or impact the attainment status of the District. Therefore, the proposed project / proposed action's contribution to cumulative impacts would be below the level of significance and less than cumulatively considerable.

2.8 MITIGATION MEASURES

2.8.1 Air Quality

In accordance with the 2008 SIP, contractors involved in implementation of dust control strategies must control and minimize fugitive dust emissions to comply with Great Basin Unified Air Pollution Control District Rules 400[80] and 401,[81] through application of best available control measures during construction activities. These requirements are intended to reduce, prevent, or mitigate PM_{10} emissions from the construction phase of the proposed project / proposed action in compliance with Rule 400 and 401. In accordance with the 2008 SIP, these measures shall be implemented for all areas of construction and maintenance activities, both on-site and off-site.

2.8.2 Greenhouse Gas Emissions

Operation of the proposed project / proposed action would not be expected to have any adverse impacts upon GHG emissions, and would reduce GHG emissions in compliance with the goals of AB 32. Therefore, no mitigation measures are required.

[78] U.S. Environmental Protection Agency. 2003. "Revision to the Guideline on Air Quality Models: Adoption of a Preferred Long Range Transport Model and Other Revisions." Washington, DC. Available at: http://www.epa.gov/EPA-AIR/2003/April/Day-15/a8542.htm

[79] U.S. Environmental Protection Agency. 1998. "Air Quality Analysis for Prevention of Significant Deterioration (PSD)." Washington, DC. Available at: http://www.epa.gov/scram001/guidance/mch/saq1.txt

[80] Great Basin Unified Air Pollution Control District. Revised 18 January 1979. *Rule 400—Ringelmann Chart*. Bishop, CA. Available at: http://www.District.org/rulesandregulations/PDF/Rule401.pdf

[81] Great Basin Unified Air Pollution Control District. Revised 4 December 2006. *Rule 401—Fugitive Dust*. Bishop, CA. Available at: http://www.District.org/rulesandregulations/PDF/Rule401.pdf

2.8.3 Level of Significance after Mitigation

The CalEEMod model runs assumed a vehicle speed of 5 mph to assess the level of significance after mitigation. Additionally, model runs were performed assuming that exposed surfaces would be watered two times per day.

2.8.3.1 Construction Emissions

Implementation of the specified mitigation measures would ensure that daily fugitive dust emissions associated with construction would be reduced to the maximum extent feasible (Table 2.8.3.1-1, *Mitigated Estimated Daily Regional Construction Emissions*). Consequently, PM_{10} emissions would remain at below the thresholds of significance (Table 2.8.3.1-2, *Mitigated Estimated Annual Regional Construction Emissions*).

TABLE 2.8.3.1-1
MITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS

Emission Source	Air Pollutant Emissions (Pounds/Day)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$****	**PM_{10}****
Off-Road Emission Source						
Site preparation	8.98	102.12	45.57	0.09	4.11	4.53
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	8.36	9.51
Planting and watering[1]	56.67	660.60	328.34	0.65	25.94	28.84
Clean up and restoration	18.10	205.60	114.21	0.18	8.99	10.13
Maximum Off-Road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	**25.94**	**28.84**
Mobile Sources						
Delivery trucks and employee commutes[2]	0.25	0.31	3.62	0.00	25.67	257.44
Maximum Regional Total	**8.98**	**102.12**	**45.57**	**0.09**	**4.11**	**4.53**
Significant?	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

KEY: NA = not applicable.
NOTES: * The District does not have CEQA thresholds for criteria pollutants. The U.S. EPA *de minimis* thresholds have been used to determine potential impact (Table 2.8.3.1-2). ** PM emissions assume compliance with the District Rule 400 and 401 and limiting vehicle speeds on unpaved roads to 5 mph. [1] Maximum off-road emissions occur during the planting and watering phase of construction. [2] Maximum mobile source emissions occur during the planting and watering phase of construction.
SOURCE: Sapphos Environmental, Inc., Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

TABLE 2.8.3.1-2
MITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$****	**PM_{10}****
Maximum Regional Total	**3.48**	**39.93**	**21.00**	**0.04**	**3.41**	**19.63**
U.S. EPA *De Minimis* Threshold (Tons/Year)*	NA	NA	NA	NA	NA	70
Significant?	**NA**	**NA**	**NA**	**NA**	**NA**	**No**

KEY: NA = not applicable.
NOTES:* The District does not have CEQA thresholds for criteria pollutants. The U.S. EPA *de minimis* thresholds have been used to determine potential impact. ** PM emissions assume compliance with the District Rule 400 and 401 and limiting vehicle speeds on unpaved roads to 5 mph.
SOURCE: Sapphos Environmental, Inc. Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

2.8.3.2 *Operational Emissions*

Operational emissions of PM_{10} would remain below the level of significance with implementation of the specified mitigation measures (Table 2.8.3.2-1, *Mitigated Estimated Daily Operational Emissions*; and Table 2.8.3.2-2, *Mitigated Estimated Annual Operational Emissions*).

TABLE 2.8.3.2-1
MITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS

Emission Source	Air Pollutant Emissions (Pounds/Day)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$****	**PM_{10}****
Operational equipment	15.27	176.09	107.19	0.15	7.56	8.72
ATVs	0.07	0.03	0.40	0.00	2.27	22.72
Water trucks	5.15	60.69	27.30	0.07	2.13	2.34
Total	**20.49**	**236.81**	**134.89**	**0.22**	**11.96**	**33.33**
Mobile Sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**20.52**	**236.82**	**135.07**	**0.22**	**12.97**	**43.43**
Threshold (Pounds/Day)*	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Exceedance of Significance?	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

KEY: NA = not applicable.
NOTES: * The District does not have CEQA thresholds for criteria pollutants. The U.S. EPA *de minimis* thresholds have been used to determine potential impact (Table 2.8.3.2-2). ** PM emissions assume compliance with the District Rule 400 and 401 and limiting vehicle speeds on unpaved roads to 5 mph.
SOURCE: Sapphos Environmental, Inc., Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

TABLE 2.8.3.2-2
MITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$****	**PM_{10}****
Operational equipment	1.99	22.98	13.99	0.02	1.16	1.46
ATVs	0.00	0.00	0.06	0.00	0.27	2.67
Water trucks	0.67	7.92	3.56	0.00	0.28	0.91
Total	**2.66**	**30.90**	**17.61**	**0.02**	**4.23**	**5.04**
Mobile Sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**2.66**	**30.90**	**17.64**	**0.02**	**4.35**	**6.23**
U.S. EPA *De Minimis* Threshold (Tons/Year)*	**NA**	**NA**	**NA**	**NA**	**NA**	**70**
Exceedance of Significance?	**NA**	**NA**	**NA**	**NA**	**NA**	**No**

KEY: NA = not applicable.
NOTES: The District does not have daily CEQA thresholds for criteria pollutants; therefore, the U.S. EPA annual *de minimis* threshold of 70 tons of PM_{10} per year was used. ** PM emissions assume compliance with the District Rule 400 and 401 and limiting vehicle speeds on unpaved roads to 5 mph.
SOURCE: Sapphos Environmental, Inc., Appendix B, *CalEEMod Output for the Proposed Project / Proposed Action*.

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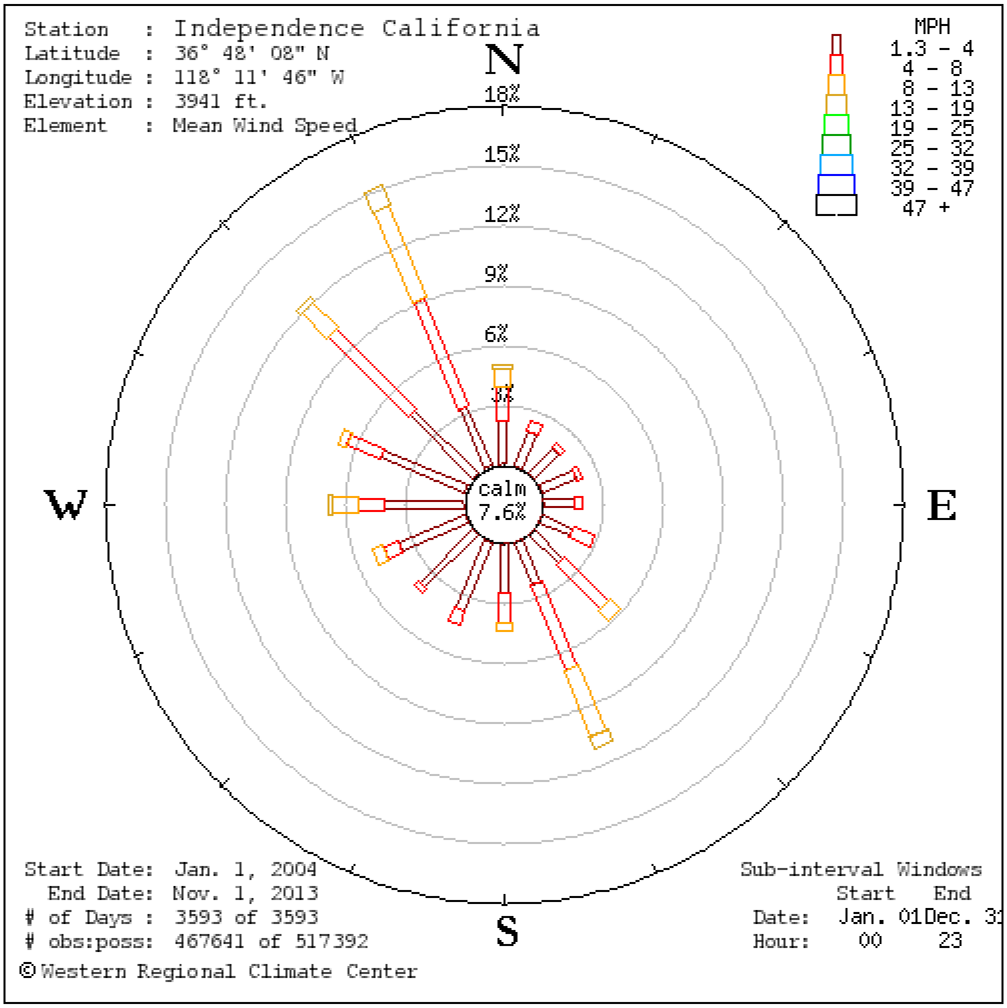
APPENDIX A
WIND AND CLIMATE DATA



Independence California - Wind Frequency Table (percentage)

Latitude : 36° 48' 08" N
Longitude : 118° 11' 46" W
Elevation : 3941 ft.
Element : Mean Wind Speed

Start Date : Jan. 1, 2004
End Date : Nov. 1, 2013
# of Days : 3593 of 3593
obs : poss : 467641 of 517392

Sub Interval Windows

	Start	End
Date	Jan. 01	Dec. 31
Hour	00	23

(Greater than or equal to initial interval value and Less than ending interval value.)

Range (mph)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
1.3 - 4	2.2	1.8	1.7	1.8	1.5	1.7	2.0	2.3	2.5	3.7	3.7	3.5	4.0	4.5	4.4	3.2	44.7
4 - 8	1.7	0.5	0.3	0.3	0.4	1.1	3.1	4.6	1.5	0.8	0.3	0.8	1.3	1.8	5.6	5.8	29.9
8 - 13	0.9	0.1	0.0	0.0	0.0	0.0	0.7	3.5	0.4	0.1	0.1	0.6	1.3	0.4	1.8	5.0	14.8
13 - 19	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.0	0.0	0.0	0.1	0.3	0.1	0.3	1.1	2.8

19 - 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
25 - 32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32 - 39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 - 47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47 -	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total(%)	5.0	2.4	2.0	2.1	1.9	2.9	6.0	11.1	4.4	4.5	4.1	5.0	6.8	6.9	12.2	15.1	92.3
Calm (<1.3)																	7.6
Ave Speed	5.7	3.5	3.1	3.0	3.2	3.9	5.4	7.2	4.3	3.1	2.8	4.1	5.1	3.9	5.5	7.4	4.8

Independence California - Hourly Wind Statistics Table

Latitude : 36° 48' 08" N
Longitude : 118° 11' 46" W
Elevation : 3941 ft.
Element : Mean Wind Speed

Start Date : Jan. 1, 2004
End Date : Nov. 1, 2013
# of Days : 3593 of 3593
obs : poss : 467641 of 517392

Sub Interval Windows	Start	End
Date	Jan. 01	Dec. 31
Hour	00	23

Time - Time of Day (L.S.T.)
Speed - Average (Scalar) Speed in MPH
U-Vel - East-West Velocity, Positive to East
V-Vel - North-South Velocity, Positive to North
Res Spd - Vector Average (resultant) Speed in MPH
Res Dir - Vector Average (resultant) Direction
Dir Con - Directional Constancy (Res Spd/Speed)
Num Spd - Number of Wind Speed Observations
Num Dir - Number of Wind Direction Observations

Time	Speed	U-Vel	V-Vel	Res Spd	Res Dir	Dir Con	Num Spd	Num Dir
0	3.8	2.0	-1.1	2.3	300	0.596	19497	19497
1	3.8	2.1	-1.2	2.4	301	0.636	19494	19494
2	3.7	2.1	-1.4	2.5	303	0.673	19497	19497
3	3.6	2.0	-1.4	2.5	304	0.685	19498	19497
4	3.5	2.0	-1.4	2.5	305	0.699	19501	19500
5	3.6	1.9	-1.6	2.5	309	0.705	19512	19510
6	3.9	1.7	-2.2	2.8	322	0.717	19514	19512
7	4.6	1.4	-3.0	3.3	334	0.709	19514	19511
8	5.2	0.9	-3.3	3.4	345	0.660	19503	19493
9	5.4	0.2	-2.6	2.6	356	0.491	19499	19493
10	5.5	-0.5	-1.4	1.5	21	0.267	19498	19493
11	5.8	-1.0	-0.1	1.0	86	0.174	19496	19494

12	6.2	-1.2	0.8	1.4	124	0.230	19504	19499
13	6.4	-1.1	1.3	1.6	140	0.255	19495	19492
14	6.6	-0.8	1.5	1.7	154	0.261	19486	19483
15	6.5	-0.4	1.7	1.7	168	0.266	19474	19473
16	6.2	0.4	1.8	1.9	193	0.300	19460	19459
17	5.7	1.1	1.5	1.9	217	0.330	19447	19447
18	5.0	1.7	0.7	1.8	246	0.372	19449	19448
19	4.5	1.9	0.2	1.9	265	0.422	19442	19442
20	4.4	1.8	-0.1	1.8	274	0.411	19436	19433
21	4.2	1.8	-0.5	1.9	284	0.438	19449	19449
22	4.0	1.8	-0.8	2.0	292	0.491	19478	19477
23	3.9	1.9	-1.0	2.1	297	0.551	19498	19498
ALL	4.8	1.0	-0.6	1.1	299	0.236	467641	467591

INDEPENDENCE, CALIFORNIA (044232)

Period of Record Monthly Climate Summary

Period of Record : 1/ 1/1893 to 3/31/2013

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	54.3	58.2	65.6	73.0	82.0	91.4	97.9	96.0	88.7	76.9	64.0	54.3	75.2
Average Min. Temperature (F)	27.5	31.3	36.4	42.5	50.8	58.7	64.1	62.0	55.1	45.0	34.2	28.1	44.6
Average Total Precipitation (in.)	1.01	1.01	0.44	0.24	0.16	0.11	0.13	0.13	0.18	0.26	0.56	1.00	5.21
Average Total SnowFall (in.)	1.4	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.2
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.

Max. Temp.: 84% Min. Temp.: 84% Precipitation: 93.4% Snowfall: 89.2% Snow Depth: 83%

Check Station Metadata or Metadata graphics for more detail about data completeness.

APPENDIX B
CALEEMod OUTPUT FOR THE PROPOSED PROJECT

Keeler Dunes

Inyo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	194.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.8	**Precipitation Freq (Days)**	34
Climate Zone	9			**Operational Year**	2015
Utility Company	Statewide Average				
CO2 Intensity (lb/MWhr)	958.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.011

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The average wind speed, as recorded at the Bishop Airport Monitoring Station from 1992 to 2002, was approximately 8.4 miles per hour, which is 3.8 m/s.

Land Use - The proposed project site is 194 acres

Construction Phase - User-defined scenario

Off-road Equipment - user-defined

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Trips and VMT - User-defined scenario

On-road Fugitive Dust - Assumed 95 percent of travel on unpaved roads

Vehicle Trips - User-defined scenario

Energy Use - User-defined scenario

Construction Off-road Equipment Mitigation - Vehicle speeds limited to 15 mph. Exposed areas watered two times per day.

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	120.00	80.00
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tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	5.60
tblLandUse	LotAcreage	0.00	194.00
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tblVehicleEF	HHD	2.12	8.85
tblVehicleEF	HHD	2.05	3.72
tblVehicleEF	HHD	85.04	22.29
tblVehicleEF	HHD	0.10	0.10
tblVehicleEF	HHD	5.30	32.08
tblVehicleEF	HHD	5.74	9.76
tblVehicleEF	HHD	4.86	1.30
tblVehicleEF	HHD	0.02	0.27
tblVehicleEF	HHD	0.06	0.02
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.11	0.37
tblVehicleEF	HHD	0.01	1.2000e-003
tblVehicleEF	HHD	0.02	0.27
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	8.7890e-003	0.03
tblVehicleEF	HHD	0.10	0.37
tblVehicleEF	HHD	8.2710e-003	1.2000e-003
tblVehicleEF	HHD	0.02	2.9000e-003
tblVehicleEF	HHD	0.49	0.03
tblVehicleEF	HHD	0.51	2.62
tblVehicleEF	HHD	7.7500e-003	8.0000e-004
tblVehicleEF	HHD	0.29	0.76
tblVehicleEF	HHD	1.76	0.02
tblVehicleEF	HHD	4.16	1.26

tblVehicleEF	HHD	5.9280e-003	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	2.3130e-003	5.0000e-004
tblVehicleEF	HHD	0.02	2.9000e-003
tblVehicleEF	HHD	0.49	0.03
tblVehicleEF	HHD	0.58	2.99
tblVehicleEF	HHD	7.7500e-003	8.0000e-004
tblVehicleEF	HHD	0.33	0.86
tblVehicleEF	HHD	1.76	0.02
tblVehicleEF	HHD	4.48	1.36
tblVehicleEF	HHD	0.03	0.14
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	0.00	0.15
tblVehicleEF	HHD	4.03	16.83
tblVehicleEF	HHD	2.06	3.76
tblVehicleEF	HHD	85.27	33.46
tblVehicleEF	HHD	0.10	0.10
tblVehicleEF	HHD	4.91	29.45
tblVehicleEF	HHD	5.85	10.35
tblVehicleEF	HHD	4.86	1.52
tblVehicleEF	HHD	0.03	0.39
tblVehicleEF	HHD	0.06	0.02
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.11	0.37
tblVehicleEF	HHD	0.01	1.2000e-003
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tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	8.7890e-003	0.03

tblVehicleEF	HHD	0.10	0.37
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tblVehicleEF	HHD	0.02	1.0000e-004
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tblVehicleEF	HHD	4.17	2.40
tblVehicleEF	HHD	5.1360e-003	0.01
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tblVehicleEF	HHD	0.94	0.03
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tblVehicleEF	HHD	2.01	0.02
tblVehicleEF	HHD	4.49	2.58
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	2.00	2.16
tblVehicleEF	LDA	4.40	6.72
tblVehicleEF	LDA	0.31	0.30
tblVehicleEF	LDA	0.21	0.26
tblVehicleEF	LDA	0.28	0.38
tblVehicleEF	LDA	0.04	0.01
tblVehicleEF	LDA	2.7110e-003	0.01

tblVehicleEF	LDA	3.9660e-003	7.0000e-003
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	2.0000e-003	8.0000e-003
tblVehicleEF	LDA	2.4660e-003	0.01
tblVehicleEF	LDA	3.6060e-003	7.0000e-003
tblVehicleEF	LDA	0.11	0.09
tblVehicleEF	LDA	0.23	0.21
tblVehicleEF	LDA	0.09	0.04
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.54	0.09
tblVehicleEF	LDA	0.36	0.52
tblVehicleEF	LDA	3.5900e-003	3.5000e-003
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tblVehicleEF	LDA	0.54	0.09
tblVehicleEF	LDA	0.39	0.56
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	2.20	2.53
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tblVehicleEF	LDA	0.31	0.30
tblVehicleEF	LDA	0.18	0.22
tblVehicleEF	LDA	0.25	0.32
tblVehicleEF	LDA	0.04	0.01
tblVehicleEF	LDA	2.7110e-003	0.01

tblVehicleEF	LDA	3.9660e-003	7.0000e-003
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tblVehicleEF	LDA	2.0000e-003	8.0000e-003
tblVehicleEF	LDA	2.4660e-003	0.01
tblVehicleEF	LDA	3.6060e-003	7.0000e-003
tblVehicleEF	LDA	0.24	0.33
tblVehicleEF	LDA	0.27	0.28
tblVehicleEF	LDA	0.15	0.17
tblVehicleEF	LDA	0.08	0.09
tblVehicleEF	LDA	0.52	0.09
tblVehicleEF	LDA	0.27	0.34
tblVehicleEF	LDA	3.8450e-003	3.9000e-003
tblVehicleEF	LDA	7.9100e-004	8.0000e-004
tblVehicleEF	LDA	0.24	0.33
tblVehicleEF	LDA	0.27	0.28
tblVehicleEF	LDA	0.15	0.17
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.52	0.09
tblVehicleEF	LDA	0.28	0.37
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	2.20	2.14
tblVehicleEF	LDA	3.00	8.16
tblVehicleEF	LDA	0.31	0.30
tblVehicleEF	LDA	0.19	0.29
tblVehicleEF	LDA	0.25	0.41
tblVehicleEF	LDA	0.04	0.01
tblVehicleEF	LDA	2.7110e-003	0.01

tblVehicleEF	LDA	3.9660e-003	7.0000e-003
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tblVehicleEF	LDA	2.0000e-003	8.0000e-003
tblVehicleEF	LDA	2.4660e-003	0.01
tblVehicleEF	LDA	3.6060e-003	7.0000e-003
tblVehicleEF	LDA	0.37	0.01
tblVehicleEF	LDA	0.47	0.21
tblVehicleEF	LDA	0.25	0.01
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.63	0.10
tblVehicleEF	LDA	0.27	0.61
tblVehicleEF	LDA	3.8290e-003	3.4000e-003
tblVehicleEF	LDA	7.9100e-004	8.0000e-004
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tblVehicleEF	LDA	0.25	0.01
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tblVehicleEF	LDA	0.29	0.65
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.05	0.06
tblVehicleEF	LDT1	7.39	7.97
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tblVehicleEF	LDT1	0.12	0.24
tblVehicleEF	LDT1	0.71	0.99
tblVehicleEF	LDT1	0.52	0.67
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01

tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	0.33	0.23
tblVehicleEF	LDT1	0.54	0.44
tblVehicleEF	LDT1	0.24	0.11
tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	1.82	0.38
tblVehicleEF	LDT1	0.92	1.17
tblVehicleEF	LDT1	4.2510e-003	4.3000e-003
tblVehicleEF	LDT1	1.0880e-003	1.1000e-003
tblVehicleEF	LDT1	0.33	0.23
tblVehicleEF	LDT1	0.54	0.44
tblVehicleEF	LDT1	0.24	0.11
tblVehicleEF	LDT1	0.35	0.38
tblVehicleEF	LDT1	1.82	0.38
tblVehicleEF	LDT1	0.99	1.25
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	7.77	8.71
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tblVehicleEF	LDT1	0.46	0.57
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01

tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	0.70	0.82
tblVehicleEF	LDT1	0.63	0.59
tblVehicleEF	LDT1	0.43	0.43
tblVehicleEF	LDT1	0.30	0.34
tblVehicleEF	LDT1	1.70	0.36
tblVehicleEF	LDT1	0.67	0.75
tblVehicleEF	LDT1	4.5200e-003	4.8000e-003
tblVehicleEF	LDT1	1.0190e-003	1.0000e-003
tblVehicleEF	LDT1	0.70	0.82
tblVehicleEF	LDT1	0.63	0.59
tblVehicleEF	LDT1	0.43	0.43
tblVehicleEF	LDT1	0.35	0.39
tblVehicleEF	LDT1	1.70	0.36
tblVehicleEF	LDT1	0.71	0.80
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tblVehicleEF	LDT1	0.63	1.09
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tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01

tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
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tblVehicleEF	LDT1	1.17	0.46
tblVehicleEF	LDT1	0.73	0.02
tblVehicleEF	LDT1	0.31	0.34
tblVehicleEF	LDT1	2.29	0.44
tblVehicleEF	LDT1	0.68	1.38
tblVehicleEF	LDT1	4.5030e-003	4.3000e-003
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tblVehicleEF	LDT1	1.17	0.46
tblVehicleEF	LDT1	0.73	0.02
tblVehicleEF	LDT1	0.36	0.39
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tblVehicleEF	LDT2	0.03	0.03
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tblVehicleEF	LDT2	6.72	9.01
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tblVehicleEF	LDT2	0.58	0.73
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02

tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
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tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.15	0.10
tblVehicleEF	LDT2	0.28	0.21
tblVehicleEF	LDT2	0.11	0.05
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	0.99	0.18
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tblVehicleEF	LDT2	4.9000e-003	4.3000e-003
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tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
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tblVehicleEF	LDT2	0.20	0.19
tblVehicleEF	LDT2	0.13	0.13
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tblVehicleEF	LDT2	0.39	0.44
tblVehicleEF	LDT2	5.2330e-003	4.9000e-003
tblVehicleEF	LDT2	1.0930e-003	1.0000e-003
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tblVehicleEF	LDT2	0.32	0.29
tblVehicleEF	LDT2	0.20	0.19
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tblVehicleEF	LDT2	0.58	0.22
tblVehicleEF	LDT2	0.34	0.01
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tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.11	1.02
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tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.62	0.99

