APPENDIX L

APPENDIX L
CULTURAL RESOURCES SITES RECORDED IN THE PLANNING AREA BY NATIONAL REGISTER STATUS

Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
	36		Ceramic scatter	1951	Not evaluated	
	37		Ceramic scatter	1951	Not evaluated	
	69		Camp site, possible cremation	1951	Not evaluated	
	403		Isolate—lithic	1976	Not eligible**	
	788		Burials, lithics scatter	1973	Recommended eligible	RECON 2009
	789		Ceramic scatter	1973	Not evaluated	
	790		Ceramic scatter	1973	Not evaluated	
	791		Ceramic, ground stone	1973	Not evaluated	
	801		missing site form	n.d.	Not evaluated	
	1150		Ceramic, ground stone	1975	Not evaluated	
	1151		Rock feature	1975	Not evaluated	
	1152		Ceramic scatter	1975	Not evaluated	
	1153		Ceramic scatter	1975	Not evaluated	
	1383		Ceramic scatter	1976	Not evaluated	
	1384		Ceramic scatter	1976	Not evaluated	
	1385		Ceramic scatter	1976	Not evaluated	
	1386		Isolate—ceramic	1976	Not eligible**	
	2416		Ceramic scatter	1976	Not evaluated	
	2417		Ceramic scatter	1976	Not evaluated	
	2667		Prehistoric trail, ceramics	1978	Not evaluated	
	2670		Ceramic scatter	1978	Not evaluated	
	2671		missing site form	n.d.	Not evaluated	
	3058		Camp site, historic trash scatter	1978	Not evaluated	
	3059		Ceramic scatter	1978	Not evaluated	
	3060		Ceramic scatter with possible cremation	1978	Recommended eligible	RECON 2009
	3061		Ceramic scatter	1978	Not evaluated	

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Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
	3065		Ceramic scatter	n.d.	Not evaluated	
3364H	3364		Dry lake bed	n.d	Not evaluated	
	3424		Southern Pacific Railroad	2000, 1997	Recommended eligible	Smith et al. 2008
	3614		Historic trash scatter	1978	Not evaluated	
	3615		Historic trash scatter	1978	Not evaluated	
	3793		Ceramic scatter	n.d.	Not evaluated	
	3794		Isolate—Historic camel bone	n.d.	Not eligible**	
	3795		Ceramic scatter	n.d.	Not evaluated	
	3811		Ceramic scatter	1979	Not evaluated	
	3812		Isolate—ceramic	1979	Not eligible**	
	3813		Isolate—tool	n.d.	Not eligible**	
	3890		Isolate—glass	1979	Not eligible**	
	4148		Historic trash scatter	1979	Not evaluated	
	4149		Isolate—glass	1979	Not eligible**	
	4150		Historic trash scatter	1979	Not evaluated	
	4151		Isolate—ceramic	1979	Not eligible**	
	4153		Historic trash scatter	1979	Not evaluated	
	4154		Lithic scatter	n.d.	Not evaluated	
	4155		Isolate—glass	1979	Not eligible**	
	4156		Isolate—cores	1979	Not eligible**	
	4157		Isolate—FLA	1979	Not eligible**	
	4158		Isolate—cores	1979	Not eligible**	
	4159		Isolate—glass	1979	Not eligible**	
	4160		Isolate—cores	1979	Not eligible**	
	4161		Isolate—glass	1979	Not eligible**	
	4162		Historic trash scatter	1979	Not evaluated	
	4163		Isolate—glass	1979	Not eligible**	

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CULTURAL RESOURCES SITES RECORDED IN THE PLANNING AREA BY NATIONAL REGISTER STATUS

Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
	4164		Lithic scatter	1979	Not evaluated	
	4165		Isolate—lithic	1979	Not eligible**	
	4166		Historic rock feature	1979	Not eligible	Smith et al. 2008
	4167		missing site form	n.d.	Not evaluated	
	4168		Historic trash scatter	1979	Not evaluated	
	4169		Isolate—glass	1979	Not eligible**	
	4170		Isolate—FLA	1979	Not eligible**	
	4183		Temporary camp site	n.d.	Not evaluated	
	4184		Lithic scatter	1980	Not evaluated	
	4185		Isolate—cores	1980	Not eligible**	
	4397		Isolate—ceramic	n.d.	Not eligible**	
	4398		Ceramic scatter	n.d.	Not evaluated	
	4409		Bullet scatter	1981	Not evaluated	
	4410		Ceramic scatter, historic trash scatter	1981	Not evaluated	
	4411		Historic trash scatter	1981	Not evaluated	
	4621		Graveyard	1982	Recommended eligible	Smith et al. 2008
	4626		Ceramic scatter	1981	Not evaluated	
	4627		Ceramic scatter	1981	Not evaluated	
	4628		Ceramic scatter	1981	Not evaluated	
	4629		missing site form	n.d.	Not evaluated	
	4630		Temporary camp site	1979	Not evaluated	
	4631		Ceramic scatter	1981	Not evaluated	
	4632		Ceramic scatter	1981	Not evaluated	
	4633		Ceramic, lithics	1979	Not evaluated	
	4634		Temporary camp site	1981	Not evaluated	
	4635		Ceramic scatter	1981	Not evaluated	
	4636		Ceramic scatter	1981	Not evaluated	

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Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
	4658		Ceramic, ground stone	1981	Not evaluated	
	4659		Ceramic scatter	1978	Not evaluated	
	4660		Isolate—ceramic	1978	Not eligible**	
	4661		Isolate—ceramic	1978	Not eligible**	
	4662		Isolate—ceramic	1978	Not eligible**	
	4761		Ceramic, lithic	2003, 1981	Not eligible	Hangan 2003
	4762		Isolate—ceramic	1981	Not eligible**	
	4764		Historic plank road and associated debris	1997, 1982	Recommended eligible	Nomination Form/PHR Associates and Carrico 1989
	4765		Historic trash scatter	1982	Not evaluated	
	4767		Ceramic scatter	1981	Not evaluated	
	4768		Isolate—ceramic	1981	Not eligible**	
	4769		Isolate—ceramic	1981	Not eligible**	
	4910		Ceramic scatter	1982	Not evaluated	
	5077		Lithic scatter	1984	Not evaluated	
	5281		missing site form	n.d.	Not evaluated	
	5282		missing site form	n.d.	Not evaluated	
	5283		missing site form	n.d.	Not evaluated	
	6546		Ceramic scatter	1991;, 1955	Not evaluated	
	6640		Isolate—ceramic	1991	Not eligible**	
	7130		All American Canal	2001, 1997, 1995,1994	Recommended eligible	Schaefer and Andrews 2205, Queen 1999
	7158		Transmission Line Knob—Drop 4	2006, 2000, 1994	Not eligible**	McCorkle et al. 2006
	7649		Ceramic scatter	n.d.	Not evaluated	

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Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
13-007858	7658		Old Coachella Canal	n.d.	Recommended eligible	Schaefer and Ghabhlain 2003
	7685		Quarry	n.d.	Not evaluated	
13-007909	7708		Rock feature, Old Yuman Road	n.d.	Recommended eligible	Schaefer and Andrews 2005
	7800		Ceramic scatter	1997	Not evaluated	
	7806		Isolate—ceramic	1997	Not eligible**	
	7901		missing site form	n.d.	Not evaluated	
	7910		missing site form	n.d.	Not evaluated	
	7921		missing site form	n.d.	Not evaluated	
	7922		missing site form	n.d.	Not evaluated	
	7923		missing site form	n.d.	Not evaluated	
	8191		Ogilby railroad station	n.d.	Recommended eligible	Cleland et al. 2003, Smith et al. 2008
	8211		Historic trash scatter	n.d.	Not eligible	Smith et al. 2008
	8212		Historic trash scatter	n.d.	Not eligible	Smith et al. 2008
	8213		Historic trash scatter	n.d.	Not eligible	Smith et al. 2008
	8216		Former Amos Station	n.d.	Recommended eligible	Smith et al. 2008
	8218		Former Acolita Station	n.d.	Recommended eligible	Smith et al. 2008
	8285		missing site form	n.d.	Not evaluated	
13-008896	8314		Ceramic scatter	2004, 2006	Recommended eligible (as part of discontiguous district)	Schaefer and Andrews 2005
	8416		Historic trash scatter, railroad grade	2007	Not eligible	Smith et al. 2008

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Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
	8423		Historic foundation, trash scatter, railroad grade	2006	Not eligible	Smith et al. 2008
	8424		Historic trash scatter, railroad grade	2006	Not eligible	Smith et al. 2008
	8623	UP-2	Historic foundation, trash scatter, railroad grade	2006	Not eligible	Smith et al. 2008
	8623	UP-5	Historic trash scatter, railroad grade	2006	Not eligible	Smith et al. 2008
	8624		Historic trash scatter, railroad grade	2006	Not eligible	Smith et al. 2008
	8633		Historic trash scatter, railroad grade	2006	Not eligible	Smith et al. 2008
	8634		Former Glamis station	2007	Recommended eligible	Smith et al. 2008
	8635		Historic trash scatter, railroad grade	2007	Not eligible	Smith et al. 2008
13-008619			Ceramic scatter	2002	Not eligible	Underwood and Cleland 2002
13-008620			Ceramic scatter	2002	Not eligible	Underwood and Cleland 2002
13-008621			Bullet scatter	2002	Not eligible	Underwood and Cleland 2002
13-008622			Ceramic scatter	2002	Not eligible	Underwood and Cleland 2002
13-008623			Isolate—core	2002	Not eligible**	Underwood and Cleland 2002
13-008624			Isolate—ceramic	2002	Not eligible**	Underwood and Cleland 2002
		AAC3	Ceramic scatter	n.d.	Recommended Eligible as possible district	Schaefer and Andrews 2005
		AAC4	Ceramic scatter	n.d.	Recommended Eligible as possible district	Schaefer and Andrews 2005
		AAC-ISO-1	missing site form	n.d.	Not eligible**	

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Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
	A2-P1	A2-P1	missing site form	n.d.	Not evaluated	
	A7H	A7H	Historic workshop	n.d.	Recommended eligible	Schaefer and Andrews 2005
	ISO-A2-1	ISO-A2-1	Isolate	n.d.	Not eligible**	
	ISO-A2-2	ISO-A2-2	Isolate	n.d.	Not eligible**	
		B2	Ceramic scatter	n.d.	Recommended eligible as possible district	Schaefer and Andrews 2005
		B3H	missing site form	n.d.	Not evaluated	
		B4	Ceramic scatter	n.d.	Recommended eligible as possible district	Schaefer and Andrews 2005
		B5	Ceramic scatter	n.d.	Recommended eligible as possible district	Schaefer and Andrews 2005
		ISO-B3	Isolate	n.d.	Not eligible**	
		ISO-B4	Isolate	n.d.	Not eligible**	
		ISO-B4-1	Isolate	n.d.	Not eligible**	
		ISO-B4-2	Isolate	n.d.	Not eligible**	
		ISO-B5	Isolate	n.d.	Not eligible**	
		ISO-B6	Isolate	n.d.	Not eligible**	
		ISO-B7	Isolate	n.d.	Not eligible**	
		ISO-B8	Isolate	n.d.	Not eligible**	
		ISO-B9	Isolate	n.d.	Not eligible**	
		C12-1	Ceramic scatter	n.d.	Recommended eligible as possible district	Schaefer and Andrews 2005
		C23-1	Historic trash scatter	n.d.	Not eligible	Schaefer and Andrews 2005

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Primary Number	Trinomial (CA-IMP-)	Temporary Number*	Description	Last Recorded	NR Status	Citation
		D1-1H	Historic trash scatter	n.d.	Not eligible	Schaefer and Andrews 2005
		BM No. 209	Border monument	2007	Recommended eligible as possible district	Rosenberg and Smith 2008
13-009615		BM No. 210	Border monument	2007	Recommended eligible as possible district	Cheever and Berryman 2008
13-009616		BM No. 211	Border monument	2007	Recommended eligible as possible district	Cheever and Berryman 2008
13-009546		ECBFIso-1	Isolate—ceramic	2007	Not eligible**	
	D2-8	D2-8	Evan–Hewes Hwy/Old Route 80	2005	Not eligible	Cleland and Apple 2006
13-008961	8356	IID-AY-4	Old Hwy 80	2006	Not eligible	Apple et al. 2006
13-009019		IID-AY-ISO-1	Isolate—historic ceramic	2006	Not eligible**	
		UP-ISO-1	Isolate—ceramic	n.d.	Not eligible**	
		UP-ISO-2	Isolate—ceramic	n.d.	Not eligible**	
		UP-ISO-3	Isolate—historic glass	n.d.	Not eligible**	
		UP-ISO-12	Isolate—historic glass	n.d.	Not eligible**	
		UP-ISO-13	Isolate—historic glass	n.d.	Not eligible**	
		UP-ISO-14	Isolate—historic metal can	n.d.	Not eligible**	
		UP-ISO-15	Isolate—historic glass	n.d.	Not eligible**	
		UP-ISO-16	Isolate—historic metal can	n.d.	Not eligible**	
		UP-ISO-18	Isolate—historic glass	n.d.	Not eligible**	

* = Temporary number is listed when trinomial is unknown.
** = Not eligible. Isolates are not considered eligible.

