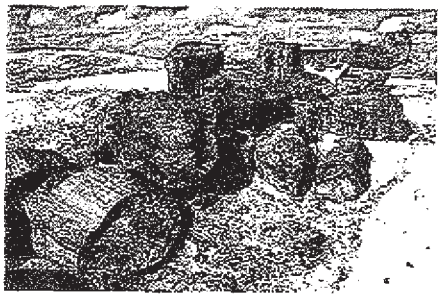


D-20A

The Road Inventory for Petrified Forest National Park

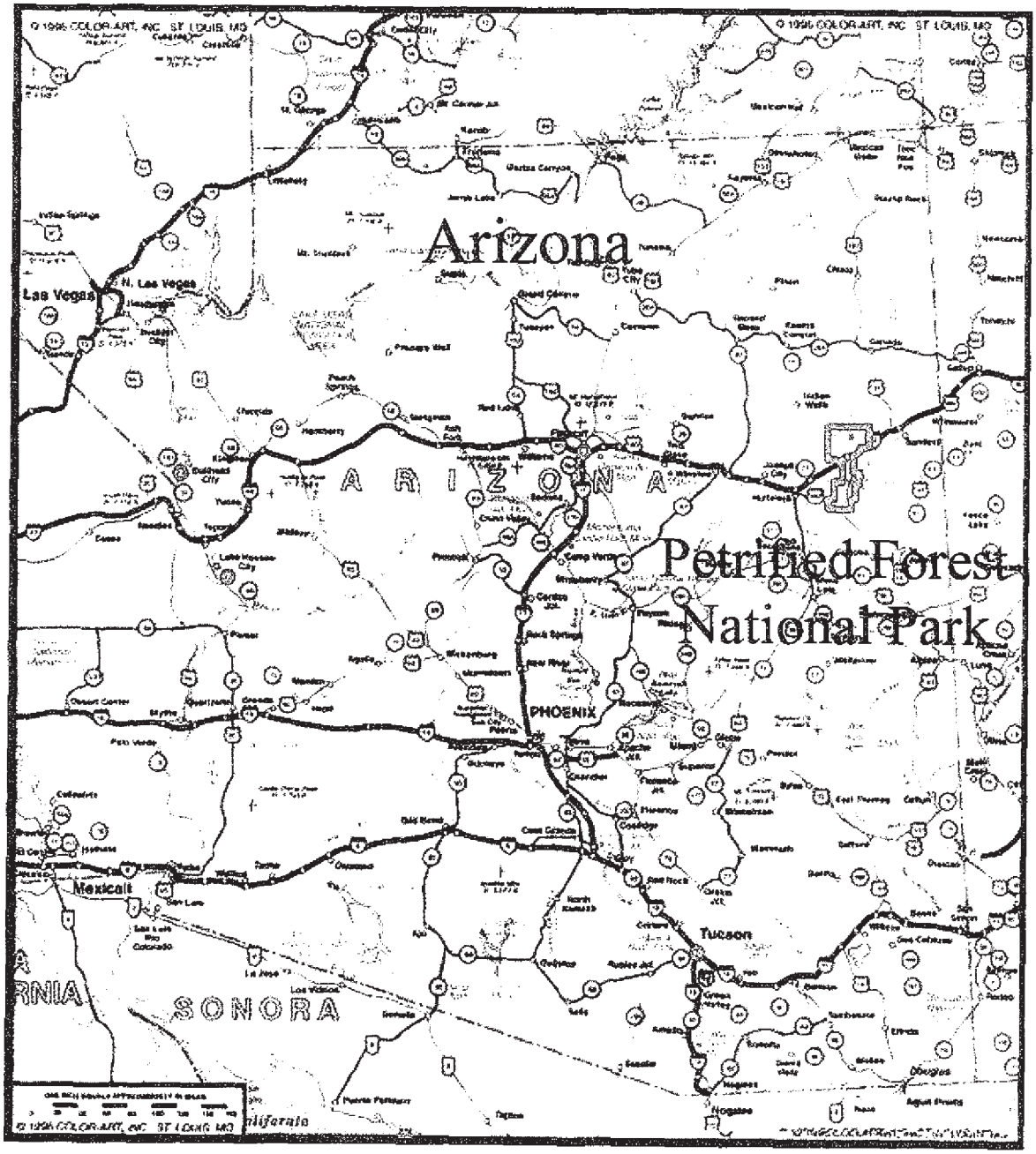
national park service



Road Inventory Program

Prepared By:
Federal Highway Administration
Eastern Federal Lands Highway Division
March 1999

Petrified Forest National Park in Arizona



CONTENTS

INTRODUCTION

Background: In July 1976, amended December 1980, The National Park Service (NPS) and the Federal Highway Administration (FHWA) entered into a Memorandum of Agreement (MOA), establishing the Road Inventory Program (RIP). The purpose of RIP, per the 1980 MOA, was to develop long range and short range costs and programs to bring NPS roads up to, or to maintain, designated standards; as well as provide a database so the NPS can revise their Maintenance Management System, if necessary.

Since 1984 the funding has been derived from the NPS FLHP (Title 23) planning funds and coordinated by the National Park Service Park Facility Management Division. The need for a total road information data base was mandated by the requirements for continuing, comprehensive, and coordinated (3-C) planning process and Maintenance Management System.

The Federal Lands Highway (FLH) was assigned the task to inventory maintenance items (pavement type and quantities; location of culverts, signs, guardrail, etc.), identify pavement distresses and evaluate the condition of existing park roads, summarize the data and findings in a report, and provide a videolog of the NPS roads system.

Objective: The objective of the RIP report is to provide NPS personnel at all levels with the basic information needed for effective road and road system planning, management, operations, and maintenance. This information will be documented in a Blue Book for each park, which will replace the old Brown Books.

The Blue Book reports will be in a standard format and content with comprehensive data analysis for each park. The data presented in each report will vary greatly from park to park, but the presentation of the report will be uniform in format. Therefore, the Blue Book will become a seamless document throughout the park system displaying site specific data for each park.

Scope: The Road Inventory Program is a national program coordinated by the FHWA for the NPS. The FHWA goal for the paved park roads is stated as "the quality, standard and condition of the paved portion of park roads and parkways that serves the resource goals of the National Park System does not deteriorate further over the next five years".

In an effort to track the condition of the park roads, per the FHWA goal, a cyclic data collection and reporting process was implemented for all parks and regions. Monitoring the condition and system performance of the paved roads over time using a percent good, fair, and poor condition rating provided a realistic means of assessing the funding needs for road improvements. The pavement condition rating system is described in Section IX of this report. This pavement condition performance assessment will determine the level of paved park road deterioration throughout the park road system as identified in the FHWA goal.

The report will include a Park Summary, a Park Summary Map, a Park Route Inventory, a Maintenance Features Summary, a Paved Route Condition Rating and a Features

Inventory. Also included is a listing of all unpaved routes in each park and various Appendices.

The FHWA highway engineers and technicians inspect, rate, inventory the roads, and prepare the final RIP reports for distribution to the National Park Service. All the field work is coordinated with the site specific park and the regional offices to ensure customer satisfaction. The FHWA Washington office coordinates policy and prepares national reports and needs assessment studies to congress.

The FHWA is responsible for all the data presented in this report. Anyone having questions or comments regarding the contents of this report are encouraged to contact the FHWA RIP Coordinator or the NPS RIP Coordinator in your Cluster Support Office.

FHWA RIP Coordinator:

James A. Amenta
FHWA/EFLHD
Technical Services, HTS-15
21400 Ridgetop Circle
Sterling, VA 20166
(703) 285-0076

Petrified Forest National Park
Summaries

Overall Park Mileage Summary

PARK TOTAL SUMMARY ITEMS	TOTAL	DATE
PAVED ROUTE MILES	35.83	3/99
UNPAVED ROUTE ESTIMATED MILES	39.55	3/99
PAVED AND UNPAVED ROUTE MILES	75.38	3/99
PARKING LOT LANE MILES	10.29	3/99
PAVED LANE MILES	81.95	3/99
DEFICIENT LANE MILES	3.72	3/99

Note: Paved and Deficient Lane Miles includes parking lot areas which have been converted to lane miles using an 11-foot lane width.

Estimated Unpaved Mileage Summary
By Functional Class

F. C.	MILEAGE	PERCENTAGE
I	0	0
II	0	0
III	0	0
IV	0	0
V	0	0
VI	39.55	100%
VII	0	0
VIII	0	0

Petrified Forest National Park
Summaries

Cost to Improve to "Excellent" Condition

Based on Historic and Estimated Data

AWARD DATE	SOURCE	WORK PERFORMED	LENGTH (MILES)	COST	COST PER MILE	INITIAL CONDITION
1995-97	FHWA Projects	3-R (Resurfacing)	52.07	$3,776,479	$72,527	Good
1995-97	FHWA Projects	3-R (Resurfacing, Restoration, and Rehabilitation) Projects	0.76	$497,898	$655,129	Fair
1998	FHWA Current Projects	4-R (Resurfacing, Restoration, Rehabilitation, and Reconstruction) Projects	0.65	$1,817,989	$2,796,906	Poor

Based on the above table, the cost to improve existing condition miles to "Excellent" PCR are:

Existing Condition	Existing Miles	Estimated Cost to Improve
Excellent	0.86	$0
Good	8.18	$593,271
Fair	24.93	$16,332,365
Poor	1.86	$5,202,245
Totals	**35.83**	**$22,127,881**

Petrified Forest National Park
Summaries

Paved Route Miles and Percentages by Functional Class and PCR

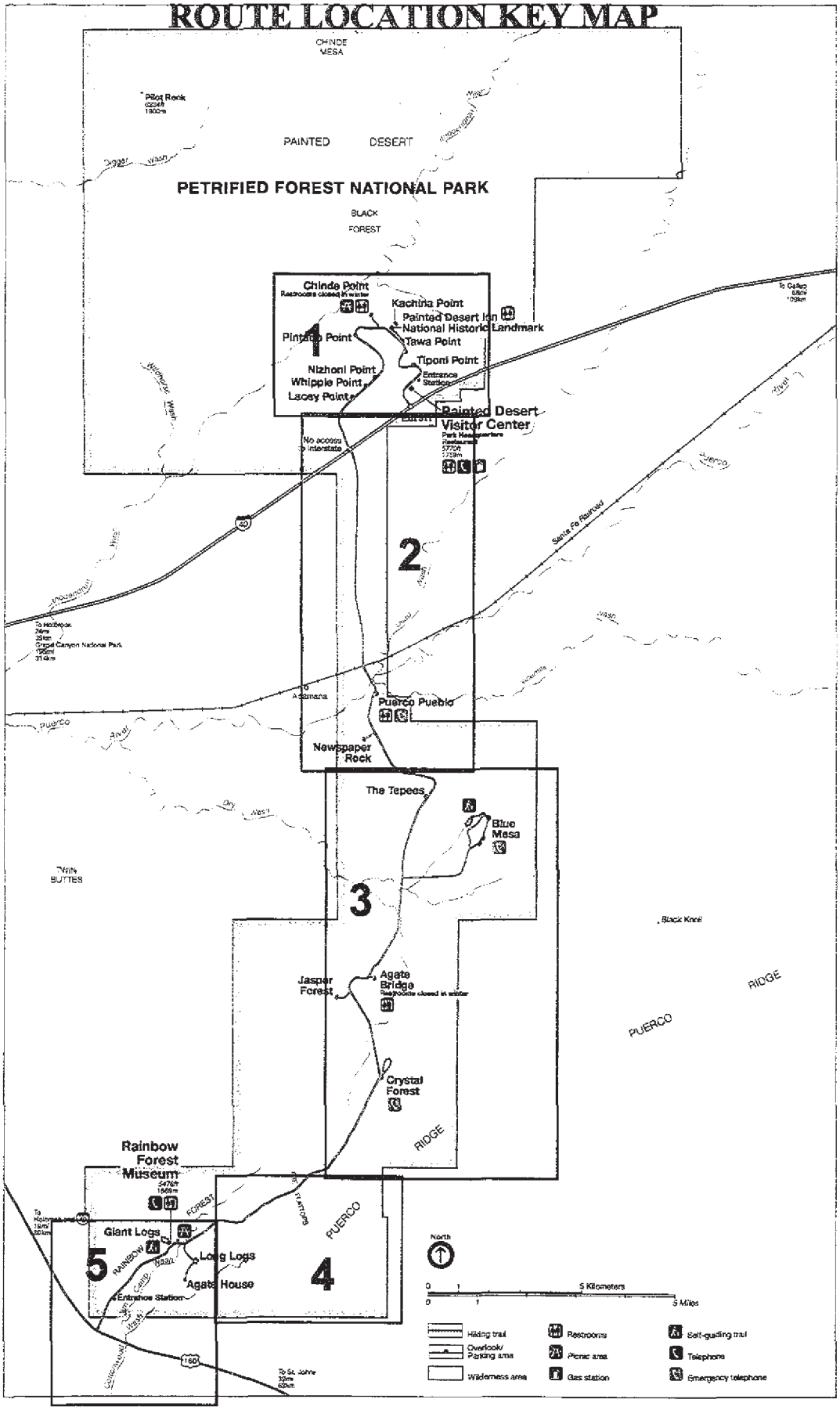
F. C.	Pavement Condition Rating (PCR)								TOTAL MILES
	Excellent (95-100)		Good (85-94)		Fair (61-84)		Poor (<=60)		
	MILES	%	MILES	%	MILES	%	MILES	%	
I	0.56	1.98%	6.96	24.59%	20.62	72.86%	0.16	0.57%	28.3
II	0.3	5.91%	1.22	24.02%	3.44	67.72%	0.12	2.36%	5.08
III	0	0	0	0	0	0	0	0	0
IV	0	0	0	0	0	0	0	0	0
V	0	0	0	0	0	0	0	0	0
VI	0	0	0	0	0.87	35.51%	1.58	64.49%	2.45
VII	0	0	0	0	0	0	0	0	0
VIII	0	0	0	0	0	0	0	0	0
Totals	**0.86**	**2.40%**	**8.18**	**22.83%**	**24.93**	**69.58%**	**1.86**	**5.19%**	**35.83**

Includes paved roads visually rated that were not driven with the ARAN.

Paved Lane Miles (Parking Areas)

F. C.	Visual Condition Rating								TOTAL LANE MILES
	Excellent		Good		Fair		Poor		
	LANE MILES	%	LANE MILES	%	LANE MILES	%	LANE MILES	%	
-	**0**	**0%**	**2.04**	**19.8%**	**8.25**	**80.2%**	**0**	**0%**	**10.29**