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tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
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tblVehicleEF	LHD1	5.0000e-003	6.0000e-004
tblVehicleEF	LHD1	0.14	0.01
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	2.2100e-003	2.0000e-004
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tblVehicleEF	LHD1	1.17	0.18
tblVehicleEF	LHD1	0.63	0.28

tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.22	1.04
tblVehicleEF	LHD1	5.09	2.17
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
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tblVehicleEF	LHD1	1.20	1.34
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
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tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
tblVehicleEF	LHD1	0.01	1.9000e-003
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tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
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tblVehicleEF	LHD1	1.14	0.17
tblVehicleEF	LHD1	0.46	0.18
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004

tblVehicleEF	LHD1	7.4930e-003	8.2000e-003
tblVehicleEF	LHD1	4.1800e-004	4.0000e-004
tblVehicleEF	LHD1	0.01	1.9000e-003
tblVehicleEF	LHD1	0.15	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
tblVehicleEF	LHD1	0.45	0.13
tblVehicleEF	LHD1	1.14	0.17
tblVehicleEF	LHD1	0.49	0.19
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.22	1.02
tblVehicleEF	LHD1	5.09	4.88
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.51	1.02
tblVehicleEF	LHD1	1.20	1.55
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
tblVehicleEF	LHD1	0.06	0.01
tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01

tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
tblVehicleEF	LHD1	0.02	2.0000e-004
tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.40	0.10
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.46	0.30
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
tblVehicleEF	LHD1	7.4930e-003	8.2000e-003
tblVehicleEF	LHD1	4.1800e-004	5.0000e-004
tblVehicleEF	LHD1	0.02	2.0000e-004
tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.45	0.12
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.49	0.32
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.86	2.77
tblVehicleEF	LHD2	2.56	7.84
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.25	2.02
tblVehicleEF	LHD2	0.45	1.44

tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
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tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
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tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.20	0.50
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003
tblVehicleEF	LHD2	1.7800e-004	4.0000e-004
tblVehicleEF	LHD2	1.5460e-003	1.9000e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
tblVehicleEF	LHD2	0.27	0.33
tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.21	0.53
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003

tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.11	0.19
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tblVehicleEF	LHD2	1.63	4.09
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.09	1.91
tblVehicleEF	LHD2	0.42	1.30
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
tblVehicleEF	LHD2	3.2640e-003	6.1000e-003
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
tblVehicleEF	LHD2	0.24	0.31
tblVehicleEF	LHD2	0.24	0.62
tblVehicleEF	LHD2	0.15	0.33
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003

tblVehicleEF	LHD2	1.6200e-004	4.0000e-004
tblVehicleEF	LHD2	3.2640e-003	6.1000e-003
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
tblVehicleEF	LHD2	0.27	0.35
tblVehicleEF	LHD2	0.24	0.62
tblVehicleEF	LHD2	0.16	0.36
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.03
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.88	2.72
tblVehicleEF	LHD2	1.63	9.57
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.15	2.08
tblVehicleEF	LHD2	0.42	1.51
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003

tblVehicleEF	LHD2	5.1450e-003	4.0000e-004
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tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	2.4490e-003	1.0000e-004
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tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.15	0.58
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003
tblVehicleEF	LHD2	1.6200e-004	5.0000e-004
tblVehicleEF	LHD2	5.1450e-003	4.0000e-004
tblVehicleEF	LHD2	0.09	0.06
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	2.4490e-003	1.0000e-004
tblVehicleEF	LHD2	0.27	0.33
tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.16	0.62
tblVehicleEF	MCY	0.00	0.22
tblVehicleEF	MCY	0.00	0.16
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tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.31	1.37
tblVehicleEF	MCY	0.32	0.32
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01

tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.00	3.04
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.40	2.62
tblVehicleEF	MCY	2.1750e-003	2.1000e-003
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tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.27	3.31
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.58	2.82
tblVehicleEF	MCY	0.00	0.21
tblVehicleEF	MCY	0.00	0.11
tblVehicleEF	MCY	29.81	29.27
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tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.12	1.15
tblVehicleEF	MCY	0.29	0.28
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	8.0500e-004	0.02

tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	2.49	2.47
tblVehicleEF	MCY	0.75	0.51
tblVehicleEF	MCY	1.40	1.21
tblVehicleEF	MCY	2.83	2.81
tblVehicleEF	MCY	1.87	0.33
tblVehicleEF	MCY	1.87	1.83
tblVehicleEF	MCY	2.1340e-003	2.1000e-003
tblVehicleEF	MCY	6.5700e-004	6.0000e-004
tblVehicleEF	MCY	2.49	2.47
tblVehicleEF	MCY	0.75	0.51
tblVehicleEF	MCY	1.40	1.21
tblVehicleEF	MCY	3.09	3.07
tblVehicleEF	MCY	1.87	0.33
tblVehicleEF	MCY	2.01	1.97
tblVehicleEF	MCY	0.00	0.23
tblVehicleEF	MCY	0.00	0.19
tblVehicleEF	MCY	30.06	35.29
tblVehicleEF	MCY	8.82	14.27
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.17	1.48
tblVehicleEF	MCY	0.29	0.35
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003

tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	4.38	0.05
tblVehicleEF	MCY	1.78	0.28
tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	2.84	3.19
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	1.88	3.04
tblVehicleEF	MCY	2.1380e-003	2.2000e-003
tblVehicleEF	MCY	6.5800e-004	7.0000e-004
tblVehicleEF	MCY	4.38	0.05
tblVehicleEF	MCY	1.78	0.28
tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	3.10	3.47
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	2.02	3.26
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	4.37	3.65
tblVehicleEF	MDV	10.31	10.27
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.77	0.65
tblVehicleEF	MDV	0.97	0.93
tblVehicleEF	MDV	0.04	0.01

tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.18	0.14
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.91	0.85
tblVehicleEF	MDV	6.1930e-003	5.9000e-003
tblVehicleEF	MDV	1.4490e-003	1.4000e-003
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.97	0.91
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	4.78	4.15
tblVehicleEF	MDV	6.91	6.04
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.66	0.56
tblVehicleEF	MDV	0.85	0.79
tblVehicleEF	MDV	0.04	0.01

tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
tblVehicleEF	MDV	0.38	0.32
tblVehicleEF	MDV	0.41	0.27
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	0.19	0.15
tblVehicleEF	MDV	1.25	0.17
tblVehicleEF	MDV	0.67	0.56
tblVehicleEF	MDV	6.6080e-003	6.7000e-003
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tblVehicleEF	MDV	0.38	0.32
tblVehicleEF	MDV	0.41	0.27
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	0.24	0.19
tblVehicleEF	MDV	1.25	0.17
tblVehicleEF	MDV	0.72	0.60
tblVehicleEF	MDV	0.04	0.03
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tblVehicleEF	MDV	4.77	3.69
tblVehicleEF	MDV	7.01	12.44
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.69	0.72
tblVehicleEF	MDV	0.86	1.01
tblVehicleEF	MDV	0.04	0.01

tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
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tblVehicleEF	MDV	0.72	0.21
tblVehicleEF	MDV	0.38	0.01
tblVehicleEF	MDV	0.19	0.14
tblVehicleEF	MDV	1.71	0.21
tblVehicleEF	MDV	0.68	0.99
tblVehicleEF	MDV	6.5810e-003	5.8000e-003
tblVehicleEF	MDV	1.3900e-003	1.4000e-003
tblVehicleEF	MDV	0.55	0.01
tblVehicleEF	MDV	0.72	0.21
tblVehicleEF	MDV	0.38	0.01
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	1.71	0.21
tblVehicleEF	MDV	0.72	1.06
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.10
tblVehicleEF	MH	9.74	15.80
tblVehicleEF	MH	17.22	29.19
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.27	3.29
tblVehicleEF	MH	1.39	1.85
tblVehicleEF	MH	0.05	0.01

tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	2.05	1.94
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.69	0.46
tblVehicleEF	MH	0.35	0.61
tblVehicleEF	MH	3.06	0.04
tblVehicleEF	MH	1.06	1.73
tblVehicleEF	MH	7.5500e-003	7.8000e-003
tblVehicleEF	MH	6.5500e-004	8.0000e-004
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tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.69	0.46
tblVehicleEF	MH	0.40	0.69
tblVehicleEF	MH	3.06	0.04
tblVehicleEF	MH	1.14	1.85
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.06
tblVehicleEF	MH	9.90	16.25
tblVehicleEF	MH	10.76	14.48
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.04	2.92
tblVehicleEF	MH	1.30	1.68

tblVehicleEF	MH	0.05	0.01
tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	4.33	6.30
tblVehicleEF	MH	0.15	0.18
tblVehicleEF	MH	1.00	1.39
tblVehicleEF	MH	0.35	0.63
tblVehicleEF	MH	2.99	0.04
tblVehicleEF	MH	0.75	1.01
tblVehicleEF	MH	7.5520e-003	7.8000e-003
tblVehicleEF	MH	5.4300e-004	6.0000e-004
tblVehicleEF	MH	4.33	6.30
tblVehicleEF	MH	0.15	0.18
tblVehicleEF	MH	1.00	1.39
tblVehicleEF	MH	0.40	0.72
tblVehicleEF	MH	2.99	0.04
tblVehicleEF	MH	0.80	1.08
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.12
tblVehicleEF	MH	9.92	15.79
tblVehicleEF	MH	10.77	35.84
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.10	3.49

tblVehicleEF	MH	1.30	1.95
tblVehicleEF	MH	0.05	0.01
tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	6.84	0.35
tblVehicleEF	MH	0.29	0.15
tblVehicleEF	MH	2.17	0.16
tblVehicleEF	MH	0.35	0.60
tblVehicleEF	MH	3.30	0.04
tblVehicleEF	MH	0.75	2.07
tblVehicleEF	MH	7.5530e-003	7.8000e-003
tblVehicleEF	MH	5.4300e-004	1.0000e-003
tblVehicleEF	MH	6.84	0.35
tblVehicleEF	MH	0.29	0.15
tblVehicleEF	MH	2.17	0.16
tblVehicleEF	MH	0.40	0.69
tblVehicleEF	MH	3.30	0.04
tblVehicleEF	MH	0.80	2.22
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
tblVehicleEF	MHD	0.00	0.09
tblVehicleEF	MHD	2.40	0.16
tblVehicleEF	MHD	3.00	3.60

tblVehicleEF	MHD	34.03	15.11
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	7.04	0.16
tblVehicleEF	MHD	4.40	3.91
tblVehicleEF	MHD	2.05	0.86
tblVehicleEF	MHD	0.07	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	9.7780e-003	1.7000e-003
tblVehicleEF	MHD	0.07	2.4000e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
tblVehicleEF	MHD	8.7340e-003	1.6000e-003
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.29	0.02
tblVehicleEF	MHD	4.2500e-003	4.0000e-004
tblVehicleEF	MHD	0.32	0.23
tblVehicleEF	MHD	1.66	0.43
tblVehicleEF	MHD	3.22	1.49
tblVehicleEF	MHD	5.7810e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.4330e-003	5.0000e-004
tblVehicleEF	MHD	8.7340e-003	1.6000e-003
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.33	0.02

tblVehicleEF	MHD	4.2500e-003	4.0000e-004
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	1.66	0.43
tblVehicleEF	MHD	3.46	1.61
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
tblVehicleEF	MHD	0.00	0.06
tblVehicleEF	MHD	1.74	0.16
tblVehicleEF	MHD	2.92	3.52
tblVehicleEF	MHD	25.39	9.88
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	7.27	0.16
tblVehicleEF	MHD	4.17	3.72
tblVehicleEF	MHD	1.91	0.78
tblVehicleEF	MHD	0.06	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	9.7780e-003	1.7000e-003
tblVehicleEF	MHD	0.06	2.4000e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
tblVehicleEF	MHD	0.02	5.3000e-003
tblVehicleEF	MHD	0.45	0.06
tblVehicleEF	MHD	0.28	0.02
tblVehicleEF	MHD	7.3470e-003	1.3000e-003

tblVehicleEF	MHD	0.32	0.23
tblVehicleEF	MHD	1.62	0.43
tblVehicleEF	MHD	2.34	0.93
tblVehicleEF	MHD	6.1240e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.2700e-003	4.0000e-004
tblVehicleEF	MHD	0.02	5.3000e-003
tblVehicleEF	MHD	0.45	0.06
tblVehicleEF	MHD	0.31	0.02
tblVehicleEF	MHD	7.3470e-003	1.3000e-003
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	1.62	0.43
tblVehicleEF	MHD	2.52	1.00
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
tblVehicleEF	MHD	0.00	0.11
tblVehicleEF	MHD	3.30	0.16
tblVehicleEF	MHD	2.93	3.72
tblVehicleEF	MHD	25.46	17.63
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	6.73	0.16
tblVehicleEF	MHD	4.25	4.01
tblVehicleEF	MHD	1.91	0.91
tblVehicleEF	MHD	0.09	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	9.7780e-003	1.7000e-003

tblVehicleEF	MHD	0.08	2.4000e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
tblVehicleEF	MHD	0.03	3.0000e-004
tblVehicleEF	MHD	0.87	0.05
tblVehicleEF	MHD	0.32	0.02
tblVehicleEF	MHD	0.02	1.0000e-004
tblVehicleEF	MHD	0.32	0.24
tblVehicleEF	MHD	1.87	0.45
tblVehicleEF	MHD	2.35	1.78
tblVehicleEF	MHD	5.3060e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.2710e-003	6.0000e-004
tblVehicleEF	MHD	0.03	3.0000e-004
tblVehicleEF	MHD	0.87	0.05
tblVehicleEF	MHD	0.36	0.02
tblVehicleEF	MHD	0.02	1.0000e-004
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	1.87	0.45
tblVehicleEF	MHD	2.52	1.92
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.05
tblVehicleEF	OBUS	2.24	0.18
tblVehicleEF	OBUS	2.13	3.58
tblVehicleEF	OBUS	14.81	15.02

tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.46	0.12
tblVehicleEF	OBUS	4.62	3.64
tblVehicleEF	OBUS	1.77	1.81
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	1.4710e-003	6.0000e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.40	0.03
tblVehicleEF	OBUS	5.9200e-004	2.0000e-004
tblVehicleEF	OBUS	0.21	0.23
tblVehicleEF	OBUS	0.46	0.23
tblVehicleEF	OBUS	1.18	0.97
tblVehicleEF	OBUS	5.6380e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.9500e-004	5.0000e-004
tblVehicleEF	OBUS	1.4710e-003	6.0000e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.45	0.03
tblVehicleEF	OBUS	5.9200e-004	2.0000e-004

tblVehicleEF	OBUS	0.25	0.26
tblVehicleEF	OBUS	0.46	0.23
tblVehicleEF	OBUS	1.27	1.03
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.04
tblVehicleEF	OBUS	1.63	0.18
tblVehicleEF	OBUS	2.12	3.66
tblVehicleEF	OBUS	10.93	9.17
tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.67	0.12
tblVehicleEF	OBUS	4.37	3.40
tblVehicleEF	OBUS	1.65	1.64
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	3.1470e-003	2.0000e-003
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.37	0.03
tblVehicleEF	OBUS	8.9000e-004	6.0000e-004
tblVehicleEF	OBUS	0.21	0.23

tblVehicleEF	OBUS	0.45	0.22
tblVehicleEF	OBUS	0.91	0.69
tblVehicleEF	OBUS	5.9730e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.2600e-004	4.0000e-004
tblVehicleEF	OBUS	3.1470e-003	2.0000e-003
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.43	0.03
tblVehicleEF	OBUS	8.9000e-004	6.0000e-004
tblVehicleEF	OBUS	0.25	0.27
tblVehicleEF	OBUS	0.45	0.22
tblVehicleEF	OBUS	0.98	0.74
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.06
tblVehicleEF	OBUS	3.09	0.18
tblVehicleEF	OBUS	2.13	3.56
tblVehicleEF	OBUS	10.94	17.94
tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.17	0.12
tblVehicleEF	OBUS	4.46	3.77
tblVehicleEF	OBUS	1.65	1.90
tblVehicleEF	OBUS	0.03	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003

tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	4.7640e-003	2.0000e-004
tblVehicleEF	OBUS	0.09	0.02
tblVehicleEF	OBUS	0.43	0.03
tblVehicleEF	OBUS	1.9520e-003	1.0000e-004
tblVehicleEF	OBUS	0.21	0.22
tblVehicleEF	OBUS	0.51	0.24
tblVehicleEF	OBUS	0.92	1.11
tblVehicleEF	OBUS	5.1760e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.2600e-004	5.0000e-004
tblVehicleEF	OBUS	4.7640e-003	2.0000e-004
tblVehicleEF	OBUS	0.09	0.02
tblVehicleEF	OBUS	0.49	0.03
tblVehicleEF	OBUS	1.9520e-003	1.0000e-004
tblVehicleEF	OBUS	0.25	0.26
tblVehicleEF	OBUS	0.51	0.24
tblVehicleEF	OBUS	0.98	1.19
tblVehicleEF	SBUS	5.4240e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.05
tblVehicleEF	SBUS	1.05	6.93
tblVehicleEF	SBUS	11.09	8.37
tblVehicleEF	SBUS	59.28	13.08
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003

tblVehicleEF	SBUS	8.14	7.87
tblVehicleEF	SBUS	8.51	7.78
tblVehicleEF	SBUS	3.94	0.88
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.12	1.05
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.79	0.64
tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.55	0.97
tblVehicleEF	SBUS	5.6380e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.4760e-003	5.0000e-004
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.87	0.71

tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.88	1.04
tblVehicleEF	SBUS	5.1110e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.04
tblVehicleEF	SBUS	0.77	6.93
tblVehicleEF	SBUS	10.69	8.19
tblVehicleEF	SBUS	45.07	9.02
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	8.40	7.87
tblVehicleEF	SBUS	7.99	7.40
tblVehicleEF	SBUS	3.59	0.78
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.11	1.05
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	3.14	0.07

tblVehicleEF	SBUS	3.59	0.73
tblVehicleEF	SBUS	5.9730e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2230e-003	4.0000e-004
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	3.14	0.07
tblVehicleEF	SBUS	3.85	0.78
tblVehicleEF	SBUS	5.8550e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.06
tblVehicleEF	SBUS	1.45	6.93
tblVehicleEF	SBUS	10.75	8.60
tblVehicleEF	SBUS	45.53	15.34
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	7.78	7.87
tblVehicleEF	SBUS	8.18	8.01
tblVehicleEF	SBUS	3.62	0.94
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01

tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.13	1.05
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.64	1.11
tblVehicleEF	SBUS	5.1750e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2310e-003	5.0000e-004
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.14	1.13
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.90	1.19
tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.14
tblVehicleEF	UBUS	6.02	6.17
tblVehicleEF	UBUS	27.32	35.83
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	4.05	4.29
tblVehicleEF	UBUS	3.82	4.52
tblVehicleEF	UBUS	0.54	0.01

tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.45	0.48
tblVehicleEF	UBUS	0.92	0.03
tblVehicleEF	UBUS	2.02	2.54
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.0500e-003	1.4000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.51	0.54
tblVehicleEF	UBUS	0.92	0.03
tblVehicleEF	UBUS	2.16	2.71
tblVehicleEF	UBUS	0.00	0.04
tblVehicleEF	UBUS	0.00	0.11
tblVehicleEF	UBUS	6.20	6.45
tblVehicleEF	UBUS	20.27	23.17
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.70	3.91
tblVehicleEF	UBUS	3.54	4.04

tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.47	0.50
tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.71	2.00
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3000e-004	1.2000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.52	0.56
tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.83	2.13
tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.15
tblVehicleEF	UBUS	6.20	6.03
tblVehicleEF	UBUS	20.35	42.00
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.80	4.49

tblVehicleEF	UBUS	3.54	4.77
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003
tblVehicleEF	UBUS	0.47	0.47
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.72	2.81
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3200e-004	1.5000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003
tblVehicleEF	UBUS	0.52	0.53
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.83	3.00
tblWater	AerobicPercent	87.46	84.69
tblWater	AnaDigestCombDigestGasPercent	100.00	3.17
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.14
tblWater	SepticTankPercent	10.33	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	3.4765	39.9321	20.9941	0.0379	30.8480	1.7140	32.5620	3.7853	1.5769	5.3622			3,645.9269	1.0736	0.0000	3,668.4720
Total	**3.4765**	**39.9321**	**20.9941**	**0.0379**	**30.8480**	**1.7140**	**32.5620**	**3.7853**	**1.5769**	**5.3622**			**3,645.9269**	**1.0736**	**0.0000**	**3,668.4720**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	3.4765	39.9320	20.9941	0.0379	17.9212	1.7140	19.6352	1.8345	1.5769	3.4114			3,645.9226	1.0736	0.0000	3,668.4677
Total	**3.4765**	**39.9320**	**20.9941**	**0.0379**	**17.9212**	**1.7140**	**19.6352**	**1.8345**	**1.5769**	**3.4114**			**3,645.9226**	**1.0736**	**0.0000**	**3,668.4677**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**41.90**	**0.00**	**39.70**	**51.54**	**0.00**	**36.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	836.1400
Total	**836.1400**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site preparation	Site Preparation	2/1/2014	2/7/2014	5	5	
2	Distribute straw bales on sand dunes	Site Preparation	2/8/2014	8/8/2014	5	130	
3	Planting and watering	Site Preparation	8/9/2014	11/28/2014	5	80	
4	Clean up and restoration	Site Preparation	11/29/2014	12/12/2014	5	10	

Acres of Grading (Site Preparation Phase): 5.6

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site preparation	Graders	2	8.00	162	0.61
Site preparation	Off-Highway Trucks	4	8.00	381	0.57
Site preparation	Rubber Tired Dozers	0	8.00	358	0.59
Site preparation	Tractors/Loaders/Backhoes	0	8.00	75	0.55
Distribute straw bales on sand dunes	Cranes	0	7.00	208	0.43
Distribute straw bales on sand dunes	Forklifts	0	8.00	149	0.30
Distribute straw bales on sand dunes	Generator Sets	0	8.00	84	0.74
Distribute straw bales on sand dunes	Off-Highway Trucks	6	8.00	381	0.57
Distribute straw bales on sand dunes	Rubber Tired Dozers	2	8.00	358	0.59
Distribute straw bales on sand dunes	Rubber Tired Loaders	2	8.00	87	0.54
Distribute straw bales on sand dunes	Tractors/Loaders/Backhoes	2	8.00	75	0.55
Distribute straw bales on sand dunes	Welders	0	8.00	46	0.45
Planting and watering	Cranes	0	7.00	208	0.43
Planting and watering	Forklifts	0	8.00	149	0.30
Planting and watering	Generator Sets	0	8.00	84	0.74
Planting and watering	Off-Highway Trucks	30	8.00	381	0.57
Planting and watering	Rubber Tired Dozers	3	8.00	358	0.59
Planting and watering	Rubber Tired Loaders	2	8.00	87	0.54
Planting and watering	Tractors/Loaders/Backhoes	5	8.00	75	0.55
Planting and watering	Welders	0	8.00	46	0.45
Clean up and restoration	Off-Highway Trucks	7	8.00	381	0.57
Clean up and restoration	Rubber Tired Dozers	2	8.00	358	0.59
Clean up and restoration	Rubber Tired Loaders	2	8.00	87	0.54
Clean up and restoration	Tractors/Loaders/Backhoes	2	8.00	75	0.55

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site preparation	6	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Distribute straw bales on sand dunes	12	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Planting and watering	40	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Clean up and restoration	13	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9700e-003	0.0000	2.9700e-003	3.2000e-004	0.0000	3.2000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0225	0.2553	0.1139	2.3000e-004		0.0111	0.0111		0.0102	0.0102			22.2781	6.5800e-003	0.0000	22.4164
Total	**0.0225**	**0.2553**	**0.1139**	**2.3000e-004**	**2.9700e-003**	**0.0111**	**0.0141**	**3.2000e-004**	**0.0102**	**0.0106**			**22.2781**	**6.5800e-003**	**0.0000**	**22.4164**

3.2 Site preparation - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	4.4000e-004	4.4000e-003	0.0000	0.4766	0.0000	0.4766	0.0476	0.0000	0.0476			0.3085	3.0000e-005	0.0000	0.3091
Total	**3.0000e-004**	**4.4000e-004**	**4.4000e-003**	**0.0000**	**0.4766**	**0.0000**	**0.4766**	**0.0476**	**0.0000**	**0.0476**			**0.3085**	**3.0000e-005**	**0.0000**	**0.3091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-004	0.0000	2.0000e-004	2.0000e-005	0.0000	2.0000e-005			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0225	0.2553	0.1139	2.3000e-004		0.0111	0.0111		0.0102	0.0102			22.2781	6.5800e-003	0.0000	22.4164
Total	**0.0225**	**0.2553**	**0.1139**	**2.3000e-004**	**2.0000e-004**	**0.0111**	**0.0113**	**2.0000e-005**	**0.0102**	**0.0103**			**22.2781**	**6.5800e-003**	**0.0000**	**22.4164**

3.2 Site preparation - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	4.4000e-004	4.4000e-003	0.0000	0.2918	0.0000	0.2918	0.0291	0.0000	0.0291			0.3085	3.0000e-005	0.0000	0.3091
Total	**3.0000e-004**	**4.4000e-004**	**4.4000e-003**	**0.0000**	**0.2918**	**0.0000**	**0.2918**	**0.0291**	**0.0000**	**0.0291**			**0.3085**	**3.0000e-005**	**0.0000**	**0.3091**

3.3 Distribute straw bales on sand dunes - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8857	0.0000	0.8857	0.4414	0.0000	0.4414			0.0000	0.0000	0.0000	0.0000
Off-Road	1.0788	12.1978	6.9070	0.0107		0.5583	0.5583		0.5136	0.5136			1,031.3280	0.3048	0.0000	1,037.7281
Total	**1.0788**	**12.1978**	**6.9070**	**0.0107**	**0.8857**	**0.5583**	**1.4440**	**0.4414**	**0.5136**	**0.9551**			**1,031.3280**	**0.3048**	**0.0000**	**1,037.7281**

3.3 Distribute straw bales on sand dunes - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-003	0.0115	0.1144	1.0000e-004	12.3907	1.1000e-004	12.3909	1.2368	1.0000e-004	1.2369			8.0198	7.4000e-004	0.0000	8.0353
Total	**7.7000e-003**	**0.0115**	**0.1144**	**1.0000e-004**	**12.3907**	**1.1000e-004**	**12.3909**	**1.2368**	**1.0000e-004**	**1.2369**			**8.0198**	**7.4000e-004**	**0.0000**	**8.0353**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0598	0.0000	0.0598	0.0298	0.0000	0.0298			0.0000	0.0000	0.0000	0.0000
Off-Road	1.0788	12.1978	6.9070	0.0107		0.5583	0.5583		0.5136	0.5136			1,031.3268	0.3048	0.0000	1,037.7269
Total	**1.0788**	**12.1978**	**6.9070**	**0.0107**	**0.0598**	**0.5583**	**0.6181**	**0.0298**	**0.5136**	**0.5434**			**1,031.3268**	**0.3048**	**0.0000**	**1,037.7269**

3.3 Distribute straw bales on sand dunes - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-003	0.0115	0.1144	1.0000e-004	7.5874	1.1000e-004	7.5875	0.7565	1.0000e-004	0.7566			8.0198	7.4000e-004	0.0000	8.0353
Total	**7.7000e-003**	**0.0115**	**0.1144**	**1.0000e-004**	**7.5874**	**1.1000e-004**	**7.5875**	**0.7565**	**1.0000e-004**	**0.7566**			**8.0198**	**7.4000e-004**	**0.0000**	**8.0353**

3.4 Planting and watering - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8255	0.0000	0.8255	0.4083	0.0000	0.4083			0.0000	0.0000	0.0000	0.0000
Off-Road	2.2667	26.4239	13.1337	0.0258		1.0980	1.0980		1.0101	1.0101			2,485.1195	0.7344	0.0000	2,500.5415
Total	**2.2667**	**26.4239**	**13.1337**	**0.0258**	**0.8255**	**1.0980**	**1.9235**	**0.4083**	**1.0101**	**1.4185**			**2,485.1195**	**0.7344**	**0.0000**	**2,500.5415**

3.4 Planting and watering - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	9.4800e-003	0.0142	0.1408	1.2000e-004	15.2501	1.4000e-004	15.2503	1.5222	1.2000e-004	1.5224			9.8705	9.1000e-004	0.0000	9.8896
Total	**9.4800e-003**	**0.0142**	**0.1408**	**1.2000e-004**	**15.2501**	**1.4000e-004**	**15.2503**	**1.5222**	**1.2000e-004**	**1.5224**			**9.8705**	**9.1000e-004**	**0.0000**	**9.8896**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0557	0.0000	0.0557	0.0276	0.0000	0.0276			0.0000	0.0000	0.0000	0.0000
Off-Road	2.2667	26.4239	13.1337	0.0258		1.0980	1.0980		1.0101	1.0101			2,485.1166	0.7344	0.0000	2,500.5385
Total	**2.2667**	**26.4239**	**13.1337**	**0.0258**	**0.0557**	**1.0980**	**1.1537**	**0.0276**	**1.0101**	**1.0377**			**2,485.1166**	**0.7344**	**0.0000**	**2,500.5385**

3.4 Planting and watering - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	9.4800e-003	0.0142	0.1408	1.2000e-004	9.3383	1.4000e-004	9.3385	0.9311	1.2000e-004	0.9312			9.8705	9.1000e-004	0.0000	9.8896
Total	**9.4800e-003**	**0.0142**	**0.1408**	**1.2000e-004**	**9.3383**	**1.4000e-004**	**9.3385**	**0.9311**	**1.2000e-004**	**0.9312**			**9.8705**	**9.1000e-004**	**0.0000**	**9.8896**

3.5 Clean up and restoration - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0632	0.0000	0.0632	0.0334	0.0000	0.0334			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0905	1.0280	0.5711	9.2000e-004		0.0464	0.0464		0.0427	0.0427			88.3856	0.0261	0.0000	88.9341
Total	**0.0905**	**1.0280**	**0.5711**	**9.2000e-004**	**0.0632**	**0.0464**	**0.1096**	**0.0334**	**0.0427**	**0.0761**			**88.3856**	**0.0261**	**0.0000**	**88.9341**

3.5 Clean up and restoration - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	8.9000e-004	8.8000e-003	1.0000e-005	0.9531	1.0000e-005	0.9531	0.0951	1.0000e-005	0.0952			0.6169	6.0000e-005	0.0000	0.6181
Total	**5.9000e-004**	**8.9000e-004**	**8.8000e-003**	**1.0000e-005**	**0.9531**	**1.0000e-005**	**0.9531**	**0.0951**	**1.0000e-005**	**0.0952**			**0.6169**	**6.0000e-005**	**0.0000**	**0.6181**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2700e-003	0.0000	4.2700e-003	2.2600e-003	0.0000	2.2600e-003			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0905	1.0280	0.5711	9.2000e-004		0.0464	0.0464		0.0427	0.0427			88.3855	0.0261	0.0000	88.9340
Total	**0.0905**	**1.0280**	**0.5711**	**9.2000e-004**	**4.2700e-003**	**0.0464**	**0.0507**	**2.2600e-003**	**0.0427**	**0.0449**			**88.3855**	**0.0261**	**0.0000**	**88.9340**

3.5 Clean up and restoration - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	8.9000e-004	8.8000e-003	1.0000e-005	0.5837	1.0000e-005	0.5837	0.0582	1.0000e-005	0.0582			0.6169	6.0000e-005	0.0000	0.6181
Total	**5.9000e-004**	**8.9000e-004**	**8.8000e-003**	**1.0000e-005**	**0.5837**	**1.0000e-005**	**0.5837**	**0.0582**	**1.0000e-005**	**0.0582**			**0.6169**	**6.0000e-005**	**0.0000**	**0.6181**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.298929	0.238852	0.201373	0.075588	0.027827	0.015800	0.016059	0.098716	0.001735	0.001573	0.014785	0.002226	0.006537

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	836.1400	0.0000	0.0000	836.1400

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	0 / 194	836.1400	0.0000	0.0000	836.1400
Total		**836.1400**	**0.0000**	**0.0000**	**836.1400**

Keeler Dunes

Inyo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	194.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.8	**Precipitation Freq (Days)**	34
Climate Zone	9			**Operational Year**	2015
Utility Company	Statewide Average				
CO2 Intensity (lb/MWhr)	958.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.011

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The average wind speed, as recorded at the Bishop Airport Monitoring Station from 1992 to 2002, was approximately 8.4 miles per hour, which is 3.8 m/s.

