Appendix A
VEGETATIVE SURVEY ANALYSIS

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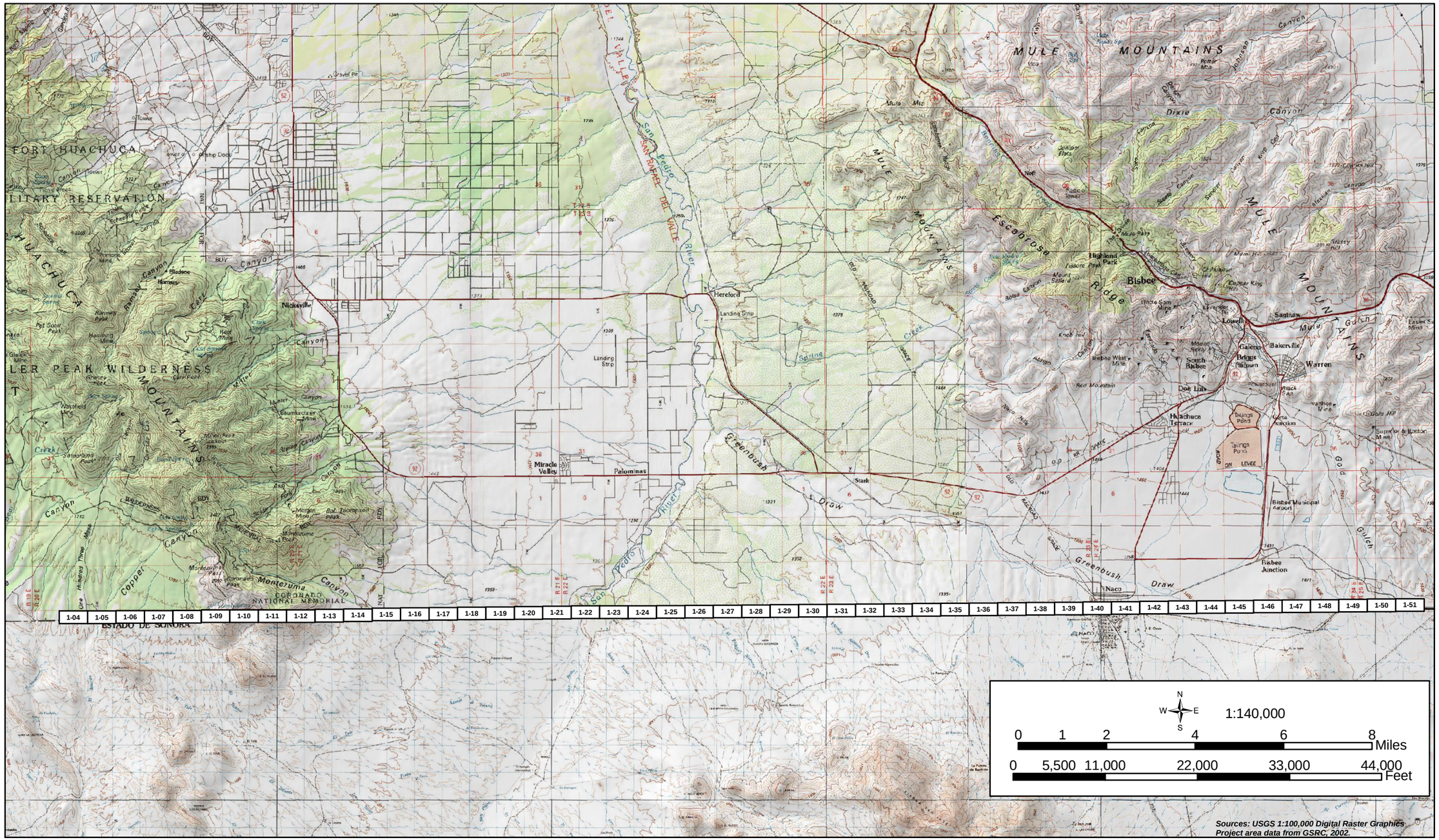
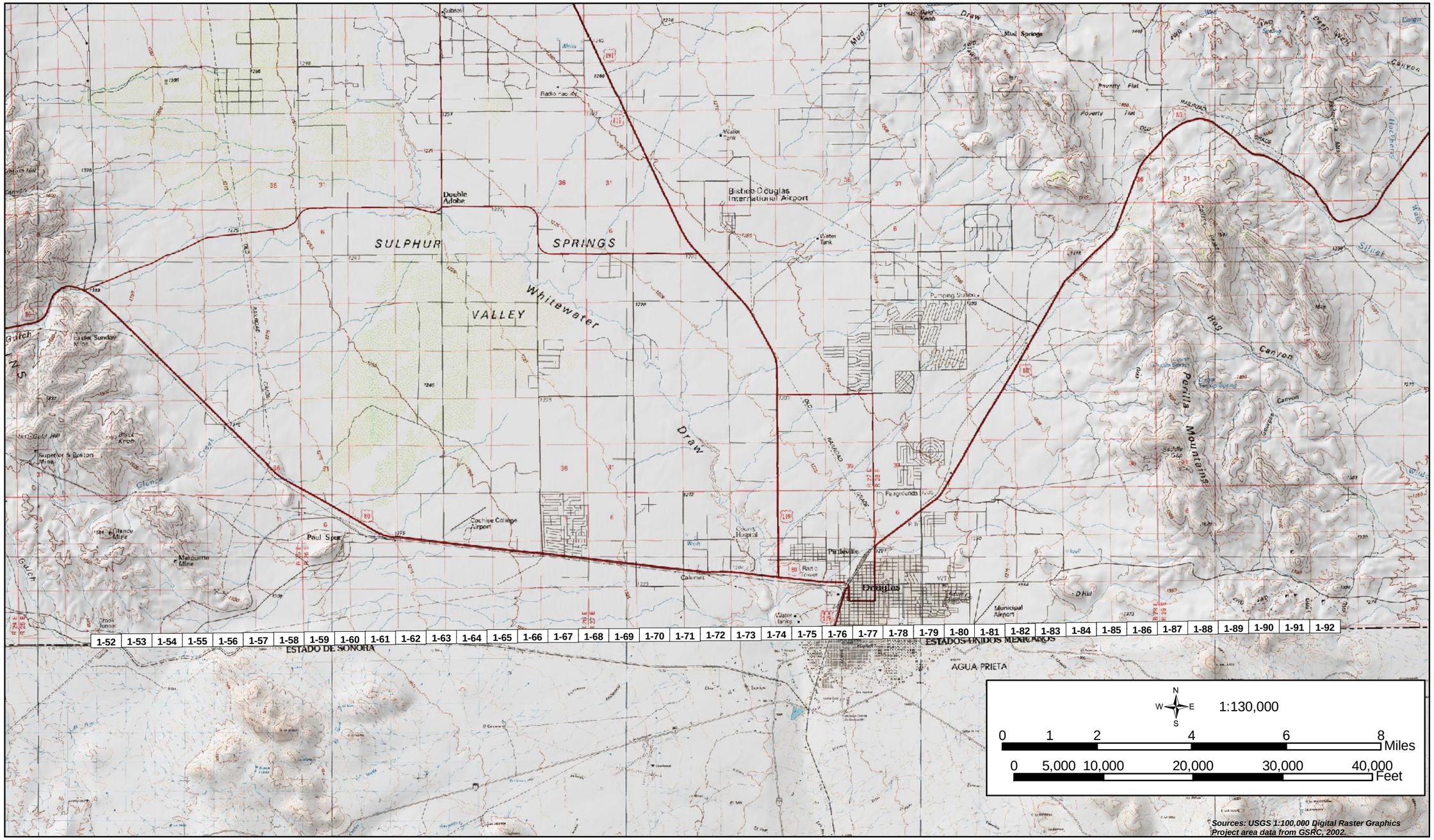


Appendix A
Vegetative Survey Analysis
Panel Index

gsrc GULF SOUTH RESEARCH CORPORATION

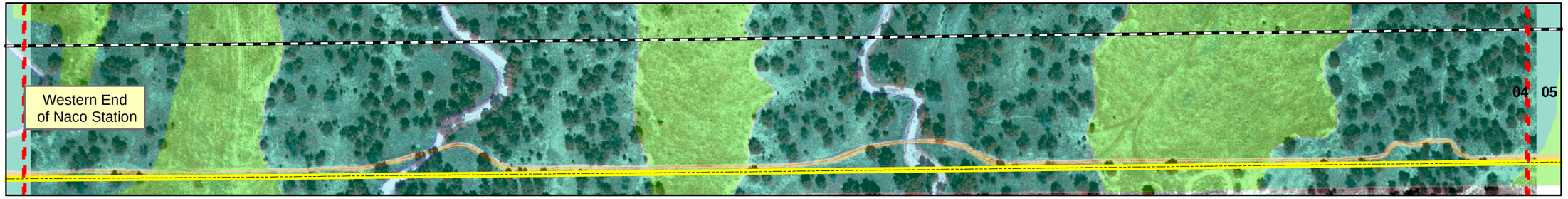
Date: April 2003



Appendix A
Vegetative Survey Analysis
Panel Index

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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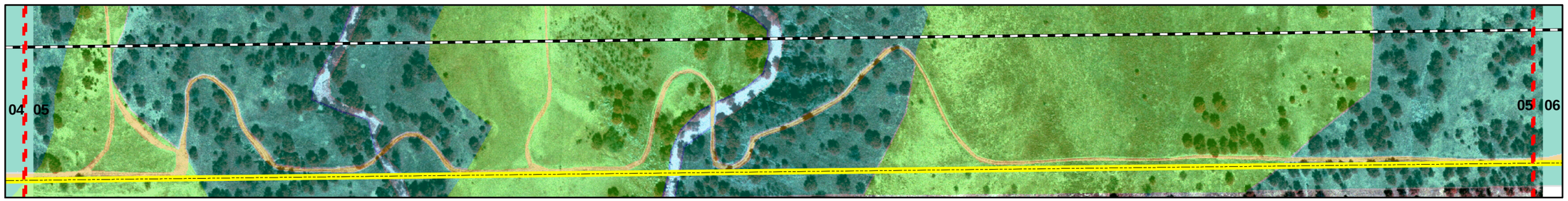

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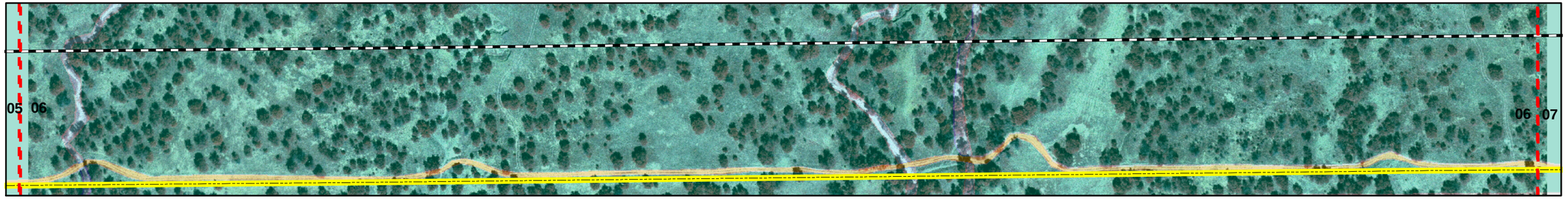

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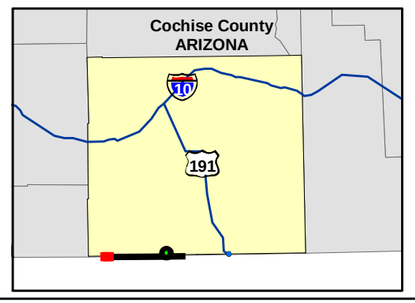


300 ft. Survey Boundary

International Border

Vegetation Classifications

Semi Desert Grassland-Scrub

Encinal Mixed Oak

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

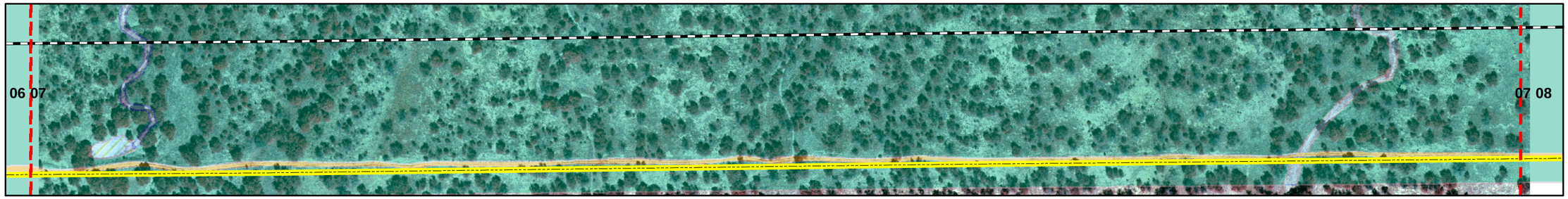
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-06, 1-05, 1-04

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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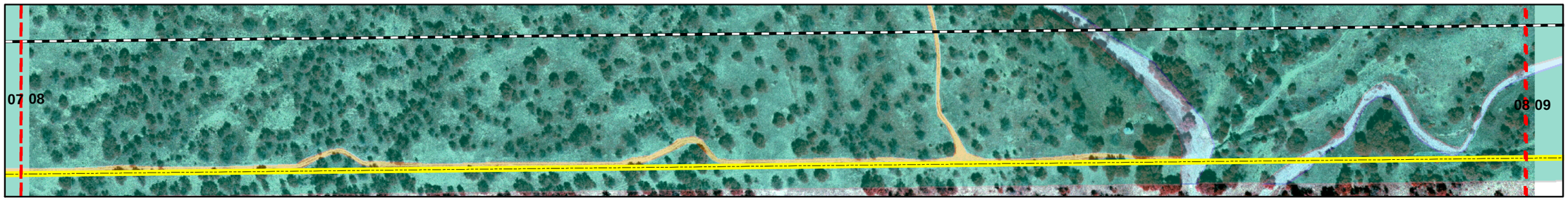

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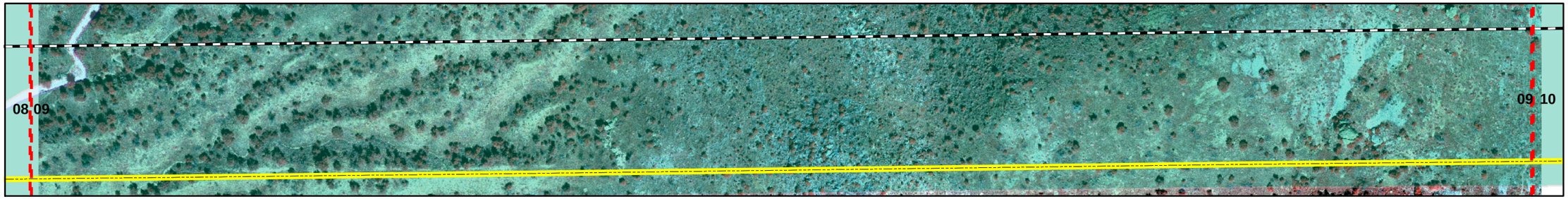

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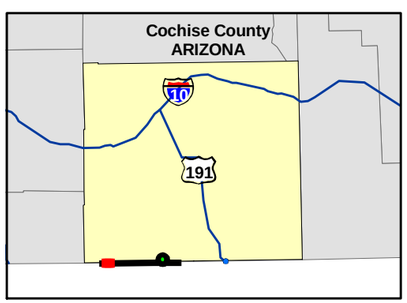


300 ft. Survey Boundary

International Border

Vegetation Classifications

Encinal Mixed Oak

Wetland

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

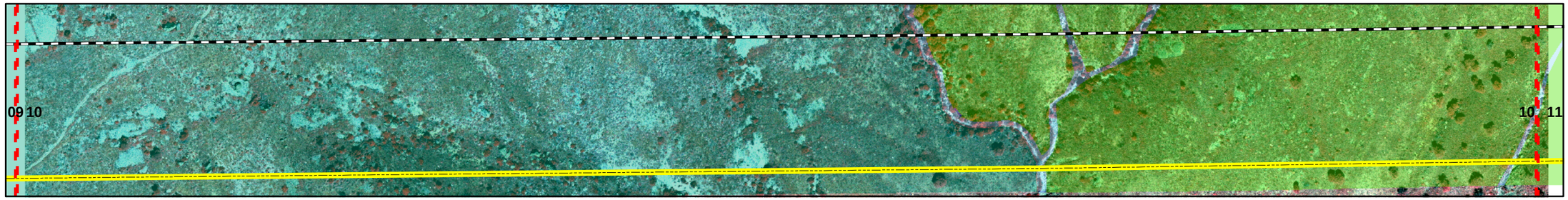
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-09, 1-08, 1-07

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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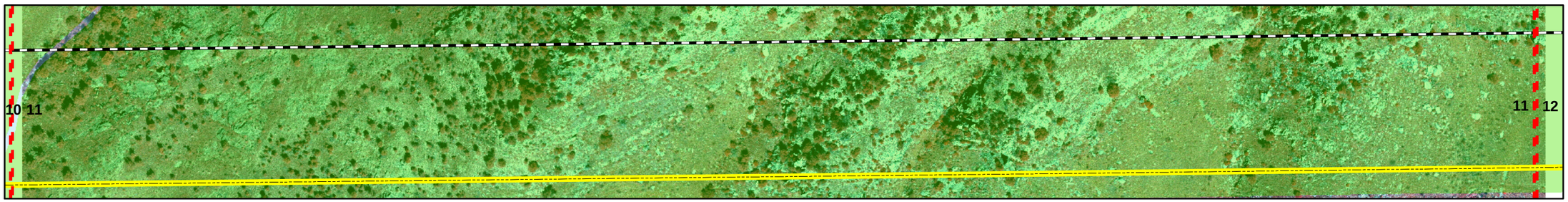

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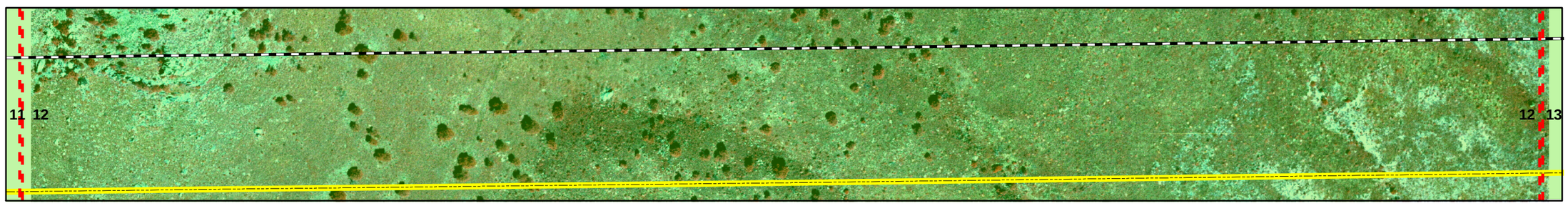

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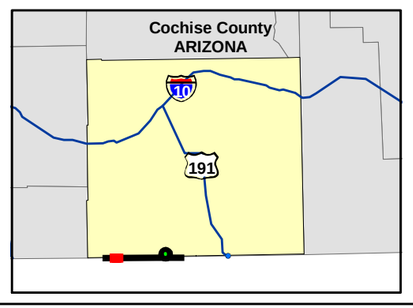


300 ft. Survey Boundary

International Border

Vegetation Classifications

Semi Desert Grassland-Scrub

Encinal Mixed Oak

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

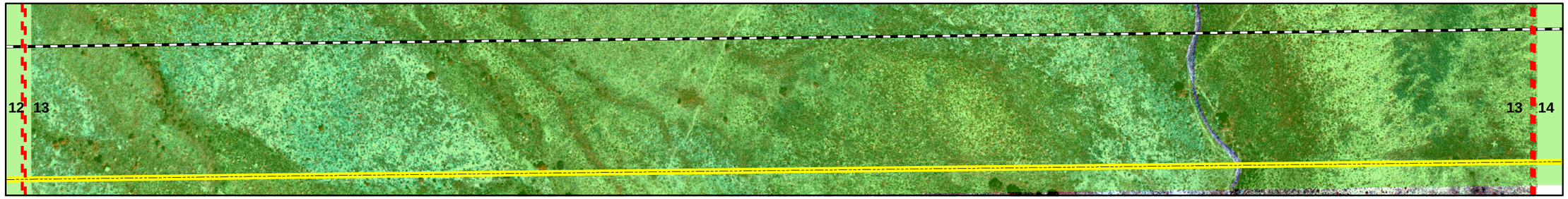
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-12, 1-11, 1-10

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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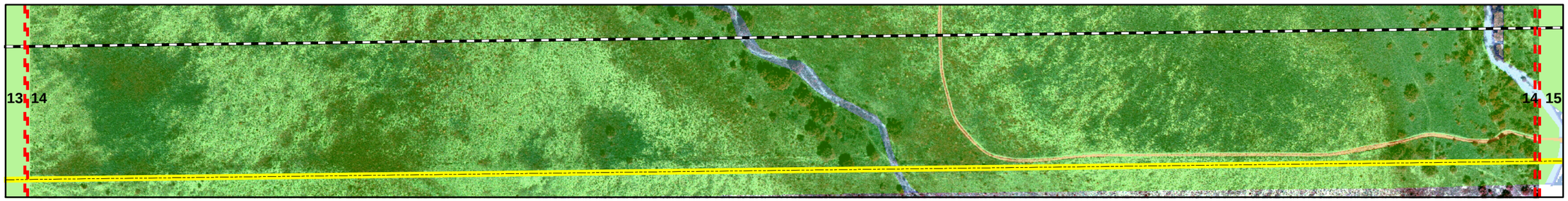

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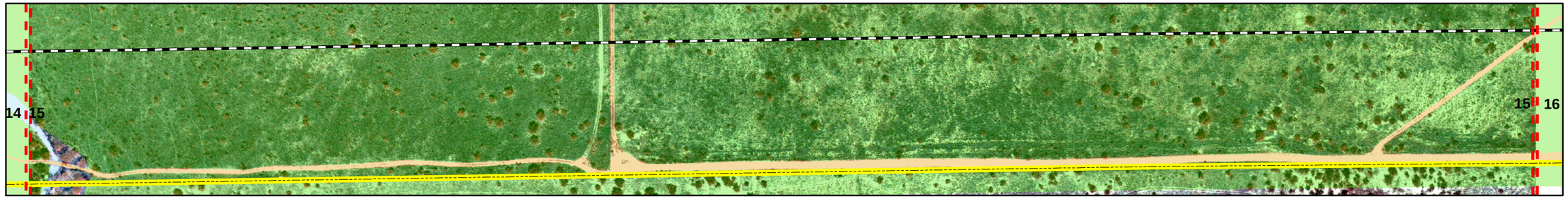

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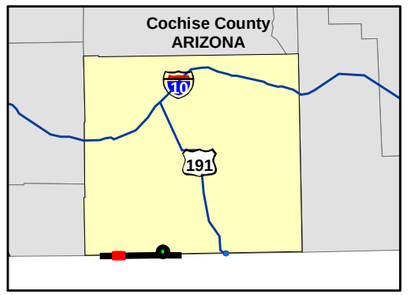


300 ft. Survey Boundary

International Border

Vegetation Classifications

Semi Desert Grassland-Scrub

Riparian Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

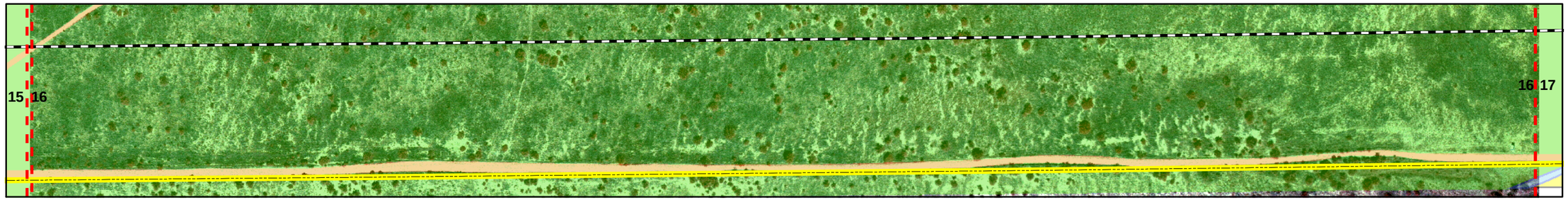
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-15, 1-14, 1-13

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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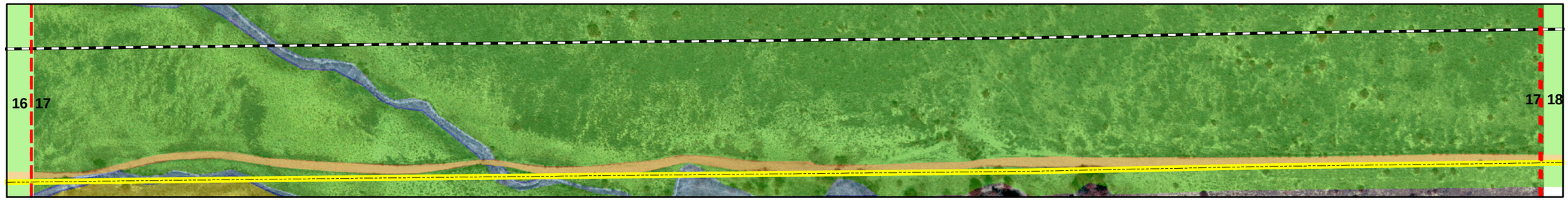

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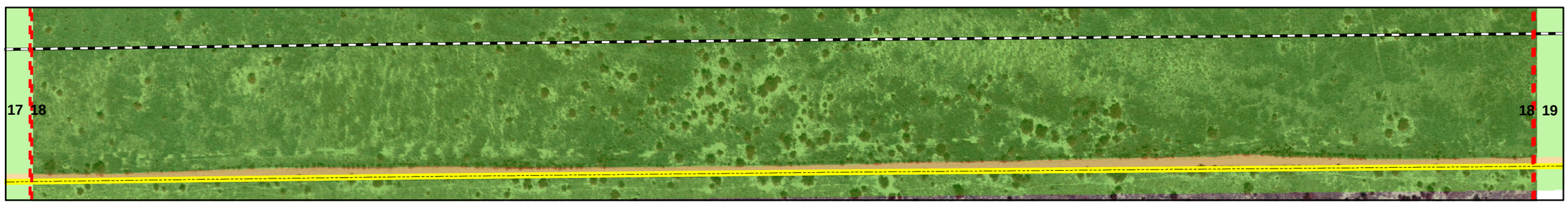

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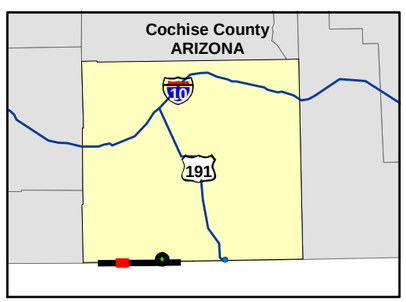


300 ft. Survey Boundary

International Border

Vegetation Classifications

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

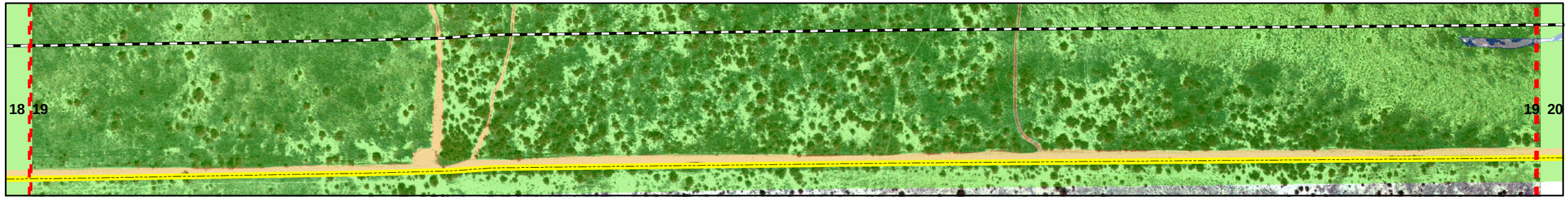
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-18, 1-17, 1-16