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-1 Dunes (Large)**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Large-scale, gently rolling dunes system; some steep drop-offs at slip faces on leeward side of dunes landform is highly unique and monumental in regional context	Minimal vegetative cover; small irregular forms. Little variety but high contrast between vegetation and dunes	Few structures; rectangular form of radio repeater station, and occasional signs; planar form of roadways adjacent to the dunes
Line	Curvilinear and serpentine	Irregular lines of sparse vegetation	Structures and signs are linear and perpendicular; roadways are relatively straight to slightly curving
Color	Dominant color is tan (sand); shadow patterns create interesting interplay between light and dark tones; colors at sunrise/sunset range from light pinks to orange-red reflected from sky and clouds	Light greens and gray-greens; lime green of Mormon tea; darker greens of occasional creosote. Color of vegetation contrasts greatly with predominantly monochrome sand color	Metallic grays, rust color and earth tones; dark grays of paved roads; gray and black tones of structures (bathrooms)
Texture	Even, smooth texture with soft surface appearance; more coarse texture where tracks of vehicles, people, and animals are evident	Moderate to coarse; much depends on scale	Smooth to moderately coarse

Narrative/Representative landscape character:

Gently rolling to steep dune formations with sharp serpentine edges at crests, rising dramatically from adjacent, relatively level to gently sloping, desert basin floor. This is the large core of the dunes system, which is buffered and enhanced by the adjacent outer and smaller dunes and creosote scrub plains. Landform is the dominant visual element, particularly as it contrasts so strongly with the desert landscape. The rugged and colorful Chocolate, Cargo Muchacho, and other mountains to the east contrast sharply in form and color and add visual interest to the area. Although the tan colors of the sand are generally monochromatic, there are variations in light and shadow throughout the day and brilliant colors at sunrise and sunset. Vegetation is generally not visually evident, but there are a variety of small forbs and shrubs at low densities that provide some visual interest. Microphyll woodlands to the east provide additional visual interest. This is a regionally significant landscape element of great visual interest. Night-time views in high-use areas during weekends and holidays include lights from numerous recreational vehicles as well as unauthorized fireworks displays set off by visitors.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total / Rationale	Scenic Quality Classification
Landform	**5**			Unique and dynamic	**n A (>18)**
Vegetation			**1**	Minimal vegetation evident	**£ B (12-18)**
Water			**0**	No surface water	**£ C (<12)**
Color		**3**		Monochrome, but with shade/shadow contrast during day; often brilliant sunrise and sunset color hues	
Adjacent Scenery		**3**		Adjacent small dunes and distant Mts. enhance scenic quality	
Scarcity	**5**			Large dunes are very unique to region; internationally significant	
Cultural Modification		**3**		Few and Minor structural elements; do not noticeably detract	
Totals:	**10**	**9**	**1**	**20**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

- John Johnson, Visual, Recreation, and Wilderness Resources Specialist
- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Imperial Sand Dunes Recreation Area Manager

RECON Environmental

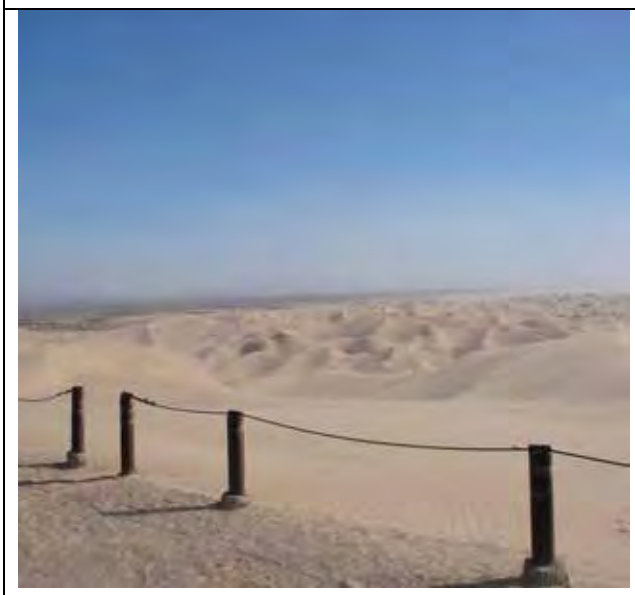
- Susy Morales, ISD RAMP/EIS Project Manager, Assistant Visual Analyst
- Lori Woods, Visual Analyst

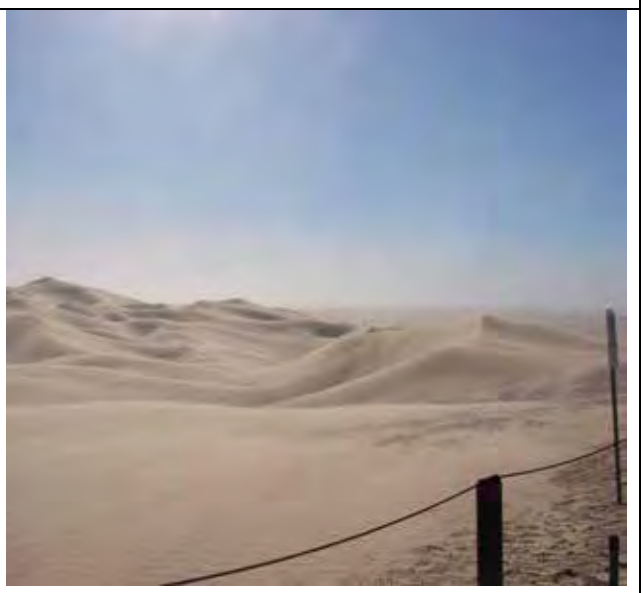
Also attending and participating in discussions:

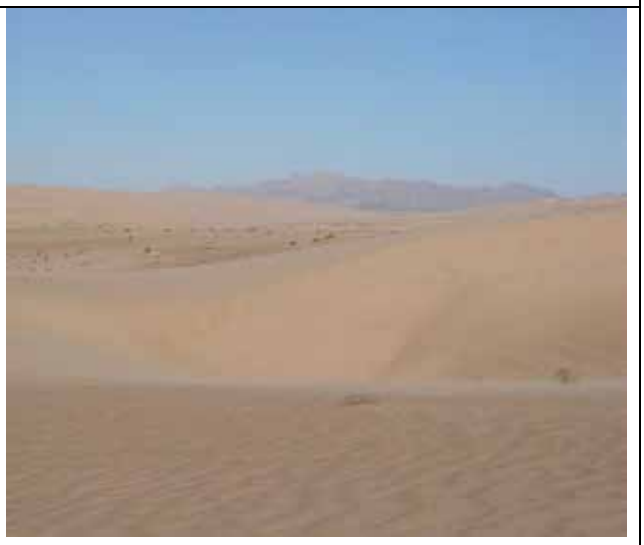
Department of Homeland Security, Border Patrol

- Kevin Geller, Public Lands Liaison

Representative Photographs: SQRU-1 Dunes (Large)







VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX								
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		**Iü**	I	I	**I**	**I**	**I**	**I**
Scenic Quality	**A**	**IIü**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	III	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: A
Sensitivity Level: High
Distance Zone: Foreground–Middleground
Inventory Classes: I & II

Class I Management Objective: To **preserve** the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Management Objective: To **retain** the existing character of the landscape. The level of change to the characteristic landscape should be low.

Discussion: Class I is assigned to the portion within the North Algodones Dunes Wilderness. The Scenic Quality of the SQRU is A, therefore the Inventory Class for the remainder of the SQRU is II, regardless of Visual Sensitivity or Distance Zone. The visual sensitivity level of this area is high due to its recreational use and designation, and because a portion is designated Wilderness (north of SR-78). This area is within foreground–middleground views (i.e., within 3-5 miles) of dune recreationists, viewers on adjacent roads (SR-78), campers, and from aircraft flights heading east to or west from the San Diego area.

Considerations for assigning Management Class: VRM Class I will be assigned to the North Algodones Dunes Wilderness in accordance with national BLM policy. Class II would be appropriate for other areas due to the high scenic quality, sensitivity, high visitor use, and expectation for unique, world-class scenery.

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-2 Small Dunes**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Rounded, low dunes with moderate to steep slopes; separated by serpentine valleys between dune hills/mounds; soft lines; random mounds	Minimal vegetative cover; rounded and angular forms. Some variety in vegetation types (form, texture, and pattern)	Minimal structures; rectangular form of bathroom facilities and signs; planar form of roadways and railroad
Line	Rounded, undulating; curvilinear and serpentine waves of sand and flat valleys	Minimal curvilinear branches; rounded canopy; random spacing	Minimal; structures and signs are linear and perpendicular, roadways are relatively straight to slightly curving
Color	Light tans (sand) to very light browns; shadow contrasts; strong contrast with blue skyline	Dark green to olive green; grays minimal. Color of vegetation contrasts greatly with predominantly monochrome sand color	Metallic grays and earthtones of bathrooms and signs; light tans of roadways, dark grays of railroad
Texture	Very fine, even and smooth texture. More course texture within valleys and washes	Medium to coarse	Smooth to moderately course

Narrative/Representative landscape character:

Small dunes rise gently from relatively flat creosote plain, creating a dominant visual element. Small dunes are undulating with valleys meandering between sand mounds. Wavy slopes with rounded to, at times, a sharp angular top edge/crest. The rugged and colorful Chocolate, Cargo Muchacho, and other mountains to the east contrast sharply in form and color, adding visual interest to the area. The higher dunes to the west provide topographic

contrast, also adding visual interest. Wavy patterns exist on dune slopes throughout. Valleys and dune bases contain sparse vegetation, and there is little or no vegetation on the dunes. Vegetation density diminishes from edge of small dunes toward larger central dunes; diversity of size and form of vegetation also decreases (smaller plants, lower to ground, toward central dunes). Minimal vegetation present provides a strong contrast with dunes and provides visual interest. Microphyll woodlands adjacent to small dunes (meandering between dunes in places) provide additional visual interest. As with the large dunes, the tan color of the dune sand is generally monochromatic, but there are variations in light and shadow throughout the day and brilliant colors at sunrise and sunset. The small dunes are part of the greater dunes system that is a regionally significant landscape element of great visual interest. Night-time views in high-use areas during weekends and holidays include lights from numerous recreational vehicles, campfires, and occasionally unauthorized fireworks displays set off by visitors.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total/Rationale	Scenic Quality Classification
Landform	**4**			Unique and dynamic; gently rounded forms	**n A (>18)**
Vegetation			**1**	Minimal vegetation evident	**£ B (12-18)**
Water			**0**	No surface water	**£ C (<12)**
Color		**3**		Monochrome, with shade/shadow contrast during the day; strong contrast with vegetation	
Adjacent Scenery	**4**			Adjacent large dunes and distant mountains enhance scenic quality	
Scarcity	**4**			Small dunes are unique to the region, part of larger dune system	
Cultural Modification		**3**		Few and minor structural elements; do not noticeably detract	
Totals:	**12**	**6**	**1**	**19**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