Land Use - The proposed project site is 194 acres

Construction Phase - User-defined scenario

Off-road Equipment - user-defined

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Trips and VMT - User-defined scenario

On-road Fugitive Dust - Assumed 95 percent of travel on unpaved roads

Vehicle Trips - User-defined scenario

Energy Use - User-defined scenario

Construction Off-road Equipment Mitigation - Vehicle speeds limited to 15 mph. Exposed areas watered two times per day.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	5.00
tblConstructionPhase	NumDays	120.00	130.00
tblConstructionPhase	NumDays	120.00	80.00
tblConstructionPhase	NumDays	120.00	10.00
tblGrading	AcresOfGrading	5.00	5.60
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	5.60
tblLandUse	LotAcreage	0.00	194.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00

tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	226.00	208.00
tblOffRoadEquipment	HorsePower	226.00	208.00
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tblOffRoadEquipment	HorsePower	89.00	149.00
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tblOffRoadEquipment	HorsePower	199.00	87.00
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tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.40	0.59
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tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.37	0.55
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tblOffRoadEquipment	LoadFactor	0.29	0.43
tblOffRoadEquipment	LoadFactor	0.29	0.43
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tblOffRoadEquipment	LoadFactor	0.20	0.30

tblOffRoadEquipment	LoadFactor	0.41	0.61
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tblOffRoadEquipment	LoadFactor	0.38	0.57
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	30.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Distribute straw bales on sand dunes
tblOffRoadEquipment	PhaseName		Planting and watering
tblOffRoadEquipment	PhaseName		Distribute straw bales on sand dunes
tblOffRoadEquipment	PhaseName		Planting and watering
tblOffRoadEquipment	PhaseName		Distribute straw bales on sand dunes
tblOffRoadEquipment	PhaseName		Planting and watering
tblOffRoadEquipment	PhaseName		Distribute straw bales on sand dunes

tblOffRoadEquipment	PhaseName		Planting and watering
tblOffRoadEquipment	PhaseName		Clean up and restoration
tblOffRoadEquipment	PhaseName		Distribute straw bales on sand dunes
tblOffRoadEquipment	PhaseName		Planting and watering
tblOffRoadEquipment	PhaseName		Clean up and restoration
tblOffRoadEquipment	PhaseName		Distribute straw bales on sand dunes
tblOffRoadEquipment	PhaseName		Planting and watering
tblOnRoadDust	WorkerPercentPave	100.00	15.00
tblOnRoadDust	WorkerPercentPave	100.00	15.00
tblOnRoadDust	WorkerPercentPave	100.00	15.00
tblOnRoadDust	WorkerPercentPave	100.00	15.00
tblProjectCharacteristics	CO2IntensityFactor	1001.57	958.49
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.011
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblProjectCharacteristics	WindSpeed	2.2	3.8
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	30.00	10.00
tblTripsAndVMT	WorkerTripNumber	100.00	20.00
tblTripsAndVMT	WorkerTripNumber	33.00	10.00
tblVehicleEF	HHD	0.03	0.13
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	0.00	0.13
tblVehicleEF	HHD	2.92	13.51
tblVehicleEF	HHD	2.05	3.74
tblVehicleEF	HHD	110.77	29.69
tblVehicleEF	HHD	0.10	0.10
tblVehicleEF	HHD	5.14	30.54

tblVehicleEF	HHD	6.03	10.13
tblVehicleEF	HHD	5.22	1.44
tblVehicleEF	HHD	0.02	0.34
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tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	8.7890e-003	0.03
tblVehicleEF	HHD	0.10	0.37
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tblVehicleEF	HHD	0.33	0.86
tblVehicleEF	HHD	1.78	0.02

tblVehicleEF	HHD	6.22	2.17
tblVehicleEF	HHD	0.02	0.12
tblVehicleEF	HHD	0.01	0.03
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tblVehicleEF	HHD	0.10	0.10
tblVehicleEF	HHD	5.30	32.08
tblVehicleEF	HHD	5.74	9.76
tblVehicleEF	HHD	4.86	1.30
tblVehicleEF	HHD	0.02	0.27
tblVehicleEF	HHD	0.06	0.02
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tblVehicleEF	HHD	0.11	0.37
tblVehicleEF	HHD	0.01	1.2000e-003
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tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	8.7890e-003	0.03
tblVehicleEF	HHD	0.10	0.37
tblVehicleEF	HHD	8.2710e-003	1.2000e-003
tblVehicleEF	HHD	0.02	2.9000e-003
tblVehicleEF	HHD	0.49	0.03
tblVehicleEF	HHD	0.51	2.62
tblVehicleEF	HHD	7.7500e-003	8.0000e-004
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tblVehicleEF	HHD	1.76	0.02
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tblVehicleEF	HHD	5.9280e-003	0.01
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tblVehicleEF	HHD	2.3130e-003	5.0000e-004
tblVehicleEF	HHD	0.02	2.9000e-003
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tblVehicleEF	HHD	7.7500e-003	8.0000e-004
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tblVehicleEF	HHD	1.76	0.02
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tblVehicleEF	HHD	0.06	0.02
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.11	0.37
tblVehicleEF	HHD	0.01	1.2000e-003
tblVehicleEF	HHD	0.02	0.39
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	8.7890e-003	0.03

tblVehicleEF	HHD	0.10	0.37
tblVehicleEF	HHD	8.2710e-003	1.2000e-003
tblVehicleEF	HHD	0.03	1.0000e-004
tblVehicleEF	HHD	0.94	0.03
tblVehicleEF	HHD	0.58	3.03
tblVehicleEF	HHD	0.02	1.0000e-004
tblVehicleEF	HHD	0.29	0.76
tblVehicleEF	HHD	2.01	0.02
tblVehicleEF	HHD	4.17	2.40
tblVehicleEF	HHD	5.1360e-003	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	2.3170e-003	7.0000e-004
tblVehicleEF	HHD	0.03	1.0000e-004
tblVehicleEF	HHD	0.94	0.03
tblVehicleEF	HHD	0.66	3.45
tblVehicleEF	HHD	0.02	1.0000e-004
tblVehicleEF	HHD	0.33	0.86
tblVehicleEF	HHD	2.01	0.02
tblVehicleEF	HHD	4.49	2.58
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	2.00	2.16
tblVehicleEF	LDA	4.40	6.72
tblVehicleEF	LDA	0.31	0.30
tblVehicleEF	LDA	0.21	0.26
tblVehicleEF	LDA	0.28	0.38
tblVehicleEF	LDA	0.04	0.01
tblVehicleEF	LDA	2.7110e-003	0.01

tblVehicleEF	LDA	3.9660e-003	7.0000e-003
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	2.0000e-003	8.0000e-003
tblVehicleEF	LDA	2.4660e-003	0.01
tblVehicleEF	LDA	3.6060e-003	7.0000e-003
tblVehicleEF	LDA	0.11	0.09
tblVehicleEF	LDA	0.23	0.21
tblVehicleEF	LDA	0.09	0.04
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.54	0.09
tblVehicleEF	LDA	0.36	0.52
tblVehicleEF	LDA	3.5900e-003	3.5000e-003
tblVehicleEF	LDA	8.1600e-004	8.0000e-004
tblVehicleEF	LDA	0.11	0.09
tblVehicleEF	LDA	0.23	0.21
tblVehicleEF	LDA	0.09	0.04
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.54	0.09
tblVehicleEF	LDA	0.39	0.56
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	2.20	2.53
tblVehicleEF	LDA	2.96	3.93
tblVehicleEF	LDA	0.31	0.30
tblVehicleEF	LDA	0.18	0.22
tblVehicleEF	LDA	0.25	0.32
tblVehicleEF	LDA	0.04	0.01
tblVehicleEF	LDA	2.7110e-003	0.01

tblVehicleEF	LDA	3.9660e-003	7.0000e-003
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tblVehicleEF	LDA	2.0000e-003	8.0000e-003
tblVehicleEF	LDA	2.4660e-003	0.01
tblVehicleEF	LDA	3.6060e-003	7.0000e-003
tblVehicleEF	LDA	0.24	0.33
tblVehicleEF	LDA	0.27	0.28
tblVehicleEF	LDA	0.15	0.17
tblVehicleEF	LDA	0.08	0.09
tblVehicleEF	LDA	0.52	0.09
tblVehicleEF	LDA	0.27	0.34
tblVehicleEF	LDA	3.8450e-003	3.9000e-003
tblVehicleEF	LDA	7.9100e-004	8.0000e-004
tblVehicleEF	LDA	0.24	0.33
tblVehicleEF	LDA	0.27	0.28
tblVehicleEF	LDA	0.15	0.17
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.52	0.09
tblVehicleEF	LDA	0.28	0.37
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	2.20	2.14
tblVehicleEF	LDA	3.00	8.16
tblVehicleEF	LDA	0.31	0.30
tblVehicleEF	LDA	0.19	0.29
tblVehicleEF	LDA	0.25	0.41
tblVehicleEF	LDA	0.04	0.01
tblVehicleEF	LDA	2.7110e-003	0.01

tblVehicleEF	LDA	3.9660e-003	7.0000e-003
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	2.0000e-003	8.0000e-003
tblVehicleEF	LDA	2.4660e-003	0.01
tblVehicleEF	LDA	3.6060e-003	7.0000e-003
tblVehicleEF	LDA	0.37	0.01
tblVehicleEF	LDA	0.47	0.21
tblVehicleEF	LDA	0.25	0.01
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.63	0.10
tblVehicleEF	LDA	0.27	0.61
tblVehicleEF	LDA	3.8290e-003	3.4000e-003
tblVehicleEF	LDA	7.9100e-004	8.0000e-004
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tblVehicleEF	LDA	0.47	0.21
tblVehicleEF	LDA	0.25	0.01
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.63	0.10
tblVehicleEF	LDA	0.29	0.65
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.05	0.06
tblVehicleEF	LDT1	7.39	7.97
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tblVehicleEF	LDT1	0.12	0.24
tblVehicleEF	LDT1	0.71	0.99
tblVehicleEF	LDT1	0.52	0.67
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01

tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	0.33	0.23
tblVehicleEF	LDT1	0.54	0.44
tblVehicleEF	LDT1	0.24	0.11
tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	1.82	0.38
tblVehicleEF	LDT1	0.92	1.17
tblVehicleEF	LDT1	4.2510e-003	4.3000e-003
tblVehicleEF	LDT1	1.0880e-003	1.1000e-003
tblVehicleEF	LDT1	0.33	0.23
tblVehicleEF	LDT1	0.54	0.44
tblVehicleEF	LDT1	0.24	0.11
tblVehicleEF	LDT1	0.35	0.38
tblVehicleEF	LDT1	1.82	0.38
tblVehicleEF	LDT1	0.99	1.25
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	7.77	8.71
tblVehicleEF	LDT1	7.93	9.13
tblVehicleEF	LDT1	0.12	0.24
tblVehicleEF	LDT1	0.61	0.85
tblVehicleEF	LDT1	0.46	0.57
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01

tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	0.70	0.82
tblVehicleEF	LDT1	0.63	0.59
tblVehicleEF	LDT1	0.43	0.43
tblVehicleEF	LDT1	0.30	0.34
tblVehicleEF	LDT1	1.70	0.36
tblVehicleEF	LDT1	0.67	0.75
tblVehicleEF	LDT1	4.5200e-003	4.8000e-003
tblVehicleEF	LDT1	1.0190e-003	1.0000e-003
tblVehicleEF	LDT1	0.70	0.82
tblVehicleEF	LDT1	0.63	0.59
tblVehicleEF	LDT1	0.43	0.43
tblVehicleEF	LDT1	0.35	0.39
tblVehicleEF	LDT1	1.70	0.36
tblVehicleEF	LDT1	0.71	0.80
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	7.79	8.14
tblVehicleEF	LDT1	8.05	18.88
tblVehicleEF	LDT1	0.12	0.24
tblVehicleEF	LDT1	0.63	1.09
tblVehicleEF	LDT1	0.46	0.73
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01

tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	1.09	0.04
tblVehicleEF	LDT1	1.17	0.46
tblVehicleEF	LDT1	0.73	0.02
tblVehicleEF	LDT1	0.31	0.34
tblVehicleEF	LDT1	2.29	0.44
tblVehicleEF	LDT1	0.68	1.38
tblVehicleEF	LDT1	4.5030e-003	4.3000e-003
tblVehicleEF	LDT1	1.0220e-003	1.1000e-003
tblVehicleEF	LDT1	1.09	0.04
tblVehicleEF	LDT1	1.17	0.46
tblVehicleEF	LDT1	0.73	0.02
tblVehicleEF	LDT1	0.36	0.39
tblVehicleEF	LDT1	2.29	0.44
tblVehicleEF	LDT1	0.72	1.48
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	3.32	3.29
tblVehicleEF	LDT2	6.72	9.01
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.44	0.53
tblVehicleEF	LDT2	0.58	0.73
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02

tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.15	0.10
tblVehicleEF	LDT2	0.28	0.21
tblVehicleEF	LDT2	0.11	0.05
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	0.99	0.18
tblVehicleEF	LDT2	0.52	0.67
tblVehicleEF	LDT2	4.9000e-003	4.3000e-003
tblVehicleEF	LDT2	1.1320e-003	1.0000e-003
tblVehicleEF	LDT2	0.15	0.10
tblVehicleEF	LDT2	0.28	0.21
tblVehicleEF	LDT2	0.11	0.05
tblVehicleEF	LDT2	0.16	0.15
tblVehicleEF	LDT2	0.99	0.18
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tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	3.59	3.76
tblVehicleEF	LDT2	4.50	5.26
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.38	0.46
tblVehicleEF	LDT2	0.51	0.62
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02

tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.32	0.36
tblVehicleEF	LDT2	0.32	0.29
tblVehicleEF	LDT2	0.20	0.19
tblVehicleEF	LDT2	0.13	0.13
tblVehicleEF	LDT2	0.93	0.17
tblVehicleEF	LDT2	0.39	0.44
tblVehicleEF	LDT2	5.2330e-003	4.9000e-003
tblVehicleEF	LDT2	1.0930e-003	1.0000e-003
tblVehicleEF	LDT2	0.32	0.36
tblVehicleEF	LDT2	0.32	0.29
tblVehicleEF	LDT2	0.20	0.19
tblVehicleEF	LDT2	0.16	0.16
tblVehicleEF	LDT2	0.93	0.17
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tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.03	0.04
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tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02

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tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
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tblVehicleEF	LDT2	0.34	0.01
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	1.26	0.21
tblVehicleEF	LDT2	0.39	0.79
tblVehicleEF	LDT2	5.2120e-003	4.3000e-003
tblVehicleEF	LDT2	1.0940e-003	1.1000e-003
tblVehicleEF	LDT2	0.48	0.02
tblVehicleEF	LDT2	0.58	0.22
tblVehicleEF	LDT2	0.34	0.01
tblVehicleEF	LDT2	0.16	0.15
tblVehicleEF	LDT2	1.26	0.21
tblVehicleEF	LDT2	0.42	0.84
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
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tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.11	1.02
tblVehicleEF	LHD1	7.76	4.01
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.62	0.99

tblVehicleEF	LHD1	1.29	1.48
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
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tblVehicleEF	LHD1	9.9260e-003	0.01
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tblVehicleEF	LHD1	0.02	0.01
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tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.2100e-003	2.0000e-004
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tblVehicleEF	LHD1	1.17	0.18
tblVehicleEF	LHD1	0.59	0.26
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
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tblVehicleEF	LHD1	5.0000e-003	6.0000e-004
tblVehicleEF	LHD1	0.14	0.01
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	2.2100e-003	2.0000e-004
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tblVehicleEF	LHD1	1.17	0.18
tblVehicleEF	LHD1	0.63	0.28

tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
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tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.22	1.04
tblVehicleEF	LHD1	5.09	2.17
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.46	0.94
tblVehicleEF	LHD1	1.20	1.34
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
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tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
tblVehicleEF	LHD1	0.01	1.9000e-003
tblVehicleEF	LHD1	0.15	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
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tblVehicleEF	LHD1	1.14	0.17
tblVehicleEF	LHD1	0.46	0.18
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004

tblVehicleEF	LHD1	7.4930e-003	8.2000e-003
tblVehicleEF	LHD1	4.1800e-004	4.0000e-004
tblVehicleEF	LHD1	0.01	1.9000e-003
tblVehicleEF	LHD1	0.15	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
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tblVehicleEF	LHD1	1.14	0.17
tblVehicleEF	LHD1	0.49	0.19
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.22	1.02
tblVehicleEF	LHD1	5.09	4.88
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.51	1.02
tblVehicleEF	LHD1	1.20	1.55
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
tblVehicleEF	LHD1	0.06	0.01
tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01

tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
tblVehicleEF	LHD1	0.02	2.0000e-004
tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.40	0.10
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.46	0.30
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
tblVehicleEF	LHD1	7.4930e-003	8.2000e-003
tblVehicleEF	LHD1	4.1800e-004	5.0000e-004
tblVehicleEF	LHD1	0.02	2.0000e-004
tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.45	0.12
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.49	0.32
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.86	2.77
tblVehicleEF	LHD2	2.56	7.84
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.25	2.02
tblVehicleEF	LHD2	0.45	1.44

tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
tblVehicleEF	LHD2	1.5460e-003	1.9000e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
tblVehicleEF	LHD2	0.24	0.30
tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.20	0.50
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003
tblVehicleEF	LHD2	1.7800e-004	4.0000e-004
tblVehicleEF	LHD2	1.5460e-003	1.9000e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
tblVehicleEF	LHD2	0.27	0.33
tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.21	0.53
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003

tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.88	2.87
tblVehicleEF	LHD2	1.63	4.09
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.09	1.91
tblVehicleEF	LHD2	0.42	1.30
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
tblVehicleEF	LHD2	3.2640e-003	6.1000e-003
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
tblVehicleEF	LHD2	0.24	0.31
tblVehicleEF	LHD2	0.24	0.62
tblVehicleEF	LHD2	0.15	0.33
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003

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tblVehicleEF	LHD2	3.2640e-003	6.1000e-003
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
tblVehicleEF	LHD2	0.27	0.35
tblVehicleEF	LHD2	0.24	0.62
tblVehicleEF	LHD2	0.16	0.36
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.03
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.88	2.72
tblVehicleEF	LHD2	1.63	9.57
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.15	2.08
tblVehicleEF	LHD2	0.42	1.51
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003

tblVehicleEF	LHD2	5.1450e-003	4.0000e-004
tblVehicleEF	LHD2	0.09	0.06
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	2.4490e-003	1.0000e-004
tblVehicleEF	LHD2	0.24	0.29
tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.15	0.58
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003
tblVehicleEF	LHD2	1.6200e-004	5.0000e-004
tblVehicleEF	LHD2	5.1450e-003	4.0000e-004
tblVehicleEF	LHD2	0.09	0.06
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	2.4490e-003	1.0000e-004
tblVehicleEF	LHD2	0.27	0.33
tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.16	0.62
tblVehicleEF	MCY	0.00	0.22
tblVehicleEF	MCY	0.00	0.16
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tblVehicleEF	MCY	10.95	12.41
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.31	1.37
tblVehicleEF	MCY	0.32	0.32
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01

tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.00	3.04
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.40	2.62
tblVehicleEF	MCY	2.1750e-003	2.1000e-003
tblVehicleEF	MCY	7.0800e-004	7.0000e-004
tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.27	3.31
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.58	2.82
tblVehicleEF	MCY	0.00	0.21
tblVehicleEF	MCY	0.00	0.11
tblVehicleEF	MCY	29.81	29.27
tblVehicleEF	MCY	8.78	8.78
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.12	1.15
tblVehicleEF	MCY	0.29	0.28
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	8.0500e-004	0.02

tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	2.49	2.47
tblVehicleEF	MCY	0.75	0.51
tblVehicleEF	MCY	1.40	1.21
tblVehicleEF	MCY	2.83	2.81
tblVehicleEF	MCY	1.87	0.33
tblVehicleEF	MCY	1.87	1.83
tblVehicleEF	MCY	2.1340e-003	2.1000e-003
tblVehicleEF	MCY	6.5700e-004	6.0000e-004
tblVehicleEF	MCY	2.49	2.47
tblVehicleEF	MCY	0.75	0.51
tblVehicleEF	MCY	1.40	1.21
tblVehicleEF	MCY	3.09	3.07
tblVehicleEF	MCY	1.87	0.33
tblVehicleEF	MCY	2.01	1.97
tblVehicleEF	MCY	0.00	0.23
tblVehicleEF	MCY	0.00	0.19
tblVehicleEF	MCY	30.06	35.29
tblVehicleEF	MCY	8.82	14.27
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.17	1.48
tblVehicleEF	MCY	0.29	0.35
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003

tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	4.38	0.05
tblVehicleEF	MCY	1.78	0.28
tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	2.84	3.19
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	1.88	3.04
tblVehicleEF	MCY	2.1380e-003	2.2000e-003
tblVehicleEF	MCY	6.5800e-004	7.0000e-004
tblVehicleEF	MCY	4.38	0.05
tblVehicleEF	MCY	1.78	0.28
tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	3.10	3.47
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	2.02	3.26
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	4.37	3.65
tblVehicleEF	MDV	10.31	10.27
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.77	0.65
tblVehicleEF	MDV	0.97	0.93
tblVehicleEF	MDV	0.04	0.01

tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.18	0.14
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.91	0.85
tblVehicleEF	MDV	6.1930e-003	5.9000e-003
tblVehicleEF	MDV	1.4490e-003	1.4000e-003
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.97	0.91
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	4.78	4.15
tblVehicleEF	MDV	6.91	6.04
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.66	0.56
tblVehicleEF	MDV	0.85	0.79
tblVehicleEF	MDV	0.04	0.01

tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
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tblVehicleEF	MDV	0.38	0.32
tblVehicleEF	MDV	0.41	0.27
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	0.19	0.15
tblVehicleEF	MDV	1.25	0.17
tblVehicleEF	MDV	0.67	0.56
tblVehicleEF	MDV	6.6080e-003	6.7000e-003
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tblVehicleEF	MDV	0.38	0.32
tblVehicleEF	MDV	0.41	0.27
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	0.24	0.19
tblVehicleEF	MDV	1.25	0.17
tblVehicleEF	MDV	0.72	0.60
tblVehicleEF	MDV	0.04	0.03
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tblVehicleEF	MDV	4.77	3.69
tblVehicleEF	MDV	7.01	12.44
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.69	0.72
tblVehicleEF	MDV	0.86	1.01
tblVehicleEF	MDV	0.04	0.01

tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
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tblVehicleEF	MDV	2.0000e-003	8.0000e-003
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tblVehicleEF	MDV	4.7220e-003	0.01
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tblVehicleEF	MDV	0.72	0.21
tblVehicleEF	MDV	0.38	0.01
tblVehicleEF	MDV	0.19	0.14
tblVehicleEF	MDV	1.71	0.21
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tblVehicleEF	MDV	1.3900e-003	1.4000e-003
tblVehicleEF	MDV	0.55	0.01
tblVehicleEF	MDV	0.72	0.21
tblVehicleEF	MDV	0.38	0.01
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	1.71	0.21
tblVehicleEF	MDV	0.72	1.06
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.10
tblVehicleEF	MH	9.74	15.80
tblVehicleEF	MH	17.22	29.19
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.27	3.29
tblVehicleEF	MH	1.39	1.85
tblVehicleEF	MH	0.05	0.01

tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
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tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.69	0.46
tblVehicleEF	MH	0.35	0.61
tblVehicleEF	MH	3.06	0.04
tblVehicleEF	MH	1.06	1.73
tblVehicleEF	MH	7.5500e-003	7.8000e-003
tblVehicleEF	MH	6.5500e-004	8.0000e-004
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tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.69	0.46
tblVehicleEF	MH	0.40	0.69
tblVehicleEF	MH	3.06	0.04
tblVehicleEF	MH	1.14	1.85
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.06
tblVehicleEF	MH	9.90	16.25
tblVehicleEF	MH	10.76	14.48
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.04	2.92
tblVehicleEF	MH	1.30	1.68