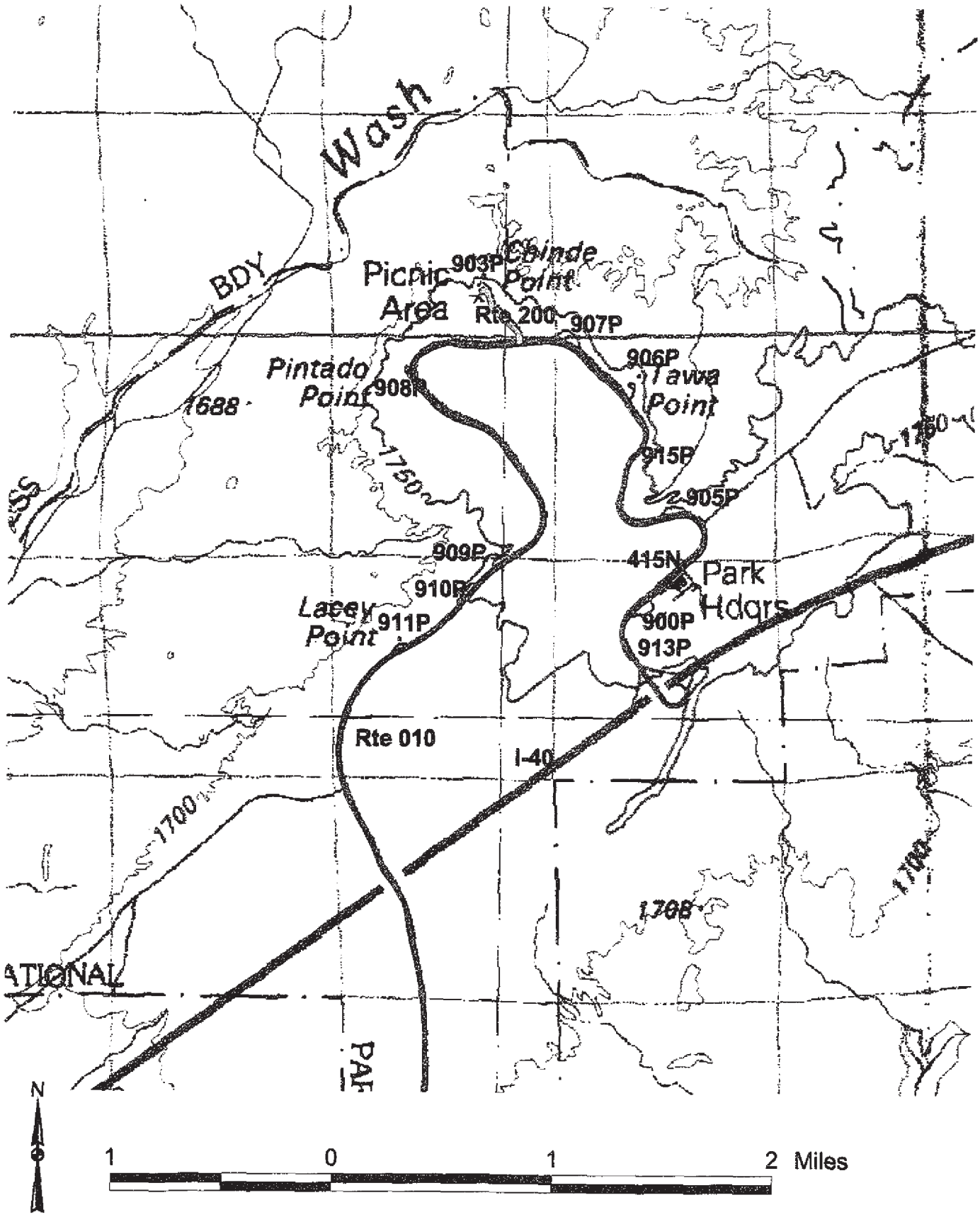
PETRIFIED FOREST NATIONAL PARK
ROUTE LOCATION KEY MAP



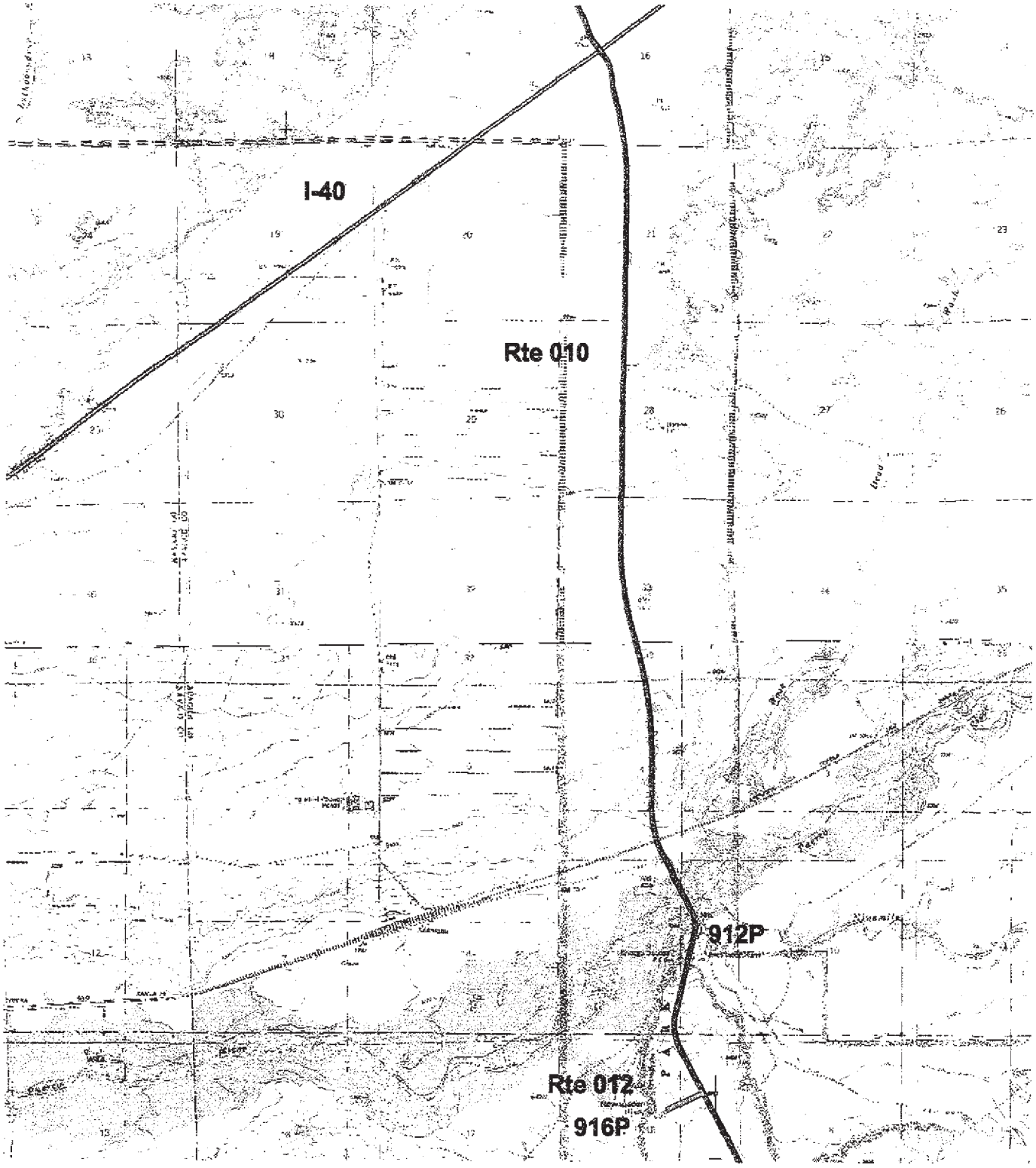
N

4 0 4 8 12 Miles

PETRIFIED FOREST NATIONAL PARK
ROUTE LOCATION
AREA MAP 1



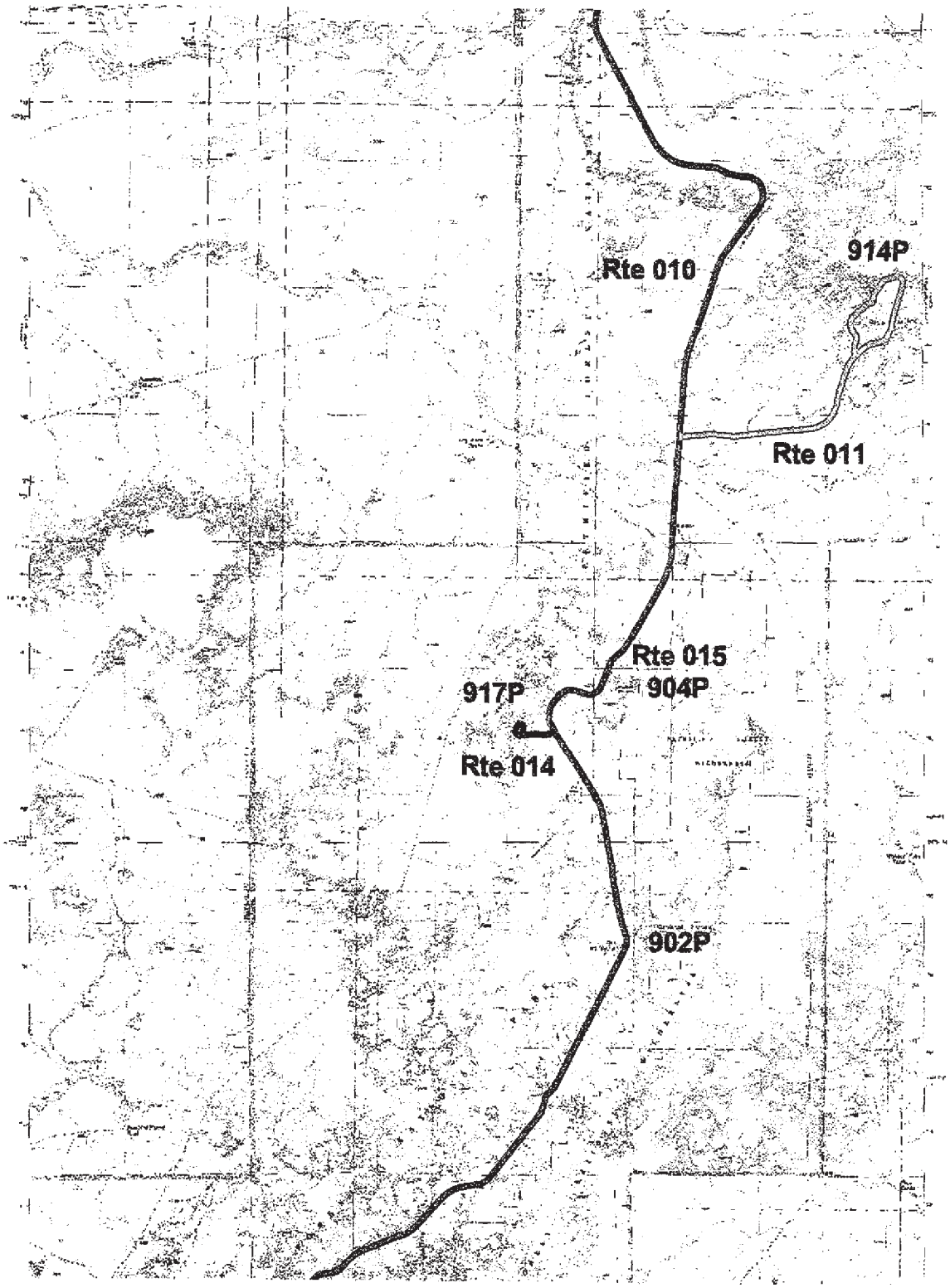
PETRIFIED FOREST NATIONAL PARK
ROUTE LOCATION
AREA MAP 2



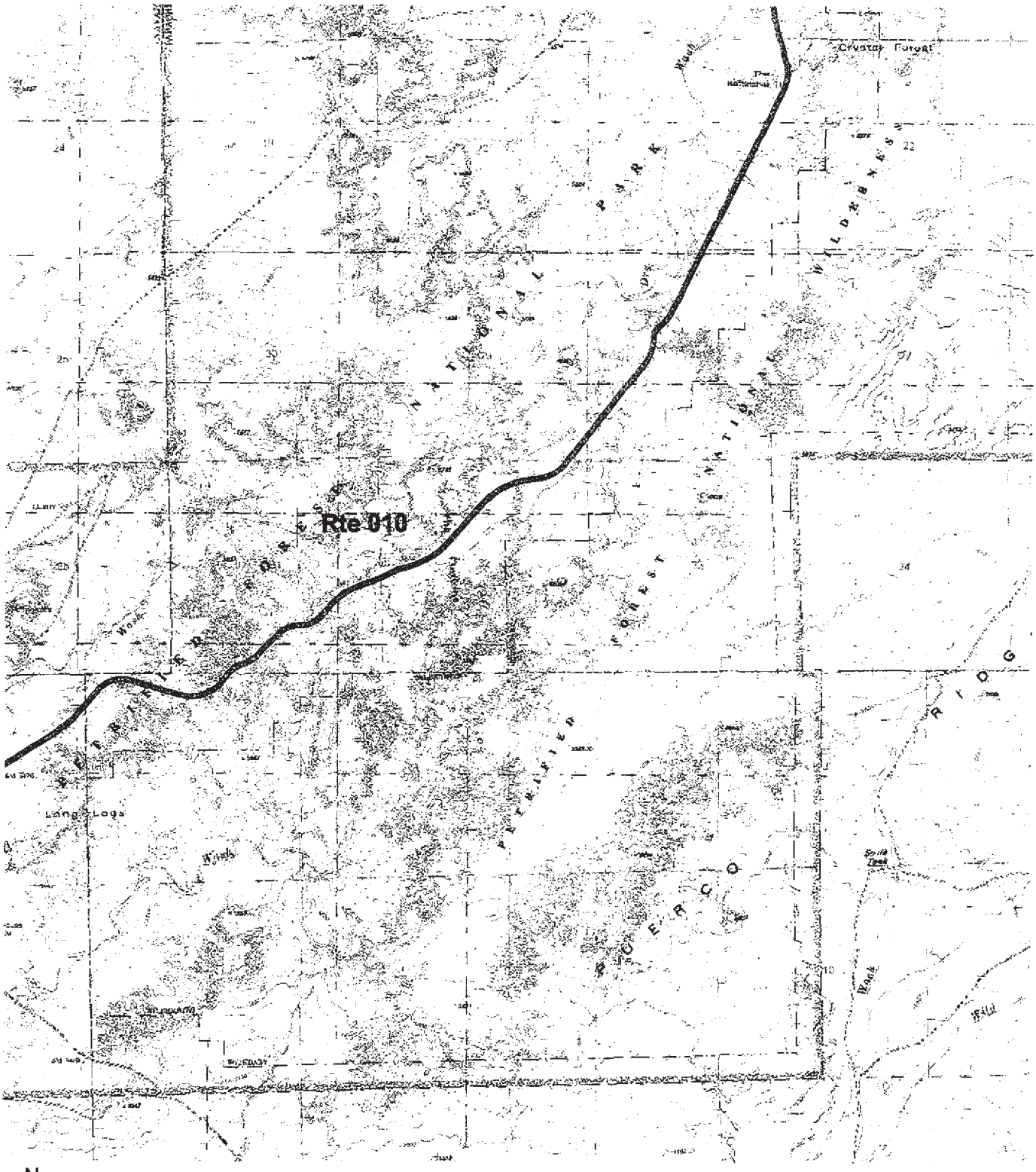
N

1 0 1 2 3 Miles

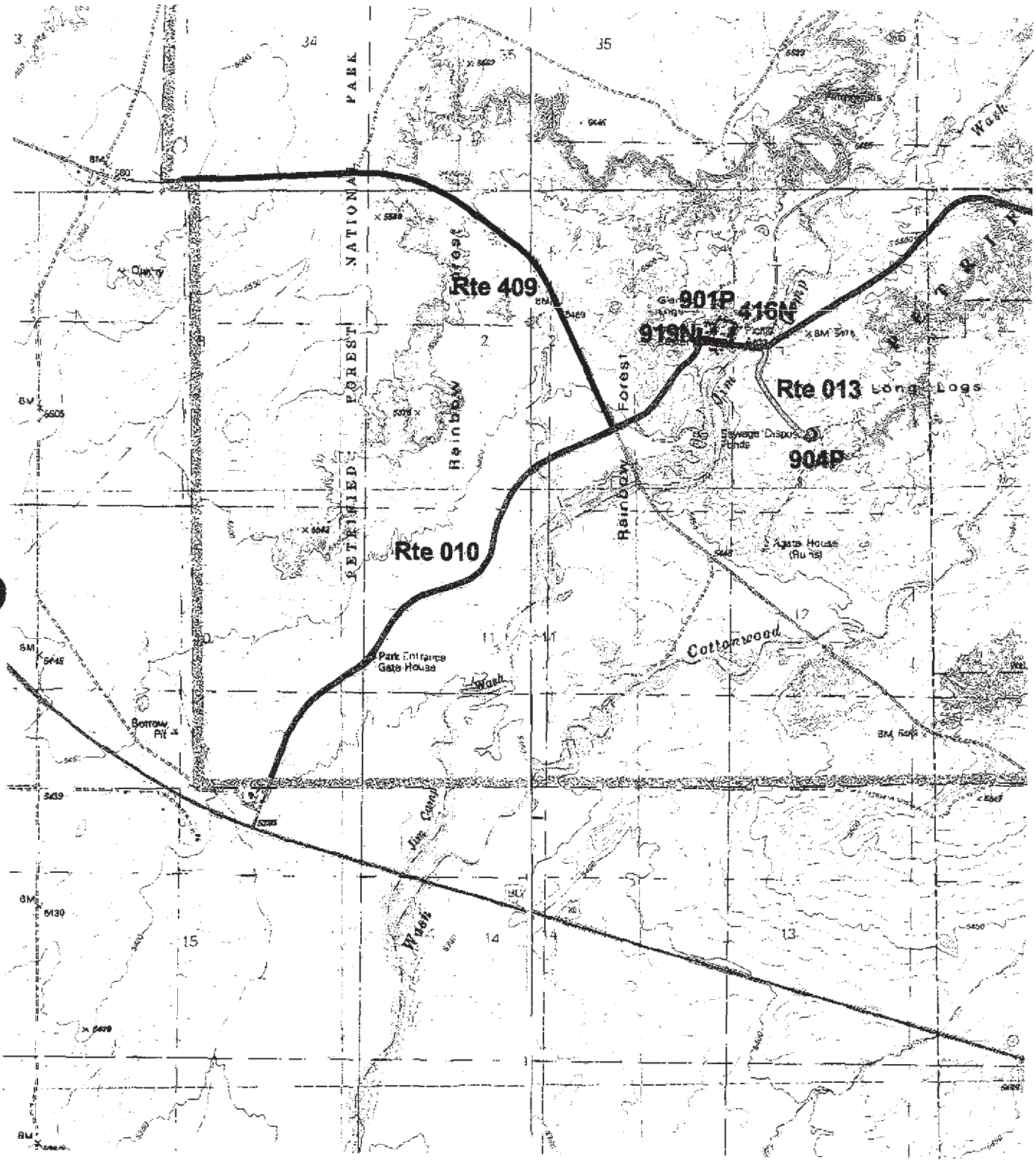
PETRIFIED FOREST NATIONAL PARK
ROUTE LOCATION
AREA MAP 3



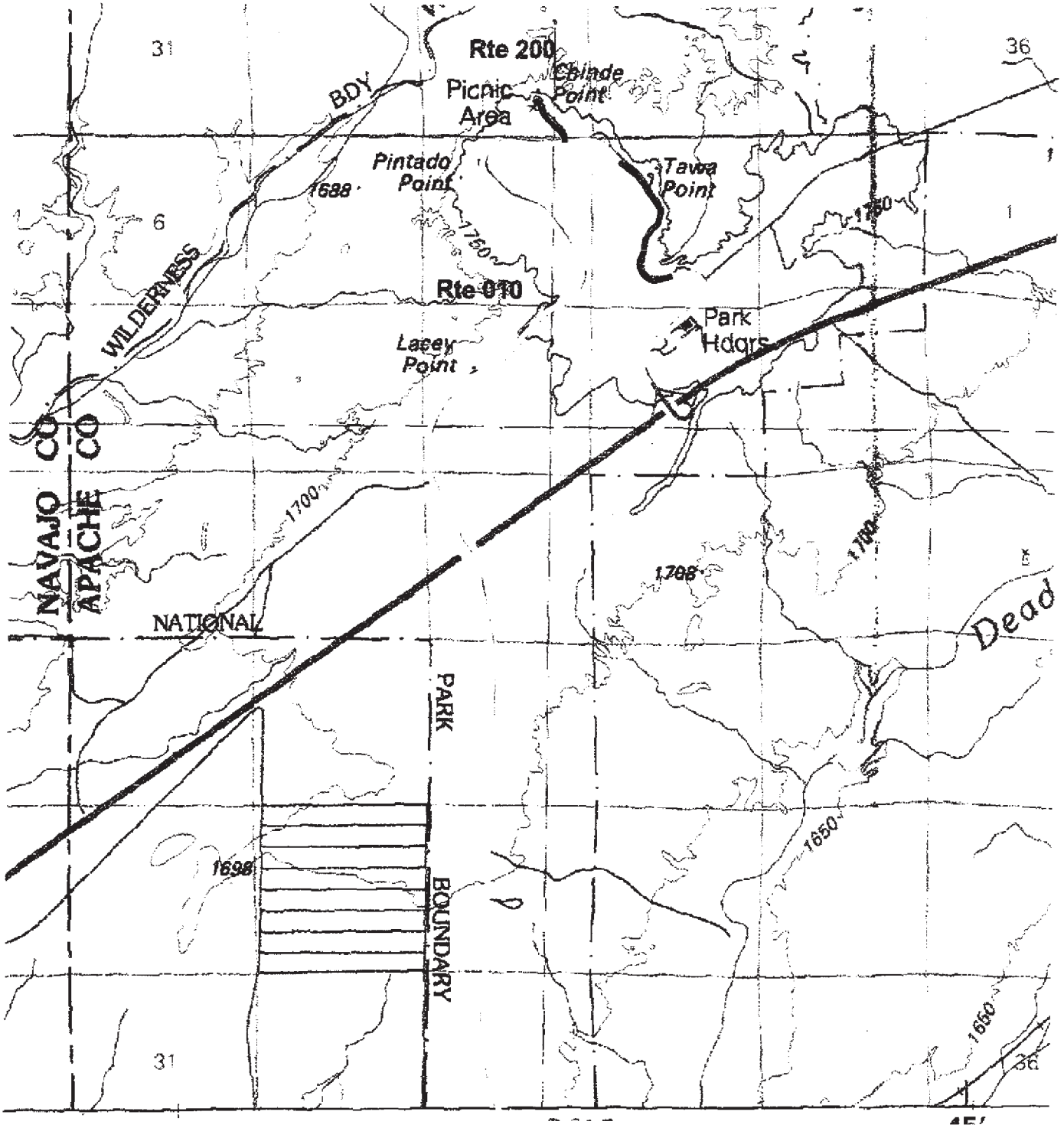
PETRIFIED FOREST NATIONAL PARK
ROUTE LOCATION
AREA MAP 4



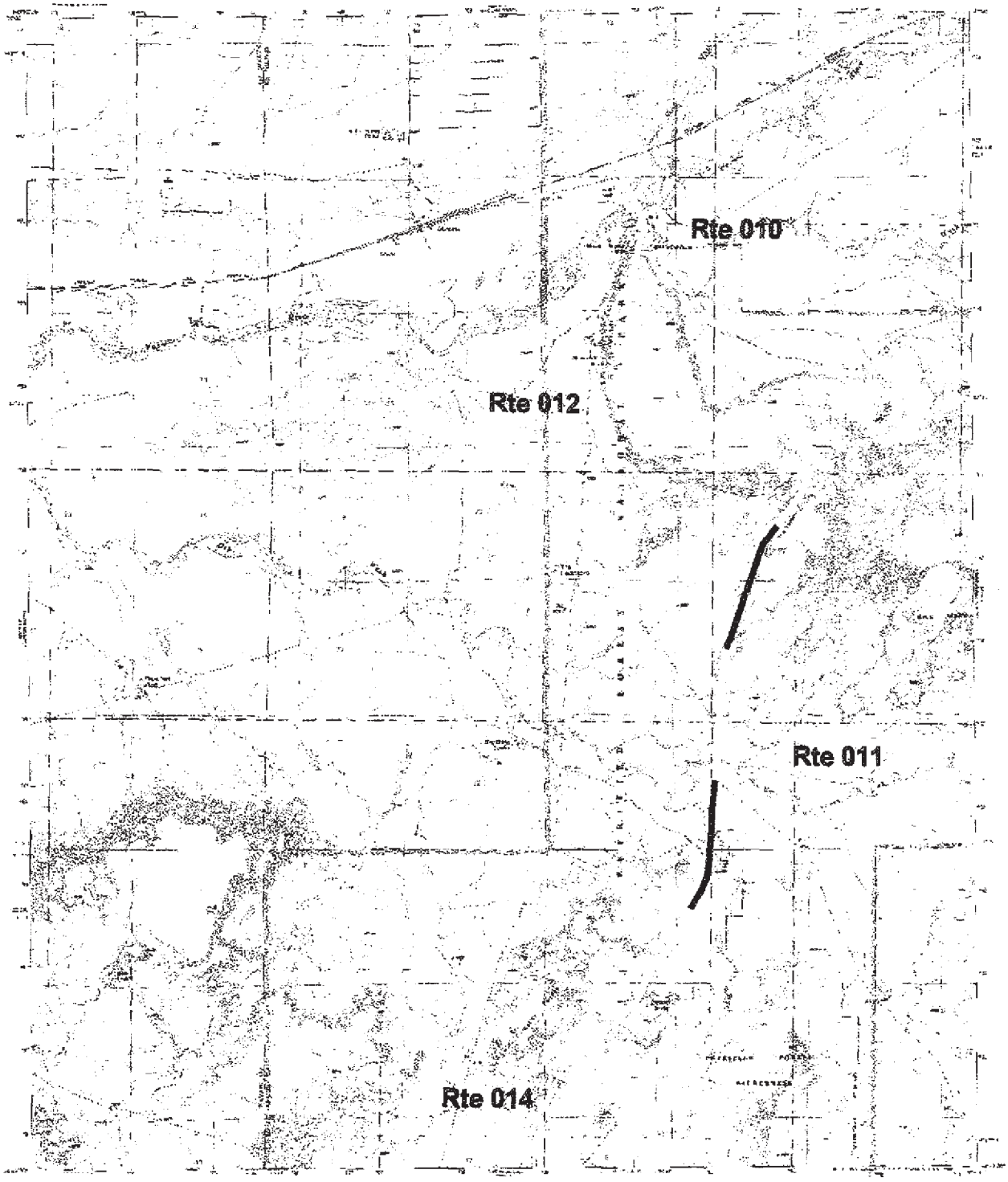
PETRIFIED FOREST NATIONAL PARK
ROUTE LOCATION
AREA MAP 5



PETRIFIED FOREST NATIONAL PARK
ROUTE CONDITION
KEY MAP
PCR/DCR - Mile by Mile
FUNCTIONAL CLASSIFICATION I, II, VII, VIII ROADS



PETRIFIED FOREST NATIONAL PARK
ROUTE CONDITION
KEY MAP
PCR/DCR - Mile by Mile
FUNCTIONAL CLASSIFICATION I, II, VII, VIII ROADS



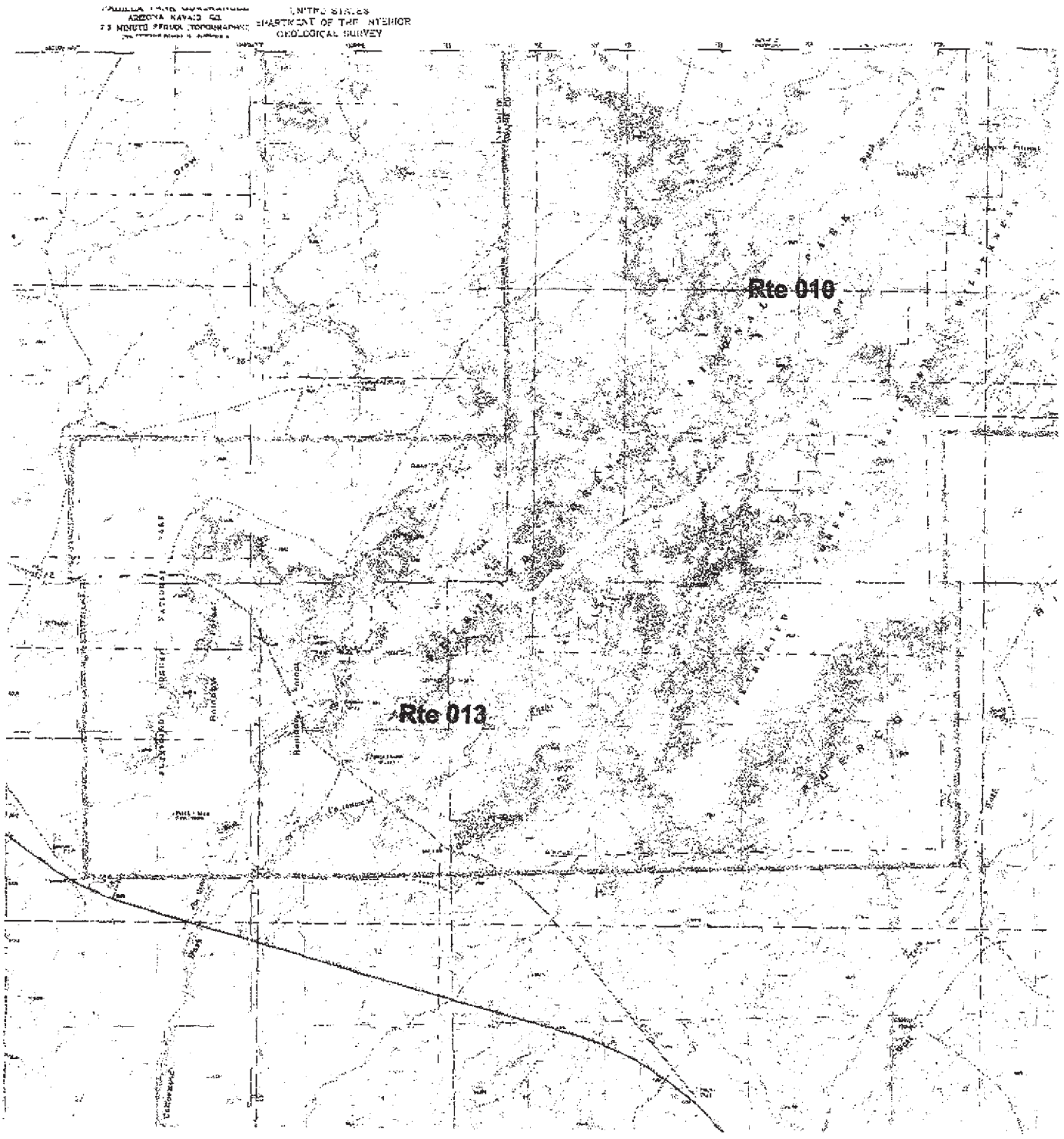
N

PCR Excellent Good Fair Poor DCR Poor

* If the PCR rating is not available for a section, the SCR rating will be displayed

PETRIFIED FOREST NATIONAL PARK
ROUTE CONDITION
KEY MAP
PCR/DCR - Mile by Mile

FUNCTIONAL CLASSIFICATION I, II, VII, VIII ROADS



N

PCR Excellent | Good | Fair | Poor | DCR Poor

* If the PCR rating is not available for a section, the SCR rating will be displayed

PETRIFIED FOREST NP - PEFO - 8430 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:	White = Paved Routes, ARAN Driven	Blue = All Paved Parking Areas
	Grey = Paved Routes, ARAN not Driven	Green = All Unpaved Parking Areas
Red Denotes Approximate Mileage	Yellow = Unpaved Routes, ARAN not Driven	

RTE #	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MILES	UNPAVED MILES	LANES	FUNC CLASS
010	NORTH-SOUTH HIGHWAY	28.30	PAINTED DESERT ENTRANCE (I-40) TO SOUTH ENTRANCE (US 180)	28.30	0.00	2	1
011	BLUE MESA ROAD	3.44	RTE 010 TO END OF LOOP	3.44	0.00	2	2*
012	NEWSPAPER ROCK ROAD	0.24	RTE 010 TO NEWSPAPER ROCK PARKING AREA (RTE 916)	0.24	0.00	2	2*
013	LONG LOGS ROAD	0.48	RTE 010 TO END OF LOOP	0.48	0.00	2	2*
014	JASPER FOREST ROAD	0.50	RTE 010 TO END OF LOOP	0.50	0.00	2	2*
015	AGATE BRIDGE ROAD	0.16	RTE 010 TO PARKING AREA (RTE 904)	0.16	0.00	-	2*
200	CHINDE POINT ACCESS	0.34	RTE 010 TO PARKING AREA (RTE 903)	0.34	0.00	2	2*
400	OLD ROUTE 66	2.77		0.00	2.77	2	6
401	GRAVEL PIT ROAD	0.50	RTE 400 TO GRAVEL PIT	0.00	0.50	2	6
402	PAINTED DESERT SPUR #1	1.36	RTE 400 TO END	0.00	1.36	2	6
403	PAINTED DESERT SPUR #2	0.36	RTE 400 TO END	0.00	0.36	2	6
404	NORTHEAST FENCE LINE ROAD	8.52	RTE 400 TO END	0.00	8.52	2	6
406	SOUTH PIPELINE ROAD	15.01	RTE 409 TO RTE 010	0.00	15.01	2	6
407	NORTH PIPELINE ROAD	1.23		0.00	1.23	2	6
408	NORTH PIPELINE ROAD	1.75		0.00	1.75	2	6
409	OLD ROUTE 180	1.93	From Rte 010 to Horse Corral	1.93	0.00	-	6
410	LITHODENDRON WASH ROAD	4.75		0.00	4.75	2	6
411	LITHODENDRON WASH ROAD NORTH	1.60		0.00	1.60	2	6
412	LITHODENDRON WASH SPUR	0.60		0.00	0.60	2	6
413	HORSE CORRAL ROAD	0.70		0.00	0.70	2	6
414	HORSE CORRAL SPUR	0.40		0.00	0.40	2	6
415	PAINTED DESERT RESIDENCE AREA	1.40		1.40	0.00	-	6
416	SOUTH RESIDENCE AREA	0.34		0.34	0.00	-	6
900	PAINTED DESERT VISITORS CENTER & MAINTENANCE	-	PARKING AREA OFF RTE 010, MP 0.2	-	-	-	-
901	SOUTH AREA MUSEUM AND PICNIC PARKING	-	PARKING AREA OFF RTE 010, MP 26.4	-	-	-	-
902	CRYSTAL FOREST PARKING	-	PARKING AREA OFF RTE 010, MP 20.6	-	-	-	-
903	CHINDE POINT PARKING	-	PARKING AREA END OF RTE 200	-	-	-	-
904	AGATE BRIDGE PARKING	-	PARKING AREA END OF RTE 015	-	-	-	-
905	TIPONI POINT PARKING	-	PARKING AREA OFF RTE 010, MP 0.9	-	-	-	-
906	TAWA POINT PARKING	-	PARKING AREA OFF RTE 010, 1.8	-	-	-	-
907	KACHINA PONT PARKING	-	PARKING AREA OFF RTE 010, MP 2.1	-	-	-	-
908	PINTADO POINT PARKING	-	PARKING AREA OFF RTE 010, MP 3.0	-	-	-	-
909	NIZHONI POINT PARKING	-	PARKING AREA OFF RTE 010, MP 4.2	-	-	-	-
910	WHIPPLE POINT PARKING	-	PARKING AREA OFF RTE 010, MP 4.4	-	-	-	-
911	LACEY POINT PARKING	-	PARKING AREA OFF RTE 010, MP 4.8	-	-	-	-
912	INDIAN RUINS PARKING	-	PARKING AREA OFF RTE 010, MP 11.0	-	-	-	-
913	NORTH ENTRANCE PARKING AREA	-	PARKING ARE OFF RTE 010, MP 0.0	-	-	-	-

PETRIFIED FOREST NP - PEFO - 8430 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:	White = Paved Routes, ARAN Driven	Blue = All Paved Parking Areas
	Grey = Paved Routes, ARAN not Driven	Green = All Unpaved Parking Areas
Red Denotes Approximate Mileage	Yellow = Unpaved Routes, ARAN not Driven	

RTE #	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MILES	UNPAVED MILES	LANES	FUNC CLASS
914	BLUE MESA LOOP TRAIL PARKING	-	PARKING AREA OFF RTE 011, MP 2.7	-	-	-	-
915	OVERLOOK PARKING	-	PARKING ARE OFF RTE 010, MP 1.6	-	-	-	-
916	NEWSPAPER ROCK PARKING AREA	-	PARKING END OF RTE 012	-	-	-	-
917	JASPER FOREST PARKING	-	PARKING OFF RTE 014	-	-	-	-
918	LONG LOGS PARKING AREA	-	PARKING OFF RTE 013	-	-	-	-
919	SOUTH AREA RANGER PARKING	-	PARKING OFF RTE 010, MP 26.5	-	-	-	-

* ROUTE NUMBERS WERE NOT CHANGED DUE TO CURRENT PARK USAGE. THE FUNCTIONAL CLASS ASSIGNMENTS ARE BASED ON THE GENERAL PARK ROAD FUNCTIONAL CLASSIFICATION TABLE IN SECTION XIII OF THIS REPORT, WHICH MAY NOT BE CONSISTENT WITH THE ABOVE ROUTE NUMBERS.

PETRIFIED FOREST NP - PEFO - 8430 - ROUTE IDENTIFICATION LIST (ALPHABETIC)

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Red Denotes Approximate Mileage	Yellow = Unpaved Routes, ARAN not Driven	

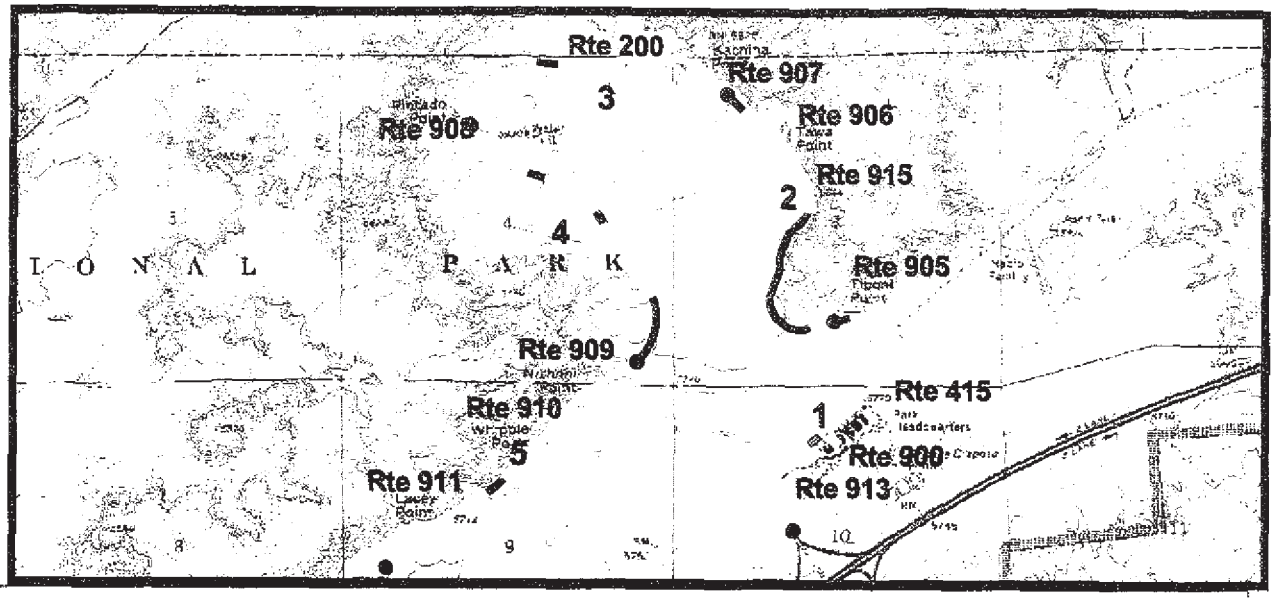
RTE #	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MILES	UNPAVED MILES	LANES	FUNC CLASS
904	AGATE BRIDGE PARKING	-	PARKING AREA END OF RTE 015	-	-	-	-
015	AGATE BRIDGE ROAD	0.16	RTE 010 TO PARKING AREA (RTE 904)	0.16	0.00	-	2*
914	BLUE MESA LOOP TRAIL PARKING	-	PARKING AREA OFF RTE 011, MP 2.7	-	-	-	-
011	BLUE MESA ROAD	3.44	RTE 010 TO END OF LOOP	3.44	0.00	2	2*
200	CHINDE POINT ACCESS	0.34	RTE 010 TO PARKING AREA (RTE 903)	0.34	0.00	2	2*
903	CHINDE POINT PARKING	-	PARKING AREA END OF RTE 200	-	-	-	-
902	CRYSTAL FOREST PARKING	-	PARKING AREA OFF RTE 010, MP 20.6	-	-	-	-
401	GRAVEL PIT ROAD	0.50	RTE 400 TO GRAVEL PIT	0.00	0.50	2	6
413	HORSE CORRAL ROAD	0.70		0.00	0.70	2	6
414	HORSE CORRAL SPUR	0.40		0.00	0.40	2	6
912	INDIAN RUINS PARKING	-	PARKING AREA OFF RTE 010, MP 11.0	-	-	-	-
917	JASPER FOREST PARKING	-	PARKING OFF RTE 014	-	-	-	-
014	JASPER FOREST ROAD	0.50	RTE 010 TO END OF LOOP	0.50	0.00	2	2*
907	KACHINA PONT PARKING	-	PARKING AREA OFF RTE 010, MP 2.1	-	-	-	-
911	LACEY POINT PARKING	-	PARKING AREA OFF RTE 010, MP 4.8	-	-	-	-
410	LITHODENDRON WASH ROAD	4.75		0.00	4.75	2	6
411	LITHODENDRON WASH ROAD NORTH	1.60		0.00	1.60	2	6
412	LITHODENDRON WASH SPUR	0.60		0.00	0.60	2	6
918	LONG LOGS PARKING AREA	-	PARKING OFF RTE 013	-	-	-	-
013	LONG LOGS ROAD	0.48	RTE 010 TO END OF LOOP	0.48	0.00	2	2*
916	NEWSPAPER ROCK PARKING AREA	-	PARKING END OF RTE 012	-	-	-	-
012	NEWSPAPER ROCK ROAD	0.24	RTE 010 TO NEWSPAPER ROCK PARKING AREA (RTE 916)	0.24	0.00	2	2*
909	NIZHONI POINT PARKING	-	PARKING AREA OFF RTE 010, MP 4.2	-	-	-	-
913	NORTH ENTRANCE PARKING AREA	-	PARKING ARE OFF RTE 010, MP 0.0	-	-	-	-
407	NORTH PIPELINE ROAD	1.23		0.00	1.23	2	6
408	NORTH PIPELINE ROAD	1.75		0.00	1.75	2	6
404	NORTHEAST FENCE LINE ROAD	8.52	RTE 400 TO END	0.00	8.52	2	6
010	NORTH-SOUTH HIGHWAY	28.30	PAINTED DESERT ENTRANCE (I-40) TO SOUTH ENTRANCE (US 180)	28.30	0.00	2	1
409	OLD ROUTE 180	1.93	From Rte 010 to Horse Corral	1.93	0.00	-	6
400	OLD ROUTE 66	2.77		0.00	2.77	2	6
915	OVERLOOK PARKING	-	PARKING ARE OFF RTE 010, MP 1.6	-	-	-	-
415	PAINTED DESERT RESIDENCE AREA	1.40		1.40	0.00	-	6
402	PAINTED DESERT SPUR #1	1.36	RTE 400 TO END	0.00	1.36	2	6
403	PAINTED DESERT SPUR #2	0.36	RTE 400 TO END	0.00	0.36	2	6

PETRIFIED FOREST NP - PEFO - 8430 - ROUTE IDENTIFICATION LIST (ALPHABETIC)

Shading Color Key:	White = Paved Routes, ARAN Driven	Blue = All Paved Parking Areas
	Grey = Paved Routes, ARAN not Driven	Green = All Unpaved Parking Areas
Red Denotes Approximate Mileage	Yellow = Unpaved Routes, ARAN not Driven	

RTE #	ROUTE NAME	RTE M	ROUTE DESCRIPTION	PAVED MILES	UN-PAVED MILES	LANES	FUNC. CLASS
900	PAINTED DESERT VISITORS CENTER & MAINTENANCE	-	PARKING AREA OFF RTE 010, MP 0.2	-	-	-	-
908	PINTADO POINT PARKING	-	PARKING AREA OFF RTE 010, MP 3.0	-	-	-	-
901	SOUTH AREA MUSEUM AND PICNIC PARKING	-	PARKING AREA OFF RTE 010, MP 26.4	-	-	-	-
919	SOUTH AREA RANGER PARKING	-	PARKING OFF RTE 010, MP 26.5	-	-	-	-
406	SOUTH PIPELINE ROAD	15.01	RTE 409 TO RTE 010	0.00	15.01	2	6
416	SOUTH RESIDENCE AREA	0.34		0.34	0.00	-	6
906	TAWA POINT PARKING	-	PARKING AREA OFF RTE 010, 1.8	-	-	-	-
905	TIPONI POINT PARKING	-	PARKING AREA OFF RTE 010, MP 0.9	-	-	-	-
910	WHIPPLE POINT PARKING	-	PARKING AREA OFF RTE 010, MP 4.4	-	-	-	-

* ROUTE NUMBERS WERE NOT CHANGED DUE TO CURRENT PARK USAGE. THE FUNCTIONAL CLASS ASSIGNMENTS ARE BASED ON THE GENERAL PARK ROAD FUNCTIONAL CLASSIFICATION TABLE IN SECTION XIII OF THIS REPORT, WHICH MAY NOT BE CONSISTENT WITH THE ABOVE ROUTE NUMBERS.