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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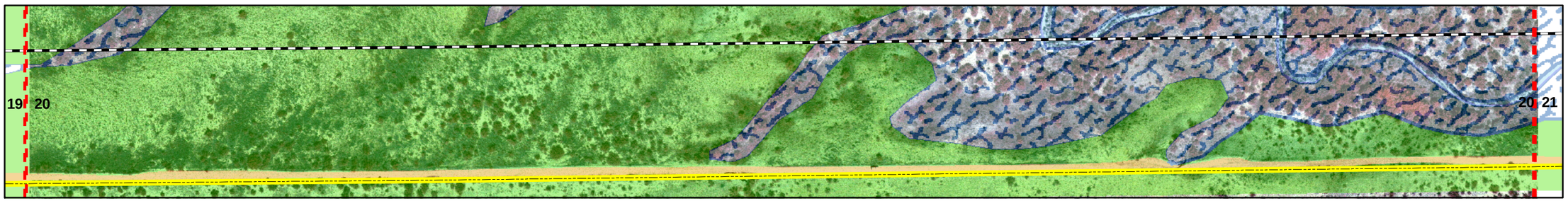

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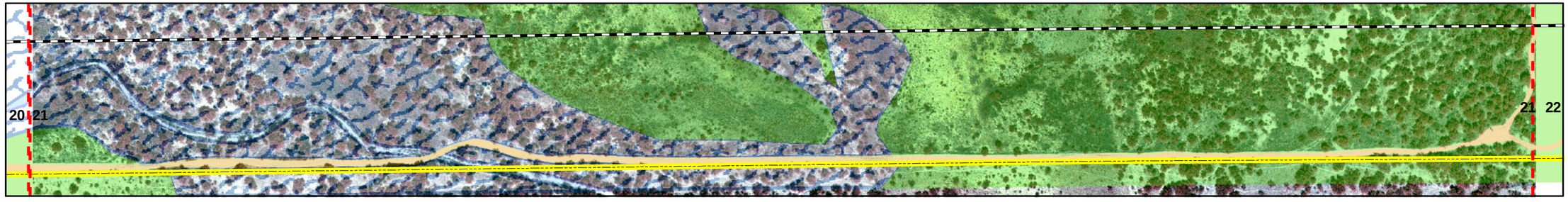

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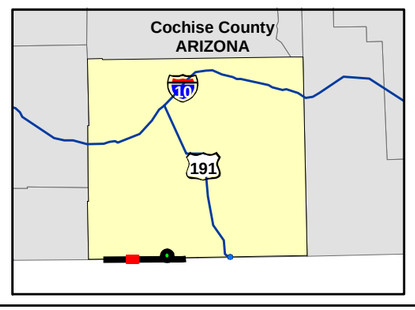


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

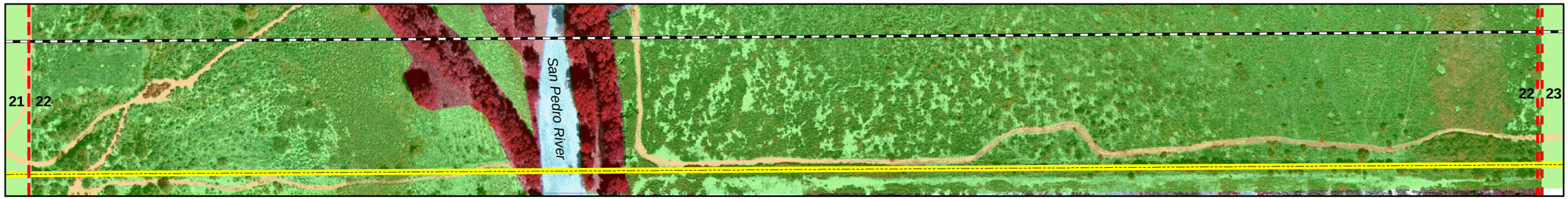
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-21, 1-20, 1-19

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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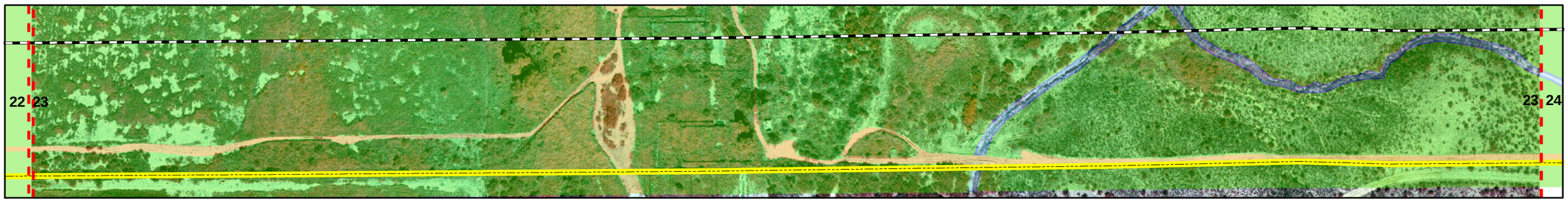

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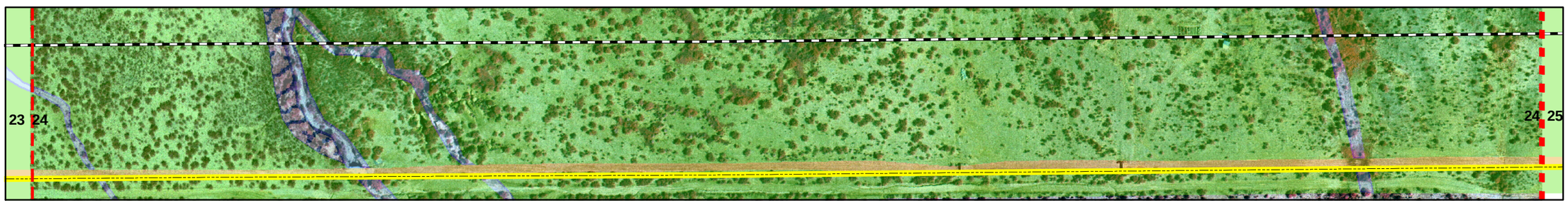

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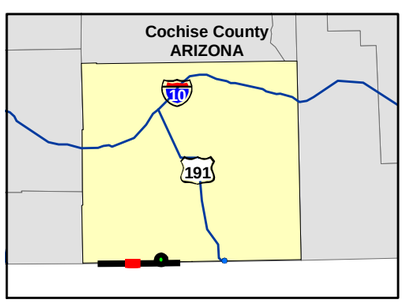


300 ft. Survey Boundary

International Border

Vegetation Classifications

- Riparian Scrub
- Semi Desert Grassland-Scrub
- Interior Riparian Forest

Other Classifications

- Disturbed
- Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

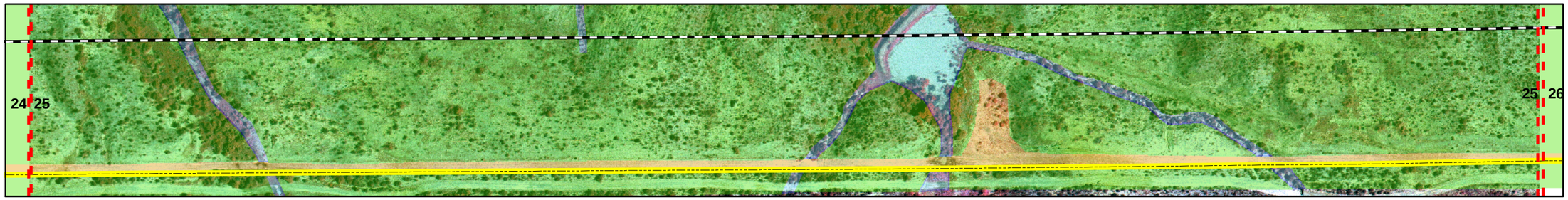
0.05 0 0.05 0.1 0.15 Miles

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

Appendix A
Panels 1-24, 1-23, 1-22

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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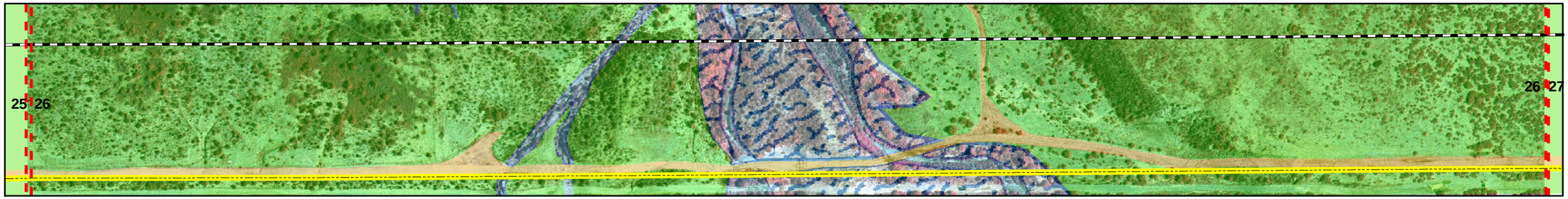

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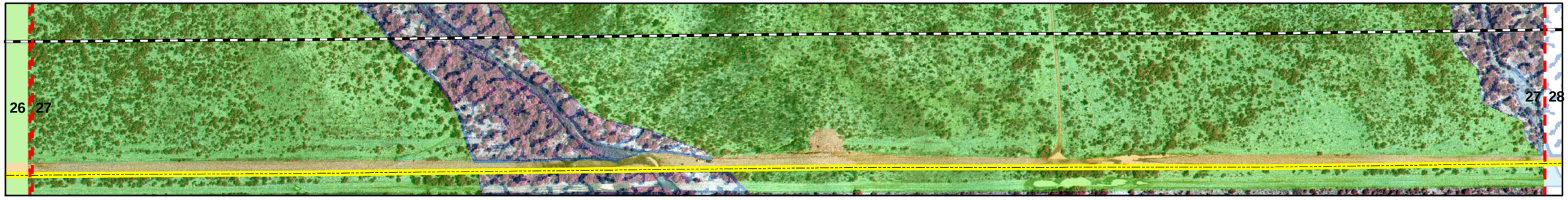

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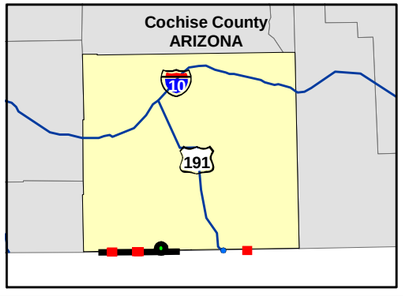


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

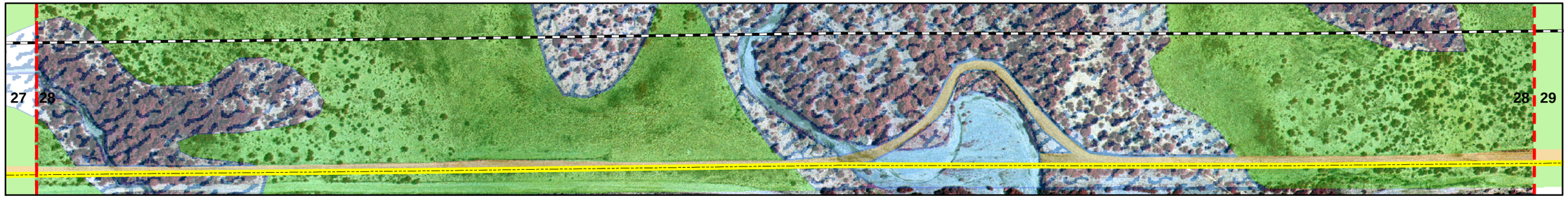
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-27, 1-26, 1-25

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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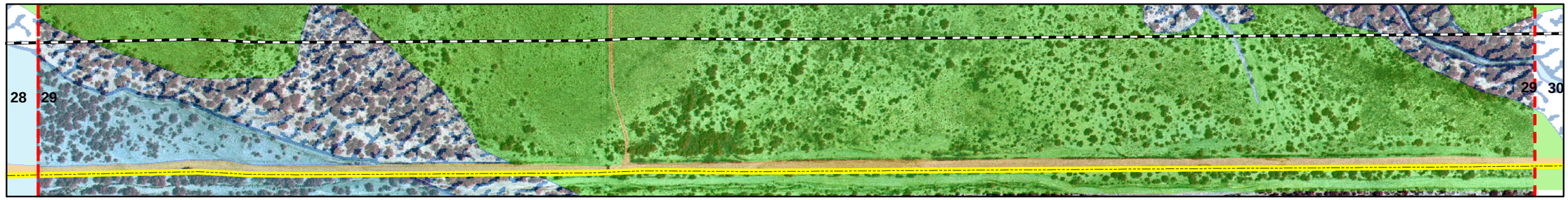

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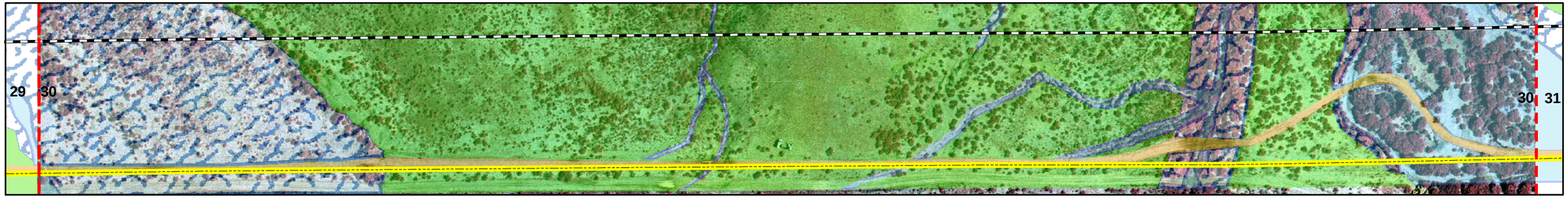

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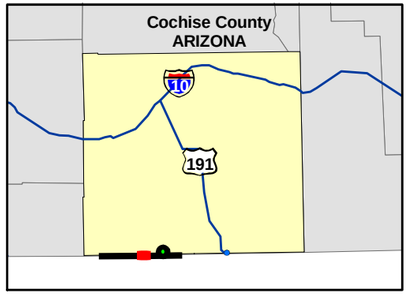


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

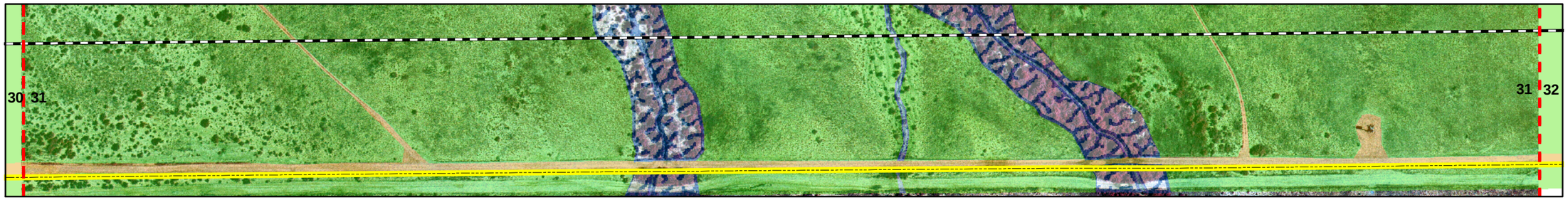
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-30, 1-29, 1-28

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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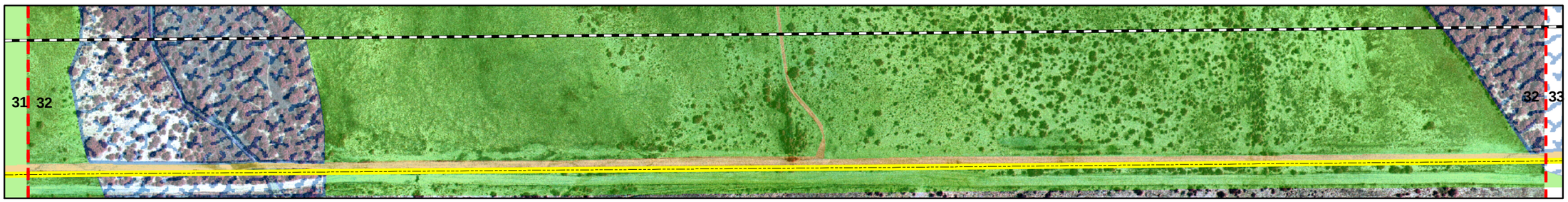

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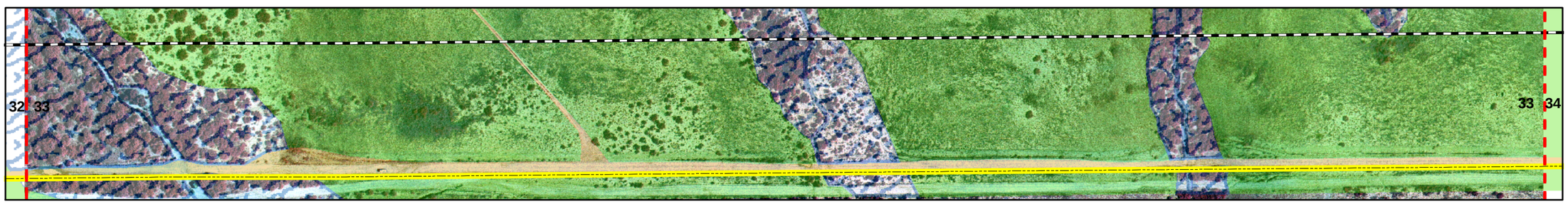

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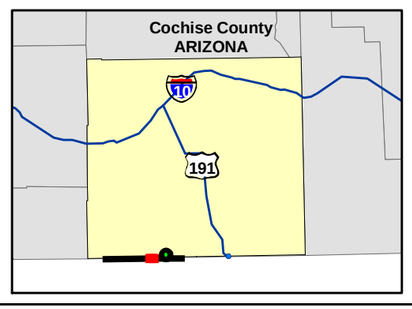


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

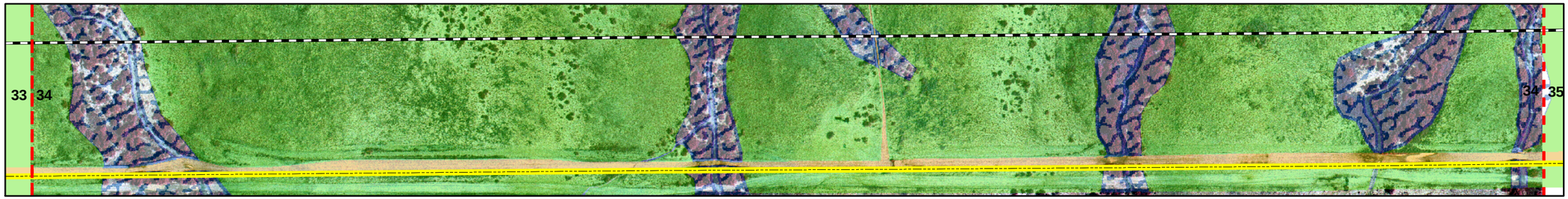
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-33, 1-32, 1-31

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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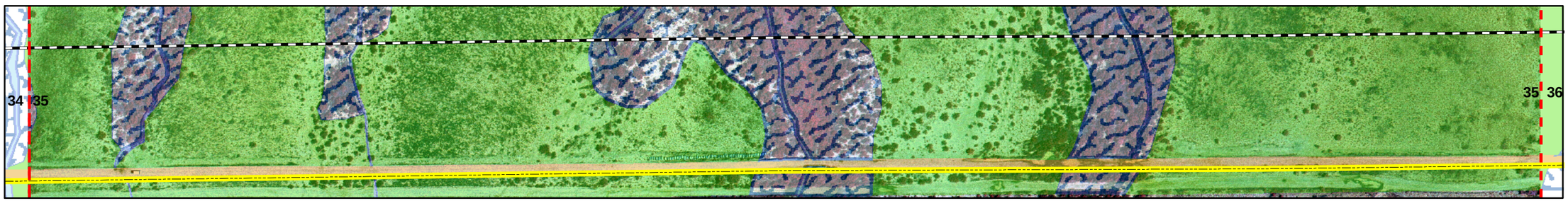

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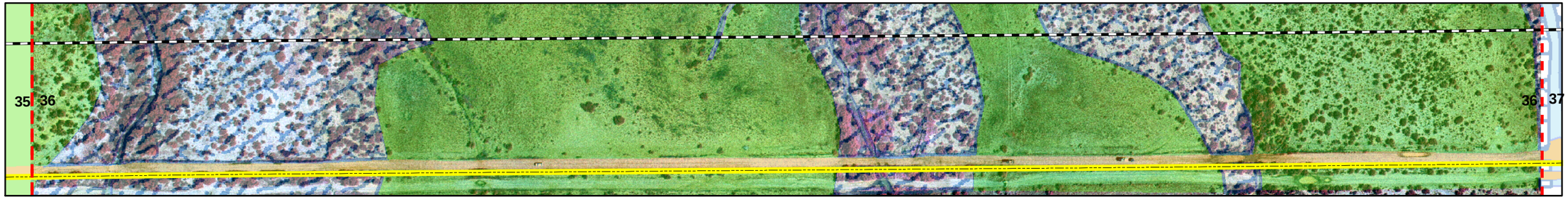

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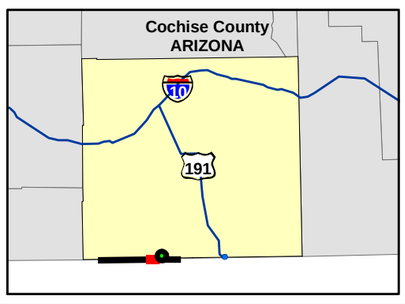


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

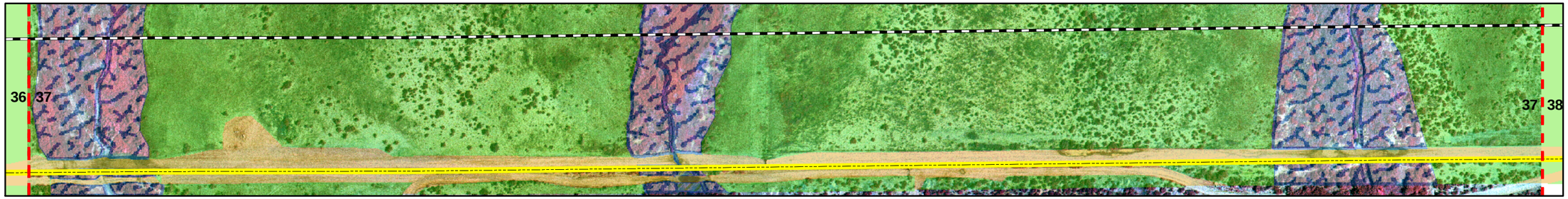
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-36, 1-35, 1-34

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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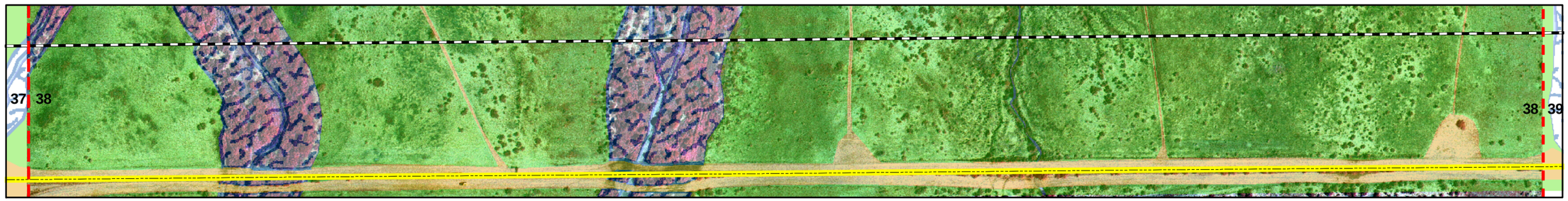
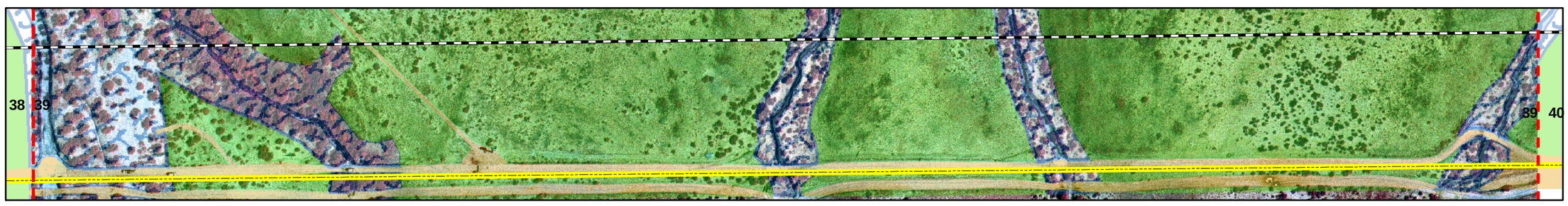


1-38



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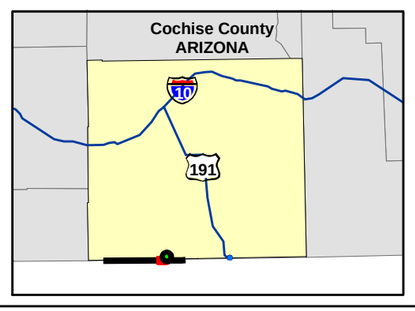


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

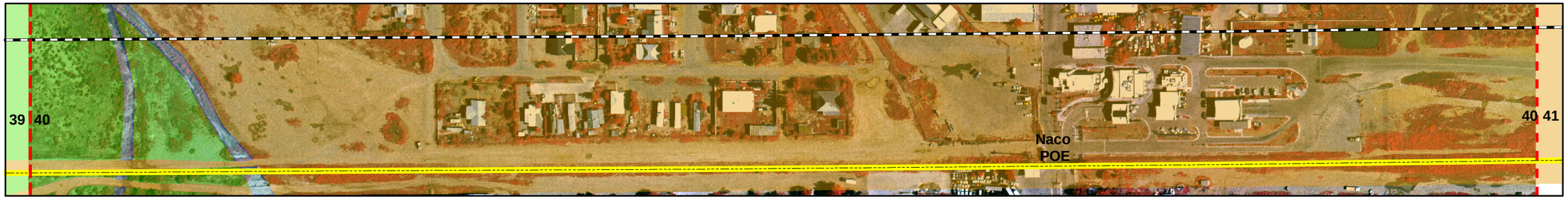
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-39, 1-38, 1-37

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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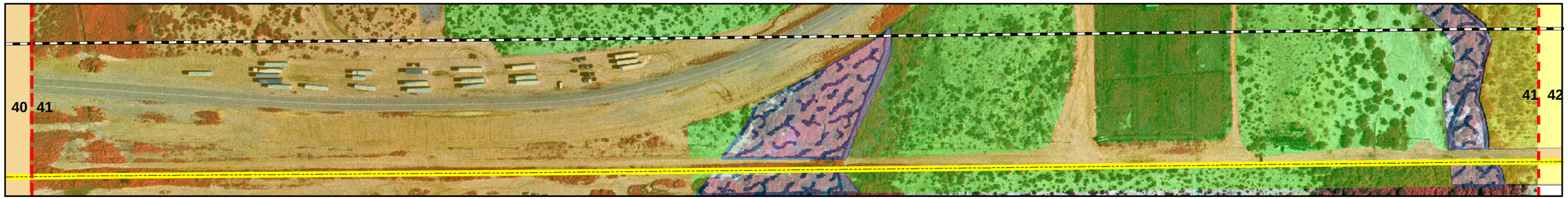

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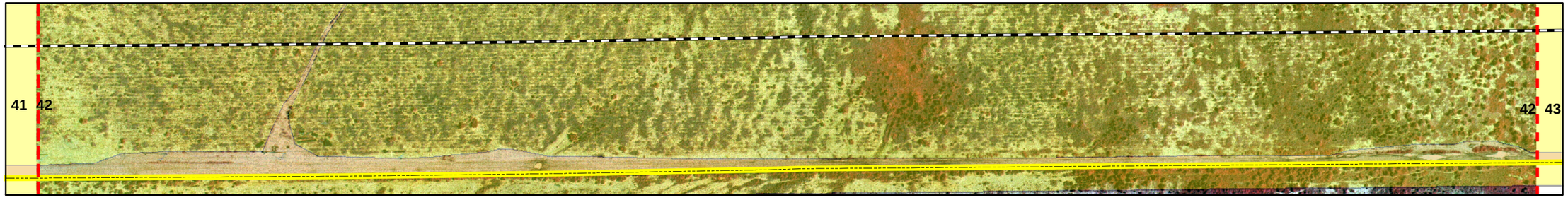