tblVehicleEF	MH	0.05	0.01
tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	4.33	6.30
tblVehicleEF	MH	0.15	0.18
tblVehicleEF	MH	1.00	1.39
tblVehicleEF	MH	0.35	0.63
tblVehicleEF	MH	2.99	0.04
tblVehicleEF	MH	0.75	1.01
tblVehicleEF	MH	7.5520e-003	7.8000e-003
tblVehicleEF	MH	5.4300e-004	6.0000e-004
tblVehicleEF	MH	4.33	6.30
tblVehicleEF	MH	0.15	0.18
tblVehicleEF	MH	1.00	1.39
tblVehicleEF	MH	0.40	0.72
tblVehicleEF	MH	2.99	0.04
tblVehicleEF	MH	0.80	1.08
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.12
tblVehicleEF	MH	9.92	15.79
tblVehicleEF	MH	10.77	35.84
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.10	3.49

tblVehicleEF	MH	1.30	1.95
tblVehicleEF	MH	0.05	0.01
tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	6.84	0.35
tblVehicleEF	MH	0.29	0.15
tblVehicleEF	MH	2.17	0.16
tblVehicleEF	MH	0.35	0.60
tblVehicleEF	MH	3.30	0.04
tblVehicleEF	MH	0.75	2.07
tblVehicleEF	MH	7.5530e-003	7.8000e-003
tblVehicleEF	MH	5.4300e-004	1.0000e-003
tblVehicleEF	MH	6.84	0.35
tblVehicleEF	MH	0.29	0.15
tblVehicleEF	MH	2.17	0.16
tblVehicleEF	MH	0.40	0.69
tblVehicleEF	MH	3.30	0.04
tblVehicleEF	MH	0.80	2.22
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
tblVehicleEF	MHD	0.00	0.09
tblVehicleEF	MHD	2.40	0.16
tblVehicleEF	MHD	3.00	3.60

tblVehicleEF	MHD	34.03	15.11
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	7.04	0.16
tblVehicleEF	MHD	4.40	3.91
tblVehicleEF	MHD	2.05	0.86
tblVehicleEF	MHD	0.07	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	9.7780e-003	1.7000e-003
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tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
tblVehicleEF	MHD	8.7340e-003	1.6000e-003
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.29	0.02
tblVehicleEF	MHD	4.2500e-003	4.0000e-004
tblVehicleEF	MHD	0.32	0.23
tblVehicleEF	MHD	1.66	0.43
tblVehicleEF	MHD	3.22	1.49
tblVehicleEF	MHD	5.7810e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.4330e-003	5.0000e-004
tblVehicleEF	MHD	8.7340e-003	1.6000e-003
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.33	0.02

tblVehicleEF	MHD	4.2500e-003	4.0000e-004
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	1.66	0.43
tblVehicleEF	MHD	3.46	1.61
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
tblVehicleEF	MHD	0.00	0.06
tblVehicleEF	MHD	1.74	0.16
tblVehicleEF	MHD	2.92	3.52
tblVehicleEF	MHD	25.39	9.88
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	7.27	0.16
tblVehicleEF	MHD	4.17	3.72
tblVehicleEF	MHD	1.91	0.78
tblVehicleEF	MHD	0.06	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	9.7780e-003	1.7000e-003
tblVehicleEF	MHD	0.06	2.4000e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
tblVehicleEF	MHD	0.02	5.3000e-003
tblVehicleEF	MHD	0.45	0.06
tblVehicleEF	MHD	0.28	0.02
tblVehicleEF	MHD	7.3470e-003	1.3000e-003

tblVehicleEF	MHD	0.32	0.23
tblVehicleEF	MHD	1.62	0.43
tblVehicleEF	MHD	2.34	0.93
tblVehicleEF	MHD	6.1240e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.2700e-003	4.0000e-004
tblVehicleEF	MHD	0.02	5.3000e-003
tblVehicleEF	MHD	0.45	0.06
tblVehicleEF	MHD	0.31	0.02
tblVehicleEF	MHD	7.3470e-003	1.3000e-003
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	1.62	0.43
tblVehicleEF	MHD	2.52	1.00
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
tblVehicleEF	MHD	0.00	0.11
tblVehicleEF	MHD	3.30	0.16
tblVehicleEF	MHD	2.93	3.72
tblVehicleEF	MHD	25.46	17.63
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	6.73	0.16
tblVehicleEF	MHD	4.25	4.01
tblVehicleEF	MHD	1.91	0.91
tblVehicleEF	MHD	0.09	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	9.7780e-003	1.7000e-003

tblVehicleEF	MHD	0.08	2.4000e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
tblVehicleEF	MHD	0.03	3.0000e-004
tblVehicleEF	MHD	0.87	0.05
tblVehicleEF	MHD	0.32	0.02
tblVehicleEF	MHD	0.02	1.0000e-004
tblVehicleEF	MHD	0.32	0.24
tblVehicleEF	MHD	1.87	0.45
tblVehicleEF	MHD	2.35	1.78
tblVehicleEF	MHD	5.3060e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.2710e-003	6.0000e-004
tblVehicleEF	MHD	0.03	3.0000e-004
tblVehicleEF	MHD	0.87	0.05
tblVehicleEF	MHD	0.36	0.02
tblVehicleEF	MHD	0.02	1.0000e-004
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	1.87	0.45
tblVehicleEF	MHD	2.52	1.92
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.05
tblVehicleEF	OBUS	2.24	0.18
tblVehicleEF	OBUS	2.13	3.58
tblVehicleEF	OBUS	14.81	15.02

tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.46	0.12
tblVehicleEF	OBUS	4.62	3.64
tblVehicleEF	OBUS	1.77	1.81
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	1.4710e-003	6.0000e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.40	0.03
tblVehicleEF	OBUS	5.9200e-004	2.0000e-004
tblVehicleEF	OBUS	0.21	0.23
tblVehicleEF	OBUS	0.46	0.23
tblVehicleEF	OBUS	1.18	0.97
tblVehicleEF	OBUS	5.6380e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.9500e-004	5.0000e-004
tblVehicleEF	OBUS	1.4710e-003	6.0000e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.45	0.03
tblVehicleEF	OBUS	5.9200e-004	2.0000e-004

tblVehicleEF	OBUS	0.25	0.26
tblVehicleEF	OBUS	0.46	0.23
tblVehicleEF	OBUS	1.27	1.03
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.04
tblVehicleEF	OBUS	1.63	0.18
tblVehicleEF	OBUS	2.12	3.66
tblVehicleEF	OBUS	10.93	9.17
tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.67	0.12
tblVehicleEF	OBUS	4.37	3.40
tblVehicleEF	OBUS	1.65	1.64
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	3.1470e-003	2.0000e-003
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.37	0.03
tblVehicleEF	OBUS	8.9000e-004	6.0000e-004
tblVehicleEF	OBUS	0.21	0.23

tblVehicleEF	OBUS	0.45	0.22
tblVehicleEF	OBUS	0.91	0.69
tblVehicleEF	OBUS	5.9730e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.2600e-004	4.0000e-004
tblVehicleEF	OBUS	3.1470e-003	2.0000e-003
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.43	0.03
tblVehicleEF	OBUS	8.9000e-004	6.0000e-004
tblVehicleEF	OBUS	0.25	0.27
tblVehicleEF	OBUS	0.45	0.22
tblVehicleEF	OBUS	0.98	0.74
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.06
tblVehicleEF	OBUS	3.09	0.18
tblVehicleEF	OBUS	2.13	3.56
tblVehicleEF	OBUS	10.94	17.94
tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.17	0.12
tblVehicleEF	OBUS	4.46	3.77
tblVehicleEF	OBUS	1.65	1.90
tblVehicleEF	OBUS	0.03	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003

tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	4.7640e-003	2.0000e-004
tblVehicleEF	OBUS	0.09	0.02
tblVehicleEF	OBUS	0.43	0.03
tblVehicleEF	OBUS	1.9520e-003	1.0000e-004
tblVehicleEF	OBUS	0.21	0.22
tblVehicleEF	OBUS	0.51	0.24
tblVehicleEF	OBUS	0.92	1.11
tblVehicleEF	OBUS	5.1760e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.2600e-004	5.0000e-004
tblVehicleEF	OBUS	4.7640e-003	2.0000e-004
tblVehicleEF	OBUS	0.09	0.02
tblVehicleEF	OBUS	0.49	0.03
tblVehicleEF	OBUS	1.9520e-003	1.0000e-004
tblVehicleEF	OBUS	0.25	0.26
tblVehicleEF	OBUS	0.51	0.24
tblVehicleEF	OBUS	0.98	1.19
tblVehicleEF	SBUS	5.4240e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.05
tblVehicleEF	SBUS	1.05	6.93
tblVehicleEF	SBUS	11.09	8.37
tblVehicleEF	SBUS	59.28	13.08
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003

tblVehicleEF	SBUS	8.14	7.87
tblVehicleEF	SBUS	8.51	7.78
tblVehicleEF	SBUS	3.94	0.88
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.12	1.05
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.79	0.64
tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.55	0.97
tblVehicleEF	SBUS	5.6380e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.4760e-003	5.0000e-004
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.87	0.71

tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.88	1.04
tblVehicleEF	SBUS	5.1110e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.04
tblVehicleEF	SBUS	0.77	6.93
tblVehicleEF	SBUS	10.69	8.19
tblVehicleEF	SBUS	45.07	9.02
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	8.40	7.87
tblVehicleEF	SBUS	7.99	7.40
tblVehicleEF	SBUS	3.59	0.78
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.11	1.05
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	3.14	0.07

tblVehicleEF	SBUS	3.59	0.73
tblVehicleEF	SBUS	5.9730e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2230e-003	4.0000e-004
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	3.14	0.07
tblVehicleEF	SBUS	3.85	0.78
tblVehicleEF	SBUS	5.8550e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.06
tblVehicleEF	SBUS	1.45	6.93
tblVehicleEF	SBUS	10.75	8.60
tblVehicleEF	SBUS	45.53	15.34
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	7.78	7.87
tblVehicleEF	SBUS	8.18	8.01
tblVehicleEF	SBUS	3.62	0.94
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01

tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.13	1.05
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.64	1.11
tblVehicleEF	SBUS	5.1750e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2310e-003	5.0000e-004
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.14	1.13
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.90	1.19
tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.14
tblVehicleEF	UBUS	6.02	6.17
tblVehicleEF	UBUS	27.32	35.83
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	4.05	4.29
tblVehicleEF	UBUS	3.82	4.52
tblVehicleEF	UBUS	0.54	0.01

tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.45	0.48
tblVehicleEF	UBUS	0.92	0.03
tblVehicleEF	UBUS	2.02	2.54
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.0500e-003	1.4000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.51	0.54
tblVehicleEF	UBUS	0.92	0.03
tblVehicleEF	UBUS	2.16	2.71
tblVehicleEF	UBUS	0.00	0.04
tblVehicleEF	UBUS	0.00	0.11
tblVehicleEF	UBUS	6.20	6.45
tblVehicleEF	UBUS	20.27	23.17
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.70	3.91
tblVehicleEF	UBUS	3.54	4.04

tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.47	0.50
tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.71	2.00
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3000e-004	1.2000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.52	0.56
tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.83	2.13
tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.15
tblVehicleEF	UBUS	6.20	6.03
tblVehicleEF	UBUS	20.35	42.00
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.80	4.49

tblVehicleEF	UBUS	3.54	4.77
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003
tblVehicleEF	UBUS	0.47	0.47
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.72	2.81
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3200e-004	1.5000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003
tblVehicleEF	UBUS	0.52	0.53
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.83	3.00
tblWater	AerobicPercent	87.46	84.69
tblWater	AnaDigestCombDigestGasPercent	100.00	3.17
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.14
tblWater	SepticTankPercent	10.33	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	56.9126	660.9021	331.9614	0.6490	441.0474	27.4528	468.5002	52.1715	25.2565	77.4280			68,774.39 78	20.2629	0.0000	69,199.91 79
Total	**56.9126**	**660.9021**	**331.9614**	**0.6490**	**441.0474**	**27.4528**	**468.5002**	**52.1715**	**25.2565**	**77.4280**			**68,774.39 78**	**20.2629**	**0.0000**	**69,199.91 79**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	56.9126	660.9021	331.9614	0.6490	258.8262	27.4528	286.2790	26.3546	25.2565	51.6111			68,774.39 78	20.2629	0.0000	69,199.91 79
Total	**56.9126**	**660.9021**	**331.9614**	**0.6490**	**258.8262**	**27.4528**	**286.2790**	**26.3546**	**25.2565**	**51.6111**			**68,774.39 78**	**20.2629**	**0.0000**	**69,199.91 79**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	41.32	0.00	38.89	49.48	0.00	33.34	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site preparation	Site Preparation	2/1/2014	2/7/2014	5	5	
2	Distribute straw bales on sand dunes	Site Preparation	2/8/2014	8/8/2014	5	130	
3	Planting and watering	Site Preparation	8/9/2014	11/28/2014	5	80	
4	Clean up and restoration	Site Preparation	11/29/2014	12/12/2014	5	10	

Acres of Grading (Site Preparation Phase): 5.6

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site preparation	Graders	2	8.00	162	0.61
Site preparation	Off-Highway Trucks	4	8.00	381	0.57
Site preparation	Rubber Tired Dozers	0	8.00	358	0.59
Site preparation	Tractors/Loaders/Backhoes	0	8.00	75	0.55
Distribute straw bales on sand dunes	Cranes	0	7.00	208	0.43
Distribute straw bales on sand dunes	Forklifts	0	8.00	149	0.30
Distribute straw bales on sand dunes	Generator Sets	0	8.00	84	0.74
Distribute straw bales on sand dunes	Off-Highway Trucks	6	8.00	381	0.57
Distribute straw bales on sand dunes	Rubber Tired Dozers	2	8.00	358	0.59
Distribute straw bales on sand dunes	Rubber Tired Loaders	2	8.00	87	0.54
Distribute straw bales on sand dunes	Tractors/Loaders/Backhoes	2	8.00	75	0.55
Distribute straw bales on sand dunes	Welders	0	8.00	46	0.45
Planting and watering	Cranes	0	7.00	208	0.43
Planting and watering	Forklifts	0	8.00	149	0.30
Planting and watering	Generator Sets	0	8.00	84	0.74
Planting and watering	Off-Highway Trucks	30	8.00	381	0.57
Planting and watering	Rubber Tired Dozers	3	8.00	358	0.59
Planting and watering	Rubber Tired Loaders	2	8.00	87	0.54
Planting and watering	Tractors/Loaders/Backhoes	5	8.00	75	0.55
Planting and watering	Welders	0	8.00	46	0.45
Clean up and restoration	Off-Highway Trucks	7	8.00	381	0.57
Clean up and restoration	Rubber Tired Dozers	2	8.00	358	0.59
Clean up and restoration	Rubber Tired Loaders	2	8.00	87	0.54
Clean up and restoration	Tractors/Loaders/Backhoes	2	8.00	75	0.55

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site preparation	6	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Distribute straw bales on sand dunes	12	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Planting and watering	40	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Clean up and restoration	13	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1878	0.0000	1.1878	0.1283	0.0000	0.1283			0.0000			0.0000
Off-Road	8.9798	102.1234	45.5654	0.0926		4.4531	4.4531		4.0968	4.0968			9,822.9713	2.9028		9,883.9300
Total	**8.9798**	**102.1234**	**45.5654**	**0.0926**	**1.1878**	**4.4531**	**5.6408**	**0.1283**	**4.0968**	**4.2251**			**9,822.9713**	**2.9028**		**9,883.9300**

3.2 Site preparation - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1225	0.1525	1.8094	1.6500e-003	210.2047	1.7200e-003	210.2064	20.9816	1.5400e-003	20.9831			145.0071	0.0125		145.2693
Total	**0.1225**	**0.1525**	**1.8094**	**1.6500e-003**	**210.2047**	**1.7200e-003**	**210.2064**	**20.9816**	**1.5400e-003**	**20.9831**			**145.0071**	**0.0125**		**145.2693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0802	0.0000	0.0802	8.6600e-003	0.0000	8.6600e-003			0.0000			0.0000
Off-Road	8.9798	102.1234	45.5654	0.0926		4.4531	4.4531		4.0968	4.0968			9,822.9713	2.9028		9,883.9300
Total	**8.9798**	**102.1234**	**45.5654**	**0.0926**	**0.0802**	**4.4531**	**4.5332**	**8.6600e-003**	**4.0968**	**4.1055**			**9,822.9713**	**2.9028**		**9,883.9300**

3.2 Site preparation - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1225	0.1525	1.8094	1.6500e-003	128.7166	1.7200e-003	128.7183	12.8328	1.5400e-003	12.8343			145.0071	0.0125		145.2693
Total	**0.1225**	**0.1525**	**1.8094**	**1.6500e-003**	**128.7166**	**1.7200e-003**	**128.7183**	**12.8328**	**1.5400e-003**	**12.8343**			**145.0071**	**0.0125**		**145.2693**

3.3 Distribute straw bales on sand dunes - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.6268	0.0000	13.6268	6.7913	0.0000	6.7913			0.0000			0.0000
Off-Road	16.5961	187.6578	106.2621	0.1649		8.5889	8.5889		7.9017	7.9017			17,489.9157	5.1685		17,598.4533
Total	**16.5961**	**187.6578**	**106.2621**	**0.1649**	**13.6268**	**8.5889**	**22.2156**	**6.7913**	**7.9017**	**14.6931**			**17,489.9157**	**5.1685**		**17,598.4533**

3.3 Distribute straw bales on sand dunes - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1225	0.1525	1.8094	1.6500e-003	210.2047	1.7200e-003	210.2064	20.9816	1.5400e-003	20.9831			145.0071	0.0125		145.2693
Total	**0.1225**	**0.1525**	**1.8094**	**1.6500e-003**	**210.2047**	**1.7200e-003**	**210.2064**	**20.9816**	**1.5400e-003**	**20.9831**			**145.0071**	**0.0125**		**145.2693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9198	0.0000	0.9198	0.4584	0.0000	0.4584			0.0000			0.0000
Off-Road	16.5961	187.6578	106.2621	0.1649		8.5889	8.5889		7.9017	7.9017			17,489.9156	5.1685		17,598.4533
Total	**16.5961**	**187.6578**	**106.2621**	**0.1649**	**0.9198**	**8.5889**	**9.5087**	**0.4584**	**7.9017**	**8.3602**			**17,489.9156**	**5.1685**		**17,598.4533**

3.3 Distribute straw bales on sand dunes - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1225	0.1525	1.8094	1.6500e-003	128.7166	1.7200e-003	128.7183	12.8328	1.5400e-003	12.8343			145.0071	0.0125		145.2693
Total	**0.1225**	**0.1525**	**1.8094**	**1.6500e-003**	**128.7166**	**1.7200e-003**	**128.7183**	**12.8328**	**1.5400e-003**	**12.8343**			**145.0071**	**0.0125**		**145.2693**

3.4 Planting and watering - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					20.6380	0.0000	20.6380	10.2084	0.0000	10.2084			0.0000			0.0000
Off-Road	56.6676	660.5971	328.3427	0.6457		27.4494	27.4494		25.2534	25.2534			68,484.3837	20.2379		68,909.3792
Total	**56.6676**	**660.5971**	**328.3427**	**0.6457**	**20.6380**	**27.4494**	**48.0874**	**10.2084**	**25.2534**	**35.4618**			**68,484.3837**	**20.2379**		**68,909.3792**

3.4 Planting and watering - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2450	0.3050	3.6187	3.3000e-003	420.4094	3.4300e-003	420.4129	41.9632	3.0800e-003	41.9662			290.0141	0.0250		290.5387
Total	**0.2450**	**0.3050**	**3.6187**	**3.3000e-003**	**420.4094**	**3.4300e-003**	**420.4129**	**41.9632**	**3.0800e-003**	**41.9662**			**290.0141**	**0.0250**		**290.5387**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3931	0.0000	1.3931	0.6891	0.0000	0.6891			0.0000			0.0000
Off-Road	56.6676	660.5971	328.3427	0.6457		27.4494	27.4494		25.2534	25.2534			68,484.3837	20.2379		68,909.3792
Total	**56.6676**	**660.5971**	**328.3427**	**0.6457**	**1.3931**	**27.4494**	**28.8424**	**0.6891**	**25.2534**	**25.9425**			**68,484.3837**	**20.2379**		**68,909.3792**

3.4 Planting and watering - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2450	0.3050	3.6187	3.3000e-003	257.4331	3.4300e-003	257.4366	25.6655	3.0800e-003	25.6686			290.0141	0.0250		290.5387
Total	**0.2450**	**0.3050**	**3.6187**	**3.3000e-003**	**257.4331**	**3.4300e-003**	**257.4366**	**25.6655**	**3.0800e-003**	**25.6686**			**290.0141**	**0.0250**		**290.5387**

3.5 Clean up and restoration - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.6381	0.0000	12.6381	6.6846	0.0000	6.6846			0.0000			0.0000
Off-Road	18.1031	205.6053	114.2105	0.1837		9.2765	9.2765		8.5344	8.5344			19,485.6814	5.7582		19,606.6043
Total	**18.1031**	**205.6053**	**114.2105**	**0.1837**	**12.6381**	**9.2765**	**21.9146**	**6.6846**	**8.5344**	**15.2190**			**19,485.6814**	**5.7582**		**19,606.6043**

3.5 Clean up and restoration - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1225	0.1525	1.8094	1.6500e-003	210.2047	1.7200e-003	210.2064	20.9816	1.5400e-003	20.9831			145.0071	0.0125		145.2693
Total	**0.1225**	**0.1525**	**1.8094**	**1.6500e-003**	**210.2047**	**1.7200e-003**	**210.2064**	**20.9816**	**1.5400e-003**	**20.9831**			**145.0071**	**0.0125**		**145.2693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8531	0.0000	0.8531	0.4512	0.0000	0.4512			0.0000			0.0000
Off-Road	18.1031	205.6053	114.2105	0.1837		9.2765	9.2765		8.5344	8.5344			19,485.6814	5.7582		19,606.6043
Total	**18.1031**	**205.6053**	**114.2105**	**0.1837**	**0.8531**	**9.2765**	**10.1296**	**0.4512**	**8.5344**	**8.9856**			**19,485.6814**	**5.7582**		**19,606.6043**

3.5 Clean up and restoration - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1225	0.1525	1.8094	1.6500e-003	128.7166	1.7200e-003	128.7183	12.8328	1.5400e-003	12.8343			145.0071	0.0125		145.2693
Total	**0.1225**	**0.1525**	**1.8094**	**1.6500e-003**	**128.7166**	**1.7200e-003**	**128.7183**	**12.8328**	**1.5400e-003**	**12.8343**			**145.0071**	**0.0125**		**145.2693**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.298929	0.238852	0.201373	0.075588	0.027827	0.015800	0.016059	0.098716	0.001735	0.001573	0.014785	0.002226	0.006537

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**		**2.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Keeler Dunes

Inyo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	194.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.8	**Precipitation Freq (Days)**	34
Climate Zone	9			**Operational Year**	2015
Utility Company	Statewide Average				
CO2 Intensity (lb/MWhr)	958.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.011

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The average wind speed, as recorded at the Bishop Airport Monitoring Station from 1992 to 2002, was approximately 8.4 miles per hour, which is 3.8 m/s.

Land Use - The proposed project site is 194 acres

Construction Phase - User-defined scenario

Off-road Equipment - user-defined

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - user-defined

Trips and VMT - User-defined scenario

On-road Fugitive Dust - Assumed 95 percent of travel on unpaved roads

Vehicle Trips - User-defined scenario

Energy Use - User-defined scenario

Construction Off-road Equipment Mitigation - Vehicle speeds limited to 15 mph. Exposed areas watered two times per day.

Grading - User-defined

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	5.00
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tblConstructionPhase	NumDays	120.00	80.00
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tblConstructionPhase	NumDays	120.00	782.00
tblConstructionPhase	NumDays	120.00	782.00
tblConstructionPhase	NumDays	120.00	782.00
tblConstructionPhase	PhaseEndDate	12/12/2017	12/31/2017
tblConstructionPhase	PhaseEndDate	12/29/2020	12/31/2017
tblConstructionPhase	PhaseEndDate	12/29/2020	12/31/2017

tblConstructionPhase	PhaseStartDate	12/13/2014	1/1/2015
tblConstructionPhase	PhaseStartDate	1/1/2018	1/1/2015
tblConstructionPhase	PhaseStartDate	1/1/2018	1/1/2015
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tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	5.60
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblLandUse	LotAcreage	0.00	194.00
tblOffRoadEquipment	HorsePower	255.00	358.00
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tblOffRoadEquipment	HorsePower	255.00	358.00
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tblOffRoadEquipment	PhaseName		Operation and maintenance

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tblOffRoadEquipment	PhaseName		ATVs
tblOffRoadEquipment	PhaseName		Water Trucks
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tblOnRoadDust	MeanVehicleSpeed	40.00	15.00
tblOnRoadDust	MeanVehicleSpeed	40.00	15.00
tblOnRoadDust	MeanVehicleSpeed	40.00	20.00
tblOnRoadDust	WorkerPercentPave	100.00	5.00
tblOnRoadDust	WorkerPercentPave	100.00	5.00
tblOnRoadDust	WorkerPercentPave	100.00	5.00
tblOnRoadDust	WorkerPercentPave	100.00	5.00
tblOnRoadDust	WorkerPercentPave	100.00	20.00
tblOnRoadDust	WorkerPercentPave	100.00	20.00
tblOnRoadDust	WorkerPercentPave	100.00	80.00
tblProjectCharacteristics	CO2IntensityFactor	1001.57	958.49
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.011
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblProjectCharacteristics	WindSpeed	2.2	3.8
tblTripsAndVMT	WorkerTripLength	16.80	2.80
tblTripsAndVMT	WorkerTripLength	16.80	2.80
tblTripsAndVMT	WorkerTripLength	16.80	2.20
tblTripsAndVMT	WorkerTripNumber	20.00	5.00
tblTripsAndVMT	WorkerTripNumber	25.00	11.25
tblTripsAndVMT	WorkerTripNumber	13.00	6.00

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tblVehicleEF	LDA	0.54	0.09
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tblVehicleEF	LDA	0.04	0.01
tblVehicleEF	LDA	2.7110e-003	0.01
tblVehicleEF	LDA	3.9660e-003	7.0000e-003
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tblVehicleEF	LDA	0.27	0.28
tblVehicleEF	LDA	0.15	0.17
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.52	0.09
tblVehicleEF	LDA	0.28	0.37
tblVehicleEF	LDA	0.02	0.02