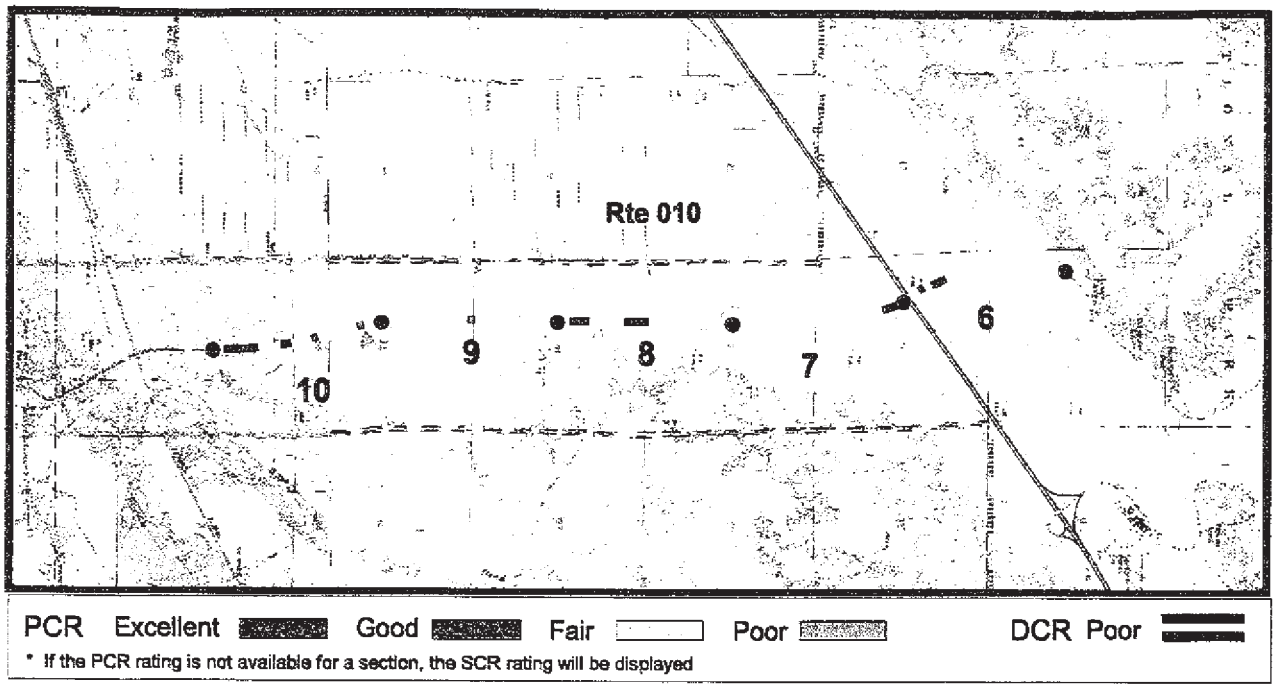
Western Region
PEFO: Petrified Forest NP

ROUTE: 010 North - South Highway TOTAL LENGTH: 28.30 Miles

Section Number	1	2	3	4	5
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
AADT	NA	NA	NA	NA	NA
SADT	NA	NA	NA	NA	NA
ADT Date	NA	NA	NA	NA	NA
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	24	24	24	22	22
Lane Width (ft)	11	11	11	11	11
Shoulder Width (ft)	4	4	4	2	2
Roadway Condition Information					
PCR (Pavement Condition Rating)	75	85	78	83	76
Roughness Index	69	85	86	90	60
SCR (Surface Condition Rating)	77	85	74	79	89
Alligator Cracking	100	100	100	100	100
Rutting Index	87	94	86	87	93
Patching Index	99	100	100	100	100
Transverse Cracking	90	92	87	91	97
Longitudinal Cracking	98	100	99	100	100
Shoulder Condition Rating	GOOD	GOOD	GOOD	FAIR	FAIR
Drainage Condition Rating	GOOD	GOOD	GOOD	GOOD	GOOD

COMMENTS:

MP 0.00 Begin at I-40, Pakring Area on right / Pic #1817
MP 0.20 Visitor Center Parking Area on right (Rte 900)
MP 0.40 North Contact Station / Pic #1820
MP 0.54 Painted Desert Residence Area (Rte 415) Intersection on right
MP 0.92 Tiponi Point Parking (Rte 905) Intersection on right
MP 1.60 Overlook Parking (Rte 915) on right
MP 1.80 Tawa Point Parking (Rte 906) on right
MP 2.14 Kachina Point Parking (Rte 907) on right
MP 2.42 Chinde Point (Rte 200) on right
MP 2.98 Pintado Point Parking (Rte 908) on right
MP 4.18 Nizhoni Point Parking (Rte 909) on right / Pic #1822 Typical Pavement Section
MP 4.38 Whipple Point Parking (Rte 910) on right
MP 4.76 Lacey Point Parking (Rte 911) on right



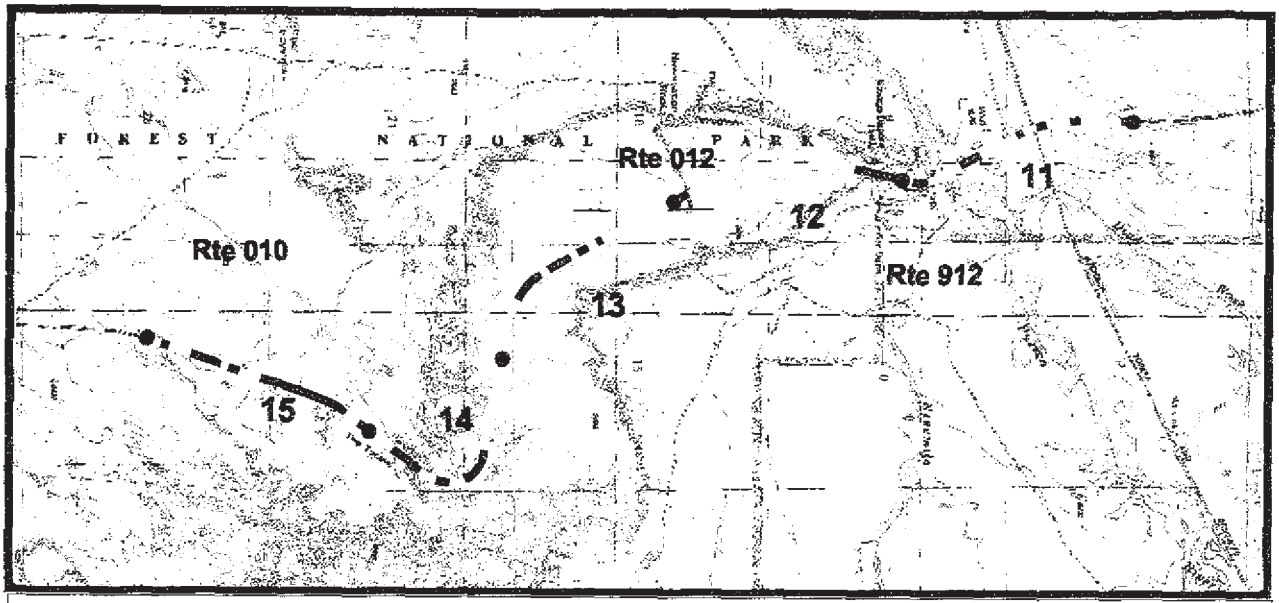
Western Region
PEFO: Petrified Forest NP

ROUTE: 010 North - South Highway TOTAL LENGTH: 28.30 Miles

Section Number	6	7	8	9	10
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
AADT	NA	NA	NA	NA	NA
SADT	NA	NA	NA	NA	NA
ADT Date	NA	NA	NA	NA	NA
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	22	22	22	22	22
Lane Width (ft)	11	11	11	11	11
Shoulder Width (ft)	2	2	2	2	2
Roadway Condition Information					
PCR (Pavement Condition Rating)	78	79	81	77	80
Roughness Index	72	75	83	81	89
SCR (Surface Condition Rating)	83	81	79	75	74
Alligator Cracking	100	100	100	100	100
Rutting Index	89	88	84	84	82
Patching Index	100	100	100	100	100
Transverse Cracking	94	93	94	91	91
Longitudinal Cracking	100	100	100	99	100
Shoulder Condition Rating	FAIR	FAIR	FAIR	FAIR	FAIR
Drainage Condition Rating	GOOD	GOOD	GOOD	GOOD	GOOD

COMMENTS:

MP 5.52 Unpaved Rte Intersection on right
MP 5.92 Overpass Interstate 40 (No Access)
MP 8.06 Unpaved Rte Intersection on left



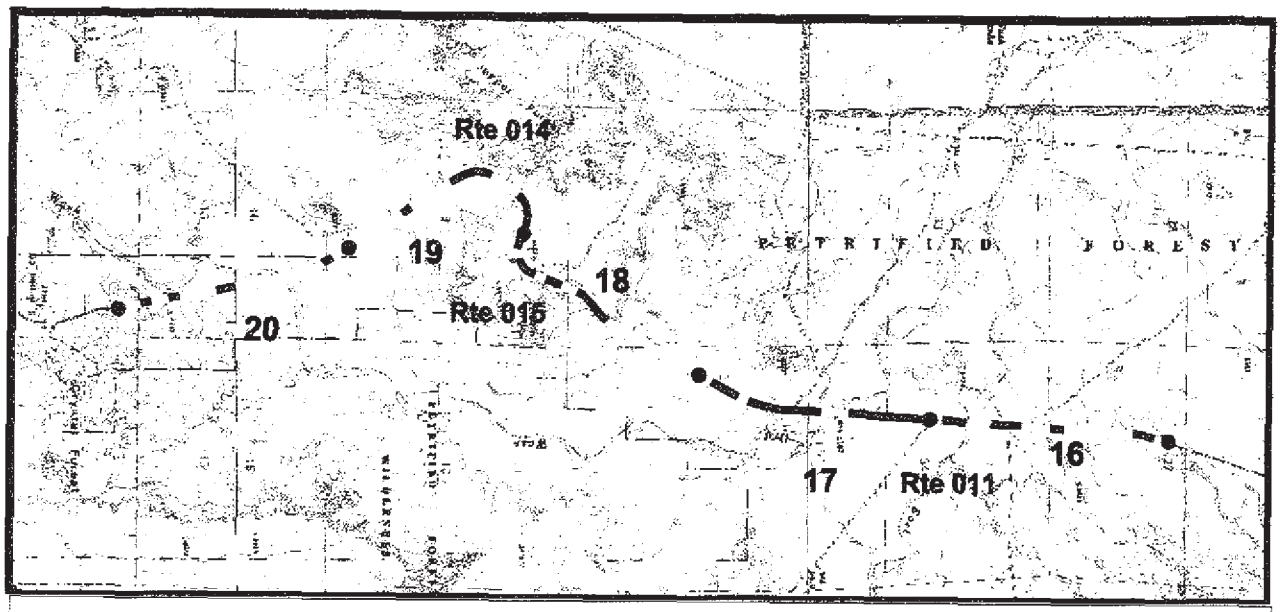
Western Region
PEFO: Petrified Forest NP

ROUTE: 010 North - South Highway TOTAL LENGTH: 28.30 Miles

Section Number	11	12	13	14	15
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
AADT	NA	NA	NA	NA	NA
SADT	NA	NA	NA	NA	NA
ADT Date	NA	NA	NA	NA	NA
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	22	24	24	22	22
Lane Width (ft)	11	11	11	11	11
Shoulder Width (ft)	2	3	3	3	3
Roadway Condition Information					
PCR (Pavement Condition Rating)	83	80	80	81	86
Roughness Index	79	83	85	69	89
SCR (Surface Condition Rating)	84	79	77	90	84
Alligator Cracking	100	100	100	100	100
Rutting Index	86	81	84	85	73
Patching Index	100	100	100	100	100
Transverse Cracking	98	94	93	98	98
Longitudinal Cracking	100	100	100	100	99
Shoulder Condition Rating	FAIR	GOOD	GOOD	GOOD	GOOD
Drainage Condition Rating	GOOD	GOOD	GOOD	GOOD	GOOD

COMMENTS:

MP 10.42 Overpass Sante Fe Railroad
MP 10.84 Puerco River Bridge / Pic #1823
MP 10.90 Unpaved Rte Intersection on right
MP 10.95 Indian Ruins Parking (Rte 912) on left
MP 10.97 Unpaved Rte Intersection on right
MP 11.40 Typical Pavement Section, note ravelling and bleeding / Pic #1824
MP 11.96 Newspaper Rock Road (Rte 012) Intersection on right
MP 13.20 Typical Pavement Section / Pic #1825
MP 14.10 Typical Pavement Seciton / Pic #1826
MP 14.50 Typical Pavement Seciton / Pic #1827



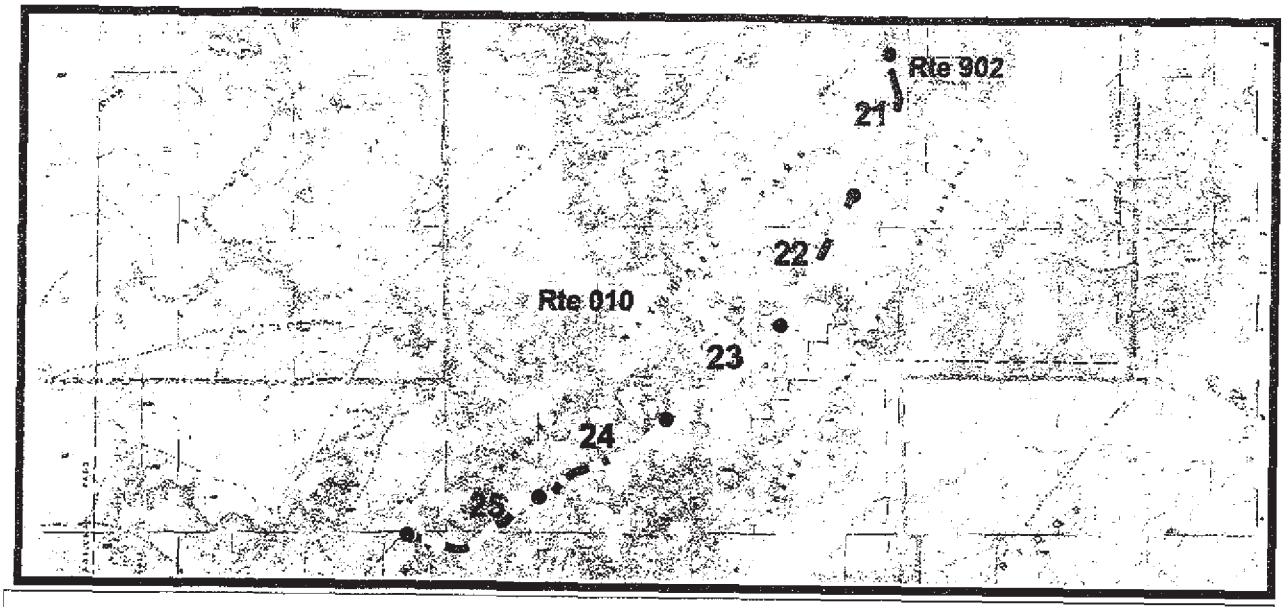
Western Region
PEFO: Petrified Forest NP

ROUTE: 010 North - South Highway TOTAL LENGTH: 28.30 Miles

Section Number	16	17	18	19	20
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
AADT	NA	NA	NA	NA	NA
SADT	NA	NA	NA	NA	NA
ADT Date	NA	NA	NA	NA	NA
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	22	22	22	22	22
Lane Width (ft)	11	11	11	11	11
Shoulder Width (ft)	3	3	3	3	3
Roadway Condition Information					
PCR (Pavement Condition Rating)	82	87	83	83	80
Roughness Index	81	90	76	77	77
SCR (Surface Condition Rating)	83	85	88	89	83
Alligator Cracking	100	100	100	100	100
Rutting Index	78	76	84	82	80
Patching Index	100	100	100	100	100
Transverse Cracking	96	98	97	98	97
Longitudinal Cracking	100	99	99	100	100
Shoulder Condition Rating	GOOD	GOOD	GOOD	GOOD	GOOD
Drainage Condition Rating	GOOD	GOOD	GOOD	GOOD	GOOD

COMMENTS:

MP 15.67 Blue Mesa Road (Rte 011) Intersection on left
MP 15.82 Bridge
MP 16.39 Dry Wash Bridge
MP 16.43 Unpaved Rte Intersection on right
MP 16.70 Typical Pavement Section / Pic #1828
MP 17.00 Typical Pavement Section / Pic #1829
MP 17.83 Unpaved Rte Intersection on right
MP 17.85 Agate Bridge Road (Rte 015) Intersection on left
MP 18.84 Jasper Forest Road (Rte 014) Intersection on right
MP 19.40 Typical Pavement Section / Pic #1830
MP 19.28 Bridge over Dry Wash



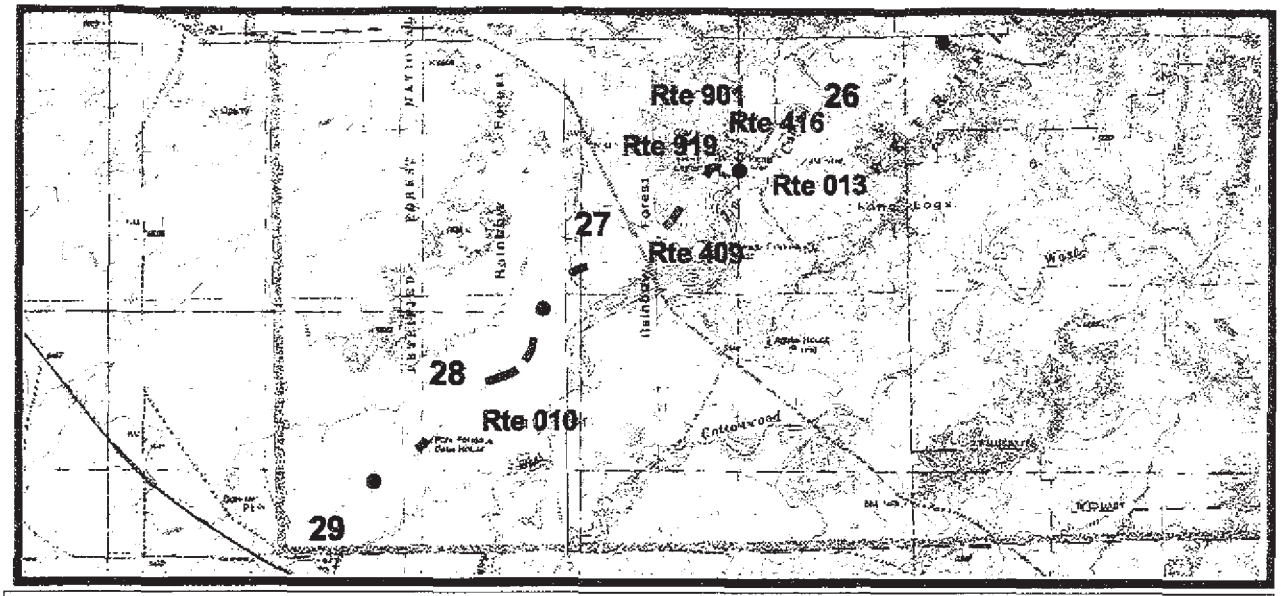
Western Region
PEFO: Petrified Forest NP

ROUTE: 010 North - South Highway TOTAL LENGTH: 28.30 Miles

Section Number	21	22	23	24	25
Section Length (mi)	1.00	1.00	1.00	1.00	1.00
AADT	NA	NA	NA	NA	NA
SADT	NA	NA	NA	NA	NA
ADT Date	NA	NA	NA	NA	NA
Cross Section Information					
Number of Lanes	2	2	2	2	2
Paved Width (ft)	22	22	22	22	22
Lane Width (ft)	11	11	11	11	11
Shoulder Width (ft)	3	3	3	3	3
Roadway Condition Information					
PCR (Pavement Condition Rating)	81	78	75	79	79
Roughness Index	71	67	58	68	62
SCR (Surface Condition Rating)	89	86	87	87	89
Alligator Cracking	100	100	100	100	100
Rutting Index	93	92	90	91	93
Patching Index	100	99	100	100	100
Transverse Cracking	97	97	98	98	98
Longitudinal Cracking	100	99	99	99	98
Shoulder Condition Rating	GOOD	GOOD	GOOD	GOOD	GOOD
Drainage Condition Rating	GOOD	GOOD	GOOD	GOOD	GOOD

COMMENTS:

MP 20.31 Crystal Forest Parking (Rte 902) Intersection on left
MP 22.18 Bridge over Dry Wash
MP 23.70 Typical Pavement Section / Pic #1831



PCR Excellent Good Fair Poor DCR Poor

* If the PCR rating is not available for a section, the SCR rating will be displayed

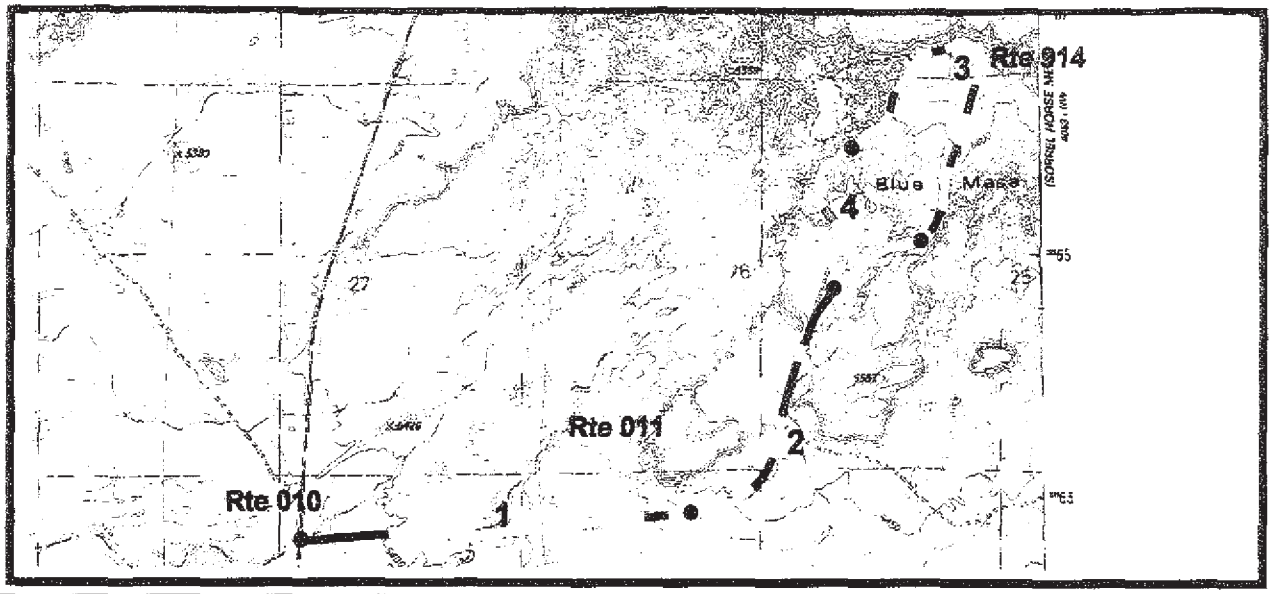
Western Region
PEFO: Petrified Forest NP

ROUTE: 010 North - South Highway TOTAL LENGTH: 28.30 Miles

Section Number	26	27	28	29	
Section Length (mi)	1.00	1.00	1.00	0.30	
AADT	NA	NA	NA	NA	
SADT	NA	NA	NA	NA	
ADT Date	NA	NA	NA	NA	
Cross Section Information					
Number of Lanes	2	2	2	2	
Paved Width (ft)	22	22	24	24	
Lane Width (ft)	10	10	11	11	
Shoulder Width (ft)	3	3	3	3	
Roadway Condition Information					
PCR (Pavement Condition Rating)	72	75	79	72	
Roughness Index	57	58	66	50	
SCR (Surface Condition Rating)	82	87	87	82	
Alligator Cracking	100	100	100	100	
Rutting Index	90	96	93	91	
Patching Index	100	100	100	100	
Transverse Cracking	95	94	96	95	
Longitudinal Cracking	97	98	99	98	
Shoulder Condition Rating	GOOD	GOOD	GOOD	GOOD	
Drainage Condition Rating	GOOD	GOOD	GOOD	GOOD	

COMMENTS:

MP 25.40 Typical Pavement Section, note longitudinal and transverse sealed cracks / Pic #1832
MP 25.89 Long Logs Road (Rte 013) Intersection on left
MP 25.93 Jim Camp Wash Bridge
MP 26.00 South Area Museum and Picnic Parking (Rte 901) Intersection on right / Pic #1833
MP 26.13 South Area Ranger Parking (Rte 919) Intersection on right
MP 26.40 Old Route 180 (Rte 409) Intersection on right and left
MP 27.00 Typical Pavement Section / Pic #1836
MP 26.80 Cottonwood Wash Bridge
MP 27.80 Typical Pavement Section / Pic #1835
MP 28.30 End at South Boundary and US 180



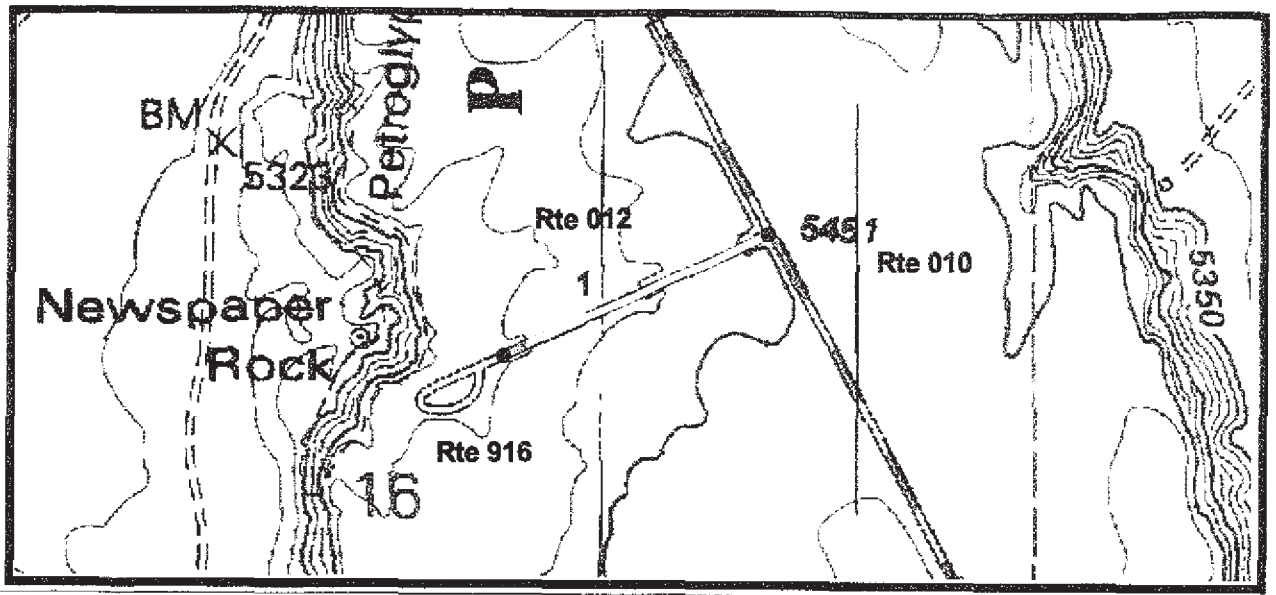
Western Region
PEFO: Petrified Forest NP

ROUTE: 011 Blue Mesa Road — TOTAL LENGTH: 3.44 Miles

Section Number	1	2	3	4	
Section Length (mi)	1.00	1.00	1.00	0.44	
AADT	NA	NA	NA	NA	
SADT	NA	NA	NA	NA	
ADT Date	NA	NA	NA	NA	
Cross Section Information					
Number of Lanes	2	2	1	1	
Paved Width (ft)	22	22	14	14	
Lane Width (ft)	11	11	14	14	
Shoulder Width (ft)	3	3	0	0	
Roadway Condition Information					
PCR (Pavement Condition Rating)	79	81	83	72	
Roughness Index	71	70	67	46	
SCR (Surface Condition Rating)	83	88	93	91	
Alligator Cracking	100	100	100	100	
Rutting Index	89	95	97	94	
Patching Index	100	100	100	100	
Transverse Cracking	96	96	98	98	
Longitudinal Cracking	99	100	100	99	
Shoulder Condition Rating	GOOD	GOOD	NA	NA	
Drainage Condition Rating	GOOD	GOOD	GOOD	GOOD	

COMMENTS:

MP 0.00 Begin at North South Highway (Rte 010)
MP 0.40 *Typical Pavement Seciton / Pic #1844*
MP 1.50 Typical Pavement Section / Pic #1846
MP 1.78 Begin counterclockwise loop
MP 2.20 *Typical Pavement Section / Pic #1845*
MP 2.70 Blue Mesa Loop Trail Parking (Rte 914) on right
MP 3.44 End loop



PCR Excellent ▬ Good ▬ Fair ▭ Poor ▬ DCR Poor ═

* If the PCR rating is not available for a section, the SCR rating will be displayed

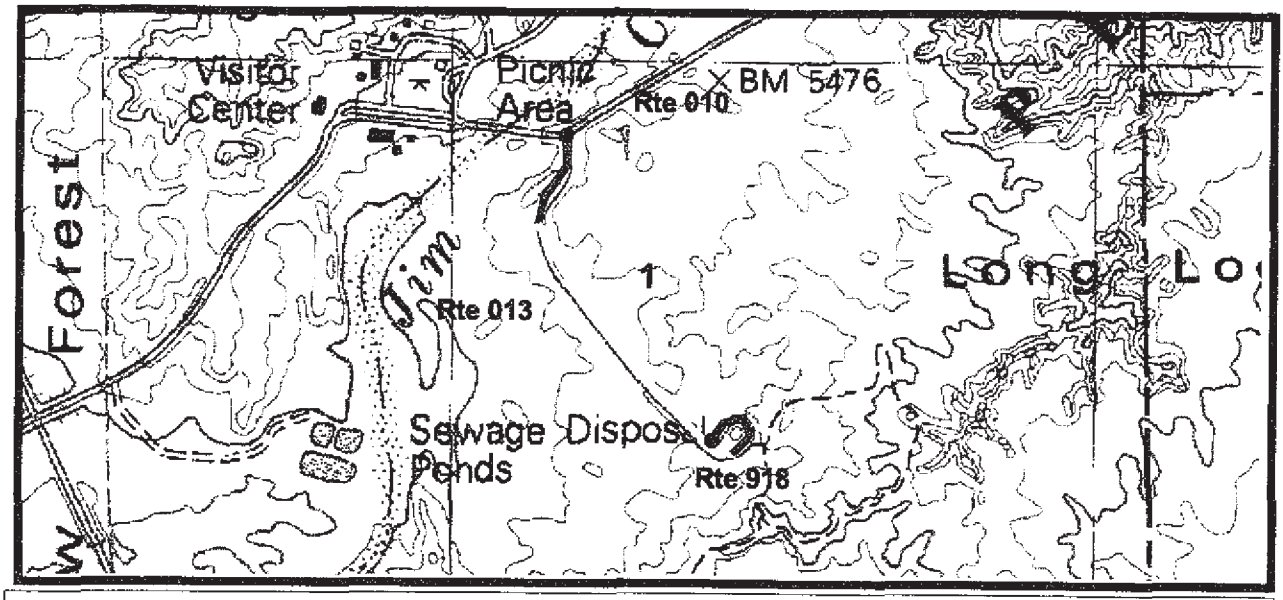
Western Region
PEFO: Petrified Forest NP

ROUTE: 012 Newspaper Rock Road — TOTAL LENGTH: 0.24 Miles

Section Number	1				
Section Length (mi)	0.24				
AADT	NA				
SADT	NA				
ADT Date	NA				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	22				
Lane Width (ft)	11				
Shoulder Width (ft)	1				
Roadway Condition Information					
PCR (Pavement Condition Rating)	72				
Roughness Index	53				
SCR (Surface Condition Rating)	82				
Alligator Cracking	100				
Rutting Index	93				
Patching Index	100				
Transverse Cracking	92				
Longitudinal Cracking	98				
Shoulder Condition Rating	GOOD				
Drainage Condition Rating	GOOD				

COMMENTS:

MP 0.00 Begin route at North-South Highway (Rte 010)
MP 0.24 End at Newspaper Rock Parking Area (Rte 916) / Pic #1849 looking back



Western Region
PEFO: Petrified Forest NP

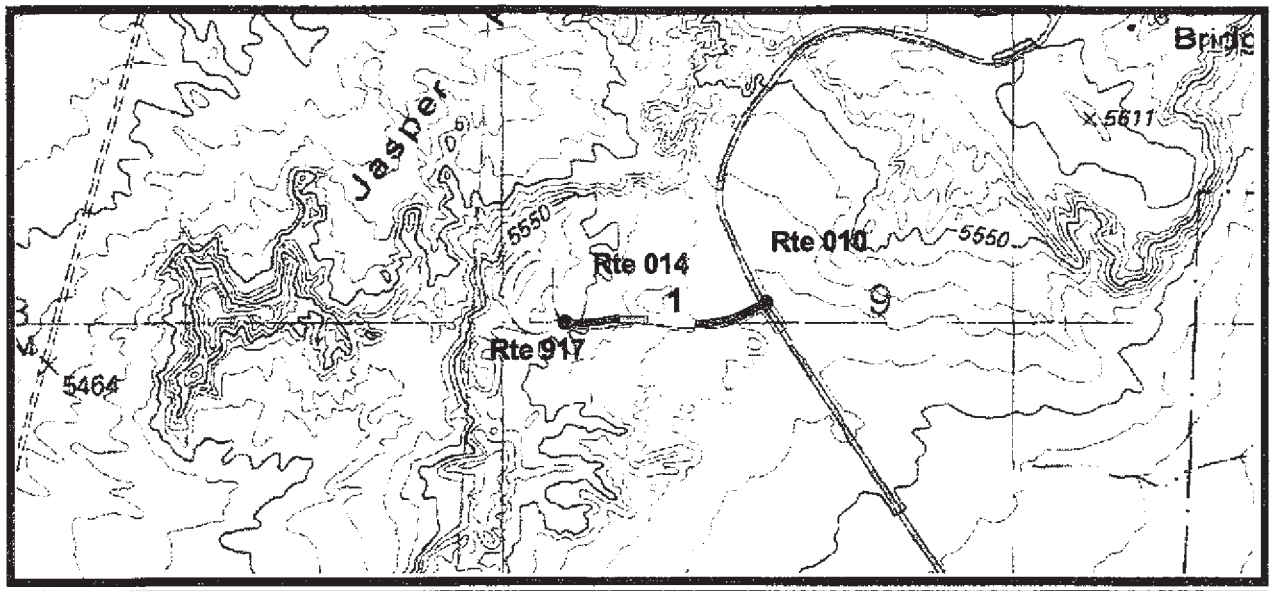
ROUTE: 013 Long Logs Road

TOTAL LENGTH: 0.48 Miles

Section Number	1				
Section Length (mi)	0.48				
AADT	NA				
SADT	NA				
ADT Date	NA				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	22				
Lane Width (ft)	11				
Shoulder Width (ft)	0				
Roadway Condition Information					
PCR (Pavement Condition Rating)	NA				
Roughness Index	59				
SCR (Surface Condition Rating)	86				
Alligator Cracking	101				
Rutting Index	96				
Patching Index	100				
Transverse Cracking	93				
Longitudinal Cracking	99				
Shoulder Condition Rating	NA				
Drainage Condition Rating	GOOD				

COMMENTS:

MP 0.00 Begin route at North-South Highway (Rte 010)
MP 0.10 Typical Pavement Section / Pic #1841
MP 0.48 End at Long Logs Parking Area (Rte 918)



Western Region
PEFO: Petrified Forest NP

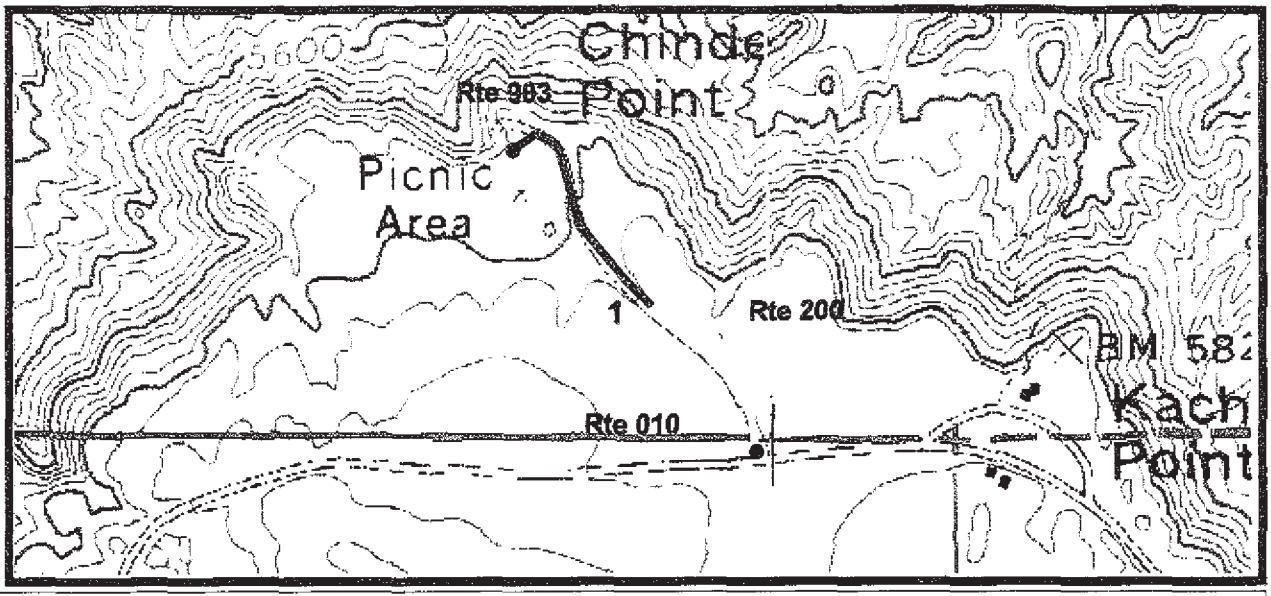
ROUTE: 014 Jasper Forest Road — TOTAL LENGTH: 0.50 Miles

Section Number	1
Section Length (mi)	0.50
AADT	NA
SADT	NA
ADT Date	NA
Cross Section Information	
Number of Lanes	2
Paved Width (ft)	22
Lane Width (ft)	11
Shoulder Width (ft)	0
Roadway Condition Information	
PCR (Pavement Condition Rating)	74
Roughness Index	51
SCR (Surface Condition Rating)	84
Alligator Cracking	100
Rutting Index	97
Patching Index	100
Transverse Cracking	90
Longitudinal Cracking	98
Shoulder Condition Rating	NA
Drainage Condition Rating	GOOD

COMMENTS:

MP 0.00 Begin route at North-South Highway (Rte 010)
MP 0.26 Begin counterclockwise loop
MP 0.50 End loop / Pic #1842

ROUTE: 014 Jasper Forest Road



Western Region
PEFO: Petrified Forest NP

ROUTE: 200 Chinde Point TOTAL LENGTH: 0.34 Miles

Section Number	1				
Section Length (mi)	0.34				
AADT	NA				
SADT	NA				
ADT Date	NA				
Cross Section Information					
Number of Lanes	2				
Paved Width (ft)	20				
Lane Width (ft)	10				
Shoulder Width (ft)	0				
Roadway Condition Information					
PCR (Pavement Condition Rating)	88				
Roughness Index	85				
SCR (Surface Condition Rating)	89				
Alligator Cracking	100				
Rutting Index	89				
Patching Index	100				
Transverse Cracking	95				
Longitudinal Cracking	99				
Shoulder Condition Rating	NA				
Drainage Condition Rating	GOOD				

COMMENTS:

MP 0.00 Begin route at North-South Highway (Rte 010)
MP 0.06 Typical Pavement Section / Pic #1849
MP 0.34 End route at Chinde Point Parking Area (Rte 903), unpaved

VI. MANUALLY RATED PAVED ROUTE CONDITION RATING SHEETS.

The following section contains routes that the ARAN cannot be driven on safely and accurately. Typically these are campground roads, which include aspects of both main routes and parking lot features. Also, these routes are designated for low-speed traffic, which does not allow the ARAN to effectively rate them.

In order to report the condition of these routes most accurately, they have been collected with both the ARAN and GPS data collection procedures. The entire route is collected using GPS, providing lane miles. Then, if possible, a sample section is collected using the ARAN, to get an objective rating of its condition. The portion is usually main thoroughfares or entrance roads.

Thus, SCR, RI, and PCR are reported, along with lane miles and a condition derived from the ARAN rating. Below the ratings will be the entire route mapped, with the sample section shown as a line in its corresponding condition color. If the ARAN could not be driven on the route, the ratings will be reported as 'NA', and the condition will be from subjective visual observation only.

Petrified Forest National Park

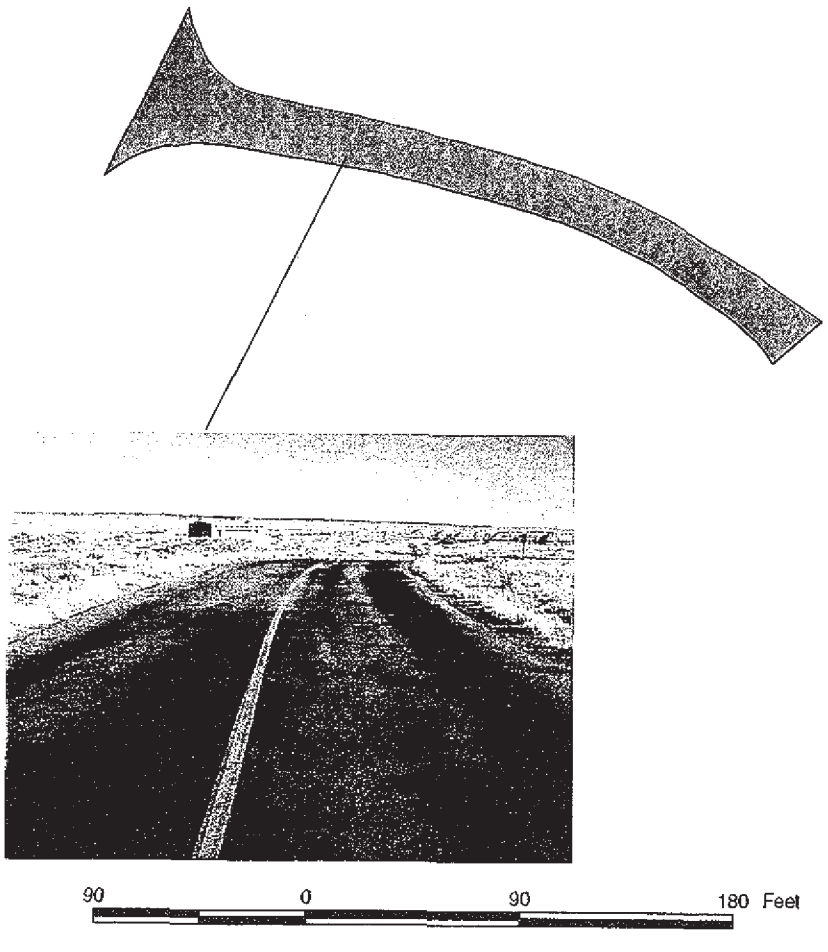
Route 015P

Agate Bridge Road

From Rte 010 To Parking Area

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
015P	AZ	990122			9100.00	0.16	FAIR

- Length and width will be used when applicable
-Lane miles are based on 11' lane widths



Petrified Forest National Park

Route 409N

Old Route 180

From Rte 010 To Horse Corral

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
409N	AZ	990122	1.930	18	-	3.16	POOR

- Length and width will be used when applicable
-Lane miles are based on 11'lane widths

Petrified Forest National Park

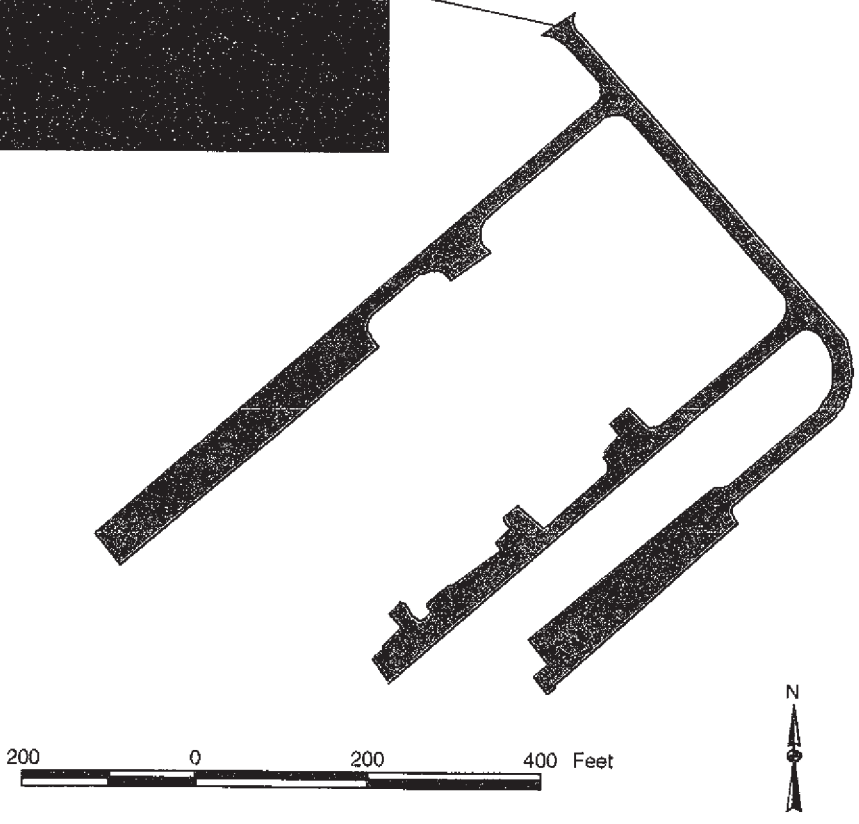
Route 415N

Painted Desert Residence Area

From Rte 010 Through Residences

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
415N	AZ	990122			81321.00	1.40	FAIR

- Length and width will be used when applicable
-Lane miles are based on 11' lane widths



Petrified Forest National Park

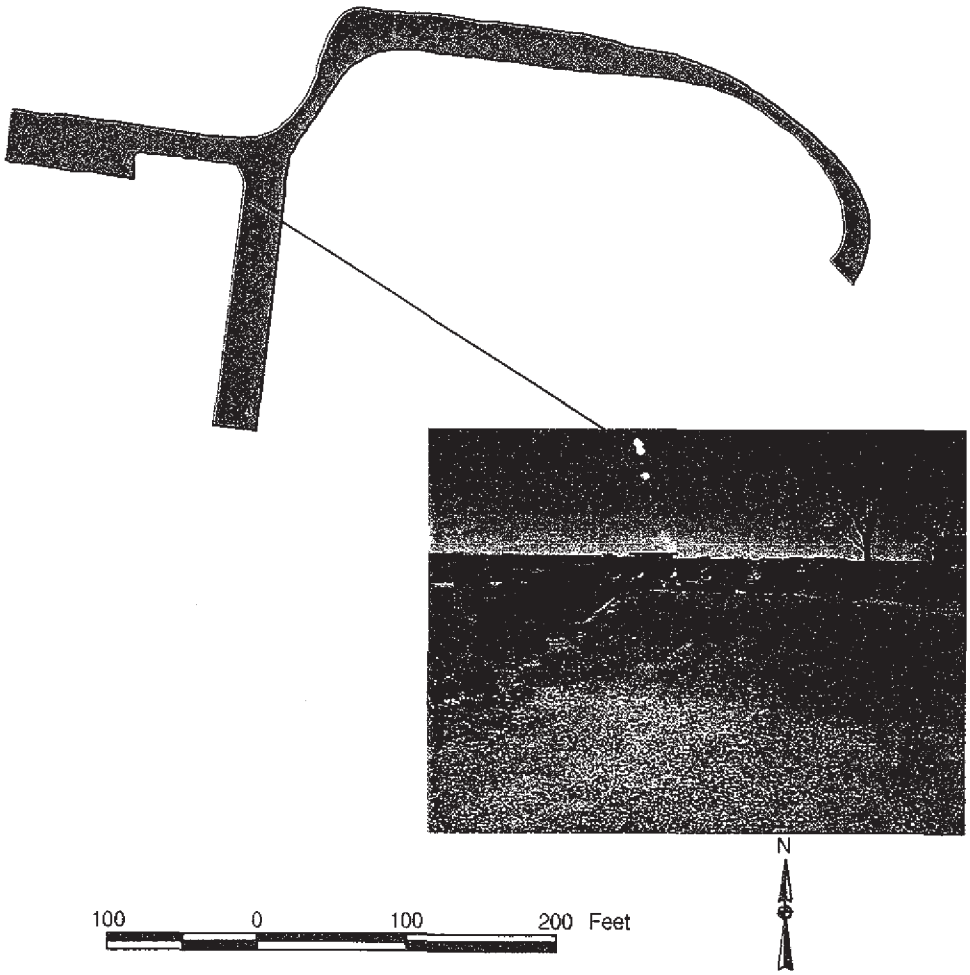
Route 416N

South Residence Area

From Rte 901 Parking Area Through Residences

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
416N	AZ	990123			19774.00	0.34	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

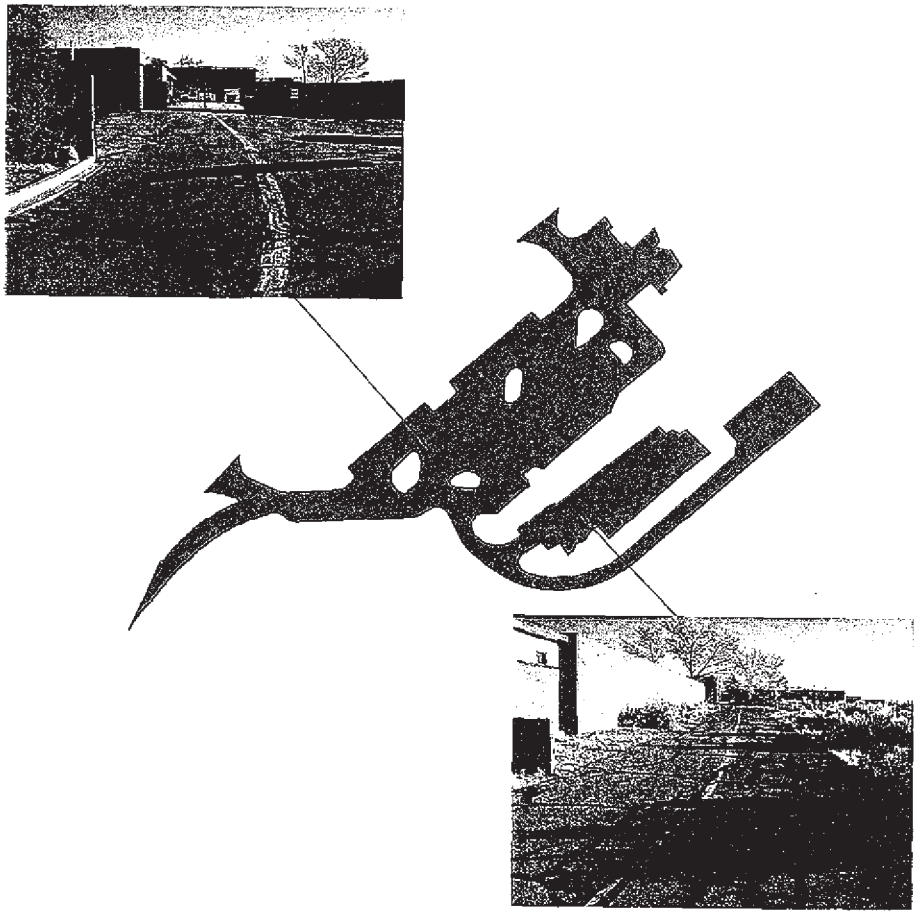
Route 900P

Painted Desert Visitor Center / Maintenance & Administration Area

Parking East of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
900P	AZ	990123			146984.00	2.53	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

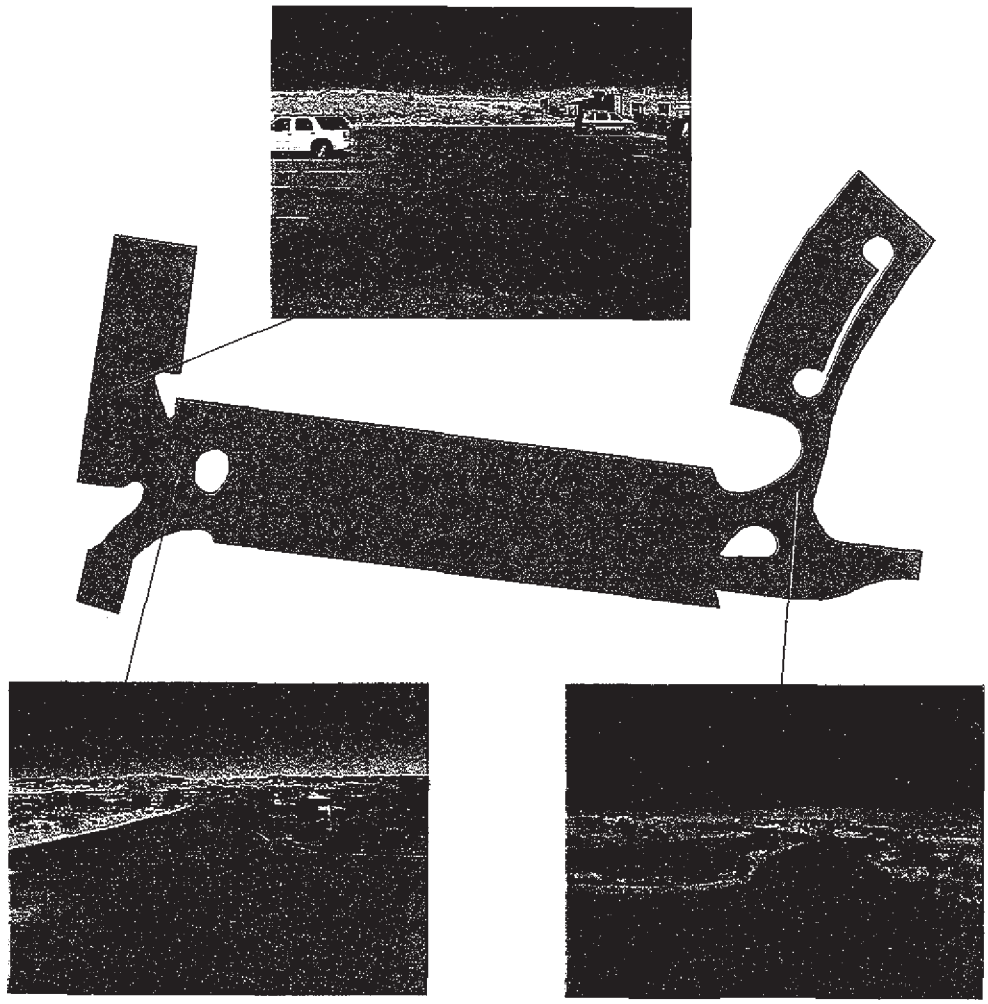
Route 901P

South Area Museum and Picnic Parking

Parking West of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
901P	AZ	990123			100570.00	1.73	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

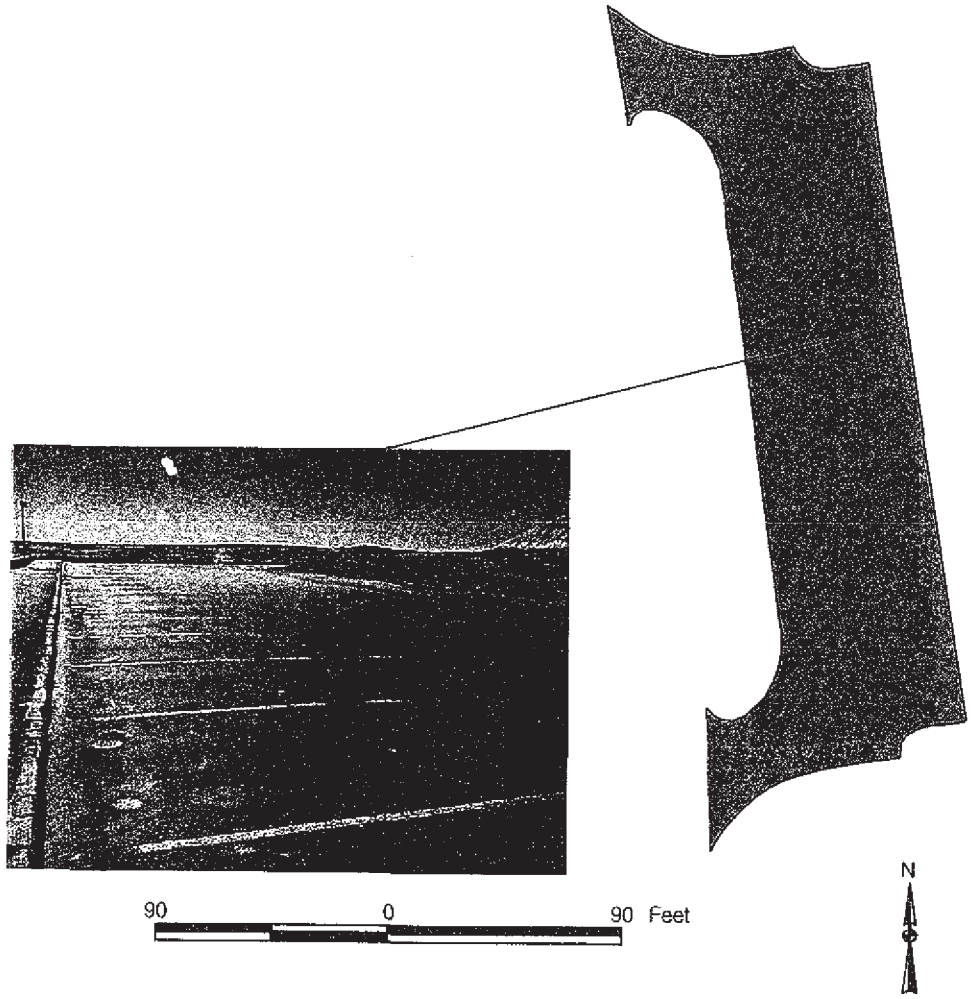
Route 902P

Crystal Forest Parking

Parking East of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
902P	AZ	990123			19352.00	0.33	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

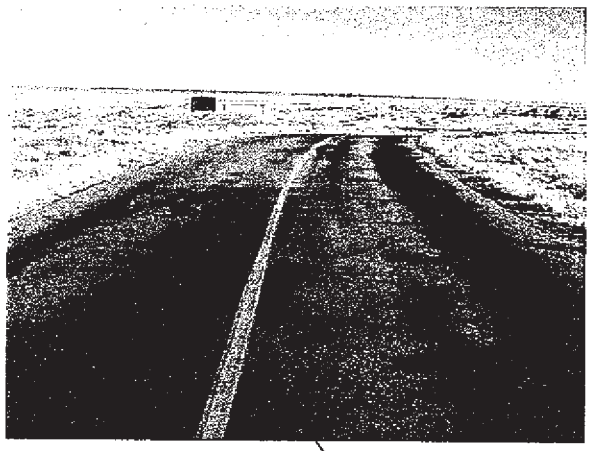
Route 904P

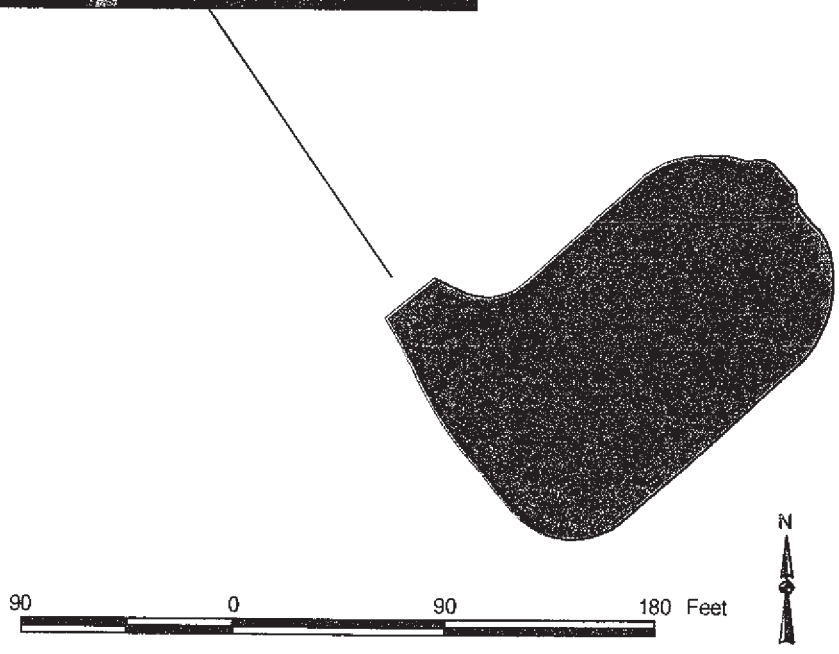
Agate Bridge Parking

Parking At End Of Rte 015

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
904P	AZ	990123			16400.00	0.28	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths





Petrified Forest National Park

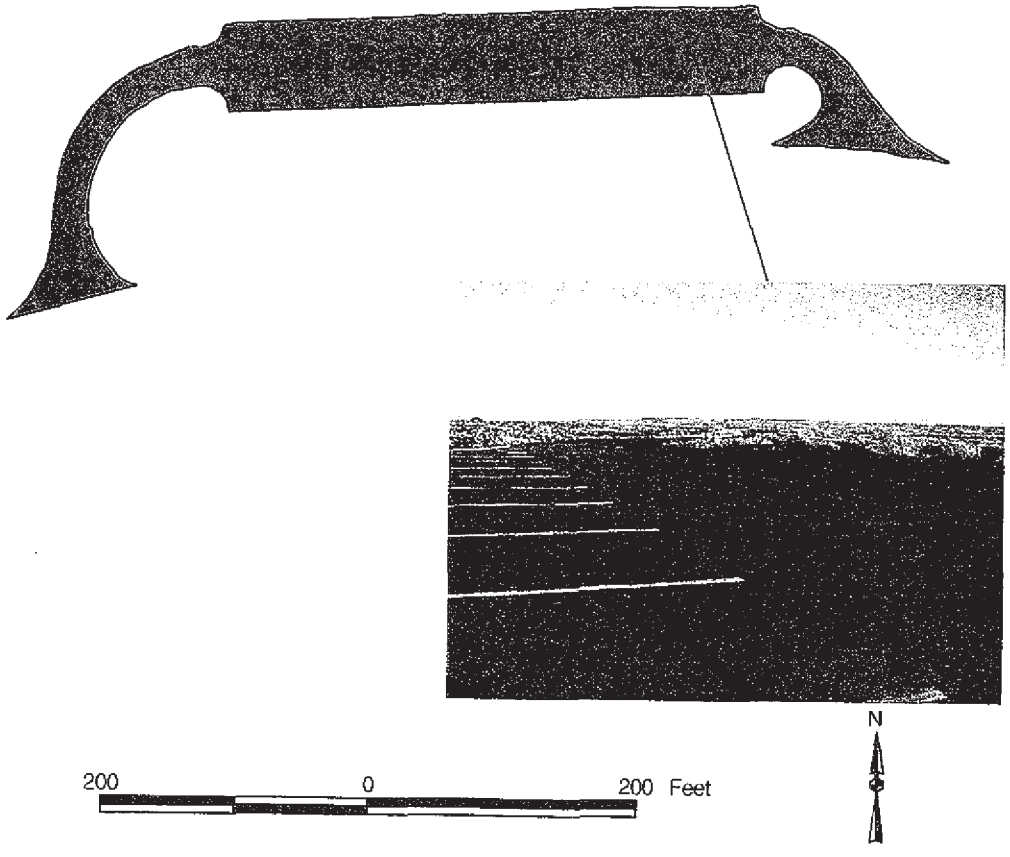
Route 905P

Tiponi Point Parking

Parking Area Off Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
905P	AZ	990122			39020.00	0.67	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

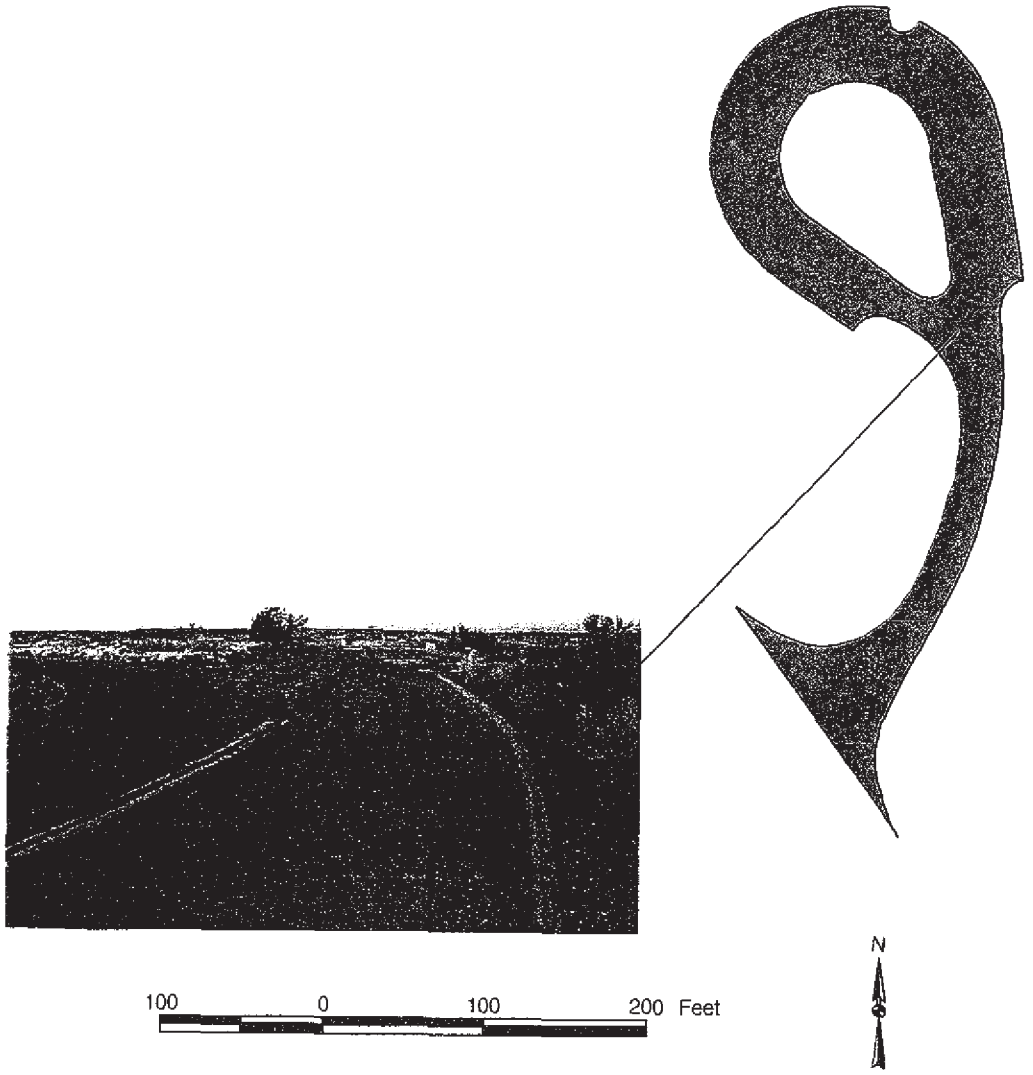
Route 906P

Tawa Point Parking

Parking Area Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
906P	AZ	990123			30339.00	0.52	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

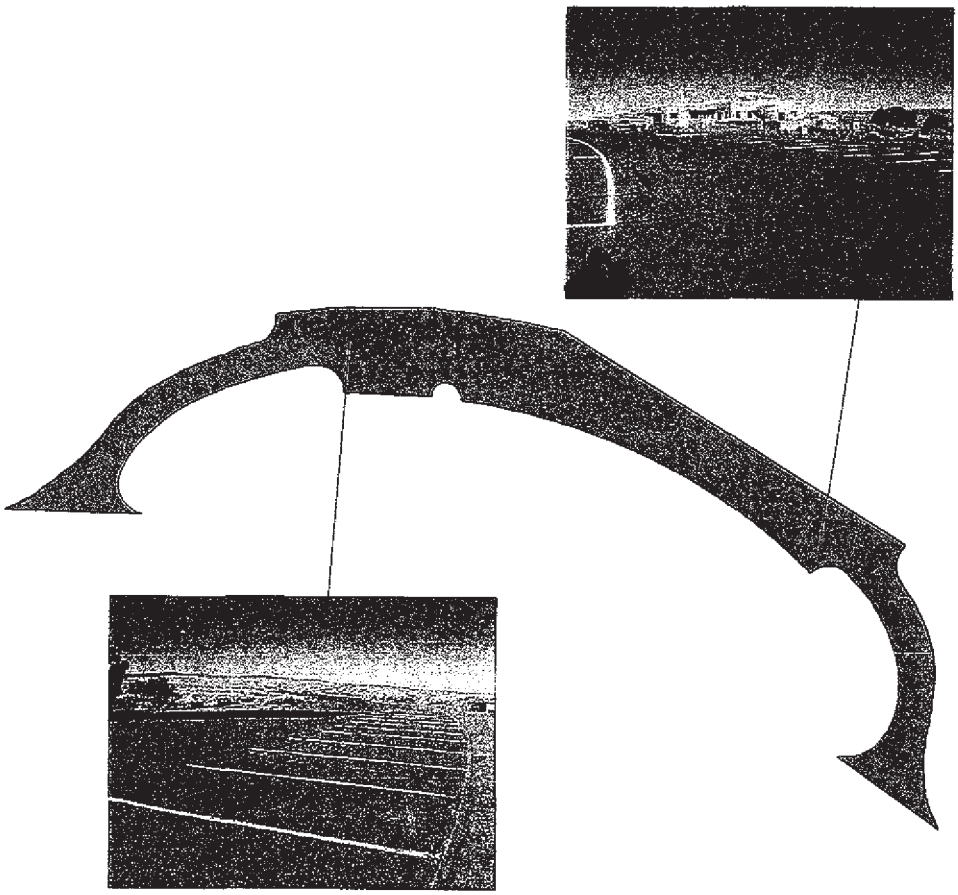
Route 907P

Kachina Point Parking

Parking Area East Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
907P	AZ	990123			38330.00	0.66	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

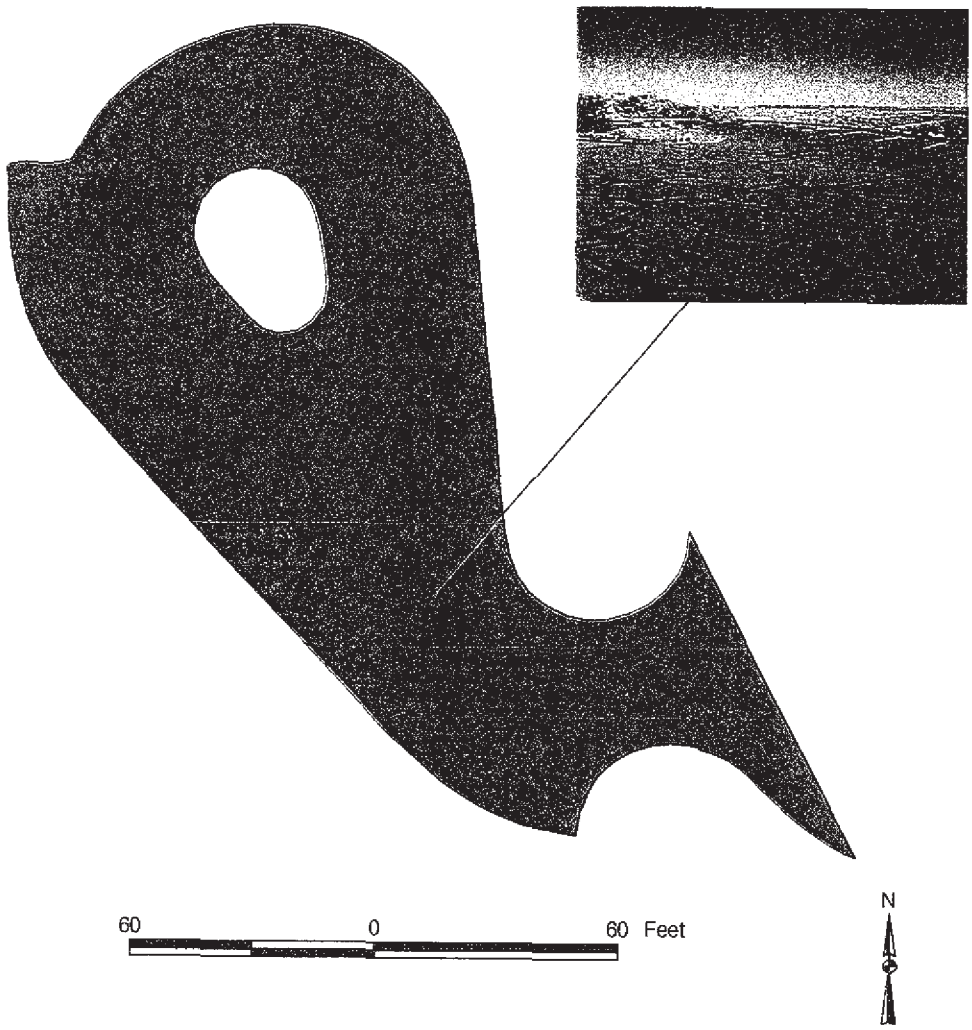
Route 908P

Pintado Point Parking

Parking Area West Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
908P	AZ	990123			16849.00	0.29	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

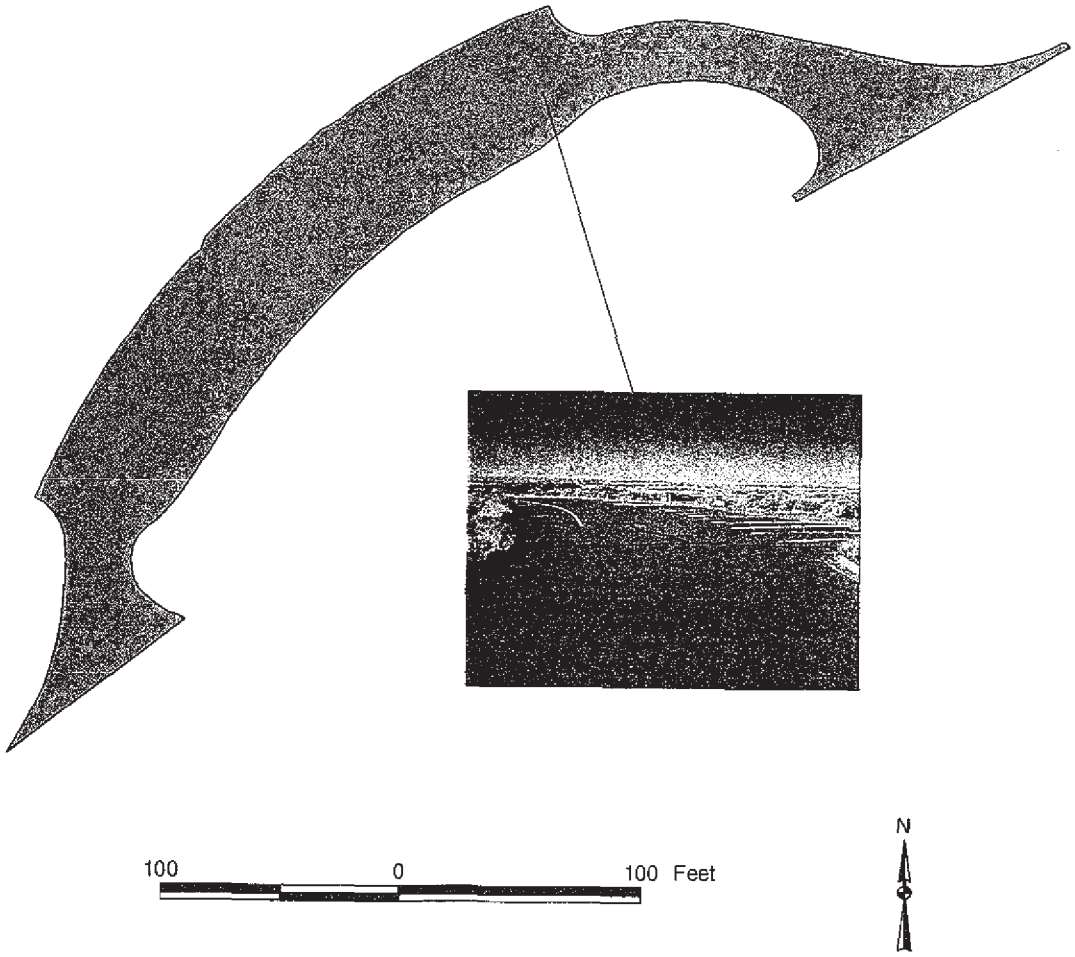
Route 909P

Nizhoni Point Parking

Parking Area West Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
909P	AZ	990123			23126.00	0.40	GOOD

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

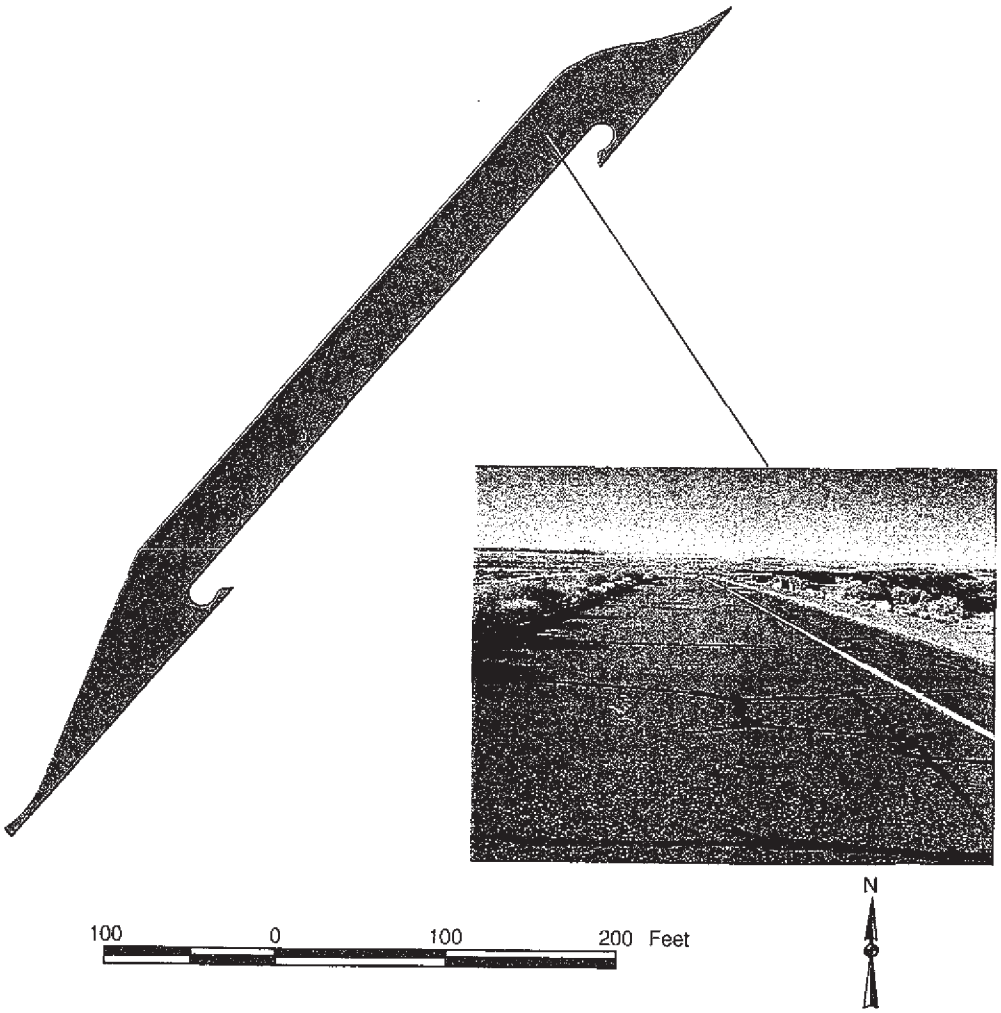
Route 910P

Whipple Point Parking

Parking Area West Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
910P	AZ	990123			20466.00	0.35	GOOD

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

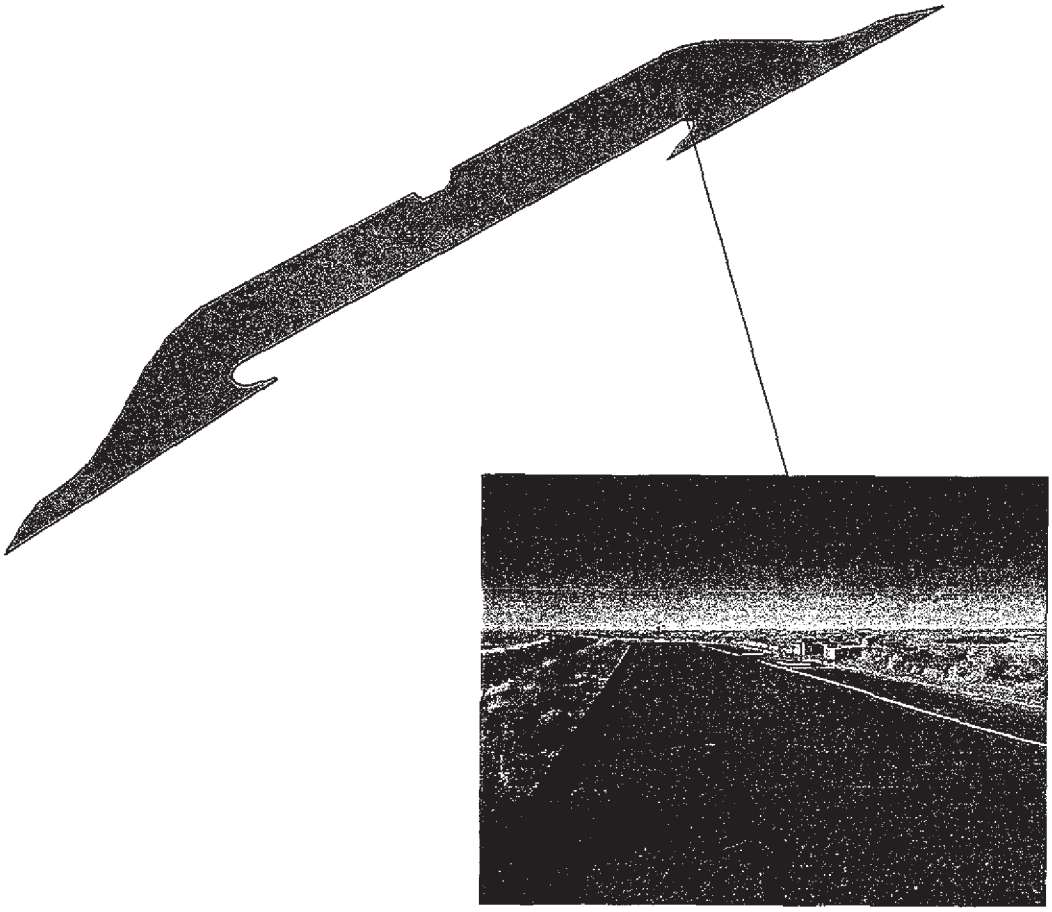
Route 911P

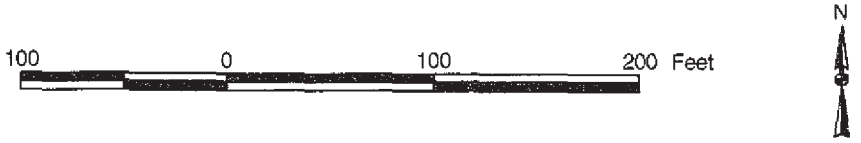
Lacey Point Parking

Parking Area West Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
911P	AZ	990123			14640.00	0.25	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths





Petrified Forest National Park

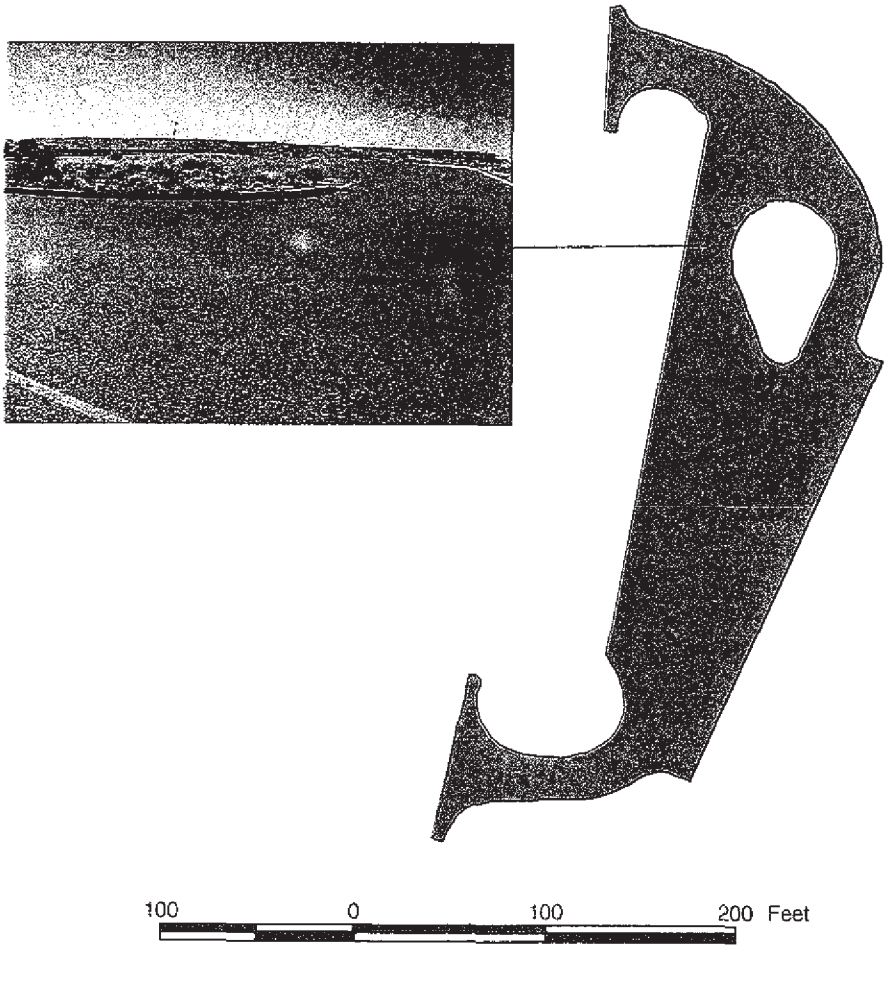
Route 912P

Indian Ruins Parking

Parking Area East Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
912P	AZ	990123			32439.00	0.56	GOOD

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

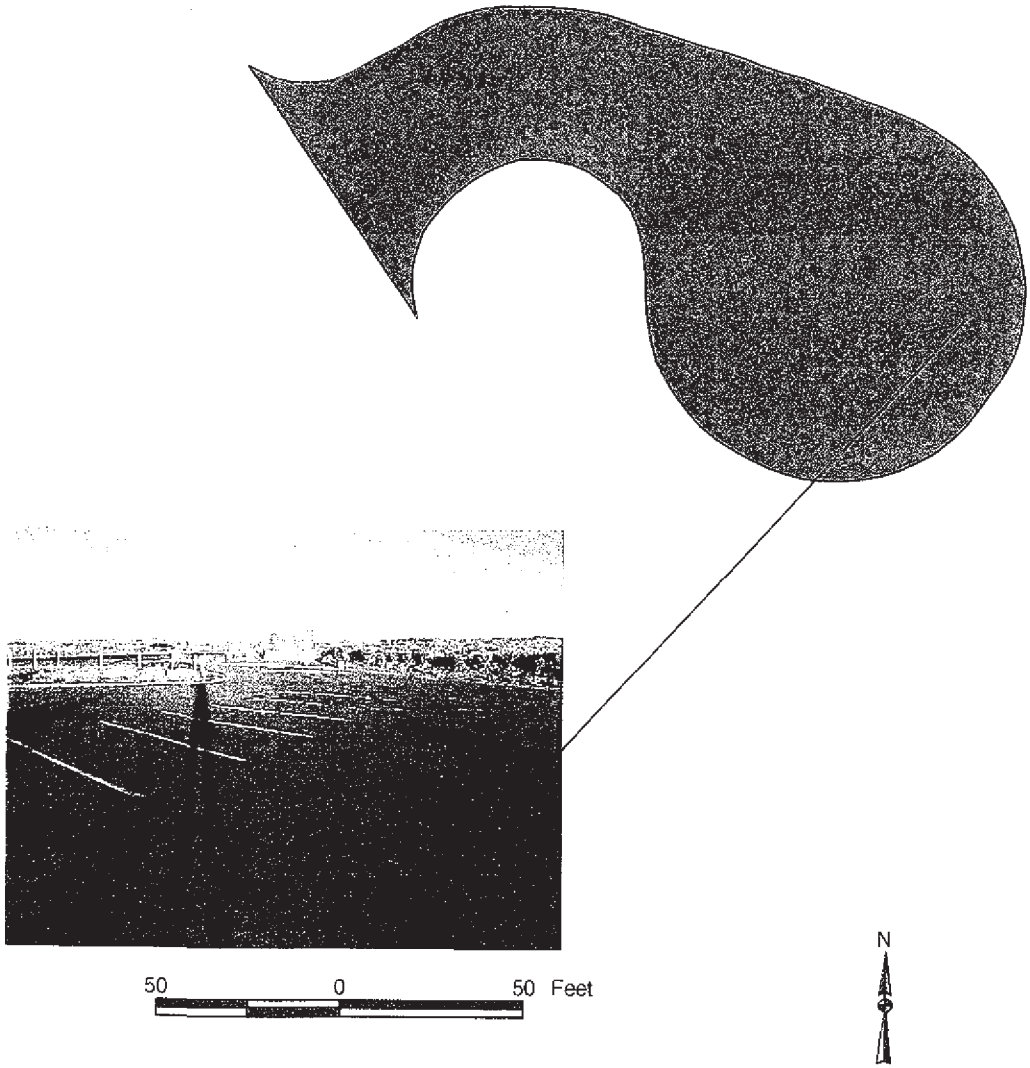
Route 913P

North Entrance Parking

Parking Area East Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
913P	AZ	990123			13838.00	0.24	GOOD

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

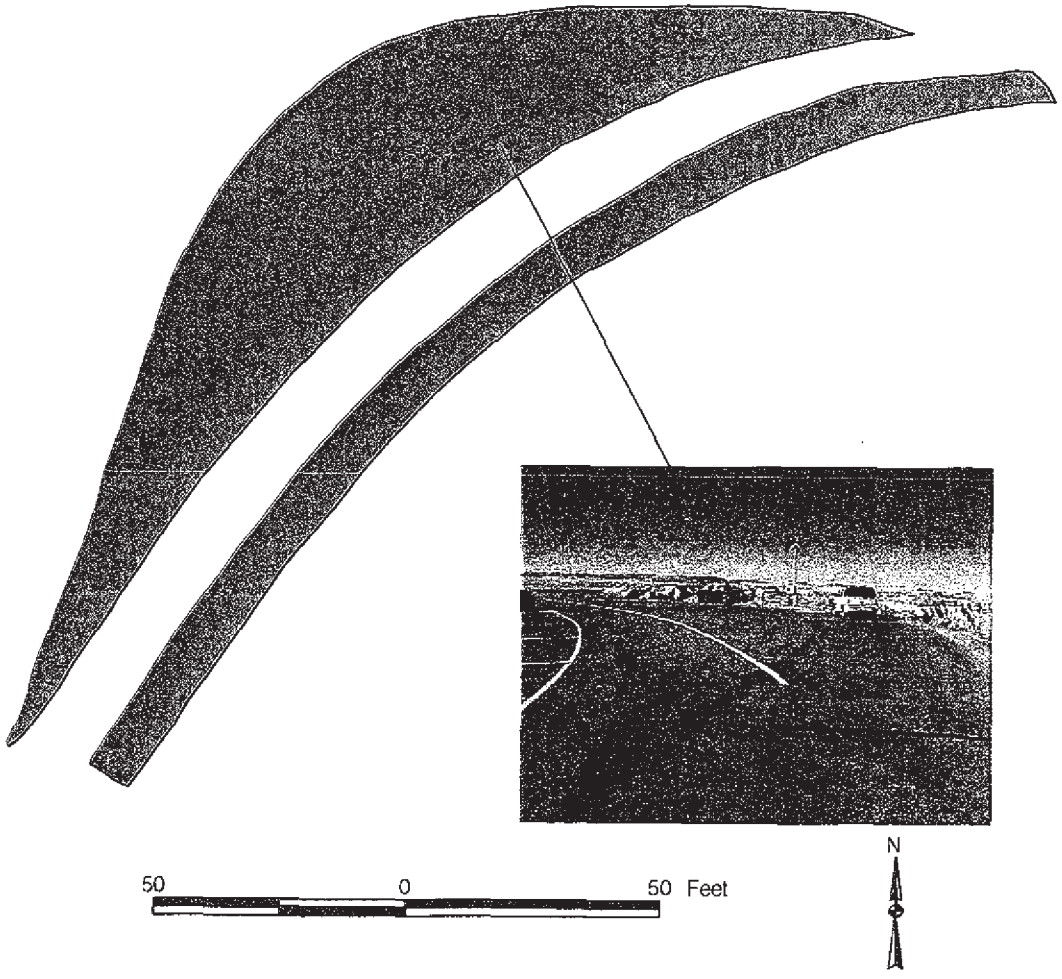
Route 914P

Blue Mesa Loop Trail Parking

Parking Area Off Of Rte 011

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
914P	AZ	990123			7361.00	0.13	GOOD

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

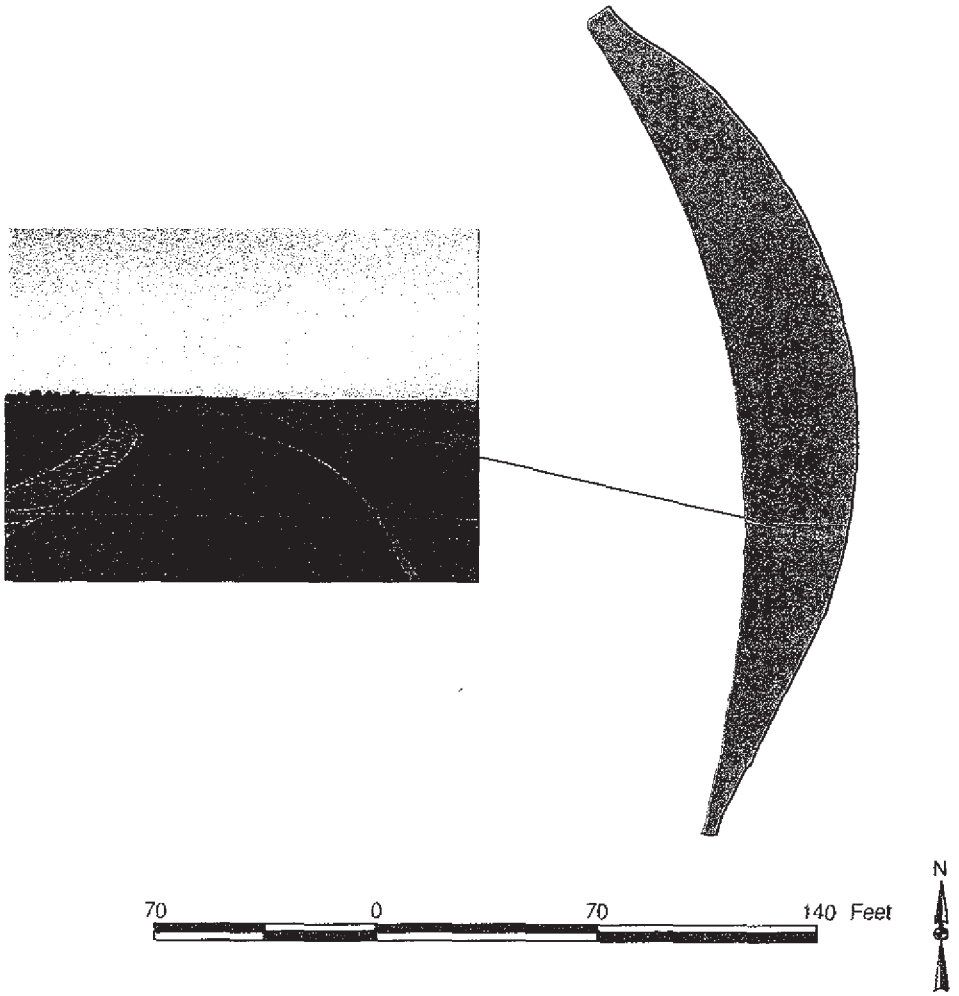
Route 915P

Overlook Parking

Parking Area East Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
915P	AZ	990123			7316.00	0.13	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

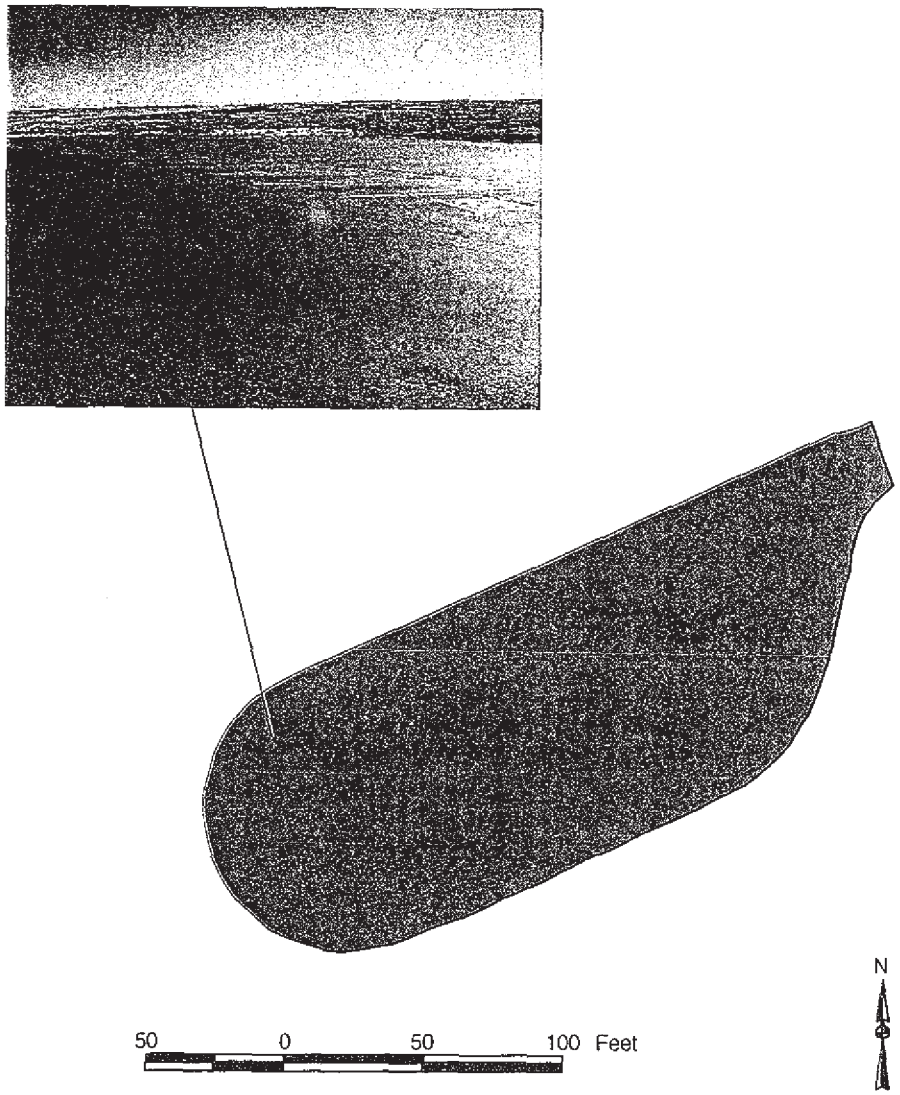
Route 916P

Newspaper Rock Parking Area

Parking Area At End Of Rte 012

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
916P	AZ	990123			24380.00	0.42	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

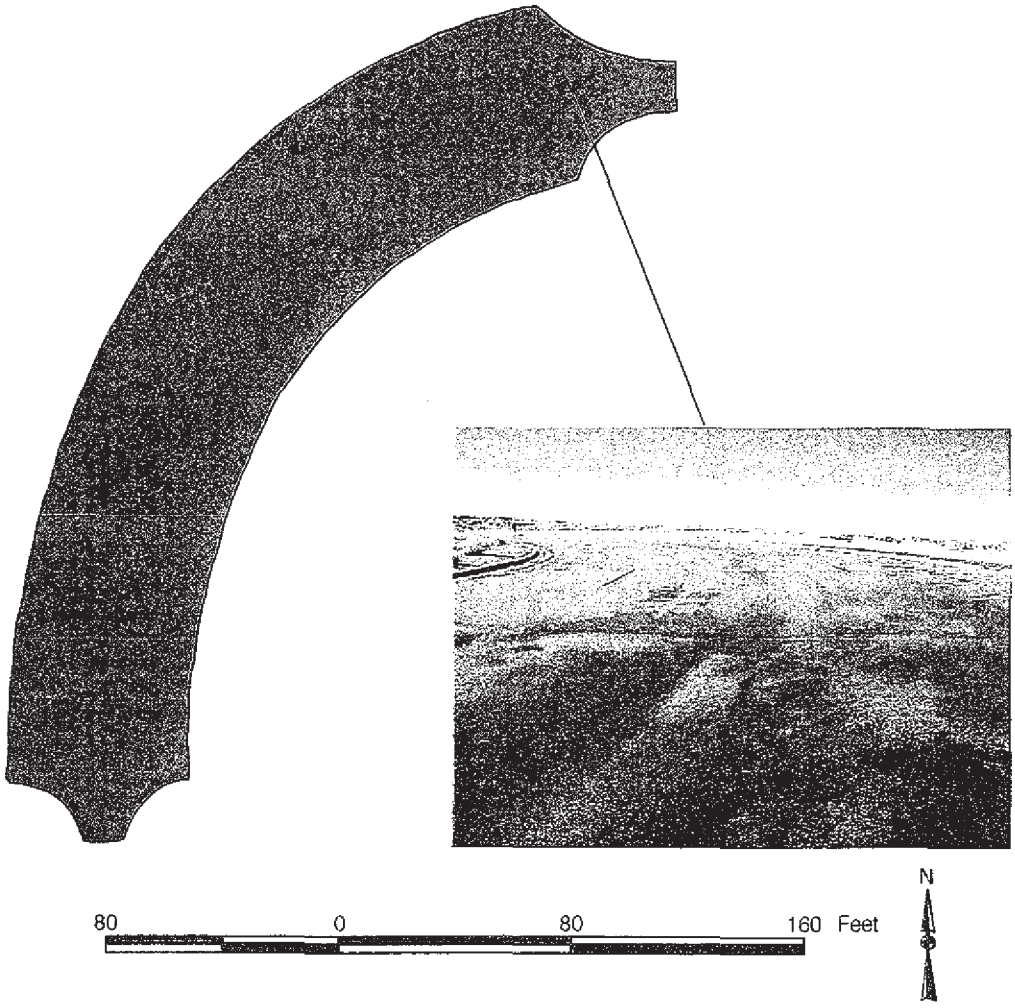
Route 917P

Jasper Forest Parking

Parking At End Of Rte 014

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
917P	AZ	990123			20919.00	0.36	GOOD

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

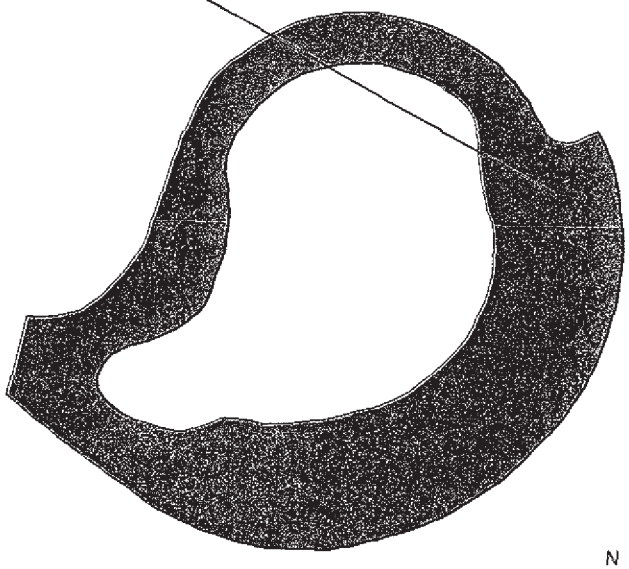
Route 918P

Long Logs Parking Area

Parking Area At End Of Rte 013

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
918P	AZ	990123			21000.00	0.36	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



Petrified Forest National Park

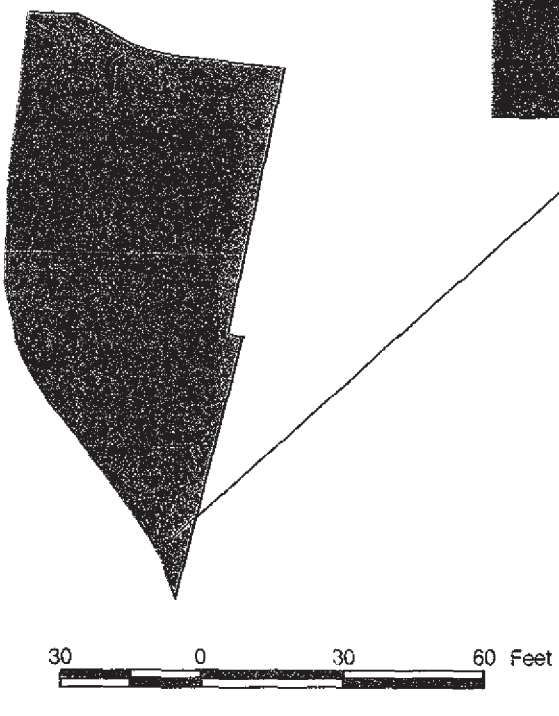
Route 919N

South Area Ranger Parking

Parking Area West Off Of Rte 010

Route	State	Date Visited	Length (mi)	Width (ft)	Area (sq ft)	Lane Miles	Condition
919N	AZ	990123			4522.00	0.08	FAIR

- Length and width will be used when applicable
- Lane miles are based on 11' lane widths



PARKWIDE MAINTENANCE FEATURES SUMMARY

Western Region : PEFO : 8430

ICAP CODE	FEATURE	PARK TOTAL	UNIT
1152	PULLOUT (PAVED)	17	EACH
1153	INTERSECTION	32	EACH
1190	TURNOUT (PASSING LANE)	3036	LINEAR FEET
1320	PAVED DITCH	0	LINEAR FEET
1331	CULVERT OPENING	127	EACH
1333	DROP INLET	43	EACH
1340	CURB	27900	LINEAR FEET
1530	TRAFFIC LIGHT	0	EACH
1540	GUARDRAIL	9793	LINEAR FEET
1542	GUARD WALL	290	LINEAR FEET
1545	CATTLE GUARD	0	EACH
1720	BRIDGE	9	EACH
1740	TUNNEL	0	EACH
3361	RETAINING WALL	0	EACH
5833	LIGHT POLE	0	EACH
8390	OVERHEAD SIGN	0	EACH
8400	RAILROAD CROSSING	0	EACH
	PARK BOUNDARY	2	EACH

ROUTE MAINTENANCE FEATURES SUMMARY

Western Region : PEFO : 8430

ROUTE: 010 : North - South Highway

ICAP CODE	FEATURE	PARK TOTAL	UNIT
1152	PULLOUT (PAVED)	8	EACH
1153	INTERSECTION	32	EACH
1190	TURNOUT (PASSING LANE)	3036	LINEAR FEET
1320	PAVED DITCH	0	LINEAR FEET
1331	CULVERT OPENING	116	EACH
1333	DROP INLET	40	EACH
1340	CURB	25477	LINEAR FEET
1530	TRAFFIC LIGHT	0	EACH
1540	GUARDRAIL	9793	LINEAR FEET
1542	GUARD WALL	290	LINEAR FEET
1545	CATTLE GUARD	0	EACH
1720	BRIDGE	9	EACH
1740	TUNNEL	0	EACH
3361	RETAINING WALL	0	EACH
5833	LIGHT POLE	0	EACH
8390	OVERHEAD SIGN	0	EACH
8400	RAILROAD CROSSING	0	EACH
	PARK BOUNDARY	2	EACH

ROUTE MAINTENANCE FEATURES SUMMARY

Western Region : PEFO : 8430

ROUTE: 011 : Blue Mesa Road

ICAP CODE	FEATURE	PARK TOTAL	UNIT
1152	PULLOUT (PAVED)	7	EACH
1153	INTERSECTION	0	EACH
1190	TURNOUT (PASSING LANE)	0	LINEAR FEET
1320	PAVED DITCH	0	LINEAR FEET
1331	CULVERT OPENING	7	EACH
1333	DROP INLET	1	EACH
1340	CURB	1483	LINEAR FEET
1530	TRAFFIC LIGHT	0	EACH
1540	GUARDRAIL	0	LINEAR FEET
1542	GUARD WALL	0	LINEAR FEET
1545	CATTLE GUARD	0	EACH
1720	BRIDGE	0	EACH
1740	TUNNEL	0	EACH
3361	RETAINING WALL	0	EACH
5833	LIGHT POLE	0	EACH
8390	OVERHEAD SIGN	0	EACH
8400	RAILROAD CROSSING	0	EACH
	PARK BOUNDARY	0	EACH

ROUTE MAINTENANCE FEATURES SUMMARY

Western Region : PEFO : 8430

ROUTE: 012 : Newspaper Rock Road

ICAP CODE	FEATURE	PARK TOTAL	UNIT
1152	PULLOUT (PAVED)	0	EACH
1153	INTERSECTION	0	EACH
1190	TURNOUT (PASSING LANE)	0	LINEAR FEET
1320	PAVED DITCH	0	LINEAR FEET
1331	CULVERT OPENING	2	EACH
1333	DROP INLET	0	EACH
1340	CURB	0	LINEAR FEET
1530	TRAFFIC LIGHT	0	EACH
1540	GUARDRAIL	0	LINEAR FEET
1542	GUARD WALL	0	LINEAR FEET
1545	CATTLE GUARD	0	EACH
1720	BRIDGE	0	EACH
1740	TUNNEL	0	EACH
3361	RETAINING WALL	0	EACH
5833	LIGHT POLE	0	EACH
8390	OVERHEAD SIGN	0	EACH
8400	RAILROAD CROSSING	0	EACH
	PARK BOUNDARY	0	EACH

ROUTE MAINTENANCE FEATURES SUMMARY

Western Region : PEFO : 8430

ROUTE: 013 : Long Logs Road

ICAP CODE	FEATURE	PARK TOTAL	UNIT
1152	PULLOUT (PAVED)	1	EACH
1153	INTERSECTION	0	EACH
1190	TURNOUT (PASSING LANE)	0	LINEAR FEET
1320	PAVED DITCH	0	LINEAR FEET
1331	CULVERT OPENING	1	EACH
1333	DROP INLET	0	EACH
1340	CURB	576	LINEAR FEET
1530	TRAFFIC LIGHT	0	EACH
1540	GUARDRAIL	0	LINEAR FEET
1542	GUARD WALL	0	LINEAR FEET
1545	CATTLE GUARD	0	EACH
1720	BRIDGE	0	EACH
1740	TUNNEL	0	EACH
3361	RETAINING WALL	0	EACH
5833	LIGHT POLE	0	EACH
8390	OVERHEAD SIGN	0	EACH
8400	RAILROAD CROSSING	0	EACH
	PARK BOUNDARY	0	EACH

ROUTE MAINTENANCE FEATURES SUMMARY

Western Region : PEFO : 8430

ROUTE: 014 : Jasper Forest Road

ICAP CODE	FEATURE	PARK TOTAL	UNIT
1152	PULLOUT (PAVED)	1	EACH
1153	INTERSECTION	0	EACH
1190	TURNOUT (PASSING LANE)	0	LINEAR FEET
1320	PAVED DITCH	0	LINEAR FEET
1331	CULVERT OPENING	1	EACH
1333	DROP INLET	0	EACH
1340	CURB	364	LINEAR FEET
1530	TRAFFIC LIGHT	0	EACH
1540	GUARDRAIL	0	LINEAR FEET
1542	GUARD WALL	0	LINEAR FEET
1545	CATTLE GUARD	0	EACH
1720	BRIDGE	0	EACH
1740	TUNNEL	0	EACH
3361	RETAINING WALL	0	EACH
5833	LIGHT POLE	0	EACH
8390	OVERHEAD SIGN	0	EACH
8400	RAILROAD CROSSING	0	EACH
	PARK BOUNDARY	0	EACH

ROUTE MAINTENANCE FEATURES SUMMARY

Western Region : PEFO : 8430

ROUTE: 200 : Chinde Point

ICAP CODE	FEATURE	PARK TOTAL	UNIT
1152	PULLOUT (PAVED)	0	EACH
1153	INTERSECTION	0	EACH
1190	TURNOUT (PASSING LANE)	0	LINEAR FEET
1320	PAVED DITCH	0	LINEAR FEET
1331	CULVERT OPENING	0	EACH
1333	DROP INLET	2	EACH
1340	CURB	0	LINEAR FEET
1530	TRAFFIC LIGHT	0	EACH
1540	GUARDRAIL	0	LINEAR FEET
1542	GUARD WALL	0	LINEAR FEET
1545	CATTLE GUARD	0	EACH
1720	BRIDGE	0	EACH
1740	TUNNEL	0	EACH
3361	RETAINING WALL	0	EACH
5833	LIGHT POLE	0	EACH
8390	OVERHEAD SIGN	0	EACH
8400	RAILROAD CROSSING	0	EACH
	PARK BOUNDARY	0	EACH

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
0.000	0.000	Boundary		Begin Route at North Boundary
0.000	0.000		Boundary	
0.034	0.066		Curb	
0.099	0.000	Intersection		Unpaved Rte
0.193	0.000		Intersection	Rte 900
0.204	0.227		Curb	
0.236	0.000		Intersection	Rte 900
0.349	0.000		Intersection	Rte 900
0.396	0.405	Curb		
0.545	0.000		Intersection	Rte 415
0.629	0.000	Culvert		
0.801	0.000		Intersection	Unpaved Rte
0.887	1.010		Turnout	Rte 905
1.135	0.000	Intersection		Unpaved Rte
1.150	1.242		Curb	
1.169	0.000		Pullout	
1.278	0.000	Culvert		
1.282	0.000		Culvert	
1.585	1.634		Curb	
1.609	0.000		Pullout	Rte 915
1.769	0.000		Intersection	Rte 906
1.908	0.000	Culvert		
1.910	0.000		Culvert	
1.941	0.000	Culvert		
2.041	0.000		Culvert	
2.045	0.000	Culvert		
2.104	2.230		Turnout	Rte 907
2.126	0.000	Intersection		Unpaved Rte
2.361	0.000		Intersection	Rte 200
2.623	0.000	Culvert		
2.717	0.000	Culvert		
2.726	2.770	Curb		
2.805	3.076	Curb		
2.827	0.000		Culvert	
2.838	0.000	Drop Inlet		
2.898	0.000	Drop Inlet		
2.945	0.000	Drop Inlet		
2.967	0.000		Intersection	Rte 908
3.001	0.000	Drop Inlet		
3.056	0.000	Drop Inlet		
3.092	0.000	Intersection		Unpaved Rte
3.105	3.194	Curb		
3.213	0.000		Culvert	
3.217	3.269	Curb		
3.292	0.000		Culvert	

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
3.294	0.000	Culvert		
3.755	0.000	Culvert		
3.762	0.000		Culvert	
3.879	0.000	Intersection		Unpaved Rte
4.041	4.058		Curb	
4.122	4.197		Turnout	Rte 909
4.239	0.000		Culvert	
4.335	4.423		Turnout	Rte 910
4.339	4.410		Curb	
4.451	0.000		Drop Inlet	
4.535	0.000		Culvert	
4.734	4.826		Turnout	Rte 911
4.744	4.810		Curb	
5.367	0.000	Culvert		
5.493	0.000		Intersection	Unpaved Rte
5.803	6.088		Guardrail	
5.808	6.092	Guardrail		
5.820	6.008	Curb		
5.828	5.884		Curb	
5.921	6.106		Curb	
5.944	5.992	Bridge		
5.944	5.992		Bridge	
6.534	0.000		Culvert	
7.525	0.000		Culvert	
8.062	0.000	Intersection		Unpaved Rte
8.844	0.000		Culvert	
9.373	0.000	Culvert		
9.923	0.000	Culvert		
9.934	0.000		Culvert	
10.016	0.000		Culvert	
10.300	10.589		Guardrail	
10.302	10.564	Guardrail		
10.312	10.398	Curb		
10.338	0.000	Drop Inlet		
10.397	10.432		Bridge	
10.402	10.435	Bridge		
10.451	0.000		Drop Inlet	
10.507	0.000	Drop Inlet		
10.590	10.602	Guardrail		
10.595	0.000	Drop Inlet		
10.637	0.000		Intersection	Unapved Rte
10.771	10.910		Guardrail	
10.774	10.792		Curb	
10.777	10.913	Guardrail		
10.793	10.894		Bridge	

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
10.795	10.894	Bridge		
10.805	0.000		Drop Inlet	
10.928	0.000		Drop Inlet	
10.943	10.946	Curb		
10.945	10.965		Curb	
10.952	11.023	Turnout		Rte 912
10.957	10.959	Curb		
10.957	0.000		Drop Inlet	
11.009	11.016	Curb		
11.027	11.034	Curb		
11.920	0.000		Intersection	Rte 012
12.681	12.939	Curb		
12.710	0.000	Drop Inlet		
12.849	0.000		Culvert	
12.933	0.000		Culvert	
12.935	0.000	Drop Inlet		
13.096	0.000	Culvert		
13.303	13.364	Curb		
13.353	0.000	Drop Inlet		
13.370	13.449		Curb	
13.421	0.000		Culvert	
13.424	0.000	Culvert		
13.446	0.000		Drop Inlet	
13.541	13.671		Curb	
13.572	0.000	Culvert		
13.620	0.000	Culvert		
13.651	0.000	Culvert		
13.677	0.000		Drop Inlet	
13.747	0.000	Culvert		
13.878	0.000	Culvert		
13.884	0.000		Culvert	
13.954	0.000	Culvert		
14.012	0.000		Pullout	
14.019	0.000	Culvert		
14.066	0.000	Culvert		
14.107	0.000	Pullout		
14.138	0.000		Culvert	
14.174	0.000		Culvert	
14.233	0.000		Culvert	
14.240	0.000	Culvert		
14.408	0.000	Culvert		
14.410	0.000		Culvert	
14.456	0.000	Culvert		
14.461	0.000		Culvert	
14.566	0.000		Culvert	

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
14.571	0.000	Culvert		
14.762	0.000		Culvert	
14.849	0.000	Culvert		
15.042	0.000		Culvert	
15.361	0.000		Culvert	
15.540	0.000		Intersection	Unpaved Route
15.579	0.000		Culvert	
15.666	0.000		Culvert	
15.674	0.000	Intersection		Rte 011
15.814	15.855	Guardrail		
15.815	15.850		Guardrail	
15.826	15.839	Bridge		
15.828	15.839		Bridge	
16.385	16.428		Guardrail	
16.387	16.434	Guardrail		
16.397	16.418		Bridge	
16.399	16.419	Bridge		
16.562	0.000		Intersection	Unpaved Rte
16.700	0.000		Culvert	
16.704	0.000	Culvert		
16.870	0.000	Culvert		
16.877	0.000		Culvert	
17.291	0.000	Culvert		
17.400	17.527		Curb	
17.540	17.589		Curb	
17.541	17.640	Curb		
17.614	0.000		Culvert	
17.636	17.721		Curb	
17.656	17.696	Curb		
17.661	0.000		Drop Inlet	
17.719	0.000	Culvert		
17.771	0.000	Culvert		
17.778	0.000		Culvert	
17.831	0.000		Intersection	Unpaved Rte
17.839	0.000	Intersection		Rte 015
18.044	18.286	Curb		
18.092	0.000	Drop Inlet		
18.168	0.000	Drop Inlet		
18.180	0.000	Drop Inlet		
18.439	18.452	Curb		
18.518	0.000		Intersection	Rte 014
18.688	0.000		Culvert	
18.837	0.000		Culvert	
19.018	0.000		Intersection	Unpaved Rte
19.118	19.196		Curb	

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
19.170	0.000	Culvert		
19.217	0.000		Drop Inlet	
19.278	19.315	Guardrail		
19.278	19.314		Guardrail	
19.289	19.305	Bridge		
19.289	19.304		Bridge	
19.694	0.000	Culvert		
19.695	0.000		Culvert	
19.819	0.000		Culvert	
19.911	0.000	Culvert		
19.983	0.000	Culvert		
20.082	20.107	Curb		
20.087	0.000	Drop Inlet		
20.090	0.000		Culvert	
20.122	0.000		Culvert	
20.210	0.000	Pullout		
20.234	20.255	Curb		
20.260	0.000	Intersection		Rte 902
20.265	20.306	Curb		
20.313	0.000	Intersection		Rte 902
20.317	20.323	Curb		
20.334	0.000		Culvert	
20.346	0.000		Drop Inlet	
20.356	20.412		Curb	
20.600	0.000		Culvert	
20.810	0.000		Culvert	
20.832	0.000	Culvert		
20.949	0.000		Culvert	
21.162	0.000	Culvert		
21.172	0.000		Culvert	
21.311	0.000		Culvert	
21.474	0.000	Culvert		
21.478	0.000		Culvert	
21.572	21.597		Curb	
21.574	0.000		Drop Inlet	
21.738	0.000	Culvert		
21.746	0.000		Culvert	
21.833	21.875		Curb	
21.861	21.922	Curb		
21.969	0.000		Culvert	
22.155	22.194	Guardrail		
22.161	22.198		Guardrail	
22.171	22.182	Bridge		
22.172	22.190		Bridge	
22.175	22.188		Curb	

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
22.203	22.236		Curb	
22.439	22.511		Curb	
22.450	22.497	Curb		
22.692	22.773	Curb		
22.695	0.000	Drop Inlet		
22.787	22.841	Curb		
22.791	0.000	Drop Inlet		
22.883	0.000		Culvert	
23.175	23.281		Curb	
23.180	0.000		Culvert	
23.597	0.000		Culvert	
23.672	23.842	Curb		
23.838	0.000	Drop Inlet		
23.896	23.938		Curb	
23.977	24.011		Curb	
24.002	0.000		Drop Inlet	
24.042	24.099	Curb		
24.049	0.000	Drop Inlet		
24.054	24.125		Curb	
24.068	0.000	Drop Inlet		
24.085	0.000		Pullout	
24.101	0.000	Drop Inlet		
24.117	24.128	Curb		
24.175	24.237		Curb	
24.184	0.000		Drop Inlet	
24.245	24.291		Curb	
24.301	24.332		Curb	
24.336	24.447	Curb		
24.473	24.723		Curb	
24.622	0.000		Drop Inlet	
24.718	0.000		Drop Inlet	
24.744	25.038	Curb		
25.203	0.000	Culvert		
25.218	0.000		Culvert	
25.328	25.384		Curb	
25.349	0.000	Culvert		
25.361	0.000		Drop Inlet	
25.390	25.440		Curb	
25.397	0.000	Culvert		
25.438	0.000		Drop Inlet	
25.752	25.787		Culvert	
25.800	0.000		Culvert	
25.801	0.000	Culvert		
25.892	0.000	Intersection		Rte 013
25.912	25.979	Guardrail		

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
25.917	25.983		Guardrail	
25.927	25.970		Bridge	
25.936	25.958	Bridge		
25.984	26.013	Guardwall		
25.986	25.997		Curb	
26.001	0.000		Intersection	Rte 901
26.008	26.017		Curb	
26.016	26.047	Curb		
26.053	26.104	Curb		
26.097	26.101		Curb	
26.100	0.000		Intersection	Rte 901
26.106	26.125	Guardwall		
26.108	26.117		Curb	
26.121	26.128		Guardwall	
26.131	0.000		Intersection	Rte 919
26.154	26.209		Curb	
26.185	0.000	Culvert		
26.231	26.254	Curb		
26.233	0.000	Drop Inlet		
26.258	0.000		Culvert	
26.348	26.371		Curb	
26.366	0.000		Drop Inlet	
26.505	0.000	Culvert		
26.509	0.000	Culvert		
26.529	0.000		Intersection	Rte 409
26.531	0.000	Intersection		Rte 409
26.697	0.000	Culvert		
26.810	26.827	Bridge		
26.813	26.830		Bridge	
26.949	0.000	Culvert		
27.285	0.000		Culvert	
27.334	0.000		Culvert	
27.525	0.000		Culvert	
27.526	0.000	Culvert		
27.569	0.000	Culvert		
27.574	0.000		Culvert	
27.661	0.000	Culvert		
27.741	0.000	Pullout		
27.808	0.000	Culvert		
27.931	0.000	Culvert		
27.935	0.000		Culvert	
27.988	0.000	Culvert		
28.045	0.000		Culvert	
28.206	28.230	Curb		
28.218	0.000	Pullout		

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 010 **NORTH - SOUTH HIGHWAY**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
28.310	0.000	Boundary		
28.310	0.000		Boundary	End Route at South Boundary

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 011 **BLUE MESA ROAD**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
0.000	0.000			Begin at Rte 010
0.435	0.000		Culvert	
0.683	0.000		Culvert	
0.786	0.000		Culvert	
0.982	0.000		Culvert	
1.329	0.000		Culvert	
2.022	2.082		Curb	
2.039	0.000		Pullout	
2.071	0.000		Pullout	
2.127	2.160		Curb	
2.146	0.000		Pullout	
2.503	2.610		Curb	
2.535	0.000		Pullout	
2.587	0.000		Pullout	
2.675	2.733		Curb	
2.698	0.000		Pullout	Rte 914
2.967	0.000		Pullout	
3.337	0.000		Culvert	
3.366	0.000		Culvert	
3.389	3.412		Curb	
3.419	0.000		Drop Inlet	
3.440	0.000		End Loop	End route

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 012 **NEWSPAPER ROCK ROAD**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
0.000	0.000			Begin at Rte 010
0.117	0.000		Culvert	
0.244	0.000		Culvert	
0.245	0.000			End route at parking (Rte 916)

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 013 **LONG LOGS ROAD**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
0.000	0.000			Begin at Rte 010
0.315	0.000		Culvert	
0.367	0.476		Curb	
0.400	0.000		Pullout	Rte 918
0.480	0.000		End Loop	End route at end of loop

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 014 **JASPER FOREST ROAD**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
0.000	0.000			Begin at Rte 010
0.342	0.411		Curb	
0.374	0.000		Pullout	Rte 917
0.487	0.000		Culvert	
0.500	0.000		End loop	End route at end of loop

ROUTE MAINTENANCE FEATURES ROAD LOG

ROUTE 200 **CHINDE POINT**

MILE POST BEGIN	MILE POST END	FEATURE DESCRIPTION LEFT	FEATURE DESCRIPTION RIGHT	REMARKS
0.000	0.000			Begin at Rte 010
0.199	0.000		Drop Inlet	
0.284	0.000		Drop Inlet	
0.340	0.000			End route at parking (Rte 903)

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

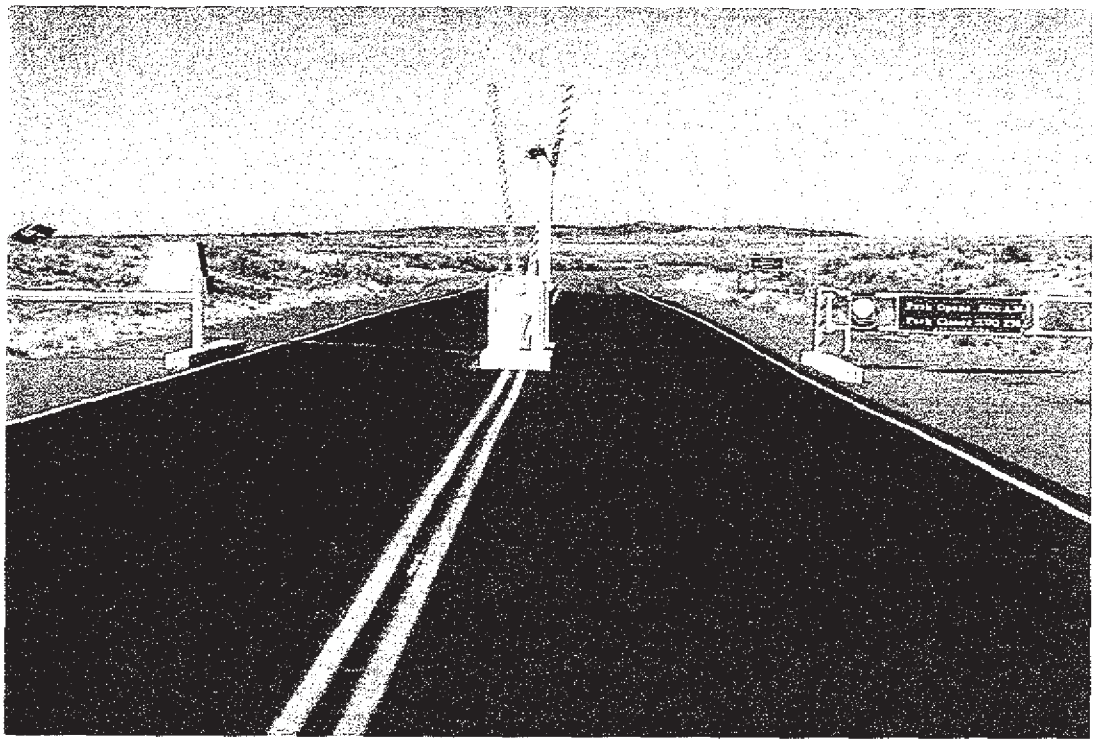


Photo #1817 - MP 0.00 - North Entrance

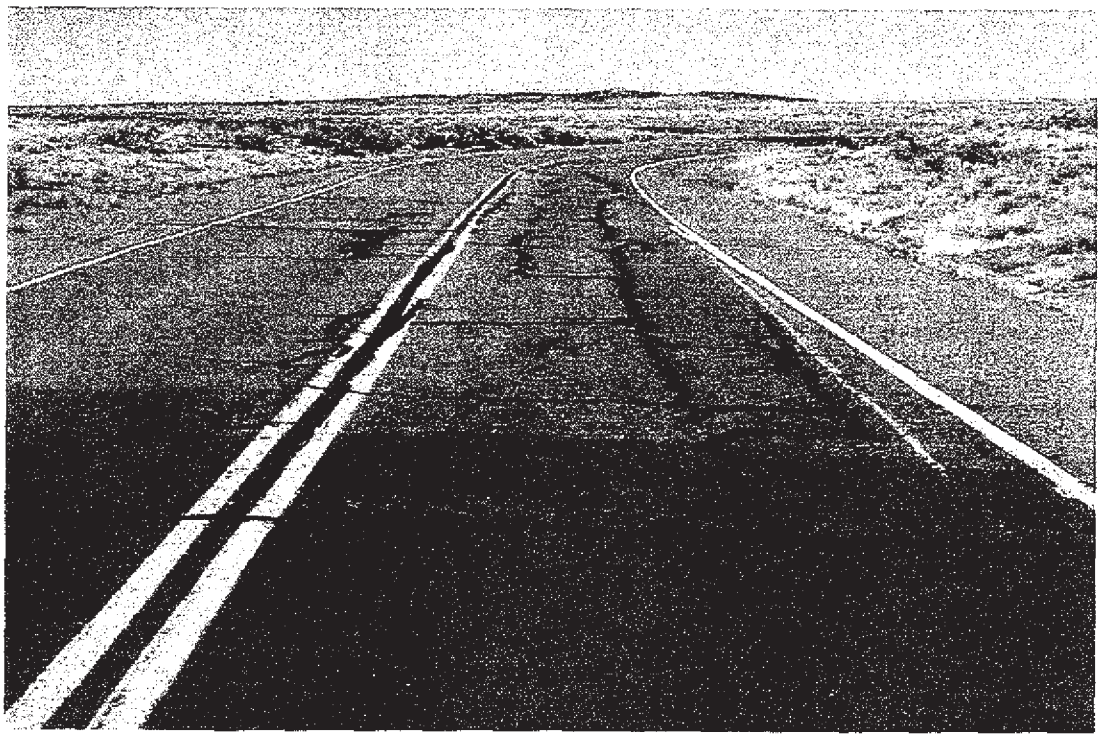


Photo #1819 - MP 0.02 - Pavement Change, Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

Photo #1820 - MP 0.40 - North Contact Station

Photo #1821 - MP 0.44 - Typical Chipseal Begins

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

Photo #1822 - MP 4.18 - Typical Pavement Section, Note Raveling of Chipseal

Photo #1823 - MP 10.84 - Puerco River Bridge, Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

Photo #1824 MP 11.40 Typical Pavement Section, Note Raveling and Bleeding

Photo # 1825 MP 13.20 Pavement Change, Typical Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

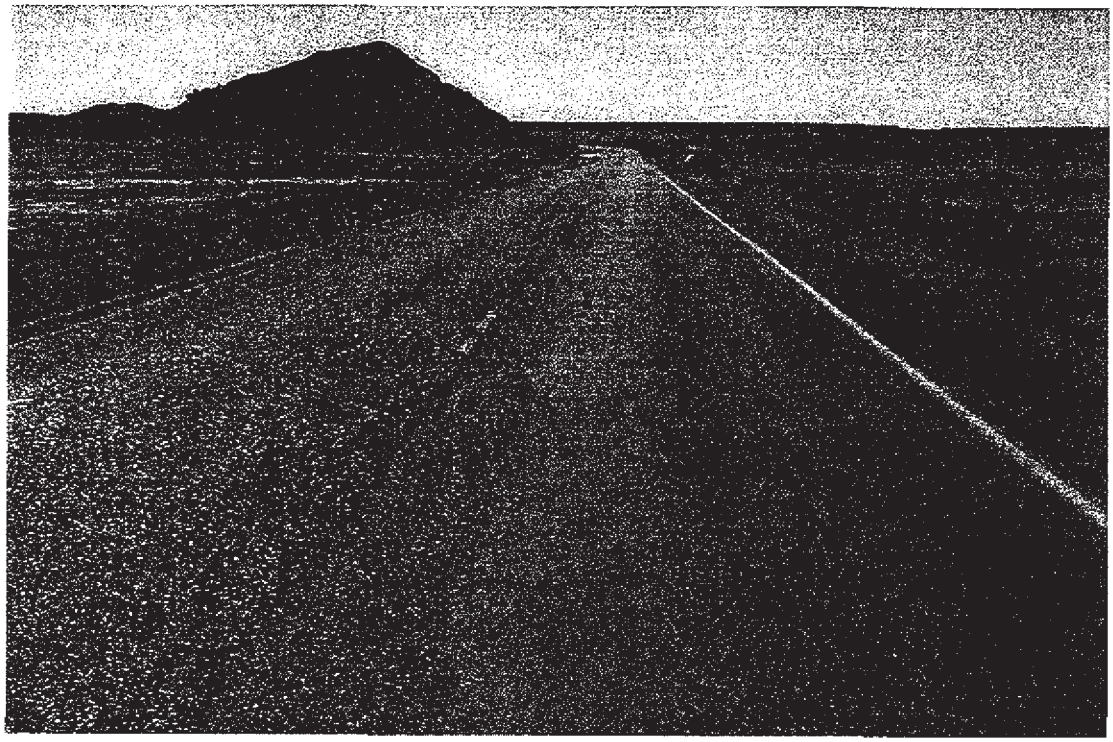


Photo #1826 MP 14.10 Typical Pavement Section, Note Bleeding

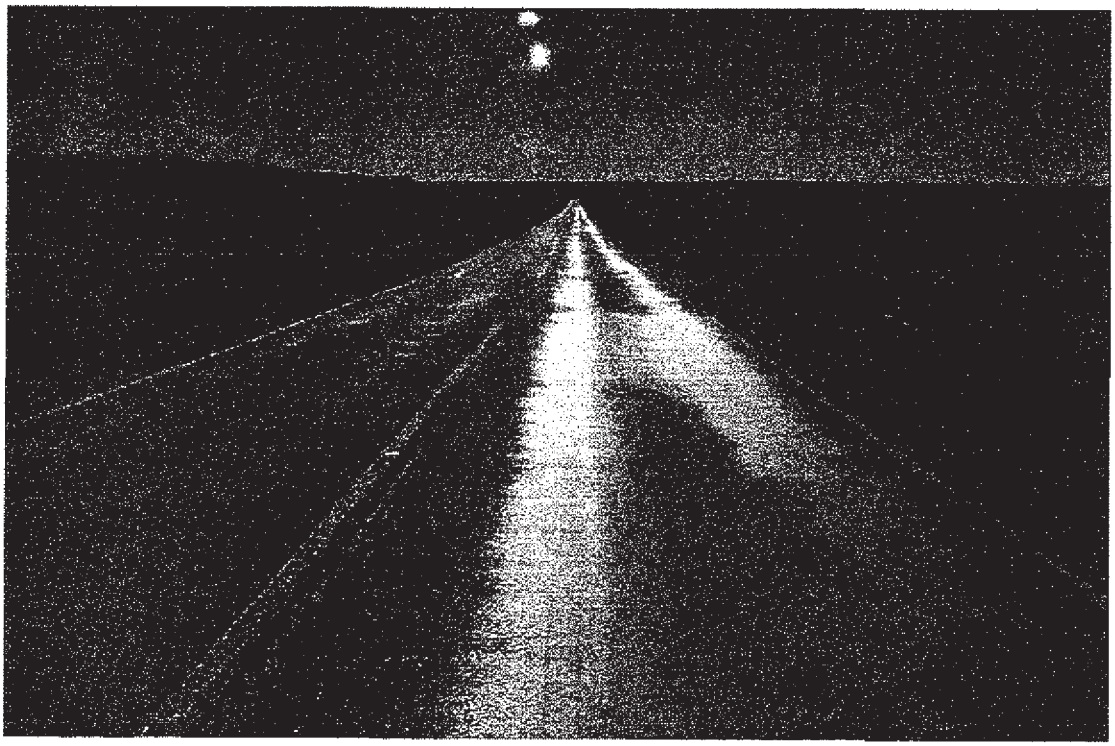


Photo #1827 - MP 14.5 - Typical Pavement Section, Looking Back

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

Photo #1828 - MP 17.10 - Typical Pavement Section, Note Transverse Cracking

Photo #1829 - MP 17.42 - Typical Pavement Section, Note Patching

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

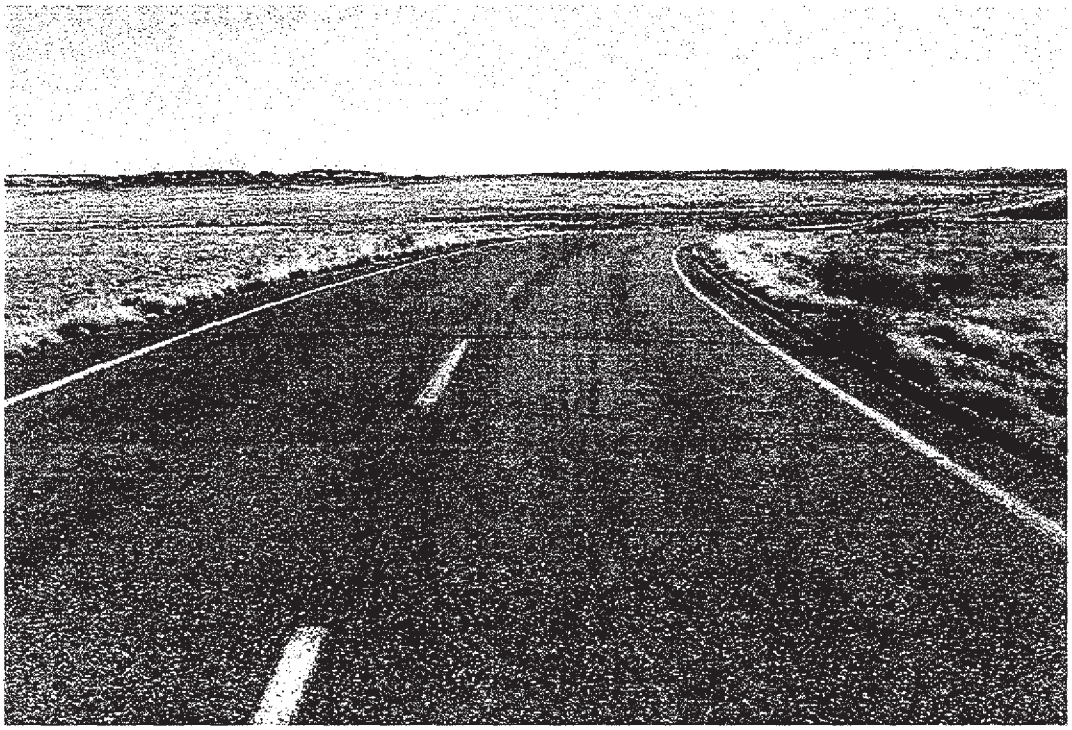


Photo #1830 - MP 19.40 - Pavement Change, Note Raveling of Chipseal

Photo #1831 - MP 23.70 - Typical Pavement Section, Note Patching

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

Photo #1832 - MP 25.40 - Typical Pavement Section, Note Longitudinal and Transverse Sealed Cracks

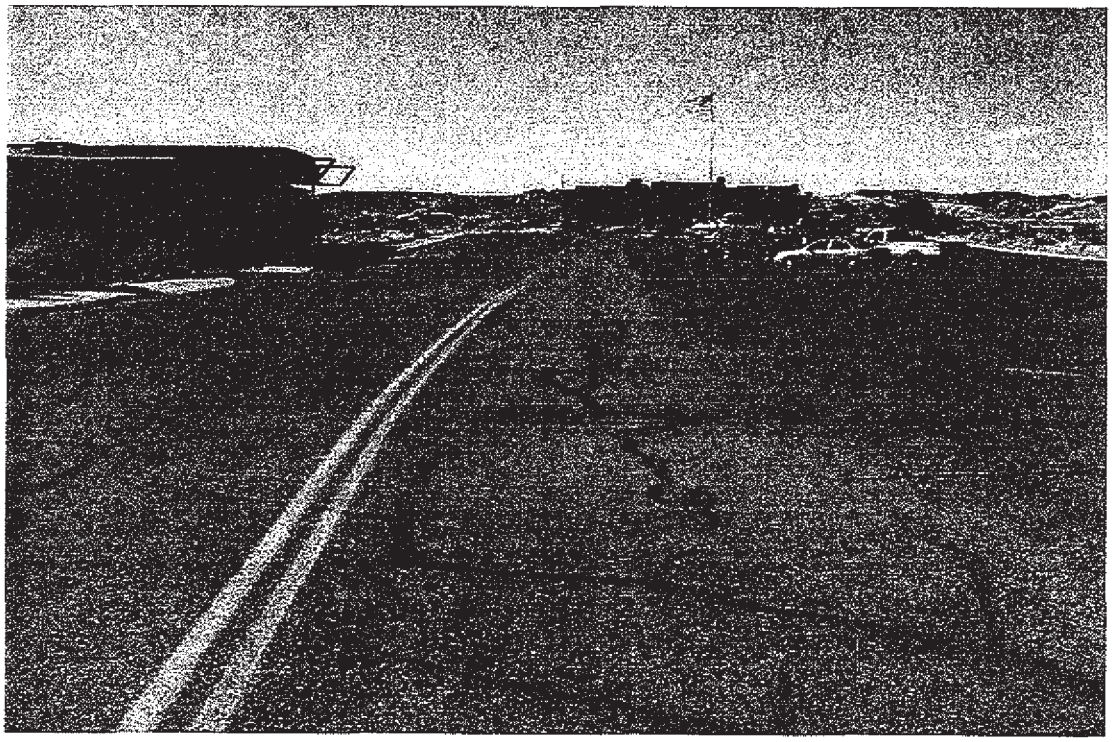


Photo #1833 - MP 26.40 - South Area Parking, Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 010
DATE: 01/99

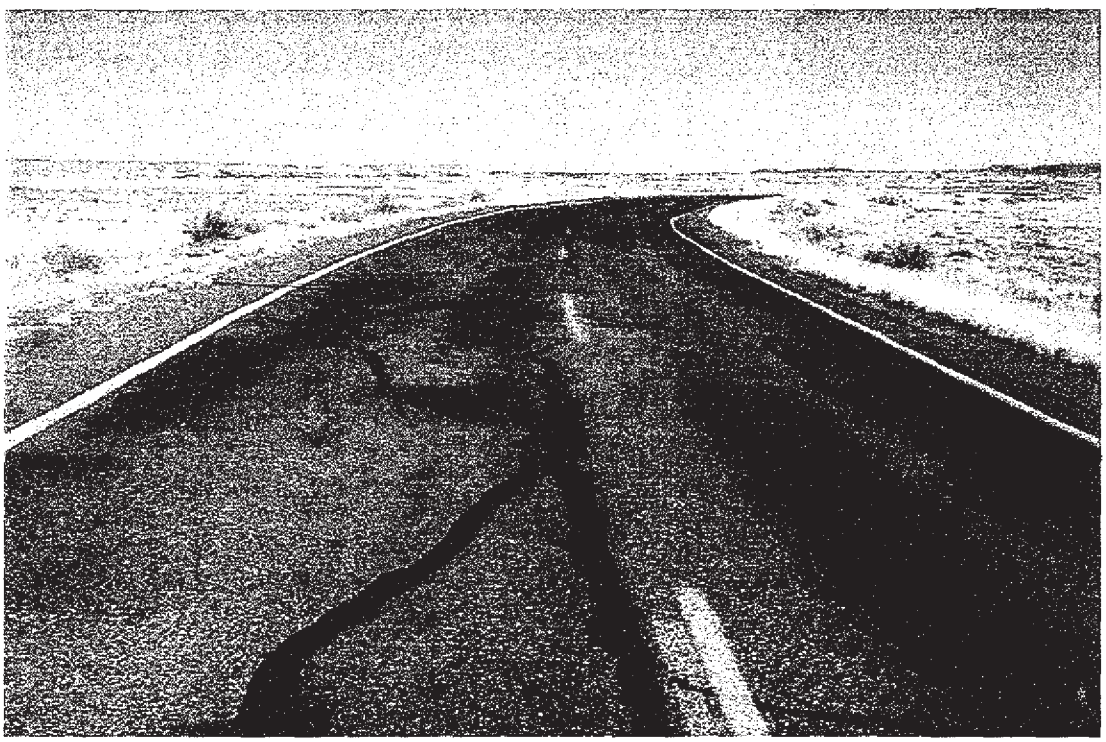


Photo #1836 - MP 27.02 - Typical Pavement Section, Looking Back

Photo #1835 - MP 27.80 - Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 011
DATE: 01/99

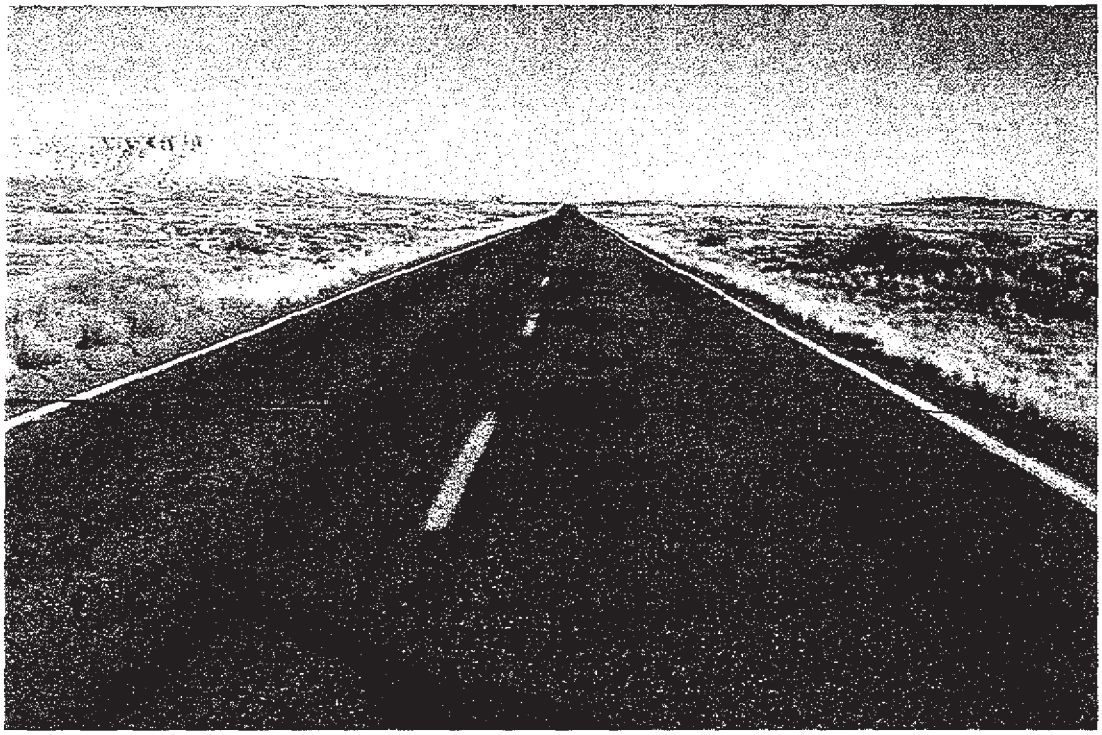


Photo #1844 - MP 0.40 - Typical Pavement Section, Note Full width Transverse Cracks

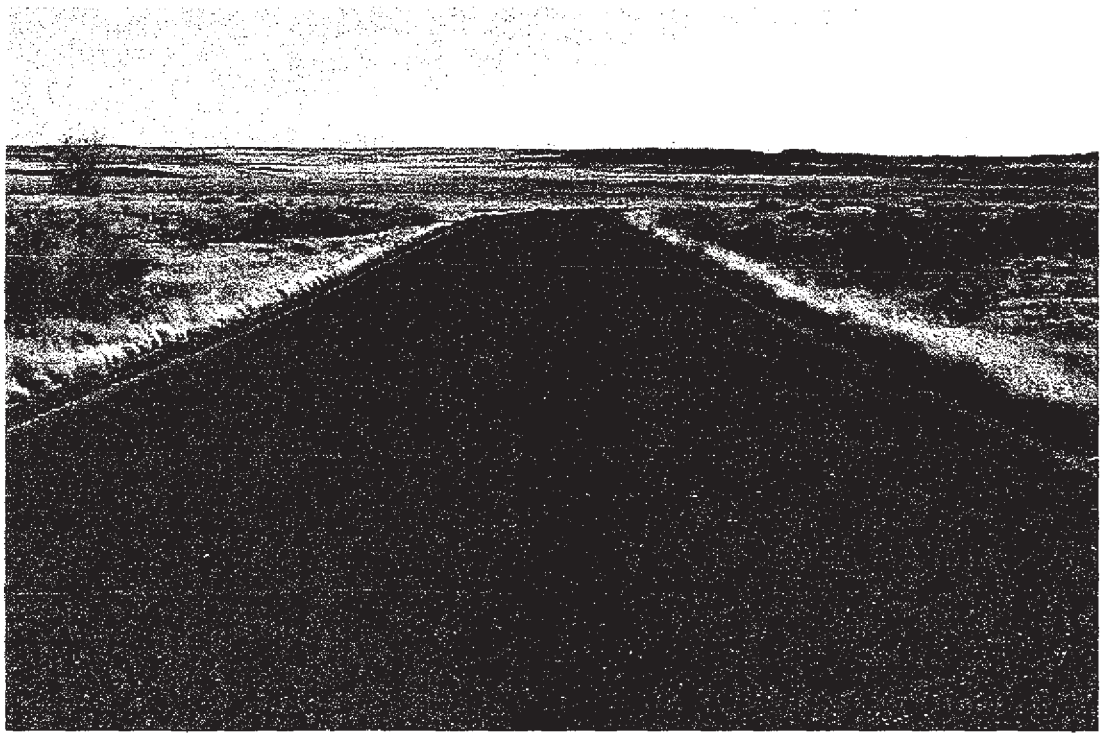


Photo # 1846 - MP 1.50 - Typical Pavement Section, Looking Back

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 011
DATE: 01/99

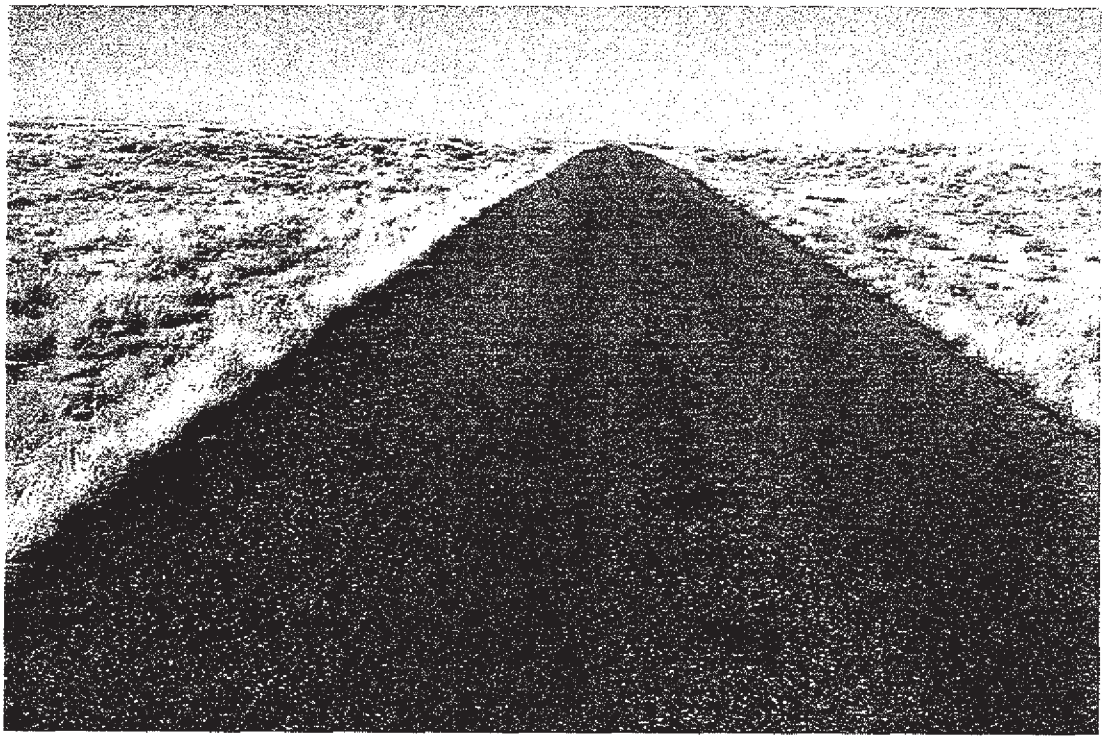


Photo #1845 - MP 2.20 - Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 012
DATE: 01/99

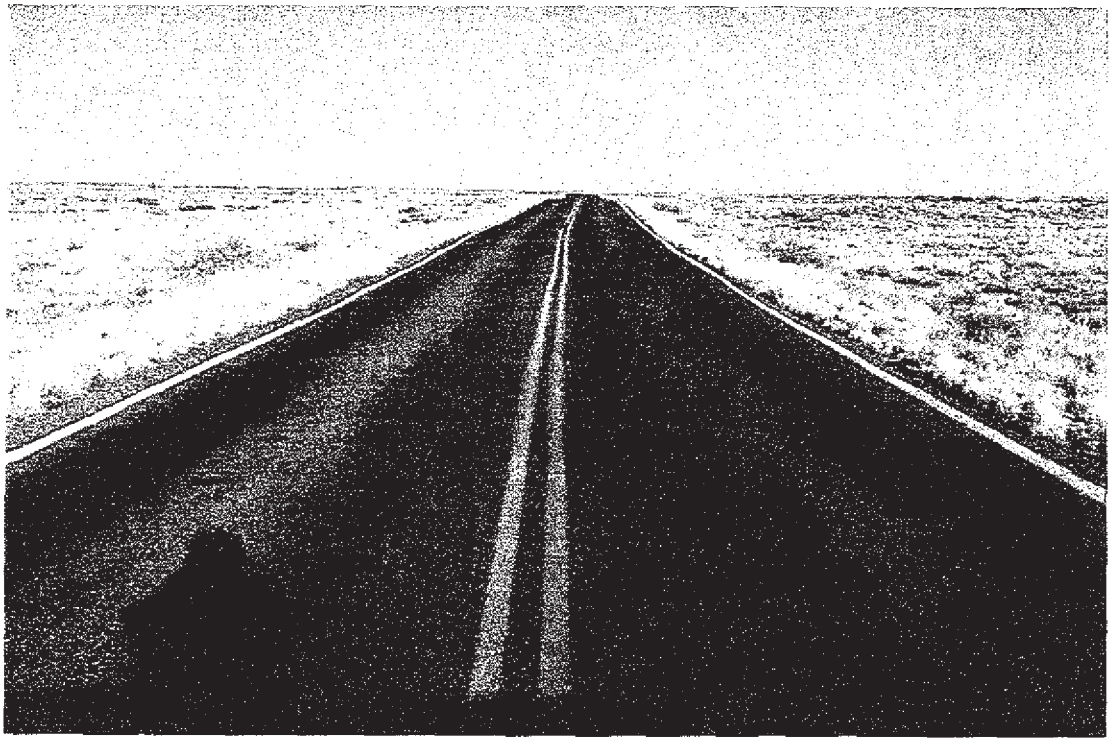


Photo #1847 - MP 0.24 - Typical Pavement Section, Looking Back

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 013
DATE: 01/99

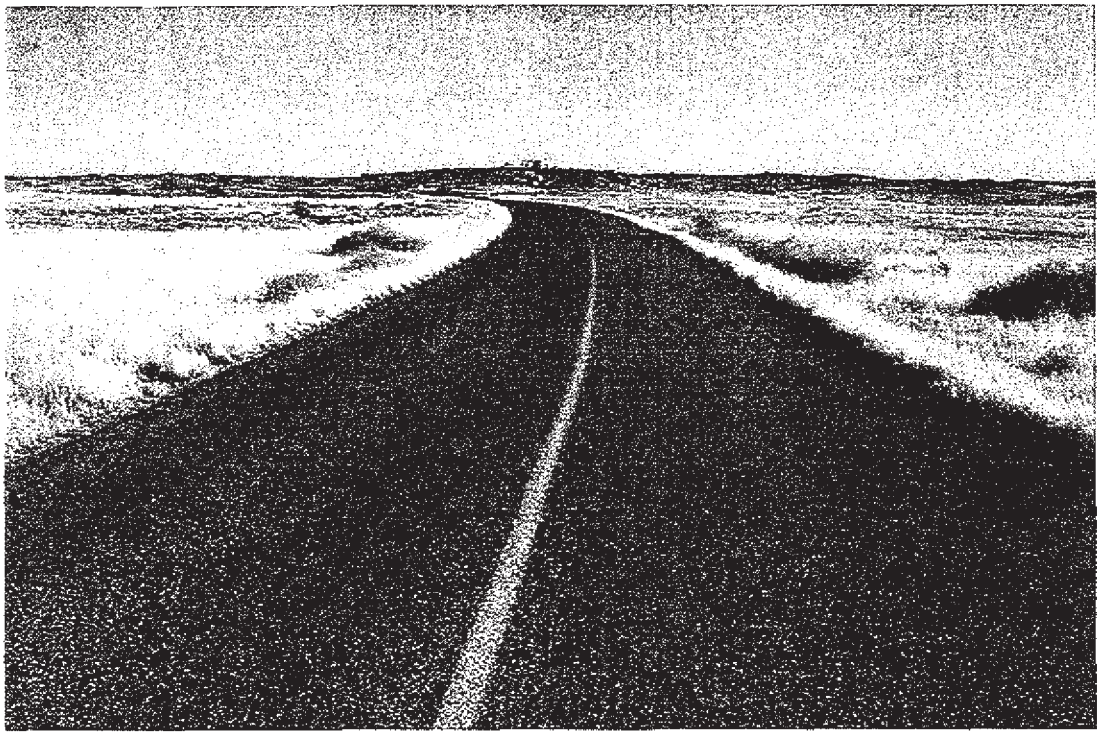


Photo #1841 - MP 0.10 - Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 014
DATE: 01/99

Photo #1842 - MP 0.50 - Typical Pavement Section, Looking Back

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 015
DATE: 01/99

Photo #1843 - MP 0.0 - Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 200
DATE: 01/99

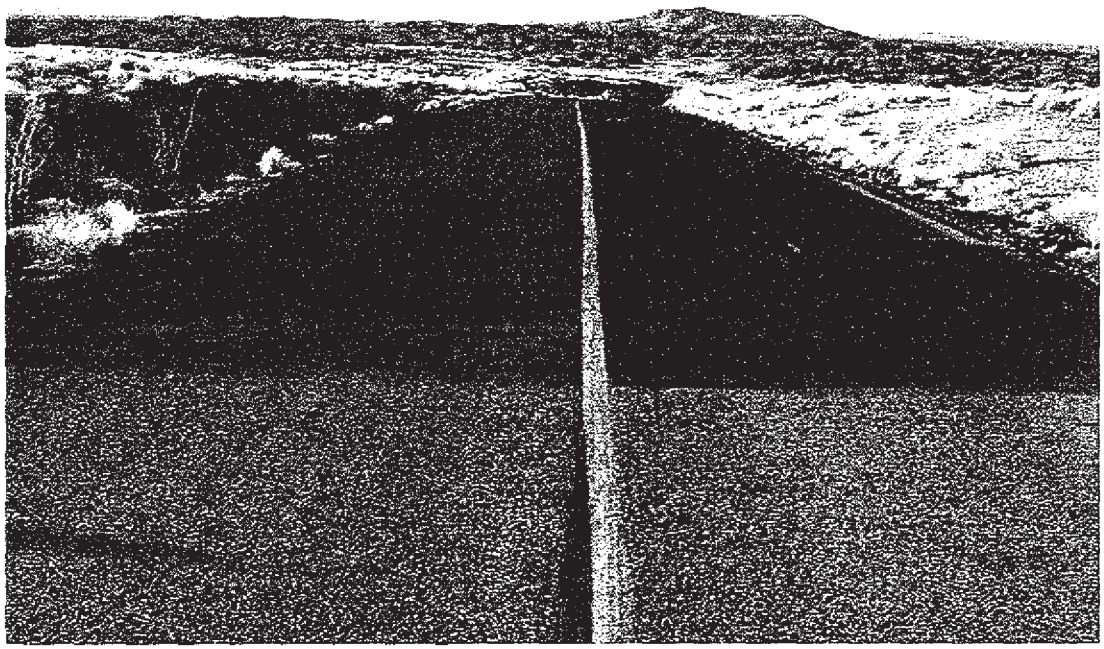


Photo #1849 - MP 0.06 - Typical Pavement Section

PHOTOGRAPHIC SHEET

PARK NUMBER: 8430
ROUTE NUMBER: 409
DATE: 01/99

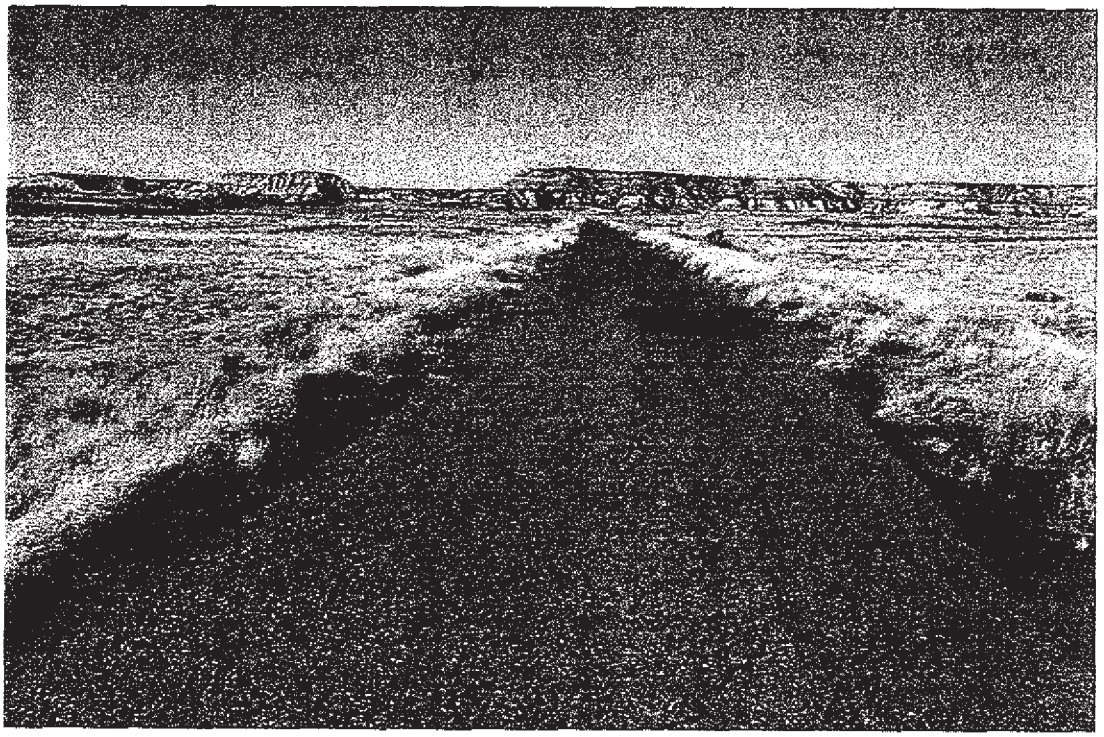


Photo #1839 - MP 0.20 - Typical Pavement Section

XI. UNPAVED ROUTES

Unpaved routes are not addressed in this report at this time. Section "IV. ROUTE INVENTORY" includes a current register of all unpaved routes (name, number, estimated mileage to the nearest 0.01, functional class, number of lanes, and termini description). Any further information will be added post 1997-99 data collection. Data was collected for unpaved routes in numerous parks during the '94-'96 data collection cycle. This data (digital images, GPS traces, features inventory, and condition assessments) may be processed in the future.

PETRIFIED FOREST NP - PEFO - 8430 - R.O.W. VIDEO TAPE INDEX

PAVED ROUTE NO.	MILEAGE AT BEGINNING FRAME	FROM	TO	BEGINNING FRAME NO.	ENDING FRAME NO.	VIDEO TAPE NO.	DATE	DIR: PRIM/ OPP
010	0.00	N Bound.	S Bound.	0	83596	1	990124	P
010	28.30	S Bound.	N Bound.	83596	164370	1	990124	O
011	0.00	Rte 010	End Loop	171400	182750	1	990124	P
012	0.00	Rte 010	Parking	169000	170130	1	990124	P
013	0.00	Rte 010	End Loop	188000	190500	1	990124	P
014	0.00	Rte 010	End Loop	184300	186700	1	990124	P
200	0.00	Rte 010	Parking	165900	167450	1	990124	P

GLOSSARY OF TERMS AND ABBREVIATIONS

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
8430	*Petrified Forest National Park Identification Code*
AADT	Annually adjusted average daily traffic. Average daily traffic for the *term period comprising 80% of annual visitation.*
CRS	Condition Rating Sheet. Index rating for pavement distresses, roadway *condition and cross section information.*
DCR	Drainage Condition Rating
DIRI	Driver International Roughness Index
Drainage Condition Rating	*Drainage condition rating. An alpha rating from P (failed) to E (excellent)* based on visual observations.
EXCELLENT	*Excellent rating.*
F_C	Functional Class. See Table 1 in appendix.
FAIR	Fair rating.
GOOD	Good rating.
IRI	International Roughness Index
Lane	The portion of roadway from centerline to fogline or edge of pavement if no fog line exists.
LRUT	Left Rut
NA	Not applicable.
PAV_MI	Paved portion of route, length in miles.
Pavement Width	The entire portion of roadway from edge of pavement to edge of pavement.
PCR	Pavement condition rating. Numerical rating form 0 (failed) to 100 (excellent). Based on the surface condition and the roughness of the road.
PEFO	Petrified Forest National Park Alpha Code

GLOSSARY OF TERMS
AND
ABBREVIATIONS

TERM OR ABBREVIATION	DESCRIPTION OR DEFINITION
POOR	Poor rating.
RI	Roughness Index.
RT#	Route number.
RTE_DESCRIPTION	Description of the route terminus.
RTE_MI	Total route length in miles.
RTE_NAME	Route name.
RRUT	Right Rut
SADT	Seasonal Annual Daily Traffic. Average daily traffic for the total "season".
SCR	Surface Condition Rating. Numerical rating from 0 (failed)to 100 (excellent). Based on the extent of alligator cracking, patching, longitudinal cracking, rutting and transverse cracking.
Shoulder Condition Rating	Numerical rating from 0 (failed) to 100 (excellent). Visual and measured observations of the adequacy of a section of shoulder. Also applies to curb and gutter.
Shoulder Width	If fogline exists, the portion of pavement outside lane, from fogline to edge of pavement.
UNPAV_MI	Unpaved portion of route, length in miles.
WR	Western Region

GENERAL PARK ROAD FUNCTIONAL CLASSIFICATION - TABLE 1

Class I	Principal Park Road/Rural Parkway (Public Roads) - Roads which constitute the main access route, circulatory tour, or thoroughfare for park visitors. Route Numbers 1-99. Note: Rural parkways (e.g. Natchez Trace) are numbered 1-9. All other FC 1 routes have two digit numbers.
Class II	Connector Park Road (Public Roads) - Roads which provide access within a park to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, etc. Route Numbers 100-199.
Class III	Special Purpose Park Road (Public Roads) - Roads which provide circulation within public areas, such as campgrounds, picnic areas, visitor center complexes, concessionaire facilities, etc. These roads generally serve low-speed traffic and are often designed for one-way circulation. Route Numbers 200-299.
Class IV	Primitive Park Roads (Public Roads) - Roads which provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. These roads frequently have no minimum design standards and their use may be limited to specially equipped vehicles. Route Numbers 200-299. Note: Functional Classes III and IV have the same route numbers because, historically, they were numbered similarly.
Class V	Administrative Access Road (Administrative Roads) - All public roads intended for access to administrative developments or structures such as park offices, employee quarters, or utility areas. Route Numbers 400-499.
Class VI	Restricted Road (Administrative Roads) - All roads normally closed to the public, including patrol roads, truck trails, and other similar roads. Route Numbers 400-499. Note: Functional Classes V and VI have the same route numbers because historically they were numbered similarly and often there is little distinction between these routes. For example, because utility areas and employee housing are often closed to the public, this restriction would result in classification of FC VI rather than FC V.
Class VII	*Urban Parkway (Urban Parkways and City Streets) - These facilities serve high volumes of park and* non-park related traffic and are restricted, limited-access facilities in an urban area. This category of roads primarily encompasses the major parkways which serve as gateways to our nation's capital. Other major park roads or portions thereof, however, may be included in this category. Route Numbers 1-9.
Class VIII	City Streets (Urban Parkways and City Streets) - City streets are usually extensions of the adjoining street system that are owned and maintained by the National Park Service. The construction and/or reconstruction should conform with accepted local engineering practice and local conditions. Route Numbers 600-699.

A park road system contains those roads within or giving access to a park or other unit of the NPS which are administered by the NPS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a park road is not based on traffic volumes or design speed, but on the intended use or function of that road or route.

The historic route numbering system also included a 300 number series for interpretive roads, and a 500 series for one-way roads. There are approximately 250 roads nationwide which are designated by the 300 and 500 series. The numbers for these roads will be maintained for reporting consistency. However, since these interpretive and one-way routes are not as clearly tied to a specific functional class, the 300 and 500 series will be discontinuted for future use.

DESCRIPTION OF RATING SYSTEM

Data is collected on the following distresses and conditions:

- **Alligator Cracking** - a series of interconnecting cracks resembling alligator skin or chicken wire which usually occur in the wheel path.
- **Longitudinal Cracking** - cracks which are parallel to the pavement centerline or asphalt lay down direction.
- **Transverse Cracking** - cracks perpendicular to the pavement centerline.
- **Pothole (patch)** - a bowl-shaped hole in the pavement surface.
- **Rutting** - surface depressions in the wheel paths.

In addition, **Roughness** has been collected and is used in the PCR formula.

A Rating Index value is calculated for each of these at the 0.02 mile, or every 105.6 feet.

Rating Index Formulas

Alligator Cracking Index = *100 - [40 * (%low/70 + %medium/30 + %high/10)]*
Longitudinal Cracking Index = 100 - [40 * (%low/350 + %medium/200 + %high/75)]
Transverse Cracking Index = 100 - [40 * (low/4 + medium/2 + high/0.5)]
Patching Index = 100 - [40 * (%patching / 80)]
Rutting Index: Asphalt Surface = $[13.33 * (\text{deepest rut})^2] - [86.67 * \text{deepest rut}] \div 100$
Chipseal (1-5 yrs. old) = $[9.53 * (\text{deepest rut})^2] - [86.67 * \text{deepest rut}] + 108.57$
Chipseal (>5 yrs. old) = $[3.85 * (\text{deepest rut})^2] - [83.46 * \text{deepest rut}] + 116.53$
Roughness Index (RI) = $29*[5*e^{(-0.0041*\text{average IRI})}]$

These 0.02 Rating Index values are then averaged over one mile sections for the mile-by-mile Rating Indexes, Surface Condition Rating (SCR) and Pavement Condition Rating (PCR).

Surface Condition Rating (SCR) = 100 - [40 * (LOW ALLIGATOR CRACKING/70 + MEDIUM ALLIGATOR CRACKING/30 + HIGH ALLIGATOR CRACKING/10 + PATCHING/80 + LOW TRANSVERSE CRACKING/4 + MEDIUM TRANSVERSE CRACKING/2 + HIGH TRANSVERSE CRACKING/0.5 + LOW LONGITUDINAL CRACKING/350 + MEDIUM LONGITUDINAL CRACKING/200 + HIGH LONGITUDINAL CRACKING/75 + MAXIMUM RUT VALUE)]

Pavement Condition Rating (PCR) = (SCR * 0.60) + (RI * 0.40)

NOTE: Collection of roughness data is dependant on the data collection vehicle traveling at a minimum speed of 22 mph. In the event that a route cannot be safely traveled at this minimum speed, and results in no roughness data, the SCR only will be calculated.

Drainage Condition Rating Definitions

Excellent: No drainability problem. If funding were available for pavement maintenance, no funds would be required for drainage concerns.

Good: Minimal overall drainability problems. If funding were available for pavement maintenance, 25% or less is estimated to correct drainage deficiencies.

Fair: Moderate problems with drainability that needs correcting before it deteriorates to a poor rating. If funding were available for pavement maintenance in this section, 25% to 50% is estimated to correct deficiencies.

Poor: Severe problems exist that jeopardizes the integrity of the road in this section. If funding were available for pavement maintenance, 50% to 100% is estimated to correct drainage deficiencies.

Drainage Rating Criteria

The following are examples of basic criteria to help the rater to identify the different drainability ratings. While in the field, many other flaws will be discovered, but this criteria should give a feel for where the flaws would apply in the ratings.

A. Excellent Drainability

All water clears the road prism adequately without any chance of base saturation.

- Pavement drains without interruption. Curbs are flawless with the exception of minor cracking. Down drains are secure and placed properly.
- Drop inlets are at the correct grade and location with no deficiencies.
- Culverts are adequate in numbers, size, and condition.
- Ditches are constructed of asphalt and are sufficient to carry required volumes of water.

B. Good Drainability

Most water clears the road prism adequately with little concern of base saturation.

- Pavement has minor deficiencies that interrupt water flow.
- Shoulders are mostly adequate as they relate to surrounding terrain. Shoulder design generally coincides with the drainage design.
- Curbs have deficiencies, but still function without erosion.
- Down drains are placed properly, but show signs of some deterioration.
- Culverts are adequate in numbers and size, however, minor deficiencies are evident.
- Ditches are not paved, but solid and have enough area to maintain and carry required volume of water.

C. Fair Drainability

Some areas have questionable ability for the water to clear the road prism with an uncomfortable concern for base saturation.

- Pavement shows moderate flaws, such as rutting, and other irregularities that would hold minor amounts of water, interrupting the flow of water.
- Shoulder grades restrict the flow of water, however, water exits after some ponding.
- Down drains show evidence that limited water is causing erosion as a result of deterioration, or other similar flaws (e.g. missing asphalt that guides water to down drain).
- Drop inlet encasements are cracked, iron is bent, or are misaligned to cause limited water to escape,
- Culvert headwalls show moderate damage or are inadequate, the exit shows some damage to fill areas, or entry asphalt is moderately damaged.
- Ditches have some permeable material, unmovable obstructions to interrupt flow obviously hard to maintain due to inconsistencies, or have a less than desirable area to carry required volumes of water.

D. Poor Drainability

This section has areas of inadequate drainage ability that is causing base saturation that could cause a road failure.

- Pavement grade is irregular and holds dangerous amounts of water (hydroplaning is a concern), or shows massive alligator cracking.
- Shoulder design induces ponding that encroaches on the pavement (drivers try to avoid ponds).
- Portions of curbs are missing, allowing water to escape causing erosion.
- Drop inlets, due to various reasons, are only able to drain 50% or less efficiently.
- Down drains show signs of water exiting in areas by the down drain causing erosion.
- Culverts are functionally deficient including size, installation, location, or grade giving water opportunity to saturate the road base.
- Ditches allow water opportunity to saturate the road base through various reasons such as low places in ditch where design has not allowed for water to drain, little or no room in the road prism for a needed ditch, or water is disappearing within the ditch.

<u>Shoulder Condition Rating Definitions</u>

Excellent: Shoulder is new or under construction. It meets or exceeds standards. The curb is new.

Good: The shoulder is below standard width for posted speed and grading is required. The curb is functional.

Fair: There are variations in the shoulder, irregular width with material replacement required. The curb is in need of repairs or adjustments.

Poor: There isn't any shoulder, erosion has removed it. The curb needs replacement.

Shoulder Rating Criteria

The following are examples of basic criteria to help the rater to identify the different shoulder ratings. While in the field, many other flaws will be discovered, but this criteria should give a feel for where the flaws would apply in the ratings.

The overall shoulder condition rating for a section is determined by the lowest individual rating for any one of the above categories (width, rutting, cracking, erosion, drop-off, and curbs).

A. Excellent Shoulders

- If shoulder is unpaved there will not be any drop-offs or erosion.
- If shoulder is paved there isn't any rutting, cracking, or erosion.
- Curbs are flawless with the exception of minor cracking and no erosion behind curb.

B. Good Shoulders

- If shoulder is unpaved drop-offs are less than 1", but grading is required.
- If shoulder is paved rut depth is less than ½", sealed cracks are present, and grading is required.
- If curbs are present they are functional.

C. Fair Shoulder

- If shoulder is unpaved drop-offs are from 1" to 4" and replacement of material required.
- If shoulder is paved rut depth is from ½" to 1". Open cracks are present but less than 1/4" deep, replacement of material is needed from erosion.
- If curbs are present they need repairs, and there is erosion behind the curb.

D. Poor Shoulder

- If shoulder is unpaved drop-offs are greater than 4" and erosion has removed the shoulder.
- If shoulder is paved rut depth is greater than 1". Open cracks are greater than 1/4" deep, and erosion has removed the shoulder.
- If curbs are present they need replacement.
- If curbs are present they need repairs, and there is erosion behind the curb.