- John Johnson, Visual, Recreation, and Wilderness Resources Specialist
- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Imperial Sand Dunes Recreation Area Manager

RECON Environmental

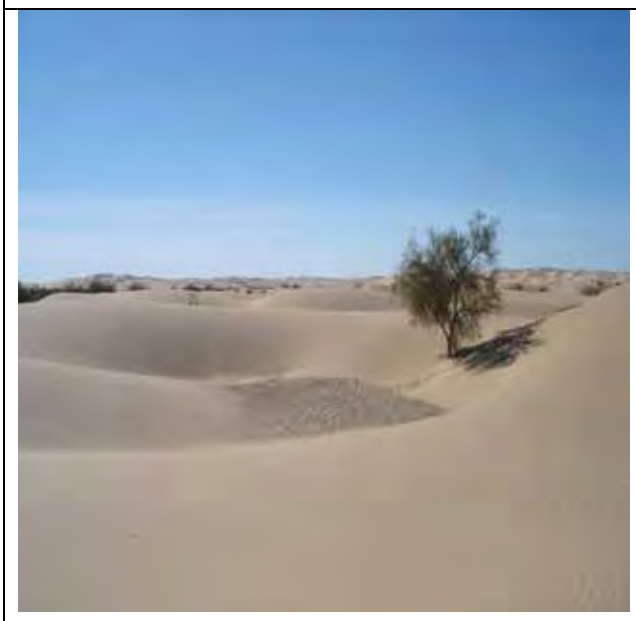
- Susy Morales, ISD RAMP/EIS Project Manager, Assistant Visual Analyst
- Lori Woods, Visual Analyst

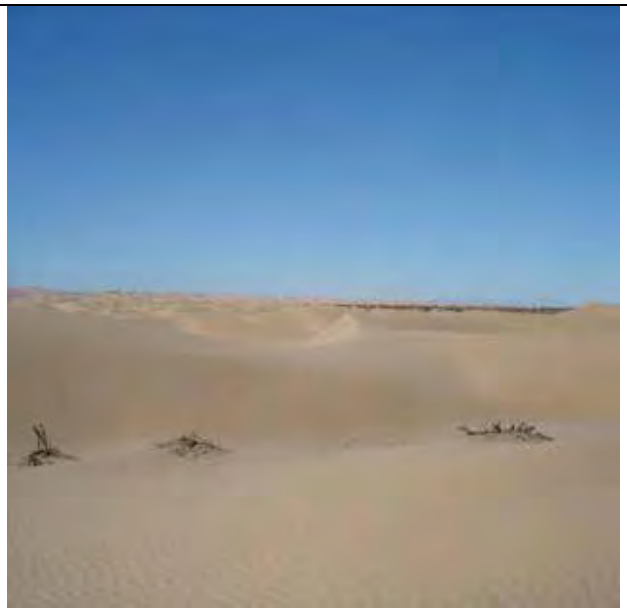
Also attending and participating in discussions:

Department of Homeland Security, Border Patrol

- Kevin Geller, Public Lands Liaison

Representative Photographs: SQRU-2 Small Dunes





VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX								
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		**Iü**	**I**	**I**	I	I	I	I
Scenic Quality	**A**	**IIü**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	III	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: A
Sensitivity Level: High
Distance Zone: Foreground–Middleground
Inventory Classes: I & II

Class I Management Objective: To **preserve** the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Management Objective: To **retain** the existing character of the landscape. The level of change to the characteristic landscape should be low.

Discussion: Class I is assigned to the portion within the North Algodones Dunes Wilderness. The Scenic Quality of the SQRU is A, therefore the Inventory Class for the remainder of the SQRU is II, regardless of Visual Sensitivity or Distance Zone. The visual sensitivity level of this area is high due to its recreational use and designation. This area is within foreground–middleground views (i.e., within 3-5 miles) of dune recreationists, viewers on adjacent roads (Ted Kipf Road and Wash Road), campers, and from aircraft flights heading east to or west from the San Diego area.

Considerations for assigning Management Class: VRM Class I will be assigned to the portion within the North Algodones Dunes Wilderness in accordance with national BLM policy. Class II is appropriate for the other small dunes areas due to the scenic quality, sensitivity, high visitor use, and expectation for unique, world-class scenery.

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-3 Microphyll Woodlands**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Relatively level plain with washes/woodlands dissecting landscape and areas of the small dunes	Rounded and angular forms; higher variety of vegetative forms than surrounding creosote plain and nearby dunes	Few structures within woodlands and surrounding area; planar form of roadways and railroad track, rectangular form of signs and utility poles
Line	Gently curvilinear wash alignments ending at rounded dunes	Rounded to jagged lines of vegetation branches; rounded to angular form of vegetation canopy	Minimal; strong linear pattern of road, railroad tracks; linear and perpendicular form of signs, utility poles, and radio towers
Color	Light tans of dunes, tans and light browns of open areas, some grays	Dark green to olive green; grays minimal, some browns and tans; strong contrast with dunes.	Light tan of road, light to dark gray tones of railroad and signs, tans and browns of poles
Texture	Primarily even texture, relatively fine texture of dunes, medium to course texture of plains and washes with rock cobble	Medium to coarse texture; more course texture of dead and downed branches throughout woodland	Primarily smooth; course rock cobble of railroad track

Narrative / Representative landscape character:

The microphyll woodlands are fingers of higher density vegetation that dissect the primarily sparse creosote plains. The woodlands are primarily within washes flowing from mountains to the east into the small dunes. Increased water availability from storm events and increased soil moisture results in linear vegetation corridors within the washes. The diversity (structure and form) and size of vegetation increases within the woodland/wash fingers.

Woodland fingers dissect the eastern small dunes in some areas. The denser vegetation and darker green colors of the microphyll woodlands contrast sharply with the small dunes and add visual interest to the plains. The microphyll woodlands are relatively rare and provide important wildlife habitat for the area.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total / Rationale	Scenic Quality Classification
Landform	**4**			High density vegetation unique to area	**n A (>18)**
Vegetation	**4**			Higher diversity and higher density, unique structure	**£ B (12-18)**
Water			**0**	No surface water	**£ C (<12)**
Color		**3**		Sharp contrast with dunes	
Adjacent Scenery		**3**			
Scarcity	**4**			Rare within region	
Cultural Modification			**1**	Minimal	
Totals:	**12**	**6**	**1**	**19**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

- John Johnson, Visual, Recreation, and Wilderness Resources Specialist
- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Imperial Sand Dunes Recreation Area Manager

RECON Environmental

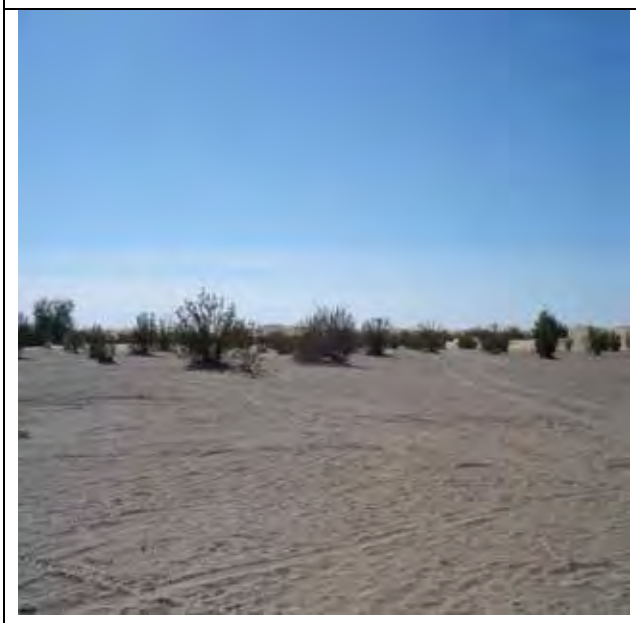
- Susy Morales, ISD RAMP/EIS Project Manager, Assistant Visual Analyst
- Lori Woods, Visual Analyst

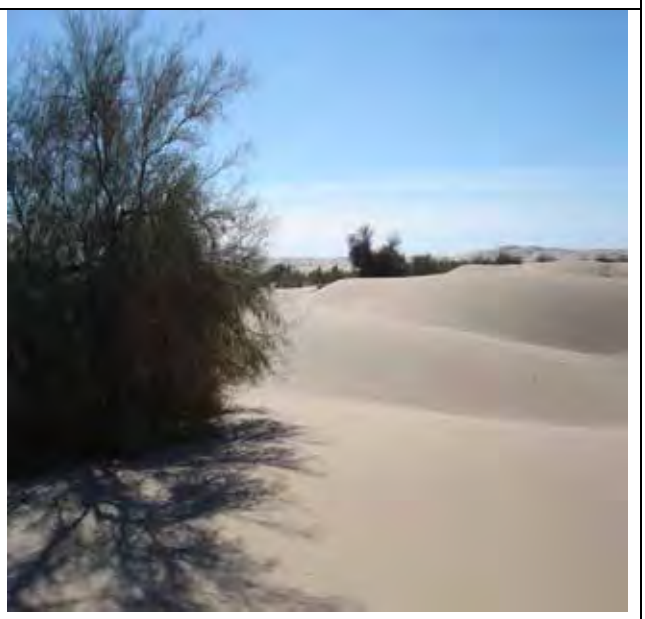
Also attending and participating in discussions:

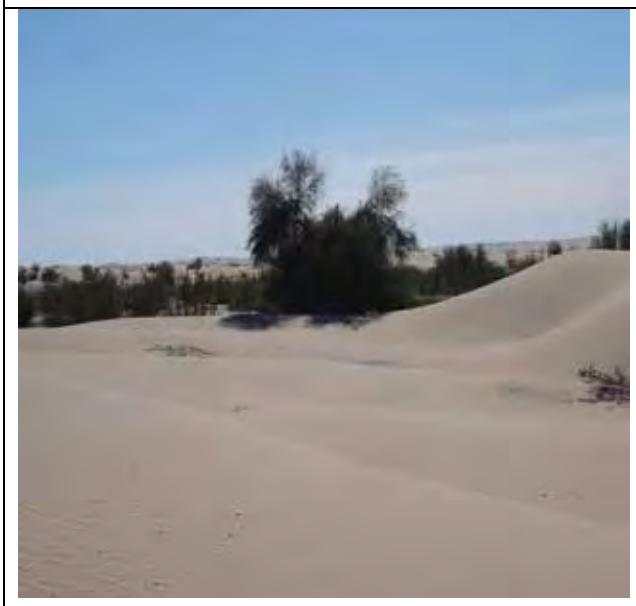
Department of Homeland Security, Border Patrol

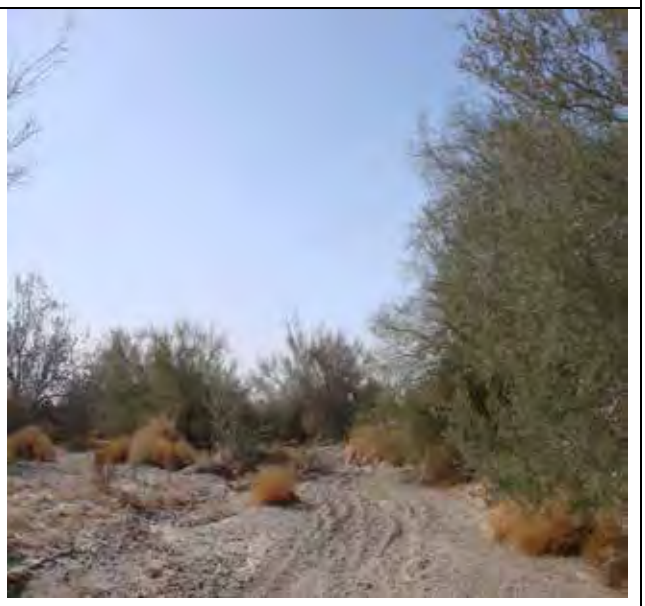
- Kevin Geller, Public Lands Liaison

Representative Photographs: SQRU-3 Microphyll Woodlands









VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX

		Visual Sensitivity Levels						
		High			Medium			Low
Special Areas		**Iü**	**I**	**I**	I	I	I	I
Scenic Quality	**A**	**IIü**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	III	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: A
Sensitivity Level: High
Distance Zone: Foreground–Middleground
Inventory Classes: I & II

Class I Management Objective: To **preserve** the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Management Objective: To **retain** the existing character of the landscape. The level of change to the characteristic landscape should be low.