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tblVehicleEF	LDA	3.9660e-003	7.0000e-003
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	2.0000e-003	8.0000e-003
tblVehicleEF	LDA	2.4660e-003	0.01
tblVehicleEF	LDA	3.6060e-003	7.0000e-003
tblVehicleEF	LDA	0.37	0.01
tblVehicleEF	LDA	0.47	0.21
tblVehicleEF	LDA	0.25	0.01
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.63	0.10
tblVehicleEF	LDA	0.27	0.61
tblVehicleEF	LDA	3.8290e-003	3.4000e-003
tblVehicleEF	LDA	7.9100e-004	8.0000e-004
tblVehicleEF	LDA	0.37	0.01
tblVehicleEF	LDA	0.47	0.21
tblVehicleEF	LDA	0.25	0.01
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.63	0.10
tblVehicleEF	LDA	0.29	0.65
tblVehicleEF	LDT1	0.04	0.05

tblVehicleEF	LDT1	0.05	0.06
tblVehicleEF	LDT1	7.39	7.97
tblVehicleEF	LDT1	11.80	15.55
tblVehicleEF	LDT1	0.12	0.24
tblVehicleEF	LDT1	0.71	0.99
tblVehicleEF	LDT1	0.52	0.67
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01
tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	0.33	0.23
tblVehicleEF	LDT1	0.54	0.44
tblVehicleEF	LDT1	0.24	0.11
tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	1.82	0.38
tblVehicleEF	LDT1	0.92	1.17
tblVehicleEF	LDT1	4.2510e-003	4.3000e-003
tblVehicleEF	LDT1	1.0880e-003	1.1000e-003
tblVehicleEF	LDT1	0.33	0.23
tblVehicleEF	LDT1	0.54	0.44
tblVehicleEF	LDT1	0.24	0.11
tblVehicleEF	LDT1	0.35	0.38
tblVehicleEF	LDT1	1.82	0.38
tblVehicleEF	LDT1	0.99	1.25
tblVehicleEF	LDT1	0.04	0.05

tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	7.77	8.71
tblVehicleEF	LDT1	7.93	9.13
tblVehicleEF	LDT1	0.12	0.24
tblVehicleEF	LDT1	0.61	0.85
tblVehicleEF	LDT1	0.46	0.57
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01
tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	0.70	0.82
tblVehicleEF	LDT1	0.63	0.59
tblVehicleEF	LDT1	0.43	0.43
tblVehicleEF	LDT1	0.30	0.34
tblVehicleEF	LDT1	1.70	0.36
tblVehicleEF	LDT1	0.67	0.75
tblVehicleEF	LDT1	4.5200e-003	4.8000e-003
tblVehicleEF	LDT1	1.0190e-003	1.0000e-003
tblVehicleEF	LDT1	0.70	0.82
tblVehicleEF	LDT1	0.63	0.59
tblVehicleEF	LDT1	0.43	0.43
tblVehicleEF	LDT1	0.35	0.39
tblVehicleEF	LDT1	1.70	0.36
tblVehicleEF	LDT1	0.71	0.80
tblVehicleEF	LDT1	0.04	0.05

tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	7.79	8.14
tblVehicleEF	LDT1	8.05	18.88
tblVehicleEF	LDT1	0.12	0.24
tblVehicleEF	LDT1	0.63	1.09
tblVehicleEF	LDT1	0.46	0.73
tblVehicleEF	LDT1	0.04	0.01
tblVehicleEF	LDT1	6.7850e-003	0.01
tblVehicleEF	LDT1	8.8680e-003	0.01
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	2.0000e-003	8.0000e-003
tblVehicleEF	LDT1	6.0870e-003	0.01
tblVehicleEF	LDT1	7.9660e-003	0.01
tblVehicleEF	LDT1	1.09	0.04
tblVehicleEF	LDT1	1.17	0.46
tblVehicleEF	LDT1	0.73	0.02
tblVehicleEF	LDT1	0.31	0.34
tblVehicleEF	LDT1	2.29	0.44
tblVehicleEF	LDT1	0.68	1.38
tblVehicleEF	LDT1	4.5030e-003	4.3000e-003
tblVehicleEF	LDT1	1.0220e-003	1.1000e-003
tblVehicleEF	LDT1	1.09	0.04
tblVehicleEF	LDT1	1.17	0.46
tblVehicleEF	LDT1	0.73	0.02
tblVehicleEF	LDT1	0.36	0.39
tblVehicleEF	LDT1	2.29	0.44
tblVehicleEF	LDT1	0.72	1.48
tblVehicleEF	LDT2	0.03	0.03

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tblVehicleEF	LDT2	3.32	3.29
tblVehicleEF	LDT2	6.72	9.01
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.44	0.53
tblVehicleEF	LDT2	0.58	0.73
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02
tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.15	0.10
tblVehicleEF	LDT2	0.28	0.21
tblVehicleEF	LDT2	0.11	0.05
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	0.99	0.18
tblVehicleEF	LDT2	0.52	0.67
tblVehicleEF	LDT2	4.9000e-003	4.3000e-003
tblVehicleEF	LDT2	1.1320e-003	1.0000e-003
tblVehicleEF	LDT2	0.15	0.10
tblVehicleEF	LDT2	0.28	0.21
tblVehicleEF	LDT2	0.11	0.05
tblVehicleEF	LDT2	0.16	0.15
tblVehicleEF	LDT2	0.99	0.18
tblVehicleEF	LDT2	0.56	0.72
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	3.59	3.76
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tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.38	0.46
tblVehicleEF	LDT2	0.51	0.62
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02
tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.32	0.36
tblVehicleEF	LDT2	0.32	0.29
tblVehicleEF	LDT2	0.20	0.19
tblVehicleEF	LDT2	0.13	0.13
tblVehicleEF	LDT2	0.93	0.17
tblVehicleEF	LDT2	0.39	0.44
tblVehicleEF	LDT2	5.2330e-003	4.9000e-003
tblVehicleEF	LDT2	1.0930e-003	1.0000e-003
tblVehicleEF	LDT2	0.32	0.36
tblVehicleEF	LDT2	0.32	0.29
tblVehicleEF	LDT2	0.20	0.19
tblVehicleEF	LDT2	0.16	0.16
tblVehicleEF	LDT2	0.93	0.17
tblVehicleEF	LDT2	0.41	0.47
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	3.59	3.29
tblVehicleEF	LDT2	4.57	10.93
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.39	0.59
tblVehicleEF	LDT2	0.51	0.79
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02
tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
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tblVehicleEF	LDT2	0.58	0.22
tblVehicleEF	LDT2	0.34	0.01
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	1.26	0.21
tblVehicleEF	LDT2	0.39	0.79
tblVehicleEF	LDT2	5.2120e-003	4.3000e-003
tblVehicleEF	LDT2	1.0940e-003	1.1000e-003
tblVehicleEF	LDT2	0.48	0.02
tblVehicleEF	LDT2	0.58	0.22
tblVehicleEF	LDT2	0.34	0.01
tblVehicleEF	LDT2	0.16	0.15
tblVehicleEF	LDT2	1.26	0.21
tblVehicleEF	LDT2	0.42	0.84
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003

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tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.11	1.02
tblVehicleEF	LHD1	7.76	4.01
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.62	0.99
tblVehicleEF	LHD1	1.29	1.48
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
tblVehicleEF	LHD1	0.06	0.01
tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
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tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
tblVehicleEF	LHD1	5.0000e-003	6.0000e-004
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tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.2100e-003	2.0000e-004
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tblVehicleEF	LHD1	1.17	0.18
tblVehicleEF	LHD1	0.59	0.26
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
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tblVehicleEF	LHD1	4.6400e-004	4.0000e-004
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tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
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tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.22	1.04
tblVehicleEF	LHD1	5.09	2.17
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.46	0.94
tblVehicleEF	LHD1	1.20	1.34
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
tblVehicleEF	LHD1	0.06	0.01
tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	2.4820e-003	0.01
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tblVehicleEF	LHD1	1.5880e-003	1.1000e-003

tblVehicleEF	LHD1	0.01	1.9000e-003
tblVehicleEF	LHD1	0.15	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
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tblVehicleEF	LHD1	1.14	0.17
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tblVehicleEF	LHD1	4.1800e-004	4.0000e-004
tblVehicleEF	LHD1	0.01	1.9000e-003
tblVehicleEF	LHD1	0.15	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
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tblVehicleEF	LHD1	1.14	0.17
tblVehicleEF	LHD1	0.49	0.19
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
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tblVehicleEF	LHD1	5.09	4.88
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.51	1.02
tblVehicleEF	LHD1	1.20	1.55
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004

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tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
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tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.40	0.10
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.46	0.30
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
tblVehicleEF	LHD1	7.4930e-003	8.2000e-003
tblVehicleEF	LHD1	4.1800e-004	5.0000e-004
tblVehicleEF	LHD1	0.02	2.0000e-004
tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.45	0.12
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.49	0.32
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003
tblVehicleEF	LHD2	0.02	0.02

tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.11	0.19
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tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.25	2.02
tblVehicleEF	LHD2	0.45	1.44
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
tblVehicleEF	LHD2	1.5460e-003	1.9000e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
tblVehicleEF	LHD2	0.24	0.30
tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.20	0.50
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003
tblVehicleEF	LHD2	1.7800e-004	4.0000e-004

tblVehicleEF	LHD2	1.5460e-003	1.9000e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
tblVehicleEF	LHD2	0.27	0.33
tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.21	0.53
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.88	2.87
tblVehicleEF	LHD2	1.63	4.09
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.09	1.91
tblVehicleEF	LHD2	0.42	1.30
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
tblVehicleEF	LHD2	1.6450e-003	7.0000e-004
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
tblVehicleEF	LHD2	3.2640e-003	6.1000e-003

tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
tblVehicleEF	LHD2	0.24	0.31
tblVehicleEF	LHD2	0.24	0.62
tblVehicleEF	LHD2	0.15	0.33
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
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tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
tblVehicleEF	LHD2	0.27	0.35
tblVehicleEF	LHD2	0.24	0.62
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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.03
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.88	2.72
tblVehicleEF	LHD2	1.63	9.57
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.15	2.08
tblVehicleEF	LHD2	0.42	1.51
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
tblVehicleEF	LHD2	0.08	0.01

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
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tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
tblVehicleEF	LHD2	5.1450e-003	4.0000e-004
tblVehicleEF	LHD2	0.09	0.06
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	2.4490e-003	1.0000e-004
tblVehicleEF	LHD2	0.24	0.29
tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.15	0.58
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003
tblVehicleEF	LHD2	1.6200e-004	5.0000e-004
tblVehicleEF	LHD2	5.1450e-003	4.0000e-004
tblVehicleEF	LHD2	0.09	0.06
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	2.4490e-003	1.0000e-004
tblVehicleEF	LHD2	0.27	0.33
tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.16	0.62
tblVehicleEF	MCY	0.00	0.22
tblVehicleEF	MCY	0.00	0.16
tblVehicleEF	MCY	32.11	32.39

tblVehicleEF	MCY	10.95	12.41
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.31	1.37
tblVehicleEF	MCY	0.32	0.32
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.00	3.04
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.40	2.62
tblVehicleEF	MCY	2.1750e-003	2.1000e-003
tblVehicleEF	MCY	7.0800e-004	7.0000e-004
tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.27	3.31
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.58	2.82
tblVehicleEF	MCY	0.00	0.21
tblVehicleEF	MCY	0.00	0.11

tblVehicleEF	MCY	29.81	29.27
tblVehicleEF	MCY	8.78	8.78
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.12	1.15
tblVehicleEF	MCY	0.29	0.28
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	2.49	2.47
tblVehicleEF	MCY	0.75	0.51
tblVehicleEF	MCY	1.40	1.21
tblVehicleEF	MCY	2.83	2.81
tblVehicleEF	MCY	1.87	0.33
tblVehicleEF	MCY	1.87	1.83
tblVehicleEF	MCY	2.1340e-003	2.1000e-003
tblVehicleEF	MCY	6.5700e-004	6.0000e-004
tblVehicleEF	MCY	2.49	2.47
tblVehicleEF	MCY	0.75	0.51
tblVehicleEF	MCY	1.40	1.21
tblVehicleEF	MCY	3.09	3.07
tblVehicleEF	MCY	1.87	0.33
tblVehicleEF	MCY	2.01	1.97
tblVehicleEF	MCY	0.00	0.23

tblVehicleEF	MCY	0.00	0.19
tblVehicleEF	MCY	30.06	35.29
tblVehicleEF	MCY	8.82	14.27
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.17	1.48
tblVehicleEF	MCY	0.29	0.35
tblVehicleEF	MCY	0.04	6.3000e-003
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	4.38	0.05
tblVehicleEF	MCY	1.78	0.28
tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	2.84	3.19
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	1.88	3.04
tblVehicleEF	MCY	2.1380e-003	2.2000e-003
tblVehicleEF	MCY	6.5800e-004	7.0000e-004
tblVehicleEF	MCY	4.38	0.05
tblVehicleEF	MCY	1.78	0.28
tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	3.10	3.47
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	2.02	3.26

tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	4.37	3.65
tblVehicleEF	MDV	10.31	10.27
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.77	0.65
tblVehicleEF	MDV	0.97	0.93
tblVehicleEF	MDV	0.04	0.01
tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.18	0.14
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.91	0.85
tblVehicleEF	MDV	6.1930e-003	5.9000e-003
tblVehicleEF	MDV	1.4490e-003	1.4000e-003
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.97	0.91

tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	4.78	4.15
tblVehicleEF	MDV	6.91	6.04
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.66	0.56
tblVehicleEF	MDV	0.85	0.79
tblVehicleEF	MDV	0.04	0.01
tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
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tblVehicleEF	MDV	0.41	0.27
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	0.19	0.15
tblVehicleEF	MDV	1.25	0.17
tblVehicleEF	MDV	0.67	0.56
tblVehicleEF	MDV	6.6080e-003	6.7000e-003
tblVehicleEF	MDV	1.3880e-003	1.3000e-003
tblVehicleEF	MDV	0.38	0.32
tblVehicleEF	MDV	0.41	0.27
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	0.24	0.19
tblVehicleEF	MDV	1.25	0.17
tblVehicleEF	MDV	0.72	0.60

tblVehicleEF	MDV	0.04	0.03
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tblVehicleEF	MDV	4.77	3.69
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tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.69	0.72
tblVehicleEF	MDV	0.86	1.01
tblVehicleEF	MDV	0.04	0.01
tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
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tblVehicleEF	MDV	0.19	0.14
tblVehicleEF	MDV	1.71	0.21
tblVehicleEF	MDV	0.68	0.99
tblVehicleEF	MDV	6.5810e-003	5.8000e-003
tblVehicleEF	MDV	1.3900e-003	1.4000e-003
tblVehicleEF	MDV	0.55	0.01
tblVehicleEF	MDV	0.72	0.21
tblVehicleEF	MDV	0.38	0.01
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	1.71	0.21
tblVehicleEF	MDV	0.72	1.06

tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.10
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tblVehicleEF	MH	17.22	29.19
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.27	3.29
tblVehicleEF	MH	1.39	1.85
tblVehicleEF	MH	0.05	0.01
tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	2.05	1.94
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.69	0.46
tblVehicleEF	MH	0.35	0.61
tblVehicleEF	MH	3.06	0.04
tblVehicleEF	MH	1.06	1.73
tblVehicleEF	MH	7.5500e-003	7.8000e-003
tblVehicleEF	MH	6.5500e-004	8.0000e-004
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tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.69	0.46
tblVehicleEF	MH	0.40	0.69
tblVehicleEF	MH	3.06	0.04

tblVehicleEF	MH	1.14	1.85
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.06
tblVehicleEF	MH	9.90	16.25
tblVehicleEF	MH	10.76	14.48
tblVehicleEF	MH	6.0920e-003	6.5370e-003
tblVehicleEF	MH	2.04	2.92
tblVehicleEF	MH	1.30	1.68
tblVehicleEF	MH	0.05	0.01
tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	4.33	6.30
tblVehicleEF	MH	0.15	0.18
tblVehicleEF	MH	1.00	1.39
tblVehicleEF	MH	0.35	0.63
tblVehicleEF	MH	2.99	0.04
tblVehicleEF	MH	0.75	1.01
tblVehicleEF	MH	7.5520e-003	7.8000e-003
tblVehicleEF	MH	5.4300e-004	6.0000e-004
tblVehicleEF	MH	4.33	6.30
tblVehicleEF	MH	0.15	0.18
tblVehicleEF	MH	1.00	1.39
tblVehicleEF	MH	0.40	0.72

tblVehicleEF	MH	2.99	0.04
tblVehicleEF	MH	0.80	1.08
tblVehicleEF	MH	0.00	0.07
tblVehicleEF	MH	0.00	0.12
tblVehicleEF	MH	9.92	15.79
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tblVehicleEF	MH	2.10	3.49
tblVehicleEF	MH	1.30	1.95
tblVehicleEF	MH	0.05	0.01
tblVehicleEF	MH	8.4670e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.5670e-003	1.2000e-003
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
tblVehicleEF	MH	6.84	0.35
tblVehicleEF	MH	0.29	0.15
tblVehicleEF	MH	2.17	0.16
tblVehicleEF	MH	0.35	0.60
tblVehicleEF	MH	3.30	0.04
tblVehicleEF	MH	0.75	2.07
tblVehicleEF	MH	7.5530e-003	7.8000e-003
tblVehicleEF	MH	5.4300e-004	1.0000e-003
tblVehicleEF	MH	6.84	0.35
tblVehicleEF	MH	0.29	0.15
tblVehicleEF	MH	2.17	0.16

tblVehicleEF	MH	0.40	0.69
tblVehicleEF	MH	3.30	0.04
tblVehicleEF	MH	0.80	2.22
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tblVehicleEF	MHD	9.5610e-003	0.01
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tblVehicleEF	MHD	0.07	2.4000e-003
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
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tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
tblVehicleEF	MHD	8.7340e-003	1.6000e-003
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.29	0.02
tblVehicleEF	MHD	4.2500e-003	4.0000e-004
tblVehicleEF	MHD	0.32	0.23

tblVehicleEF	MHD	1.66	0.43
tblVehicleEF	MHD	3.22	1.49
tblVehicleEF	MHD	5.7810e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.4330e-003	5.0000e-004
tblVehicleEF	MHD	8.7340e-003	1.6000e-003
tblVehicleEF	MHD	0.40	0.04
tblVehicleEF	MHD	0.33	0.02
tblVehicleEF	MHD	4.2500e-003	4.0000e-004
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tblVehicleEF	MHD	1.66	0.43
tblVehicleEF	MHD	3.46	1.61
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
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tblVehicleEF	MHD	4.17	3.72
tblVehicleEF	MHD	1.91	0.78
tblVehicleEF	MHD	0.06	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
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tblVehicleEF	MHD	1.62	0.43
tblVehicleEF	MHD	2.34	0.93
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.2700e-003	4.0000e-004
tblVehicleEF	MHD	0.02	5.3000e-003
tblVehicleEF	MHD	0.45	0.06
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tblVehicleEF	MHD	7.3470e-003	1.3000e-003
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	1.62	0.43
tblVehicleEF	MHD	2.52	1.00
tblVehicleEF	MHD	0.01	1.1000e-003
tblVehicleEF	MHD	9.5610e-003	0.01
tblVehicleEF	MHD	0.00	0.11
tblVehicleEF	MHD	3.30	0.16
tblVehicleEF	MHD	2.93	3.72
tblVehicleEF	MHD	25.46	17.63
tblVehicleEF	MHD	0.02	0.02

tblVehicleEF	MHD	6.73	0.16
tblVehicleEF	MHD	4.25	4.01
tblVehicleEF	MHD	1.91	0.91
tblVehicleEF	MHD	0.09	2.4000e-003
tblVehicleEF	MHD	0.10	0.01
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	9.7780e-003	1.7000e-003
tblVehicleEF	MHD	0.08	2.4000e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	2.7180e-003	0.01
tblVehicleEF	MHD	0.11	0.14
tblVehicleEF	MHD	7.7670e-003	1.7000e-003
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tblVehicleEF	MHD	0.32	0.02
tblVehicleEF	MHD	0.02	1.0000e-004
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tblVehicleEF	MHD	1.87	0.45
tblVehicleEF	MHD	2.35	1.78
tblVehicleEF	MHD	5.3060e-003	1.0000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.2710e-003	6.0000e-004
tblVehicleEF	MHD	0.03	3.0000e-004
tblVehicleEF	MHD	0.87	0.05
tblVehicleEF	MHD	0.36	0.02
tblVehicleEF	MHD	0.02	1.0000e-004
tblVehicleEF	MHD	0.36	0.26

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tblVehicleEF	MHD	2.52	1.92
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tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.05
tblVehicleEF	OBUS	2.24	0.18
tblVehicleEF	OBUS	2.13	3.58
tblVehicleEF	OBUS	14.81	15.02
tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.46	0.12
tblVehicleEF	OBUS	4.62	3.64
tblVehicleEF	OBUS	1.77	1.81
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	1.4710e-003	6.0000e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.40	0.03
tblVehicleEF	OBUS	5.9200e-004	2.0000e-004
tblVehicleEF	OBUS	0.21	0.23
tblVehicleEF	OBUS	0.46	0.23

tblVehicleEF	OBUS	1.18	0.97
tblVehicleEF	OBUS	5.6380e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.9500e-004	5.0000e-004
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tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.45	0.03
tblVehicleEF	OBUS	5.9200e-004	2.0000e-004
tblVehicleEF	OBUS	0.25	0.26
tblVehicleEF	OBUS	0.46	0.23
tblVehicleEF	OBUS	1.27	1.03
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.04
tblVehicleEF	OBUS	1.63	0.18
tblVehicleEF	OBUS	2.12	3.66
tblVehicleEF	OBUS	10.93	9.17
tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.67	0.12
tblVehicleEF	OBUS	4.37	3.40
tblVehicleEF	OBUS	1.65	1.64
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.04	0.01

tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	3.1470e-003	2.0000e-003
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.37	0.03
tblVehicleEF	OBUS	8.9000e-004	6.0000e-004
tblVehicleEF	OBUS	0.21	0.23
tblVehicleEF	OBUS	0.45	0.22
tblVehicleEF	OBUS	0.91	0.69
tblVehicleEF	OBUS	5.9730e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.2600e-004	4.0000e-004
tblVehicleEF	OBUS	3.1470e-003	2.0000e-003
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.43	0.03
tblVehicleEF	OBUS	8.9000e-004	6.0000e-004
tblVehicleEF	OBUS	0.25	0.27
tblVehicleEF	OBUS	0.45	0.22
tblVehicleEF	OBUS	0.98	0.74
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	2.9480e-003	0.02
tblVehicleEF	OBUS	0.00	0.06
tblVehicleEF	OBUS	3.09	0.18
tblVehicleEF	OBUS	2.13	3.56
tblVehicleEF	OBUS	10.94	17.94
tblVehicleEF	OBUS	3.9530e-003	1.7350e-003
tblVehicleEF	OBUS	6.17	0.12

tblVehicleEF	OBUS	4.46	3.77
tblVehicleEF	OBUS	1.65	1.90
tblVehicleEF	OBUS	0.03	1.3000e-003
tblVehicleEF	OBUS	0.09	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.06	0.11
tblVehicleEF	OBUS	2.3860e-003	2.3000e-003
tblVehicleEF	OBUS	0.02	1.3000e-003
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	2.5450e-003	0.01
tblVehicleEF	OBUS	0.05	0.11
tblVehicleEF	OBUS	1.8930e-003	2.3000e-003
tblVehicleEF	OBUS	4.7640e-003	2.0000e-004
tblVehicleEF	OBUS	0.09	0.02
tblVehicleEF	OBUS	0.43	0.03
tblVehicleEF	OBUS	1.9520e-003	1.0000e-004
tblVehicleEF	OBUS	0.21	0.22
tblVehicleEF	OBUS	0.51	0.24
tblVehicleEF	OBUS	0.92	1.11
tblVehicleEF	OBUS	5.1760e-003	1.0000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.2600e-004	5.0000e-004
tblVehicleEF	OBUS	4.7640e-003	2.0000e-004
tblVehicleEF	OBUS	0.09	0.02
tblVehicleEF	OBUS	0.49	0.03
tblVehicleEF	OBUS	1.9520e-003	1.0000e-004
tblVehicleEF	OBUS	0.25	0.26
tblVehicleEF	OBUS	0.51	0.24

tblVehicleEF	OBUS	0.98	1.19
tblVehicleEF	SBUS	5.4240e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.05
tblVehicleEF	SBUS	1.05	6.93
tblVehicleEF	SBUS	11.09	8.37
tblVehicleEF	SBUS	59.28	13.08
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	8.14	7.87
tblVehicleEF	SBUS	8.51	7.78
tblVehicleEF	SBUS	3.94	0.88
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.12	1.05
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.79	0.64
tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.55	0.97

tblVehicleEF	SBUS	5.6380e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.4760e-003	5.0000e-004
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.87	0.71
tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.88	1.04
tblVehicleEF	SBUS	5.1110e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.04
tblVehicleEF	SBUS	0.77	6.93
tblVehicleEF	SBUS	10.69	8.19
tblVehicleEF	SBUS	45.07	9.02
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	8.40	7.87
tblVehicleEF	SBUS	7.99	7.40
tblVehicleEF	SBUS	3.59	0.78
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01

tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.11	1.05
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	3.14	0.07
tblVehicleEF	SBUS	3.59	0.73
tblVehicleEF	SBUS	5.9730e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2230e-003	4.0000e-004
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	3.14	0.07
tblVehicleEF	SBUS	3.85	0.78
tblVehicleEF	SBUS	5.8550e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.06
tblVehicleEF	SBUS	1.45	6.93
tblVehicleEF	SBUS	10.75	8.60
tblVehicleEF	SBUS	45.53	15.34
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	7.78	7.87
tblVehicleEF	SBUS	8.18	8.01

tblVehicleEF	SBUS	3.62	0.94
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.13	1.05
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.64	1.11
tblVehicleEF	SBUS	5.1750e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2310e-003	5.0000e-004
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.14	1.13
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.90	1.19

tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.14
tblVehicleEF	UBUS	6.02	6.17
tblVehicleEF	UBUS	27.32	35.83
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	4.05	4.29
tblVehicleEF	UBUS	3.82	4.52
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.45	0.48
tblVehicleEF	UBUS	0.92	0.03
tblVehicleEF	UBUS	2.02	2.54
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.0500e-003	1.4000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.51	0.54
tblVehicleEF	UBUS	0.92	0.03

tblVehicleEF	UBUS	2.16	2.71
tblVehicleEF	UBUS	0.00	0.04
tblVehicleEF	UBUS	0.00	0.11
tblVehicleEF	UBUS	6.20	6.45
tblVehicleEF	UBUS	20.27	23.17
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.70	3.91
tblVehicleEF	UBUS	3.54	4.04
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.47	0.50
tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.71	2.00
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3000e-004	1.2000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.52	0.56

tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.83	2.13
tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.15
tblVehicleEF	UBUS	6.20	6.03
tblVehicleEF	UBUS	20.35	42.00
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.80	4.49
tblVehicleEF	UBUS	3.54	4.77
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003
tblVehicleEF	UBUS	0.47	0.47
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.72	2.81
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3200e-004	1.5000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003

tblVehicleEF	UBUS	0.52	0.53
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.83	3.00
tblWater	AerobicPercent	87.46	84.69
tblWater	AnaDigestCombDigestGasPercent	100.00	3.17
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.14
tblWater	SepticTankPercent	10.33	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	3.5313	40.0142	21.8084	0.0387	132.8495	1.7148	134.5643	13.9654	1.5776	15.5430			3,703.0217	1.0788	0.0000	3,725.6770
2015	2.6819	30.9101	17.6597	0.0282	11.5819	1.2791	12.8610	4.3361	1.1767	5.5129			2,680.9606	0.7992	0.0000	2,697.7443
2016	2.5112	28.4513	16.6049	0.0281	11.5819	1.1721	12.7541	4.3361	1.0784	5.4145			2,649.9707	0.7982	0.0000	2,666.7318
2017	2.3509	26.1873	15.5080	0.0280	11.5658	1.0714	12.6372	4.3345	0.9857	5.3202			2,597.4166	0.7947	0.0000	2,614.1042
Total	**11.0752**	**125.5628**	**71.5810**	**0.1230**	**167.5792**	**5.2374**	**172.8165**	**26.9722**	**4.8184**	**31.7906**			**11,631.3696**	**3.4708**	**0.0000**	**11,704.2574**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	3.5313	40.0142	21.8084	0.0387	80.3777	1.7148	82.0926	8.0601	1.5776	9.6377			3,703.0174	1.0788	0.0000	3,725.6726
2015	2.6819	30.9100	17.6597	0.0282	4.6635	1.2791	5.9426	0.6799	1.1767	1.8566			2,680.9574	0.7992	0.0000	2,697.7411
2016	2.5112	28.4512	16.6048	0.0281	4.6635	1.1721	5.8356	0.6799	1.0784	1.7583			2,649.9676	0.7982	0.0000	2,666.7287
2017	2.3509	26.1872	15.5080	0.0280	4.6475	1.0714	5.7189	0.6783	0.9857	1.6640			2,597.4135	0.7947	0.0000	2,614.1011
Total	**11.0752**	**125.5626**	**71.5809**	**0.1230**	**94.3523**	**5.2374**	**99.5897**	**10.0982**	**4.8184**	**14.9166**			**11,631.3559**	**3.4708**	**0.0000**	**11,704.2436**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**43.70**	**0.00**	**42.37**	**62.56**	**0.00**	**53.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	836.1400
Total	**836.1400**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site preparation	Site Preparation	2/1/2014	2/7/2014	5	5	
2	Distribute straw bales on sand dunes	Site Preparation	2/8/2014	8/8/2014	5	130	
3	Planting and watering	Site Preparation	8/9/2014	11/28/2014	5	80	
4	Clean up and restoration	Site Preparation	11/29/2014	12/12/2014	5	10	
5	Operation and maintenance	Site Preparation	1/1/2015	12/31/2017	5	782	
6	ATVs	Site Preparation	1/1/2015	12/31/2017	5	782	
7	Water Trucks	Site Preparation	1/1/2015	12/31/2017	5	782	