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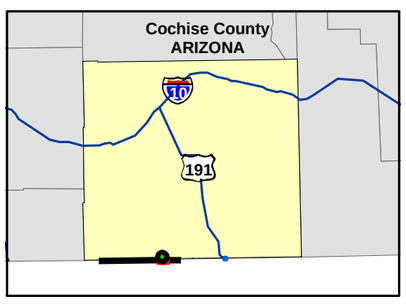


300 ft. Survey Boundary

International Border

Vegetation Classifications

- Chichuahuan Scrub
- Riparian Scrub
- Semi Desert Grassland-Scrub

Other Classifications

- Disturbed
- Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

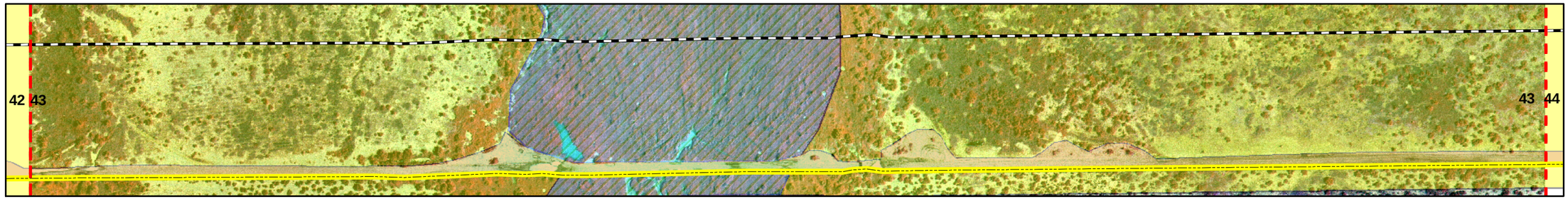
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-42, 1-41, 1-40

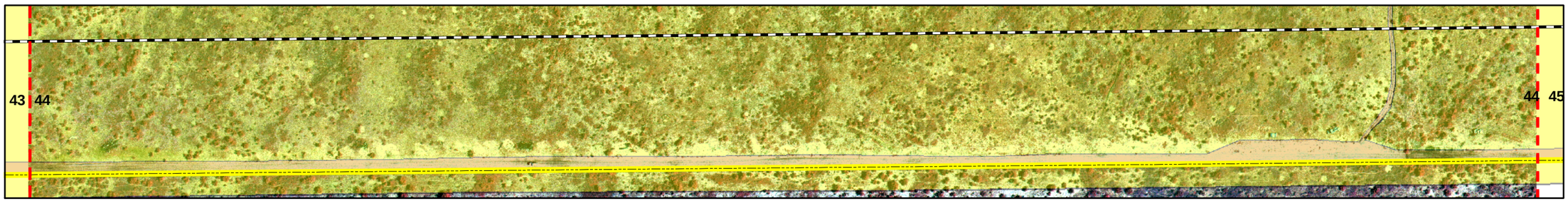
Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



1-43



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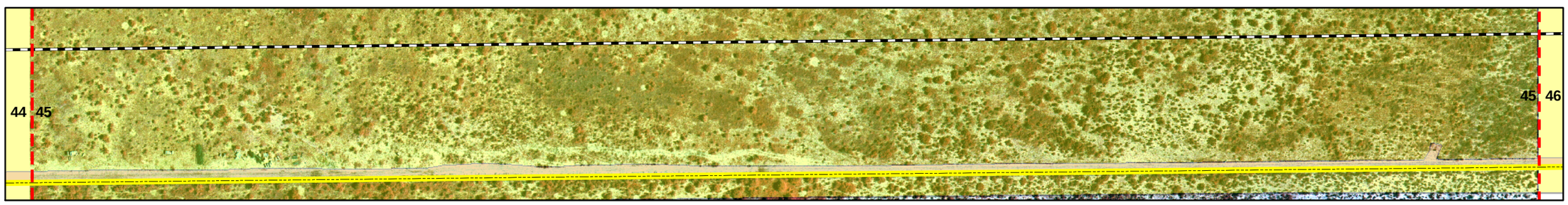

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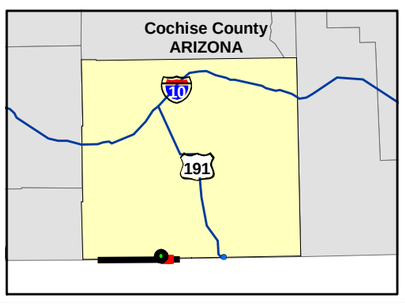


300 ft. Survey Boundary

International Border

Vegetation Classifications

Chichuahuan Scrub

Wetland

Other Classifications

Disturbed

N
W E
S

200 0 200 400 600 Feet

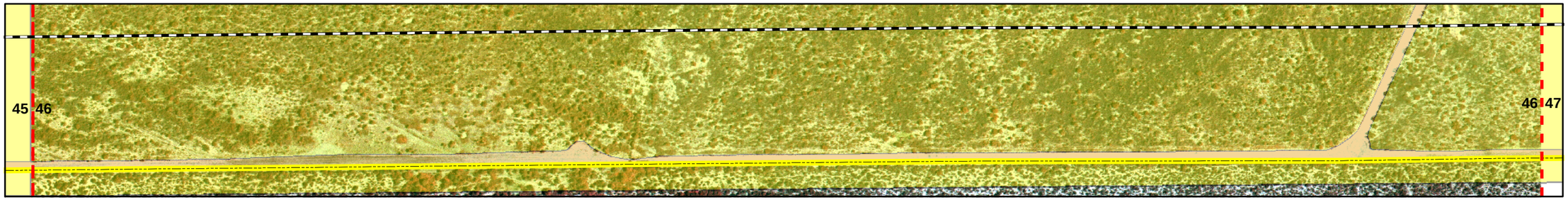
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-45, 1-44, 1-43

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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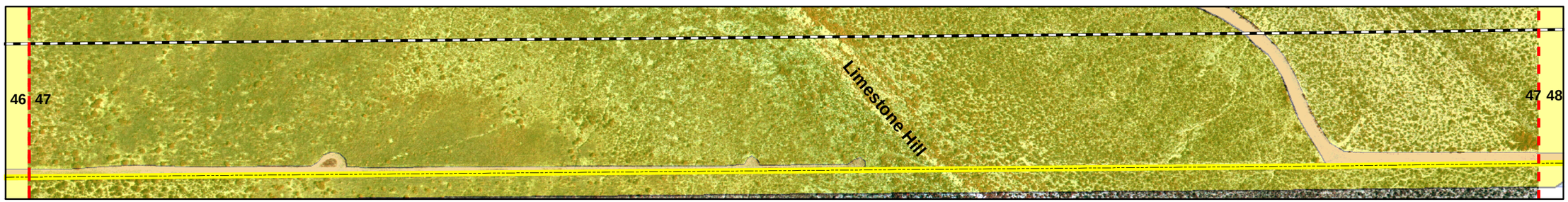

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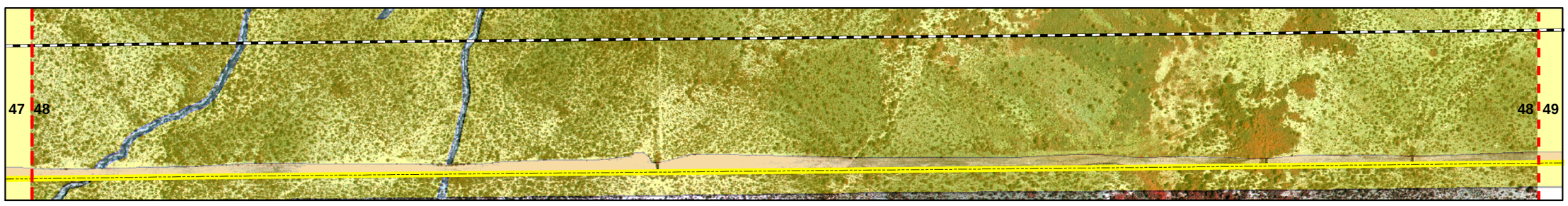

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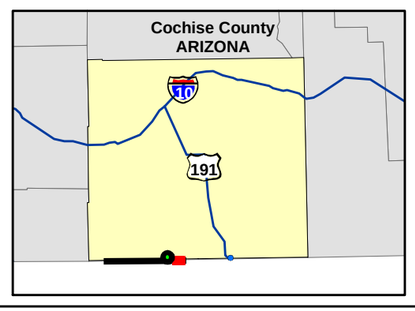


300 ft. Survey Boundary

International Border

Vegetation Classifications

Chichuahuan Scrub

Other Classifications

Disturbed

Waters of the US

N
W E
S

200 0 200 400 600 Feet

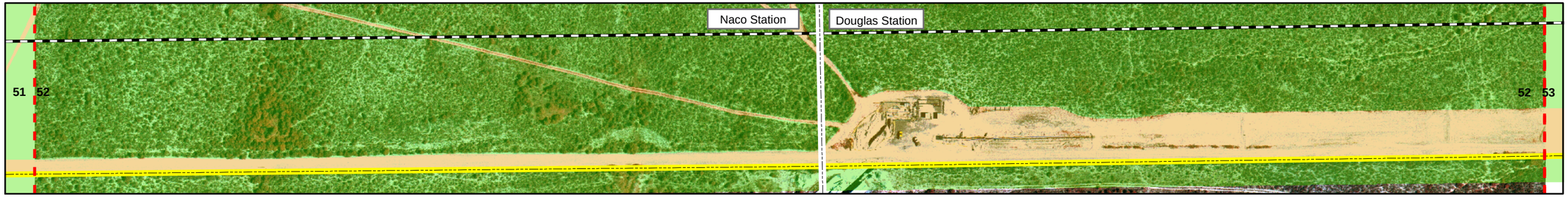
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-48, 1-47, 1-46

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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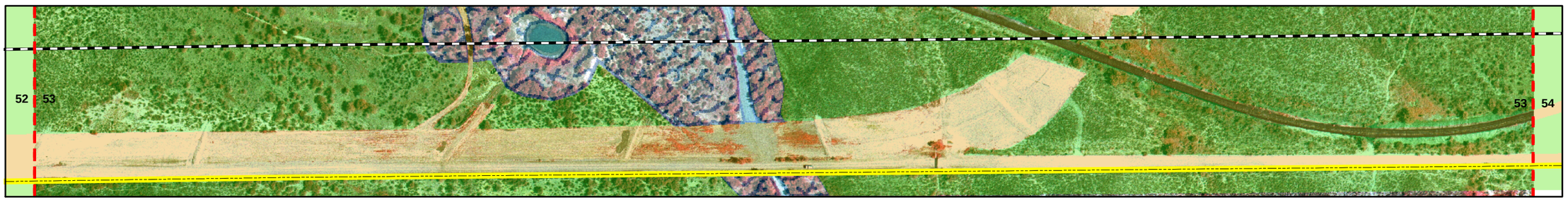

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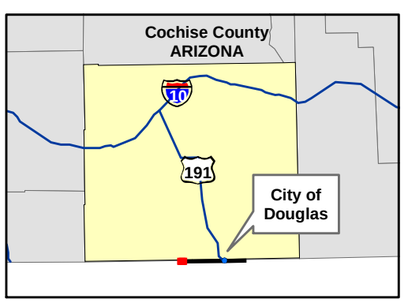


300 ft. Survey Boundary

International Border

Vegetation Classifications

Semi Desert Grassland-Scrub

Riparian Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

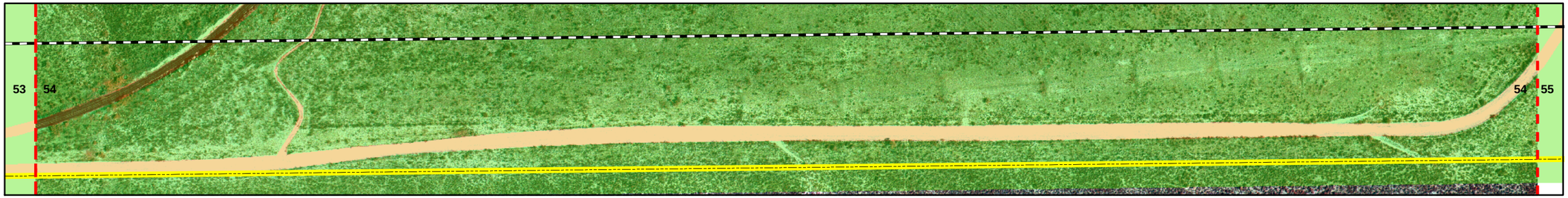
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-53 &1-52

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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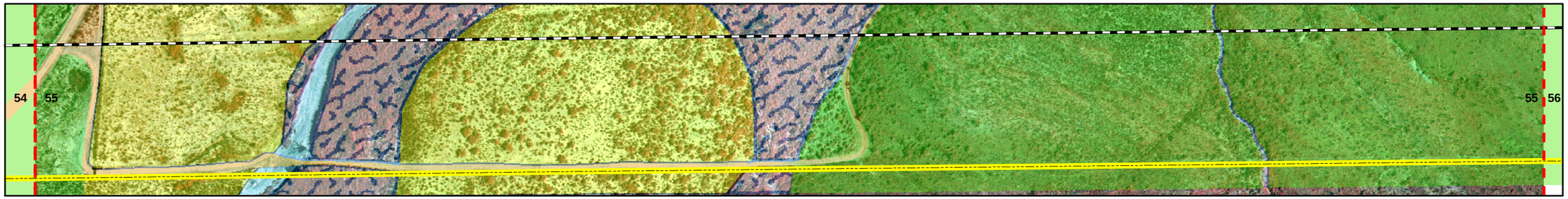

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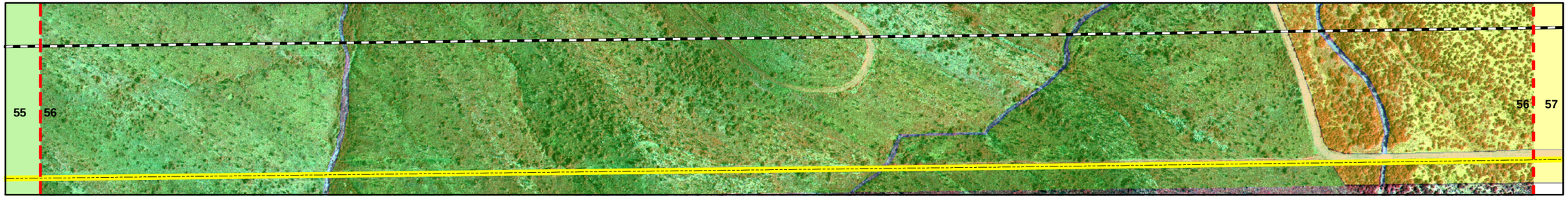

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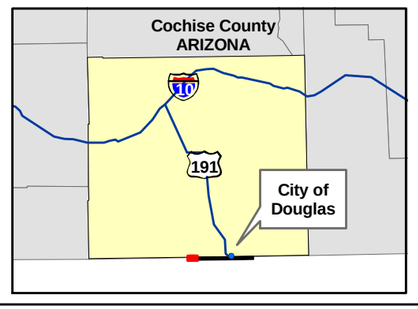


300 ft. Survey Boundary

International Border

Vegetation Classifications

- Chihuahuan Scrub
- Semi Desert Grassland-Scrub
- Riparian Scrub

Other Classifications

- Disturbed
- Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

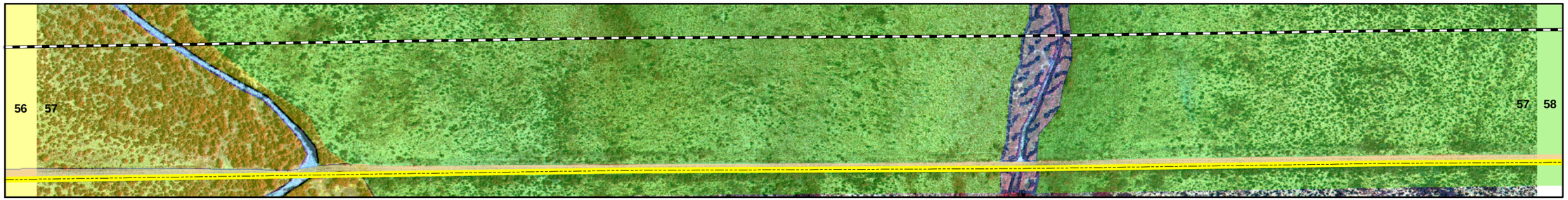
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-56, 1-55, 1-54

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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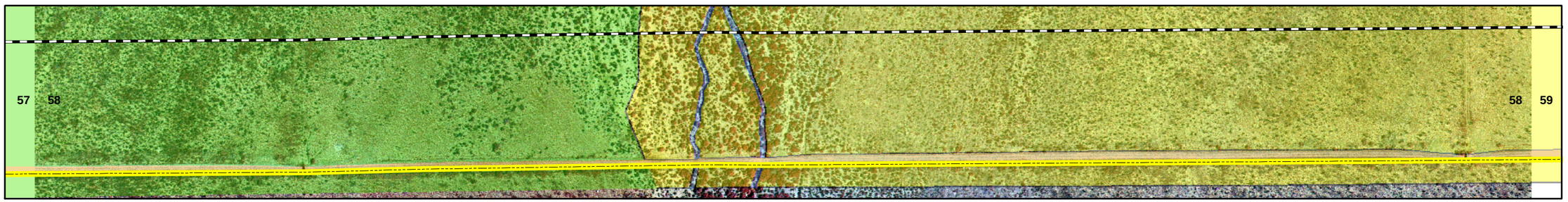

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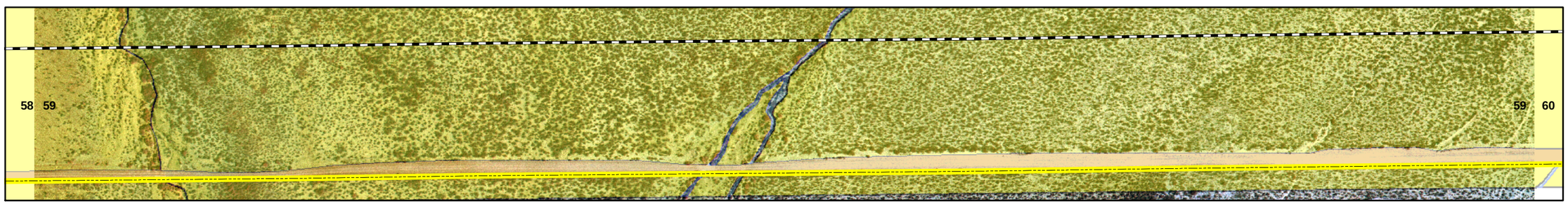

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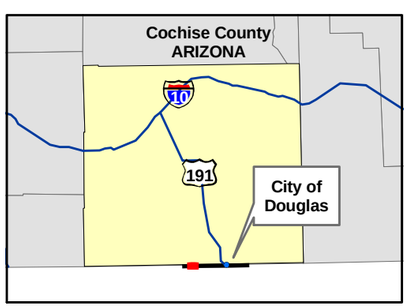


300 ft. Survey Boundary

International Border

Vegetation Classifications

- Chihuahuan Scrub
- Semi Desert Grassland-Scrub
- Riparian Scrub

Other Classifications

- Disturbed
- Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

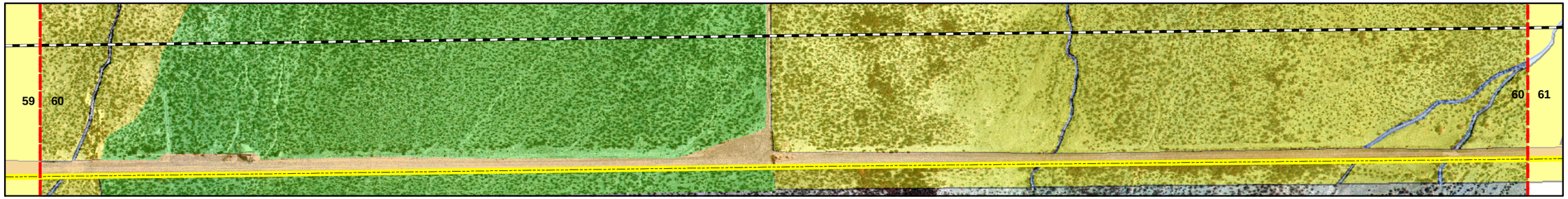
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-59, 1-58, 1-57

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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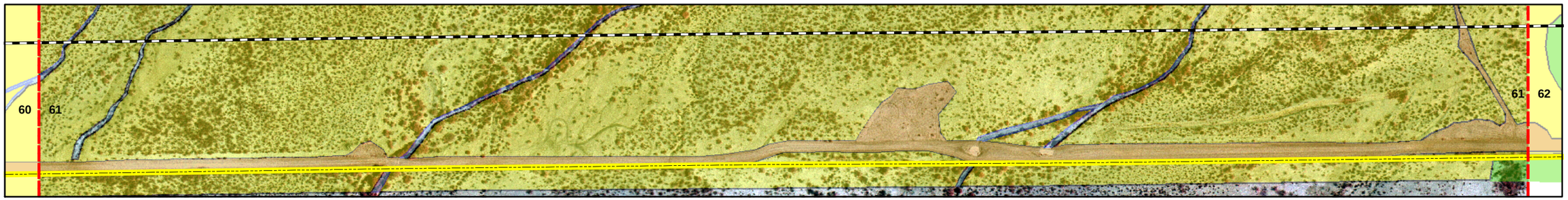

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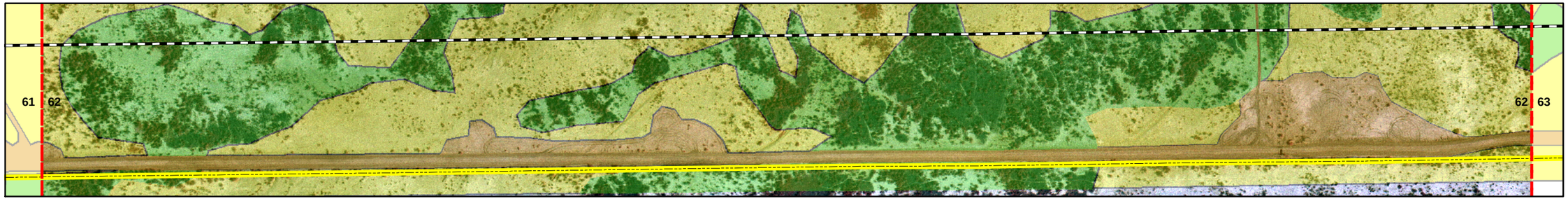
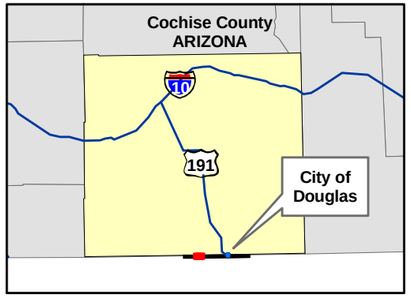


1-62



300 ft. Survey Boundary

International Border

Vegetation Classifications

Chihuahuan Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

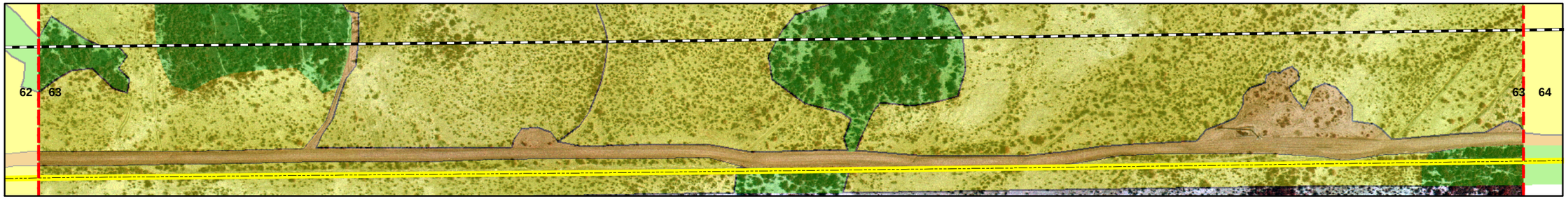
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-62, 1-61, 1-60

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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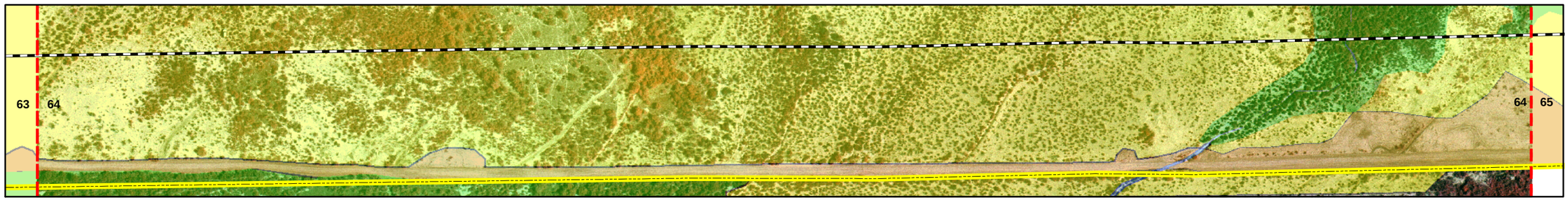

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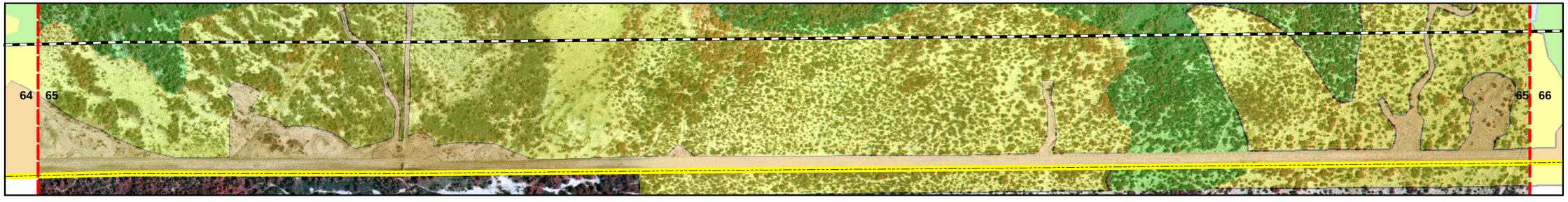

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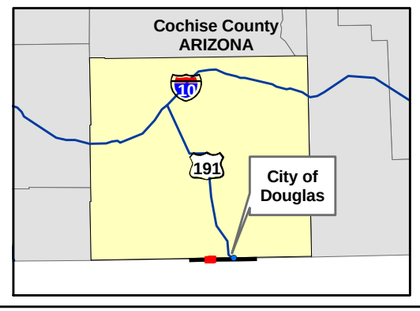


300 ft. Survey Boundary

International Border

Vegetation Classifications

Chihuahuan Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

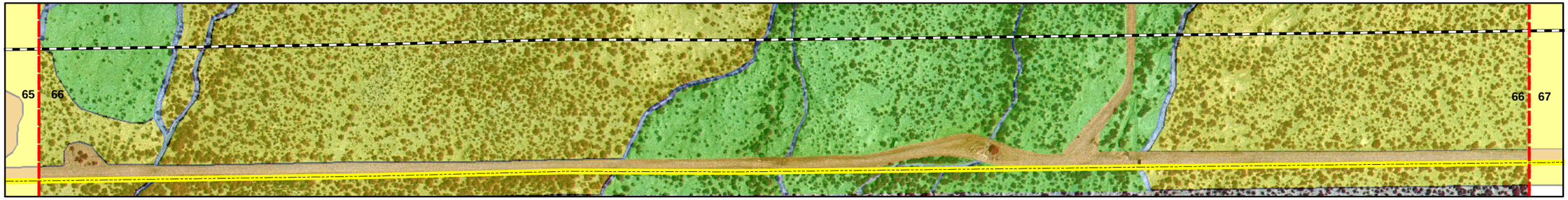
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-65, 1-64, 1-63