Discussion: Class I is assigned to the portion within the North Algodones Dunes Wilderness. The Scenic Quality of the SQRU is A, therefore the Inventory Class for the remainder of the SQRU is II, regardless of Visual Sensitivity or Distance Zone. The visual sensitivity level of this area is high due to the unique density and diversity of vegetation. This area is within foreground–middleground views (i.e., within 3-5 miles) of dune recreationists, viewers on adjacent roads (Wash Road), campers, and from aircraft flights heading east to or west from the San Diego area.

Considerations for assigning Management Class: VRM Class I will be assigned to the portion within the North Algodones Dunes Wilderness in accordance with national BLM policy. Class II is appropriate for the other microphyll woodlands areas due to the scenic quality, sensitivity, high visitor use in the surrounding areas, and expectation for unique, world-class scenery.

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-4 Dissected Creosote (Pilot Knob Mesa)**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Relatively level plain, dissected by braided and meandering washes	Rounded and angular forms	Few structures; road subgrade in segments
Line	Gently curvilinear wash alignments	Rounded to jagged lines of vegetation	Strong linear patterns of road, railroad, and radio towers
Color	Very light tans (sand) and grays	Light grays and greens of ironwood and smoke trees; darker tones of creosote; seasonal colors of ironwood, palo verde, ocotillo; darker tones of creosote; lavenders, yellows, oranges	Light and dark gray tones
Texture	Even, relatively fine to medium texture (more coarse than adjacent sand dunes); rock cobble more coarse along washes	Medium to coarse texture, lots of dead and downed branches	Smooth

Narrative/Representative landscape character:

Gently sloping plain on east side of dunes with a very sparse distribution of creosote. Area is dissected by washes conveying storm flows from Chocolate and Cargo Muchacho mountains to the dunes. Increased soil moisture results in “fingers” of high density and higher diversity vegetation (much more diversity of structure and forms) within washes.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total / Rationale	Scenic Quality Classification
Landform			**2**		**£ A (>18)**
Vegetation		**3**			
Water			**0**	No surface water	**n B (12-18)**
Color			**2**	Little variety	
Adjacent Scenery	**4**			Dunes	**£ C (<12)**
Scarcity		**3**			
Cultural Modification		**3**		Minimal	
Totals:	**4**	**9**	**4**	**17**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

- John Johnson, Visual, Recreation, and Wilderness Resources Specialist
- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Recreation Area Manager

RECON Environmental

- Susy Morales, ISD RAMP/EIS Project Manager, Visual Analyst Trainee
- Lori Woods, Visual Analyst

Also attending and participating in discussions:

Department of Homeland Security, Border Patrol

- Kevin Geller, Public Lands Liaison

Representative Photographs: SQRU-4 Dissected Creosote (Pilot Knob Mesa)

VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX								
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		**I ü**	**I**	**I**	I	I	I	I
Scenic Quality	**A**	**II**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	**III ü**	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: B
Sensitivity Level: Medium
Distance Zone: Foreground–Middleground
Inventory Class: I & III

Class I Management Objective: To **preserve** the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class III Management 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.

Discussion: Class I is assigned to the portion within the North Algodones Dunes Wilderness. Scenic Quality is B and the Inventory Class for the remainder of the SQRU is III due to the distance zone and visual sensitivity level (adjacent to the dunes). Many areas within this unit have high visitor use from OHV recreationists camping and riding to the adjacent dunes. Visitor use is high during holidays and some weekends. This unit contains few special areas, but is located adjacent to several special management areas such as the North Algodones Dunes Wilderness and the larger dunes areas. This area is within foreground–middleground views (i.e., within 3-5 miles) of dune recreationists, campers, adjacent roadways, and from aircraft flights heading east to and west from the San Diego area.

Considerations for assigning Management Class: VRM Class I will be assigned to portion within the North Algodones Dunes Wilderness in accordance with national BLM policy. Class III is appropriate for the remainder of the dissected creosote scrub unit due to the lower scenic quality of the area as compared to the adjacent dunes, lower visual sensitivity overall, high visitor use, and type of visitor use.

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-5 Creosote Flats (west side, including East Mesa)**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Relatively level, gentle gradient east to west	Few small trees; rounded low forms of creosote and small shrubs	Very few structures; Coachella Canal and road, and dunes roads
Line	Mostly flat, straight line of ground plane	Short (<6') vertical lines of creosote branches and small shrubs	Linear pattern of canal, roads and power lines and towers in the distance
Color	Tans and light grays of sand and ground surface	Dark greens, grays of creosote leaves and branches; seasonal color of verbena (purples)	Most appear dark grays; blue/green water in canal
Texture	Even, relatively fine to medium texture (more coarse than adjacent sand dunes)	Even, fine-textured from a distance; coarser texture	Smooth

Narrative/Representative landscape character:

Gently sloping plain on west side of large dunes, with a relatively even and low-to-moderate density and distribution of creosote. Area is mostly lacking in trees and ocotillo. Unit is dissected by New Coachella Canal and roadway. Few structures are present.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total/Rationale	Scenic Quality Classification
Landform			**1**	Relatively flat topography	**£ A (>18)**
Vegetation			**2**	Creosote habitat	**n B (12-18)**
Water			**1**	Canal	
Color			**2**	Little variety	**£ C (<12)**
Adjacent Scenery	**4**			Backdrop of dunes on east	
Scarcity			**1**	Not regionally scarce	
Cultural Modification		**3**		Minimal	
Totals:	**4**	**3**	**7**	**14**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

- John Johnson, Visual, Recreation, and Wilderness Resources Specialist
- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Imperial Sand Dunes Recreation Area Manager

RECON Environmental

- Susy Morales, ISD RAMP/EIS Project Manager, Assistant Visual Analyst
- Lori Woods, Visual Analyst

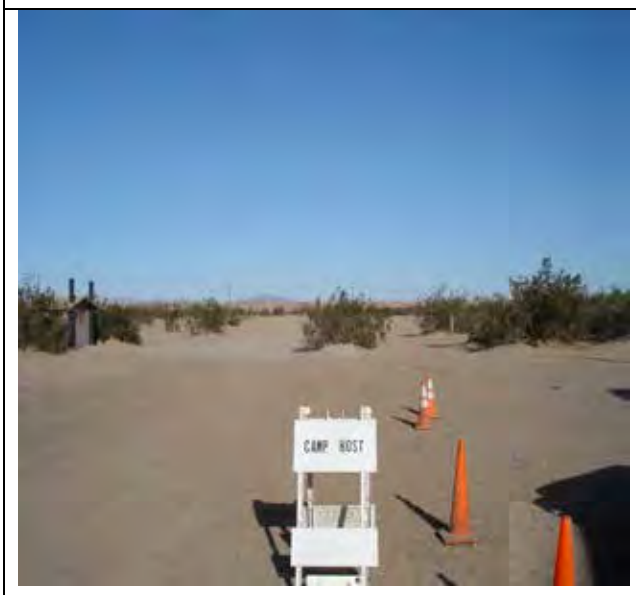
Also attending and participating in discussions:

Department of Homeland Security, Border Patrol

- Kevin Geller, Public Lands Liaison

Representative Photographs: SQRU-5 Creosote Flats

(west side, including East Mesa)



VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX								
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		**I ü**	**I**	**I**	I	I	I	I
Scenic Quality	**A**	**II**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	**III ü**	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: B
Sensitivity Level: Medium
Distance Zone: Foreground–Middleground
Inventory Class: I & III

Class I Management Objective: To **preserve** the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class III Management Objective: The objective of this class is to **partially retain** the existing character of the landscape. The level of change to the characteristics landscape should be moderate.

Discussion: Class I is assigned to the portion within the North Algodones Dunes Wilderness Area. The Scenic Quality of the SQRU is B and the Inventory Class for the remainder of the area is III due to the distance zone and visual sensitivity level (adjacent to the dunes). Many areas of this unit have high visitor use from OHV recreationists camping and riding to the adjacent dunes. Visitor use is high during holidays and some weekends. This unit contains few special areas, but is located adjacent to the dunes special management area. This area is within foreground–middleground views (i.e., within 3-5 miles) of dune recreationists, campers, adjacent roadways, and from aircraft flights heading east to and west from the San Diego area.

Considerations for assigning Management Class: VRM Class I will be assigned to the portion within the North Algodones Dunes Wilderness Area in accordance with national BLM policy. Class III is appropriate for the remainder of the creosote flats unit due to the lower scenic quality of the area as compared to the adjacent dunes, lower visual sensitivity overall, high visitor use, and type of visitor use.

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-6 High-use Areas**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Relatively level areas	Few small trees or shrubs; rounded and irregular forms	Linear form of roadways, rectangular of power lines, towers, bathroom facilities, and signs
Line	Mostly flat areas	Vertical lines of trees, rounded line of creosote and small shrubs	Linear pattern of road, power lines and towers
Color	Tans and light grays of sand and ground surface, grays of roads and structures	Dark greens, grays of creosote leaves and branches; seasonal color of verbena (purples)	Metallic grays, rust color and earth tones; dark grays of paved roads; grays and blacks of bathroom facilities
Texture	Even, relatively fine to medium texture of dunes areas; more course texture of plains and trails/tracks	Even, fine-textured from a distance; coarser texture	Smooth to moderately course

Narrative / Representative landscape character:

High-use areas are located off of roadways within the Planning Area (south of SR-78, north and south of I-8, Ted Kopf Road, Ogilby Road). High-use areas are primarily located in relatively flat plains either within the dunes or creosote scrub mesas. The majority of campers concentrate within these high-use areas, particularly during holidays and weekends when thousands of visitors recreate in the dunes. Cultural modification of the high-use areas consists of roadways (some paved), bathroom facilities, signs and kiosks, and vendor areas. Two ranger stations are located near highest use areas. Modifications to the landscape generally contrast with the high scenic quality of surrounding dunes.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total / Rationale	Scenic Quality Classification
Landform			**1**	Relatively flat topography	**£ A (>18)**
Vegetation			**2**	Minimal in most areas	**£ B (12-18)**
Water			**0**	None	**n C (<12)**
Color			**2**	Little variety	
Adjacent Scenery	**4**			Backdrop of dunes	
Scarcity			**1**		
Cultural Modification			**-1**		
Totals:	**4**		**5**	**9**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

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- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Imperial Sand Dunes Recreation Area Manager

RECON Environmental

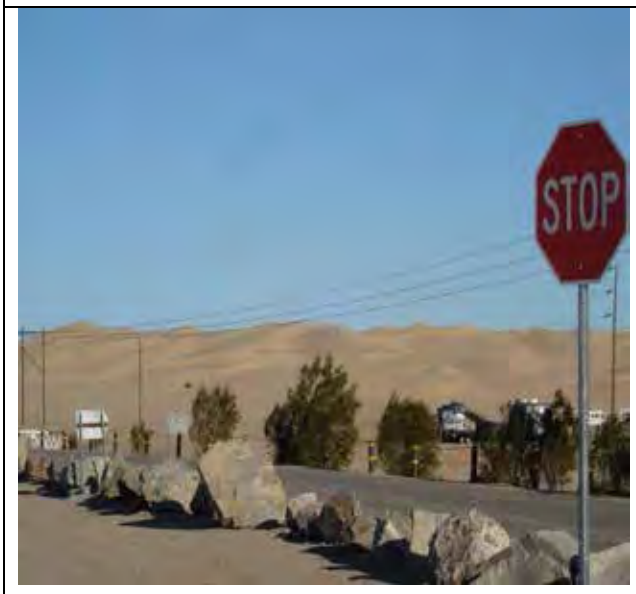
- Susy Morales, ISD RAMP/EIS Project Manager, Assistant Visual Analyst
- Lori Woods, Visual Analyst