Acres of Grading (Site Preparation Phase): 5.6

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site preparation	Graders	2	8.00	162	0.61
Site preparation	Off-Highway Trucks	4	8.00	381	0.57
Site preparation	Rubber Tired Dozers	0	8.00	358	0.59
Site preparation	Tractors/Loaders/Backhoes	0	8.00	75	0.55
Distribute straw bales on sand dunes	Cranes	0	7.00	208	0.43
Distribute straw bales on sand dunes	Forklifts	0	8.00	149	0.30
Distribute straw bales on sand dunes	Generator Sets	0	8.00	84	0.74
Distribute straw bales on sand dunes	Off-Highway Trucks	6	8.00	381	0.57
Distribute straw bales on sand dunes	Rubber Tired Dozers	2	8.00	358	0.59
Distribute straw bales on sand dunes	Rubber Tired Loaders	2	8.00	87	0.54
Distribute straw bales on sand dunes	Tractors/Loaders/Backhoes	2	8.00	75	0.55
Distribute straw bales on sand dunes	Welders	0	8.00	46	0.45
Planting and watering	Cranes	0	7.00	208	0.43
Planting and watering	Forklifts	0	8.00	149	0.30
Planting and watering	Generator Sets	0	8.00	84	0.74
Planting and watering	Off-Highway Trucks	30	8.00	381	0.57
Planting and watering	Rubber Tired Dozers	3	8.00	358	0.59
Planting and watering	Rubber Tired Loaders	2	8.00	87	0.54
Planting and watering	Tractors/Loaders/Backhoes	5	8.00	75	0.55
Planting and watering	Welders	0	8.00	46	0.45
Clean up and restoration	Off-Highway Trucks	7	8.00	381	0.57
Clean up and restoration	Rubber Tired Dozers	2	8.00	358	0.59
Clean up and restoration	Rubber Tired Loaders	2	8.00	87	0.54
Clean up and restoration	Tractors/Loaders/Backhoes	2	8.00	75	0.55

Operation and maintenance	Cranes	0	7.00	208	0.43
Operation and maintenance	Forklifts	0	8.00	149	0.30
Operation and maintenance	Generator Sets	0	8.00	84	0.74
Operation and maintenance	Off-Highway Trucks	5	8.00	381	0.57
Operation and maintenance	Rubber Tired Dozers	3	8.00	358	0.59
Operation and maintenance	Rubber Tired Loaders	0	8.00	87	0.54
Operation and maintenance	Tractors/Loaders/Backhoes	0	8.00	75	0.55
Operation and maintenance	Welders	0	8.00	46	0.45
ATVs	Off-Highway Trucks	10	8.00	50	0.38
ATVs	Rubber Tired Dozers	0	8.00	255	0.40
ATVs	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Water Trucks	Off-Highway Trucks	5	8.00	400	0.38
Water Trucks	Rubber Tired Dozers	0	8.00	255	0.40
Water Trucks	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site preparation	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Distribute straw bales on sand dunes	12	30.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Planting and watering	40	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Clean up and restoration	13	33.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Operation and maintenance	8	5.00	0.00	0.00	2.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
ATVs	10	11.25	0.00	0.00	2.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Water Trucks	5	6.00	0.00	0.00	2.20	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9700e-003	0.0000	2.9700e-003	3.2000e-004	0.0000	3.2000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0225	0.2553	0.1139	2.3000e-004		0.0111	0.0111		0.0102	0.0102			22.2781	6.5800e-003	0.0000	22.4164
Total	**0.0225**	**0.2553**	**0.1139**	**2.3000e-004**	**2.9700e-003**	**0.0111**	**0.0141**	**3.2000e-004**	**0.0102**	**0.0106**			**22.2781**	**6.5800e-003**	**0.0000**	**22.4164**

3.2 Site preparation - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	6.7000e-004	6.6000e-003	1.0000e-005	0.7989	1.0000e-005	0.7989	0.0797	1.0000e-005	0.0797			0.4627	4.0000e-005	0.0000	0.4636
Total	**4.4000e-004**	**6.7000e-004**	**6.6000e-003**	**1.0000e-005**	**0.7989**	**1.0000e-005**	**0.7989**	**0.0797**	**1.0000e-005**	**0.0797**			**0.4627**	**4.0000e-005**	**0.0000**	**0.4636**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-004	0.0000	2.0000e-004	2.0000e-005	0.0000	2.0000e-005			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0225	0.2553	0.1139	2.3000e-004		0.0111	0.0111		0.0102	0.0102			22.2781	6.5800e-003	0.0000	22.4164
Total	**0.0225**	**0.2553**	**0.1139**	**2.3000e-004**	**2.0000e-004**	**0.0111**	**0.0113**	**2.0000e-005**	**0.0102**	**0.0103**			**22.2781**	**6.5800e-003**	**0.0000**	**22.4164**

3.2 Site preparation - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	6.7000e-004	6.6000e-003	1.0000e-005	0.4892	1.0000e-005	0.4892	0.0488	1.0000e-005	0.0488			0.4627	4.0000e-005	0.0000	0.4636
Total	**4.4000e-004**	**6.7000e-004**	**6.6000e-003**	**1.0000e-005**	**0.4892**	**1.0000e-005**	**0.4892**	**0.0488**	**1.0000e-005**	**0.0488**			**0.4627**	**4.0000e-005**	**0.0000**	**0.4636**

3.3 Distribute straw bales on sand dunes - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8857	0.0000	0.8857	0.4414	0.0000	0.4414			0.0000	0.0000	0.0000	0.0000
Off-Road	1.0788	12.1978	6.9070	0.0107		0.5583	0.5583		0.5136	0.5136			1,031.3280	0.3048	0.0000	1,037.7281
Total	**1.0788**	**12.1978**	**6.9070**	**0.0107**	**0.8857**	**0.5583**	**1.4440**	**0.4414**	**0.5136**	**0.9551**			**1,031.3280**	**0.3048**	**0.0000**	**1,037.7281**

3.3 Distribute straw bales on sand dunes - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0231	0.0346	0.3432	3.0000e-004	41.5425	3.3000e-004	41.5429	4.1462	3.0000e-004	4.1465			24.0594	2.2100e-003	0.0000	24.1058
Total	**0.0231**	**0.0346**	**0.3432**	**3.0000e-004**	**41.5425**	**3.3000e-004**	**41.5429**	**4.1462**	**3.0000e-004**	**4.1465**			**24.0594**	**2.2100e-003**	**0.0000**	**24.1058**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0598	0.0000	0.0598	0.0298	0.0000	0.0298			0.0000	0.0000	0.0000	0.0000
Off-Road	1.0788	12.1978	6.9070	0.0107		0.5583	0.5583		0.5136	0.5136			1,031.3268	0.3048	0.0000	1,037.7269
Total	**1.0788**	**12.1978**	**6.9070**	**0.0107**	**0.0598**	**0.5583**	**0.6181**	**0.0298**	**0.5136**	**0.5434**			**1,031.3268**	**0.3048**	**0.0000**	**1,037.7269**

3.3 Distribute straw bales on sand dunes - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0231	0.0346	0.3432	3.0000e-004	25.4372	3.3000e-004	25.4376	2.5357	3.0000e-004	2.5360			24.0594	2.2100e-003	0.0000	24.1058
Total	**0.0231**	**0.0346**	**0.3432**	**3.0000e-004**	**25.4372**	**3.3000e-004**	**25.4376**	**2.5357**	**3.0000e-004**	**2.5360**			**24.0594**	**2.2100e-003**	**0.0000**	**24.1058**

3.4 Planting and watering - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8255	0.0000	0.8255	0.4083	0.0000	0.4083			0.0000	0.0000	0.0000	0.0000
Off-Road	2.2667	26.4239	13.1337	0.0258		1.0980	1.0980		1.0101	1.0101			2,485.1195	0.7344	0.0000	2,500.5415
Total	**2.2667**	**26.4239**	**13.1337**	**0.0258**	**0.8255**	**1.0980**	**1.9235**	**0.4083**	**1.0101**	**1.4185**			**2,485.1195**	**0.7344**	**0.0000**	**2,500.5415**

3.4 Planting and watering - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0474	0.0710	0.7039	6.2000e-004	85.2155	6.9000e-004	85.2162	8.5051	6.2000e-004	8.5057			49.3526	4.5300e-003	0.0000	49.4478
Total	**0.0474**	**0.0710**	**0.7039**	**6.2000e-004**	**85.2155**	**6.9000e-004**	**85.2162**	**8.5051**	**6.2000e-004**	**8.5057**			**49.3526**	**4.5300e-003**	**0.0000**	**49.4478**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0557	0.0000	0.0557	0.0276	0.0000	0.0276			0.0000	0.0000	0.0000	0.0000
Off-Road	2.2667	26.4239	13.1337	0.0258		1.0980	1.0980		1.0101	1.0101			2,485.1166	0.7344	0.0000	2,500.5385
Total	**2.2667**	**26.4239**	**13.1337**	**0.0258**	**0.0557**	**1.0980**	**1.1537**	**0.0276**	**1.0101**	**1.0377**			**2,485.1166**	**0.7344**	**0.0000**	**2,500.5385**

3.4 Planting and watering - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	0.0474	0.0710	0.7039	6.2000e-004	52.1790	6.9000e-004	52.1796	5.2014	6.2000e-004	5.2021			49.3526	4.5300e-003	0.0000	49.4478
Total	**0.0474**	**0.0710**	**0.7039**	**6.2000e-004**	**52.1790**	**6.9000e-004**	**52.1796**	**5.2014**	**6.2000e-004**	**5.2021**			**49.3526**	**4.5300e-003**	**0.0000**	**49.4478**

3.5 Clean up and restoration - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0632	0.0000	0.0632	0.0334	0.0000	0.0334			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0905	1.0280	0.5711	9.2000e-004		0.0464	0.0464		0.0427	0.0427			88.3856	0.0261	0.0000	88.9341
Total	**0.0905**	**1.0280**	**0.5711**	**9.2000e-004**	**0.0632**	**0.0464**	**0.1096**	**0.0334**	**0.0427**	**0.0761**			**88.3856**	**0.0261**	**0.0000**	**88.9341**

3.5 Clean up and restoration - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.9500e-003	2.9300e-003	0.0290	3.0000e-005	3.5151	3.0000e-005	3.5152	0.3508	3.0000e-005	0.3509			2.0358	1.9000e-004	0.0000	2.0397
Total	**1.9500e-003**	**2.9300e-003**	**0.0290**	**3.0000e-005**	**3.5151**	**3.0000e-005**	**3.5152**	**0.3508**	**3.0000e-005**	**0.3509**			**2.0358**	**1.9000e-004**	**0.0000**	**2.0397**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2700e-003	0.0000	4.2700e-003	2.2600e-003	0.0000	2.2600e-003			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0905	1.0280	0.5711	9.2000e-004		0.0464	0.0464		0.0427	0.0427			88.3855	0.0261	0.0000	88.9340
Total	**0.0905**	**1.0280**	**0.5711**	**9.2000e-004**	**4.2700e-003**	**0.0464**	**0.0507**	**2.2600e-003**	**0.0427**	**0.0449**			**88.3855**	**0.0261**	**0.0000**	**88.9340**

3.5 Clean up and restoration - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	1.9500e-003	2.9300e-003	0.0290	3.0000e-005	2.1524	3.0000e-005	2.1524	0.2146	3.0000e-005	0.2146			2.0358	1.9000e-004	0.0000	2.0397
Total	**1.9500e-003**	**2.9300e-003**	**0.0290**	**3.0000e-005**	**2.1524**	**3.0000e-005**	**2.1524**	**0.2146**	**3.0000e-005**	**0.2146**			**2.0358**	**1.9000e-004**	**0.0000**	**2.0397**

3.6 Operation and maintenance - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.1668	0.0000	7.1668	3.8940	0.0000	3.8940			0.0000	0.0000	0.0000	0.0000
Off-Road	1.9930	22.9801	13.9889	0.0195		0.9764	0.9764		0.8983	0.8983			1,856.4194	0.5542	0.0000	1,868.0580
Total	**1.9930**	**22.9801**	**13.9889**	**0.0195**	**7.1668**	**0.9764**	**8.1432**	**3.8940**	**0.8983**	**4.7923**			**1,856.4194**	**0.5542**	**0.0000**	**1,868.0580**

3.6 Operation and maintenance - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.6900e-003	2.2300e-003	0.0252	2.0000e-005	1.1948	2.0000e-005	1.1949	0.1191	2.0000e-005	0.1192			1.4132	1.5000e-004	0.0000	1.4163
Total	**3.6900e-003**	**2.2300e-003**	**0.0252**	**2.0000e-005**	**1.1948**	**2.0000e-005**	**1.1949**	**0.1191**	**2.0000e-005**	**0.1192**			**1.4132**	**1.5000e-004**	**0.0000**	**1.4163**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4838	0.0000	0.4838	0.2629	0.0000	0.2629			0.0000	0.0000	0.0000	0.0000
Off-Road	1.9930	22.9801	13.9889	0.0195		0.9764	0.9764		0.8983	0.8983			1,856.417 2	0.5542	0.0000	1,868.055 8
Total	**1.9930**	**22.9801**	**13.9889**	**0.0195**	**0.4838**	**0.9764**	**1.4602**	**0.2629**	**0.8983**	**1.1612**			**1,856.417 2**	**0.5542**	**0.0000**	**1,868.055 8**

3.6 Operation and maintenance - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.6900e-003	2.2300e-003	0.0252	2.0000e-005	1.1948	2.0000e-005	1.1949	0.1191	2.0000e-005	0.1192			1.4132	1.5000e-004	0.0000	1.4163
Total	**3.6900e-003**	**2.2300e-003**	**0.0252**	**2.0000e-005**	**1.1948**	**2.0000e-005**	**1.1949**	**0.1191**	**2.0000e-005**	**0.1192**			**1.4132**	**1.5000e-004**	**0.0000**	**1.4163**

3.6 Operation and maintenance - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.1668	0.0000	7.1668	3.8940	0.0000	3.8940			0.0000	0.0000	0.0000	0.0000
Off-Road	1.8820	21.3619	13.2119	0.0195		0.9049	0.9049		0.8325	0.8325			1,835.1360	0.5535	0.0000	1,846.7603
Total	**1.8820**	**21.3619**	**13.2119**	**0.0195**	**7.1668**	**0.9049**	**8.0717**	**3.8940**	**0.8325**	**4.7265**			**1,835.1360**	**0.5535**	**0.0000**	**1,846.7603**

3.6 Operation and maintenance - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.3100e-003	1.9800e-003	0.0222	2.0000e-005	1.1948	2.0000e-005	1.1949	0.1191	2.0000e-005	0.1192			1.3623	1.3000e-004	0.0000	1.3651
Total	**3.3100e-003**	**1.9800e-003**	**0.0222**	**2.0000e-005**	**1.1948**	**2.0000e-005**	**1.1949**	**0.1191**	**2.0000e-005**	**0.1192**			**1.3623**	**1.3000e-004**	**0.0000**	**1.3651**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4838	0.0000	0.4838	0.2629	0.0000	0.2629			0.0000	0.0000	0.0000	0.0000
Off-Road	1.8820	21.3619	13.2119	0.0195		0.9049	0.9049		0.8325	0.8325			1,835.1338	0.5535	0.0000	1,846.7581
Total	**1.8820**	**21.3619**	**13.2119**	**0.0195**	**0.4838**	**0.9049**	**1.3887**	**0.2629**	**0.8325**	**1.0954**			**1,835.1338**	**0.5535**	**0.0000**	**1,846.7581**

3.6 Operation and maintenance - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.3100e-003	1.9800e-003	0.0222	2.0000e-005	1.1948	2.0000e-005	1.1949	0.1191	2.0000e-005	0.1192			1.3623	1.3000e-004	0.0000	1.3651
Total	**3.3100e-003**	**1.9800e-003**	**0.0222**	**2.0000e-005**	**1.1948**	**2.0000e-005**	**1.1949**	**0.1191**	**2.0000e-005**	**0.1192**			**1.3623**	**1.3000e-004**	**0.0000**	**1.3651**

3.6 Operation and maintenance - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.1668	0.0000	7.1668	3.8940	0.0000	3.8940			0.0000	0.0000	0.0000	0.0000
Off-Road	1.7711	19.7875	12.3793	0.0194		0.8340	0.8340		0.7673	0.7673			1,799.2450	0.5513	0.0000	1,810.8220
Total	**1.7711**	**19.7875**	**12.3793**	**0.0194**	**7.1668**	**0.8340**	**8.0008**	**3.8940**	**0.7673**	**4.6613**			**1,799.2450**	**0.5513**	**0.0000**	**1,810.8220**

3.6 Operation and maintenance - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.9300e-003	1.7400e-003	0.0194	2.0000e-005	1.1903	2.0000e-005	1.1903	0.1187	2.0000e-005	0.1187			1.3037	1.2000e-004	0.0000	1.3062
Total	**2.9300e-003**	**1.7400e-003**	**0.0194**	**2.0000e-005**	**1.1903**	**2.0000e-005**	**1.1903**	**0.1187**	**2.0000e-005**	**0.1187**			**1.3037**	**1.2000e-004**	**0.0000**	**1.3062**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4838	0.0000	0.4838	0.2629	0.0000	0.2629			0.0000	0.0000	0.0000	0.0000
Off-Road	1.7711	19.7875	12.3793	0.0194		0.8340	0.8340		0.7673	0.7673			1,799.2429	0.5513	0.0000	1,810.8199
Total	**1.7711**	**19.7875**	**12.3793**	**0.0194**	**0.4838**	**0.8340**	**1.3177**	**0.2629**	**0.7673**	**1.0301**			**1,799.2429**	**0.5513**	**0.0000**	**1,810.8199**

3.6 Operation and maintenance - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	2.9300e-003	1.7400e-003	0.0194	2.0000e-005	1.1903	2.0000e-005	1.1903	0.1187	2.0000e-005	0.1187			1.3037	1.2000e-004	0.0000	1.3062
Total	**2.9300e-003**	**1.7400e-003**	**0.0194**	**2.0000e-005**	**1.1903**	**2.0000e-005**	**1.1903**	**0.1187**	**2.0000e-005**	**0.1187**			**1.3037**	**1.2000e-004**	**0.0000**	**1.3062**

3.7 ATVs - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1029	0.0000	0.1029	0.0111	0.0000	0.0111			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1029**	**0.0000**	**0.1029**	**0.0111**	**0.0000**	**0.0111**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 ATVs - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.3100e-003	5.0300e-003	0.0566	4.0000e-005	2.6884	5.0000e-005	2.6885	0.2681	5.0000e-005	0.2681			3.1797	3.3000e-004	0.0000	3.1866
Total	**8.3100e-003**	**5.0300e-003**	**0.0566**	**4.0000e-005**	**2.6884**	**5.0000e-005**	**2.6885**	**0.2681**	**5.0000e-005**	**0.2681**			**3.1797**	**3.3000e-004**	**0.0000**	**3.1866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9400e-003	0.0000	6.9400e-003	7.5000e-004	0.0000	7.5000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.9400e-003**	**0.0000**	**6.9400e-003**	**7.5000e-004**	**0.0000**	**7.5000e-004**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 ATVs - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	8.3100e-003	5.0300e-003	0.0566	4.0000e-005	2.6884	5.0000e-005	2.6885	0.2681	5.0000e-005	0.2681			3.1797	3.3000e-004	0.0000	3.1866
Total	**8.3100e-003**	**5.0300e-003**	**0.0566**	**4.0000e-005**	**2.6884**	**5.0000e-005**	**2.6885**	**0.2681**	**5.0000e-005**	**0.2681**			**3.1797**	**3.3000e-004**	**0.0000**	**3.1866**

3.7 ATVs - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1029	0.0000	0.1029	0.0111	0.0000	0.0111			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1029**	**0.0000**	**0.1029**	**0.0111**	**0.0000**	**0.0111**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 ATVs - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	7.4400e-003	4.4500e-003	0.0499	4.0000e-005	2.6884	5.0000e-005	2.6885	0.2681	4.0000e-005	0.2681			3.0653	2.9000e-004	0.0000	3.0714
Total	**7.4400e-003**	**4.4500e-003**	**0.0499**	**4.0000e-005**	**2.6884**	**5.0000e-005**	**2.6885**	**0.2681**	**4.0000e-005**	**0.2681**			**3.0653**	**2.9000e-004**	**0.0000**	**3.0714**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9400e-003	0.0000	6.9400e-003	7.5000e-004	0.0000	7.5000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.9400e-003**	**0.0000**	**6.9400e-003**	**7.5000e-004**	**0.0000**	**7.5000e-004**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 ATVs - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	7.4400e-003	4.4500e-003	0.0499	4.0000e-005	2.6884	5.0000e-005	2.6885	0.2681	4.0000e-005	0.2681			3.0653	2.9000e-004	0.0000	3.0714
Total	**7.4400e-003**	**4.4500e-003**	**0.0499**	**4.0000e-005**	**2.6884**	**5.0000e-005**	**2.6885**	**0.2681**	**4.0000e-005**	**0.2681**			**3.0653**	**2.9000e-004**	**0.0000**	**3.0714**

3.7 ATVs - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1029	0.0000	0.1029	0.0111	0.0000	0.0111			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1029**	**0.0000**	**0.1029**	**0.0111**	**0.0000**	**0.0111**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 ATVs - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	6.5900e-003	3.9200e-003	0.0435	4.0000e-005	2.6781	5.0000e-005	2.6781	0.2671	4.0000e-005	0.2671			2.9334	2.6000e-004	0.0000	2.9388
Total	**6.5900e-003**	**3.9200e-003**	**0.0435**	**4.0000e-005**	**2.6781**	**5.0000e-005**	**2.6781**	**0.2671**	**4.0000e-005**	**0.2671**			**2.9334**	**2.6000e-004**	**0.0000**	**2.9388**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9400e-003	0.0000	6.9400e-003	7.5000e-004	0.0000	7.5000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.9400e-003**	**0.0000**	**6.9400e-003**	**7.5000e-004**	**0.0000**	**7.5000e-004**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 ATVs - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	6.5900e-003	3.9200e-003	0.0435	4.0000e-005	2.6781	5.0000e-005	2.6781	0.2671	4.0000e-005	0.2671			2.9334	2.6000e-004	0.0000	2.9388
Total	**6.5900e-003**	**3.9200e-003**	**0.0435**	**4.0000e-005**	**2.6781**	**5.0000e-005**	**2.6781**	**0.2671**	**4.0000e-005**	**0.2671**			**2.9334**	**2.6000e-004**	**0.0000**	**2.9388**

3.8 Water Trucks - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1029	0.0000	0.1029	0.0111	0.0000	0.0111			0.0000	0.0000	0.0000	0.0000
Off-Road	0.6725	7.9204	3.5627	8.6000e-003		0.3025	0.3025		0.2783	0.2783			818.5792	0.2444	0.0000	823.7112
Total	**0.6725**	**7.9204**	**3.5627**	**8.6000e-003**	**0.1029**	**0.3025**	**0.4054**	**0.0111**	**0.2783**	**0.2894**			**818.5792**	**0.2444**	**0.0000**	**823.7112**

3.8 Water Trucks - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.2800e-003	2.2700e-003	0.0264	2.0000e-005	0.3262	2.0000e-005	0.3262	0.0327	2.0000e-005	0.0327			1.3691	1.5000e-004	0.0000	1.3723
Total	**4.2800e-003**	**2.2700e-003**	**0.0264**	**2.0000e-005**	**0.3262**	**2.0000e-005**	**0.3262**	**0.0327**	**2.0000e-005**	**0.0327**			**1.3691**	**1.5000e-004**	**0.0000**	**1.3723**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9400e-003	0.0000	6.9400e-003	7.5000e-004	0.0000	7.5000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.6725	7.9204	3.5627	8.6000e-003		0.3025	0.3025		0.2783	0.2783			818.5783	0.2444	0.0000	823.7103
Total	**0.6725**	**7.9204**	**3.5627**	**8.6000e-003**	**6.9400e-003**	**0.3025**	**0.3095**	**7.5000e-004**	**0.2783**	**0.2791**			**818.5783**	**0.2444**	**0.0000**	**823.7103**

3.8 Water Trucks - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	4.2800e-003	2.2700e-003	0.0264	2.0000e-005	0.2826	2.0000e-005	0.2826	0.0283	2.0000e-005	0.0284			1.3691	1.5000e-004	0.0000	1.3723
Total	**4.2800e-003**	**2.2700e-003**	**0.0264**	**2.0000e-005**	**0.2826**	**2.0000e-005**	**0.2826**	**0.0283**	**2.0000e-005**	**0.0284**			**1.3691**	**1.5000e-004**	**0.0000**	**1.3723**

3.8 Water Trucks - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1029	0.0000	0.1029	0.0111	0.0000	0.0111			0.0000	0.0000	0.0000	0.0000
Off-Road	0.6146	7.0809	3.2977	8.5900e-003		0.2671	0.2671		0.2458	0.2458			809.0873	0.2441	0.0000	814.2123
Total	**0.6146**	**7.0809**	**3.2977**	**8.5900e-003**	**0.1029**	**0.2671**	**0.3700**	**0.0111**	**0.2458**	**0.2569**			**809.0873**	**0.2441**	**0.0000**	**814.2123**

3.8 Water Trucks - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.8400e-003	2.0100e-003	0.0233	2.0000e-005	0.3262	2.0000e-005	0.3262	0.0327	2.0000e-005	0.0327			1.3199	1.3000e-004	0.0000	1.3227
Total	**3.8400e-003**	**2.0100e-003**	**0.0233**	**2.0000e-005**	**0.3262**	**2.0000e-005**	**0.3262**	**0.0327**	**2.0000e-005**	**0.0327**			**1.3199**	**1.3000e-004**	**0.0000**	**1.3227**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9400e-003	0.0000	6.9400e-003	7.5000e-004	0.0000	7.5000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.6146	7.0809	3.2977	8.5900e-003		0.2671	0.2671		0.2458	0.2458			809.0863	0.2441	0.0000	814.2113
Total	**0.6146**	**7.0809**	**3.2977**	**8.5900e-003**	**6.9400e-003**	**0.2671**	**0.2741**	**7.5000e-004**	**0.2458**	**0.2465**			**809.0863**	**0.2441**	**0.0000**	**814.2113**

3.8 Water Trucks - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.8400e-003	2.0100e-003	0.0233	2.0000e-005	0.2826	2.0000e-005	0.2826	0.0283	2.0000e-005	0.0284			1.3199	1.3000e-004	0.0000	1.3227
Total	**3.8400e-003**	**2.0100e-003**	**0.0233**	**2.0000e-005**	**0.2826**	**2.0000e-005**	**0.2826**	**0.0283**	**2.0000e-005**	**0.0284**			**1.3199**	**1.3000e-004**	**0.0000**	**1.3227**

3.8 Water Trucks - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1029	0.0000	0.1029	0.0111	0.0000	0.0111			0.0000	0.0000	0.0000	0.0000
Off-Road	0.5668	6.3923	3.0455	8.5500e-003		0.2373	0.2373		0.2183	0.2183			792.6714	0.2429	0.0000	797.7717
Total	**0.5668**	**6.3923**	**3.0455**	**8.5500e-003**	**0.1029**	**0.2373**	**0.3402**	**0.0111**	**0.2183**	**0.2294**			**792.6714**	**0.2429**	**0.0000**	**797.7717**

3.8 Water Trucks - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.4100e-003	1.7700e-003	0.0204	2.0000e-005	0.3249	2.0000e-005	0.3250	0.0326	2.0000e-005	0.0326			1.2631	1.2000e-004	0.0000	1.2656
Total	**3.4100e-003**	**1.7700e-003**	**0.0204**	**2.0000e-005**	**0.3249**	**2.0000e-005**	**0.3250**	**0.0326**	**2.0000e-005**	**0.0326**			**1.2631**	**1.2000e-004**	**0.0000**	**1.2656**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.9400e-003	0.0000	6.9400e-003	7.5000e-004	0.0000	7.5000e-004			0.0000	0.0000	0.0000	0.0000
Off-Road	0.5668	6.3923	3.0455	8.5500e-003		0.2373	0.2373		0.2183	0.2183			792.6704	0.2429	0.0000	797.7707
Total	**0.5668**	**6.3923**	**3.0455**	**8.5500e-003**	**6.9400e-003**	**0.2373**	**0.2442**	**7.5000e-004**	**0.2183**	**0.2191**			**792.6704**	**0.2429**	**0.0000**	**797.7707**

3.8 Water Trucks - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Worker	3.4100e-003	1.7700e-003	0.0204	2.0000e-005	0.2815	2.0000e-005	0.2816	0.0282	2.0000e-005	0.0283			1.2631	1.2000e-004	0.0000	1.2656
Total	**3.4100e-003**	**1.7700e-003**	**0.0204**	**2.0000e-005**	**0.2815**	**2.0000e-005**	**0.2816**	**0.0282**	**2.0000e-005**	**0.0283**			**1.2631**	**1.2000e-004**	**0.0000**	**1.2656**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.298929	0.238852	0.201373	0.075588	0.027827	0.015800	0.016059	0.098716	0.001735	0.001573	0.014785	0.002226	0.006537

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	836.1400	0.0000	0.0000	836.1400

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	0 / 194	836.1400	0.0000	0.0000	836.1400
Total		**836.1400**	**0.0000**	**0.0000**	**836.1400**

Keeler Dunes

Inyo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	194.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.8	**Precipitation Freq (Days)**	34
Climate Zone	9			**Operational Year**	2015
Utility Company	Statewide Average				
CO2 Intensity (lb/MWhr)	958.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.011

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The average wind speed, as recorded at the Bishop Airport Monitoring Station from 1992 to 2002, was approximately 8.4 miles per hour, which is 3.8 m/s.