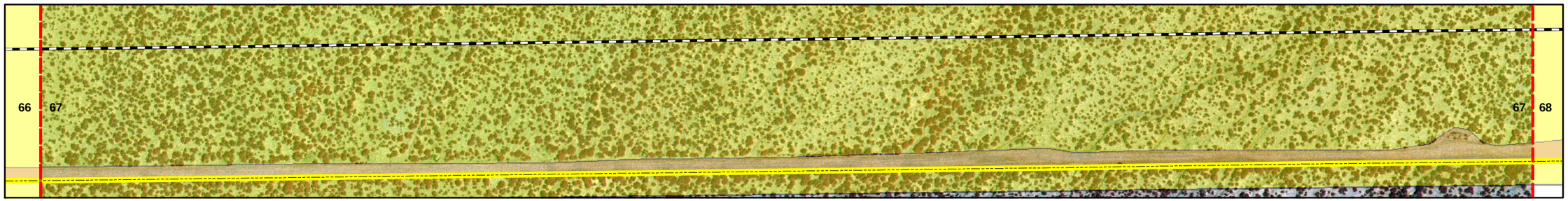
Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



1-66



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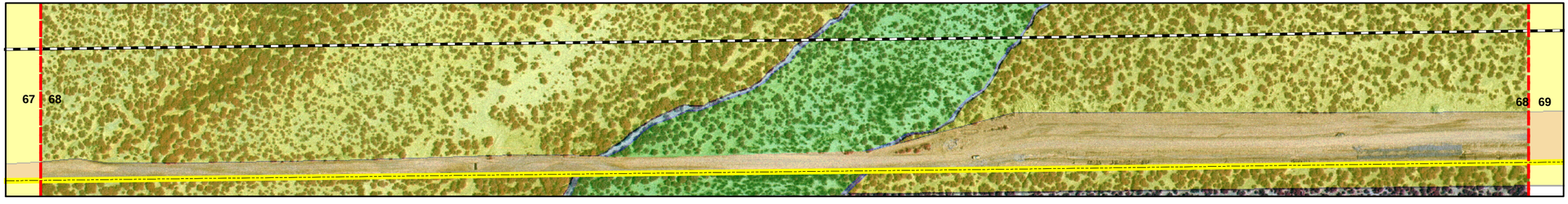
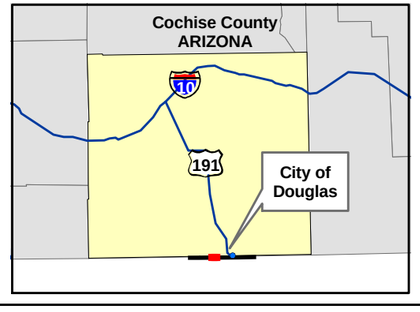


1-68



300 ft. Survey Boundary

International Border

Vegetation Classifications

Chihuahuan Scrub

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

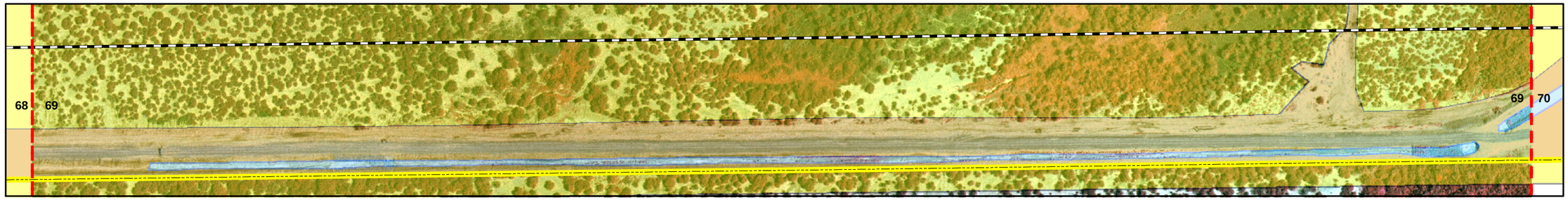
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-68, 1-67, 1-66

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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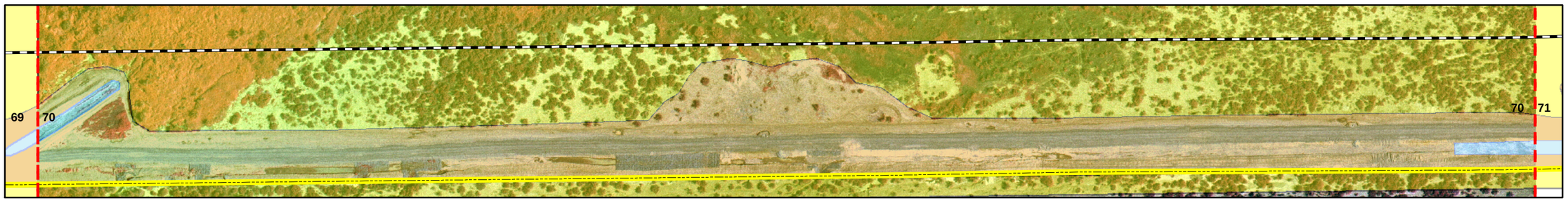
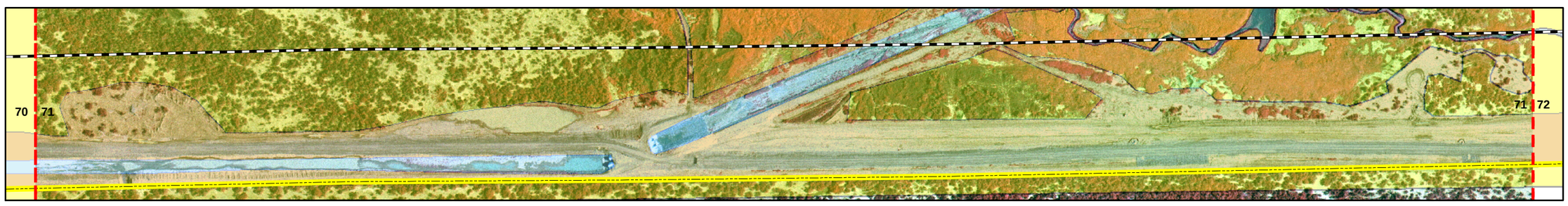


1-70



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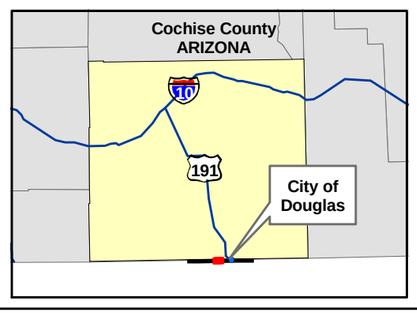


300 ft. Survey Boundary

International Border

Vegetation Classifications

Chihuahuan Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

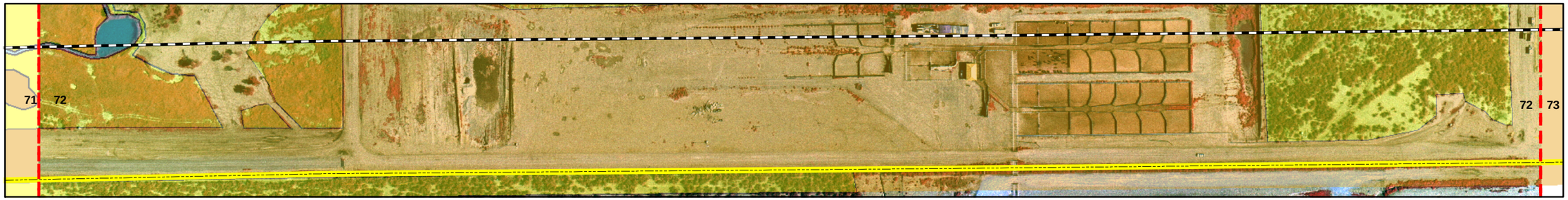
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-71, 1-70, 1-69

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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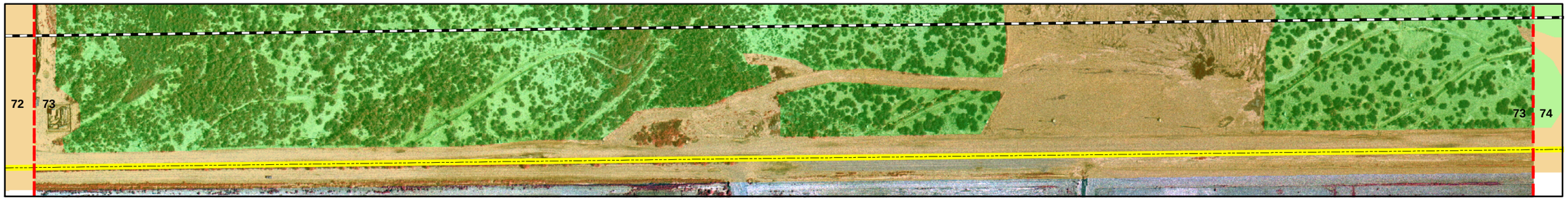

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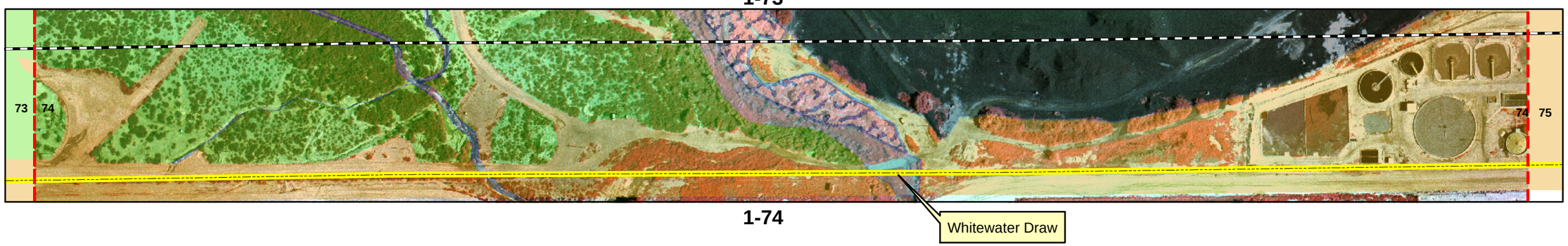
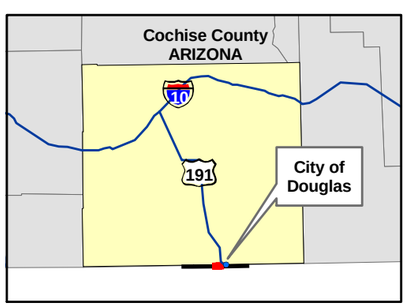


1-74



300 ft. Survey Boundary

International Border

Vegetation Classifications

- Chihuahuan Scrub
- Semi Desert Grassland-Scrub
- Riparian Scrub

Other Classifications

- Disturbed
- Waters of the U.S.
- Slag Mountain

N
W E
S

200 0 200 400 600 Feet

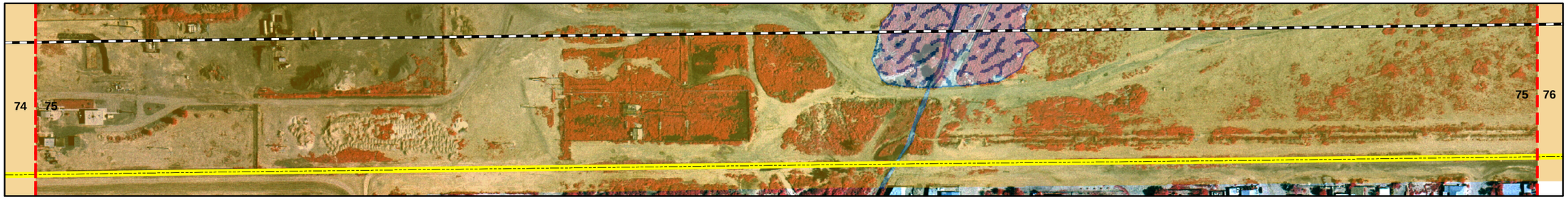
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-74, 1-73, 1-72

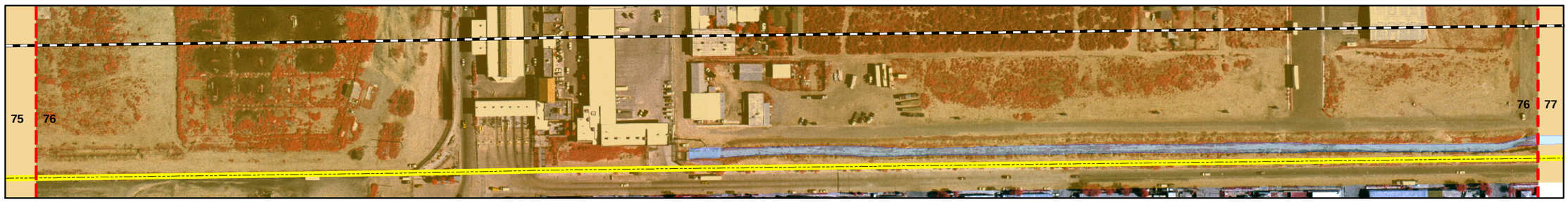
Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: April 2003



1-75



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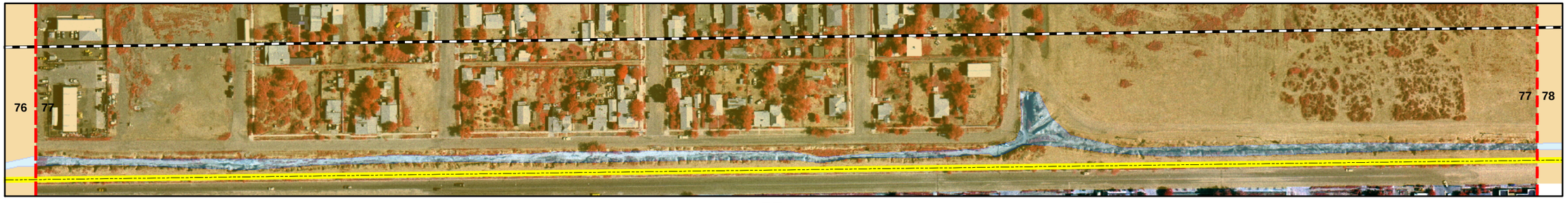

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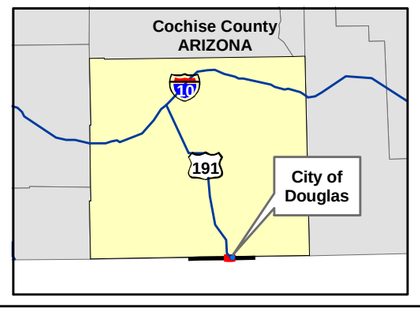


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

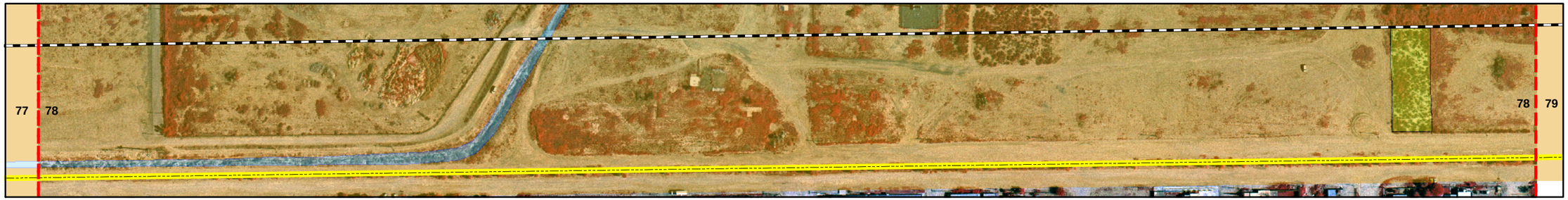
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-77, 1-76, 1-75

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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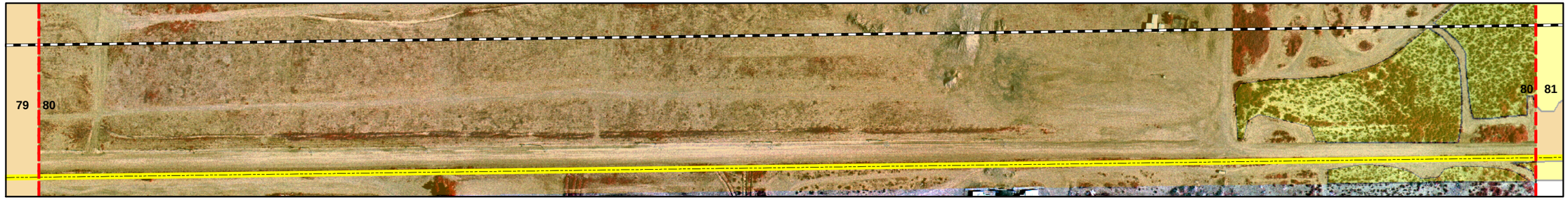
1-79



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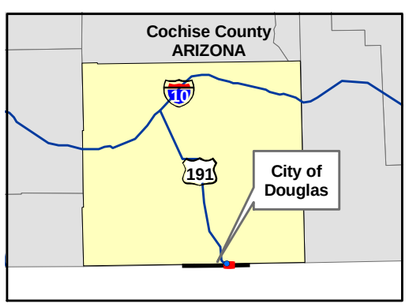


300 ft. Survey Boundary

International Border

Vegetation Classifications

Chihuahuan Scrub

Other Classifications

Disturbed

Waters of the U.S.

N
W E
S

200 0 200 400 600 Feet

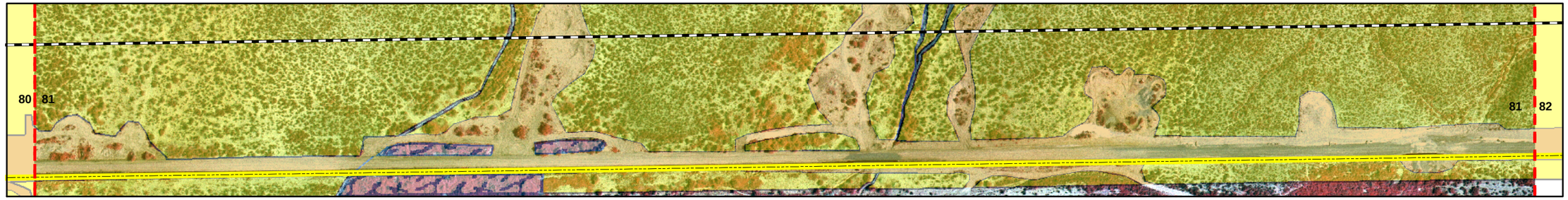
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-80, 1-79, 1-78

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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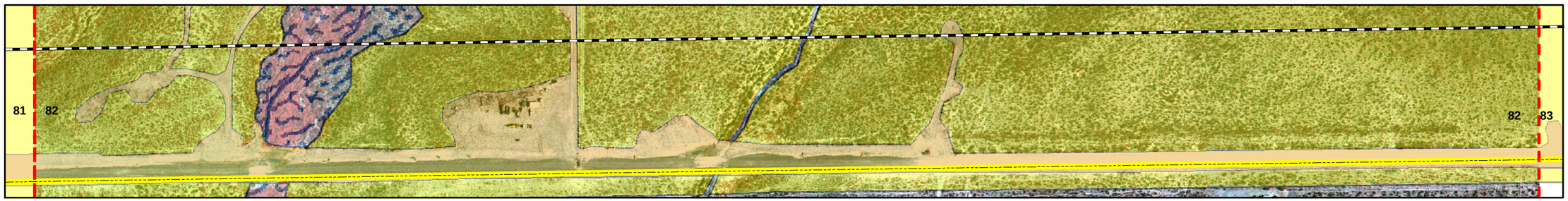

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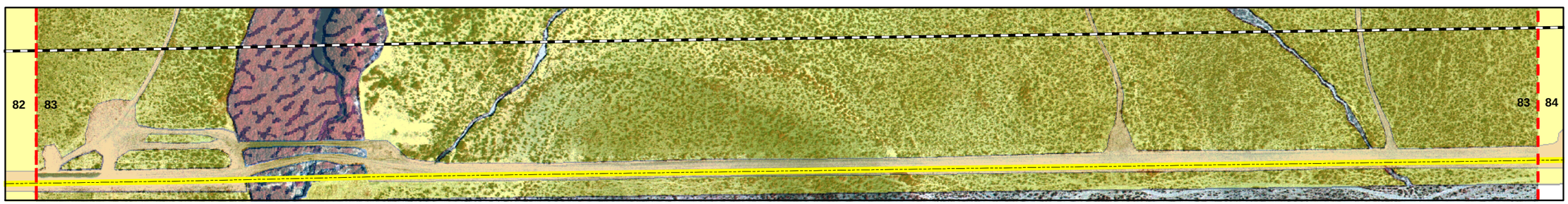

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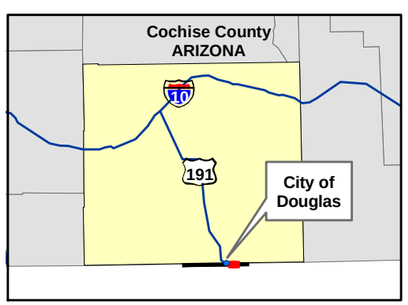


300 ft. Survey Boundary

International Border

Vegetation Classifications

Riparian Scrub

Chihuahuan Scrub

Other Classifications

Disturbed

Waters of the US

N
W E
S

200 0 200 400 600 Feet

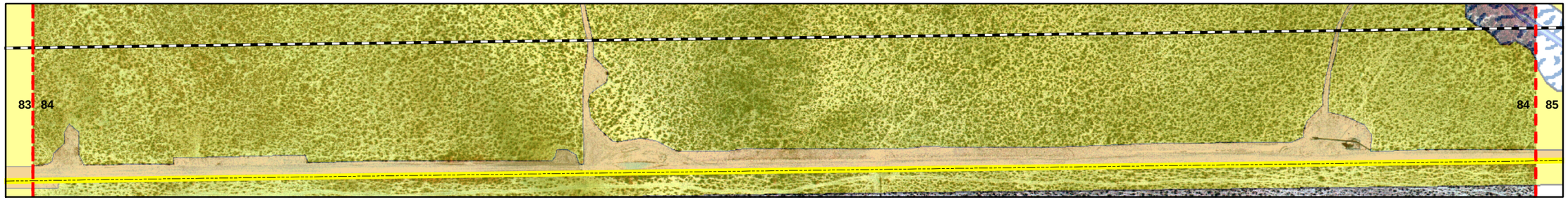
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-83, 1-82, 1-81

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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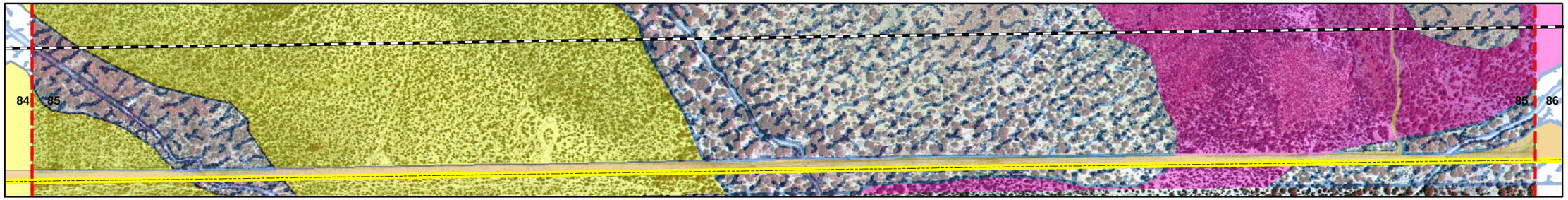

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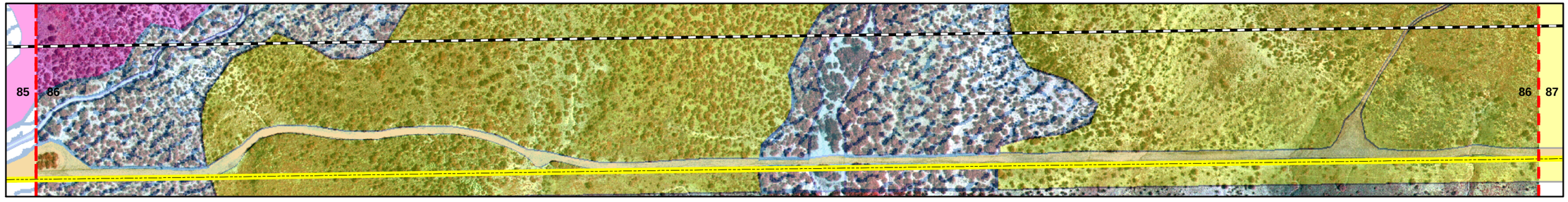

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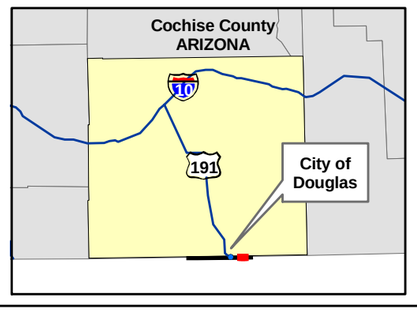


300 ft. Survey Boundary

International Border

Vegetation Classifications

- Riparian Scrub
- Chihuahuan Scrub
- Interior Chaparral

Other Classifications

- Disturbed
- Waters of the US

N
W E
S

200 0 200 400 600 Feet

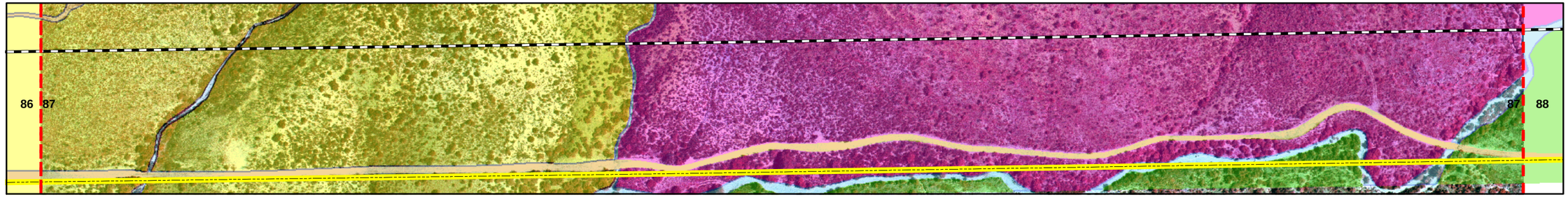
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-86, 1-85, 1-84

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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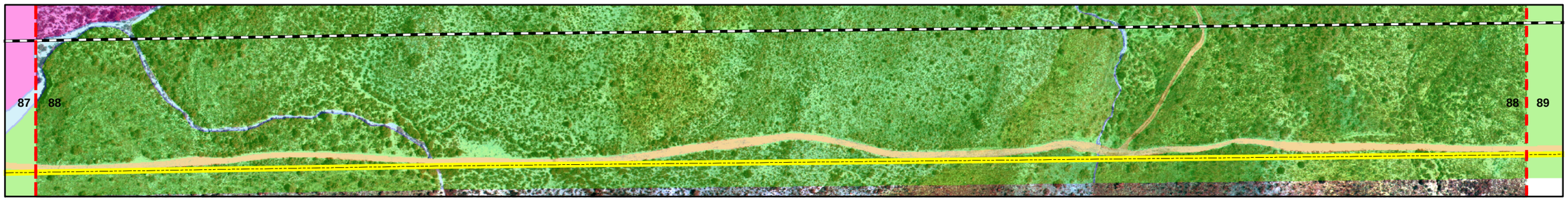

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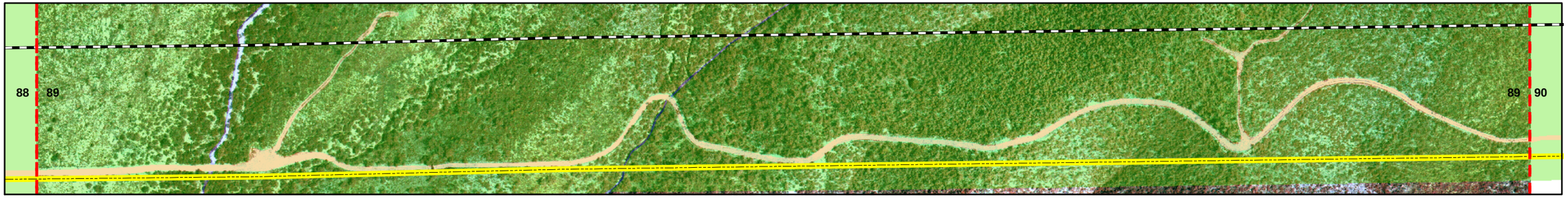