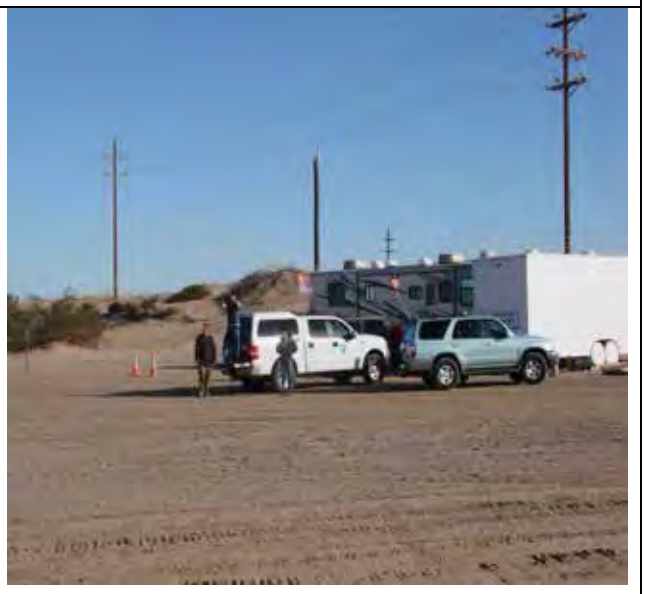
Also attending and participating in discussions:

Department of Homeland Security, Border Patrol

- Kevin Geller, Public Lands Liaison

Representative Photographs:





VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX								
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		I	I	I	I	I	I	I
Scenic Quality	**A**	**II**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	III	IV	IV	IV
	C	III	IV	IV	**IV ü**	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: C
Sensitivity Level: Medium
Distance Zone: Foreground-Middleground
Inventory Class: IV

Class IV Management Objective: The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape

Discussion: Scenic Quality is C and the Inventory Class for the area is IV due to the distance zone and medium visual sensitivity level. These areas have high visitor use from OHV recreationists camping and riding to the adjacent dunes, as well as vendors. Visitor use is high during holidays and many weekends. The high-use areas are located either within the dunes (campgrounds off of Gecko Road) or adjacent to the dunes. High-use areas are within foreground-middleground views (i.e., within 3-5 miles) of dune recreationists (OHV riders), adjacent roadways, and from aircraft flights heading east to and west from the San Diego area.

Considerations for assigning Management Class: Class IV is appropriate for the high use units due to the lower scenic quality of these areas as compared to the adjacent dunes, lower visual sensitivity overall, very high visitor use, and type of visitor use (camping, vendors, and recreational use).

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-7 Interstate 8 Corridor**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Relatively level plain/corridor	Few small trees or shrubs; rounded and irregular forms	Linear form of roadway, rectangular form of power lines, towers, roadside facilities, and signs
Line	Mostly flat area	Vertical lines of trees, rounded line of creosote and small shrubs	Linear pattern of roadway, vertical power lines and towers
Color	Tans and light grays of sand and ground surface, light to dark grays of roadway and structures; browns of some utility poles	Dark to light greens of trees and shrubs within corridor	Metallic grays, rust color and earth tones; dark grays of paved roads; grays and blacks of facilities
Texture	Course texture of roadway and trails/tracks, smooth texture of sandy areas	Even, fine-textured from a distance; coarser texture in some areas	Smooth to moderately course

Narrative/Representative landscape character:

The I-8 corridor is a very high use area containing a split 4-lane highway, frontage roads, above- and below-ground utility lines, a rest area, and portions of the All-American Canal. There are also several campgrounds within or adjacent to the corridor. Vegetation within the corridor is minimal, consisting primarily of creosote scrub. The dunes are visible from the corridor, adding visual interest. The recently completed International Boundary fence (consisting of approximately 15-foot-high steel fence lines) is highly visible along some portions of the corridor. During high-use periods, hundreds of recreational vehicles (campers and OHVs) may be seen adjacent to the corridor.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total / Rationale	Scenic Quality Classification
Landform			**1**	Relatively flat topography	**£ A (>18)**
Vegetation			**2**	Minimal in most areas	**£ B (12-18)**
Water			**1**	Canal	**n C (<12)**
Color			**2**	Little variety overall	
Adjacent Scenery	**4**			Backdrop of dunes	
Scarcity			**1**		
Cultural Modification			**-2**		
Totals:	**4**		**5**	**9**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

- John Johnson, Visual, Recreation, and Wilderness Resources Specialist
- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Imperial Sand Dunes Recreation Area Manager

RECON Environmental

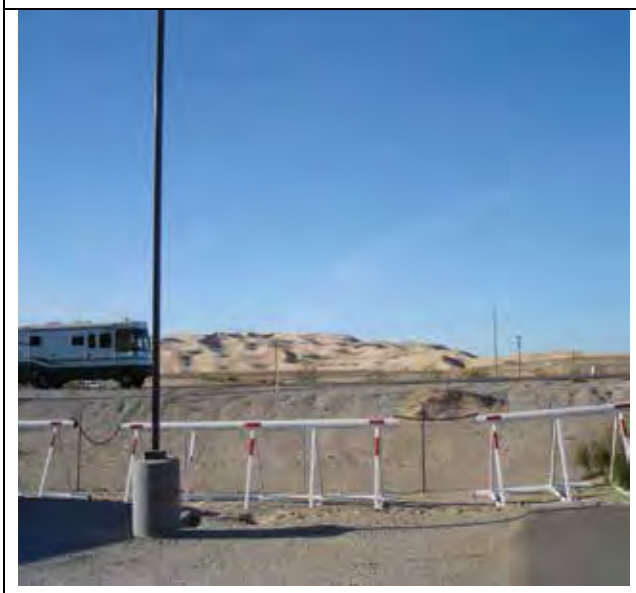
- Susy Morales, ISD RAMP/EIS Project Manager, Assistant Visual Analyst
- Lori Woods, Visual Analyst

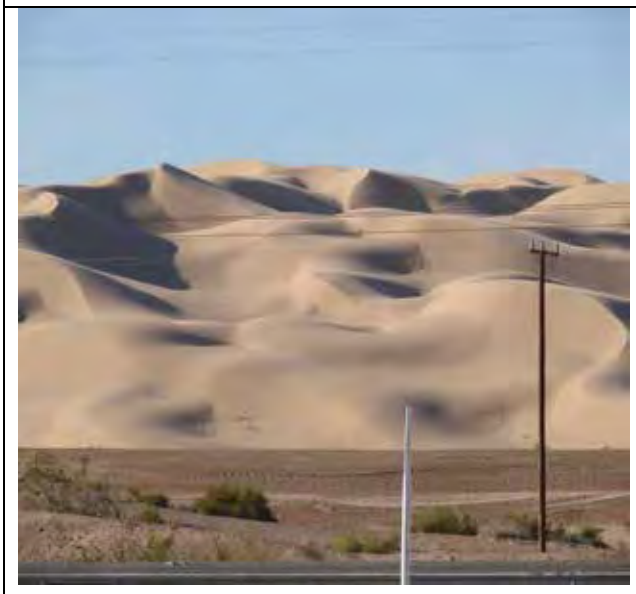
Also attending and participating in discussions:

Department of Homeland Security, Border Patrol

- Kevin Geller, Public Lands Liaison

Representative Photographs:





VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX								
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		I	I	I	I	I	I	I
Scenic Quality	**A**	**II**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	III	IV	IV	IV
	C	III	IV	IV	**IVü**	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: C
Sensitivity Level: Medium
Distance Zone: Foreground–Middleground
Inventory Class: IV

Class IV Management Objective: The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape.

Discussion: Scenic Quality is C and the Inventory Class for the area is IV due to the distance zone and medium visual sensitivity level. These areas have high visitor use from OHV recreationists camping and riding to the adjacent dunes, as well as vendors. Visitor use is high during holidays and many weekends. The corridor has relatively high volumes of interstate traffic and contains several above- and below-ground utility lines. High-use areas are within foreground–middleground views (i.e., within 3-5 miles) of dune recreationists (OHV riders), adjacent roadways, and from aircraft flights heading east to, and west from the San Diego area.

Considerations for assigning Management Class: Class IV is appropriate for the I-8 corridor due to the lower scenic quality as compared to the adjacent dunes, lower visual sensitivity overall, very high visitor use, and type of visitor use (interstate travel, camping, vendors, and recreational use).

United States Department of the Interior Bureau of Land Management **Scenic Quality Field Inventory**	Field Inventory:	December 2008
	Evaluators:	RECON & BLM
	District:	California Desert District
	Field Office:	El Centro California Field Office
	Resource Area:	**Imperial Sand Dunes Recreation Area**
	Scenic Quality Rating Unit:	**SQRU-8 Agricultural Area**

Landscape Character: (*see representative photos*)

	Landform/Water	Vegetation	Structures (General)
Form	Level plain	Rounded form of orchard tree canopies and linear form of trunks; linear, regular spacing	Linear form of roadways within fields and canal (Coachella), rectangular form of power lines and structures (few)
Line	Mostly flat area	Vertical lines of trees, rounded line of tree canopies	Linear pattern of roadways, vertical power lines
Color	Tans and light grays of sandy areas and ground surface, light tan of roadways; browns of tree trunks	Mostly dark green trees	Tans and grays of the few structures
Texture	Course texture of roadway and trails/tracks	Even, fine-textured from a distance; coarser texture closer to orchards	Smooth to moderately course

Narrative/Representative landscape character:

The agricultural area located in the northern portion of the ISDRA consists primarily of orchard trees. Trees are evenly spaced within blocks, with access roads between and surrounding orchard blocks. Blocks seem to be arranged at an angle to the dunes located to the east. Dark green of tree canopies contrasts strongly with the light tans of the dunes. A large wash (Mammoth Wash) dissects the central portion of the orchard blocks from northeast to southwest. The Coachella Canal dissects the orchards from south to north.

Scenic Quality Score & Classification:

	High (4–5)	Medium (3)	Low (1–2)	Total/Rationale	Scenic Quality Classification
Landform			**1**	Relatively flat topography	**£ A (>18)**
Vegetation			**2**	No native vegetation, orchard trees	**£ B (12-18)**
Water			**1**	Canal	**n C (<12)**
Color			**2**		
Adjacent Scenery	**3**			Backdrop of dunes	
Scarcity			**1**		
Cultural Modification			**-2**		
Totals:	**3**		**5**	**8**	

Evaluation Team consisted of the following individuals:

BLM El Centro Field Office

- John Johnson, Visual, Recreation, and Wilderness Resources Specialist
- Erin Dreyfuss, RAMP Team Lead, Environmental Protection Specialist
- Neil Hamada, Imperial Sand Dunes Recreation Area Manager

RECON Environmental

- Susy Morales, ISD RAMP/EIS Project Manager, Assistant Visual Analyst
- Lori Woods, Visual Analyst

Also attending and participating in discussions:

Department of Homeland Security, Border Patrol

- Kevin Geller, Public Lands Liaison

Representative Photographs:	
	

VISUAL RESOURCE INVENTORY CLASSIFICATION MATRIX								
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		I	I	I	I	I	I	I
Scenic Quality	**A**	**II**	**II**	**II**	**II**	**II**	**II**	**II**
	B	II	III	III* IV*	III	IV	IV	IV
	C	III	IV	IV	**IV ü**	IV	IV	IV
		f/m	b	s/s	f/m	b	s/s	s/s
		Distance Zones						

* If adjacent areas are Class III or lower, assign Class III; if higher, assign Class IV.

Scenic Quality: C
Sensitivity Level: Medium
Distance Zone: Foreground–Middleground
Inventory Class: IV

Class IV Management Objective: The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape.

Discussion: Scenic Quality is C and the Inventory Class for the area is IV due to the distance zone and medium visual sensitivity level. The agricultural areas have a very high level of cultural modification (planting of orchard trees, ongoing maintenance and harvesting, existence of roads). Recreationists camp and ride OHVs east of the agricultural fields; however, use is lower in this area as opposed to areas south of SR-78. The agricultural area is within foreground–middleground views (i.e., within 3-5 miles) of campers, dune recreationists (OHV riders), adjacent roadways, and from aircraft flights heading east to and west from the San Diego area.

Considerations for assigning Management Class: Class IV is appropriate for the Agricultural Area due to the lower scenic quality as compared to the adjacent dunes, lower visual sensitivity overall, visitor use in the surrounding area, and type of visitor use.

APPENDIX N

Authorized Land Uses/Status

SRMA

1. Cathodic Protection Unit Site R/W (LA 0158160)
2. BLM Windmill and Wildlife Water Tank Sites (2) R/W (CA-8714)
3. BLM Windmill and Wildlife Water Tank Site R/W (CA-8714)
4. State Highway 78 R/W (CA-14630)
5. Contaminated Military Area—Surface Use Only (R 05657)
6. Contaminated Military Area—Surface Use Only (R 05657)
7. Old Coachella Canal R/W (LA 056654)
8. Withdrawal Yuma Reclamation Project—New (Realigned) Coachella Canal
9. BLM (Gecko Road) Easement (CA-2551)
10. Glamis Known Geothermal Resource Area (CA-17575)
11. Fiber Optic Line (AT&T) R/W (CA-41690)
12. Underground Telephone Line R/W (CA-19125)
13. Temporary Use Permits for Apiary Sites along Coachella Canal
14. Underground Telephone Line R/W (CA-19125)
15. Road R/W (CA-40791)
16. State Highway 78 (Realigned portion) R/W (CA-17922)
17. Fiber Optic Line (AT&T) R/W (CA-41690)
18. Contaminated Military Area—Surface Use Only (R 05657)
19. Cathodic Protection Unit Site R/W (LA 0158161)
20. Glamis Known Geothermal Resource Area (CA-17572)

21. All-American Canal R/W (LA 077775)
22. Proposed Withdrawal, All American Canal Lining Project (CA-34475)
23. Old Coachella Canal R/W (LA 056654)
24. Withdrawal Yuma Reclamation Project—New (Realigned) Coachella Canal
25. Contaminated Military Area—Surface Use Only (R 05657)
26. Temporary Use Permits for Apiary Sites along Coachella Canal
27. Interstate 8 Highway R/W (LA 0165008)
28. State Highway (Grays Well Overpass) R/W (CA-17911)
29. Transmission Line R/W (LA 055613)
30. Transmission Line R/W (CA-5865)
31. County Road (Ogilby) R/W (CA-19171)
32. Communication Site, Access Road and Transmission Line R/W (CA-17182)
33. Railroad R/W (east boundary of management area)
34. All-American Canal and Well Sites R/W (LA 077775)
35. Proposed Withdrawal, All American Canal Lining Project (CA-34475)
36. Utility Corridor J (2 miles wide)
37. All-American Canal and Associated Telephone and Transmission Line R/W (LA 077775)
38. Transmission Line R/W (CA-5865)
39. Transmission Line R/W (CA-18904)
40. Transmission Line R/W (LA 055165)
41. Transmission Line R/W (LA 0164553)
42. Powerline Extension (to All-American Canal) R/W (CA-35934)
43. Underground Telephone Line R/W (CA-26357)

44. Underground Fiber Optic Line (Level 3) R/W (CA-41192)
45. Barrier (USBP) R/W Reservation (CA-34052)
46. Road (Grays Well Road) R/W Reservation to BLM (CA-19131)
47. Interstate 8 Highway R/W (LA 0165008)
48. State Highway (Grays Well Overpass) R/W (CA-17911)
49. Interstate 8 Highway and Ancillary Facilities R/W (R 07237)
50. Interstate 8 Highway and Ancillary Facilities R/W (R 01737)
51. Proposed Withdrawal, All-American Canal Lining Project (CA-34475)

One-mile Planning Zone

1. Strip of Land Acquired by and Under Jurisdiction of BOR (CA-19902)
2. Old Coachella Canal R/W (LA 056654)
3. Underground Fiber Optic Line (AT&T) R/W (CA-41690)
4. Cathodic Protection Unit Site R/W (LA 0158162)
5. State Highway 78 (Realigned Portion) R/W (CA-17922)
6. Railroad Spur R/W (CA-29617)
7. Mineral Material Site (LA 0164722)
8. Cathodic Protection Unit Site R/W (R-374)
9. Easement to US for Gordons Well Road (CA-37234)
10. Barrier (USBP) R/W Reservation (CA-34052)
11. County Road (Old Highway 80) R/W (R 01737)
12. Underground Telephone Line R/W (CA-26357)
13. Road R/W (LA 0165008)
14. All-American Canal, Telephone Line R/W (LA 077775)
15. Transmission Line R/W (LA 055165)

16. Transmission Line R/W (LA 164553)
17. County Road (Old Highway 80) R/W (R 01737)
18. Road, Pipeline, Wells, Transmission Line (CA-21618)
19. Mineral Material Site (LA 0133909)
20. RS 2477 County Road (Vista Mine Road and Zappone Road) R/W (CA-19169)
21. State Highway (Portion of Highway 78) R/W (CA-14630)
22. Underground Telephone Line R/W (CA-19125)
23. Road R/W (CA-8503)
24. Road R/W (CA-40791)
25. All-American Canal R/W (LA 077775)
26. Seismographic Monitoring Site R/W (CA-2953-22)
27. Transmission Line R/W (CA-5865)
28. Underground Fiber Optic Line (Level 3) R/W (CA-41192)
29. State Highway R/W (R 137)
30. Surveillance Camera and Access Road (USBP) R/W Reservation (CA-40000)
31. Telephone Line and Road R/W (CA-18904)
32. Temporary Use Permits for Apiary Sites along Coachella Canal
33. Mining Claim, Sage Placer (CAMC-285194; T. 15 S., R. 20 E., sec. 27)

APPENDIX O

Rights-of-Way

T. 11 S., R. 16 E., secs. 29–33 inclusive.

1. Sempra Generation, (Solar-PENDING), CACA 50113
2. Imperial Irrigation District, (Irrigation Project), CALA 039762

T. 12 S., R. 15 E., secs. 2 and 12.

1. Imperial Irrigation District, (Power Line, 500 ft.), CACA 19166
2. Imperial Irrigation District, (Irrigation Project), CALA 039762

T. 12 S., R. 16 E., secs. 3–6 inclusive, 8–11 inclusive, 13–15 inclusive, 17–29 inclusive, and 32–35 inclusive.

1. BLM California Desert District Office, (Windmill Water tank), CACA 8714
2. Sempra Generation, (Solar-PENDING), CACA 50113
3. Imperial Irrigation District, (Irrigation Project), CALA 039762
4. Bureau of Reclamation, (Power Trans/Irr Project, 33.37mi.), CALA 056654
5. Santa Fe Pacific PPLN, LLC, (Telephone Line, 1288.0 ft.), CALA 0158160

T. 13 S., R. 17 E., secs. 1–18 inclusive, 20–28 inclusive, and 33–36 inclusive.

1. BLM El Centro Field Office, (Easement, 5661.0 ft, ACQUIRED), CACA 610-01
2. BLM California Desert District Office, (Windmill Water tank), CACA 8714
3. California Department of Transportation, (Federal Highway 78, unknown mi.), CACA 14630
4. SBC Pacific Bell, (Underground Telephone Line, 10.75 mi.), CACA 19125

5. MCI Telecom Corp., (Road, 145.0 ft.), CACA 27170

6. AT&T Lease Administration, (Fiber Optic Cable, 15.75 mi.), CACA 41690

7. AT&T Lease Administration, (Temporary Constr. Area, 15.75 mi.), CACA 41690-01

8. Imperial Irrigation District, (Irrigation Project), CALA 039762

9. Bureau of Reclamation, (Power Trans/Irr Project, 33.37mi.), CALA 056654

T. 13 S., R. 17½ E., secs. 25–27 inclusive and 34–36 inclusive.

1. California Department of Transportation, (Federal Highway 78, unknown mi.), CACA 14630

2. SBC Pacific Bell, (Underground Telephone Line, 10.75 mi.), CACA 19125

3. AT&T Lease Administration, (Fiber Optic Cable, 15.75 mi.), CACA 41690

4. AT&T Lease Administration, (Temporary Constr. Area, 15.75 mi.), CACA 41690-01

T. 13 S., R. 18 E., secs. 17, 20–23 inclusive, and 25–35 inclusive.

1. Imperial County, (Road, 1800.0 ft), CACA 8503

2. California Department of Transportation, (Federal Highway 78, unknown mi.), CACA 14630

3. California Department of Transportation and Federal Highway Administration, (Federal Highway 78, unknown mi.), CACA 17922

4. SBC Pacific Bell, (Underground Telephone Line, 10.75 mi.), CACA 19125

5. Marine Corps Air Station, (Mobile Radar Communication Site, Chocolate Mountains), CACA 19167

6. California Department of Transportation, (Road, 8.0 mi.), CACA 20249

7. La County Sanitation DI #2, (Railroad Spur, 4-5 mi.), CACA 29617

8. Santa Fe Pacific PPLN, LLC, (Fiber Optic Cable, 1.5 mi.), CACA 40610

9. Craig and Jacqueline Jones, (Road, 5091.0 ft.), CACA 40791

10. AT&T Lease Administration, (Fiber Optic Cable, 15.75 mi.), CACA 41690

11. AT&T Lease Administration, (Temporary Constr. Area, 15.75 mi.), CACA 41690-01

12. Santa Fe Pacific PPLN, LLC, (Fiber Optic Cable, 909.0 ft.), CALA 0158162

T. 14 S., R. 17 E., secs. 1–3 inclusive, 11–14 inclusive, and 23–25 inclusive.

1. BLM California Desert District Office, (Gecko Road, 2.5 mi.), CACA 2551

2. California Department of Transportation, (Federal Highway 78, unknown mi.), CACA 14630

3. SBC Pacific Bell, (Underground Telephone Line, 10.75 mi.), CACA 19125

4. AT&T Lease Administration, (Fiber Optic Cable, 15.75 mi.), CACA 41690

5. AT&T Lease Administration, (Temporary Constr. Area, 15.75 mi.), CACA 41690-01

6. Imperial Irrigation District, (Irrigation Project), CALA 039762

7. Bureau of Reclamation, (Power Trans/Irr Project, 33.37 mi.), CALA 056654

T. 14 S., R. 18 E., secs. All.

1. BLM California Desert District Office, (Gecko Road, 2.5 mi.), CACA 2551

2. California Department of Transportation, (Federal Highway 78, unknown mi.), CACA 14630

3. Imperial Irrigation District, (Irrigation Project), CALA 039762

4. Bureau of Reclamation, (Power Trans/Irr Project, 33.37 mi.), CALA 056654

T. 14 S., R. 19 E., secs. 6–7 inclusive, 17–22 inclusive, and 26–35 inclusive.

1. U.S. Border Patrol, (Federal Facility), CACA 9494
2. Imperial County, (RS 2477 Road, 9.65 mi.), CACA 19169
3. Pacific Solar Investments, (Solar-PENDING), CACA 49615

T. 15 S., R. 18 E., secs. 1–15 inclusive, 17, 21–27 inclusive, and 34–35 inclusive.

1. USGS, (Earthquake Detection-Coachella), CACA 0295322
2. Imperial Irrigation District, (Irrigation Project), CALA 039762
3. Bureau of Reclamation, (Power Trans/Irr Project, 33.37 mi.), CALA 056654

T. 15 S., R. 19 E., secs. 1–15 inclusive and 17–60 inclusive.

1. Pacific Solar Investments, (Solar-PENDING), CACA 49615
2. Imperial Irrigation District, (Irrigation Project), CALA 039762
3. Bureau of Reclamation, (Power Trans/Irr Project, 33.37 mi.), CALA 056654
4. Santa Fe Pacific PPLN, LLC, (Cathodic Protection Site), CARI 374

T. 15 S., R. 20 E., secs. 6–9 inclusive, 17–23 inclusive, and 25–35 inclusive.

1. Western Wireless, (Communication Site-Ogilby, transmission line, and access road-30 ft. x 2671.68 ft.), CACA 17182
2. Imperial County, (RS 2477 Road, Ogilby Road, unknown mi.), CACA 19171
3. American Girl Mining, (Underground Water Pipelines, Power Lines, and 2 Well Sites, 7920.0 ft.), CACA 21618
4. North Baja PPLN, LLC, (O&G Pipeline, 30 in., and related facilities, 7.84 mi.), CACA 42662

5. Pacific Solar Investments, (Solar-PENDING), CACA 49615

6. Imperial Irrigation District, (Irrigation Project), CALA 039762

7. California Dept of Transportation, (Material Site), CALA 0133486

8. California Dept of Transportation, (Material Site), CALA 0133909

9. Santa Fe Pacific PPLN, LLC, (Cathodic Protection Site), CALA 0158161

T. 16 S., R. 18 E., sec. 1.

1. Imperial Irrigation District, (Irrigation Project), CALA 039762

T. 16 S., R. 19 E., secs. 1–6 inclusive, 8–15 inclusive, 23–26 inclusive, and 35.

1. Agri Analytics, Inc., (Road, 2910.0 ft.) CACA 6669

2. Imperial Irrigation District, (Transmission Line and Telephone Line, 8.72 mi.), CACA 18904

3. Imperial Irrigation District, (Irrigation Project), CALA 039762

4. Bureau of Reclamation, (Power Trans/Irr Project, 33.37 mi.), CALA 056654

5. California Dept of Transportation, (Federal Highway, unknown mi), CARI 01737

T. 16 S., R. 20 E., secs. All.

1. San Diego Gas & Electric Co., (Power Line, 500kV, 82.50 mi.), CACA 5865

2. California Dept of Transportation and Federal Highway Administration, (Freeway Interchange, unknown mi.), CACA 17911

3. Imperial Irrigation District, (Transmission Line and Telephone Line, 8.72 mi.), CACA 18904

4. BLM El Centro Field Office, (Road, 1.66 mi.), CACA 19131

5. Imperial County, (RS 2477 Road, Ogilby Road, unknown mi.), CACA 19171

6. TDS Telecommunications, (Underground Telephone Line, 9.27 mi.), CACA 26357

7. U.S. Border Patrol, (Security infrastructures), CACA 34052

8. Imperial Irrigation District, (Upgraded/Extended Existing Power Line, 3835.0 ft.), CACA 35934

9. Bureau of Reclamation, (Test Wells-Hydrologic Data Collection), CACA 39659

10. U.S. Border Patrol, (Surveillance Facility & Access Road), CACA 40000

11. California Department of Transportation, (Communication Site, Ogilby), CACA 40358

12. Level Three Communications, (Fiber Optic Cable, 10.02 mi.), CACA 41192

13. American Tower, (Communication Site, Ogilby), CACA 41222

14. Imperial Irrigation District, (Power Line, 914.30 ft.), CACA 42576

15. North Baja Pipeline, LLC (O&G Pipeline, 30 in., & Access Roads, 7.84 mi.), CACA 42662

16. TDS Telecommunications, (Underground Cable, 3960.0 ft), CACA 44445

17. U.S. Dept of Justice, INS, (Surveillance Site & Related Facilities), CACA 44558

18. Imperial Irrigation District, (Roads, 1.52 mi.), CACA 48214

19. BLM El Centro Field Office, (South Dunes Operation Center), CACA 49135

20. Imperial Irrigation District, (Power Line, 34.5kV, 375.0 ft.), CACA 49617

21. Imperial Irrigation District, (Irrigation Project), CALA 039762

22. California Dept of Public Works, (Material Site), CALA 041943

23. Dept of Energy/WAPA, (Transmission Line, 154kV, 11.54 mi.), CALA 055165

24. Bureau of Reclamation, (Power Trans/Irr Project 33.37 mi.), CALA 056654

25. Bureau of Reclamation, (All American Canal & Appurtenant Structures, 16.5 mi.), CALA 077775

26. Imperial Irrigation District, (Transmission Line, 92/161kV, 2.84 mi.), CALA 0164553

27. California Department of Transportation, (Federal Highway, unknown mi.), CALA 0165008

28. California Department of Public Works, (Federal Highway, unk . mi.), CARI 137

29. Santa Fe Pacific PPLN, LLC, (Cathodic Protection Site), CARI 375

30. California Department of Transportation, (Federal Highway, unknown mi.), CARI 01737

31. California Department of Transportation, (Federal Highway, unknown mi.), CARI 07237

T. 16 S., R. 21 E., secs. 29–32 inclusive.

1. Bureau of Reclamation, (Test Wells-Hydrologic Data Collection), CACA 39659

2. North Baja Pipeline, LLC, (O&G Pipeline, 30 in., & Access Roads, 7.84 mi.), CACA 42662

3. Imperial Irrigation District, (Irrigation Project), CALA 039762

4. Bureau of Reclamation, (All American Canal & Appurtenant Structures, 16.5 mi.), CALA 077775

5. Imperial Irrigation District, (Transmission Line, 92/161kV, 2.84 mi.), CALA 0164553

T. 17 S., R. 19 E., sec. 1.

1. San Diego Gas & Electric Co., (Power Line, 500kV, 4.0 mi.), CACA 5865

2. Level Three Communications, (Fiber Optic Cable, 10.02 mi.), CACA 41192

3. Imperial Irrigation District, (Irrigation Project), CALA 039762

4. Department of Energy/WAPA, (Transmission Line, 154kV, 11.54 mi.), CALA 055165

5. Bureau of Reclamation, (All American Canal & Appurtenant Structures, 16.5 mi.), CACA 077775

6. Imperial Irrigation District, (Transmission Line, 92/161kV, 2.84 mi.), CALA 0164553

7. California Department of Transportation, (Federal Highway, unknown mi), CARI 01737

8. California Department of Transportation, (Federal Highway, unknown mi), CARI 07237

T. 17 S., R. 20., secs. 1–6 inclusive.

1. San Diego Gas & Electric Co., (Power Line, 500kV, 4.0 mi.), CACA 5865

2. TDS Telecommunications, (Underground Telecommunications Cable, 9.27 mi.), CACA 26357

3. Level Three Communications, (Fiber Optic Cable, 10.02 mi.), CACA 41192

4. Imperial Irrigation District, (Irrigation Project), CALA 039762

5. Department of Energy/WAPA, (Transmission Line, 154kV,11.54 mi.), CALA 055165

6. Bureau of Reclamation, (All American Canal & Appurtenant Structures, 16.5 mi.), CALA 077775

7. California Department of Transportation, (Federal Highway, unknown mi.), CALA 0165008

8. California Department of Transportation, (Federal Highway, unknown mi.), CARI 01737

9. California Department of Transportation, (Federal Highway, unknown mi.), CARI 07237

Union Pacific Railroad traverses on the east boundary of the Imperial Sand Dunes Recreation Area.

NOTE: Mileage recorded is the total miles for that right-of-way within the Imperial Sand Dunes boundary, not within the specific township and range.

Surface and Subsurface Encumbrances

T. 11 S., R .15 E.

Serial Number – CACA 19902

Acquired - Bureau of Reclamation

Grantor – Roy T. and Helene E. Johnson

Acres – 6.99

T. 13 S., R. R. 17 E.

Serial Number – CARI 05657

Withdrawal Military Contaminated Area

Holding Agency – U.S. Navy Dept.

Acres – 46,134.93

T. 13 S., R. 17 E., T. 13 S., R. 17 ½ E.
T. 14 S., R. 17 E., and T. 14 S., R. 18 E.

Serial Number – CACA 17575

Geothermal, Steam

Admin Mgt Entity – BLM California State Office

Acres – 25,458.64

T. 15 S., R. 19 E., and T. 16 S., R. 19 E.

Serial Number – CACA 17572

Geothermal, Steam

Admin Mgt Entity – BLM California State Office

Acres – 7,860.00

T. 16 S., R. 19 E.

Serial Number – CACA 37234

Acquired - FLPMA

Acquiring Agency - BLM El Centro Field Office

Grantor – Sessions Family

Acres – 0.633

T. 16 S., R. 20 E.

Serial Number – CACA 34475

Withdrawal (All American Canal Lining Project) - PENDING

Holding Agency - Bureau of Reclamation

Acres – 5,117.00

APPENDIX P

Environmental Database Results

Facility Index System (FINDS)—The FINDS database is an inventory of all facilities that are regulated or tracked by EPA. These facilities are assigned an identification number that serves as a cross-reference for other databases in the EPA program system. A review of the database results indicates that two FINDS sites have been identified within the survey area. These sites are: 1) Santa Fe Pacific Minerals, Mesquite Mine; and 2) Arid Operations, Inc. Both sites are located along SR-78 in the eastern portion of the Planning Area.

The report also includes a category of "unmapped" sites. Sites are included in the unmapped category when the database information is not accurate enough to positively identify the site locations. The two unmapped facilities are noted as: 1) United States Department of Interior Laguna Field Office US Government, Route 1 Box 201, Winterhaven, California 92283, and 2) Glamis Radio Repeater, Black Mountain, Glamis, California 92248.

USGS Wells/WATER WELLS—The Groundwater Site Inventory (GWSI) database is maintained by the USGS. The database contains information for over one million wells and other sources of groundwater that the USGS has studied, used, or documented during research. A review of the database results indicates that four USGS WATER WELLS have been identified within the survey area. These WATER WELLS are used by the USGS for research purposes and are located in the northern, eastern, and southern portions of the Planning Area.

State of California Aboveground Storage Tanks (AST)—The database maintains a list of ASTs. A review of the database results indicates that one state AST site has been identified within the survey area: Newmont Gold Company. This site is located along SR-78 in the eastern portion of the Planning Area.

GNRTR—The database maintains a list of RCRA-registered small or large generators of hazardous waste. A review of the database results indicates that two GNRTR sites have been identified within the survey area. The sites are Santa Fe Pacific Minerals and Arid Operations, Inc. Both sites are registered small quantity generators and are located along SR-78 in the eastern portion of the Planning Area.

SPILLS—The database maintains a list of spills from the Emergency Response Notification System (ERNS). The ERNS is a national computer database system that is used to store information on the sudden, accidental, or both types of releases of hazardous substances, including petroleum, into the environment. The ERNS contains preliminary information on specific releases, including the spill location, the substance

released, and the responsible party. A review of the database results indicates that two ERNS sites have been identified within the Planning Area.

On July 3, 1991, 50 gallons of sodium cyanide solution were spilled at a site located along SR-78 in the eastern portion of the Planning Area. The origin of the spill was unknown, and no waterway was affected by the spill. Based on the report provided by Fidelity Information Services, no further monitoring or remedial action has been required. Therefore, this site has a low potential to affect existing conditions in the Planning Area.

On June 26, 2000, 9,900 pounds of hydrogen cyanide emissions were released to the atmosphere at a site located along SR-78 in the eastern portion of the Planning Area. No other medium was affected by the release. The origin of the release was not given. Due to the time that has elapsed since the release, the site has a low potential to affect existing conditions within the Planning Area. Based on the environmental database report provided by Fidelity Information Services, no further monitoring or remedial action has been required. Therefore, this site has a low potential to affect existing conditions in the Planning Area.

TABLE P-1
KNOWN HAZARDOUS SITE DISTRIBUTION SUMMARY

Agency/Database	Type of Records	Within 1/8 mile	1/8 to ¼ mile	1/8 to ½ mile	1/8 to 1 mile
Databases searched to ½ mile					
State – FINDS	Facility Index System	2	0	0	-
USGS/State – WATER WELLS	Federal and State Drinking Water Sources	4	0	0	-
Databases searched to ¼ mile					
State – AST	Registered aboveground storage tanks	1	0	-	-
Databases searched to 1/8 mile					
EPA – GNRTR	RCRA registered small or large generators of hazardous waste	2	-	-	-
State – SPILLS	State Spills List	2	-	-	-
Total Sites		10	0	0	0

APPENDIX Q

Air Quality Modeling Assumptions

Overall Assumptions

1. "Mother Vehicles" by Alternative:
    a. Alternative 1 – 531,714 vehicles per year
    b. Alternative 2 – 350,000 vehicles per year
    c. Alternative 3 – 232,073 vehicles per year
    d. Alternative 4 – 479,669 vehicles per year
    e. Alternative 5 – 456,731 vehicles per year
    f. Alternative 6 – 473,776 vehicles per year
    g. Alternative 7 – 523,974 vehicles per year
    h. Alternative 8 – 531,714 vehicles per year

2. Annual OHV usage (associated with 350,000 "Mother Vehicles"):

a.	Quads (ATVs):	294,000
b.	Motorcycles:	133,000
c.	4-wheel drives:	154,000
d.	Sandrails/dune buggies:	140,000
		721,000

1. Average daily visitation per OHV: 3.1 days
2. Average hours of riding per day per OHV: 4.0 hours
3. Average OHV speed (all types): 15 mph
4. Used NONROAD 2008 to model exhaust and fugitive VOC emissions from ATVs and motorcycles.
5. Used URBEMIS 2007 to model exhaust emissions from 4WDs and sandrails.
6. Used South Coast Air Quality Management District (SCAQMD) CEQA Handbook (November 1993) to model fugitive PM dust emissions.

NONROAD 2008 Assumptions

- Fuel RVP for gas: 7.0[(1)]
- Oxygen weight (%): 2.0[(2)]
- Gas sulfur (%): 0.002[(1)]
- Diesel sulfur (%): 0.0015[(3)]

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[1]The California Reformulated Gasoline Regulations (CaRFG) Phase 3 Flat Limits.
[2]CaRFG Phase 3 Flat Limits – average of range.

- Marine diesel sulfur (%): 0.2637[4]
- CNG/LPG sulfur (%): 0.003[4]
- Minimum temperature (°F): 61[5]
- Maximum temperature (°F): 88[5]
- Average temperature (°F): 74[5]
- Altitude of region: low (not an input)
- Ethanol blend % of market: 79.4[6]
- Ethanol by volume (%): 7.2[6]

- Assumed all vehicles were gasoline powered.
- Developed split between 2- and 4-stroke vehicles using NONROAD California population data:
    - State population data from CA.pop file:

• 2-stroke offroad motorcycles:	66,148.8	(67%)
• 4-stroke offroad motorcycles:	32,580.7	(33%)
	98,729.5	(100%)
• 2-stroke all terrain vehicles:	33,432.6	(10.36%)
• 4-stroke all terrain vehicles:	289,336.9	(89.64%)
	322,769.5	(100%)

    - Therefore, for 294,000 ATVs:

• 2-stroke all terrain vehicles:	30,458.4	(10.36%)
• 4-stroke all terrain vehicles:	263,541.6	(89.64%)
	294,000.0	(100%)

    - Therefore, for 133,000 motorcycles:

• 2-stroke offroad motorcycles:	89,110.0	(67%)
• 4-stroke offroad motorcycles:	43,890.0	(33%)
	133,000.0	(100%)

Entered these data for the year 2012 (year of population estimate in CA.pop file).

Modified activity file to reflect riding each OHV 4.0 hours per day for 3.1 days (12.4 hours total per OHV).

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[3] 13 CCR § 2281

[4] Not used in these scenarios

[5] Based on annual averages for Gold Rock Ranch, California (Station 043489). Obtained from the Western Regional Climate Center website at http://www.wrcc.dri.edu/summary/Climsmsca.html on April 2, 2009.

[6] Somewhat arbitrary given 2.0 oxygen weight percent specified, based on the formula:

$$oxygen\ weight\ \% = \%\ EtOH\ market\ share\ x\ \%\ EtOH\ by\ volume\ x\ 0.35\ x\ 0.01$$

URBEMIS 2007 Assumptions

- Created a “blank” land use type called “ISDRA”
- For 4WD vehicles:
    - 154,000 veh/yr x 3.1 days/veh x 4 hr/day x 15 mph = 28,644,000 miles per year
        - 28,644,000 miles/year ÷ 365 days/year ≅ 78,477 miles/day
    - Modeled this usage by setting the following parameters:
        - 130.81 units of land
        - 10 trips per unit = 1,308.1 trips
        - 60 mile trip length
    - Assumed 2012 vehicle parameters with:
        - 50% Light truck < 3,750 lbs
        - 50% Light truck 3,751 – 5,750 lbs
    - 15 mph speed for all trips

- For sandrails/dune buggies:
    - 140,000 veh/yr x 3.1 days/veh x 4 hr/day x 15 mph = 26,040,000 miles per year
        - 26,040,000 miles/year ÷ 365 days/year ≅ 71,342 miles/day
    - Modeled this usage by setting the following parameters:
        - 118.91 units of land
        - 10 trips per unit = 1,189.1 trips
        - 60 mile trip length
    - Assumed 2012 vehicle parameters with:
        - 100% Light Auto (100% non-catalyst)
    - 15 mph speed for all trips

Fugitive Dust (PM_{10} and $PM_{2.5}$) Emissions Assumptions

Used SCAQMD CEQA Handbook to estimate fugitive dust emissions from travel on the dunes.

Table A9-9-D: $$F = 2.1 \times \left[\frac{G}{12}\right] \times \left[\frac{H}{30}\right] \times \left[\frac{I}{3}\right]^{0.7} \times \left[\frac{J}{4}\right]^{0.5} \times \left\{\frac{365 - K}{365}\right\}$$ (pounds/mile)[7]

G = surface silt loading %
= 6.0 from Table A9-9-D-1 (sand gravel plant road)

H = mean vehicle speed
= 15 (mph)

I = number wheels
= 4 (for ATVs, 4WDs, and sandrails/dune buggies)
= 2 (for motorcycles)

J = mean vehicle weight (tons)
= 0.1 (for motorcycles)
= 0.25 (for ATVs)
= 1.0 (for sandrails/dune buggies)
= 2.0 (for 4WDs)

K = mean number of days per year with at least 0.01 inches of precipitation.
= 18.0 from Table A9-9-D-4 (average year for desert)

Vehicle Miles Traveled as above:

- For 4WD vehicles:
  - 154,000 veh/yr x 3.1 days/veh x 4 hr/day x 15 mph = 28,644,000 miles per year
- For sandrails/dune buggies:
  - 140,000 veh/yr x 3.1 days/veh x 4 hr/day x 15 mph = 26,040,000 miles per year
- For ATVs:
  - 294,000 veh/yr x 3.1 days/veh x 4 hr/day x 15 mph = 54,684,000 miles per year

[7] It is assumed that this corresponds to emissions of PM_{10}, although this is not clearly stated in the Handbook.

- For motorcycles:
    - 133,000 veh/yr x 3.1 days/veh x 4 hr/day x 15 mph = 24,738,000 miles per year

For calculating $PM_{2.5}$ fugitive emissions from PM_{10} fugitive emissions, used information from Palm Springs Institute for Environmental Sustainability.(8)

For sand dunes, assumed that $PM_{2.5}$ comprises 93 percent of PM_{10} emissions to be conservative.

BLM PM_{10} and $PM_{2.5}$ Re-assessment

Calculation of emissions from the Imperial Sand Dunes

The original EIS estimated particulate emissions from the Planning Area (assumptions described above). In reviewing the results and techniques of the previous analysis, BLM determined the standard assumptions that were used greatly overestimated emissions. Since that time, BLM has been able to collect site samples and develop a more refined analysis.

The general equation for emission estimation is:

$$E = A \times EF \times (1-ER/100)$$

where:

E = emissions
A = activity rate
EF = emission factor
ER= overall emission reduction efficiency, %

ER is further defined as the product of the control device destruction or removal efficiency and the capture efficiency of the control system. An emission factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. These factors

8Robert N. Phalen, PhD, CIH. *Evaluation of Coarse and Fine Particulate Sources in the Palm Springs Region.*Palm Springs Institute for Environmental Sustainability.Spring 2009.Obtained from http://pdc.csusb.edu/about/documents/IES_report_2_particulate_sources_2009.pdf on 29 July, 2011.

are usually expressed as the weight of pollutant divided by a unit weight, volume, distance, or duration of the activity emitting the pollutant (e. g., kilograms of particulate emitted per megagram of coal burned). Such factors facilitate estimation of emissions from various sources of air pollution. The basic model to estimate particulate emission factors comes from the USEPA in a publication titled *Compilation of Air Pollution Emission Factors* (or AP-42: 11.2.2 Fugitive Sources of Unpaved Road Dust.)

The emissions factors are estimated with the following equation:

Emissions = $K(s/12)(S/30)(W/3)^{0.7}(w/4)^{0.5}(d/365)$. Emissions are expressed in pounds of PM (<30 microns).

where:

K =5.9 for lbs/VMT (VMT = vehicle miles traveled)
s = silt content of road surface
S = vehicle speed (default is 30 mph)
w = number of wheels
W = vehicle weight in tons
d = number of dry days per year when there is <0.01 inches of rain

From AP-42 factor = 0.36 for PM10

From AP-42 factor = 0.095 for PM2.5

Based upon these two formulas, it can be seen that a number of factors contribute to the emission estimates. Some of these factors, such as vehicle weight and number of wheels, are generally set using standard assumptions. Others such as silt content of the soil, vehicle speeds, and distances traveled are variables that need to be evaluated as they specifically apply to the ISD situation.

For this analysis the following process was employed:

a. Split the ISD complex into logical analysis units.
b. Characterize the use patterns for each use area.
c. Assemble use data for each unit.
d. Measure distance traveled from maps of areas.
e. Sample soils in each unit.
f. Sieve soil samples and calculate silt content data.
g. Calculate emission factors and emissions for each area and the overall emissions.

In developing the analysis units, it was decided to split the primary vehicle use areas from the OHV recreation use areas due to the great difference in use patterns and the

vehicle characteristics. The analysis identified that there were use data from vehicle counters for a number of areas. Using that information, nine analysis areas were developed for the primary vehicles as follows:

- Osborn Overlook
- Glamas Flat
- Buttercup
- Gecko Road
- Dune Buggy Flats
- Dune Buggy Flat Access Road
- Ogilby Campground
- Wash Road
- Washes

The primary vehicle areas were selected because they are the areas where camping vehicles travel and have the potential to impact PM_{10} and $PM_{2.5}$ air quality. Gecko Road and Osborn Overlook were included into the list of areas addressed to indicate that these areas were not overlooked. However, these areas have essentially zero PM emissions because they are paved surfaces. Thus, seven analysis areas were identified for OHV recreation use as follows:

- Osborn Overlook Dunes
- Glamis Flats
- Buttercup Dunes
- Gecko Road Dunes
- Dune Buggy Flats
- Ogilby Campground Flats
- Washes

The OHV areas were selected because they are the areas where OHV recreation occurs and have the potential to impact PM_{10} and $PM_{2.5}$ air quality. Vehicle mileages in the areas vary due to the type of travel that occurs for OHV recreationalists. For instance, the mileage for travel in the camping area is less since the OHV travel is between the camp site and the sand dunes. Greater mileages occur in the dune areas where more OHV recreation occurs in the larger dunes. Also note, some areas have hard camping surfaces and others do not. Campers in the wash area will have to travel over lands that will produce more PM than visitors who camp next to Gecko Road where the sand, which has lower silt content, is directly adjacent to the camping sites. The updated analysis has attempted to address these variables.

In looking at the use patterns it was noted that the use overwhelmingly occurs six times per year. These events are Halloween, Thanksgiving, New Year, Martin Luther King's Birthday, Presidents Day, and Easter. There is very little use after Easter until October due to the high temperatures. When visitors arrive in their primary vehicles, they will

travel to a camping spot where they set up their camp. The primary vehicle will stay at the camp until the end of the weekend. The average stay is 3.1 days. Because these are heavy vehicles, the average speed is estimated to be 5 MPH. As the primary vehicle is parked most of the time, the daily mileage traveled for these vehicles is low.

The OHV activity generally occurs between the camping area and the dunes, within the large dunes, and in congregation areas where the visitors will stop and watch hill climbing or OHV recreation that involve a few vehicles at a time. The result is that the average of miles driven is small overall. The BLM has measured distances to calculate average miles driven. Estimates range from 0.3 to 15 miles driven per day.

Sites were visited and approximately 800 gram samples were collected. These samples were returned to the office where they were sieved and weighed to determine the various fractions of silt and sand in the sample. It was found that the soils on the dunes were predominantly fine sand with over 75 percent not passing a 60 mesh screen and silt content being less than 0.5 percent.

Using these inputs emissions were estimated for the Planning Area. The results are displayed in the attached spread sheets.