Land Use - The proposed project site is 194 acres

Construction Phase - User-defined scenario

Off-road Equipment - user-defined

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - User-defined scenario

Off-road Equipment - user-defined

Trips and VMT - User-defined scenario

On-road Fugitive Dust - Assumed 95 percent of travel on unpaved roads

Vehicle Trips - User-defined scenario

Energy Use - User-defined scenario

Construction Off-road Equipment Mitigation - Vehicle speeds limited to 15 mph. Exposed areas watered two times per day.

Grading - User-defined

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	5.00
tblConstructionPhase	NumDays	120.00	130.00
tblConstructionPhase	NumDays	120.00	80.00
tblConstructionPhase	NumDays	120.00	10.00
tblConstructionPhase	NumDays	120.00	782.00
tblConstructionPhase	NumDays	120.00	782.00
tblConstructionPhase	NumDays	120.00	782.00
tblConstructionPhase	PhaseEndDate	12/12/2017	12/31/2017
tblConstructionPhase	PhaseEndDate	12/29/2020	12/31/2017
tblConstructionPhase	PhaseEndDate	12/29/2020	12/31/2017

tblConstructionPhase	PhaseStartDate	12/13/2014	1/1/2015
tblConstructionPhase	PhaseStartDate	1/1/2018	1/1/2015
tblConstructionPhase	PhaseStartDate	1/1/2018	1/1/2015
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tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	5.60
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblGrading	AcresOfGrading	0.00	194.00
tblLandUse	LotAcreage	0.00	194.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00
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tblOffRoadEquipment	HorsePower	97.00	75.00
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tblOffRoadEquipment	HorsePower	89.00	149.00
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tblOffRoadEquipment	HorsePower	174.00	162.00

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tblOffRoadEquipment	HorsePower	400.00	381.00
tblOffRoadEquipment	HorsePower	400.00	381.00
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tblOffRoadEquipment	HorsePower	199.00	87.00
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tblOffRoadEquipment	LoadFactor	0.40	0.59
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tblOffRoadEquipment	LoadFactor	0.40	0.59
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	PhaseName		Operation and maintenance

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tblOffRoadEquipment	PhaseName		ATVs
tblOffRoadEquipment	PhaseName		Water Trucks
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tblOffRoadEquipment	PhaseName		Operation and maintenance
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tblOnRoadDust	MeanVehicleSpeed	40.00	15.00
tblOnRoadDust	MeanVehicleSpeed	40.00	20.00
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tblOnRoadDust	WorkerPercentPave	100.00	5.00
tblOnRoadDust	WorkerPercentPave	100.00	5.00
tblOnRoadDust	WorkerPercentPave	100.00	5.00
tblOnRoadDust	WorkerPercentPave	100.00	20.00
tblOnRoadDust	WorkerPercentPave	100.00	20.00
tblOnRoadDust	WorkerPercentPave	100.00	80.00
tblProjectCharacteristics	CO2IntensityFactor	1001.57	958.49
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.011
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblProjectCharacteristics	WindSpeed	2.2	3.8
tblTripsAndVMT	WorkerTripLength	16.80	2.80
tblTripsAndVMT	WorkerTripLength	16.80	2.80
tblTripsAndVMT	WorkerTripLength	16.80	2.20
tblTripsAndVMT	WorkerTripNumber	20.00	5.00
tblTripsAndVMT	WorkerTripNumber	25.00	11.25
tblTripsAndVMT	WorkerTripNumber	13.00	6.00

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tblVehicleEF	LDT1	0.35	0.38
tblVehicleEF	LDT1	1.82	0.38
tblVehicleEF	LDT1	0.99	1.25
tblVehicleEF	LDT1	0.04	0.05

tblVehicleEF	LDT1	0.05	0.04
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tblVehicleEF	LDT1	2.29	0.44
tblVehicleEF	LDT1	0.68	1.38
tblVehicleEF	LDT1	4.5030e-003	4.3000e-003
tblVehicleEF	LDT1	1.0220e-003	1.1000e-003
tblVehicleEF	LDT1	1.09	0.04
tblVehicleEF	LDT1	1.17	0.46
tblVehicleEF	LDT1	0.73	0.02
tblVehicleEF	LDT1	0.36	0.39
tblVehicleEF	LDT1	2.29	0.44
tblVehicleEF	LDT1	0.72	1.48
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	3.32	3.29
tblVehicleEF	LDT2	6.72	9.01
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.44	0.53
tblVehicleEF	LDT2	0.58	0.73
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02
tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.15	0.10
tblVehicleEF	LDT2	0.28	0.21
tblVehicleEF	LDT2	0.11	0.05
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	0.99	0.18
tblVehicleEF	LDT2	0.52	0.67
tblVehicleEF	LDT2	4.9000e-003	4.3000e-003
tblVehicleEF	LDT2	1.1320e-003	1.0000e-003
tblVehicleEF	LDT2	0.15	0.10
tblVehicleEF	LDT2	0.28	0.21
tblVehicleEF	LDT2	0.11	0.05
tblVehicleEF	LDT2	0.16	0.15
tblVehicleEF	LDT2	0.99	0.18
tblVehicleEF	LDT2	0.56	0.72
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	3.59	3.76
tblVehicleEF	LDT2	4.50	5.26
tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.38	0.46
tblVehicleEF	LDT2	0.51	0.62
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02
tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.32	0.36
tblVehicleEF	LDT2	0.32	0.29
tblVehicleEF	LDT2	0.20	0.19
tblVehicleEF	LDT2	0.13	0.13
tblVehicleEF	LDT2	0.93	0.17
tblVehicleEF	LDT2	0.39	0.44
tblVehicleEF	LDT2	5.2330e-003	4.9000e-003
tblVehicleEF	LDT2	1.0930e-003	1.0000e-003
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tblVehicleEF	LDT2	0.32	0.29
tblVehicleEF	LDT2	0.20	0.19
tblVehicleEF	LDT2	0.16	0.16
tblVehicleEF	LDT2	0.93	0.17
tblVehicleEF	LDT2	0.41	0.47
tblVehicleEF	LDT2	0.03	0.03

tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	3.59	3.29
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tblVehicleEF	LDT2	0.18	0.20
tblVehicleEF	LDT2	0.39	0.59
tblVehicleEF	LDT2	0.51	0.79
tblVehicleEF	LDT2	0.04	0.01
tblVehicleEF	LDT2	3.0560e-003	0.02
tblVehicleEF	LDT2	4.3330e-003	0.01
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	2.0000e-003	8.0000e-003
tblVehicleEF	LDT2	2.7600e-003	0.02
tblVehicleEF	LDT2	3.9230e-003	0.01
tblVehicleEF	LDT2	0.48	0.02
tblVehicleEF	LDT2	0.58	0.22
tblVehicleEF	LDT2	0.34	0.01
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	1.26	0.21
tblVehicleEF	LDT2	0.39	0.79
tblVehicleEF	LDT2	5.2120e-003	4.3000e-003
tblVehicleEF	LDT2	1.0940e-003	1.1000e-003
tblVehicleEF	LDT2	0.48	0.02
tblVehicleEF	LDT2	0.58	0.22
tblVehicleEF	LDT2	0.34	0.01
tblVehicleEF	LDT2	0.16	0.15
tblVehicleEF	LDT2	1.26	0.21
tblVehicleEF	LDT2	0.42	0.84
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003

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tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.11	1.02
tblVehicleEF	LHD1	7.76	4.01
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.62	0.99
tblVehicleEF	LHD1	1.29	1.48
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
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tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
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tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
tblVehicleEF	LHD1	5.0000e-003	6.0000e-004
tblVehicleEF	LHD1	0.14	0.01
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.2100e-003	2.0000e-004
tblVehicleEF	LHD1	0.39	0.10
tblVehicleEF	LHD1	1.17	0.18
tblVehicleEF	LHD1	0.59	0.26
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
tblVehicleEF	LHD1	7.4900e-003	8.2000e-003

tblVehicleEF	LHD1	4.6400e-004	4.0000e-004
tblVehicleEF	LHD1	5.0000e-003	6.0000e-004
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tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	2.2100e-003	2.0000e-004
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tblVehicleEF	LHD1	1.17	0.18
tblVehicleEF	LHD1	0.63	0.28
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
tblVehicleEF	LHD1	4.22	1.04
tblVehicleEF	LHD1	5.09	2.17
tblVehicleEF	LHD1	0.10	0.03
tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.46	0.94
tblVehicleEF	LHD1	1.20	1.34
tblVehicleEF	LHD1	1.0240e-003	3.0000e-004
tblVehicleEF	LHD1	0.06	0.01
tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.5880e-003	1.1000e-003

tblVehicleEF	LHD1	0.01	1.9000e-003
tblVehicleEF	LHD1	0.15	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
tblVehicleEF	LHD1	0.40	0.11
tblVehicleEF	LHD1	1.14	0.17
tblVehicleEF	LHD1	0.46	0.18
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
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tblVehicleEF	LHD1	0.01	1.9000e-003
tblVehicleEF	LHD1	0.15	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	3.6790e-003	5.0000e-004
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tblVehicleEF	LHD1	0.49	0.19
tblVehicleEF	LHD1	1.1760e-003	1.6000e-003
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	0.17	0.22
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tblVehicleEF	LHD1	5.09	4.88
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tblVehicleEF	LHD1	0.09	0.02
tblVehicleEF	LHD1	2.51	1.02
tblVehicleEF	LHD1	1.20	1.55
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tblVehicleEF	LHD1	9.9260e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.7330e-003	1.1000e-003
tblVehicleEF	LHD1	9.4200e-004	3.0000e-004
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	2.4820e-003	0.01
tblVehicleEF	LHD1	0.03	0.01
tblVehicleEF	LHD1	1.5880e-003	1.1000e-003
tblVehicleEF	LHD1	0.02	2.0000e-004
tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.40	0.10
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.46	0.30
tblVehicleEF	LHD1	9.4000e-005	1.0000e-004
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tblVehicleEF	LHD1	4.1800e-004	5.0000e-004
tblVehicleEF	LHD1	0.02	2.0000e-004
tblVehicleEF	LHD1	0.30	0.02
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	6.7900e-003	1.0000e-004
tblVehicleEF	LHD1	0.45	0.12
tblVehicleEF	LHD1	1.32	0.19
tblVehicleEF	LHD1	0.49	0.32
tblVehicleEF	LHD2	7.0600e-004	1.4000e-003
tblVehicleEF	LHD2	0.02	0.02

tblVehicleEF	LHD2	0.01	0.02
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tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
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tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.8070e-003	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
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tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
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tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.20	0.50
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
tblVehicleEF	LHD2	5.9130e-003	7.3000e-003
tblVehicleEF	LHD2	1.7800e-004	4.0000e-004

tblVehicleEF	LHD2	1.5460e-003	1.9000e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.5500e-004	4.0000e-004
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tblVehicleEF	LHD2	0.25	0.63
tblVehicleEF	LHD2	0.21	0.53
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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.11	0.19
tblVehicleEF	LHD2	1.88	2.87
tblVehicleEF	LHD2	1.63	4.09
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.16	0.05
tblVehicleEF	LHD2	3.09	1.91
tblVehicleEF	LHD2	0.42	1.30
tblVehicleEF	LHD2	1.7880e-003	7.0000e-004
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tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	5.5700e-004	1.5000e-003
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tblVehicleEF	LHD2	4.9200e-004	1.5000e-003
tblVehicleEF	LHD2	3.2640e-003	6.1000e-003

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tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
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tblVehicleEF	LHD2	0.24	0.62
tblVehicleEF	LHD2	0.15	0.33
tblVehicleEF	LHD2	1.0200e-004	1.0000e-004
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tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.2830e-003	1.2000e-003
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tblVehicleEF	LHD2	0.24	0.62
tblVehicleEF	LHD2	0.16	0.36
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tblVehicleEF	LHD2	0.02	0.02
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tblVehicleEF	LHD2	0.01	0.01
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tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.15	0.58
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tblVehicleEF	LHD2	0.28	0.68
tblVehicleEF	LHD2	0.16	0.62
tblVehicleEF	MCY	0.00	0.22
tblVehicleEF	MCY	0.00	0.16
tblVehicleEF	MCY	32.11	32.39

tblVehicleEF	MCY	10.95	12.41
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.31	1.37
tblVehicleEF	MCY	0.32	0.32
tblVehicleEF	MCY	0.04	6.3000e-003
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tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
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tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.00	3.04
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.40	2.62
tblVehicleEF	MCY	2.1750e-003	2.1000e-003
tblVehicleEF	MCY	7.0800e-004	7.0000e-004
tblVehicleEF	MCY	1.12	0.64
tblVehicleEF	MCY	0.57	0.28
tblVehicleEF	MCY	0.72	0.23
tblVehicleEF	MCY	3.27	3.31
tblVehicleEF	MCY	1.99	0.34
tblVehicleEF	MCY	2.58	2.82
tblVehicleEF	MCY	0.00	0.21
tblVehicleEF	MCY	0.00	0.11

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tblVehicleEF	MCY	8.78	8.78
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.12	1.15
tblVehicleEF	MCY	0.29	0.28
tblVehicleEF	MCY	0.04	6.3000e-003
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tblVehicleEF	MCY	0.02	6.3000e-003
tblVehicleEF	MCY	2.0000e-003	4.0000e-003
tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	2.49	2.47
tblVehicleEF	MCY	0.75	0.51
tblVehicleEF	MCY	1.40	1.21
tblVehicleEF	MCY	2.83	2.81
tblVehicleEF	MCY	1.87	0.33
tblVehicleEF	MCY	1.87	1.83
tblVehicleEF	MCY	2.1340e-003	2.1000e-003
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tblVehicleEF	MCY	0.75	0.51
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tblVehicleEF	MCY	3.09	3.07
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tblVehicleEF	MCY	2.01	1.97
tblVehicleEF	MCY	0.00	0.23

tblVehicleEF	MCY	0.00	0.19
tblVehicleEF	MCY	30.06	35.29
tblVehicleEF	MCY	8.82	14.27
tblVehicleEF	MCY	7.3920e-003	0.01
tblVehicleEF	MCY	1.17	1.48
tblVehicleEF	MCY	0.29	0.35
tblVehicleEF	MCY	0.04	6.3000e-003
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tblVehicleEF	MCY	8.0500e-004	0.02
tblVehicleEF	MCY	2.3350e-003	0.01
tblVehicleEF	MCY	0.02	6.3000e-003
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tblVehicleEF	MCY	6.4500e-004	0.02
tblVehicleEF	MCY	1.8350e-003	0.01
tblVehicleEF	MCY	4.38	0.05
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tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	2.84	3.19
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	1.88	3.04
tblVehicleEF	MCY	2.1380e-003	2.2000e-003
tblVehicleEF	MCY	6.5800e-004	7.0000e-004
tblVehicleEF	MCY	4.38	0.05
tblVehicleEF	MCY	1.78	0.28
tblVehicleEF	MCY	2.91	0.02
tblVehicleEF	MCY	3.10	3.47
tblVehicleEF	MCY	2.45	0.40
tblVehicleEF	MCY	2.02	3.26

tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	4.37	3.65
tblVehicleEF	MDV	10.31	10.27
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.77	0.65
tblVehicleEF	MDV	0.97	0.93
tblVehicleEF	MDV	0.04	0.01
tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.18	0.14
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.91	0.85
tblVehicleEF	MDV	6.1930e-003	5.9000e-003
tblVehicleEF	MDV	1.4490e-003	1.4000e-003
tblVehicleEF	MDV	0.18	0.09
tblVehicleEF	MDV	0.35	0.21
tblVehicleEF	MDV	0.13	0.05
tblVehicleEF	MDV	0.23	0.18
tblVehicleEF	MDV	1.34	0.18
tblVehicleEF	MDV	0.97	0.91

tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	4.78	4.15
tblVehicleEF	MDV	6.91	6.04
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.66	0.56
tblVehicleEF	MDV	0.85	0.79
tblVehicleEF	MDV	0.04	0.01
tblVehicleEF	MDV	3.4880e-003	0.02
tblVehicleEF	MDV	5.1450e-003	0.01
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tblVehicleEF	MDV	2.0000e-003	8.0000e-003
tblVehicleEF	MDV	3.1920e-003	0.02
tblVehicleEF	MDV	4.7220e-003	0.01
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tblVehicleEF	MDV	6.6080e-003	6.7000e-003
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tblVehicleEF	MDV	0.38	0.32
tblVehicleEF	MDV	0.41	0.27
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	0.24	0.19
tblVehicleEF	MDV	1.25	0.17
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tblVehicleEF	MDV	0.04	0.03
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tblVehicleEF	MDV	3.4880e-003	0.02
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tblVehicleEF	MDV	4.7220e-003	0.01
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tblVehicleEF	MDV	0.72	0.21
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tblVehicleEF	MDV	0.72	0.21
tblVehicleEF	MDV	0.38	0.01
tblVehicleEF	MDV	0.24	0.18
tblVehicleEF	MDV	1.71	0.21
tblVehicleEF	MDV	0.72	1.06

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tblVehicleEF	MH	2.2270e-003	1.2000e-003
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tblVehicleEF	MH	2.04	2.92
tblVehicleEF	MH	1.30	1.68
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tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
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tblVehicleEF	MH	0.40	0.72

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tblVehicleEF	MH	2.1170e-003	0.01
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.2270e-003	1.2000e-003
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tblVehicleEF	MH	2.17	0.16
tblVehicleEF	MH	0.35	0.60
tblVehicleEF	MH	3.30	0.04
tblVehicleEF	MH	0.75	2.07
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tblVehicleEF	MH	0.29	0.15
tblVehicleEF	MH	2.17	0.16

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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.12	0.14
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tblVehicleEF	SBUS	0.53	0.01
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tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.12	1.05
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.79	0.64
tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.55	0.97

tblVehicleEF	SBUS	5.6380e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.4760e-003	5.0000e-004
tblVehicleEF	SBUS	0.07	8.7000e-003
tblVehicleEF	SBUS	0.46	0.07
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.02	2.2000e-003
tblVehicleEF	SBUS	0.87	0.71
tblVehicleEF	SBUS	3.57	0.08
tblVehicleEF	SBUS	4.88	1.04
tblVehicleEF	SBUS	5.1110e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.04
tblVehicleEF	SBUS	0.77	6.93
tblVehicleEF	SBUS	10.69	8.19
tblVehicleEF	SBUS	45.07	9.02
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	8.40	7.87
tblVehicleEF	SBUS	7.99	7.40
tblVehicleEF	SBUS	3.59	0.78
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.02	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01

tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.11	1.05
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	3.14	0.07
tblVehicleEF	SBUS	3.59	0.73
tblVehicleEF	SBUS	5.9730e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2230e-003	4.0000e-004
tblVehicleEF	SBUS	0.14	0.02
tblVehicleEF	SBUS	0.51	0.09
tblVehicleEF	SBUS	0.13	1.13
tblVehicleEF	SBUS	0.04	6.8000e-003
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	3.14	0.07
tblVehicleEF	SBUS	3.85	0.78
tblVehicleEF	SBUS	5.8550e-003	0.04
tblVehicleEF	SBUS	7.1220e-003	0.04
tblVehicleEF	SBUS	0.00	0.06
tblVehicleEF	SBUS	1.45	6.93
tblVehicleEF	SBUS	10.75	8.60
tblVehicleEF	SBUS	45.53	15.34
tblVehicleEF	SBUS	1.6690e-003	2.2260e-003
tblVehicleEF	SBUS	7.78	7.87
tblVehicleEF	SBUS	8.18	8.01

tblVehicleEF	SBUS	3.62	0.94
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.53	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	0.01	1.8000e-003
tblVehicleEF	SBUS	0.03	0.11
tblVehicleEF	SBUS	0.23	0.01
tblVehicleEF	SBUS	2.7010e-003	0.01
tblVehicleEF	SBUS	0.08	0.31
tblVehicleEF	SBUS	9.4640e-003	1.8000e-003
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.13	1.05
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.78	0.64
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.64	1.11
tblVehicleEF	SBUS	5.1750e-003	5.5000e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2310e-003	5.0000e-004
tblVehicleEF	SBUS	0.23	1.6000e-003
tblVehicleEF	SBUS	0.88	0.08
tblVehicleEF	SBUS	0.14	1.13
tblVehicleEF	SBUS	0.08	8.0000e-004
tblVehicleEF	SBUS	0.86	0.71
tblVehicleEF	SBUS	4.31	0.09
tblVehicleEF	SBUS	3.90	1.19

tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.14
tblVehicleEF	UBUS	6.02	6.17
tblVehicleEF	UBUS	27.32	35.83
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	4.05	4.29
tblVehicleEF	UBUS	3.82	4.52
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.45	0.48
tblVehicleEF	UBUS	0.92	0.03
tblVehicleEF	UBUS	2.02	2.54
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.0500e-003	1.4000e-003
tblVehicleEF	UBUS	0.01	7.4000e-003
tblVehicleEF	UBUS	0.19	0.14
tblVehicleEF	UBUS	6.4420e-003	3.0000e-003
tblVehicleEF	UBUS	0.51	0.54
tblVehicleEF	UBUS	0.92	0.03

tblVehicleEF	UBUS	2.16	2.71
tblVehicleEF	UBUS	0.00	0.04
tblVehicleEF	UBUS	0.00	0.11
tblVehicleEF	UBUS	6.20	6.45
tblVehicleEF	UBUS	20.27	23.17
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.70	3.91
tblVehicleEF	UBUS	3.54	4.04
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.47	0.50
tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.71	2.00
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3000e-004	1.2000e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	0.22	0.19
tblVehicleEF	UBUS	0.01	9.5000e-003
tblVehicleEF	UBUS	0.52	0.56

tblVehicleEF	UBUS	0.84	0.02
tblVehicleEF	UBUS	1.83	2.13
tblVehicleEF	UBUS	0.00	0.03
tblVehicleEF	UBUS	0.00	0.15
tblVehicleEF	UBUS	6.20	6.03
tblVehicleEF	UBUS	20.35	42.00
tblVehicleEF	UBUS	1.1840e-003	1.5730e-003
tblVehicleEF	UBUS	3.80	4.49
tblVehicleEF	UBUS	3.54	4.77
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	9.5100e-004	7.1000e-003
tblVehicleEF	UBUS	0.23	0.01
tblVehicleEF	UBUS	2.0000e-003	0.01
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	8.8200e-004	7.1000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003
tblVehicleEF	UBUS	0.47	0.47
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.72	2.81
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.3200e-004	1.5000e-003
tblVehicleEF	UBUS	0.04	1.8000e-003
tblVehicleEF	UBUS	0.42	0.14
tblVehicleEF	UBUS	0.02	1.2000e-003

tblVehicleEF	UBUS	0.52	0.53
tblVehicleEF	UBUS	1.22	0.03
tblVehicleEF	UBUS	1.83	3.00
tblWater	AerobicPercent	87.46	84.69
tblWater	AnaDigestCombDigestGasPercent	100.00	3.17
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	2.14
tblWater	SepticTankPercent	10.33	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	57.8927	662.1220	346.4363	0.6622	2,369.8346	27.4666	2,397.3011	244.6685	25.2689	269.9373			69,934.4543	20.3628	0.0000	70,362.0726
2015	20.5583	236.8487	135.2489	0.2158	54.4234	9.8013	64.2246	13.5637	9.0172	22.5809			22,648.7678	6.7509	0.0000	22,790.5369
2016	19.2501	218.0086	127.1749	0.2156	54.4234	8.9819	63.4053	13.5637	8.2634	21.8271			22,386.9009	6.7418	0.0000	22,528.4792
2017	18.0903	201.4328	119.2348	0.2155	54.4234	8.2413	62.6646	13.5637	7.5820	21.1457			22,027.2613	6.7381	0.0000	22,168.7615
Total	**115.7914**	**1,318.4122**	**728.0949**	**1.3091**	**2,533.1046**	**54.4910**	**2,587.5956**	**285.3596**	**50.1313**	**335.4909**			**136,997.3843**	**40.5936**	**0.0000**	**137,849.8502**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	57.8927	662.1220	346.4363	0.6622	1,439.8398	27.4666	1,467.3063	144.0742	25.2689	169.3430			69,934.4543	20.3628	0.0000	70,362.0725
2015	20.5583	236.8487	135.2489	0.2158	36.4724	9.8013	46.2737	4.1871	9.0172	13.2042			22,648.7677	6.7509	0.0000	22,790.5369
2016	19.2501	218.0086	127.1749	0.2156	36.4724	8.9819	45.4543	4.1871	8.2634	12.4504			22,386.9009	6.7418	0.0000	22,528.4792
2017	18.0903	201.4328	119.2348	0.2155	36.4724	8.2413	44.7136	4.1871	7.5820	11.7690			22,027.2613	6.7381	0.0000	22,168.7615
Total	**115.7914**	**1,318.4122**	**728.0949**	**1.3091**	**1,549.2569**	**54.4910**	**1,603.7479**	**156.6354**	**50.1313**	**206.7667**			**136,997.3842**	**40.5936**	**0.0000**	**137,849.8501**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.84**	**0.00**	**38.02**	**45.11**	**0.00**	**38.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site preparation	Site Preparation	2/1/2014	2/7/2014	5	5	
2	Distribute straw bales on sand dunes	Site Preparation	2/8/2014	8/8/2014	5	130	
3	Planting and watering	Site Preparation	8/9/2014	11/28/2014	5	80	
4	Clean up and restoration	Site Preparation	11/29/2014	12/12/2014	5	10	
5	Operation and maintenance	Site Preparation	1/1/2015	12/31/2017	5	782	
6	ATVs	Site Preparation	1/1/2015	12/31/2017	5	782	
7	Water Trucks	Site Preparation	1/1/2015	12/31/2017	5	782	