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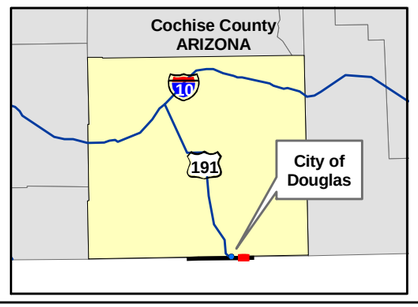


300 ft. Survey Boundary

International Border

Vegetation Classifications

- Semi Desert Grassland-Scrub
- Chihuahuan Scrub
- Interior Chaparral

Other Classifications

- Disturbed
- Waters of the US

N
W E
S

200 0 200 400 600 Feet

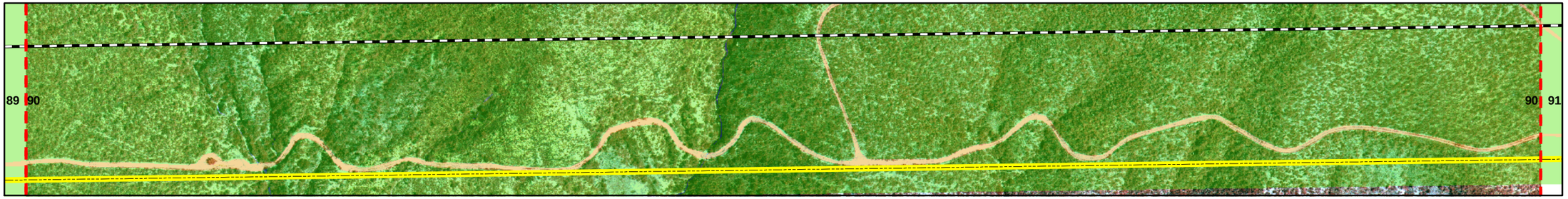
0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-89, 1-88, 1-87

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

gsrc GULF SOUTH RESEARCH CORPORATION

Date: April 2003



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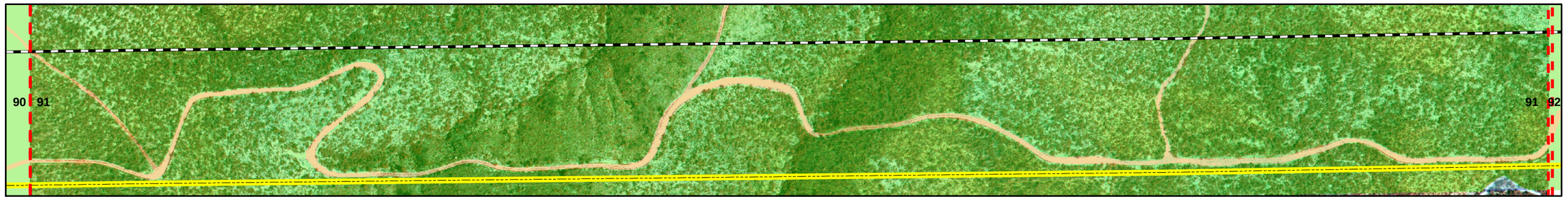

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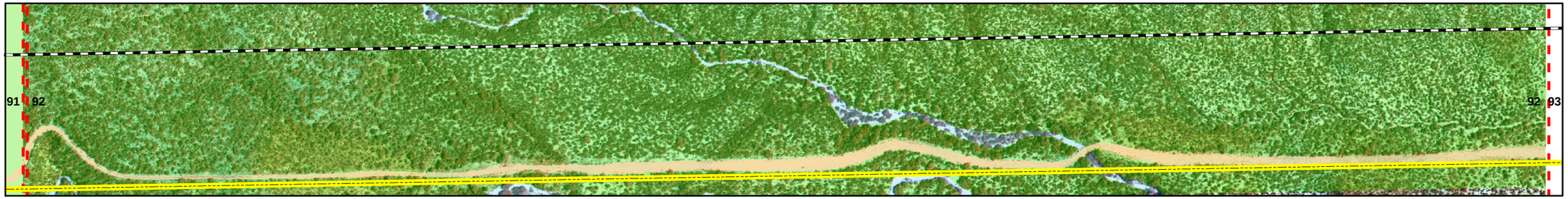

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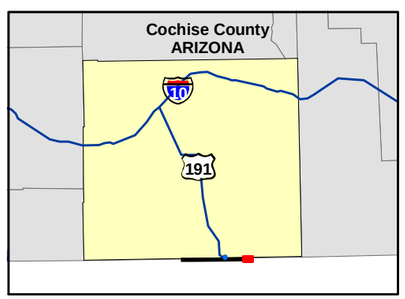

300 ft. Survey Boundary

International Border

Vegetation Classifications

Semi Desert Grassland-Scrub

Other Classifications

Disturbed

Waters of the US

N
W E
S

200 0 200 400 600 Feet

0.05 0 0.05 0.1 0.15 Miles

Appendix A
Panels 1-92, 1-91, 1-90

Sources: Vegetation and other classifications were surveyed and digitized by GSRC, 2002.

GSRC GULF SOUTH RESEARCH CORPORATION

Date: April 2003

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Appendix B
AGENCY CORRESPONDENCE

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

April 1, 2002

Planning, Environmental and Regulatory Division

U.S. Fish and Wildlife Service
Arizona Ecological Service
ATTN: Mr. David Harlow, Field Supervisor
2321 West Royal Palm Road, Suite 103
Phoenix, AZ 85021-4915

Dear Mr. Harlow:

The U.S. Army Corps of Engineers, Fort Worth District is acting on behalf of the Immigration and Naturalization Service (INS) in preparing an Environmental Assessment (EA) for various Border Patrol projects within a 300-foot corridor along the U.S./Mexico International Border from the western edge of Douglas, AZ to the eastern edge of Naco, AZ (approximately 30 miles).

We are currently in the process of gathering the most current information available regarding Federally listed species potentially occurring within this area of Naco and Douglas, Arizona. A quadrangle map showing the project location is enclosed. The USACE respectfully requests that your agency provide a list of the protected species in Cochise County along with a description of the sensitive resources (e.g., rare or unique plant communities, threatened and endangered and candidate species, etc.) that you believe may be affected by the proposed INS activities. Any information you may have regarding proposed species, potential or known presence, critical habitat areas, general habitat description, distribution and status of these species would be appreciated. Any GIS information, or information sources, you could provide regarding current distribution of protected species would also be greatly appreciated.

We intend to provide your agency with a copy of the Draft EA once it is completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please feel free to call Mr. Charles McGregor at (817) 886-1708.

Sincerely,

William Fickel, Jr.
Chief of Planning, Environmental
and Regulatory Division

Enclosure

803151356
Correspondence

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

May 13, 2002

Planning, Environmental and Regulatory Division

Subject: USFWS letter Responding to 300 Foot Corridor Along the U.S. and Mexico Border Western Edge of Douglas to Naco Arizona

Gulf South Research Corporation
Attn: Mr. Chris Ingram
P.O. Box 83564
Baton Rouge, LA 79884-3564

Dear Mr. Ingram,

Please find enclosed documents from the US Department of Interior - Fish and Wildlife Service Arizona Ecological Field Office dated April 25, 2002. This document was provided in response to our request for the most current information available regarding Federally listed threatened and endangered species in the respective areas.

Sincerely,

Charles H. McGregor, Jr

Enclosure

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In Reply Refer to:
AESO/SE
2-21-02-I-156

April 25, 2002

Mr. William Fickel, Jr.
U.S. Department of the Army
Army Corps of Engineers
P O Box 17300
Fort Worth, Texas 76102-0300

RE: 300 Foot Corridor Along U.S. and Mexico Border Western Edge of Douglas to Naco Arizona

Dear Mr. Fickel:

This letter responds to your April 1, 2002, request for an inventory of threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may potentially occur in your project area (Cochise County). The enclosed list may include candidate species as well. We hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-02-I-156.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each list and is available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, the Service recommends the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona protects some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Sherry Barrett at (520) 670-4617.

Sincerely,

Jacqueline L. Harson

for David L. Harlow
Field Supervisor

Enclosure

cc: Regional Supervisor, Arizona Game and Fish Department, Tucson, AZ
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ

W:\Cathy Gordon\species list letters\army corp 300ft corridor along u.s.mexico border.wpd:cgg

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: COCHISE

10/11/2001

1)LISTED TOTAL= 21

NAME: CANELO HILLS LADIES' TRESSES *SPIRANTHES DELITESCENS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: SLENDER ERECT MEMBER OF THE ORCHID FAMILY (ORCHIDACEAE). FLOWER: STALK 50 CM TALL, MAY CONTAIN 40 WHITE FLOWERS SPIRALLY ARRANGED ON THE FLOWERING STALK.

ELEVATION RANGE: about 5000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: FINELY GRAINED, HIGHLY ORGANIC, SATURATED SOILS OF CIENEGAS

POTENTIAL HABITAT OCCURS IN SONORA, MEXICO, BUT NO POPULATIONS HAVE BEEN FOUND.

NAME: COCHISE PINCUSHION CACTUS *CORYPHANTHA ROBBINSORUM*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 51 FR 952, 1-9-1986

DESCRIPTION: A SMALL UNBRANCHED CACTUS WITH NO CENTRAL SPINES AND 11-17 WHITE RADIAL SPINES. THE BELL-SHAPED FLOWERS ARE BORNE ON THE ENDS OF TUBERCULES (Protrusions). FLOWERS: BELL SHAPED, PALE YELLOW-GREEN. FRUITS: ORANGE-RED TO RED

ELEVATION RANGE: >4200 FT.

COUNTIES: COCHISE AND SONORA, MEXICO

HABITAT: SEMIDESERT GRASSLAND WITH SMALL SHRUBS, AGAVE, OTHER CACTI, AND GRAMA GRASS.

- GROWS ON GRAY LIMESTONE HILLS.

NAME: HUACHUCA WATER UMBEL *LILAEOPSIS SCHAFFNERIANA ssp RECURVA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: HERBACEOUS, SEMI-AQUATIC PERENNIAL IN THE PARSLEY FAMILY (UMBELLIFERAE) WITH SLENDER ERECT, HOLLOW, LEAVES THAT GROW FROM THE NODES OF CREEPING RHIZOMES. FLOWER: 3 TO 10 FLOWERED UMBELS ARISE FROM ROOT NODES.

ELEVATION RANGE: 3500-6500 FT.

COUNTIES: PIMA, SANTA CRUZ, COCHISE

HABITAT: CIENEGAS, PERENNIAL LOW GRADIENT STREAMS, WETLANDS

AND IN ADJACENT SONORA, MEXICO, WEST OF THE CONTINENTAL DIVIDE. POPULATIONS ALSO ON FORT HUACHUCA MILITARY RESERVATION. CRITICAL HABITAT IN COCHISE AND SANTA CRUZ COUNTIES (63 FR 37441)

NAME: NEW MEXICAN RIDGE-NOSED RATTLESNAKE *CROTALUS WILLARDI OBSCURUS*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 43 FR 34479, 04-04-1978

DESCRIPTION: SMALL 12-24 INCHES, SECRETIVE GRAYISH-BROWN WITH DISTINCT RIDGE ON THE END OF THE SNOUT. THE DORSAL SURFACE HAS OBSCURE, IRREGULARLY SPACED WHITE CROSSBARS EDGED WITH BROWN (NOT A BOLD PATTERN).

ELEVATION RANGE: 5000-6600 FT.

COUNTIES: COCHISE

HABITAT: PRIMARILY CANYON BOTTOMS IN PINE-OAK COMMUNITIES

THE SUBSPECIES HAS BEEN DOCUMENTED IN THE PELONCILO MOUNTAINS IN ARIZONA. ONLY THREE KNOWN RECORDS FROM ARIZONA. ALSO OCCURS IN ANIMAS MOUNTAINS OF NEW MEXICO AND SIERRA SAN LUIS IN SONORA/CHIHUAHUA.

NAME: LESSER LONG-NOSED BAT *LEPTONYCTERIS CURASOAE YERBABUENAE*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE. YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW. TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION RANGE: <6000 FT.

COUNTIES: COCHISE, GILA, GRAHAM, GREENLEE, MARICOPA, PIMA, PINAL, SANTA CRUZ, YAVAPAI

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUNMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA, USUALLY FROM APRIL TO SEPTMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.

NAME: MEXICAN GRAY WOLF *CANIS LUPUS BAILEYI*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 43 FR 1912, 03-09-78

DESCRIPTION: LARGE DOG-LIKE CARNIVORE WITH VARYING COLOR, BUT USUALLY A SHADE OF GRAY. DISTINCT WHITE LIP LINE AROUND MOUTH. WEIGH 60-90 POUNDS.

ELEVATION RANGE: 4,000-12,00 FT.

COUNTIES: APACHE, COCHISE, GREENLEE, PIMA, SANTA CRUZ

HABITAT: CHAPPARAL, WOODLAND, AND FORESTED AREAS. MAY CROSS DESERT AREAS.

HISTORIC RANGE IS CONSIDERED TO BE LARGER THAN THE COUNTIES LISTED ABOVE. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE (COCHISE, PIMA, SANTA CRUZ) CONTINUE TO BE RECEIVED. INDIVIDUALS MAY STILL PERSIST IN MEXICO. EXPERIMENTAL NONESSENTIAL POPULATION INTRODUCED IN THE BLUE PRIMITIVE AREA OF GREENLEE AND APACHE COUNTIES.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: **COCHISE**

10/11/2001

NAME: **OCELOT** *LEOPARDUS (=FELIS) PARDALIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 47 FR 31670; 07-21-82

DESCRIPTION: MEDIUM-SIZED SPOTTED CAT WHOSE TAIL IS ABOUT 1/2 THE LENGTH OF HEAD AND BODY. YELLOWISH WITH BLACK STREAKS AND STRIPES RUNNING FROM FRONT TO BACK. TAIL IS SPOTTED AND FACE IS LESS HEAVILY STREAKED THAN THE BACK AND SIDES.

ELEVATION RANGE: <8000 FT.

COUNTIES: SANTA CRUZ, PIMA, COCHISE

HABITAT: HUMID TROPICAL & SUB-TROPICAL FORESTS, SAVANNAHS, AND SEMI-ARID THORNSCRUB.

MAY PERSIST IN PARTLY-CLEARED FORESTS, SECOND-GROWTH WOODLAND, AND ABANDONED CULTIVATION REVERTED TO BRUSH. UNIVERSAL COMPONENT IS PRESENCE OF DENSE COVER. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED.

NAME: **BEAUTIFUL SHINER** *CYPRINELLA FORMOSA*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 8-31-1984

DESCRIPTION: SMALL (2.5 INCHES) SHINY MINNOW AND VERY SIMILAR TO RED SHINER. MALES COLORFUL DURING BREEDING (YELLOW-ORANGE OR ORANGE ON CAUDAL AND LOWER FINS AND BLUISH BODY.

ELEVATION RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MEDIUM SIZED STREAMS AND PONDS WITH SAND, GRAVEL, AND ROCK BOTTOMS.

VIRTUALLY EXTIRPATED IN THE UNITED STATES, WITH THE EXCEPTION OF A FEW ISOLATED POPULATIONS ON NATIONAL WILDLIFE REFUGES AND IN MEXICO. SAME CRITICAL HABITAT AS YAQUI CHUB AND CATFISH (SEE 49 FR 34490, 08-31-1984).

NAME: **LOACH MINNOW** *TIAROGA COBITIS*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 39468, 10-28-1986; 59 FR 10898, 03-08-1994;

DESCRIPTION: SMALL (<3 INCHES LONG) SLENDER, ELONGATED FISH, OLIVE COLORED WITH DIRTY WHITE SPOTS AT THE BASE OF THE DORSAL AND CAUDAL FINS. BREEDING MALES VIVID RED ON MOUTH AND BASE OF FINS

ELEVATION RANGE: <8000 FT.

COUNTIES: PINAL, GRAHAM, GREENLEE, GILA, APACHE, NAVAJO, *YAVAPAI, *COCHISE, *PIMA

HABITAT: BENTHIC SPECIES OF SMALL TO LARGE PERENNIAL STREAMS WITH SWIFT SHALLOW WATER OVER COBBLE& GRAVEL. RECURRENT FLOODING AND NATURAL HYDROGRAPH IMPORTANT.

PRESENTLY FOUND IN ARAVAIPA CREEK, BLUE RIVER, CAMPBELL BLUE CREEK, SAN FRANCISCO RIVER, DRY BLUE CREEK, TULAROSA RIVER, EAST-WEST-AND MIDDLE FORKS OF THE GILA RIVER, EAGLE CREEK, EAST FORK, BLACK RIVER, AND THE MAINSTEM UPPER GILA RIVER. CRTITICAL HABITAT WAS REMOVED IN MARCH 1998; BUT RE-PROPOSED DEC 1999 AND FINALIZED APRIL 2000. SPECIES ALSO FOUND IN CATRON, GRANT, AND HIDALGO COUNTIES IN NEW MEXICO. *COUNTIES WITH CRITICAL HABITAT PRESENTLY CONTAIN NO KNOWN EXISTING POPULATIONS OF LOACH MINNOW.

NAME: **SPIKEDACE** *MEDA FULGIDA*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 23769,07-01-1986; 65 FR 24327, 04-25-2000

DESCRIPTION: SMALL (<3 INCHES) SLIM WITH SLIVERY SIDES & 'SPINE" ON DORSAL FIN. BREDING MALES BRASSY GOLDEN COLOR

ELEVATION RANGE: <6000 FT.

COUNTIES: GRAHAM, PINAL, GREENLEE, YAVAPAI, APACHE*, COCHISE*, GILA*, NAVAJO, PIMA*

HABITAT: MODERATE TO LARGE PERENNIAL STREAMS WITH GRAVEL COBBLE SUBSTRATES AND MODERATE TO SWIFT VELOCITIES OVER SAND AND GRAVEL SUBSTRATES. RECURRENT FLOODING AND NATURAL

PRESENTLY FOUND IN ARAVAIPA CREEK, EAGLE CREEK, VERDE RIVER, EAST-WEST- MAIN AND MIDDLE FORKS OF THE GILA RIVER IN NEW MEXICO, AND GILA RIVER FROM SAN PEDRO RIVER TO ASHURST HAYDEN DAM. CRITICAL HABITAT WAS REMOVED IN MARCH 1998, BUT RE-PROPOSED DEC 1999 AND FINALIZED IN APRIL 2000. SPECIES ALSO FOUND IN CATRON, GRANT, AND HIDALGO COUNTIES IN NEW MEXICO. *COUNTIES WITH CRITICAL HABITAT PRESENTLY CONTAIN NO KNOWN EXISTING POPULATIONS OF SPIKEDACE.

NAME: **YAQUI CATFISH** *ICTALURUS PRICEI*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 08-31-1984

DESCRIPTION: SIMILAR TO CHANNEL CATFISH (Ictalurus punctatus) EXCEPT ANAL FIN BASE IS SHORTER AND THE DISTAL MARGIN OF THE ANAL FIN IS BROADLY ROUNDED WITH 23-25 SOFT RAYS. BODY USUALLY PROFUSELY SPECKLED.

ELEVATION RANGE: 4000-5000 FT.

COUNTIES: COCHISE

HABITAT: MODERATE TO LARGE STREAMS WITH SLOW CURRENT OVER SAND AND ROCK BOTTOMS

CRITICAL HABITAT ALL AQUATIC HABITATS IN THE MAIN PORTION OF SAN BERNADINO NATIONAL WILDLIFE REFUGE

NAME: **YAQUI CHUB** *GILA PURPUREA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 08-31-1984

DESCRIPTION: MEDIUM SIZED MINNOW (<6 INCHES) DARK COLORED, LIGHTER BELOW. DARK TRIANGULAR CAUDAL SPOT

ELEVATION RANGE: 4000-6000 FT.

COUNTIES: COCHISE (AZ), MEXICO

HABITAT: DEEP POOLS OF SMALL STREAMS, POOLS, OR PONDS NEAR UNDERCUT BANKS.

CRITICAL HABITAT INCLUDES ALL AQUATIC HABITATS OF THE MAIN PORTION SAN BERNADINO NATIONAL WILDLIFE REFUGE.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: **COCHISE**

10/11/2001

NAME: **YAQUI TOPMINNOW** *POECILIOPSIS OCCIDENTALIS SONORIENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES) TOPMINNOW GUPPY-LIKE, LIVE BEARING, LACKING DARK SPOTS. BREEDING MALES JET BLACK WITH YELLOW FINS.

ELEVATION RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MODERATE SIZED STREAMS, SPRINGS, & CIENEGAS GENERALLY IN SHALLOWS

NAME: **BALD EAGLE** *HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38"; WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA, GILA, GRAHAM, COCHISE

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS. AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF HABITAT CONTINUES TO BE A PROBLEM. SPECIES HAS BEEN PROPOSED FOR DELISTING (64 FR 36454) BUT STILL RECEIVES FULL PROTECTION UNDER ESA.

NAME: **BROWN PELICAN** *PELECANUS OCCIDENTALIS CALIFORNICUS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70; 35 FR 18320, 12-02-70

DESCRIPTION: LARGE DARK GRAY-BROWN WATER BIRD WITH A POUCH UNDERNEATH LONG BILL AND WEBBED FEET. ADULTS HAVE A WHITE HEAD AND NECK, BROWNISH BLACK BREAST, AND SILVER GRAY UPPER PARTS.

ELEVATION RANGE: VARIES FT.

COUNTIES: APACHE, COCHISE, COCONINO, GILA, GRAHAM, GREENLEE LA PAZ, MARICOPA, MOHAVE, NAVAJO, PIMA, PINAL, SANTA CRUZ, YAVAPAI, YUMA

HABITAT: COASTAL LAND AND ISLANDS; ARIZONA LAKES AND RIVERS

SUBSPECIES IS FOUND ON PACIFIC COAST AND IS ENDANGERED DUE TO PESTICIDES. IT IS AN UNCOMMON TRANSIENT IN ARIZONA ON MANY ARIZONA LAKES AND RIVERS. INDIVIDUALS WANDER UP FROM MEXICO IN SUMMER AND FALL. NO BREEDING RECORDS IN ARIZONA.

NAME: **CACTUS FERRUGINOUS PYGMY-OWL** *GLAUCIDIUM BRASILIANUM CACTORUM*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 62 FR 10730, 3-10-97

DESCRIPTION: SMALL (APPROX. 7"), DIURNAL OWL REDDISH BROWN OVERALL WITH CREAM-COLORED BELLY STREAKED WITH REDDISH BROWN. SOME INDIVIDUALS ARE GRAYISH BROWN

ELEVATION RANGE: <4000 FT.

COUNTIES: MARICOPA, YUMA, SANTA CRUZ, GRAHAM, GREENLEE, PIMA, PINAL, GILA, COCHISE

HABITAT: MATURE COTTONWOOD/WILLOW, MESQUITE BOSQUES, AND SONORAN DESERTSCRUB

RANGE LIMIT IN ARIZONA IS FROM NEW RIVER (NORTH) TO GILA BOX (EAST) TO CABEZA PRIETA MOUNTAINS (WEST). ONLY A FEW DOCUMENTED SITES WHERE THIS SPECIES PERSISTS ARE KNOWN, ADDITIONAL SURVEYS ARE NEEDED. CRITICAL HABITAT WAS VACATED BY THE U.S. DISTRICT COURT FOR THE DISTRICT OF ARIZONA (9/19/01).

NAME: **MEXICAN SPOTTED OWL** *STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91; 66 FR 8530, 2/1/01

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA, PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDERSA PINE/GAMBEL OAK TYPE, IN CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE OF IMPORTANCE OR ARE PREFERED. CRITICAL HABITAT WAS REMOVED IN 1998 BUT RE-PROPOSED IN JULY 2000 AND FINALIZED IN FEB 2001 FOR APACHE, COCHISE, COCONINO, GRAHAM, MOHAVE, PIMA COUNTIES; ALSO IN NEW MEXICO, UTAH, AND COLORADO.

NAME: **NORTHERN APLOMADO FALCON** *FALCO FEMORALIS SEPTENTRIONALIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 51 FR 6686, 01-25-86

DESCRIPTION: RUFOUS UNDERPARTS, GRAY BACK, LONG BANDED TAIL, AND A DISTINCT BLACK AND WHITE FACIAL PATTERN. SMALLER THAN PEREGRINE LARGER THAN KESTREL. BREEDS BETWEEN MARCH- JUNE

ELEVATION RANGE: 3500-9000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: GRASSLAND AND SAVANNAH

SPECIES FORMERLY NESTED IN SOUTHWESTERN US. NOW OCCURS AS AN ACCIDENTAL. GOOD HABITAT HAS LOW GROUND COVER AND MESQUITE OR YUCCA FOR NESTING PLATFORMS. CONTINUED USE OF PESTICIDES IN MEXICO ENDANGERS THIS SPECIES. NO RECENT CONFIRMED REPORTS FOR ARIZONA.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: **COCHISE**

10/11/2001

NAME: **SOUTHWESTERN WILLOW FLYCATCHER** *EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT WAS SET ASIDE BY THE 10TH CIRCUIT COURT OF APPEALS (5/17/01).

NAME: **WHOOPING CRANE** *GRUS AMERICANA*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967; 43 FR 20938, 05-15-78

DESCRIPTION: TALLEST AMERICAN BIRD (UP TO 5 FEET) SNOWY WHITE, LONG NECK AND LEGS, BLACK WING TIPS, RED CROWN, AND BLACK WEDGE SHAPED PATCH OF FETHERS BEHIND ITS EYE.

ELEVATION RANGE: 4500 FT.

COUNTIES: COCHISE

HABITAT: MARSHES, PRAIRIES, RIVER BOTTOMS

BIRDS IN THE ROCKY MOUNTAIN POPULATION ARE OCCASIONAL VISITORS IN ARIZONA DURING MIGRATION. USUALLY NEAR WILCOX PLAYA.

NAME: **SONORA TIGER SALAMANDER** *AMBYSTOMA TIGRINUM STEBBINSI*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 62 FR 665, 01-06-97

DESCRIPTION: 2.6 TO 4.9" SNOUT-VENT LENGTH WITH LIGHT-COLORED BANDS ON A DARK BACKGROUND. AQUATIC LARVAE ARE UNIFORM DARK COLOR WITH PLUME-LIKE GILLS AND TAIN FINS.

ELEVATION RANGE: 4000-6300 FT.

COUNTIES: SANTA CRUZ, COCHISE

HABITAT: STOCK TANKS AND IMPOUNDED CIENEGAS IN SAN RAFAEL VALLEY, HUACHUCA MOUNTAINS

ALSO OCCURS IN THE FOOTHILLS OF THE EAST SLOPE OF THE PATAGONIA AND HUACHUCA MOUNTAINS. POPULATIONS ALSO ON FORT HUACHUCA.

2) PROPOSED

TOTAL= 2

NAME: MOUNTAIN PLOVER *CHARADRIUS MONTANUS*

STATUS: PROPOSED THREATENED CRITICAL HAB No RECOVERY PLAN: No CFR: 64 FR 7587; 02-16-1999

DESCRIPTION: IN BREEDING SEASON WITH WHITE FOREHEAD AND LINE OVER THE EYE; CONTRASTING WITH DARK CROWN; NONDESCRIPT IN WINTER. VOICE IS LOW, VARIABLE WHISTLE.

ELEVATION RANGE: VARIABLE FT.

COUNTIES: YUMA, PIMA, COCHISE, PINAL, APACHE

HABITAT: OPEN ARID PLAINS, SHORT-GRASS PRAIRIES, AND CULTIVATED FORMS.

SPECIES PRIMARILY FOUND IN ROCKY MOUNTAIN STATES FROM CANADA TO MEXICO. AZ PRIMARILY PROVIDES WITNERING HABITAT. BREEDING HAS BEEN DOCUMENTED, BUT IS RARE, AND IS LIKELY RESTRICTED TO TRIBAL AND STATE LANDS IN APACHE COUNTY.

NAME: CHIRICAHUA LEOPARD FROG *RANA CHIRICAHUENSIS*

STATUS: PROPOSED CRITICAL HAB No RECOVERY PLAN: No CFR: 65 FR 37343, 6-14-2000

DESCRIPTION: CREAM COLORED TUBERCULES (spots) ON A DARK BACKGROUND ON THE REAR OF THE THIGH, DORSOLATERAL FOLDS THAT ARE INTERRUPTED AND DEFLECTED MEDIALLY, AND A CALL GIVEN OUT OF WATER DISTINGUISH THIS SPOTTED FROG FROM OTHER LEOPRD

ELEVATION RANGE: 3300-8900 FT.

COUNTIES: SANTA CRUZ, APACHE, GILA, PIMA, COCHISE, GREENLEE, GRAHAM, YAVAPAI, COCONINO, NAVAJO

HABITAT: STREAMS, RIVERS, BACKWATERS, PONDS, AND STOCK TANKS THAT ARE MOSTLY FREE FROM INTRODUCED FISH, CRAYFISH, AND BULLFROGS

REQUIRE PERMANENT OR NEARLY PERMANENT WATER SOURCES. POPULATIONS NORTH OF THE GILA RIVER MAY BE CLOSELY-RELATED, BUT DISTINCT, UNDESCRIBED SPECIES.

3) CANDIDATE

TOTAL= 5

NAME: LEMMON FLEABANE *ERIGERON LEMMONII*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: A PROSTRATE PERENNIAL IN THE SUNFLOWER FAMILY. STEMS AND LEAVES ARE DENSELY HAIRY. FLOWERS LOOK LIKE SMALL DELICATE DAISIES, WITH WHITE TO LIGHT PURPLE OUTER PETALS AND YELLOW INNER PETALS.

ELEVATION RANGE: 1500-6000 FT.

COUNTIES: COCHISE

HABITAT: GROWS IN DENSE CLUMPS IN CREVICES, LEDGES, AND BOULDERS IN CANYON BOTTOMS IN PINE-OAK WOODLAND

ONE SITE ON FORT HUACHUCA MILITARY RESERVATION

NAME: BLACK-TAILED PRAIRIE DOG *CYNOMYS LUDOVICIANUS*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: SMALL, STOUT GROUND SQUIRRELS. TOTAL LENGTH OF ADULT 14-17 INCHES; ABOUT 1-3 LBS. INDIVIDUALS IN MIXED COLORS OF BROWN, BLACK, GRAY, AND WHITE. BLACK-TIPPED TAIL. A SOCIAL ANIMAL LIVING IN AGGREGATIONS CALLED TOWNS, COLONIES, OR VILLAGES.

ELEVATION RANGE: APPROX. 5,FT.

COUNTIES: COCHISE, GRAHAM, AND GREENLEE

HABITAT: IN BURROWS IN PLAINS AND GRASSLAND HABITATS.

SPECIES IS CURRENTLY EXTIRPATED FROM THE STATE, BUT CONSERVATION EFFORTS ARE UNDERWAY. TWELVE-MONTH PETITION FINDING PUBLISHED 2/4/00. EXTIRPATED FROM AZ AROUND 1938. REINTRODUCTION ATTEMPTED IN 1972, BUT FAILED.

NAME: GILA CHUB *GILA INTERMEDIA*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: DEEP COMPRESSED BODY, FLAT HEAD. DARK OLIVE-GRAY COLOR ABOVE, SILVER SIDES. ENDEMIC TO GILA RIVER BASIN.

ELEVATION RANGE: 2000 - 3500 FT.

COUNTIES: SANTA CRUZ, GILA, GREENLEE, PIMA, COCHISE, GRAHAM, YAVAPAI

HABITAT: POOLS, SPRINGS, CIENEGAS, AND STREAMS

MULTIPLE PRIVATE LANDOWERS, INCLUDING THE NATURE CONSERVANCY, THE AUDUBON SOCIETY, AND OTHERS. ALSO FT. HUACHUCA. SPECIES ALSO FOUND IN SONORA, MEXICO.

NAME: **YELLOW-BILLED CUCKOO** *COCCYZUS AMERICANUS*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR: 66 FR 38611; 07-25-01

DESCRIPTION: MEDIUM-SIZED BIRD WITH A SLENDER, LONG-TAILED PROFILE, SLIGHTLY DOWN-CURVED BILL, WHICH IS BLUE-BLACK WITH YELLOW ON THE LOWER HALF OF THE BILL. PLUMAGE IS GRAYISH-BROWN ABOVE AND WHITE BELOW, WITH RUFOUS PRIMARY FLIGHT FEATHERS.

ELEVATION RANGE: <6,500 FT.

COUNTIES: APACHE, COCHISE, COCONINO, GILA, GRAHAM, GREENLEE, LA PAZ, MARICOPA, MOHAVE, NAVAJO, PIMA, PINAL, SANTA CRUZ, YAVAPAI, YUMA

HABITAT: LARGE BLOCKS OF RIPARIAN WOODLANDS (COTTONWOOD, WILLOW, OR TAMARISK GALLERIES)

SPECIES WAS FOUND WARRANTED, BUT PRECLUDED FOR LISTING AS A DISTINCT VERTEBRATE POPULATION SEGMENT IN THE WESTERN U.S. ON JULY 25, 2001. THIS FINDING INDICATES THAT THE SERVICE HAS SUFFICIENT INFORMATION TO LIST THE BIRD, BUT OTHER, HIGHER PRIORITY LISTING ACTIONS PREVENT THE SERVICE FROM ADDRESSING THE LISTING OF THE CUCKOO AT THIS TIME.

NAME: **HUACHUCA SPRINGSNAIL** *PYRGULOPSIS THOMPSONI*

STATUS: CANDIDATE CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: VERY SMALL (1.7-3.2mm) CONICAL SHELL. IDENTIFICATION MUST BE VERIFIED BY CHARARCTERISTICS OF REPRODUCTIVE ORGANS.

ELEVATION RANGE: 4500-6000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: AQUATIC AREAS, SMALL SPRINGS WITH VEGETATION SLOW TO MODERATE FLOW.

INDIVIDUALS FOUND ON FIRM SUBSTANCES (ROOTS, WOOD, AND ROCKS) OTHER POPULATIONS FOUND ON FORT HUACHUCA MILITARY PROPERTY

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: COCHISE

10/11/2001

CONSERVATION AGREEMENT TOTAL= 1

NAME: RAMSEY CANYON LEOPARD FROG *RANA SUBAQUAVOCALIS*

STATUS: CONSERVATION AGREEMENT CRITICAL HAB No RECOVERY PLAN: No CFR: 59 FR 58996

DESCRIPTION: BROWN OR GREEN FROG, 2.5 TO 4 INCHES LONG; SPOTS ROUNDED WITH LIGHT BORDERS; DORSOLATERAL FOLDS ARE INTERRUPTED POSTERIORLY AND DEFLECTED MEDIALLY; YELLOWISH PIGMENTATION ON THE GROIN WHICH MAY EXTEND INTO THE POSTERIOR VENTER

ELEVATION RANGE: 5,000 FT FT.

COUNTIES: COCHISE

HABITAT: ARTIFICIAL PONDS IN TINKER, BROWN, AND RAMSEY CANYONS ON THE EAST SLOPE OF THE HUACHUCA MOUNTAINS.

CONSERVATION AGREEMENT BETWEEN THE SERVICE, ARIZONA GAME AND FISH DEPARTMENT, THE NATURE CONSERVANCY, BUREAU OF LAND MANAGEMENT, CORONADO NATIONAL FOREST, THE US ARMY INTELLIGENCE CENTER AND FORT HUACHUCA, AND A PRIVATE LANDOWNER WAS SIGNED IN AUGUST 1996. SPECIES ALSO OCCURS ON FORT HUACHUCA.

80305135t
Correspondence

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

Arizona Game & Fish
ATTN: Ms. Sherry Ruther, Field Supervisor
555 N Greasewood Road
Tucson, AZ 85745

Dear Ms. Ruther:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

INS is currently in the process of identifying and scoping the projects, as well as, identifying potential impacts. In doing so, the INS will conduct an informal State and Federal Agency scoping meeting. The intent of this meeting is to inform agencies of the USBP's intent to increase infrastructure along the border, explain the proposed activities and to solicit input and concerns.

The scoping meeting will be conducted on June 27, 2002. The meeting will be from 09:00 a.m. to 12:00 p.m. at the Bureau of Land Management's San Pedro Project Office conference room located at 1763 Paseo San Luis Street, Sierra Vista, Arizona, (520) 458-3559.

If you and /or another representative from your staff would like to attend, please RSVP not later than June 20, 2002. We look forward to seeing you at the agency scoping meeting. Please direct questions and RSVPs to Mr. John P. Mire at (225) 757-8088, Fax (225) 761-8077 or email johnm@gsrcorp.com.

Sincerely,

Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

U.S. Department of Agriculture
Natural Resources Conservation Service
Douglas Field Office
ATTN: Mr. Jaque Zamora, District Conservationist
Leslie Canyon Road Route 1, Box 226
Douglas, AZ 85607-9716

Dear Mr. Zamora:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Sincerely,

Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

U.S. Forest Service
ATTN: Mr. Keith Graves
303 Old Tucson Road
Nogales, AZ 85021-4951

Dear Mr. Graves:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Sincerely,

Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

U.S. Forest Service
Coronado National Forest
ATTN: Mr. Doug Hardy
3081 N. Canyon Road
Douglas, AZ 85607

Dear Mr. Hardy:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

INS is currently in the process of identifying and scoping the projects, as well as, identifying potential impacts. In doing so, the INS will conduct an informal State and Federal Agency scoping meeting. The intent of this meeting is to inform agencies of the USBP's intent to increase infrastructure along the border, explain the proposed activities and to solicit input and concerns.

The scoping meeting will be conducted on June 27, 2002. The meeting will be from 09:00 a.m. to 12:00 p.m. at the Bureau of Land Management's San Pedro Project Office conference room located at 1763 Paseo San Luis Street, Sierra Vista, Arizona, (520) 458-3559.

If you and /or another representative from your staff would like to attend, please RSVP not later than June 20, 2002. We look forward to seeing you at the agency scoping meeting. Please direct questions and RSVPs to Mr. John P. Mire at (225) 757-8088, Fax (225) 761-8077 or email johnm@gsrcorp.com.

Sincerely,

Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

National Park Service
Coronado National Memorial
ATTN: Mr. Cliff Spencer
4101 East Montezuma Canyon Road
Hereford, AZ 85615

Dear Mr. Spencer:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Eric W. Verwers

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Director, INS A-E Resource Center

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U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

Bureau of Land Management
San Pedro Project Office
ATTN: Mr. Bill Childress
1763 Paseo San Luis
Sierra Vista, AZ 85635

Dear Mr. Childress:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

Arizona Department of Environmental Quality
Southern Regional Office
ATTN: Mr. Martin McCarthy P.E., Compliance Programs Manager
400 W. Congress, Suite 433
Tucson, AZ 85701

Dear Mr. McCarthy:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Sincerely,

Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

U. S. Fish & Wildlife Service
ATTN: Mr. Mike Coffeen
2321 w. royal Palm Road Suite 103
Phoenix, AZ 85021-4951

Dear Mr. Coffeen:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Sincerely,

Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

U. S. Fish & Wildlife Service
Southern Arizona
ATTN: Ms. Sherry Barret, Assistant Field Supervisor
110 S. Church Ave., Box 52
Tucson, AZ 85701

Dear Ms. Barret:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Sincerely,

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Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service
Architect-Engineer Resource Center

Attention: CESWF-PM-INS
819 Taylor Street, Room 3A28
P.O. Box 17300
Fort Worth, TX 76102-0300

June 6, 2002

U.S. Army Corps of Engineers
Los Angeles District
Phoenix Office
ATTN: Mr. Robert Dummer, Project Manager
3636 N. Central Ave., Suite 760
Phoenix, AZ 85012-1936

Dear Mr. Dummer:

The Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) intends to prepare two USBP Station level Environmental Assessments (EAs) for various USBP projects (i.e., roads, fences and lights) within the 300-foot corridor along the U.S./Mexico International Border. These projects will be within the Naco and Douglas USBP Station boundaries. Please fine The Project Area Map enclosed for your reference.

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Sincerely,

Eric W. Verwers

Eric W. Verwers
Director, INS A-E Resource Center

Enclosure: Project Area Map

U.S. Department of Justice
Immigration and Naturalization Service

INFORMAL AGENCY SCOPING MEETING
FOR
ENVIRONMENTAL ASSESMENTS
FOR THE US BORDER PATROL PROPOSED INFRASTRUCTURE
TUCSON SECTOR
NACO & DOUGLAS STATIONS

Name	Address	Representing
Chris Ingram	7602 GSRI Ave Baton Rouge, LA 70820	Gulf South Research Corp
Bill Childress	1763 Paseo San Luis Sierra Vista, AZ 85635	BLM – San Pedro Manager
Jane Childress	Same ↑	BLM San Pedro Archaeologist
Denver Heath	819 Taylor Street Fort Worth TX 76102	COE / INS
Robert Boatright	2136 S. Naco Highway Bisbee, AZ 85603 520-432-5121	U.S. Border Patrol Naco Station
Dale Buskirk	206 S. 17th Ave. Phoenix, Az 85007	ADOT
Mark Fredlake	BLM San Pedro NRCA 1763 Paseo San Luis SV 85635	BLM
Rey Montoya	1051 W. Lawrence Douglas, Az 85607	USBP
Gary Robison	" "	USBP Douglas Station
Thane Weigand	4101 E. Montezuma Cyn Rd. Hereford, Az. 85615	National Park Sr. Coronado N.M.

Date

U.S. Department of Justice
Immigration and Naturalization Service

INFORMAL AGENCY SCOPING MEETING
FOR
ENVIRONMENTAL ASSESMENTS
FOR THE US BORDER PATROL PROPOSED INFRASTRUCTURE
TUCSON SECTOR
NACO & DOUGLAS STATIONS

Name	Address	Representing
John P. Mice	7620 GSRI Ave Baton Rouge LA 70820	GSRC
Steve Gurzel	US Forest Service 5009 S Hwy 92, Hereford AZ	Sierra Vista R.D. Coronado NF.
Douglas Hardy	US Forest Service 3081 N. Leslie Canyon Rd Douglas AZ	Douglas Ranger District Coronado NF
John E Eyre	ADEQ-SRO 400 W Congress, Ste. 433, Tucson 85701	ADEQ-SRO
Tim Morrison	2141 E. Highland Ave Phoenix, AZ 85016-4736	HDR Eng.
Randy Adams	USBP 1051 El Lawrence, Douglas, AZ 85608	US Border Patrol - Douglas
Kurt Watzek	2141 E Highland Ave Suite 250 Phoenix, AZ 85016	HDR Engineering, Inc.
Jim Mahoney	BLM - SPRNCA 1763 Paseo San Luis Sierra Vista, AZ 85635	U.S. Bureau of Land Mgmt.
Joe Lamphear	24000 Avila Road Laguna Niguel, CA 92677	INS - Western Region Environmental

Date 6-27-02

8030 1356

U.S. Department of Justice
Immigration and Naturalization Service

INFORMAL AGENCY SCOPING MEETING
FOR
ENVIRONMENTAL ASSESMENTS
FOR THE US BORDER PATROL PROPOSED INFRASTRUCTURE
TUCSON SECTOR
NACO & DOUGLAS STATIONS

Name	Address	Representing
Sue Keith	PO Box 12101 Ft Huachuca Az 85670-2101	ADEQ
Placido Dos Santos	400 W. Congress, Ste 433 Tucson, AZ 85701	Az. Dept. of Environmental Quality
Gilbert R Estrada	1570 W Ajo Way Tucson Az 85713	US Border Patrol Tucson Az
Amy Edwards	2141 E. Highland Ave #250 Phoenix AZ 85017	HDR

Date_____

80305135
Meeting

INFORMAL AGENCY SCOPING MEETING AGENDA
IMMIGRATION AND NATURALIZATION SERVICE
ENVIRONMENTAL ASSESMENTS
FOR
USBP PROPOSED INFRASTRUCTURE
TUCSON SECTOR'S
NACO & DOUGLAS STATION

Introduction

a. Southwest Border Strategy (Refer to attached handout)

b. INS and JTF-6 Supplemental PEIS

c. Tucson Sector PEIS

d. Current Situation (Station Level EAs Naco & Douglas)

Meeting Purpose

a. Inform interested agencies of the USBP's intent to construct infrastructure along border areas of Naco Station and Douglas Station to achieve strategic and tactical control along the U.S./Mexico border

b. Informally solicit any interested agency's comments and concerns regarding possible environmental issues and/or suggestions to aid in success of the proposed project by minimizing impacts.

Project Description

a. Proposed Action Alternative

b. Description of Proposed Infrastructure

Review proposed actions in Naco

Review proposed actions in Douglas

Discussion forum

a. Comments & Agency Concerns

Closing remarks

803051356
Meeting/Note
Referenced

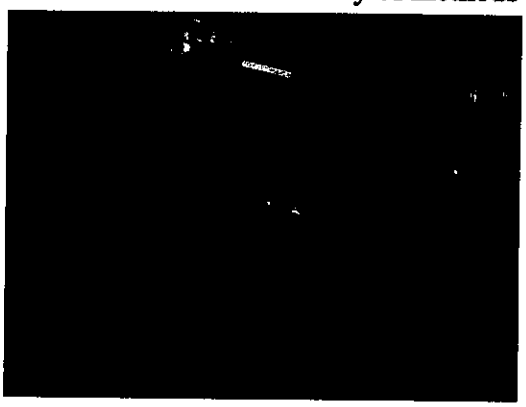
INFORMAL AGENCY SCOPING MEETING HANDOUT
IMMIGRATION AND NATURALIZATION SERVICE
ENVIRONMENTAL ASSESMENTS
FOR
USBP PROPOSED INFRASTRUCTURE
TUCSON SECTOR
NACO & DOUGLAS
STATIONS

The Immigration and Naturalization Service (INS) and its enforcement arm, the US Border Patrol (USBP), are responsible for the control of immigration into the United States. This involves the implementation of immigration laws and the detention of illegal aliens.

The U.S. experiences a substantial influx of illegal immigrants and drugs each year. Both of these illegal activities cost the American citizens billions of dollars annually due directly to criminal activities, as well as the cost of apprehension, detention and incarceration of criminals. Indirectly, costs take the form of loss of property, illegal participation in government programs and increased insurance costs. INS has estimated that there are approximately 7 to 9 million illegal aliens residing in the U.S. and their numbers increased at an average rate of about 275,000 per year between October 1992 and October 1996

The USBP's primary function is to detect and prevent the unlawful entry of aliens and smuggling along the nation's borders. Recent increases in unlawful entry and smuggling, coupled with an increase in illegal drug trafficking, have resulted in the apprehension of over 1.5 million illegal immigrants by the USBP along the southwestern border alone.

Illegal immigrants and/or drug traffickers use many areas of the border to gain access to the U.S. The USBP Tucson Sector uses a variety of methods



U.S. Border Patrol infrastructure on the border.

to detect and deter illegal drug traffickers. Deterrence is effective through the actual presence (24 hours per day, seven days per week) of the USBP agents on the border, fences and other physical (natural and man-made) barriers, lighting, and the knowledge that the illegal entrants will be detected and apprehended. Detection of the illegal traffickers is accomplished through a variety of low-technology and high-technology resources including observing physical signs of illegal entry (vehicle tracks and footprints, clothes, etc.), visual observation of the illegal entries by ground patrols and aerial reconnaissance surveys, information provided by private landowners or the general public, ground sensors and remote video surveillance systems.

The combination of sound infrastructure (e.g., roads, fences, barriers, and ISIS components), adequate resources (e.g., vehicles, field agents, support personnel, etc.) and daily operations is essential for the effective enforcement of the border strategy and integral to the success of the USBP to gain, maintain and extend control of the border.

The INS will prepare an Environmental Assessment (EA) for both the Naco and Douglas Stations to address the potential effects of implementing the required infrastructure along a 300-foot corridor and the U.S./Mexico Border. The proposed infrastructure consists of construction of primary and secondary pedestrian and vehicle barriers, patrol roads, service roads, drag roads, permanent lighting and surveillance equipment. Low-water crossings and one bridge are planned to compliment the above infrastructure.

These EAs will assess the environmental and socioeconomic impacts, adverse and beneficial, of the proposed construction and operation actions. The No Action alternative, as required by the National Environmental Policy Act (NEPA), will also be considered in the EAs. Each EA will provide information regarding the cumulative effects of the INS's activities with that of other governmental agencies and non-governmental entities, as applicable.

This informal scoping meeting is being conducted in order to determine the range of environmental analysis needed, solicit input about sensitive resources and alternate designs, and to invite the participation of the interested State and Federal agencies in the preparation of the EAs. In addition, an important part of the scoping process is to provide a forum that allows comments to the INS relative to the project goals and effects.

U.S. Border Patrol on the border.

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

April 1, 2002

Planning, Environmental and Regulatory Division

U.S. Fish and Wildlife Service
Arizona Ecological Service
ATTN: Mr. David Harlow, Field Supervisor
2321 West Royal Palm Road, Suite 103
Phoenix, AZ 85021-4915

Dear Mr. Harlow:

The U.S. Army Corps of Engineers, Fort Worth District is acting on behalf of the Immigration and Naturalization Service (INS) in preparing an Environmental Assessment (EA) for various Border Patrol projects within a 300-foot corridor along the U.S./Mexico International Border from the western edge of Douglas, AZ to the eastern edge of Naco, AZ (approximately 30 miles).

We are currently in the process of gathering the most current information available regarding Federally listed species potentially occurring within this area of Naco and Douglas, Arizona. A quadrangle map showing the project location is enclosed. The USACE respectfully requests that your agency provide a list of the protected species in Cochise County along with a description of the sensitive resources (e.g., rare or unique plant communities, threatened and endangered and candidate species, etc.) that you believe may be affected by the proposed INS activities. Any information you may have regarding proposed species, potential or known presence, critical habitat areas, general habitat description, distribution and status of these species would be appreciated. Any GIS information, or information sources, you could provide regarding current distribution of protected species would also be greatly appreciated.

We intend to provide your agency with a copy of the Draft EA once it is completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please feel free to call Mr. Charles McGregor at (817) 886-1708.

Sincerely,

William Fickel, Jr.
Chief of Planning, Environmental
and Regulatory Division

Enclosure

R0305135

TCA 50/2.2-C

United States Department of Agriculture
Forest Service
Coronado National Forest
Supervisor's Office
300 W. Congress
Tucson, Arizona 85701
Phone (520) 670-4552
FAX (520) 670-4567
TTY (520) 670-4584

RECEIVED
JUL 18 2002
CHIEF PATROL AGENT
TUCSON, ARIZONA

File Code: 1950-1
Date: July 17, 2002

David V. Aguilar
Chief Patrol Agent
Tucson Sector, U.S. Border Patrol
1970 West Ajo Way
Tucson, AZ 85713-5698

Dear Chief Aguilar:

Members of my staff recently attended an informal agency scoping meeting in Sierra Vista about proposals to develop environmental assessments to expand the U.S. Border Patrol's infrastructure in the Tucson Sector's Naco and Douglas Stations. Based on the preliminary information obtained during the meeting, it appears that roughly the last 4 miles, from Montezuma Pass to border mile marker 103, of the proposed expansion is located on National Forest System lands administered by the Coronado National Forest.

The proposed action consists of constructing primary and secondary pedestrian and vehicle barriers, patrol roads, service roads, drag roads, and installation of permanent lightning and surveillance equipment over a 300-foot wide corridor immediately adjacent to the international border.

Because the majority of the proposal in this segment falls on National Forest System lands, I am asking for cooperating agency status in this NEPA process (reference 40 CFR 1501.5). As designed, this proposal may be in conflict with the *Land and Resource Management Plan for the Coronado National Forest*; an amendment may be necessary before the proposed action could be implemented. The Forest Service is the agency of jurisdiction in this area and I will need to make a separate decision regarding the proposal's affects on National Forest System lands. That decision will be subject to our administrative appeal regulations. I will have my staff work closely with you to make the environmental analysis process work smoothly and ensure we are in compliance with applicable law, regulation, and policy.

I suggest we meet to further discuss and refine this proposal and the associated timelines for the process. I understand the important nature of your work and I will work closely with you to facilitate a timely decision.

Sincerely,

John M. McGee

JOHN M. McGEE
Forest Supervisor

cc: Kurt Watzek HDR Engineering Inc.

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

REP-E
803051356
correspondence

In Reply Refer to:

AESO/SE
2-21-02-I-156

July 25, 2002

Mr. William Fickel, Jr
Department of the Army
Planning, Environmental, and Regulatory Division
P.O. Box 17300
Fort Worth, Texas 76102-0300

RE: U.S. Border Patrol Construction Project, 300 Foot Corridor Along U.S. and Mexico Border and Western Edge of Douglas to Naco Arizona

Dear Mr. Fickel:

This letter responds to your recent request for information on threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may occur in your project area. The Arizona Ecological Service Field Office has posted lists of the endangered, threatened, proposed, and candidate species occurring in each of Arizona's 15 counties on the Internet. Please refer to the following web page for species information in the county where your project occurs: **http://arizonaes.fws.gov**

If you do not have access to the Internet or have difficulty obtaining a list, please contact our office and we will mail or fax you a list as soon as possible.

After opening the web page, find Arizona County/Species List on the main page. Then click on the county of interest. The arrows on the left will guide you through information on species that are listed, proposed, candidates, or have conservation agreements. Here you will find information on the species' status, a physical description, all counties where the species occurs, habitat, elevation, and some general comments. Additional information can be obtained by going back to the main page. On the left side of the screen, click on Document Library, then click on Documents by Species, then click on the name of the species of interest to obtain General Species Information, or other documents when that may be available. Click on the cactus icon to view the desired document.

Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Under the General Species Information, citations for the Federal Register (FR) are included for each listed and proposed species. The FR is available at most public libraries. This information should assist you in determining which species may or may not

occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency will need to request formal consultation with us. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency will need to enter into a section 7 conference. The county list may also contain candidate species. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, we recommend the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona protects some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species in your project area.

For future projects, you do not need to contact our office to obtain a project number. However, for additional communications regarding this project, please refer to consultation number 2-21-02-I-156. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Tom Gatz for projects in northern Arizona or along the Colorado River (x240) or Sherry Barrett for projects in southern Arizona.

Sincerely,

Jacqueline Johnson

Steven L. Spangle
Acting Field Supervisor

cc: John Kennedy, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ

W:\Cathy Gordon\species list letters\doa 300 foot corridor along u.s.mexico border.wpd:cgg

8030 51376
Correspondence

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • WWW.AZGFD.COM

GOVERNOR
JANE DEE HULL
COMMISSIONERS
CHAIRMAN, MICHAEL M. GOLIGHTLY, FLAGSTAFF
JOE CARTER, SAFFORD
SUSAN E. CHILTON, ARIVACA
W. HAYS GILSTRAP, PHOENIX
JOE MELTON, YUMA
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

August 1, 2002

Mr. Williams Fickel, Jr.
Department of the Army
Fort Worth District, Corps of Engineers
PO Box 17300
Fort Worth, TX 76102-0300

Re: Special Status Species Information for **Arizona/Mexico International Border, San Pedro River to Black Water Draw (Naco and Douglas Stations); Border Patrol.**

Dear Mr. Fickel:

The Arizona Game and Fish Department (Department) has reviewed your request, dated July 23, 2002, regarding special status species information associated with the above-referenced project area. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachment have been documented as occurring in the project area (5-mile buffer). In addition, this project occurs in the vicinity of any designated Critical Habitats for the loachminnow and spikedace (San Pedro River) and the Yaqui catfish, Yaqui shiner, and Yaqui chub (Black Water Draw).

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation. The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

The Department, at this time, is unable to provide you with any information relative to potential project-related impacts to wildlife resources that might occur in the study area. We will require information on the locations of specific activities, at a minimum, in order to provide you with more specific comments. Whenever this information becomes available, please forward it to the Department so that we might assist you in identifying potential impacts to wildlife resources.

If you have any questions regarding the attached species list, please contact me at (602) 789-3618. General status information, state-wide and county distribution lists, and abstracts for some special status species are also available on our web site at: http://www.azgfd.com/frames/fishwild/hdms_site/Home.htm.

Sincerely,

Sabra S. Schwartz
Heritage Data Management System, Coordinator

SSS:ss

Attachment

cc: Bob Broscheid, Project Evaluation Program Supervisor
Joan Scott, Habitat Program Manager, Region V

AGFD #7-19-02(16)

Special Status Species within 5 Miles of AZ/Mexico Border, San Pedro River to Black Water Draw

Arizona Game and Fish Department, Heritage Data Management System
August 1, 2002

Scientific Name	Common Name	ESA	USFS	BLM	WSCA
AGOSIA CHRYSOGASTER	LONGFIN DACE	SC		S	
AMMODRAMUS BAIRDII	BAIRD'S SPARROW	SC			WC
CAMPOSTOMA ORNATUM	MEXICAN STONEROLLER	SC	S		
CAREX CHIHUAHUENSIS	A SEDGE		S		
CLEOME MULTICAULIS	PLAYA SPIDER PLANT	SC			
COCCYZUS AMERICANUS	YELLOW-BILLED CUCKOO	C	S		WC
CYPRINELLA FORMOSA	BEAUTIFUL SHINER	LT			WC
ECHINOCEREUS PECTINATUS VAR PECTINATUS	TEXAS RAINBOW CACTUS				
EUMOPS PEROTIS CALIFORNICUS	GREATER WESTERN MASTIFF BAT	SC			
GILA PURPUREA	YAQUI CHUB	LE			WC
IBERVILLEA TENUISECTA	TEXAS GLOBE BERRY			S	
ICTALURUS PRICEI	YAQUI CATFISH	LT			WC
LASIURUS BLOSSEVILLII	WESTERN RED BAT				WC
LASIURUS XANTHINUS	WESTERN YELLOW BAT				WC
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE	S		WC
LILAEOPSIS SCHAFFNERIANA VAR RECURVA	HUACHUCA WATER UMBEL	LE			
MYOTIS VELIFER	CAVE MYOTIS	SC		S	
PENIOCEREUS GREGGII VAR GREGGII	NIGHT-BLOOMING CEREUS	SC			
PHRYNOSOMA CORNUTUM	TEXAS HORNED LIZARD	SC		S	
PHYSALIS LATIPHYSA	BROAD-LEAF GROUND-CHERRY		S		
POECILIOPSIS OCCIDENTALIS SONORIENSIS	YAQUI TOPMINNOW	LE			WC
PYRGULOPSIS BERNARDINA	SAN BERNARDINO SPRINGSNAIL	SC	S	S	
RANA CHIRICAHUENSIS	CHIRICAHUA LEOPARD FROG	PT	S		WC
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC	S		WC
SIGMODON OCHROGNATHUS	YELLOW-NOSED COTTON RAT	SC			
THAMNOPHIS EQUES MEGALOPS	MEXICAN GARTER SNAKE	SC	S		WC
TYRANNUS MELANCHOLICUS	TROPICAL KINGBIRD				WC

Critical Habitats for the loachminnow, spikedace (San Pedro River) and Yaqui chub, Yaqui shiner, and Yaqui catfish (Black Water Draw) in project area. AGFD# 7-19-02(16), Border Patrol activities, Douglas and Naco Districts.

STATUS DEFINITIONS

ARIZONA GAME AND FISH DEPARTMENT (AGFD)
HERITAGE DATA MANAGEMENT SYSTEM (HDMS)

FEDERAL US STATUS

ESA **Endangered Species Act** (1973 as amended)
US Department of Interior, Fish and Wildlife Service (http://arizonaes.fws.gov)

Listed

- **LE** Listed Endangered: imminent jeopardy of extinction.
- **LT** Listed Threatened: imminent jeopardy of becoming Endangered.
- **XN** Experimental Nonessential population.

Proposed for Listing

- **PE** Proposed Endangered.
- **PT** Proposed Threatened.

Candidate (Notice of Review: 1999)

- **C** Candidate. Species for which USFWS has sufficient information on biological vulnerability and threats to support proposals to list as Endangered or Threatened under ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.
- **SC** Species of Concern. The terms "Species of Concern" or "Species at Risk" should be considered as terms-of-art that describe the entire realm of taxa whose conservation status may be of concern to the US Fish and Wildlife Service, but neither term has official status (currently all former C2 species).

Critical Habitat (check with state or regional USFWS office for location details)

- **Y** Yes: Critical Habitat has been designated.
- **P** Proposed: Critical Habitat has been proposed.

[\N No Status: certain populations of this taxon do not have designated status (check with state or regional USFWS office for details about which populations have designated status)].

USFS **US Forest Service** (1999 Animals, 1999 Plants: corrected 2000)
US Department of Agriculture, Forest Service, Region 3 (http://www.fs.fed.us/r3/)

- **S** Sensitive: those taxa occurring on National Forests in Arizona which are considered sensitive by the Regional Forester.

BLM **US Bureau of Land Management** (2000 Animals, 2000 Plants)
US Department of Interior, Bureau of Land Management, Arizona State Office (http://azwww.az.blm.gov)

- **S** Sensitive: those taxa occurring on BLM Field Office Lands in Arizona which are considered sensitive by the Arizona State Office.
- **P** Population: only those populations of Banded Gila monster (*Heloderma suspectum cinctum*) that occur north and west of the Colorado River, are considered sensitive by the Arizona State Office.

TRIBAL STATUS

NESL **Navajo Endangered Species List** (2000)
Navajo Nation, Navajo Fish and Wildlife Department
(http://www.heritage.tnc.org/nhp/us/navajo/esl.html)

The Navajo Endangered Species List contains taxa with status from the entire Navajo Nation which includes parts of Arizona, Utah, and New Mexico. In this notebook we provide NESL status for only those taxa whose distribution includes part or all of the Arizona portion of the Navajo Nation.

Groups

- **1** Those species or subspecies that no longer occur on the Navajo Nation.
- **2** Any species or subspecies which is in danger of being eliminated from all or a significant portion of its range on the Navajo Nation.
- **3** Any species or subspecies which is likely to become an endangered species, within the foreseeable future, throughout all or a significant portion of its range on the Navajo Nation.
- **4** Any species or subspecies for which the Navajo Fish and Wildlife Department (NF&WD) does not currently have sufficient information to support their being listed in Group 2 or Group 3 but has reason to consider them. The NF&WD will actively seek information on these species to determine if they warrant inclusion in a different group or removal from the list.

MEXICAN STATUS

MEX **Mexican Federal Endangered Species List** (October 16, 2000)
Proyecto de Norma Oficial Mexicana PROY-NOM-059-ECOL-2000

The Mexican Federal Endangered Species List contains taxa with status from the entire Mexican Republic and waters under its jurisdiction. In this notebook we provide MEX designations for only those taxa occurring in Arizona and also in Mexico.

- **P** En Peligro de Extinción(Determined Endangered in Mexico): in danger of extinction.
- **A** Amenazada (Determined Threatened in Mexico): could become endangered if factors causing habitat deterioration or population decline continue.
- **Pr** Sujeta a ProtecciónEspecial (Determined Subject to Special Protection in Mexico): utilization limited due to reduced populations, restricted distribution, or to favor recovery and conservation of the taxon or associated taxa.
- **E** Probablemente extinta en el medio silvestre (Probably extinct in the wild of Mexico): A native species whose individuals in the wild have disappeared, based on pertinent documentation and studies that prove it. The only existing individuals of the species are in captivity or outside the Mexican territory.

[| = One or more subspecies of this species has status in Mexico, but the HDMS does not track it at the subspecies level (most of these subspecies are endemic to Mexico). Please consult the NORMA Oficial Mexicana PROY-NOM-059-ECOL-2000 for details.]

STATE STATUS

NPL **Arizona Native Plant Law** (1999)
Arizona Department of Agriculture (http://agriculture.state.az.us/PSD/nativeplants.htm)

- **HS** Highly Safeguarded: no collection allowed.
- **SR** Salvage Restricted: collection only with permit.
- **ER** Export Restricted: transport out of State prohibited.
- **SA** Salvage Assessed: permits required to remove live trees.
- **HR** Harvest Restricted: permits required to remove plant by-products.

WSCA **Wildlife of Special Concern in Arizona** (1996 in prep)
Arizona Game and Fish Department (http://www.azgfd.com)

- **WC** Wildlife of Special Concern in Arizona. Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Arizona Game and Fish Department's listing of Wildlife of Special Concern in Arizona (WSCA, in prep). Species indicated on printouts as WC are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

U.S. Department of Justice
Immigration and Naturalization Service
U.S. Border Patrol

TCA 50/2.2-C

Office of the Chief Patrol Agent

1970 *W. Ajo Way*
Tucson, AZ 85713
(520) 670-6871

August 1, 2002

Mr. John M. McGee
Forest Supervisor
300 W. Congress
Tucson, Arizona 85701

RE: File Code 1950-1
Letter dated 17 July 2002

Dear Mr. McGee:

This letter is in response to your letter, referenced above, requesting cooperating agency status during the preparation of the U.S. Border Patrol's Naco and Douglas Stations environmental assessments (EA). We welcome the opportunity to have the U.S. Forest Service as a cooperating agency during the NEPA process and would appreciate any assistance you could provide in developing an EA that not only addresses the needs and mission of two agencies, but also protects the environment to the extent practicable.

To this end, I request that you identify the level of assistance that your agency is willing to provide. This assistance can be agreed upon at the meeting you suggested. My Senior Tactical Coordinator, Mr. Gilbert Estrada, will coordinate with your staff regarding a convenient time and place for that meeting. I would anticipate, at a minimum, that we would have your staff involved in our internal review process and any interagency coordination meetings. This effort would ensure that actions that we ultimately propose are in compliance with the *Land and Resource Management Plan for the Coronado National Forest*, or that the plan could be easily amended to accommodate the proposed action.

In the meantime, if you have any questions, please do not hesitate to call Mr. Estrada at (520) 584-4006 or me at (520) 670-6871. I thank you in advance for your cooperation and assistance.

Sincerely,

David V. Aguilar
Chief Patrol Agent
Tucson Sector, U.S. Border Patrol

cc: Mr. Ken Ehinger, Director Facilities and Engineering Division, HQ INS
Gilbert Estrada, Senior Tactical Coordinator, USBP Tucson Sector
Amy Edwards, HDR Engineering
Denver Heath, Assistant Director, INS AERC
Chris Ingram, GSRC

80305135

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 760
PHOENIX, ARIZONA 85012-1936

August 2, 2002

REPLY TO

Office of the Chief
Regulatory Branch

Mr. Eric W. Verwers
U.S. Army Corps of Engineers
Attention: CESWF-PM-INS
P.O. Box 17300
Fort Worth, Texas 76102-0300

File Number: 2002-01248-RJD

Dear Mr. Verwers:

It has come to our attention that the Immigration and Naturalization Service and U.S. Border Patrol intend to construct various improvements, including road crossings, in the washes that flow across a 300-foot wide corridor along a 55-mile reach of the U.S./Mexico International Border near Douglas and Naco, Cochise County, Arizona.

These improvements may require a Department of the Army permit issued under Section 404 of the Clean Water Act. A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity.

Enclosed you will find a permit application form and a pamphlet that describes our regulatory program. If you have questions, please contact Robert J. Dummer at (602) 640-5385 x 224. Please refer to file number 2002-01248-RJD in your reply.

Sincerely,

/signed/

Cindy Lester
Chief, Arizona Section
Regulatory Branch

Enclosure(s)

Copies Furnished:
(Without Enclosures)

[redacted]
Gulf South Research Corporation
P.O. Box 83564
Baton Rouge, Louisiana 70884

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

For John Mine (I think!)

80365135G
Corres

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Mr. James Garrison, State Historic Preservation Officer
ATTN: Ms. Joanne Medley
Arizona State Parks
1300 West Washington
Phoenix, Arizona 85007

Dear Mr. Garrison:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), is continuing the consultation process with your office regarding the proposed project noted above within the Naco-Douglas corridor.

The proposed action would involve construction (26 miles in Douglas and 31 miles in Naco) of a seamless barrier system (which includes construction of patrol roads drag roads, permanent lights, primary and secondary barriers and accompanying drainage structures) consisting of a 300 ft enforcement zone along the U.S.-Mexico border. However, a small portion of the enforcement zone within Douglas would be as narrow as 60 feet.

This system would satisfy tactical considerations, including line-of-sight, in such a manner that USBP agents consistently occupy a strategically superior position. These considerations dictate a project alignment that is maintained within a virtually straight and parallel corridor. This alternative would provide an enforcement zone that is 60 to 300 feet wide the from the border. Implementation of the proposed infrastructure would provide a level of control that will accommodate present and future tactical needs and allow the USBP to gain and maintain control of the border region. This design would ensure and convey absolute certainty of apprehension, thereby enhancing the overall deterrent effect. The all weather access to rural areas within the project area would also provide additional safety for the USBP agents. This alternative would provide the most effective means to satisfy the mission of the USBP.

As this undertaking is a continuation of proposed projects within the Naco-Douglas corridor, an archaeological survey has been accomplished for the extended area (this includes 300 feet north of the border). Once the results of the survey are known and you have time to review the draft survey report, we will seek the appropriate determinations in accordance with 36 CFR Part 800.

If you require any additional information at this time please contact Ms. Patience Patterson of my staff at (817) 886-1723.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy furnished w/o enclosures

Charles H. Parsons
Regional Environmental Officer
Immigration and Naturalization Service
Administrative Center Laguna
P.O. Box 30080 Laguna Niguel, CA 92607-0080

Mr. Gilbert R. Estrada
Senior Tactical Coordinator
United State Border Patrol
Tucson Sector
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Honorable Delia Carlyle, Chairperson
Ak Chin Indian Community Council
42507 W. Peters & Nall Road
Maricopa, AZ 85239

Dear Chairperson Carlyle:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), wishes to continue consultation in this area and to solicit your comments on this project. We also have initiated the Section 106 coordination process with the Arizona State Historic Preservation Officer (SHPO) for this project as noted in 36 CFR Part 800.3.

The proposed action would involve construction (26 miles in Douglas and 31 miles in Naco) of a seamless barrier system (which includes construction of patrol roads drag roads, permanent lights, primary and secondary barriers and accompanying drainage structures) consisting of a 300 ft enforcement zone along the U.S.-Mexico border. However, a small portion of the enforcement zone within Douglas would be as narrow as 60 feet.

This system would satisfy tactical considerations, including line-of-sight, in such a manner that USBP agents consistently occupy a strategically superior position. These considerations dictate a project alignment that is maintained within a virtually straight and parallel corridor. This alternative would provide an enforcement zone that is 60 to 300 feet wide the from the border. Implementation of the proposed infrastructure would provide a level of control that will accommodate present and future tactical needs and allow the USBP to gain and maintain control of the border region. This design would ensure and convey absolute certainty of apprehension, thereby enhancing the overall deterrent effect. The all weather access to rural areas within the project area would also provide additional safety for the USBP agents. This alternative would provide the most effective means to satisfy the mission of the USBP.

As this undertaking is a continuation of proposed projects within the Naco-Douglas corridor, an archaeological survey has been accomplished for the extended area (this includes 300 feet north of the border). Once the results of the survey are known, we will seek the appropriate determinations from the SHPO in accordance with 36 CFR Part 800. We will provide you with a copy of the archaeological survey report and a copy of the draft Environmental Assessment for your review and comment.

If you require any additional information at this time please contact Ms. Patience Patterson of my staff at (817) 886-1723.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy furnished w/o enclosures

Charles H. Parsons
Regional Environmental Officer
Immigration and Naturalization Service
Administrative Center Laguna
P.O. Box 30080 Laguna Niguel, CA 92607-0080

Mr. Gilbert R. Estrada
Senior Tactical Coordinator
United State Border Patrol
Tucson Sector
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Honorable Donald R. Antone, Governor
Gila River Indian Community Council
P.O. Box 97
Sacaton, AZ 85247

Dear Governor Antone:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), wishes to continue consultation in this area and to solicit your comments on this project. We also have initiated the Section 106 coordination process with the Arizona State Historic Preservation Officer (SHPO) for this project as noted in 36 CFR Part 800.3.

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Honorable Wayne Taylor, Jr., Chairman
ATTN: Mr. Leigh J. Kuwanwisiwma
Hopi Tribal Council
P.O. Box 123
Kykotsmovi, AZ 86039

Dear Chairman Taylor:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), wishes to continue consultation in this area and to solicit your comments on this project. We also have initiated the Section 106 coordination process with the Arizona State Historic Preservation Officer (SHPO) for this project as noted in 36 CFR Part 800.3.

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Honorable Ivan Makil, President
Salt River Pima-Maricopa Indian Community Council
10005 E. Osborn
Scottsdale, AZ 85256

Dear President Makil:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), wishes to continue consultation in this area and to solicit your comments on this project. We also have initiated the Section 106 coordination process with the Arizona State Historic Preservation Officer (SHPO) for this project as noted in 36 CFR Part 800.3.

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Honorable Raymond Stanley, Jr., Chairman
San Carlos Tribal Council
P.O. Box 0
San Carlos, AZ 85550

Dear Chairman Stanley:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), wishes to continue consultation in this area and to solicit your comments on this project. We also have initiated the Section 106 coordination process with the Arizona State Historic Preservation Officer (SHPO) for this project as noted in 36 CFR Part 800.3.

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Honorable Edward Manuel, Chairman
ATTN: Mr. Peter Steere, Cultural Resources Manager
Tohono O'odham Nation
P.O. Box 837
Sells, AZ 85634

Dear Chairman Manuel:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), wishes to continue consultation in this area and to solicit your comments on this project. We also have initiated the Section 106 coordination process with the Arizona State Historic Preservation Officer (SHPO) for this project as noted in 36 CFR Part 800.3.

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERSS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 19, 2002

Planning, Environmental and Regulatory Division

SUBJECT: Proposed Immigration & Naturalization Service (INS) Naco-Douglas Station Level Environmental Assessments

Honorable Dallas Massey, Sr., Chairman
White Mountain Apache Tribal Council
202 East Walnut Street
Whiteriver, AZ 85941

Dear Chairman Massey:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, the Fort Worth District of the US Army Corps of Engineers, acting on behalf of the Immigration and Naturalization Service (INS) and the US Border Patrol (USBP), wishes to continue consultation in this area and to solicit your comments on this project. We also have initiated the Section 106 coordination process with the Arizona State Historic Preservation Officer (SHPO) for this project as noted in 36 CFR Part 800.3.

The proposed action would involve construction (26 miles in Douglas and 31 miles in Naco) of a seamless barrier system (which includes construction of patrol roads drag roads, permanent lights, primary and secondary barriers and accompanying drainage structures) consisting of a 300 ft enforcement zone along the U.S.-Mexico border. However, a small portion of the enforcement zone within Douglas would be as narrow as 60 feet.

This system would satisfy tactical considerations, including line-of-sight, in such a manner that USBP agents consistently occupy a strategically superior position. These considerations dictate a project alignment that is maintained within a virtually straight and parallel corridor. This alternative would provide an enforcement zone that is 60 to 300 feet wide the from the border. Implementation of the proposed infrastructure would provide a level of control that will accommodate present and future tactical needs and allow the USBP to gain and maintain control of the border region. This design would ensure and convey absolute certainty of apprehension, thereby enhancing the overall deterrent effect. The all weather access to rural areas within the project area would also provide additional safety for the USBP agents. This alternative would provide the most effective means to satisfy the mission of the USBP.

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

July 5, 2002

Planning, Environmental, and Regulatory Division

SUBJECT: U.S. Immigration and Naturalization/ U.S. Border Patrol Projects Along the U.S.- Mexico Border

Arizona Game and Fish Department
Regional Supervisor
ATTN: Mr. Jerry Perry
555 North Greasewood Road
Tucson, AZ 85745

Dear Mr. Perry:

The U.S. Army Corps of Engineers (USACE), Fort Worth District, is acting on behalf of the U.S. Immigration and Naturalization Service (INS), in preparing two Environmental Assessments (EAs) for various U.S. Border Patrol (USBP) projects (construction of fences, all weather border patrol roads, drag roads, permanent lights and low-water crossings) within a 300-foot corridor along the U.S.- Mexico International Border within the USBP Naco and Douglas Stations in Southeastern Arizona.

Enclosed is a quadrangle map identifying the project area. We are currently in the process of gathering the most current information available regarding state listed species potentially occurring within this area of Naco and Douglas, Arizona. USACE respectfully requests that your agency provide a list of the protected species of Cochise County along with a description of the sensitive resources (e.g., rare or unique plant communities, threatened and endangered and candidate species, etc.) that you believe may be affected by the proposed activities. Any information you may have regarding critical habitat areas for these species would also be greatly appreciated.

We intend to provide your agency with a copy of the Draft EAs once they are completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EAs.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please feel free to call Mr. Charles McGregor at (817) 886-1708.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental, and
Regulatory Division

Enclosure

STATE STATUS

NPL **Arizona Native Plant Law** (1999)
Arizona Department of Agriculture (http://agriculture.state.az.us/PSD/nativeplants.htm)

- **HS** Highly Safeguarded: no collection allowed.
- **SR** Salvage Restricted: collection only with permit.
- **ER** Export Restricted: transport out of State prohibited.
- **SA** Salvage Assessed: permits required to remove live trees.
- **HR** Harvest Restricted: permits required to remove plant by-products.

WSCA **Wildlife of Special Concern in Arizona** (1996 in prep)
Arizona Game and Fish Department (http://www.azgfd.com)

- **WC** Wildlife of Special Concern in Arizona. Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Arizona Game and Fish Department's listing of Wildlife of Special Concern in Arizona (WSCA, in prep). Species indicated on printouts as WC are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

Revised 10/3/01, AGFD HDMS
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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS

819 TAYLOR STREET, P.O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO ATTENTION OF:

April 30, 2003

Planning, Environmental, and Regulatory Division

U.S. Fish and Wildlife Service
ATTN: Dave Harlow
2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951

Dear Mr. Harlow,

The U.S. Army Corps of Engineers is currently in the preliminary stages of preparing a Supplemental Environmental Assessment (SEA) that addresses U.S. Border Patrol (USBP) border infrastructure projects along approximately 49 miles of U.S.-Mexico border (project corridor) within the USBP Naco and Douglas Stations' areas of operation. This document will supplement the 2000 Final EA for Infrastructure Projects within the Naco-Douglas Corridor, Arizona, which addressed on-going and future projects in a more programmatic nature. This SEA identifies and assesses specific projects that were generally described in the 2000 EA. These projects include combinations of new and improved patrol roads, permanent lighting, primary and secondary fencing, and vehicle barriers.

The USBP acknowledges that many areas of the border within the project corridor would not require all of these infrastructure components. Consequently, the USBP has developed a prioritized approach that best secures the U.S. border and minimizes effects to the natural environment such as species protected by the Endangered Species Act.

In spite of the USBP's efforts to minimize such impacts, the team preparing the SEA has determined that an effect to critical habitat of the spike dace and loach minnow, which occurs within the San Pedro River, may occur. These effects might occur relative to the construction of a low water crossing and vehicle barriers across the San Pedro River. In addition, as with any road construction and/or improvements in southern Arizona, water required for construction may affect critical habitat and/or other listed species due to the current recharge deficits being experienced in the Upper San Pedro Basin.

The USBP wishes to inform you that a public review draft will be released in the very near future and a copy of this draft document will be forwarded to you and your staff for review. Also, because of the "may affect" determination the document states that formal consultation under Section 7 of the ESA will be required. It is our intention, therefore, to initiate informal consultation with you as soon as possible so that we can begin preparation of a biological assessment (BA). Formal consultation will be requested once the BA is completed.

We look forward to working with you on this consultation. If you have any questions, or require additional information, please contact Rob Newman of my staff at the address above or by telephone at (817) 886 - 1762. Thank you for your prompt attention and cooperation.

Sincerely,

Paul M. Hathorn
Chief, Environmental Resources Branch

Copies furnished:

Mr. Maurice Moore, ACPA Tucson Sector
Mr. Gilbert Estrada, USBP Tucson Sector
Mr. Randy Gallegos, HQ BOR
Mr. Kevin Feeney, HQ DHS
Mr. Chuck Parsons, DHS Western Region
Ms. Elizabeth Gaffin, HQ INS Legal Counsel

Appendix C
LIST OF ARIZONA PROTECTED SPECIES OCCURING IN COCHISE COUNTY

Appendix C
State Protected Species of Potential Occurrence in Cochise County, Arizona

Common Name	Scientific Name	WSCA Status	NPL Status
MAMMALS			
Mexican long-tongued bat	*Choeronycteris mexicana*	WC	--
western red bat	*Lasiurus blossevillii*	WC	--
western yellow bat	*Lasiurus xanthinus*	WC	--
lesser long-nosed bat	*Leptonycteris curasoae yerbabuenae*	WC	--
jaguar	*Panthera onca*	WC	--
Arizona shrew	*Sorex arizonae*	WC	--
BIRDS			
northern goshawk	*Accipiter gentilis*	WC	--
violet-crowned hummingbird	*Amazilia violiceps*	WC	--
Baird's sparrow	*Ammodramus bairdii ammordramus*	WC	--
northern gray hawk	*Asturina nitida maxima*	WC	--
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	WC	--
black-bellied whistling duck	*Dendrocygna autumnalis*	WC	--
northern buff-breasted flycatcher	*Empidonax fulvifrons pygmaeus*	WC	--
southwestern willow flycatcher	*Empidonax traillii extimus*	WC	--
American peregrine falcon	*Falco peregrinus anatum*	WC	--
Mexican spotted owl	*Strix occidentalis lucida*	WC	--
elegant trogon	*Trogon elegans tyrannus*	WC	--
thick-billed kingbird	*Crassirostris tyrannus*	WC	--
tropical kingbird	*Melancholicus agosia*	WC	--
REPTILES			
Arizona ridgenose rattlesnake	*Crotalus willardi willardi*	WC	--
Sonoran desert tortoise	*Gopherus agassizii*	WC	--
desert massasauga	*Sistrurus catenatus edwardsi*	WC	--
Mexican garter snake	*Thamnophis eques megalops*	WC	--
AMPHIBIANS			
Sonoran tiger salamander	*Ambystoma tigrinum stebbinsi*	WC	--
western barking frog	*Eleutherodactylus augusti cactorum*	WC	--
plains leopard frog	*Rana blairi*	WC	--
Chiricahua leopard frog	*Rana chiricahuensis*	WC	--
Ramsey Canyon leopard frog	*Rana subaquavocalis*	WC	--
lowland leopard frog	*Rana yavapaiensis*	WC	--
FISH			
Mexican stoneroller	*Campostoma ornatum*	WC	--
beautiful shiner	*Cyprinella formosa*	WC	
Yaqui chub	*Gila purpurea*	WC	--
Yaqui topminnow	*Poeciliopsis occidentalis sonoriensis*	WC	--
PLANTS			
plummer onion	*Allium plummerae*	--	SR
redflower onion	*Allium rhizomatum*	--	SR

Cochise County Continued.

Common Name	Scientific Name	WSCA Status	NPL Status
chiricahua rock flower	*Apacheria chiricahueniss*	--	SR
coppermine milk-vetch	*Cobrensis var. maguirei*	--	SR
Huachuca milk-vetch	*Astragalus hypoxylus*	--	SR
playa spider plant	*Cleome multicaulis*	--	SR
Cochise pincushion cactus	*Coryphantha robbinsorum*	--	HS
slender needle corycactus	*Coryphantha scheeri var. valida*	--	SR
cob corycactus	*Coryphantha strobiliformis*	--	SR
pinaleno hedgehod cactus	*Echinocereus ledingii*	--	SR
Texas rainbow cactus	*Echinocereus pectinatus var. pectinatus*	--	SR
needle-spined pineapple cactus	*Echinomastus erectocentrus var. erectocentrus*	--	SR
button cactus	*Epithelantha micromeris*	--	SR
chiricahua fleabane	*Erigeron kuschei*	--	SR
lemmon fleabane	*Erigeron lemmonii*	--	HS
woodland spurge	*Euphorbia macropus*	--	SR
Wislizeni gentian	*Gentianella wislizeni*	--	SR
Bartram stonecrop	*Graptopetalum bartramii*	--	SR
crested coral root	*Hexalectris spicata*	--	SR
Texas purple spike	*Hexalectris warnockii*	--	HS
Huachuca water umbel	*Lilaeopsis schaffneriana var. recurva*	--	HS
lemmon lily	*Lilium parryi*	--	SR
Madrean adders mouth	*Malaxis corymbosa*	--	SR
purple adders mouth	*Malaxis porphyrea*	--	SR
slender adders mouth	*Malaxis tenuis*	--	SR
varied fishhook cactus	*Mammillaria viridiflora*	--	SR
Wilcox fishook cactus	*Mammillaria wrightii var. wilcoxii*	--	SR
night-blooming cereus	*Peniocereus greggii var. greggii*	--	SR
catalina beardtongue	*Penstemon discolor*	--	HS
Chiricahua rock daisy	*Perityle cochisensis*	--	SR
Thurber's bog orchid	*Platanthera limosa*	--	SR
blumer's dock	*Rumex orthoneurus*	--	HS
fallen ladies'-tresses	*Schiedeella parasitica*	--	SR
Huachuca groundsel	*Senecio huachucanus*	--	HS
Michoacan ladies'-tresses	*Stenorrhynchos michuacanus*	--	SR
tepic flame flower	*Talinum marginatum*	--	SR
limestone Arizona rosewood	*Vauquelinia californica* spp. *pauciflora*	--	SR
green death camas	*Zigadenus virescens*	--	SR

Legend: WSCA – Wildlife of Special Concern in Arizona
NPL – Arizona Native Plant Law
E – Federally Endangered
T – Federally Threatened
C – Candidate
PT – Proposed Threatened
SC – Species of Concern
WC – Wildlife of Special Concern
SR – Salvage Restricted: collection only with permit
HS– Harvest Restricted: permits required to remove plant by-products

Source: Arizona Game and Fish Department 2003. Last Updated by AGFD, January, 2003.

Appendix D
AIR QUALITY IMPACT AND CONFORMITY ANALYSIS

NACO AND DOUGLAS STATIONS LEVEL INFRASTRUCTURE PROJECTS
ENVIRONMENTAL ASSESSMENT
AIR QUALITY IMPACT AND CONFORMITY ANALYSIS

1.0 Overview as Related to Air Emissions

The United States Border Patrol (USBP) proposes two projects to construct four roads within the 300 foot corridor of the enforcement zone in Cochise County, Arizona. A detailed description of the projects is included in the preceding sections of this document. Part of Cochise County is classified as a Nonattainment Area for sulfur dioxide (SO_2) and as a moderate Nonattainment Area for particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}). Emissions of these two pollutants from the projects are addressed in this section as they relate to the General Conformity Rule under the Clean Air Act (CAA).

Construction activities will be conducted on ten day rotations for approximately seventy-five days annually. The construction will take place on two separate projects: the Naco Station Level Infrastructure Project and the Douglas Station Level Infrastructure Project. The Naco project will be approximately thirty-one miles and the Douglas project approximately twenty-six miles. Sources of air emissions associated with construction will include SO_2 from combustion engines and PM_{10} emissions from vehicle traffic on unpaved roads, bulldozing and compacting, grading, loading excavated material to trucks and dumping, scraping, and blasting. Emissions from unpaved roads will result from construction vehicle traffic, such as, light trucks (pickup trucks), busses, dump trucks, heavy trucks (tractor-trailers), and water trucks. The water trucks will apply water to the road surface to control fugitive dust emissions from vehicle traffic and other construction activities.

Currently, the USBP patrols a degraded unpaved road along the border. Large sections of the border do not have road access at all. USBP agents patrol the area using four wheel drive vehicles, all-terrain vehicles (ATVs), bicycles, and horses. Drag roads are used as an essential tool in detecting illegal border crossings. During dragging operations, road surfaces are smoothed to show fresh signs of illegal alien crossings. After construction, agents will patrol and drag the area in much the same manner.

2.0 Air Emissions Estimations

Increases in air emissions due to the two proposed projects have been evaluated to determine the applicability of the General Conformity Rule (discussed in Section 3.0 below). Increased air emissions are expected during road construction. Air emissions due to routine patrol activities are expected to be the same before and after the construction of the new roads; therefore, the air emissions evaluation is focused only on emissions from road construction activities.

Generally, emission factors from the Environmental Protection Agency's (EPA) Compilation of Air Pollutant Emission Factors AP-42, Fifth Edition, Volume I: *Stationary Point and Area Sources* were used to estimate emissions. Additional sources were EPA's Air/Superfund National Technical Guidance Study Series: *Estimation of Air Impacts from Area Sources of Particulate Matter Emissions at Superfund* Sites (EPA-451/R-93-004), the National Climatic Data Center's (NCDC) *Climatic Wind Data for the*

United States, and Revised Universal Soil Loss Equation (RUSLE) Related Attributes. Supporting emission calculations are provided as part of this analysis.

Sulfur dioxide emissions were calculated based on AP-42 Section 3.3 Table 3.3-1. SO_2 emission factors in pounds per million British thermal units (lb/MM Btu) for from gasoline and diesel fuel were converted to weight per volume (lb/1,000 gallons) of fuel used. Fuel usage was derived from the average mileage of each vehicle and the estimated hourly and annual miles traveled.

A summary of the resulting SO_2 emissions estimates is provided in Table 2-1 below. Detailed assumptions and calculations are presented in Appendix A.

Table 2-1
SO_2 Emissions Summary

Construction Activity	Naco Station Project (tons/yr)	Douglas Station Project (tons/yr)
Light Truck	0.001	0.001
Bus	0.001	0.001
Dump Truck	0.05	0.05
Heavy Truck (Tractor-Trailer)	Negligible	Negligible
Water Truck	0.07	0.07
Bulldozers/Graders	0.45	0.45
Scrapers	0.001	0.001
Total Emissions	0.57	0.57

Particulate emissions from unpaved roads was calculated using AP-42 Section 13.2.2 Equation (2). The equation calculates an emission factor in pounds per vehicle mile traveled using the surface material moisture content, the mean vehicle weight, and the surface material silt content. The moisture content was obtained from the AP-42 Section 13.2.2 Related Information document. Water sprays will be used every half hour to saturate loose soil at the construction site. Based on AP-42, it is estimated that thoroughly watered soil will hold approximately 20% moisture. Based on the silt content obtained from Cochise County RUSLE Related Attributes it was determined that the silt content range maximum provided for Equation (2) should be used. Equation (2) requires the mean vehicle weight rather than individual vehicles types. Also, the equation was developed for use at vehicle speeds greater than fifteen miles per hour. Construction equipment generally travels at lower speeds; therefore, the weighted average speed was determined and used to develop a correction coefficient (S/15) for speeds less than fifteen miles per hour. Vehicle miles traveled was determined from the greatest distance between access roads and the number of round trips required to support construction operations.

Particulate emissions from bulldozing and compacting was determined using AP-42 Sections 13.2.3 and 11.9. It was assumed that three bulldozers will operate at each project site and operations will occur during 100% of operating hours (600 hours per year). Particulate emissions from grading operations were also determined using AP-42 Sections 13.2.3 and 11.9. An emission factor (pounds per vehicle mile traveled) was developed using the mean vehicle speed, which was conservatively assumed to be five miles per hour. Vehicle miles traveled was determined from the width of the bulldozer and the area of grading per year.

Particulate emissions from loading excavated material to trucks and truck dumping was determined using AP-42 Section 13.2.4 Equation (1). The mean wind speed (Tucson, AZ) was obtained from the NCDC. A recommended material moisture content of 2% (EPA-451/R-93-004, page 13) was used rather than 20% from previous equations. This conservative decrease in moisture was assumed due to evaporation and the impracticality of water application to excavated material.

Particulate emissions from scraping operations was determined using AP-42 Section 13.2.3 where an empirical emission factor in pounds per vehicle mile traveled was given. Blasting emissions were determined from AP-42 Section 11.9. It was conservatively assumed that operations would require 600 blasts per year and each blast would be over a 31 square meter area.

A summary of the resulting PM_{10} emissions estimates is provided in Table 2-2 below. Detailed assumptions and calculations are presented in Appendix A.

Table 2-2
PM_{10} Emissions Summary

Construction Activity	Naco Station Project (tons/yr)	Douglas Station Project (tons/yr)
Vehicle Traffic on Unpaved Roads	13.56	13.54
Bulldozing and Compacting	2.11	2.11
Grading	0.24	0.24
Truck Loading and Dumping	0.04	0.04
Scrapers	0.62	0.62
Blasting	0.001	0.001
Total Emissions	16.57	16.55

3.0 General Conformity

The General Conformity rule is set forth in 40 CFR 51 Subpart W—Determining Conformity of General Federal Action to State or Federal Implementation Plans. According to the Code of Federal Regulations (CFR) 40 CFR 51.853(b), Federal actions require a conformity determination for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs 40 CFR 51.853(b)(1) or (2).

> Douglas was first designated as a [SO_2] nonattainemt area in 1978. The primary source in Douglas was the Phelps Dodge, Inc. copper smelter, which was dismantled in 1995. In December 2001, ADEQ [Arizona Department of Environmental Quality] submitted to EPA the *Douglas Moderate Area SO_2 Maintenance Plan and Request for Redesignation to Attainment*.
>
> The Douglas PM_{10} State Implementation Plan (SIP) demonstrates attainment "but for emissions emanating outside the United States" (Section 179B of the Clean Air Act). Ambient monitoring data reveal that the Douglas area has met the 24-hour and annual PM_{10} standards for the last several years. The last 24-hour exceedance occurred in 1991 and the last annual violation occurred in 1989. (ADEQ, AQD Website, 2002)

Part of Cochise County is a moderate Nonattainment Area for PM_{10}. Per 40 CFR 51.853(b)(1), the moderate Nonattainment threshold value for General Conformity

determinations is 100 tons per year of PM_{10}. Part of Cochise County is also a Nonattainment Area for SO_2. Per 40 CFR 51.853(b)(1), the threshold value for all SO_2 Nonattainment Area General Conformity determinations is 100 tons per year of SO_2. The total emission rates as shown in Table 2-1, Table 2-2, and the attached supporting emission estimation calculations are less than 100 tons per year for both SO_2 and PM_{10}; therefore, a conformity determination is not required.

4.0 Conclusion

The USBP proposes two projects to construct four new roads for Naco and Douglas Stations. The roads will greatly improve the ability of the USBP to patrol the border between the United States and Mexico.

Post-construction operations will be conducted in the same manner as current operations; therefore, post-construction SO_2 and PM_{10} emissions will not change from current emissions. Ambient air monitoring data reveal that current operations in the Douglas Nonattainment Area have not contributed to an SO_2 annual violation since 1984 nor a PM_{10} annual violation since 1989; therefore, because there will not be an incremental increase in emissions, an analysis of post-construction emissions is not required. An analysis of estimated SO_2 and PM_{10} emissions resulting from construction activities shows that the General Conformity threshold for the area will not be exceeded; therefore, a Conformity Determination is not required.

APPENDIX A

AIR EMISSION CALCULATIONS

Construction Emissions: Equations and Data

Table 1. Constants, source conditions, and variables

Variable	Description of Variable	Value	Reference
k_1	Empirical constant (lb/VMT)	2.6	AP-42 Table 13.2.2-2
k_2	Particle size multiplier	0.35	AP-42 13.2.4, Page 3
s	Surface material silt content (%)	35.0	AP-42 Table 13.2.2-3
a	Empirical constant	0.8	AP-42 Table 13.2.2-2
W	Mean vehicle weight (tons)		
S	Mean vehicle speed (mph)		
b	Empirical constant	0.4	AP-42 Table 13.2.2-2
U	Mean wind speed (mph)	8	NCDC 11/98
A	Blasting Surface Area (m^2)		
M_1	Surface material moisture content (dry) (%)	20	AP-42 13.2.2 Related Information
M_2	Surface material moisture content (%)	2	EPA-451/R-93-004, Page 13
c	Empirical constant	0.3	AP-42 Table 13.2.2-2
E_{ext}	Size-specific emission factor (lb/VMT)		AP-42 13.2.2 Eq. (2)
$E_{(lb/ton)}$	Emission factor (lb/ton)		AP-42 13.2.4 Eq. (1)

1. Unpaved Roads[1]

$$E_{ext} = \left(\frac{k_1 (s/12)^a (W/3)^b}{(M/0.2)^c} \right)$$ [Equation (2), AP-42 13.2.2]

2. Bulldozing and Compacting[2]

$$E_{lb/hr} = \left[\frac{1.0 s^{1.5}}{M^{1.4}} \right] 0.75$$ [AP-42 Table 11.9-1]

3. Grading[2]

$$E_{lb/VMT} = 0.51 (S)^{2.0} (0.60)$$ [AP-42 Table 11.9-1]

4. Loading Excavated Material to Trucks and Truck Dumping[3]

$$E_{(lb/ton)} = 0.0032 k_2 \frac{(U/5)^{1.3}}{(M_2/2)^{1.4}}$$ [Equation (1), AP-42 13.2.4]

5. Scrapers[4]

$$EF = 20.2 \text{ lb/VMT}$$ [AP-42 Table 13.2.3-1]

6. Blasting[2]

$$E_{kg/blast} = (0.52)(0.000014) A^{1.5}$$ [AP-42 Table 11.9-1]

1) Emission factors based on AP-42 Section 13.2.2 (9/98). Vehicle speeds less than 15 mph are corrected with the multiplier S/15. Moisture content is based on the related information document included in Section 13.2.2 Rdmoist.pdf, page 2.

2) Emission factors based on AP-42 Sections 13.2.3 (1/95) and/or 11.9 (7/98)

3) Emission factors based on AP-42 Sections 13.2.3 (1/95) and/or 13.2.4 (1/95)

4) Emission factors based on AP-42 Sections 13.2.3 (1/95)

United States Border Patrol
Naco Station Level Infrastructure EA

Construcion Emissions: Calculation Assumptions

General Assumptions

Rotation =	10	days =	8	hr/day
Working Days per Year =	75	days/yr =	600	hr/yr
Miles Completed per Rotation =	1	mile		
Miles Completed per Year =	7.5	miles		
Project =	31	miles		
Quantity of Soil Moved =	1,746,791	cubic yards (cy)		
Density of Soil =	1890	lb/cy		
Mass of Soil Moved =	1,650,717	tons/project		
Mass of Soil Moved per Year =	399,367	tons/yr		
Water Spray =	2	applications/hr		

Light Trucks

Number of Trucks =	3	trucks
Number of Round Trips per Day =	5	round trips/day
Maximum Trips per Hour =	1.5	round trips/hr
Number of Miles per Trip =	5	miles/round trip
Vehicle Mass =	2	ton
Avg. Fuel Use =	21	mpg

Bus

Number of Busses =	1	bus
Number of Round Trips per Day =	1	round trips/day
Maximum Trips per Hour =	0.5	round trips/hr
Number of Miles per Round Trip =	5	miles/round trip
Vehicle Mass =	5	ton
Avg. Fuel Use =	7	mpg

Dump Trucks

Number of Trucks =	4	dump trucks
Truck Payload Capacity =	20	tons
Number of Round Trips per Year =	19,200	round trips/yr
Maximum Trips per Hour =	8	round trips/hr
Number of Miles per Trip =	0.5	miles/round trip
Vehicle Mass (no load) =	5	tons
Avg. Fuel Use =	4	mpg

Heavy Trucks

Number of Trucks =	2	heavy trucks
Number of Round Trips per Day =	0.1	round trips/day
Maximum Trips per Hour =	1	round trips/hr
Number of Miles per Trip =	5	miles/round trip
Truck Payload Capacity =	20	tons
Vehicle Mass =	5	tons
Avg. Fuel Use =	5	mpg

Construcion Emissions: Calculation Assumptions

Water Trucks		
Number of Trucks =	3	heavy trucks
Number of Round Trips per Day =	48	round trips/day
Maximum Trips per Hour =	6	round trips/hr
Number of Miles per Trip =	5	miles/round trip
Truck Payload Capacity =	15.65	tons
Vehicle Mass =	5	tons
Avg. Fuel Use =	5	mpg
Bulldozers		
Number of Bulldozers =	3	bulldozers
Hours of Operation =	600	hr/yr
Avg. Fuel Use =	37.5	gal/hr
Grading		
Number of Bulldozers =	3	bulldozers
Shovel Width =	8	ft
Width of Typical Graded Section =	66	ft
Area per Year =	2,613,600	ft^2/yr
Vehicle Miles Traveled per Year =	62	miles/yr
Vehicle Speed =	5	mph
Truck Loading and Dumping		
Number of Trucks =	4	dump trucks
Truck Capacity =	20	tons
Mass of Soil Moved per Year =	96,000	tons/yr
Mass of Soil Moved per Hour =	160	tons/hr
Scrapers		
Number of Scrapers =	2	scrapers
Cut Width =	8	ft
Width of Typical Scraped Section =	66	ft
Area per Year =	2,613,600	ft^2/yr
Vehicle Miles Traveled per Year =	62	miles/yr
Vehicle Speed =	5	mph
Avg. Fuel Use =	2	mpg
Blasting		
Number of Blasts per Day =	8	blast/day
Number of Blasts per Year =	600	blast/yr
Blasting Area =	31	m^2

United States Border Patrol
Naco Station Level Infrastructure EA

Construction Emissions: Calculations

PM_{10} Emissions

Vehicle				Operating Schedule/Rate							Control	Emission	PM_{10} Emission Rates	
Type	Avg Weight (tons)	Usage (%)	Speed (mph)	Hours (hr/yr)	Vehicle Miles (VMT/hr)	Vehicle Miles (VMT/yr)	Blasting (per hr)	Blasting (per yr)	Excavation/Loading (tons/hr)	Excavation/Loading (tons/yr)	Efficiency (%)	Factor (EF)	Maximum (lb/hr)	Annual (tons/yr)
Unpaved Roads														
Light Truck	2	6%	10		8	1,875								
Bus	5	1%	10		3	375								
Dump Truck	13	32%	5		4	9,600								
Heavy Truck	13	0.1%	5		5	38								
Water Truck	10	60%	5		30	18,000								
Fleet Wt Avg	10	100%	5.4		49	29,888					0%	2.53	44.47	**13.56**
Bulldozing and Compacting														
				600							0%		7.03	**2.11**
Grading														
			5		15	62					0%	7.65	114.75	**0.24**
Loading Excavated Material to Trucks and Truck Dumping														
									160	96,000	0%	0.001	0.13	**0.04**
Scrapers														
					10	62					0%	20.20	202	**0.62**
Blasting														
							8	600			0%	0.001	0.02	**0.001**
Total Construction PM_{10} Emissions													368.40	**16.57**

United States Border Patrol
Naco Station Level Infrastructure EA

Construction Emissions: Calculations

SO_2 Emissions

Vehicle			Operating Schedule/Rate					Emission Factor Conversion			SO_2 Emission Rates	
Type	Fuel	Mileage (mpg)	Hours (hr/yr)	Vehicle Miles (VMT/hr)	Vehicle Miles (VMT/yr)	Fuel Useage (gal/hr)	Fuel Useage (gal/yr)	AP-42 Table 3.3-1 (lb/MM Btu)	Heat Inp (Btu/gal)	EF (lb/M gal)	Maximum (lb/hr)	Annual (tons/yr)
Light Truck	Gasoline	21		8	1,875	0.4	89	0.084	144,130	12.11	0.004	0.001
Bus	Diesel	7		3	375	0.4	54	0.29	137,030	39.74	0.014	0.001
Dump Truck	Diesel	4		4	9,600	1.0	2,400	0.29	137,030	39.74	0.04	0.05
Heavy Truck	Diesel	5		5	38	1.0	8	0.29	137,030	39.74	0.04	0.000
Water Truck	Diesel	5		30	18,000	6.0	3,600	0.29	137,030	39.74	0.24	0.07
Bulldozer	Diesel					37.5	22,500	0.29	137,030	39.74	1.49	0.45
Scraper	Diesel	2		10	62	5.0	31	0.29	137,030	39.74	0.20	0.001
Total Construction SO_2 Emissions											2.03	0.57

Construction Emissions: Equations and Data

Table 2. Constants, source conditions, and variables

Variable	Description of Variable	Value	Reference
k_1	Empirical constant (lb/VMT)	2.6	AP-42 Table 13.2.2-2
k_2	Particle size multiplier	0.35	AP-42 13.2.4, Page 3
s	Surface material silt content (%)	35.0	AP-42 Table 13.2.2-3
a	Empirical constant	0.8	AP-42 Table 13.2.2-2
W	Mean vehicle weight (tons)		
S	Mean vehicle speed (mph)		
b	Empirical constant	0.4	AP-42 Table 13.2.2-2
U	Mean wind speed (mph)	8	NCDC 11/98
A	Blasting Surface Area (m^2)		
M_1	Surface material moisture content (%)	20	AP-42 13.2.2, Related Information
M_2	Surface material moisture content (%)	2	EPA-451/R-93-004, Page 13
c	Empirical constant	0.3	AP-42 Table 13.2.2-2
E_{ext}	Size-specific emission factor (lb/VMT)		AP-42 13.2.2 Eq. (2)
$E_{(lb/ton)}$	Emission factor (lb/ton)		AP-42 13.2.4 Eq. (1)

1. Unpaved Roads[1]

$$E_{ext} = \left(\frac{k_1 (s/12)^a (W/3)^b}{(M/0.2)^c} \right)$$ [Equation (2), AP-42 13.2.2]

2. Bulldozing and Compacting[2]

$$E_{lb/hr} = \left[\frac{1.0 s^{1.5}}{M^{1.4}} \right] 0.75$$ [AP-42 Table 11.9-1]

3. Grading[2]

$$E_{lb/VMT} = 0.51 (S)^{2.0} (0.60)$$ [AP-42 Table 11.9-1]

4. Loading Excavated Material to Trucks and Truck Dumping[3]

$$E_{(lb/ton)} = 0.0032 k_2 \frac{(U/5)^{1.3}}{(M_2/2)^{1.4}}$$ [Equation (1), AP-42 13.2.4]

5. Scrapers[4]

$$EF = 20.2 \text{ lb/VMT}$$ [AP-42 Table 13.2.3-1]

6. Blasting[2]

$$E_{kg/blast} = (0.52)(0.000014) A^{1.5}$$ [AP-42 Table 11.9-1]

1) Emission factors based on AP-42 Section 13.2.2 (9/98). Vehicle speeds less than 15 mph are corrected with the multiplier S/15. Moisture content is based on the related information document included in Section 13.2.2 Rdmoist.pdf, page 2.

2) Emission factors based on AP-42 Sections 13.2.3 (1/95) and/or 11.9 (7/98)

3) Emission factors based on AP-42 Sections 13.2.3 (1/95) and/or 13.2.4 (1/95)

4) Emission factors based on AP-42 Sections 13.2.3 (1/95)

Construcion Emissions: Calculation Assumptions

General Assumptions				
Rotation =	10	days =	8	hr/day
Working Days per Year =	75	days/yr =	600	hr/yr
Miles Completed per Rotation =	1	mile		
Miles Completed per Year =	7.5	miles		
Project =	26	miles		
Quantity of Soil Moved =	533,675	cubic yards (cy)		
Density of Soil =	1890	lb/cy		
Mass of Soil Moved =	504,323	tons/project		
Mass of Soil Moved per Year =	145,478	tons/yr		
Water Spray =	2	applications/hr		
Light Trucks				
Number of Trucks =	3	trucks		
Number of Round Trips per Day =	5	round trips/day		
Maximum Trips per Hour =	1.5	round trips/hr		
Number of Miles per Round Trip =	5	miles/round trip		
Vehicle Mass =	2	ton		
Avg. Fuel Use =	21	mpg		
Bus				
Number of Busses =	1	bus		
Number of Round Trips per Day =	1	round trips/day		
Maximum Trips per Hour =	0.5	round trips/hr		
Number of Miles per Round Trip =	5	miles/round trip		
Vehicle Mass =	5	ton		
Avg. Fuel Use =	7	mpg		
Dump Trucks				
Number of Trucks =	4	dump trucks		
Truck Payload Capacity =	20	tons		
Number of Round Trips per Year =	19,200	round trips/yr		
Maximum Trips per Hour =	8	round trips/hr		
Number of Miles per Round Trip =	0.5	miles/round trip		
Vehicle Mass (no load) =	5	tons		
Avg. Fuel Use =	4	mpg		
Heavy Trucks				
Number of Trucks =	2	heavy trucks		
Number of Round Trips per Day =	0.1	round trips/day		
Maximum Trips per Hour =	1	round trips/hr		
Number of Miles per Round Trip =	5	miles/round trip		
Truck Payload Capacity =	20	tons		
Vehicle Mass =	5	tons		
Avg. Fuel Use =	5	mpg		

Construcion Emissions: Calculation Assumptions

Water Trucks

Number of Trucks =	3	heavy trucks
Number of Round Trips per Day =	48	round trips/day
Maximum Trips per Hour =	6	round trips/hr
Number of Miles per Round Trip =	5	miles/round trip
Truck Payload Capacity =	15.65	tons
Vehicle Mass =	5	tons
Avg. Fuel Use =	5	mpg

Bulldozers

Number of Bulldozers =	3	bulldozers
Hours of Operation =	600	hr/yr
Avg. Fuel Use =	37.5	gal/hr

Grading

Number of Bulldozers =	3	bulldozers
Shovel Width =	8	ft
Width of Typical Graded Section =	66	ft
Area per Year =	2,613,600	ft^2/yr
Vehicle Miles Traveled per Year =	62	miles/yr
Vehicle Speed =	5	mph

Truck Loading and Dumping

Number of Trucks =	4	dump trucks
Truck Capacity =	20	tons
Mass of Soil Moved per Year =	96,000	tons/yr
Mass of Soil Moved per Hour =	160	tons/hr

Scrapers

Number of Scrapers =	2	scrapers
Cut Width =	8	ft
Width of Typical Scraped Section =	66	ft
Area per Year =	2,613,600	ft^2/yr
Vehicle Miles Traveled per Year =	62	miles/yr
Vehicle Speed =	5	mph
Avg. Fuel Use =	2	mpg

Blasting

Number of Blasts per Day =	8	blast/day
Number of Blasts per Year =	600	blast/yr
Blasting Area =	31	m^2

United States Border Patrol
Douglas Station Level Infrastructure EA

Construction Emissions: Calculations

Vehicle				Operating Schedule/Rate							Control	Emission	PM_{10} Emission Rates	
Type	Avg Weight (tons)	Usage (%)	Speed (mph)	Hours (hr/yr)	Vehicle Miles (VMT/hr)	Vehicle Miles (VMT/yr)	Blasting (per hr)	Blasting (per yr)	Excavation/Loading (tons/hr)	Excavation/Loading (tons/yr)	Efficiency (%)	Factor (EF)	Maximum (lb/hr)	Annual (tons/yr)
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Dump Truck	13	32%	5		4	9,600								
Heavy Truck	13	0.1%	5		5	38								
Water Truck	10	60%	5		30	18,000								
Fleet Wt Avg	10	100%	5.4		49	29,888					0%	2.53	44.40	**13.54**
Bulldozing and Compacting														
				600							0%		7.03	**2.11**
Grading														
			5		15	62					0%	7.65	114.75	**0.24**
Loading Excavated Material to Trucks and Truck Dumping														
									160	96,000	0%	0.001	0.13	**0.04**
Scrapers														
					10	62					0%	20.20	202	**0.62**
Blasting														
							8	600			0%	0.001	0.02	**0.001**
Total Construction Emissions													368.33	**16.55**

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United States Border Patrol
Douglas Station Level Infrastructure EA

Construction Emissions: Calculations

SO_2 Emissions

Vehicle			Operating Schedule/Rate					Emission Factor Conversion			SO_2 Emission Rates	
Type	Fuel	Mileage (mpg)	Hours (hr/yr)	Vehicle Miles (VMT/hr)	Vehicle Miles (VMT/yr)	Fuel Useage (gal/hr)	Fuel Useage (gal/yr)	AP-42 Table 3.3-1 (lb/MM Btu)	Heat Inp (Btu/gal)	EF (lb/M gal)	Maximum (lb/hr)	Annual (tons/yr)
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Dump Truck	Diesel	4		4	9,600	1.0	2,400	0.29	137,030	39.74	0.04	0.05
Heavy Truck	Diesel	5		5	38	1.0	8	0.29	137,030	39.74	0.04	0.000
Water Truck	Diesel	5		30	18,000	6.0	3,600	0.29	137,030	39.74	0.24	0.07
Bulldozer	Diesel					37.5	22500	0.29	137,030	39.74	1.49	0.45
Scraper	Diesel	2		10	62	5.0	31	0.29	137,030	39.74	0.20	0.001
Total Construction SO_2 Emissions											2.03	0.57

Appendix E
PUBLIC INVOLVEMENT