Acres of Grading (Site Preparation Phase): 5.6

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site preparation	Graders	2	8.00	162	0.61
Site preparation	Off-Highway Trucks	4	8.00	381	0.57
Site preparation	Rubber Tired Dozers	0	8.00	358	0.59
Site preparation	Tractors/Loaders/Backhoes	0	8.00	75	0.55

Distribute straw bales on sand dunes	Cranes	0	7.00	208	0.43
Distribute straw bales on sand dunes	Forklifts	0	8.00	149	0.30
Distribute straw bales on sand dunes	Generator Sets	0	8.00	84	0.74
Distribute straw bales on sand dunes	Off-Highway Trucks	6	8.00	381	0.57
Distribute straw bales on sand dunes	Rubber Tired Dozers	2	8.00	358	0.59
Distribute straw bales on sand dunes	Rubber Tired Loaders	2	8.00	87	0.54
Distribute straw bales on sand dunes	Tractors/Loaders/Backhoes	2	8.00	75	0.55
Distribute straw bales on sand dunes	Welders	0	8.00	46	0.45
Planting and watering	Cranes	0	7.00	208	0.43
Planting and watering	Forklifts	0	8.00	149	0.30
Planting and watering	Generator Sets	0	8.00	84	0.74
Planting and watering	Off-Highway Trucks	30	8.00	381	0.57
Planting and watering	Rubber Tired Dozers	3	8.00	358	0.59
Planting and watering	Rubber Tired Loaders	2	8.00	87	0.54
Planting and watering	Tractors/Loaders/Backhoes	5	8.00	75	0.55
Planting and watering	Welders	0	8.00	46	0.45
Clean up and restoration	Off-Highway Trucks	7	8.00	381	0.57
Clean up and restoration	Rubber Tired Dozers	2	8.00	358	0.59
Clean up and restoration	Rubber Tired Loaders	2	8.00	87	0.54
Clean up and restoration	Tractors/Loaders/Backhoes	2	8.00	75	0.55
Operation and maintenance	Cranes	0	7.00	208	0.43
Operation and maintenance	Forklifts	0	8.00	149	0.30
Operation and maintenance	Generator Sets	0	8.00	84	0.74
Operation and maintenance	Off-Highway Trucks	5	8.00	381	0.57
Operation and maintenance	Rubber Tired Dozers	3	8.00	358	0.59
Operation and maintenance	Rubber Tired Loaders	0	8.00	87	0.54
Operation and maintenance	Tractors/Loaders/Backhoes	0	8.00	75	0.55
Operation and maintenance	Welders	0	8.00	46	0.45

ATVs	Off-Highway Trucks	10	8.00	50	0.38
ATVs	Rubber Tired Dozers	0	8.00	255	0.40
ATVs	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Water Trucks	Off-Highway Trucks	5	8.00	400	0.38
Water Trucks	Rubber Tired Dozers	0	8.00	255	0.40
Water Trucks	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site preparation	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Distribute straw bales on sand dunes	12	30.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Planting and watering	40	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Clean up and restoration	13	33.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Operation and maintenance	8	5.00	0.00	0.00	2.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
ATVs	10	11.25	0.00	0.00	2.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Water Trucks	5	6.00	0.00	0.00	2.20	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1878	0.0000	1.1878	0.1283	0.0000	0.1283			0.0000			0.0000
Off-Road	8.9798	102.1234	45.5654	0.0926		4.4531	4.4531		4.0968	4.0968			9,822.9713	2.9028		9,883.9300
Total	**8.9798**	**102.1234**	**45.5654**	**0.0926**	**1.1878**	**4.4531**	**5.6408**	**0.1283**	**4.0968**	**4.2251**			**9,822.9713**	**2.9028**		**9,883.9300**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1838	0.2287	2.7140	2.4700e-003	352.3795	2.5800e-003	352.3821	35.1690	2.3100e-003	35.1713			217.5106	0.0187		217.9040
Total	**0.1838**	**0.2287**	**2.7140**	**2.4700e-003**	**352.3795**	**2.5800e-003**	**352.3821**	**35.1690**	**2.3100e-003**	**35.1713**			**217.5106**	**0.0187**		**217.9040**

3.2 Site preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0802	0.0000	0.0802	8.6600e-003	0.0000	8.6600e-003			0.0000			0.0000
Off-Road	8.9798	102.1234	45.5654	0.0926		4.4531	4.4531		4.0968	4.0968			9,822.9713	2.9028		9,883.9300
Total	**8.9798**	**102.1234**	**45.5654**	**0.0926**	**0.0802**	**4.4531**	**4.5332**	**8.6600e-003**	**4.0968**	**4.1055**			**9,822.9713**	**2.9028**		**9,883.9300**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.1838	0.2287	2.7140	2.4700e-003	215.7670	2.5800e-003	215.7696	21.5078	2.3100e-003	21.5101			217.5106	0.0187		217.9040
Total	**0.1838**	**0.2287**	**2.7140**	**2.4700e-003**	**215.7670**	**2.5800e-003**	**215.7696**	**21.5078**	**2.3100e-003**	**21.5101**			**217.5106**	**0.0187**		**217.9040**

3.3 Distribute straw bales on sand dunes - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.6268	0.0000	13.6268	6.7913	0.0000	6.7913			0.0000			0.0000
Off-Road	16.5961	187.6578	106.2621	0.1649		8.5889	8.5889		7.9017	7.9017			17,489.9157	5.1685		17,598.4533
Total	**16.5961**	**187.6578**	**106.2621**	**0.1649**	**13.6268**	**8.5889**	**22.2156**	**6.7913**	**7.9017**	**14.6931**			**17,489.9157**	**5.1685**		**17,598.4533**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.3675	0.4575	5.4281	4.9500e-003	704.7590	5.1500e-003	704.7641	70.3380	4.6300e-003	70.3427			435.0212	0.0375		435.8080
Total	**0.3675**	**0.4575**	**5.4281**	**4.9500e-003**	**704.7590**	**5.1500e-003**	**704.7641**	**70.3380**	**4.6300e-003**	**70.3427**			**435.0212**	**0.0375**		**435.8080**

3.3 Distribute straw bales on sand dunes - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9198	0.0000	0.9198	0.4584	0.0000	0.4584			0.0000			0.0000
Off-Road	16.5961	187.6578	106.2621	0.1649		8.5889	8.5889		7.9017	7.9017			17,489.9156	5.1685		17,598.4533
Total	**16.5961**	**187.6578**	**106.2621**	**0.1649**	**0.9198**	**8.5889**	**9.5087**	**0.4584**	**7.9017**	**8.3602**			**17,489.9156**	**5.1685**		**17,598.4533**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.3675	0.4575	5.4281	4.9500e-003	431.5340	5.1500e-003	431.5392	43.0155	4.6300e-003	43.0202			435.0212	0.0375		435.8080
Total	**0.3675**	**0.4575**	**5.4281**	**4.9500e-003**	**431.5340**	**5.1500e-003**	**431.5392**	**43.0155**	**4.6300e-003**	**43.0202**			**435.0212**	**0.0375**		**435.8080**

3.4 Planting and watering - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					20.6380	0.0000	20.6380	10.2084	0.0000	10.2084			0.0000			0.0000
Off-Road	56.6676	660.5971	328.3427	0.6457		27.4494	27.4494		25.2534	25.2534			68,484.3837	20.2379		68,909.3792
Total	**56.6676**	**660.5971**	**328.3427**	**0.6457**	**20.6380**	**27.4494**	**48.0874**	**10.2084**	**25.2534**	**35.4618**			**68,484.3837**	**20.2379**		**68,909.3792**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	1.2251	1.5249	18.0936	0.0165	2,349.1966	0.0172	2,349.2138	234.4601	0.0154	234.4755			1,450.0706	0.1249		1,452.6933
Total	**1.2251**	**1.5249**	**18.0936**	**0.0165**	**2,349.1966**	**0.0172**	**2,349.2138**	**234.4601**	**0.0154**	**234.4755**			**1,450.0706**	**0.1249**		**1,452.6933**

3.4 Planting and watering - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3931	0.0000	1.3931	0.6891	0.0000	0.6891			0.0000			0.0000
Off-Road	56.6676	660.5971	328.3427	0.6457		27.4494	27.4494		25.2534	25.2534			68,484.3837	20.2379		68,909.3792
Total	**56.6676**	**660.5971**	**328.3427**	**0.6457**	**1.3931**	**27.4494**	**28.8424**	**0.6891**	**25.2534**	**25.9425**			**68,484.3837**	**20.2379**		**68,909.3792**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	1.2251	1.5249	18.0936	0.0165	1,438.4467	0.0172	1,438.4639	143.3851	0.0154	143.4005			1,450.0706	0.1249		1,452.6933
Total	**1.2251**	**1.5249**	**18.0936**	**0.0165**	**1,438.4467**	**0.0172**	**1,438.4639**	**143.3851**	**0.0154**	**143.4005**			**1,450.0706**	**0.1249**		**1,452.6933**

3.5 Clean up and restoration - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.6381	0.0000	12.6381	6.6846	0.0000	6.6846			0.0000			0.0000
Off-Road	18.1031	205.6053	114.2105	0.1837		9.2765	9.2765		8.5344	8.5344			19,485.6814	5.7582		19,606.6043
Total	**18.1031**	**205.6053**	**114.2105**	**0.1837**	**12.6381**	**9.2765**	**21.9146**	**6.6846**	**8.5344**	**15.2190**			**19,485.6814**	**5.7582**		**19,606.6043**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.4043	0.5032	5.9709	5.4400e-003	775.2349	5.6700e-003	775.2406	77.3718	5.0900e-003	77.3769			478.5233	0.0412		479.3888
Total	**0.4043**	**0.5032**	**5.9709**	**5.4400e-003**	**775.2349**	**5.6700e-003**	**775.2406**	**77.3718**	**5.0900e-003**	**77.3769**			**478.5233**	**0.0412**		**479.3888**

3.5 Clean up and restoration - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8531	0.0000	0.8531	0.4512	0.0000	0.4512			0.0000			0.0000
Off-Road	18.1031	205.6053	114.2105	0.1837		9.2765	9.2765		8.5344	8.5344			19,485.6814	5.7582		19,606.6043
Total	**18.1031**	**205.6053**	**114.2105**	**0.1837**	**0.8531**	**9.2765**	**10.1296**	**0.4512**	**8.5344**	**8.9856**			**19,485.6814**	**5.7582**		**19,606.6043**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.4043	0.5032	5.9709	5.4400e-003	474.6874	5.6700e-003	474.6931	47.3171	5.0900e-003	47.3222			478.5233	0.0412		479.3888
Total	**0.4043**	**0.5032**	**5.9709**	**5.4400e-003**	**474.6874**	**5.6700e-003**	**474.6931**	**47.3171**	**5.0900e-003**	**47.3222**			**478.5233**	**0.0412**		**479.3888**

3.6 Operation and maintenance - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.3294	0.0000	18.3294	9.9591	0.0000	9.9591			0.0000			0.0000
Off-Road	15.2723	176.0925	107.1947	0.1493		7.4822	7.4822		6.8837	6.8837			15,680.8591	4.6814		15,779.1684
Total	**15.2723**	**176.0925**	**107.1947**	**0.1493**	**18.3294**	**7.4822**	**25.8116**	**9.9591**	**6.8837**	**16.8427**			**15,680.8591**	**4.6814**		**15,779.1684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0300	0.0148	0.1765	1.5000e-004	10.0961	1.8000e-004	10.0963	1.0067	1.6000e-004	1.0068			12.6864	1.2400e-003		12.7124
Total	**0.0300**	**0.0148**	**0.1765**	**1.5000e-004**	**10.0961**	**1.8000e-004**	**10.0963**	**1.0067**	**1.6000e-004**	**1.0068**			**12.6864**	**1.2400e-003**		**12.7124**

3.6 Operation and maintenance - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2372	0.0000	1.2372	0.6722	0.0000	0.6722			0.0000			0.0000
Off-Road	15.2723	176.0925	107.1947	0.1493		7.4822	7.4822		6.8837	6.8837			15,680.8591	4.6814		15,779.1684
Total	**15.2723**	**176.0925**	**107.1947**	**0.1493**	**1.2372**	**7.4822**	**8.7195**	**0.6722**	**6.8837**	**7.5559**			**15,680.8591**	**4.6814**		**15,779.1684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0300	0.0148	0.1765	1.5000e-004	10.0961	1.8000e-004	10.0963	1.0067	1.6000e-004	1.0068			12.6864	1.2400e-003		12.7124
Total	**0.0300**	**0.0148**	**0.1765**	**1.5000e-004**	**10.0961**	**1.8000e-004**	**10.0963**	**1.0067**	**1.6000e-004**	**1.0068**			**12.6864**	**1.2400e-003**		**12.7124**

3.6 Operation and maintenance - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.3294	0.0000	18.3294	9.9591	0.0000	9.9591			0.0000			0.0000
Off-Road	14.4214	163.6931	101.2404	0.1492		6.9342	6.9342		6.3794	6.3794			15,501.0814	4.6757		15,599.2706
Total	**14.4214**	**163.6931**	**101.2404**	**0.1492**	**18.3294**	**6.9342**	**25.2635**	**9.9591**	**6.3794**	**16.3385**			**15,501.0814**	**4.6757**		**15,599.2706**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0270	0.0131	0.1555	1.5000e-004	10.0961	1.7000e-004	10.0963	1.0067	1.5000e-004	1.0068			12.2330	1.1000e-003		12.2562
Total	**0.0270**	**0.0131**	**0.1555**	**1.5000e-004**	**10.0961**	**1.7000e-004**	**10.0963**	**1.0067**	**1.5000e-004**	**1.0068**			**12.2330**	**1.1000e-003**		**12.2562**

3.6 Operation and maintenance - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2372	0.0000	1.2372	0.6722	0.0000	0.6722			0.0000			0.0000
Off-Road	14.4214	163.6931	101.2404	0.1492		6.9342	6.9342		6.3794	6.3794			15,501.0813	4.6757		15,599.2705
Total	**14.4214**	**163.6931**	**101.2404**	**0.1492**	**1.2372**	**6.9342**	**8.1714**	**0.6722**	**6.3794**	**7.0517**			**15,501.0813**	**4.6757**		**15,599.2705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0270	0.0131	0.1555	1.5000e-004	10.0961	1.7000e-004	10.0963	1.0067	1.5000e-004	1.0068			12.2330	1.1000e-003		12.2562
Total	**0.0270**	**0.0131**	**0.1555**	**1.5000e-004**	**10.0961**	**1.7000e-004**	**10.0963**	**1.0067**	**1.5000e-004**	**1.0068**			**12.2330**	**1.1000e-003**		**12.2562**

3.6 Operation and maintenance - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.3294	0.0000	18.3294	9.9591	0.0000	9.9591			0.0000			0.0000
Off-Road	13.6241	152.2116	95.2252	0.1491		6.4152	6.4152		5.9020	5.9020			15,256.3702	4.6745		15,354.5352
Total	**13.6241**	**152.2116**	**95.2252**	**0.1491**	**18.3294**	**6.4152**	**24.7446**	**9.9591**	**5.9020**	**15.8611**			**15,256.3702**	**4.6745**		**15,354.5352**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0241	0.0116	0.1364	1.5000e-004	10.0961	1.6000e-004	10.0962	1.0067	1.4000e-004	1.0068			11.7546	9.8000e-004		11.7752
Total	**0.0241**	**0.0116**	**0.1364**	**1.5000e-004**	**10.0961**	**1.6000e-004**	**10.0962**	**1.0067**	**1.4000e-004**	**1.0068**			**11.7546**	**9.8000e-004**		**11.7752**

3.6 Operation and maintenance - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2372	0.0000	1.2372	0.6722	0.0000	0.6722			0.0000			0.0000
Off-Road	13.6241	152.2116	95.2252	0.1491		6.4152	6.4152		5.9020	5.9020			15,256.3702	4.6745		15,354.5352
Total	**13.6241**	**152.2116**	**95.2252**	**0.1491**	**1.2372**	**6.4152**	**7.6525**	**0.6722**	**5.9020**	**6.5743**			**15,256.3702**	**4.6745**		**15,354.5352**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0241	0.0116	0.1364	1.5000e-004	10.0961	1.6000e-004	10.0962	1.0067	1.4000e-004	1.0068			11.7546	9.8000e-004		11.7752
Total	**0.0241**	**0.0116**	**0.1364**	**1.5000e-004**	**10.0961**	**1.6000e-004**	**10.0962**	**1.0067**	**1.4000e-004**	**1.0068**			**11.7546**	**9.8000e-004**		**11.7752**

3.7 ATVs - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2631	0.0000	0.2631	0.0284	0.0000	0.0284			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2631**	**0.0000**	**0.2631**	**0.0284**	**0.0000**	**0.0284**			**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0676	0.0333	0.3971	3.4000e-004	22.7162	4.1000e-004	22.7166	2.2650	3.7000e-004	2.2654			28.5444	2.7800e-003		28.6028
Total	**0.0676**	**0.0333**	**0.3971**	**3.4000e-004**	**22.7162**	**4.1000e-004**	**22.7166**	**2.2650**	**3.7000e-004**	**2.2654**			**28.5444**	**2.7800e-003**		**28.6028**

3.7 ATVs - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0178	0.0000	0.0178	1.9200e-003	0.0000	1.9200e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0178**	**0.0000**	**0.0178**	**1.9200e-003**	**0.0000**	**1.9200e-003**			**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0676	0.0333	0.3971	3.4000e-004	22.7162	4.1000e-004	22.7166	2.2650	3.7000e-004	2.2654			28.5444	2.7800e-003		28.6028
Total	**0.0676**	**0.0333**	**0.3971**	**3.4000e-004**	**22.7162**	**4.1000e-004**	**22.7166**	**2.2650**	**3.7000e-004**	**2.2654**			**28.5444**	**2.7800e-003**		**28.6028**

3.7 ATVs - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2631	0.0000	0.2631	0.0284	0.0000	0.0284			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2631**	**0.0000**	**0.2631**	**0.0284**	**0.0000**	**0.0284**			**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0607	0.0295	0.3499	3.4000e-004	22.7162	3.7000e-004	22.7166	2.2650	3.4000e-004	2.2654			27.5243	2.4800e-003		27.5764
Total	**0.0607**	**0.0295**	**0.3499**	**3.4000e-004**	**22.7162**	**3.7000e-004**	**22.7166**	**2.2650**	**3.4000e-004**	**2.2654**			**27.5243**	**2.4800e-003**		**27.5764**

3.7 ATVs - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0178	0.0000	0.0178	1.9200e-003	0.0000	1.9200e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0178**	**0.0000**	**0.0178**	**1.9200e-003**	**0.0000**	**1.9200e-003**			**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0607	0.0295	0.3499	3.4000e-004	22.7162	3.7000e-004	22.7166	2.2650	3.4000e-004	2.2654			27.5243	2.4800e-003		27.5764
Total	**0.0607**	**0.0295**	**0.3499**	**3.4000e-004**	**22.7162**	**3.7000e-004**	**22.7166**	**2.2650**	**3.4000e-004**	**2.2654**			**27.5243**	**2.4800e-003**		**27.5764**

3.7 ATVs - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2631	0.0000	0.2631	0.0284	0.0000	0.0284			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2631**	**0.0000**	**0.2631**	**0.0284**	**0.0000**	**0.0284**			**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0542	0.0261	0.3068	3.3000e-004	22.7162	3.5000e-004	22.7165	2.2650	3.2000e-004	2.2653			26.4479	2.2100e-003		26.4943
Total	**0.0542**	**0.0261**	**0.3068**	**3.3000e-004**	**22.7162**	**3.5000e-004**	**22.7165**	**2.2650**	**3.2000e-004**	**2.2653**			**26.4479**	**2.2100e-003**		**26.4943**

3.7 ATVs - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0178	0.0000	0.0178	1.9200e-003	0.0000	1.9200e-003			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0178**	**0.0000**	**0.0178**	**1.9200e-003**	**0.0000**	**1.9200e-003**			**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0542	0.0261	0.3068	3.3000e-004	22.7162	3.5000e-004	22.7165	2.2650	3.2000e-004	2.2653			26.4479	2.2100e-003		26.4943
Total	**0.0542**	**0.0261**	**0.3068**	**3.3000e-004**	**22.7162**	**3.5000e-004**	**22.7165**	**2.2650**	**3.2000e-004**	**2.2653**			**26.4479**	**2.2100e-003**		**26.4943**

3.8 Water Trucks - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2631	0.0000	0.2631	0.0284	0.0000	0.0284			0.0000			0.0000
Off-Road	5.1535	60.6930	27.3002	0.0659		2.3183	2.3183		2.1328	2.1328			6,914.399 7	2.0642		6,957.748 7
Total	**5.1535**	**60.6930**	**27.3002**	**0.0659**	**0.2631**	**2.3183**	**2.5814**	**0.0284**	**2.1328**	**2.1612**			**6,914.399 7**	**2.0642**		**6,957.748 7**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0349	0.0151	0.1805	1.4000e-004	2.7555	1.9000e-004	2.7557	0.2761	1.7000e-004	0.2763			12.2782	1.2600e-003		12.3047
Total	**0.0349**	**0.0151**	**0.1805**	**1.4000e-004**	**2.7555**	**1.9000e-004**	**2.7557**	**0.2761**	**1.7000e-004**	**0.2763**			**12.2782**	**1.2600e-003**		**12.3047**

3.8 Water Trucks - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0178	0.0000	0.0178	1.9200e-003	0.0000	1.9200e-003			0.0000			0.0000
Off-Road	5.1535	60.6930	27.3002	0.0659		2.3183	2.3183		2.1328	2.1328			6,914.399 7	2.0642		6,957.748 7
Total	**5.1535**	**60.6930**	**27.3002**	**0.0659**	**0.0178**	**2.3183**	**2.3360**	**1.9200e-003**	**2.1328**	**2.1347**			**6,914.399 7**	**2.0642**		**6,957.748 7**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0349	0.0151	0.1805	1.4000e-004	2.3874	1.9000e-004	2.3876	0.2393	1.7000e-004	0.2395			12.2782	1.2600e-003		12.3047
Total	**0.0349**	**0.0151**	**0.1805**	**1.4000e-004**	**2.3874**	**1.9000e-004**	**2.3876**	**0.2393**	**1.7000e-004**	**0.2395**			**12.2782**	**1.2600e-003**		**12.3047**

3.8 Water Trucks - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2631	0.0000	0.2631	0.0284	0.0000	0.0284			0.0000			0.0000
Off-Road	4.7097	54.2596	25.2699	0.0658		2.0470	2.0470		1.8833	1.8833			6,834.2226	2.0614		6,877.5130
Total	**4.7097**	**54.2596**	**25.2699**	**0.0658**	**0.2631**	**2.0470**	**2.3101**	**0.0284**	**1.8833**	**1.9117**			**6,834.2226**	**2.0614**		**6,877.5130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0314	0.0134	0.1592	1.4000e-004	2.7555	1.7000e-004	2.7557	0.2761	1.6000e-004	0.2763			11.8396	1.1200e-003		11.8632
Total	**0.0314**	**0.0134**	**0.1592**	**1.4000e-004**	**2.7555**	**1.7000e-004**	**2.7557**	**0.2761**	**1.6000e-004**	**0.2763**			**11.8396**	**1.1200e-003**		**11.8632**

3.8 Water Trucks - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0178	0.0000	0.0178	1.9200e-003	0.0000	1.9200e-003			0.0000			0.0000
Off-Road	4.7097	54.2596	25.2699	0.0658		2.0470	2.0470		1.8833	1.8833			6,834.2226	2.0614		6,877.5130
Total	**4.7097**	**54.2596**	**25.2699**	**0.0658**	**0.0178**	**2.0470**	**2.0648**	**1.9200e-003**	**1.8833**	**1.8852**			**6,834.2226**	**2.0614**		**6,877.5130**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0314	0.0134	0.1592	1.4000e-004	2.3874	1.7000e-004	2.3875	0.2393	1.6000e-004	0.2395			11.8396	1.1200e-003		11.8632
Total	**0.0314**	**0.0134**	**0.1592**	**1.4000e-004**	**2.3874**	**1.7000e-004**	**2.3875**	**0.2393**	**1.6000e-004**	**0.2395**			**11.8396**	**1.1200e-003**		**11.8632**

3.8 Water Trucks - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2631	0.0000	0.2631	0.0284	0.0000	0.0284			0.0000			0.0000
Off-Road	4.3599	49.1717	23.4268	0.0657		1.8254	1.8254		1.6793	1.6793			6,721.312 3	2.0594		6,764.559 6
Total	**4.3599**	**49.1717**	**23.4268**	**0.0657**	**0.2631**	**1.8254**	**2.0885**	**0.0284**	**1.6793**	**1.7077**			**6,721.312 3**	**2.0594**		**6,764.559 6**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0281	0.0118	0.1397	1.4000e-004	2.7555	1.6000e-004	2.7557	0.2761	1.5000e-004	0.2763			11.3763	1.0000e-003		11.3973
Total	**0.0281**	**0.0118**	**0.1397**	**1.4000e-004**	**2.7555**	**1.6000e-004**	**2.7557**	**0.2761**	**1.5000e-004**	**0.2763**			**11.3763**	**1.0000e-003**		**11.3973**

3.8 Water Trucks - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0178	0.0000	0.0178	1.9200e-003	0.0000	1.9200e-003			0.0000			0.0000
Off-Road	4.3599	49.1717	23.4268	0.0657		1.8254	1.8254		1.6793	1.6793			6,721.3123	2.0594		6,764.5596
Total	**4.3599**	**49.1717**	**23.4268**	**0.0657**	**0.0178**	**1.8254**	**1.8431**	**1.9200e-003**	**1.6793**	**1.6813**			**6,721.3123**	**2.0594**		**6,764.5596**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0281	0.0118	0.1397	1.4000e-004	2.3874	1.6000e-004	2.3875	0.2393	1.5000e-004	0.2395			11.3763	1.0000e-003		11.3973
Total	**0.0281**	**0.0118**	**0.1397**	**1.4000e-004**	**2.3874**	**1.6000e-004**	**2.3875**	**0.2393**	**1.5000e-004**	**0.2395**			**11.3763**	**1.0000e-003**		**11.3973**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.298929	0.238852	0.201373	0.075588	0.027827	0.015800	0.016059	0.098716	0.001735	0.001573	0.014785	0.002226	0.006537

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**		**2.3000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation