STB FD 32760 . 11-30-95 A 1648V18 5/6

2.8.1 Bend

2.8.1.1 Air Quality

The Bend rail yard is located in the Central Oregon AQCR (AQCR 190) which is presently designated as nonattainment. Figure 2-27 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.00, 0.01, 0.09, 0.01, and 0.00 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

2.8.1.2 Noise

The Bend rail yard is projected to have a carload activity increase below the ICC threshold of 100%; therefore, noise impacts were not addressed.

2.8.2 Hinkle

2.8.2.1 Air Quality

The Hinkle rail yard is located in the Eastern Oregon AQCR (AQCR 191) which is presently designated as nonattainment. Figure 2-28 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.62, 1.93, 14.45, 1.05, and 0.31 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

2.8.2.2 Noise

The Hinkle rail yard is projected to have a carload activity increase below the ICC threshold of 100%; therefore, noise impacts were not addressed.

2.8.3 Salem

2.8.3.1 Air Quality

The Salem rail yard is located in the Portland AQCR (AQCR 193) which is presently designated as nonattainment. Figure 2-29 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.02, 0.05, 0.39, 0.03, and 0.01 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

2.8.3.2 Noise

The Salem rail yard is projected to have a carload activity increase below the ICC threshold of 100%; therefore, noise impacts were not addressed.

2.9 TEXAS

The Amarillo and Bellmead rail yards in Texas are projected to have carload activity increases equal to or greater than the ICC threshold of 100% for attainment AQCRs. The El Paso and Fort Worth rail yards in Texas are projected to have carload activity increases equal to or greater than the ICC threshold of 20% for air quality assessment in nonattainment AQCRs. The increases in criteria pollutant emissions associated with increased operations at these rail yards are presented in Table 1-5. Figure 2-30 depicts the location of the rail yards in Texas. Noise impacts are discussed below.

2.9.1 Amarillo

2.9.1.1 Air Quality

The Amarillo rail yard is located in the Amarillo - Lubbock AQCR (AQCR 211) which is presently designated as attainment. Figure 2-31 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.14, 0.44, 3.31, 0.24, and 0.07 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

2.9.1.2 Noise

The projected post-merger transportation data show UP/SP carload activity in Amarillo increasing from 40 to 117. This activity is in the BN/Santa Fe yard and the numbers for UP/SP carload activity do not reflect the BN/Santa Fe operations. When the

BN/Santa Fe carload activity is included, the increase does not exceed the ICC threshold for a noise analysis. Furthermore, this yard is in a predominantly industrial area, and the nearest residential areas are about 1000 feet from the yard, shielded by intervening buildings. Therefore, no noise impact is projected in the vicinity of the Amarillo yard.

2.9.2 Bellmead

2.9.2.1 Air Quality

The Bellmead rail yard is located in the Austin - Waco AQCR (AQCR 212) which is presently designated as attainment. Figure 2-32 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.18, 0.57, 4.29, 0.31, and 0.09 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

2.9.2.2 Noise

Both UP and SP have yards in Bellmead. Following consolidation of operations, the daily carload activity at the UP yard is projected to increase from 46 to 146, representing a 5 dBA increase in L_{dn} from the yard. There is a residential area approximately 300-400 feet north of the yard. Within this area, the existing noise exposure is projected to be less than L_{dn} 65 dBA, and the future L_{dn} is projected to be 65 dBA or greater at only two homes. In addition, as summarized below, the L_{dn} is expected to increase by 3 dBA or more at approximately 14 additional homes.

Condition	Number of Residences	
	Pre-Merger	Post-Merger
L_{dn} > 65 dBA	0	2
L_{dn} < 65 and increase > 3 dBA	--	14
Total	0	16

2.9.3 El Paso

2.9.3.1 Air Quality

The El Paso rail yard is located in the El Paso - Las Cruces - Alamagordo AQCR (AQCR 153) which is presently designated as nonattainment. Figure 2-33 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.28, 0.86, 6.43, 0.47, and 0.14 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

2.9.3.2 Noise

The El Paso rail yard is projected to have a carload activity increase below the ICC threshold of 100%; therefore, noise impacts were not addressed.

2.9.4 Fort Worth

2.9.4.1 Air Quality

The Fort Worth rail yard is located in the Metropolitan Dallas - Fort Worth AQCR (AQCR 215) which is presently designated as nonattainment. Figure 2-34 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.54, 1.69, 12.63, 0.92, and 0.27 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

The Fort Worth rail yard is part of the Fort Worth Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

2.9.4.2 Noise

The Fort Worth rail yard is projected to have a carload activity increase below the ICC threshold of 100%; therefore, noise impacts were not addressed.

2.10 WASHINGTON

The Seattle rail yard in Washington is projected to have a carload activity increase equal to or greater than the ICC threshold of 20% for air quality assessment in nonattainment AQCRs. The increases in criteria pollutant emissions associated with increased operations at this rail yard are presented in Table 1-5. Figure 2-35 depicts the location of this rail yard in Washington. No noise impacts are expected as indicated below.

2.10.1 Seattle

2.10.1.1 Air Quality

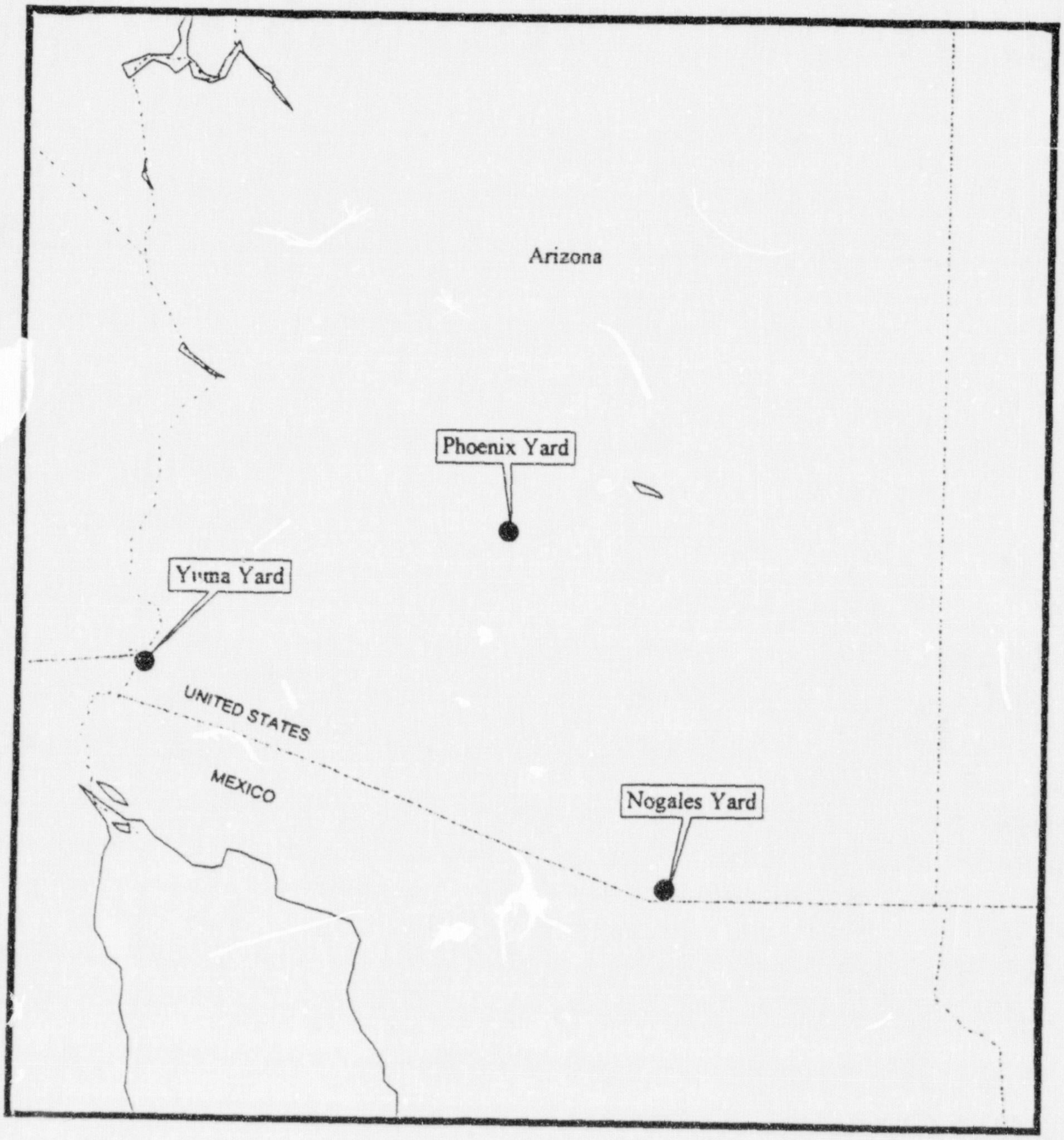
The Seattle rail yard is located in the Puget Sound AQCR (AQCR 229) which is presently designated as nonattainment. Figure 2-36 depicts the location of this rail yard. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from sources within the yard are 0.26, 0.81, 6.06, 0.44, and 0.13 tons per year, respectively. A summary of rail yard and intermodal facility impacts for each AQCR is presented in Part 1, Overview, Section 4.

The Seattle rail yard is part of the Seattle Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Overview, Section 4.

2.10.1.2 Noise

The Seattle rail yard is projected to have a carload activity increase below the ICC threshold of 100%; therefore, noise impacts were not addressed.

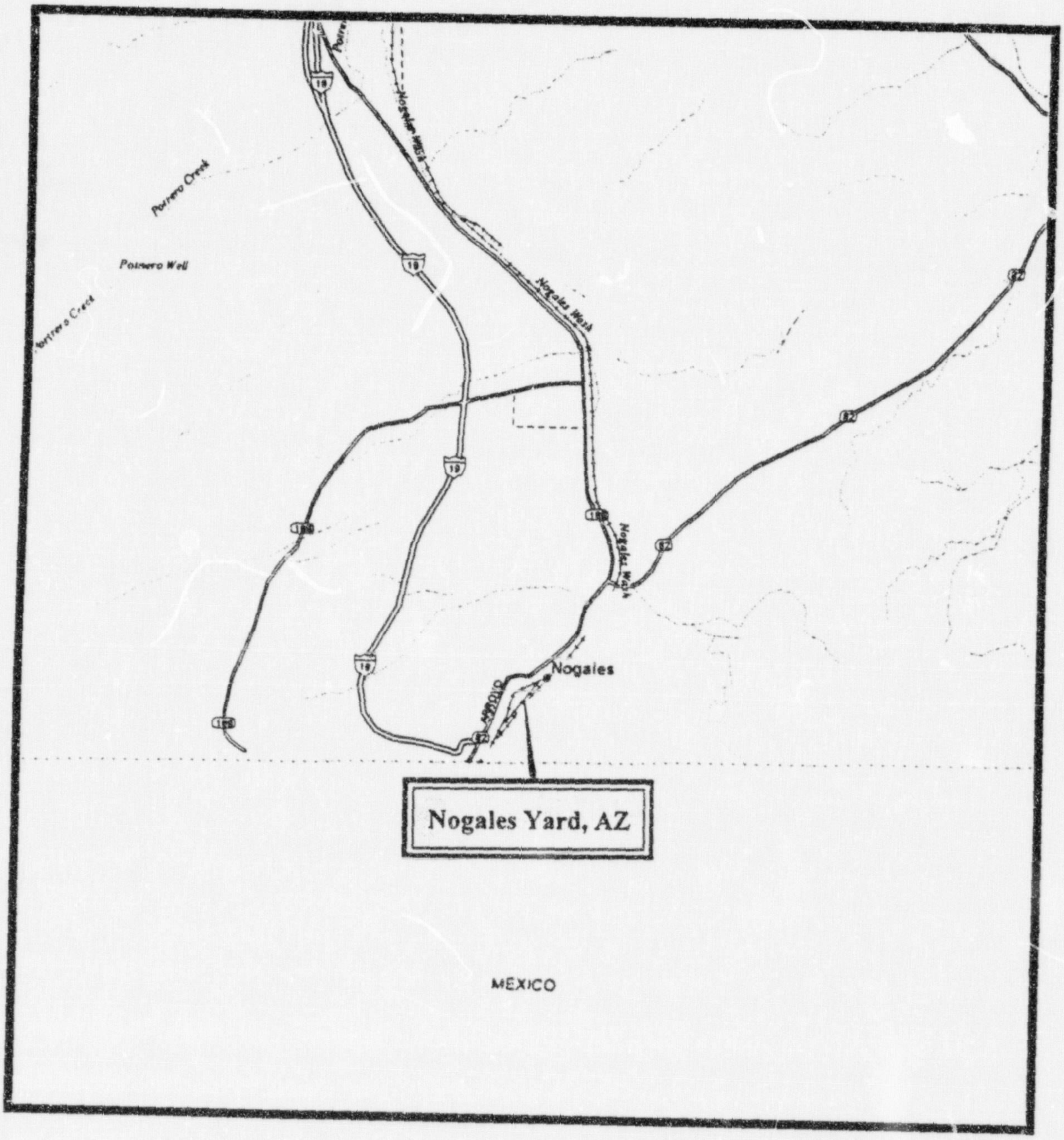
FIGURE 2-1
RAIL YARDS
IN ARIZONA



N↑

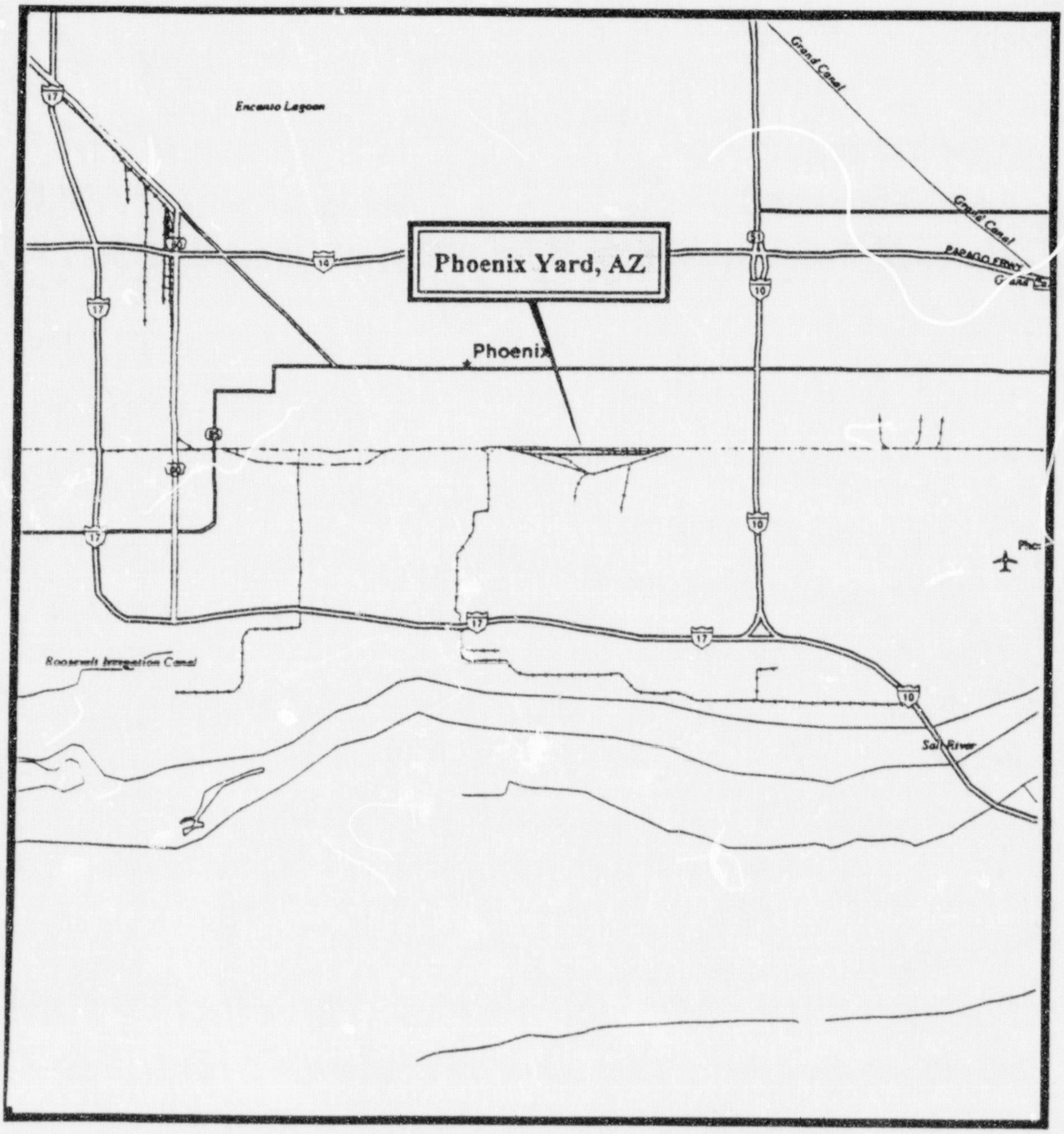
THIS PAGE LEFT INTENTIONALLY BLANK.

FIGURE 2-2
NOGALES, ARIZONA
RAIL YARD



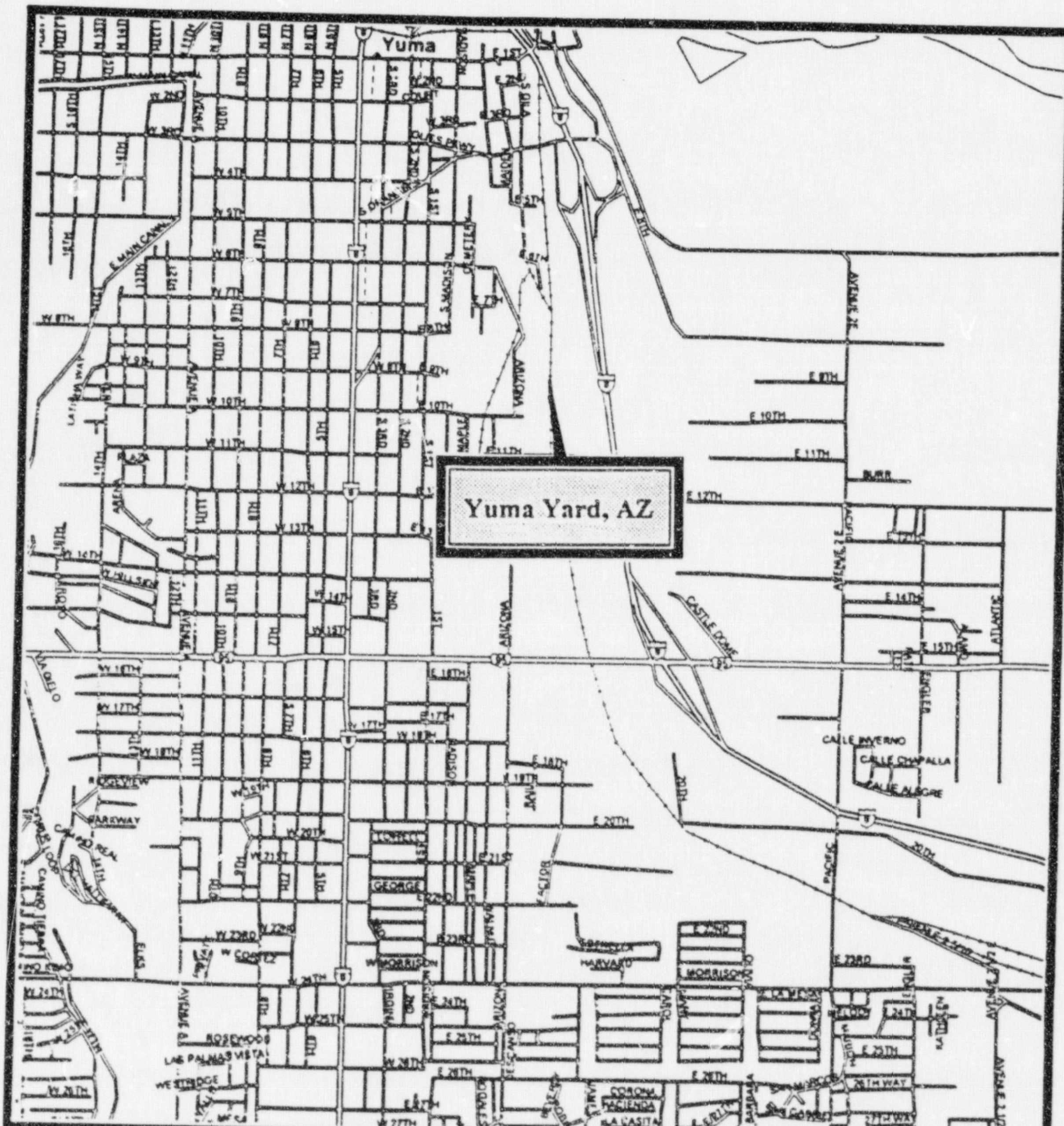
N↑

FIGURE 2-3
PHOENIX, ARIZONA
RAIL YARD



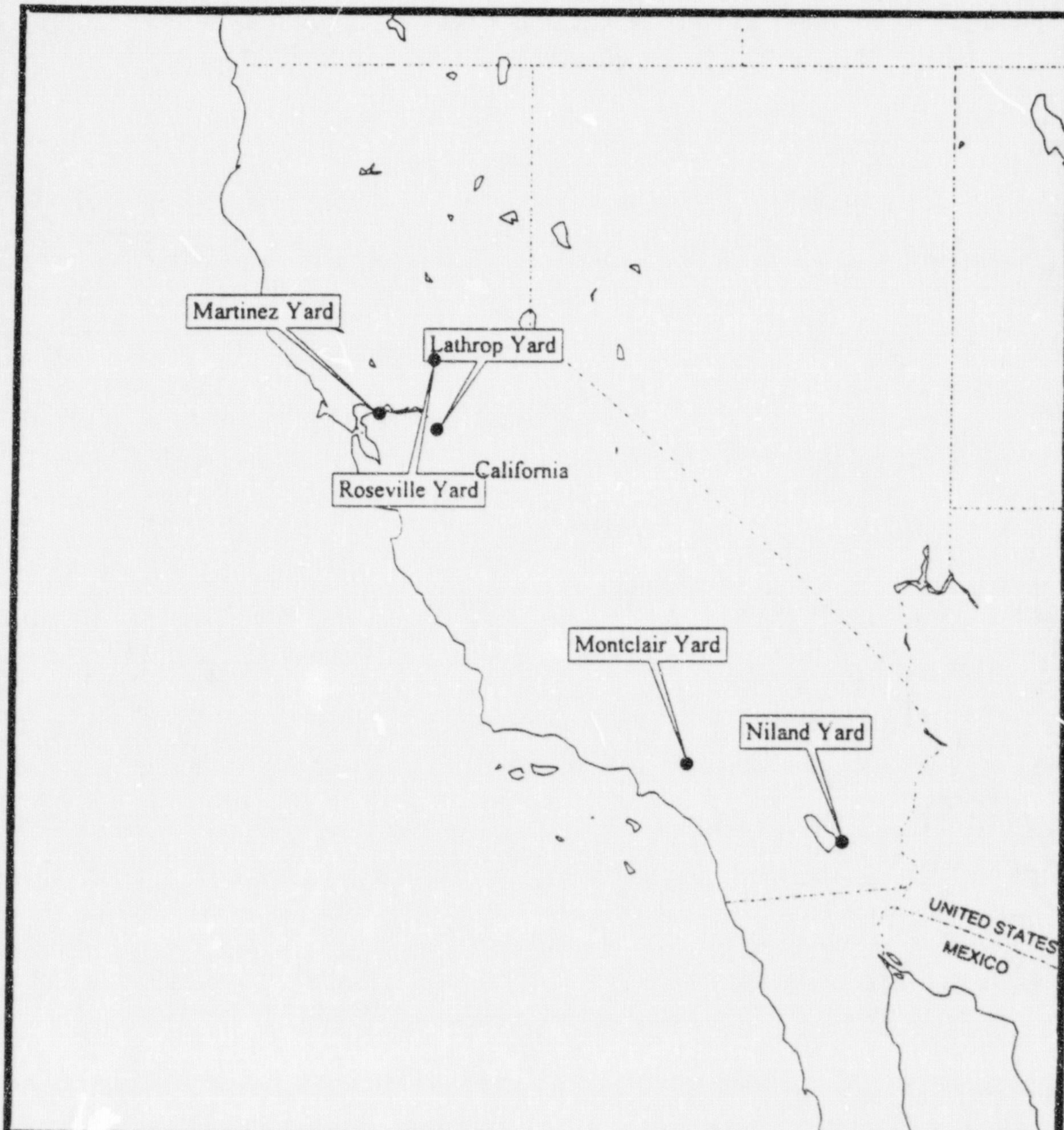
N ↑

FIGURE 2-4
YUMA, ARIZONA
RAIL YARD



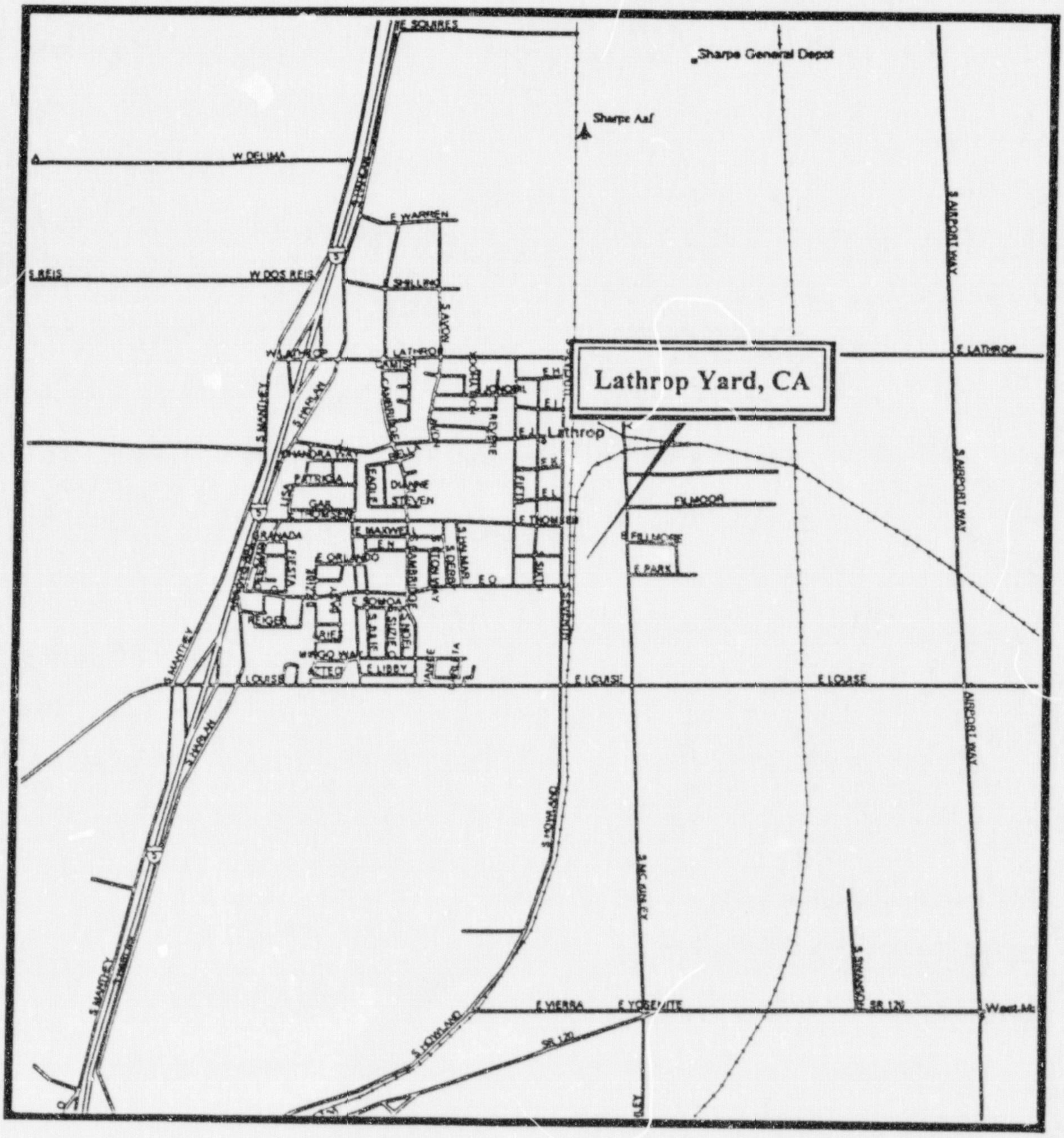
N↑

FIGURE 2-5
RAIL YARDS
IN CALIFORNIA



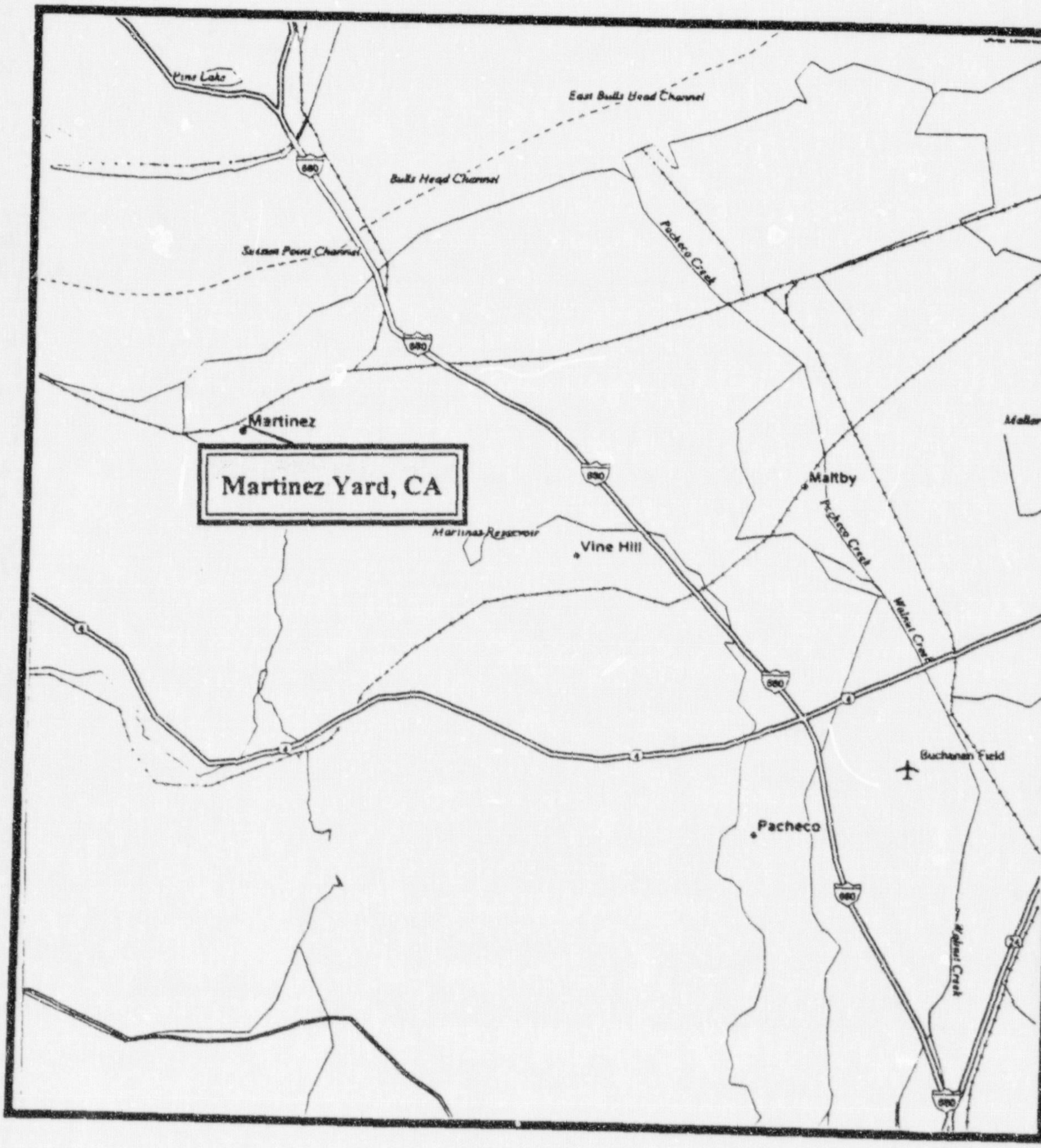
N↑

FIGURE 2-6
LATHROP, CALIFORNIA
RAIL YARD



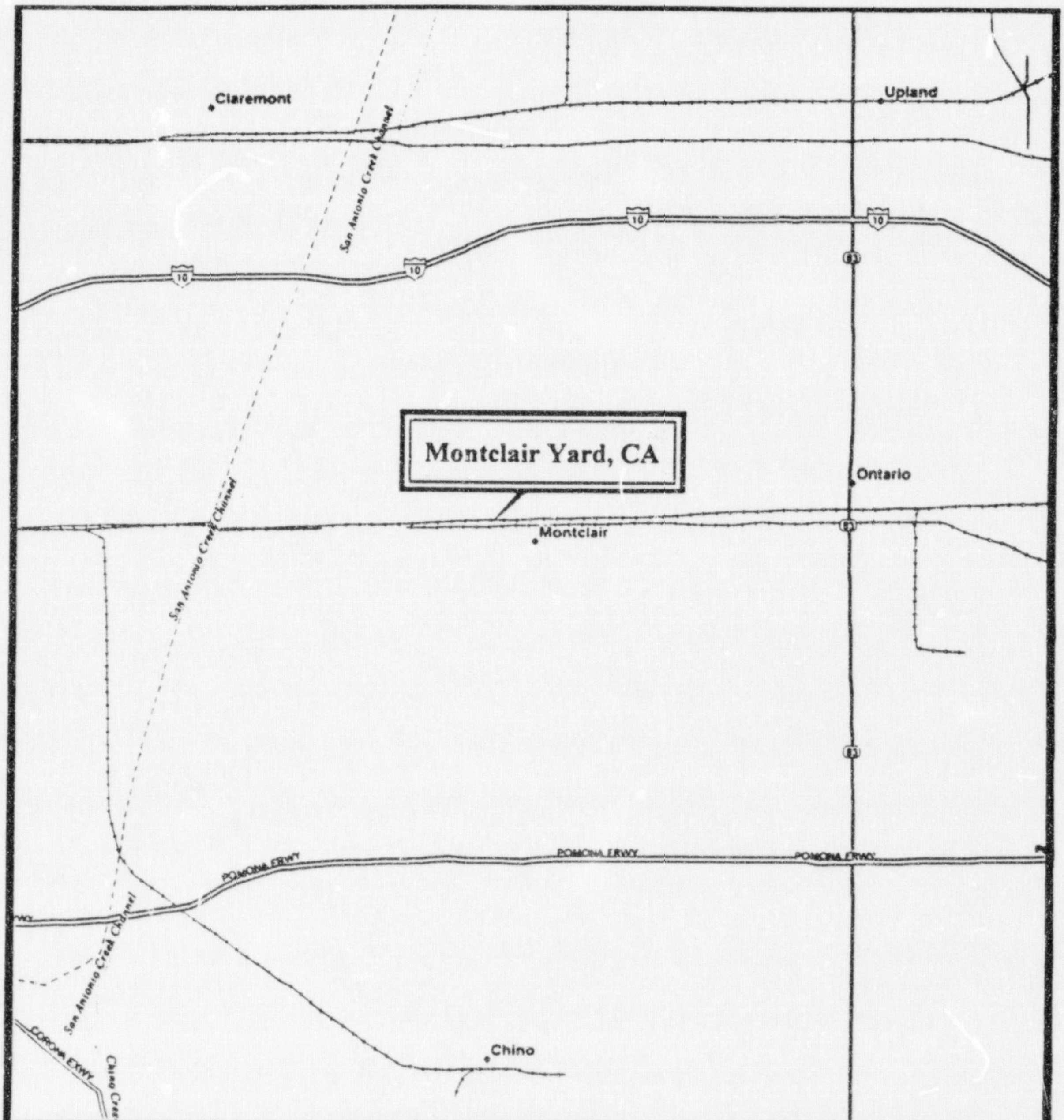
N↑

FIGURE 2-7
MARTINEZ, CALIFORNIA
RAIL YARD



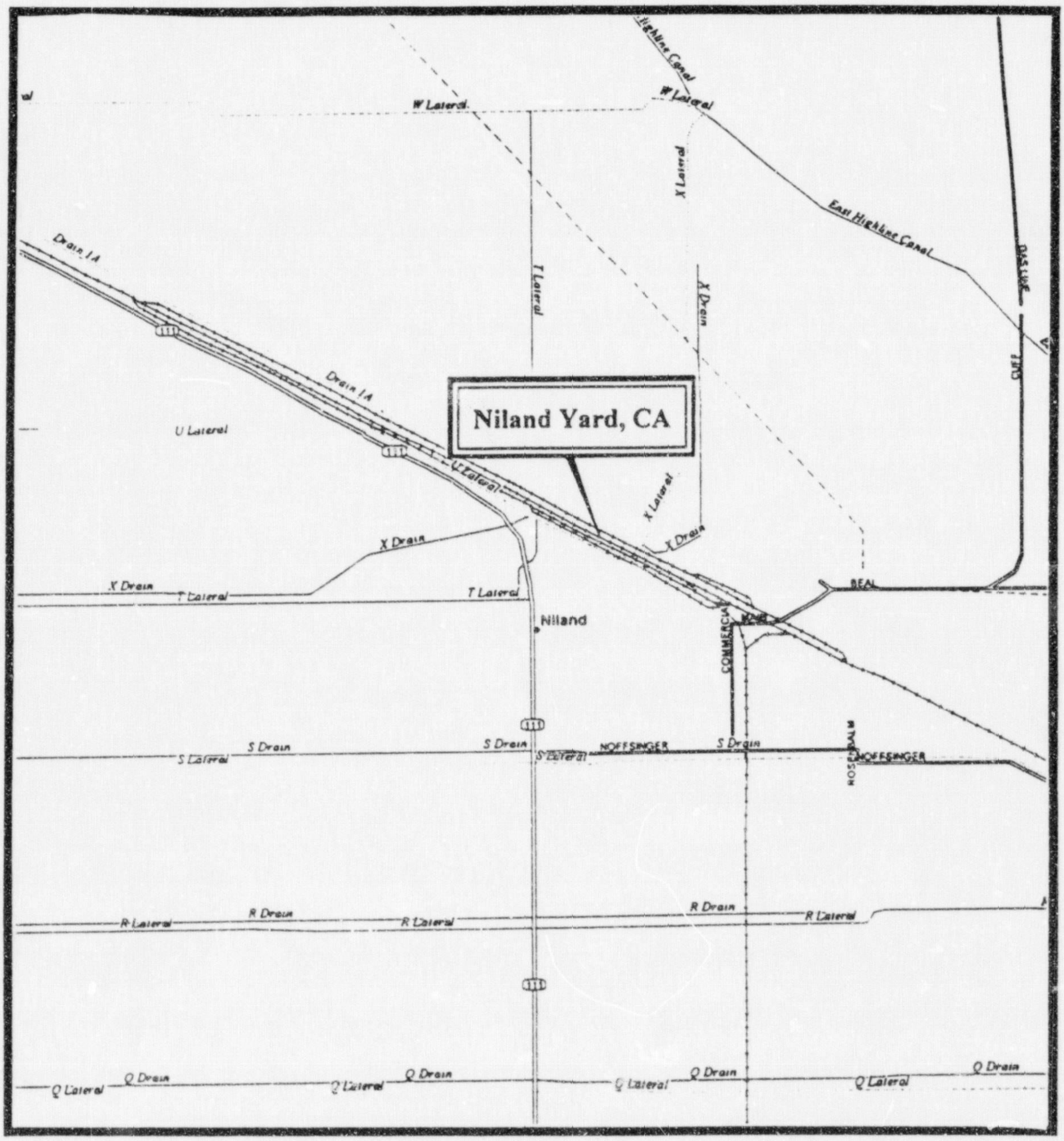
N↑

FIGURE 2-8
MONTCLAIR, CALIFORNIA
RAIL YARD



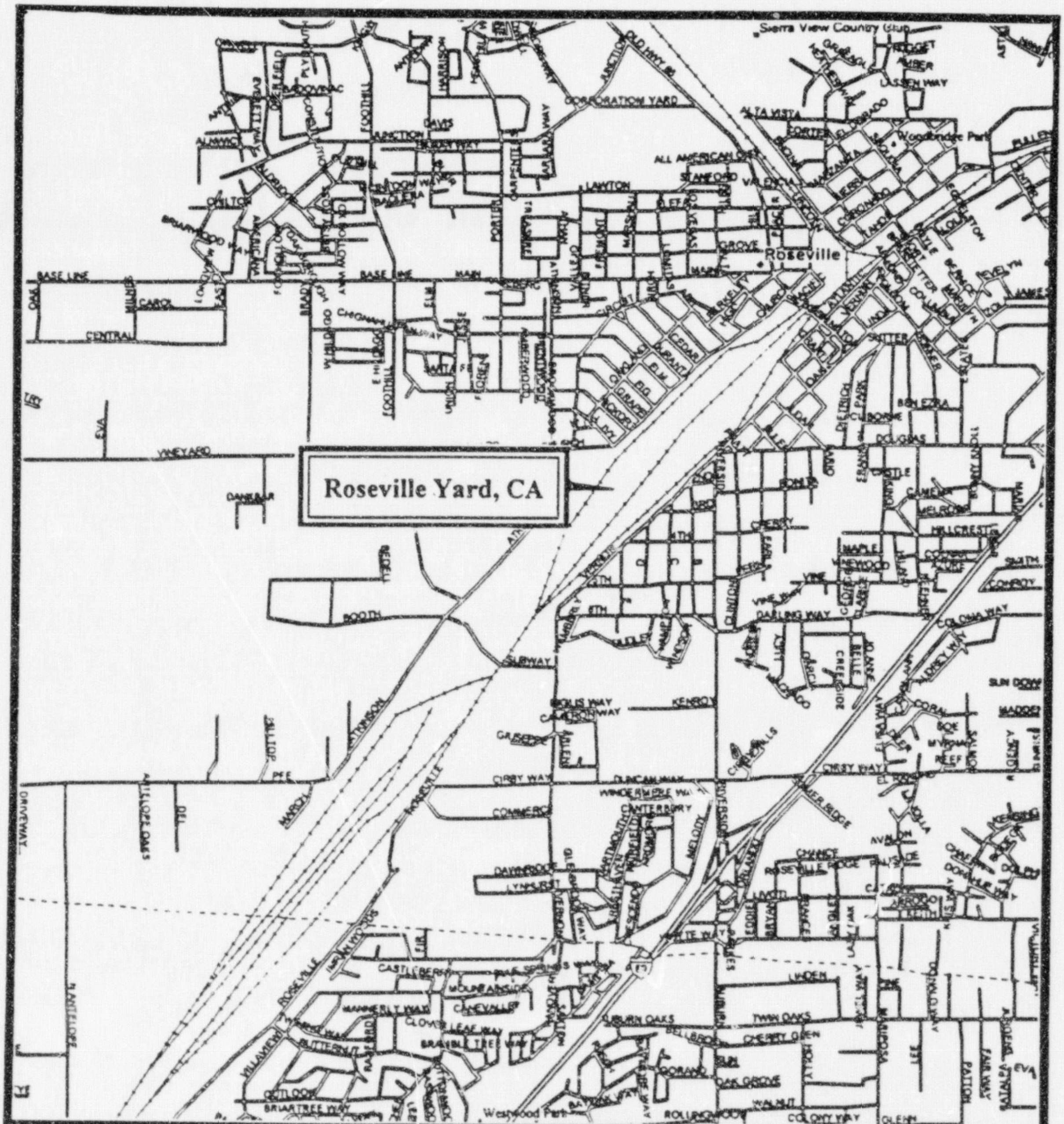
N ↑

FIGURE 2-9
NILAND, CALIFORNIA
RAIL YARD



N↑

FIGURE 2-10
ROSEVILLE, CALIFORNIA
RAIL YARD



N ↑

FIGURE 2-11
RAIL YARDS
IN COLORADO

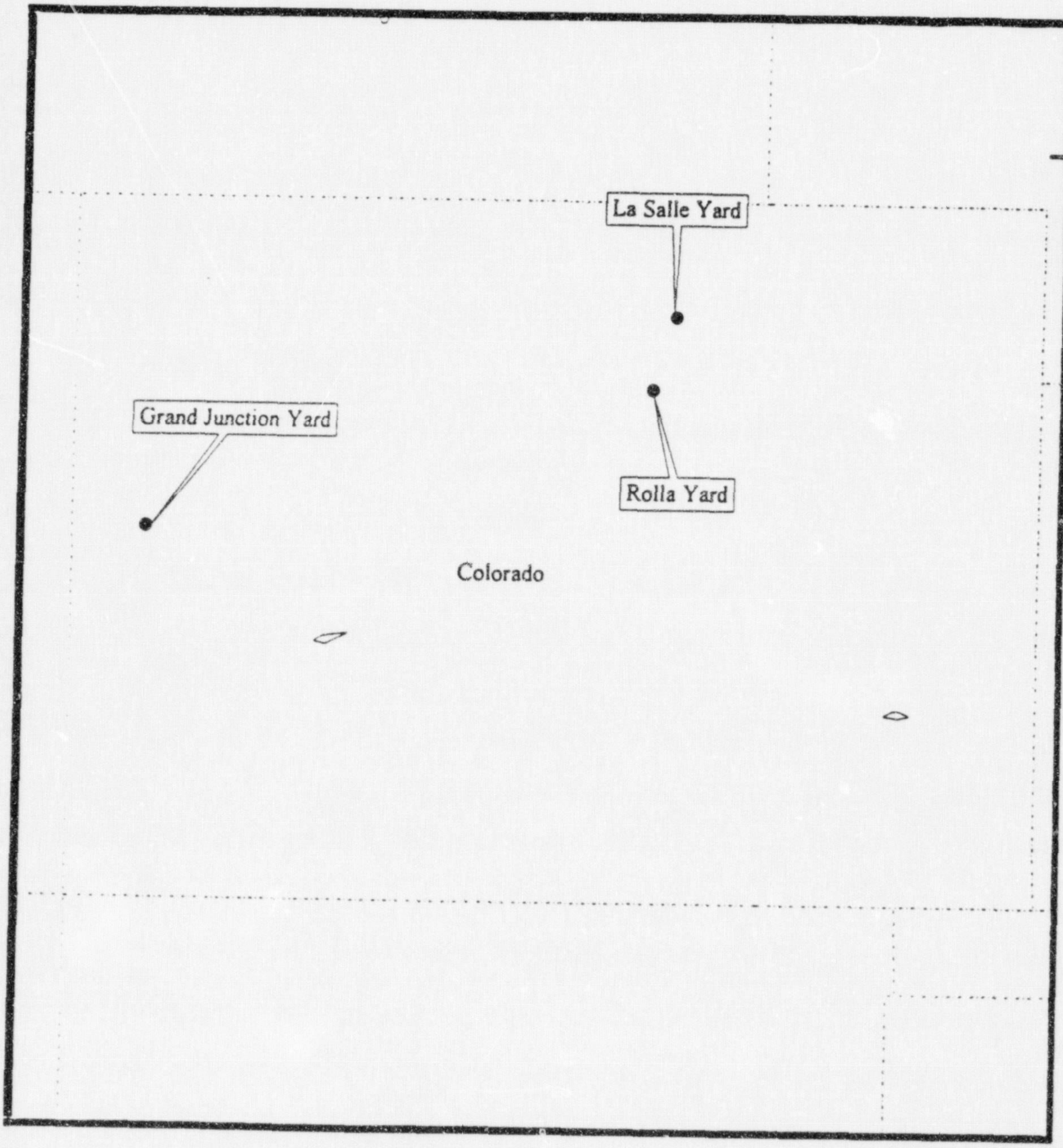
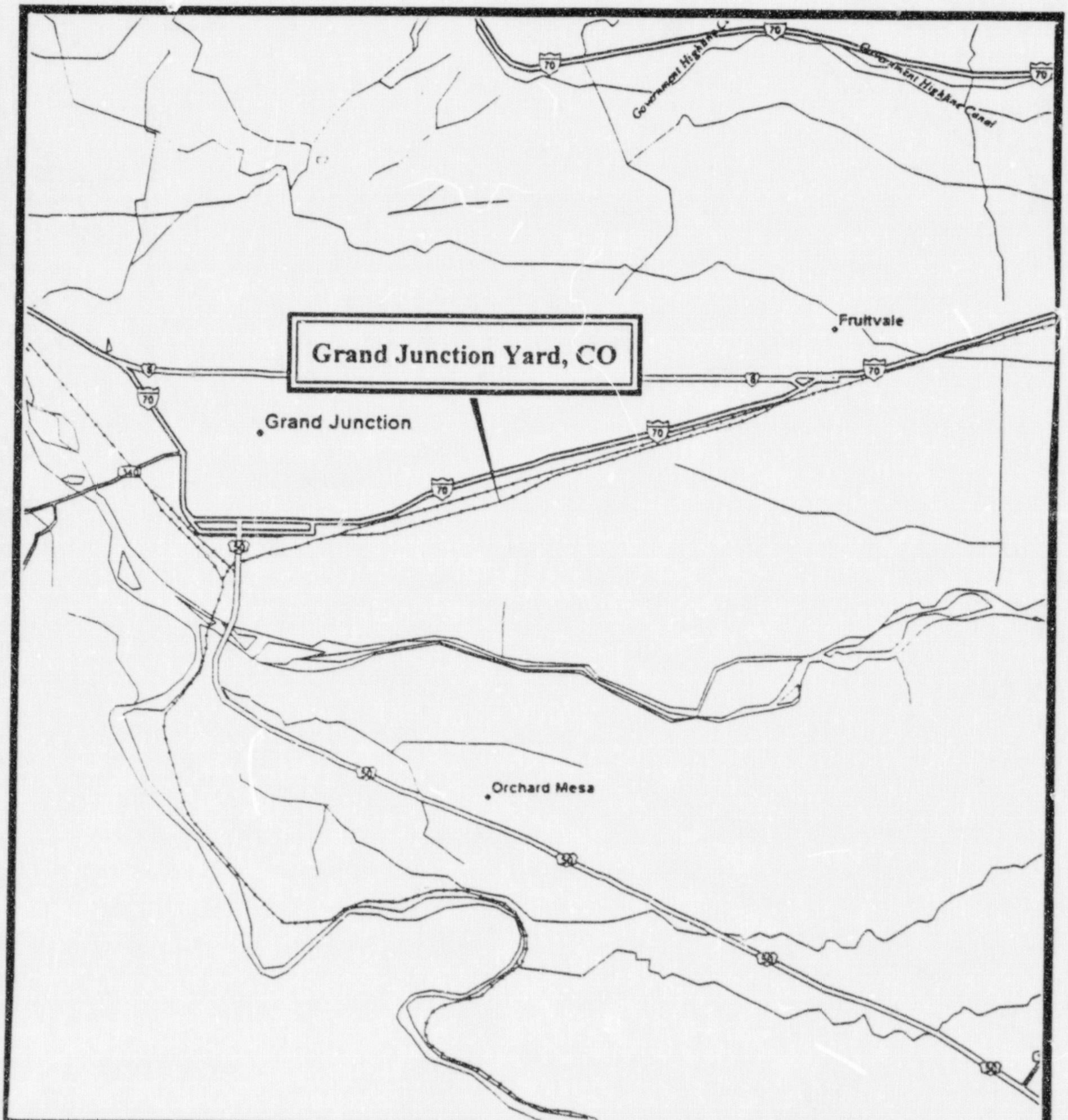
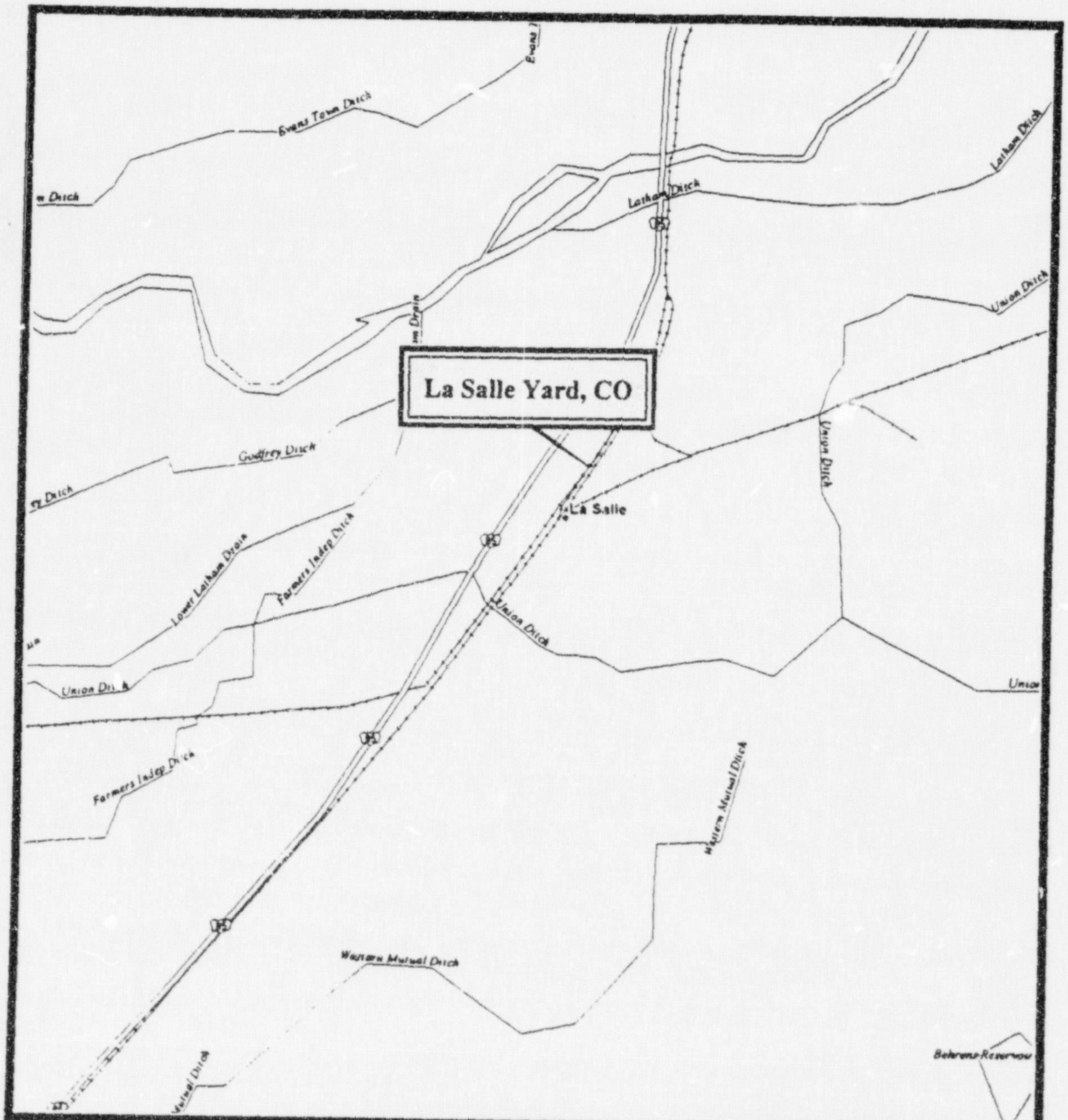


FIGURE 2-12
GRAND JUNCTION, COLORADO
RAIL YARD



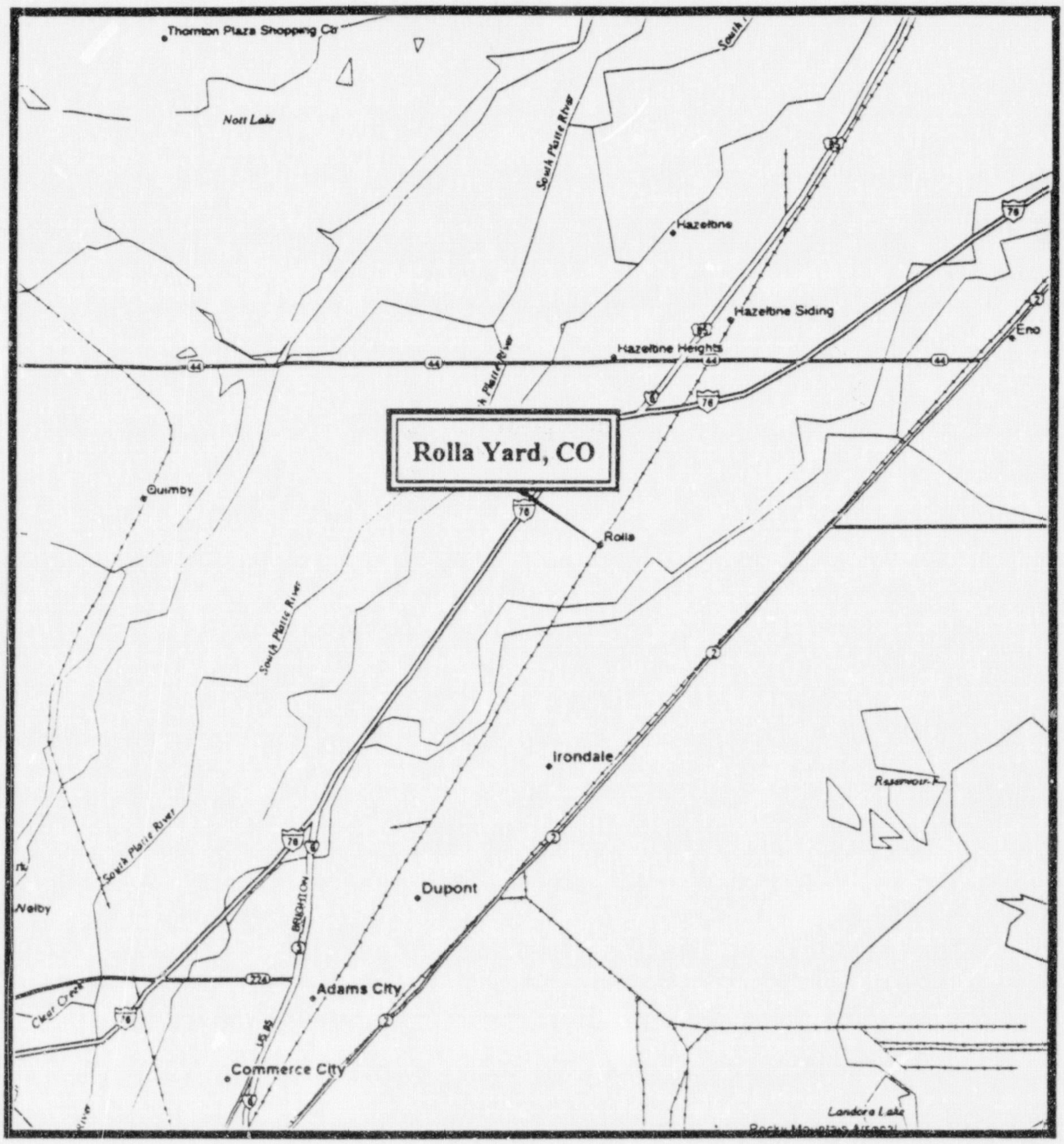
N↑

FIGURE 2-13
LA SALLE, COLORADO
RAIL YARD



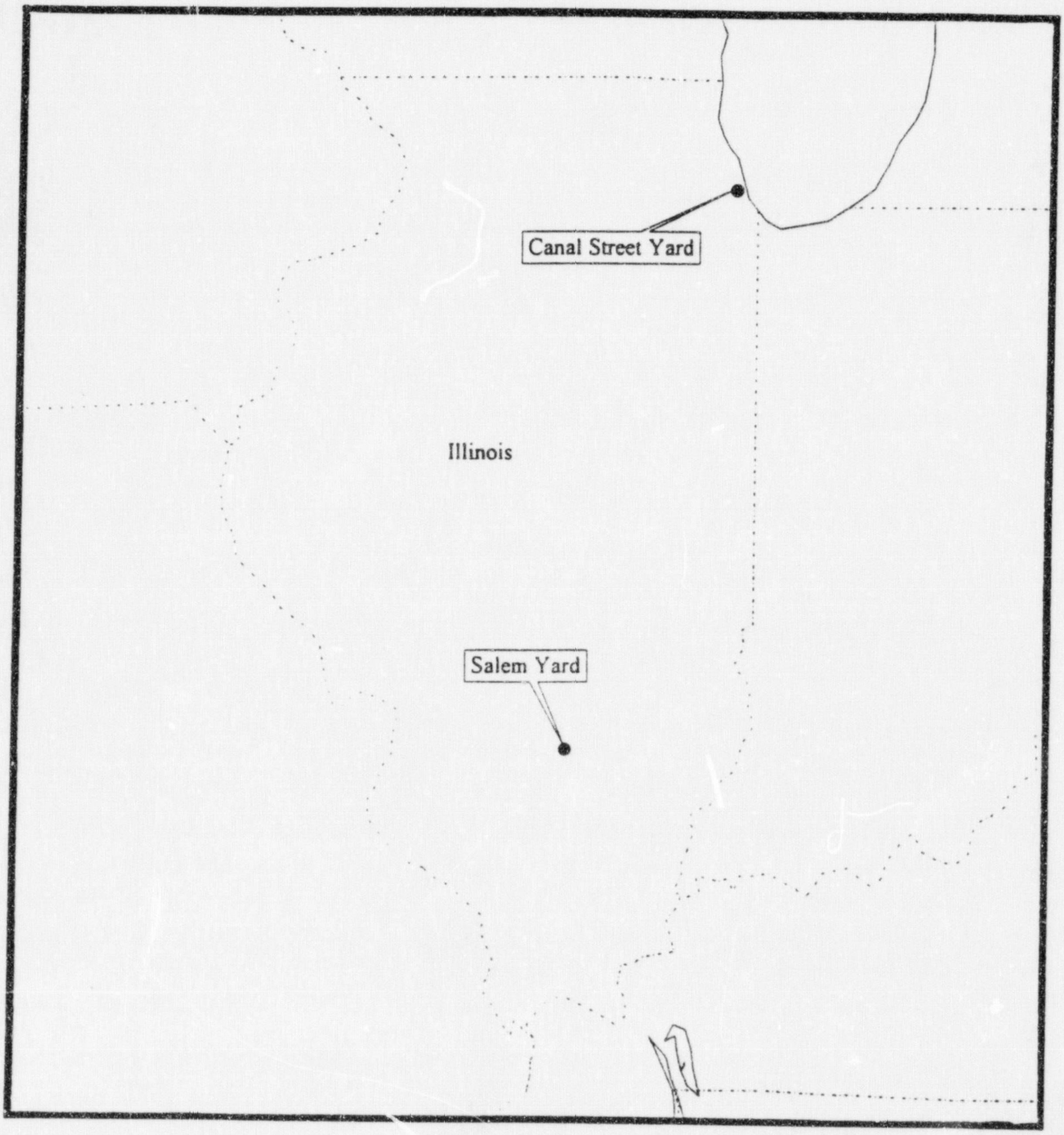
N↑

FIGURE 2-14
ROLLA, COLORADO
RAIL YARD



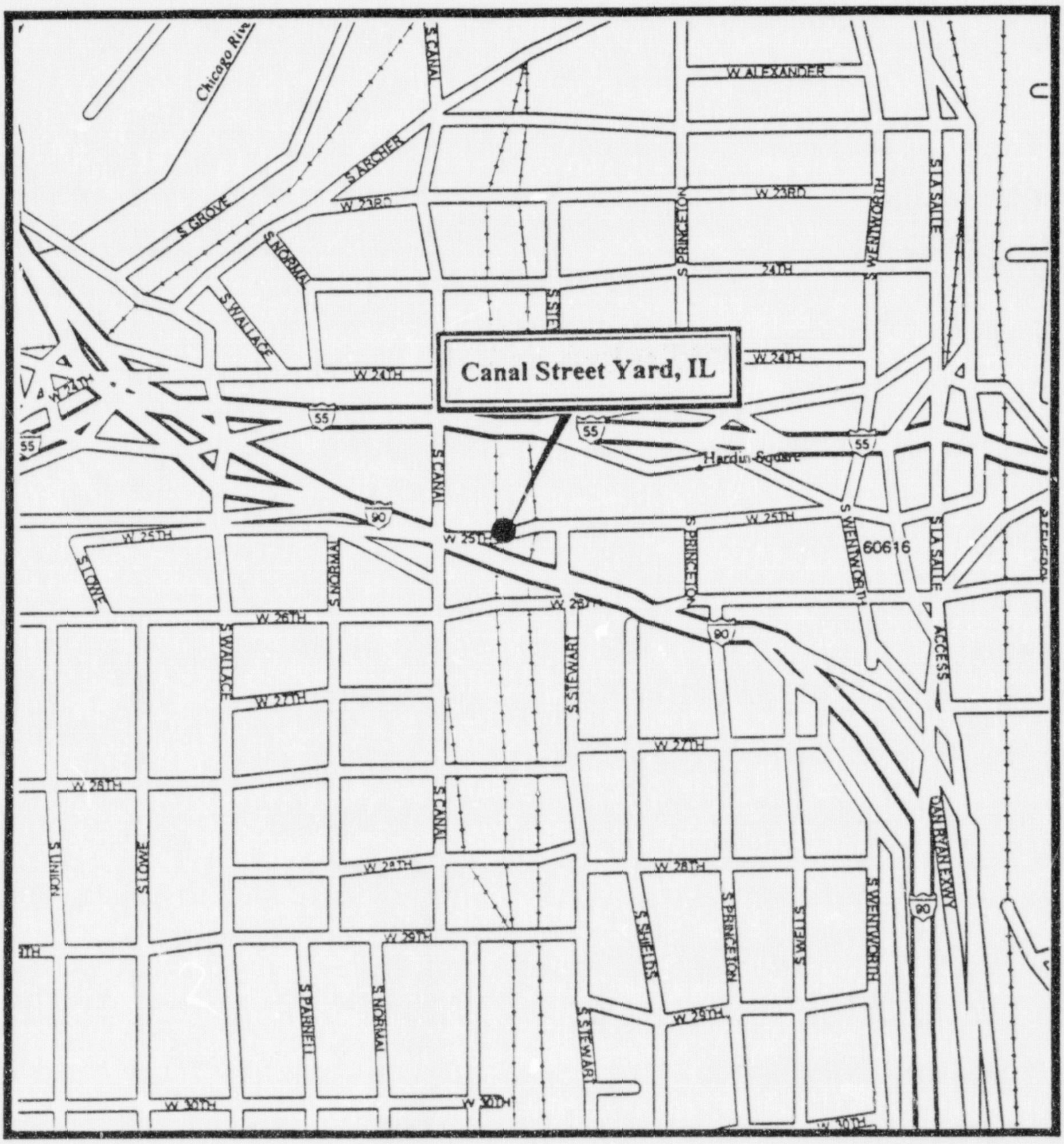
N↑

FIGURE 2-15
RAIL YARDS
IN ILLINOIS



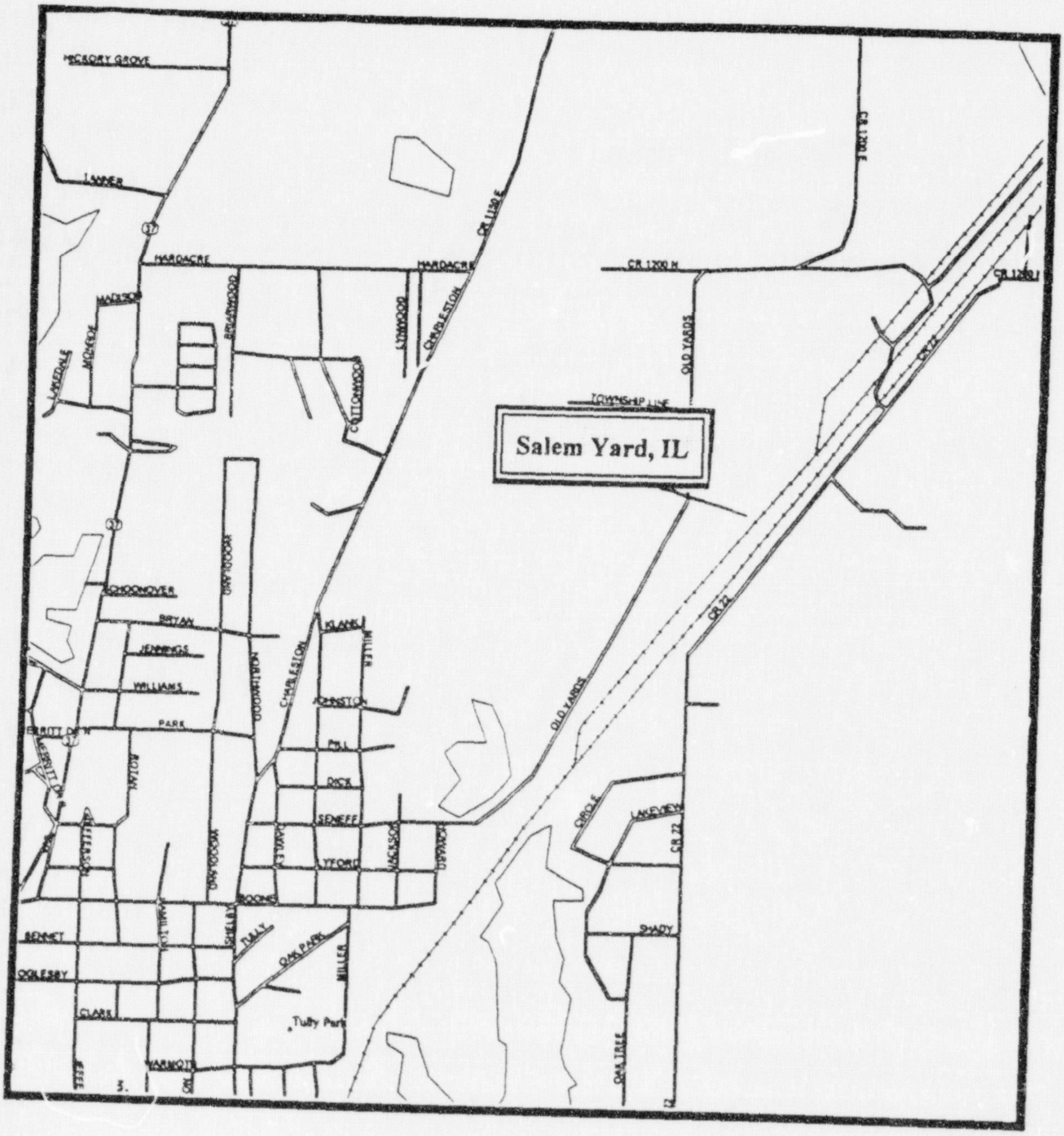
N ↑

FIGURE 2-16
CANAL STREET RAIL YARD
CHICAGO, ILLINOIS



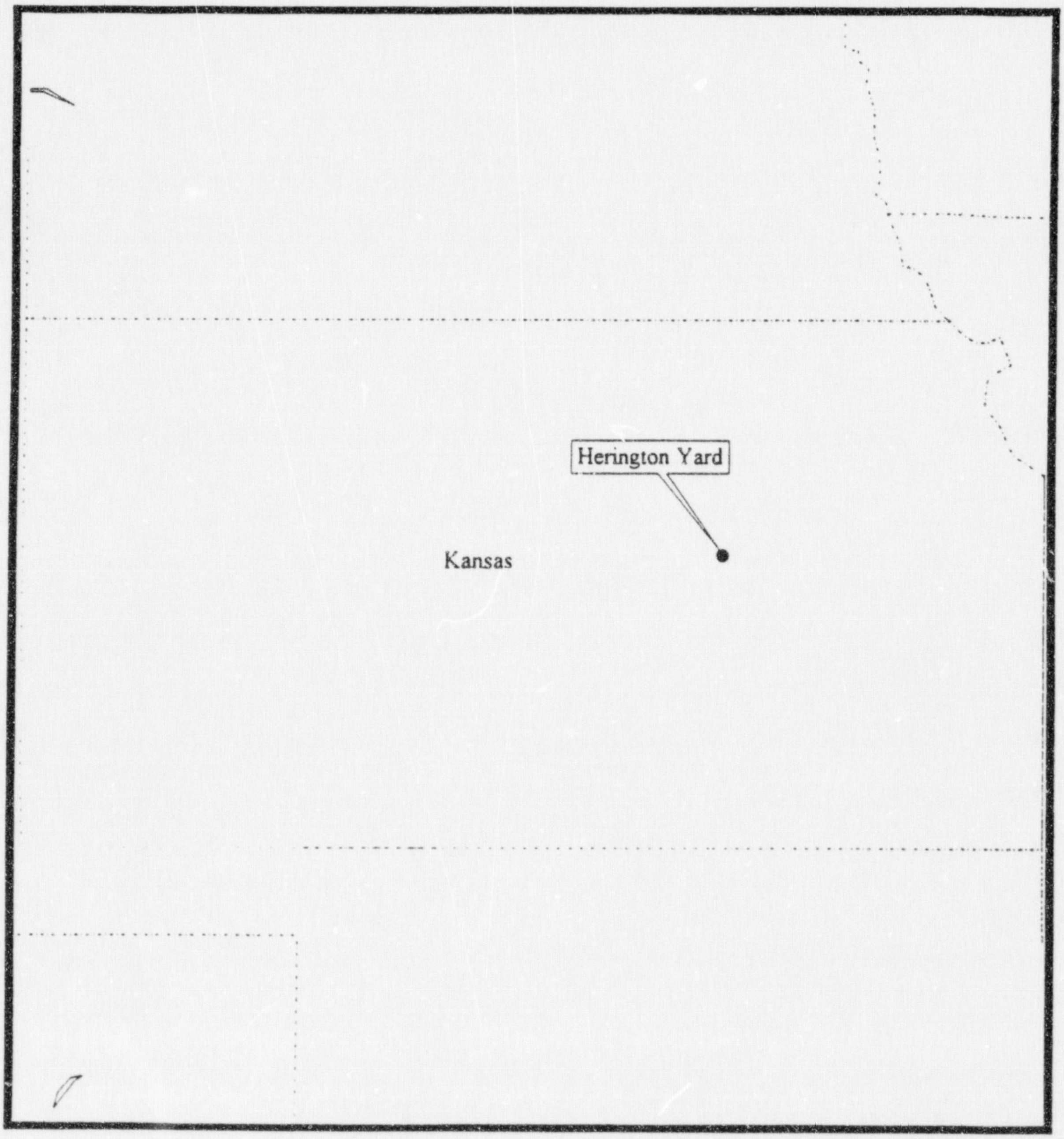
N↑

FIGURE 2-17
SALEM, ILLINOIS
RAIL YARD



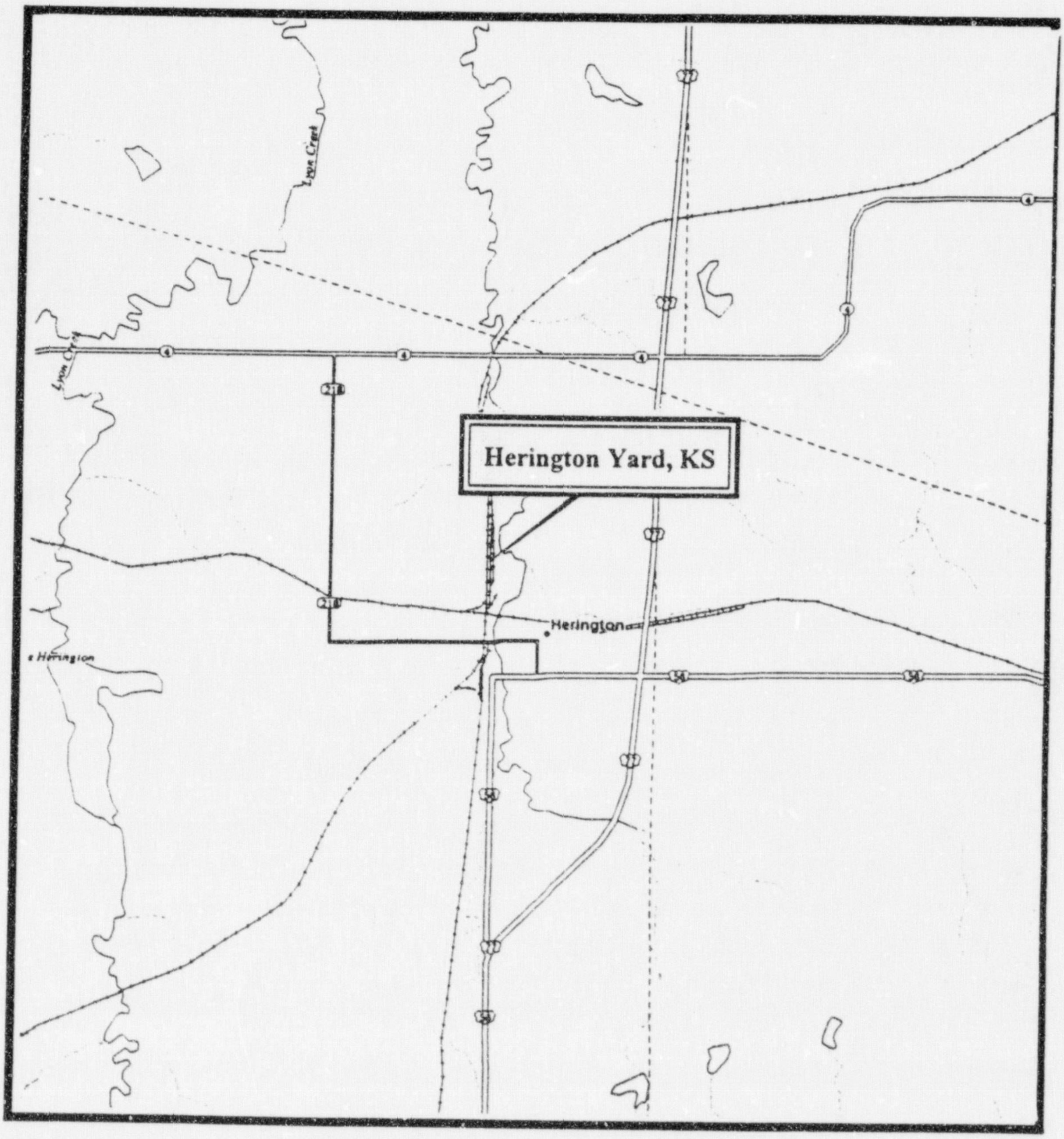
N↑

FIGURE 2-18
RAIL YARDS
IN KANSAS



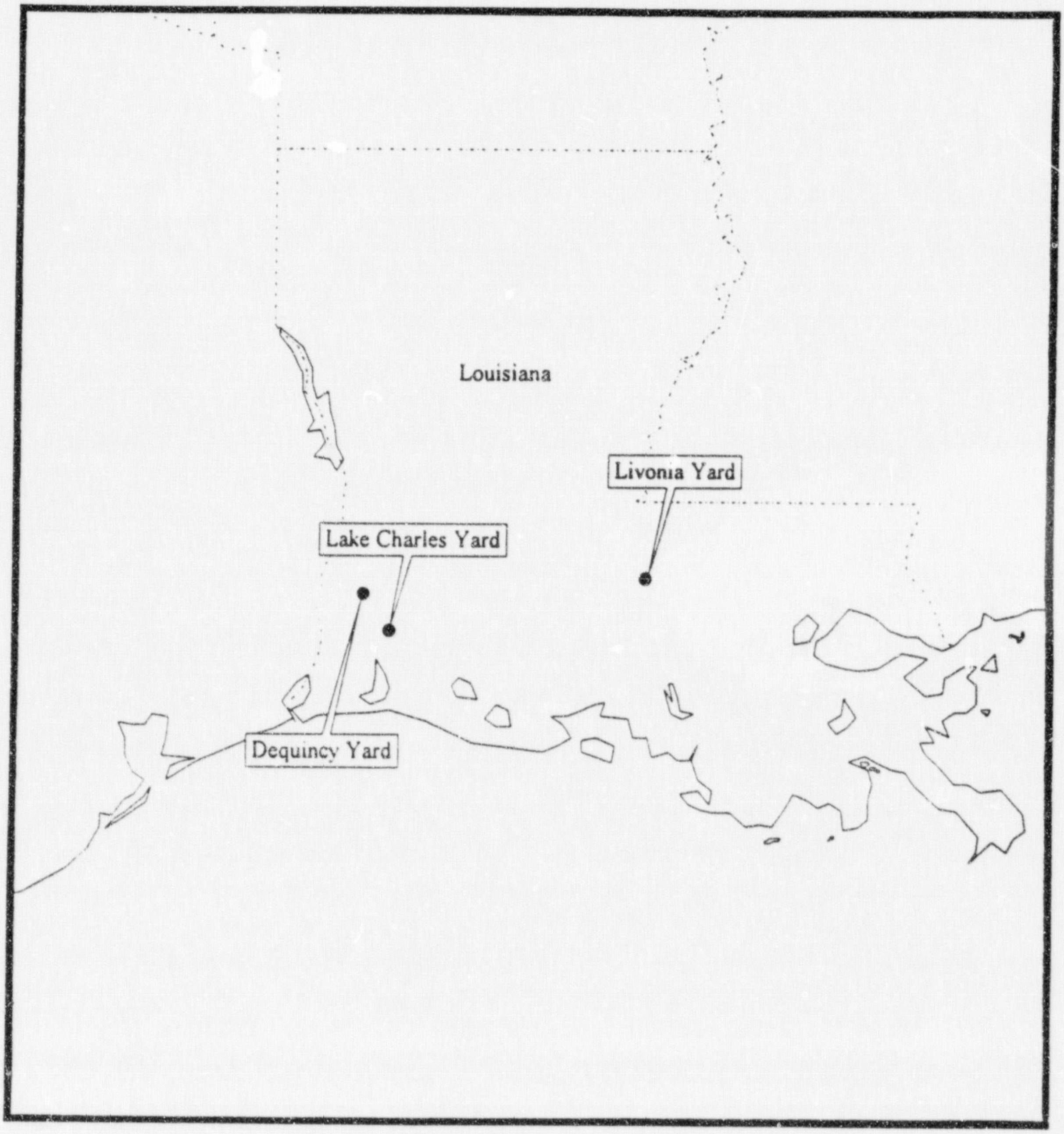
N ↑

FIGURE 2-19
HERINGTON, KANSAS
RAIL YARD



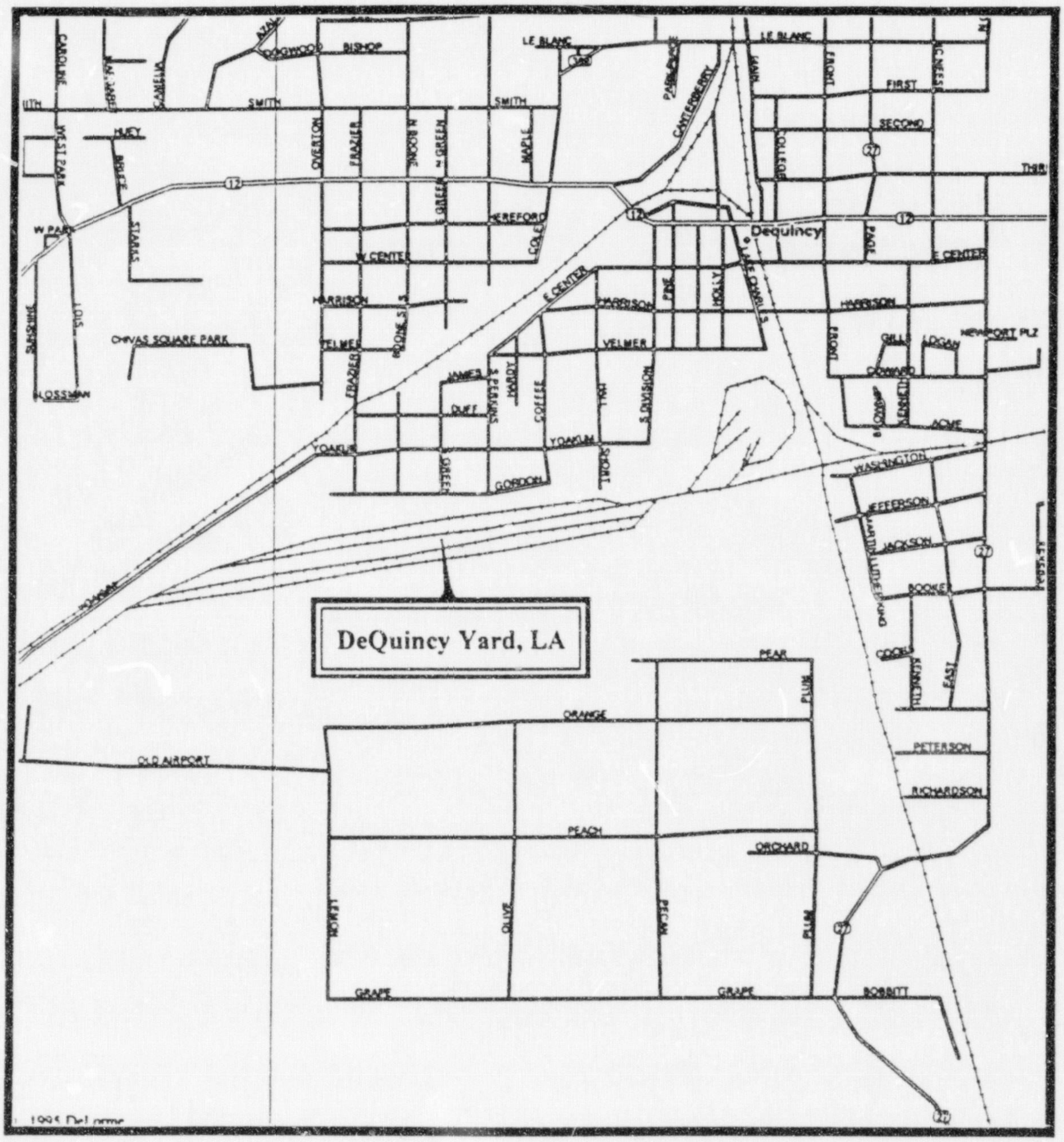
N↑

FIGURE 2-20
RAIL YARDS
IN LOUISIANA



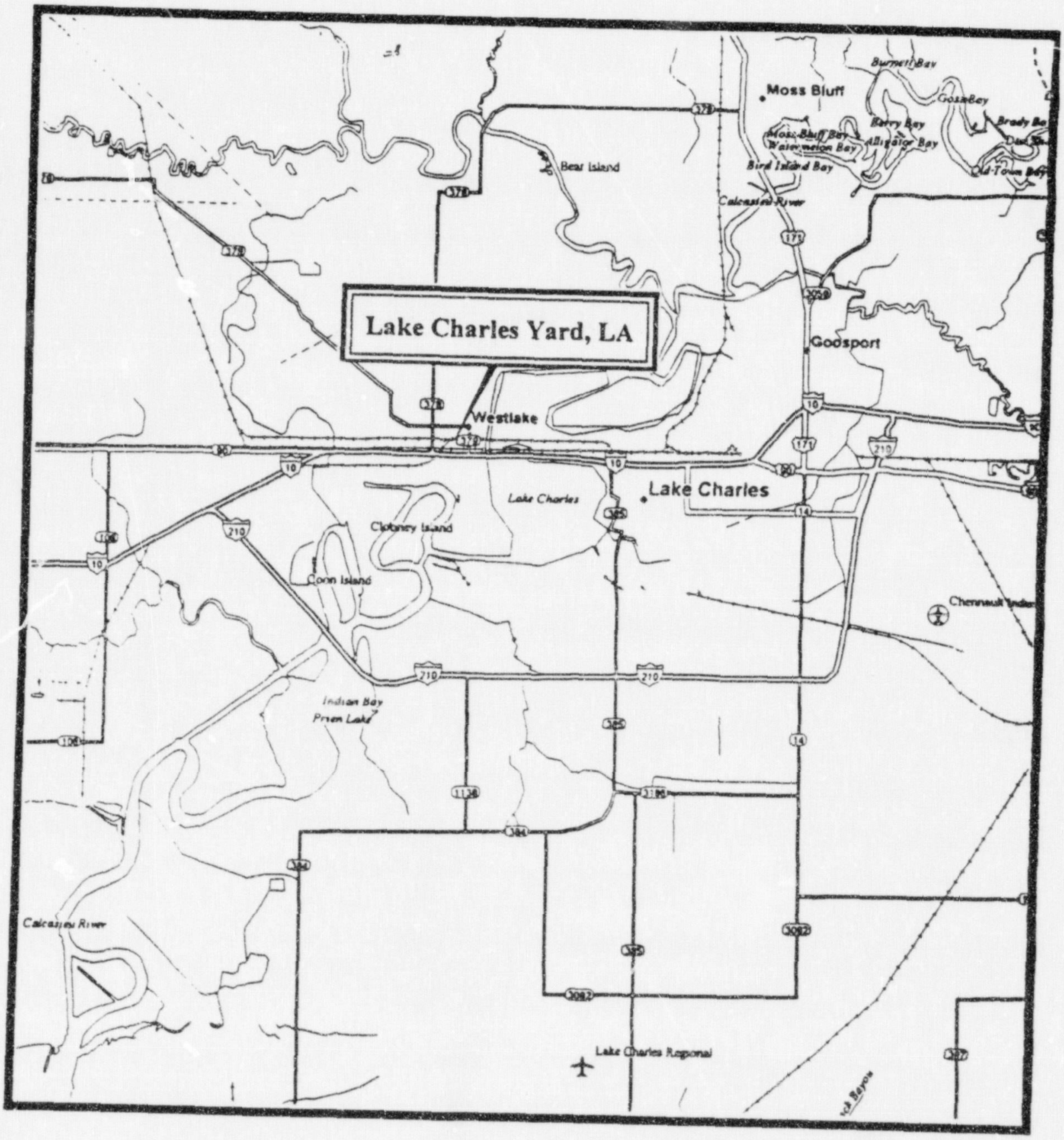
N↑

FIGURE 2-21
DEQUINCY, LOUISIANA
RAIL YARD



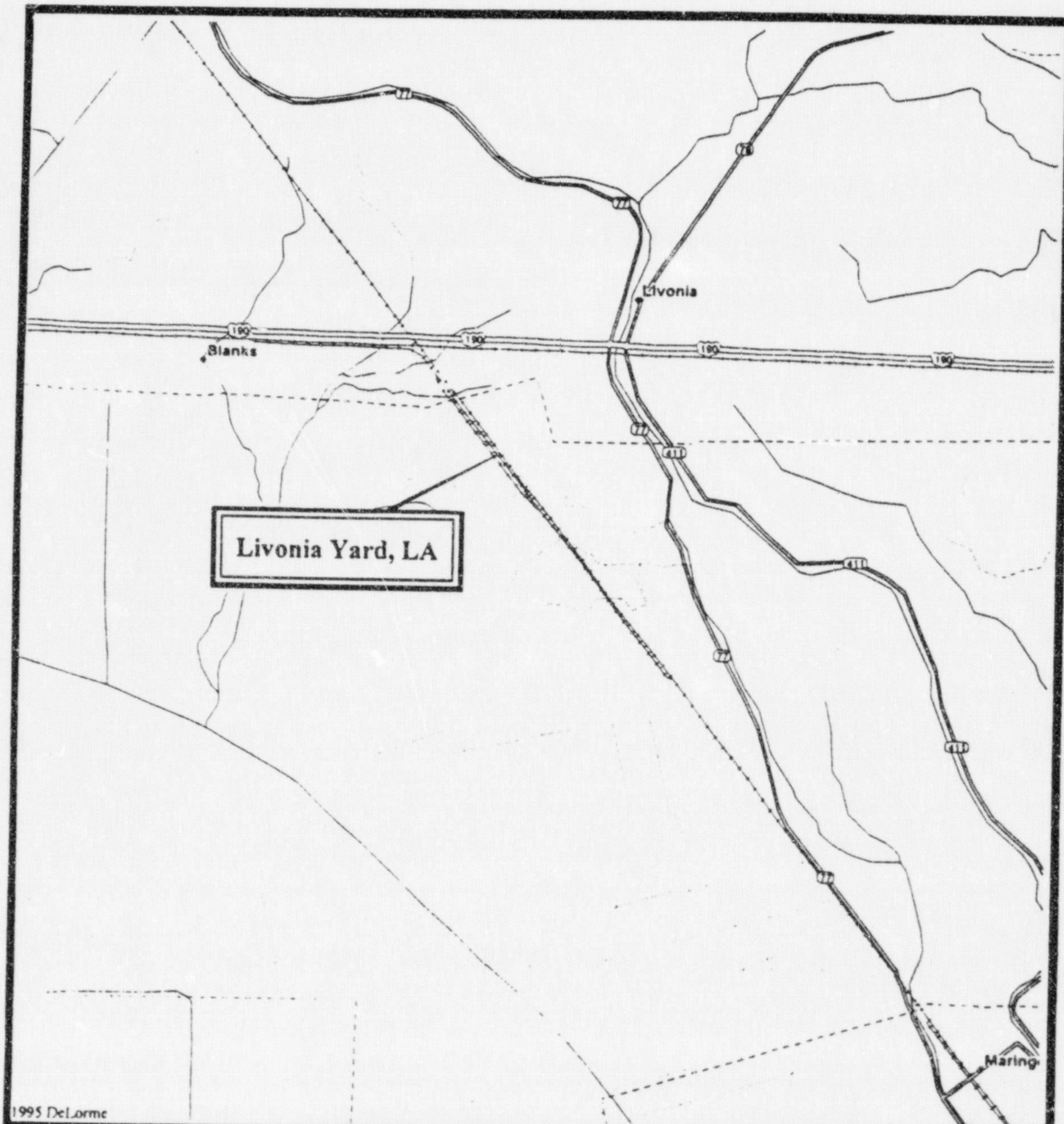
N↑

FIGURE 2-22
LAKE CHARLES, LOUISIANA
RAIL YARD



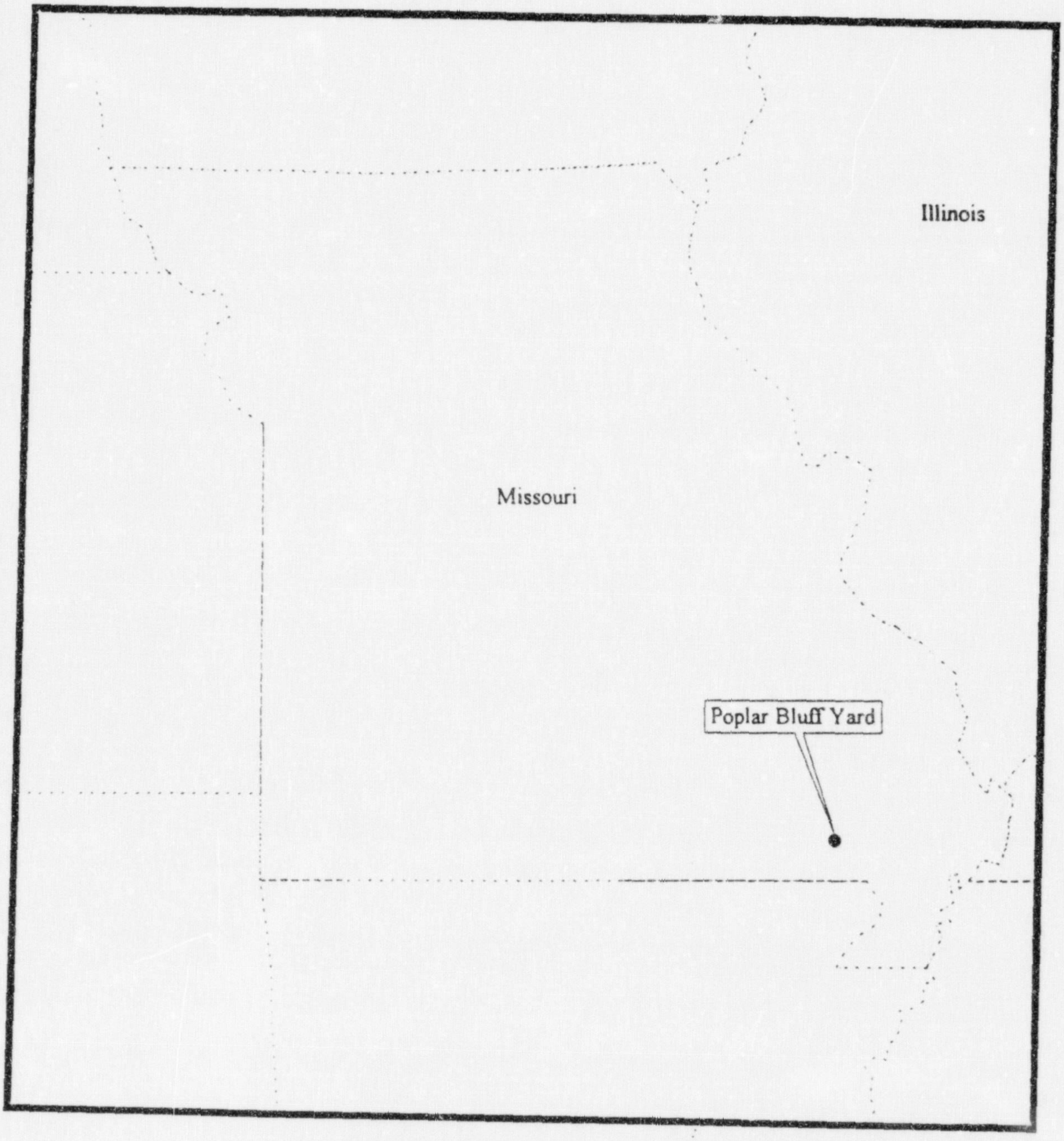
N↑

FIGURE 2-23
LIVONIA, LOUISIANA
RAIL YARD



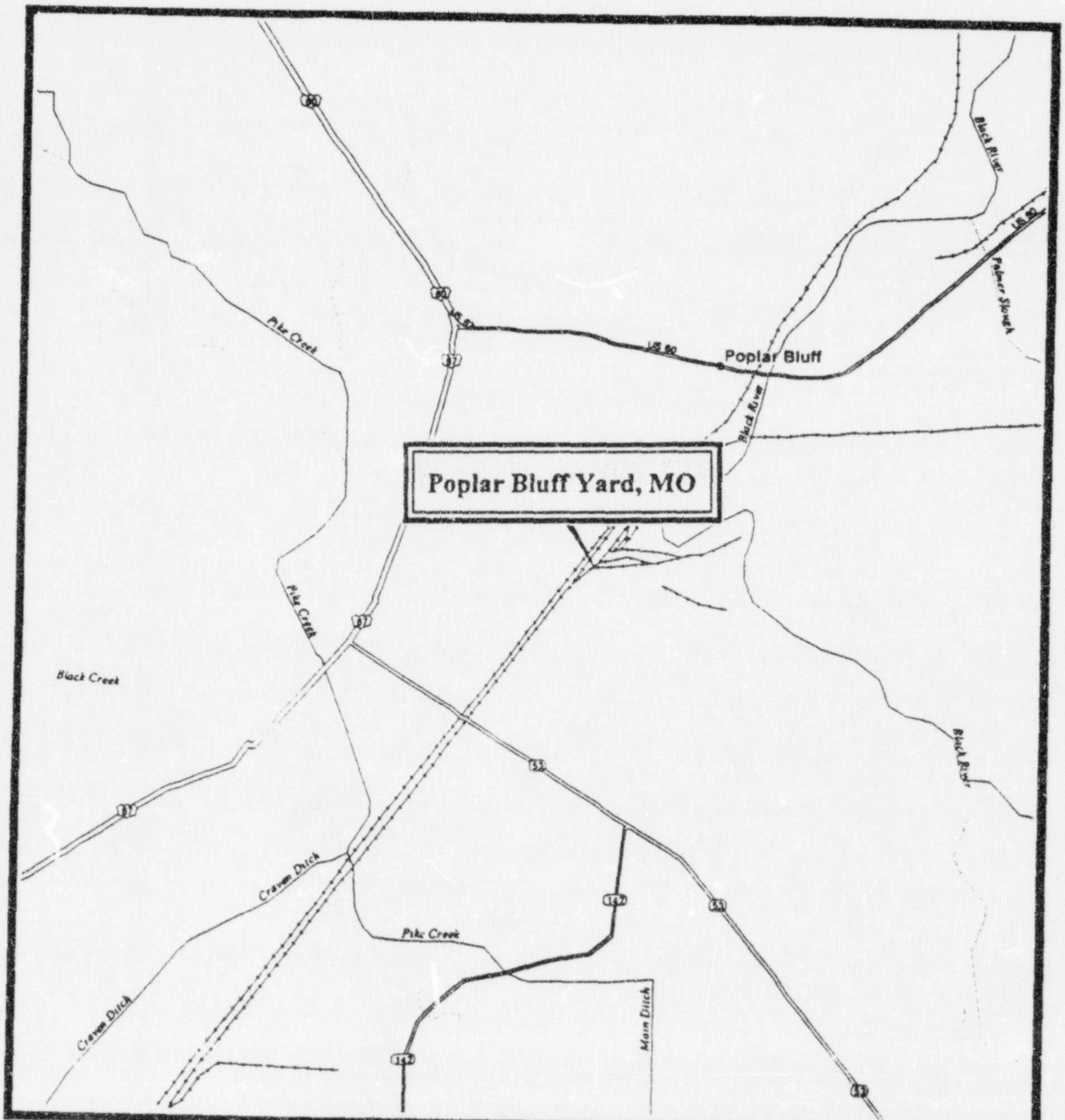
N↑

FIGURE 2-24
RAIL YARDS
IN MISSOURI



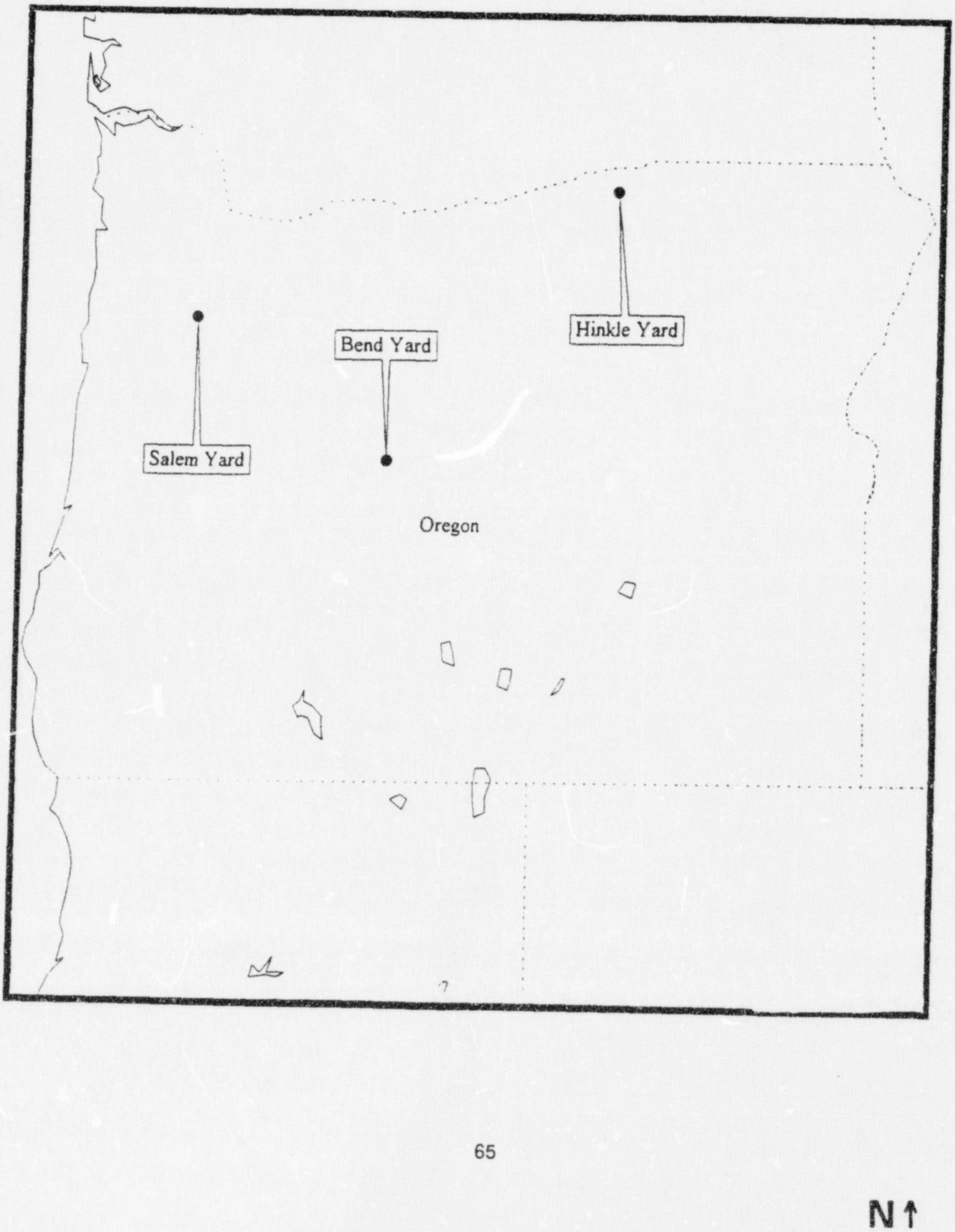
N↑

FIGURE 2-25
POPLAR BLUFF, MISSOURI
RAIL YARD



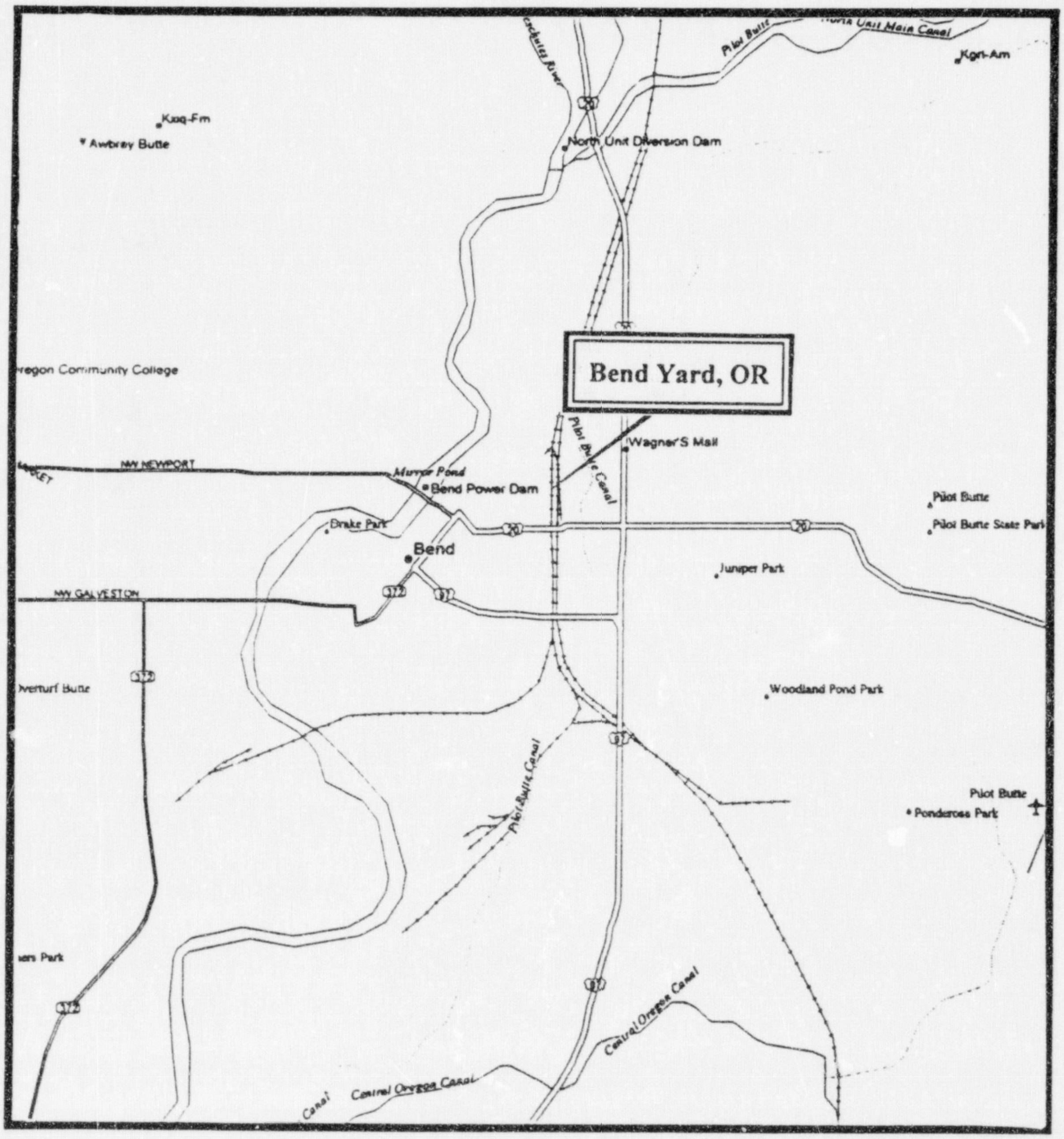
N ↑

FIGURE 2-26
RAIL YARDS
IN OREGON



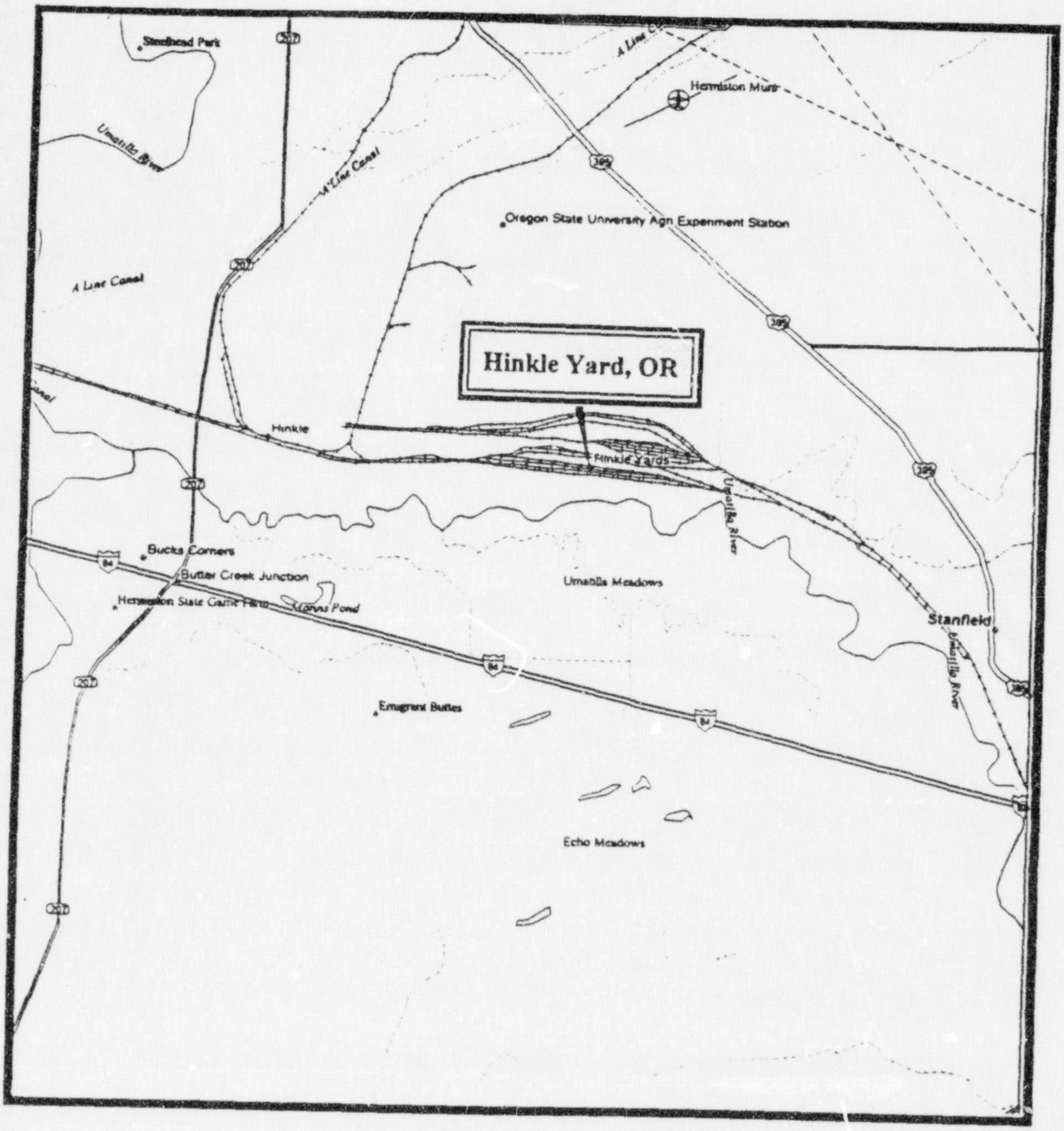
N↑

FIGURE 2-27
BEND, OREGON
RAIL YARD



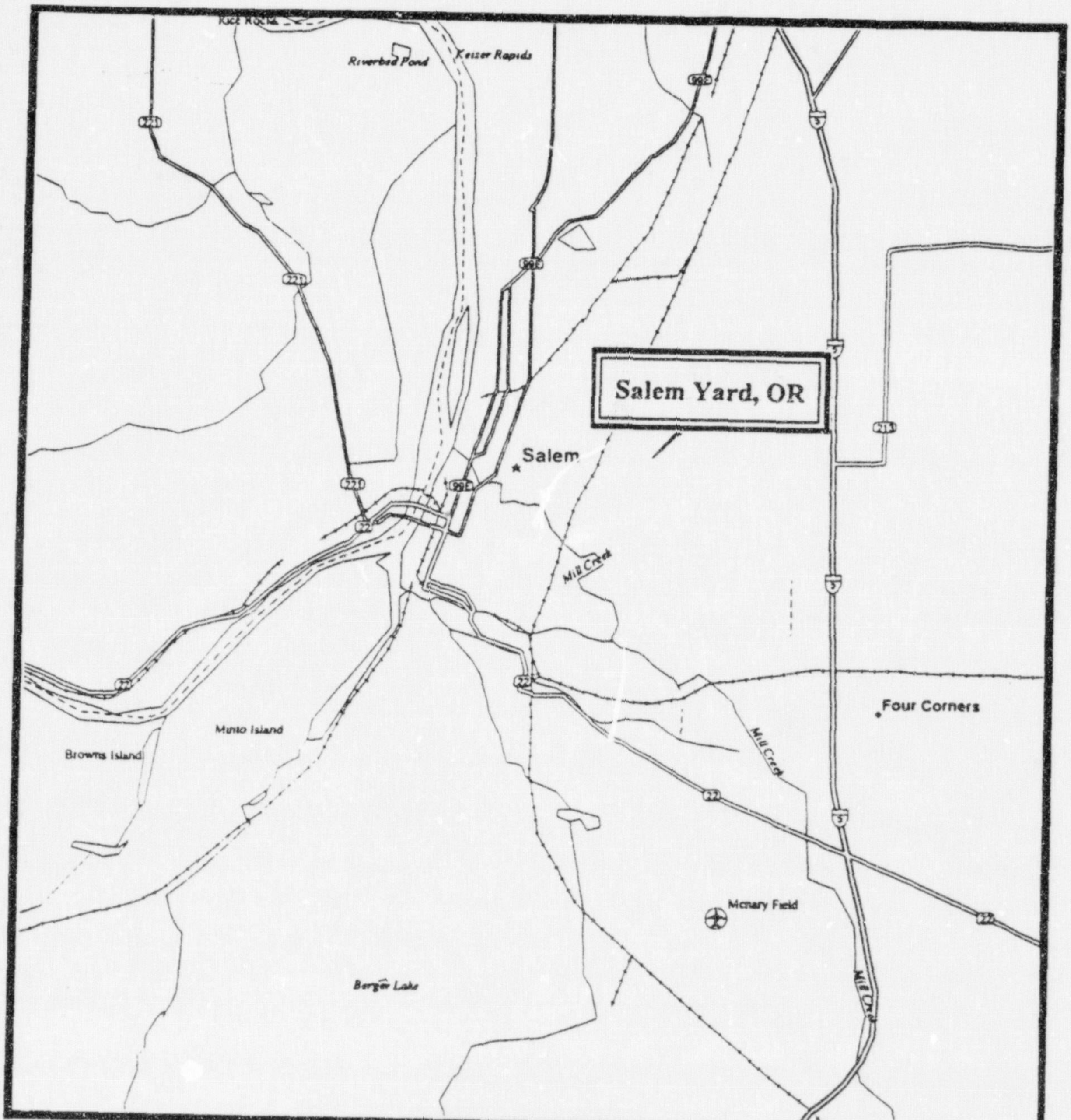
N↑

FIGURE 2-28
HINKLE, OREGON
RAIL YARD



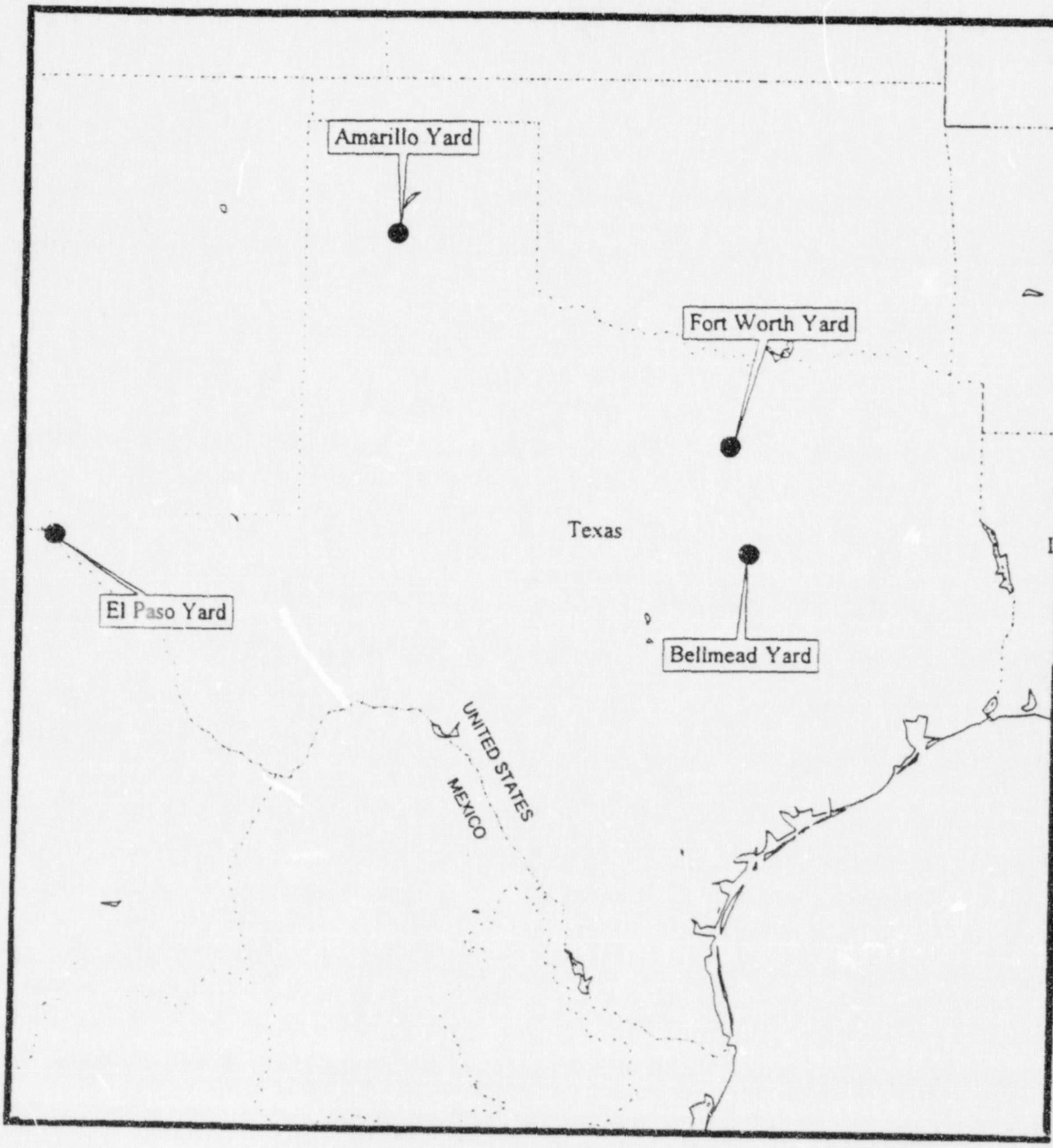
N↑

FIGURE 2-29
SALEM, OREGON
RAIL YARD



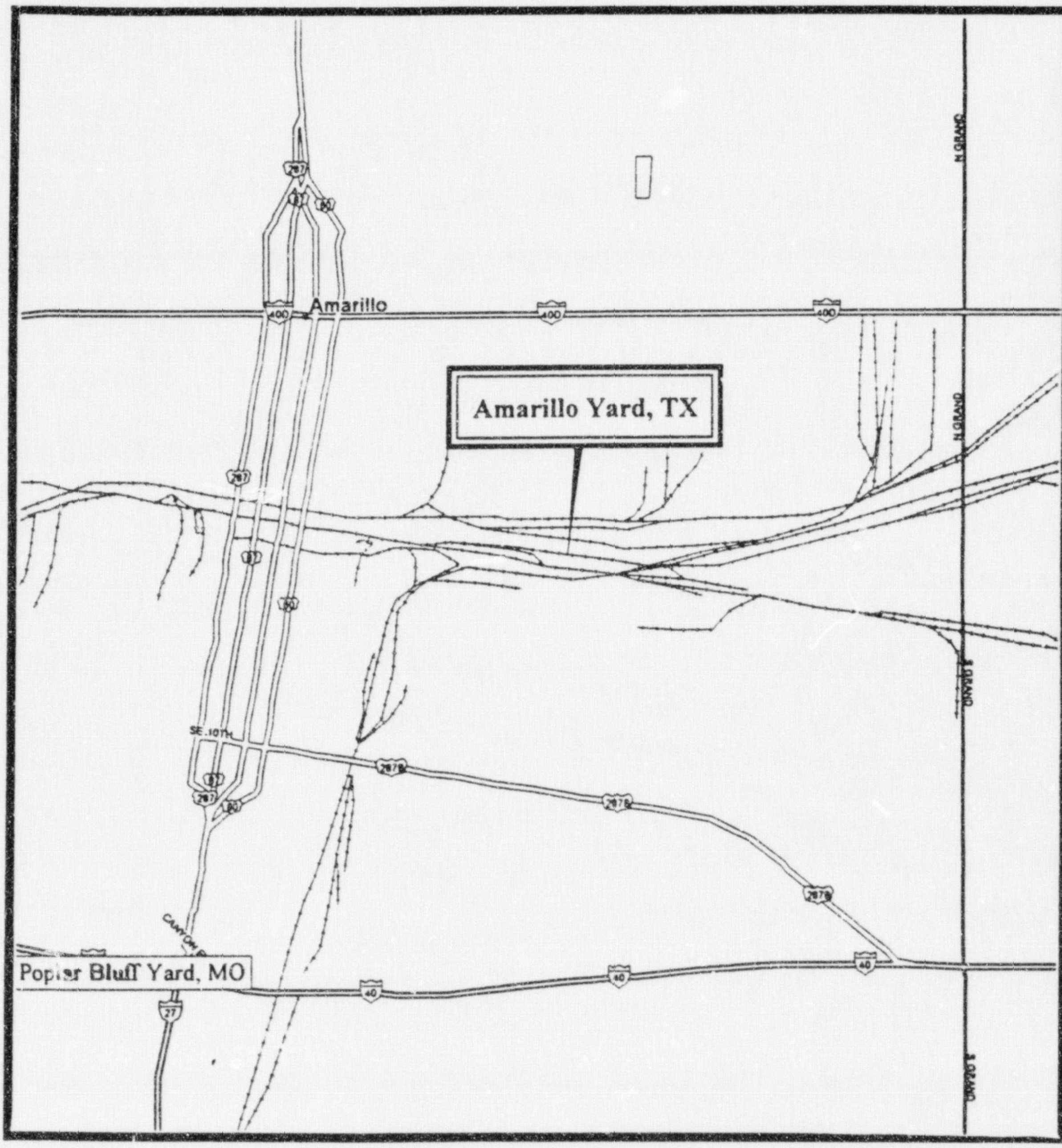
N↑

FIGURE 2-30
RAIL YARDS
IN TEXAS



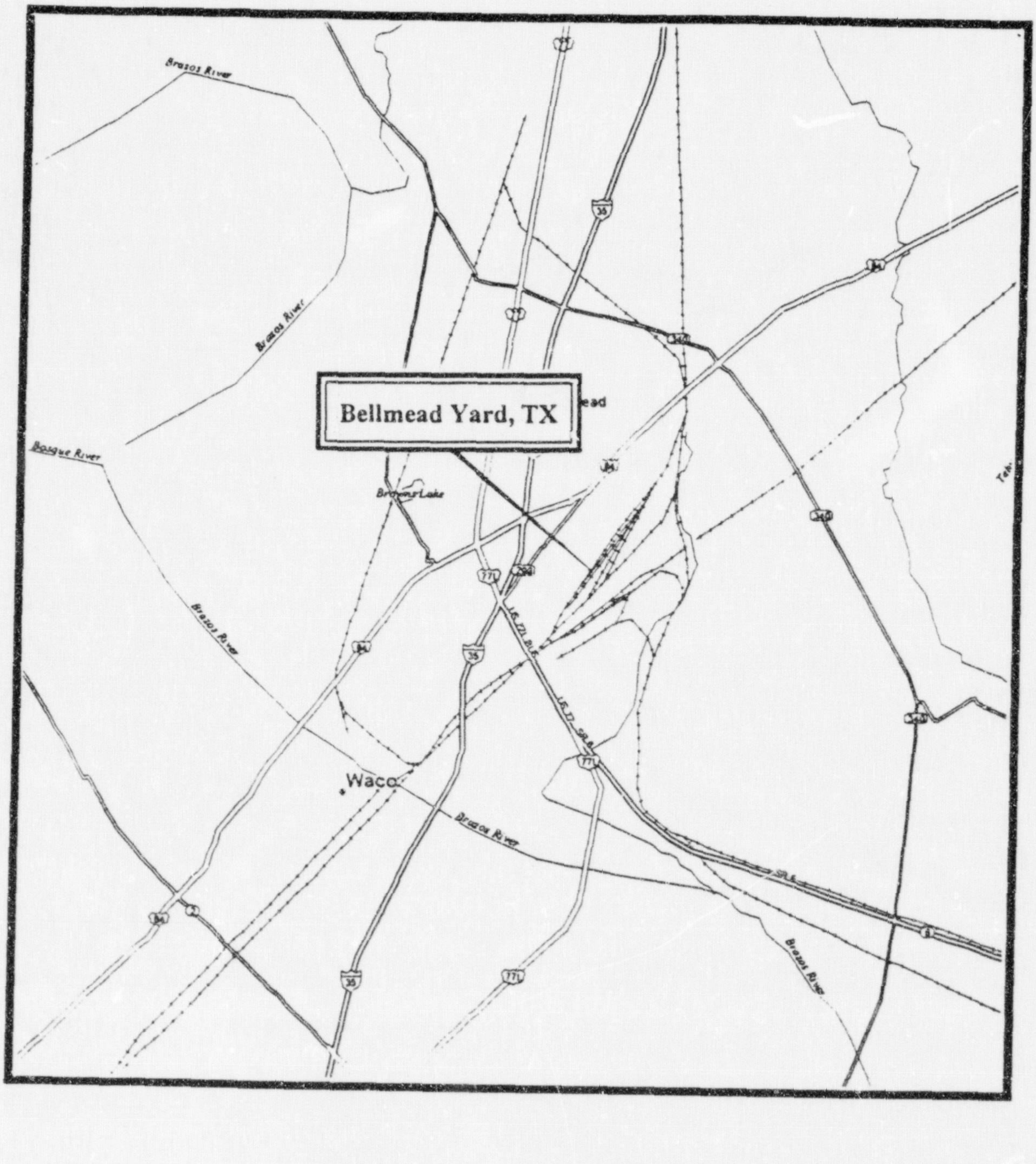
N↑

FIGURE 2-31
AMARILLO, TEXAS
RAIL YARD



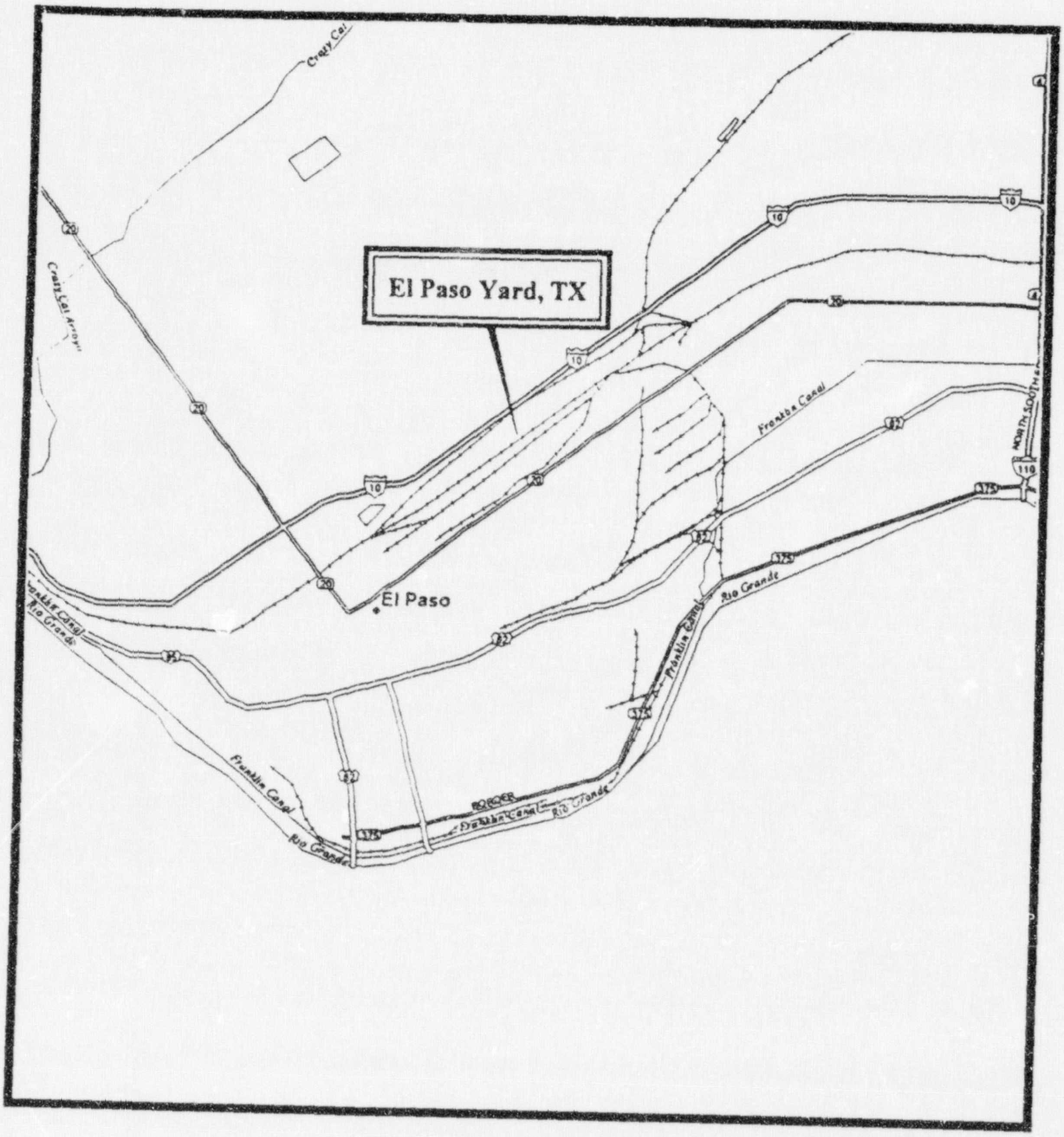
N↑

FIGURE 2-32
BELLMEAD, TEXAS
RAIL YARD



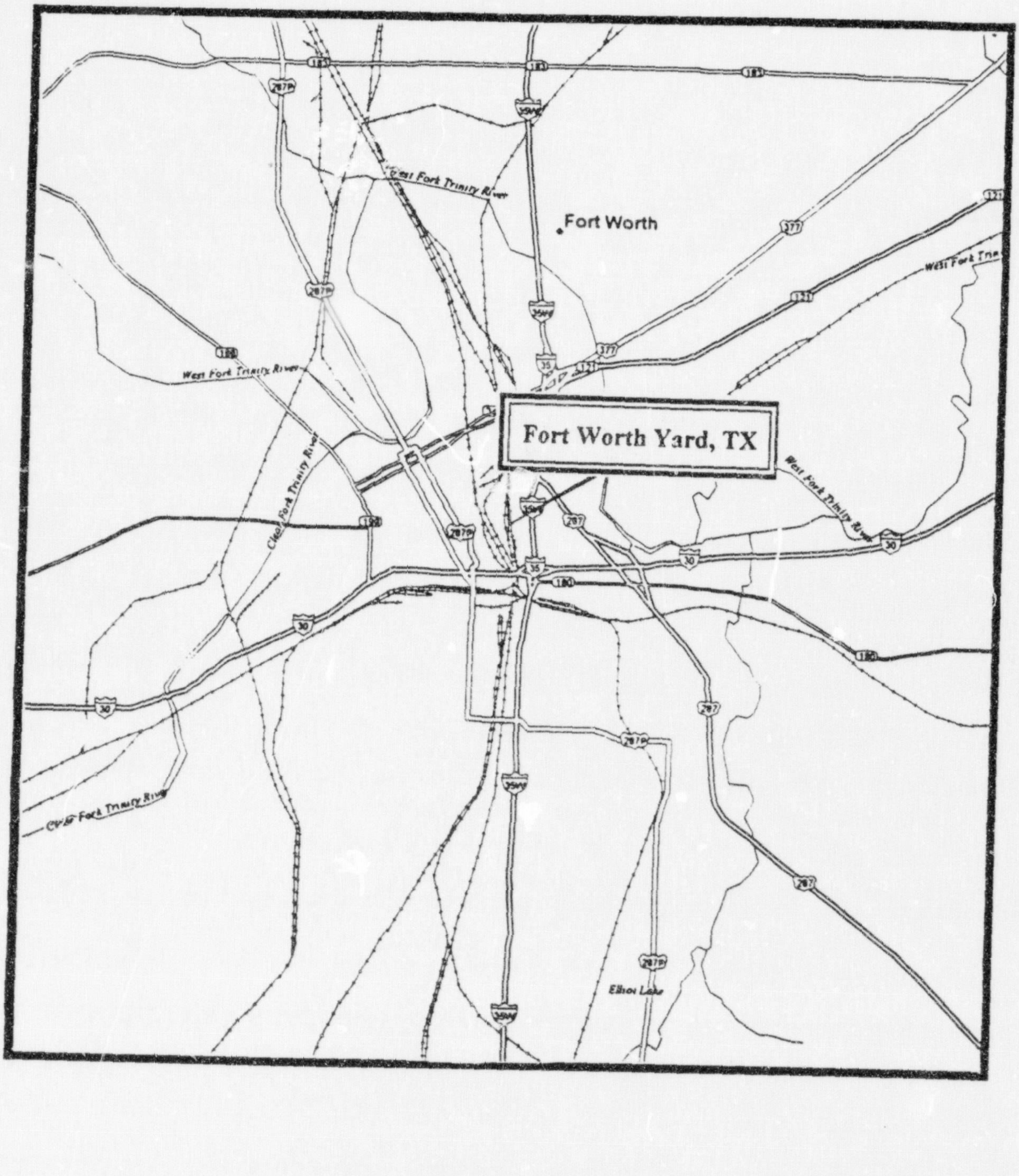
N↑

FIGURE 2-33
EL PASO, TEXAS
RAIL YARD



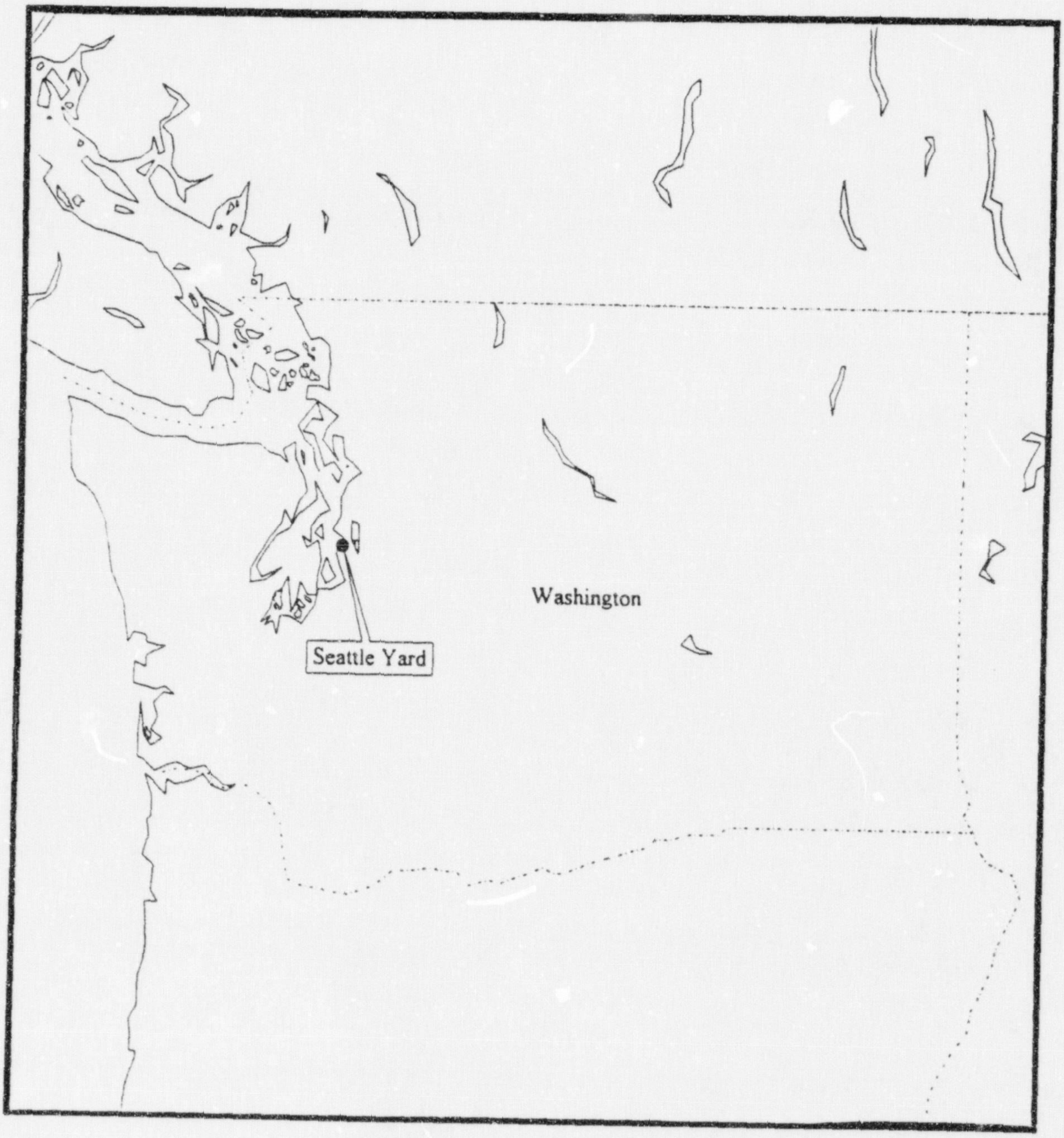
N↑

FIGURE 2-34
FORT WORTH, TEXAS
RAIL YARD



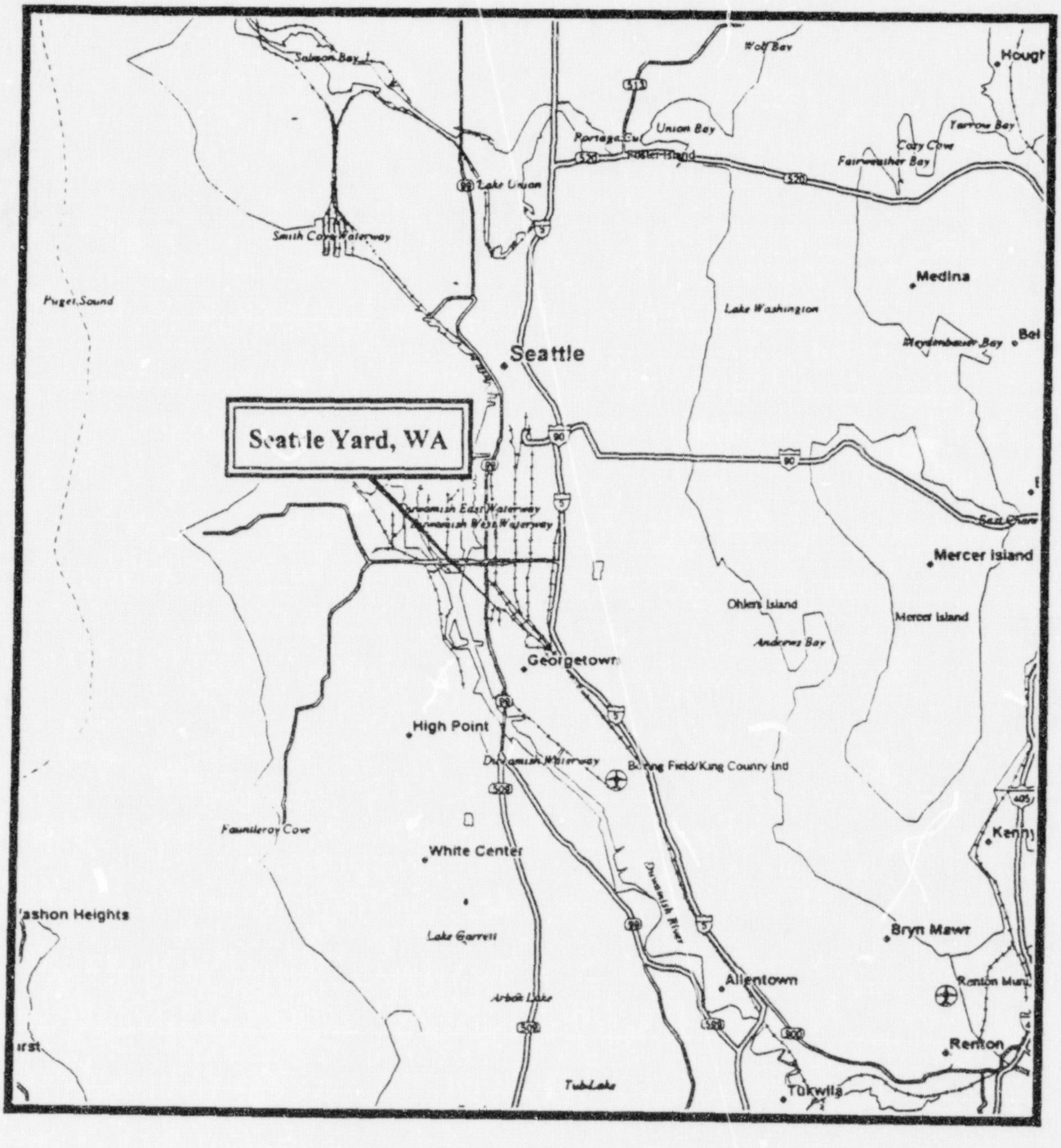
N↑

FIGURE 2-35
RAIL YARDS
IN WASHINGTON



N↑

FIGURE 2-36
SEATTLE, WASHINGTON
RAIL YARD



N↑

3.0 INTERMODAL FACILITIES

This section discusses the transportation, air quality, and noise effects of increased traffic at intermodal facilities that are projected to exceed ICC activity thresholds (see Table 1-1). Facilities are discussed by state, alphabetically. The increases in criteria pollutant emissions at particular automotive facilities, which are associated with increased over-the-road truck, yard equipment, and yard truck operations, are presented in Tables 1-6, 1-7, and 1-8, respectively. A summary of emission increases associated with changes in operations for each intermodal facility is presented in Table 1-9.

3.1 ARIZONA

The SP Phoenix intermodal facility in Arizona is projected to have an activity increase equal to the ICC threshold of 50 trucks per day for this nonattainment AQCR. Figures 3-1 and 3-2 depict the location of this intermodal facility in Arizona.

3.1.1 Phoenix

3.1.1.1 Transportation

The SP Phoenix intermodal facility currently serves approximately 68 trucks per day. This facility is expected to realize an average increase of 50 trucks per day based on UP/SP projections.

The SP Phoenix facility is located on West Harrison Street, as shown in Figure 3-2. Truck transportation to the facility is via U.S. Route 60, Interstate 17 and 7th Avenue or 15th Avenue.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Phoenix. A count done in 1994 showed the ADT volume at 25,396 along 7th Avenue, north of Lincoln Avenue. The additional 50 trucks per day expected at this facility would represent a 0.4% increase in ADT volume on 7th Avenue, which is not considered significant.

3.1.1.2 Air Quality

The Phoenix intermodal facility is located in the Maricopa AQCR (AQCR 504) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 1.29, 6.02, 7.11, 0.20, and 1.26 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

3.1.1.3 Noise

Because the Phoenix intermodal facility is located in an industrial area to the west of Highway I-10, and because the increase in truck traffic is projected to increase noise exposure by a maximum of 0.4 dBA, no noise impacts to sensitive receptors are expected near this facility.

3.2 ARKANSAS

The UP and SP Memphis area intermodal facilities will be closed and consolidated at a new site located on the west side of the Mississippi River in Arkansas. The new West Memphis intermodal facility in Arkansas is projected to have activity increases greater than the ICC threshold of 50 trucks per day for this attainment AQCR. A specified site has not been identified. An impact analysis cannot be done until the location is finalized. As this facility is developed, UP/SP will address environmental issues to the extent appropriate.

3.2.1 West Memphis

3.2.1.1 Transportation

When developed, the West Memphis intermodal facility is expected to handle approximately 480 trucks per day from the consolidation of UP and SP Memphis facilities. At this time, the location of the West Memphis facility has not been determined, and thus an analysis of transportation impacts is not possible.

3.2.1.2 Air Quality

The West Memphis intermodal facility will be located in the Metropolitan Memphis AQCR (AQCR 18) which is presently designated as attainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 12.26, 57.29, 67.68, 1.87, and 11.99 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The West Memphis intermodal facility is part of the Memphis Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal are presented in Part 1, Section 4.

3.2.1.3 Noise

Potential noise impacts from increased truck activity into and out of the West Memphis Intermodal Facility cannot be evaluated until a specific site is selected.

3.3 CALIFORNIA

The East Los Angeles, Inland Empire, Lathrop, UP Oakland, SP Oakland, and Roseville intermodal facilities in California are projected to have activity increases greater than the ICC threshold of 50 trucks per day for nonattainment AQCRs. At two of these locations, increases will result from facility consolidations. The SP LATC ramp will be consolidated to UP East Los Angeles, and SP City of Industry operations will be moved to a new facility known as Inland Empire. Figure 3-3 depicts locations of intermodal facilities in California.

3.3.1 East Los Angeles

3.3.1.1 Transportation

UP's East Los Angeles intermodal facility currently serves approximately 743 trucks per day. This facility is expected to realize an average increase of 587 trucks per day based on UP/SP projections.

The East Los Angeles facility is located on East Washington Boulevard, west of Interstate 710 and south of Interstate 5, as shown in Figure 3-4. The primary truck transportation route to the facility is via Interstate 710 and East Washington Boulevard, which is a four lane road.

ADT volume for the vicinity of the intermodal facility was obtained from the Los Angeles Department of Public Works. A count done in 1993 showed ADT volume along East Washington Boulevard at 27,900. It is assumed that one truck equals 2.5 passenger vehicles. The additional 587 trucks per day expected at this facility would represent a 4.2% increase in ADT volume on East Washington Boulevard. Peak hour traffic volume in this vicinity is approximately 2,200 vehicles; the additional truck traffic is therefore not significant.

Relative to cumulative impacts, it is noted that the BN/Santa Fe intermodal facility is located adjacent to the East Los Angeles facility, and increases in truck traffic are expected at this facility as a result of the recent BN/Santa Fe merger.

Because this is a consolidated facility, traffic increases in the East Los Angeles area will be offset by closing the LATC ramp.

3.3.1.2 Air Quality

The East Los Angeles intermodal facility is located in the Metropolitan Los Angeles AQCR (AQCR 24) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 15.00, 70.10, 82.82, 2.28, and 14.67 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The East Los Angeles intermodal facility is part of the Los Angeles Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal are presented in Part 1, Section 4

3.3.1.3 Noise

The expected increase in truck traffic on East Washington Street near this intermodal facility is projected to cause a maximum of a 1.9 dBA increase in noise exposure along this street, and therefore no adverse noise impacts are anticipated.

3.3.2 Inland Empire

3.3.2.1 Transportation

A new intermodal facility that will replace the SP City of Industry ramp is expected to be constructed as a result of the UP/SP merger. The facility is expected to be located in San Bernardino County; a specific site has not yet been selected. Consequently, a transportation analysis has not been conducted. The new ramp is projected to generate 493 trucks per day. Truck traffic will be reduced by a similar volume in the vicinity of the City of Industry ramp after it is closed and operations transferred to Inland Empire.

3.3.2.2 Air Quality

The Inland Empire intermodal facility will be located in the Metropolitan Los Angeles AQCR (AQCR 24) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 12.59, 58.86, 69.53, 1.92, and 12.32 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Inland Empire intermodal facility is part of the Los Angeles Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal are presented in Part 1, Section 4.

3.3.2.3 Noise

Potential noise impacts from increased truck activity into and out of the Inland Empire intermodal facility cannot be evaluated until a specific site is selected.

3.3.3 Lathrop

3.3.3.1 Transportation

The UP Lathrop intermodal facility currently serves approximately 226 trucks per day. This facility is expected to realize an average increase of 103 trucks per day based on UP/SP projections.

The UP Lathrop facility is located on East Roth Road, east of Interstate 5, as shown in Figure 3-5. The primary truck transportation route to the facility is via Interstate 5. The ADT volume on East Roth Road is not available at this time; however, since the facility is located adjacent to Interstate 5, adverse effects are not expected.

3.3.3.2 Air Quality

The Lathrop intermodal facility is located in the San Joaquin Valley AQCR (AQCR 31) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 2.63, 12.29, 14.52, 0.40 and 2.57 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

3.3.3.3 Noise

The expected increase in truck traffic on State Highway 20 near this intermodal facility is projected to cause less than a 0.4 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

3.3.4. Oakland (UP)

3.3.4.1 Transportation

The UP Oakland intermodal facility currently serves approximately 333 trucks per day. This facility is expected to realize an average increase of 79 trucks per day based on UP/SP projections.

The UP Oakland facility is located on Ferro Street, south of Interstate 880, as shown in Figure 3-6. The primary truck transportation route to the facility is via Interstate 880, Broadway or Market Avenue, Third Street, and Middle Harbor Road.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Oakland. A count done in 1995 showed the ADT volume along Third Street at 3,381 vehicles. The additional 79 trucks per day expected at this facility would represent a 4.7% increase in ADT volume on Third Street, which is not expected to be significant. This is equivalent to less than nine passenger vehicles per hour.

3.3.4.2 Air Quality

The UP Oakland intermodal facility is located in the San Francisco Bay Area AQCR (AQCR 30) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 2.01, 9.42, 11.13, 0.31, and 1.97 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The UP Oakland intermodal facility is part of the Oakland Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal are presented in Part 1, Section 4.

3.3.4.3 Noise

There are no noise-sensitive land uses near this intermodal facility and thus, no adverse noise impacts are anticipated.

3.3.5 Oakland (SP)

3.3.5.1 Transportation

The SP Oakland intermodal facility currently serves approximately 327 trucks per day. This facility is expected to realize an average increase of 68 trucks per day based on UP/SP projections.

The SP Oakland facility is located on Middle Harbor Road and is in close proximity to the UP facility, as shown in Figure 3-6. The primary truck transportation route to the facility is via Interstate 880, Broadway or Market Avenue, Third Street, and Middle Harbor Road. This is the same access route as to the UP ramp.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Oakland. A count done in 1995 showed the ADT volume along Third Street at 3,381 vehicles. The additional 68 trucks per day expected at this facility would represent a 2% increase in ADT volume on Third Street. The combined increase in trucks accessing the UP and SP facilities is 147 trucks per day, which represents a 4.4% increase in ADT. This is not considered significant.

3.3.5.2 Air Quality

The SP Oakland intermodal facility is located in the San Francisco Bay Area AQCR (AQCR 30) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 1.73, 8.11, 9.58, 0.26, and 1.70 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Oakland (SP) intermodal facility is part of the Oakland Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal are presented in Part 1, Section 4.

3.3.5.3 Noise

There are no noise-sensitive land uses near this intermodal facility and thus no adverse noise impacts are anticipated.

3.3.6 Roseville

3.3.6.1 Transportation

The SP Roseville intermodal facility currently serves approximately 88 trucks per day. This facility is expected to realize an average increase of 103 trucks per day based on UP/SP projections.

The SP Roseville facility is located on Vernon Avenue, as shown in Figure 3-7. The primary truck transportation route to the facility is via Interstate 80, Riverside, Cirby Way, and Vernon Avenue, a 4-lane road.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Roseville. A count done in 1995 showed ADT volume along Vernon Avenue at 13,570 vehicles. The additional 103 trucks per day expected at this facility would represent an 0.8% increase in ADT volume on Vernon Avenue, which is not considered significant.

3.3.6.2 Air Quality

The Roseville intermodal facility is located in the Mountain Counties AQCR (AQCR 508) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 2.63, 12.31, 14.54, 0.40, and 2.58 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

3.3.6.3 Noise

The expected increase in truck traffic on State Highway 80 near this intermodal facility is projected to cause a maximum of a 0.2 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

3.4 COLORADO

The UP and SP intermodal facilities in the Denver area will be consolidated to the UP ramp location, which is projected to have an activity increase greater than the ICC threshold of 50 trucks per day for this nonattainment AQCR. Figure 3-8 depicts the location of the intermodal facilities in Colorado.

3.4.1 Denver

3.4.1.1 Transportation

The UP Denver intermodal facility currently serves approximately 180 trucks per day. This facility is expected to experience an average increase of 61 trucks per day due to consolidation of SP Denver intermodal activities at the UP Denver facility.

The UP Denver facility is located on 40th Avenue (State Route 33), south of Interstate 70 and west of York Street, as shown in Figure 3-9. The primary truck transportation route to the facility is via Interstate 70, Steele, York or Brighton; and 40th Avenue.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Denver. A count done in 1986 showed ADT volume along 40th Avenue at 10,200 vehicles. The additional 61 trucks per day that are expected at this facility would represent a 1.2% increase in ADT volume on 40th Avenue, which is not expected to be significant.

On a regional basis, increase in traffic at the UP facility will be offset by the closing of the SP Denver facility.

3.4.1.2 Air Quality

The Denver intermodal facility is located in the Metropolitan Denver AQCR (AQCR 36) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 1.57, 7.32, 8.65, 0.24, and 1.53 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Denver intermodal facility is part of the Denver Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.4.1.3 Noise

The expected increase in truck traffic on 40th Avenue near this intermodal facility is projected to cause a maximum of a 0.6 dBA increase in noise exposure along this road, and therefore no noise adverse impacts are anticipated.

3.5 ILLINOIS

The Canal Street, Global II, St. Louis (Dupo), and Dolton intermodal facilities in Illinois are projected to have activity increases equal to or greater than the ICC threshold of 50 trucks per day for nonattainment AQCRs. Three Chicago area facilities (CHI-IMX, CHI-Forest Hill, and CHI-MIT) will be consolidated into Global II and Canal Street. The SP East St. Louis ramp will be consolidated with UP operations at Dupo.

Figure 3-10 depicts the location of intermodal facilities in Illinois. Figure 3-11 depicts the location of intermodal facilities in the Chicagoland area.

3.5.1 Canal Street

3.5.1.1 Transportation

The UP Canal Street intermodal facility currently serves approximately 329 trucks per day. This facility is expected to realize an average increase of 186 trucks per day based on UP/SP projections.

The facility is located on West 25th Place, south of Interstate 55 and east of Interstate 90/94, as shown in Figure 3-12. The primary truck transportation route to the facility is via Interstate 55, Ashland Avenue, Arthur Avenue and Canal Street.

ADT volume for the vicinity of the intermodal facility was obtained from the Chicago Department of Transportation. A count done in 1995 showed ADT volume along Canal Street at 25,500 vehicles. The additional 186 trucks per day increase expected at this facility would represent a 1.5% increase in ADT volume on Canal Street.

On a regional basis, traffic increases at Canal Street will be partially offset by reductions at three SP facilities that will be closed due to consolidation.

3.5.1.2 Air Quality

The Canal Street intermodal facility is located in the Metropolitan Chicago AQCR (AQCR 67) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 4.76, 22.23, 26.27, 0.72, and 4.65 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Canal Street intermodal facility is part of the Chicago Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal are presented in Part 1, Section 4.

3.5.1.3 Noise

The expected increase in truck traffic on Street Canal near this intermodal facility is projected to cause a maximum of a 0.9 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

3.5.2 Dolton

3.5.2.1 Transportation

The UP Dolton intermodal facility currently serves approximately 395 trucks per day. This facility is expected to realize an average increase of 85 trucks per day based on UP/SP projections.

The UP Dolton facility is located in metropolitan Chicago on 147th Street and Indiana Avenue, as shown in Figure 3-13. Truck transportation routes to the facility are via Interstate 94, Interstate 294, Interstate 80, Interstate 57, and Indiana Avenue.

ADT volume for the vicinity of the intermodal facility was not available from any identified source. However, the addition of 85 trucks per day to local roads is not considered significant compared to the current observable traffic at this location.

3.5.2.2 Air Quality

The Dolton intermodal facility is located in the Metropolitan Chicago AQCR (AQCR 67) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 2.18, 10.20, 12.05, 0.33, and 2.14 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Dolton intermodal facility is part of the Chicago Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.5.2.3 Noise

The expected increase in truck traffic near this intermodal facility is projected to cause a maximum of a 0.9 dBA increase in noise exposure, and therefore no adverse noise impacts are anticipated.

3.5.3 Global II

3.5.3.1 Transportation

The UP Global II intermodal facility currently serves approximately 425 trucks per day. This facility is expected to realize an average increase of 425 trucks per day based on UP/SP projections.

The UP Global II facility is located on 47th Avenue, east of Interstate 294, as shown in Figure 3-14. The primary truck transportation route to the facility is via Interstate 90/290, Interstate 294, and U.S. Route 20.

ADT volume for the vicinity of the intermodal facility was obtained from the Illinois Department Of Transportation. A count done in 1990 showed ADT volume along U.S. Route 20 at 30,000 vehicles. The additional 425 trucks per day expected at this facility would represent a 2.8% increase in ADT volume on U.S. Route 20. While this is not a significant increase in ADT, the addition of 425 trucks could affect traffic patterns on a very localized basis, i.e., State Route 64 and U.S. 20 between Interstate 294 and South Railroad Avenue.

Traffic increases at the Global II ramp will be partially offset within the region by decreases at three SP facilities to be consolidated with Global II and Canal Street.

3.5.3.2 Air Quality

The Global II intermodal facility is located in the Metropolitan Chicago AQCR (AQCR 67) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 10.86, 50.75, 59.95, 1.65, and 10.62 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Global II intermodal facility is part of the Chicago Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.5.3.3 Noise

There are no noise-sensitive land uses near this intermodal facility and thus no adverse noise impacts are anticipated.

3.5.4 St. Louis (Dupo)

3.5.4.1 Transportation

The UP St. Louis (Dupo) intermodal facility currently serves approximately 287 trucks per day. This facility is expected to experience an average increase of 178 trucks per day due to consolidation of SP St. Louis intermodal activities at the UP St. Louis (Dupo) facility.

The UP Dupo facility is located on North Main Street, as shown in Figure 3-15. The primary truck transportation route to the facility is via Interstate 255, Highway 3, and North Main Street. Figure 3-16 depicts the location of the SP East St. Louis intermodal facility which is expected to be closed.

ADT volume for the vicinity of the intermodal facility was obtained from the Illinois Department Of Transportation. A count done in 1993 showed the ADT volume along North Main Street at 5,300 vehicles. The additional 178 trucks per day that are expected at this facility would represent a 6.7% increase in ADT volume on North Main Street.

Regionally, traffic increases at the Dupo facility will be offset by decreases at the SP East St. Louis ramp, which will be consolidated to Dupo.

3.5.4.2 Air Quality

The St. Louis (Dupo) intermodal facility is located in the Metropolitan St. Louis AQCR (AQCR 70) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 4.53, 21.19, 25.03, 0.69, and 4.43 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The St. Louis (Dupo) intermodal facility is part of the St. Louis Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.5.4.3 Noise

The expected increase in truck traffic on North Main Street near this intermodal facility is projected to cause a maximum of a 0.7 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

3.6 KANSAS

The UP and SP Kansas City intermodal facilities will be consolidated to the SP Armourdale facility. Consequently, this facility is projected to have an activity increase greater than the ICC threshold of 50 trucks per day for this attainment AQCR. Figure 3-17 depicts the location of intermodal facilities in Kansas.

3.6.1 Kansas City

3.6.1.1 Transportation

The SP Kansas City (Armourdale) intermodal facility currently serves approximately 123 trucks per day. This facility is expected to experience an average increase of 173 trucks per day due to consolidation of UP's Kansas City intermodal activities at Neff Yard into the SP Armourdale facility.

The SP Armourdale facility is located on Bayard Street, south of Interstate 70, as shown in Figure 3-18. Transportation access to the facility is via Kansas Avenue or Interstate 70, State Route 69 (South 18th Expressway) and Bayard Street.

ADT volume for the vicinity of the intermodal facility was obtained from the Kansas DOT. A count done in 1993 showed the ADT volume along Kansas Avenue near the ramp at 15,875 vehicles. The additional 173 trucks per day that are expected at this facility would represent a 2.2% increase, which is not expected to be significant because the local highway network is designed for high traffic volumes.

Regional traffic levels will not be affected since decreases in truck activity will occur at the UP Kansas City intermodal facility, which will be consolidated with the SP Armourdale facility as a result of the merger.

3.6.1.2 Air Quality

The Kansas City intermodal facility is located in the Metropolitan Kansas City AQCR (AQCR 94) which is presently designated as attainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 4.42, 20.67, 24.41, 0.67, and 4.33 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Kansas City intermodal facility is part of the Kansas City Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.6.1.3 Noise

The expected increase in truck traffic on Kansas Avenue near this intermodal facility is projected to cause a maximum of a 1.4 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

3.7 OREGON

The UP and SP intermodal facilities in the Portland area will be consolidated at the UP Portland (Albina) facility, which is projected to have an activity increase greater than the ICC threshold of 50 trucks per day for this nonattainment AQCR. Figure 3-19 depicts the location of this intermodal facilities in Oregon.

3.7.1 Portland (Albina)

3.7.1.1 Transportation

The UP Portland (Albina) intermodal facility currently serves approximately 289 trucks per day. This facility is expected to experience an average increase of 274 trucks per day due to consolidation of SP Portland intermodal activities at the UP Albina facility.

The UP Portland (Albina) facility is located on North Interstate Avenue, west of Interstate 5 and Interstate 405, as shown in Figure 3-20. The primary truck transportation route to the facility is via Interstate 5, and North Interstate Avenue. Figure 3-21 depicts the location of SP's Portland intermodal facility which is expected to be closed.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Portland. A count done in 1993 showed the ADT volume along North Interstate Avenue at 10,300 vehicles. The additional 274 trucks per day that are expected at this facility would represent a 5.3% increase in ADT volume on North Interstate Avenue.

Increased traffic at the Albina facility will be offset on a regional basis by decreases at the closed SP facility.

3.7.1.2 Air Quality

The Portland (Albina) intermodal facility is located in the Portland AQCR (AQCR 193) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 7.00, 32.70, 38.63, 1.06, and 6.84 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Portland (Albina) intermodal facility is part of the Portland Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.7.1.3 Noise

The expected increase in truck traffic on Interstate Avenue near this intermodal facility is projected to cause a maximum of 1.9 dBA increase in noise exposure along this road, and therefore no noise impacts are anticipated.

3.8 TEXAS

A number of intermodal facilities in Texas will experience operational changes as a result of the UP/SP merger. Of these, the UP San Antonio and SP Dallas facilities are projected to have activity increases that exceed the ICC threshold of 50 trucks per day. In San Antonio, increased traffic is the result of UP and SP facility consolidation. Figure 3-22 depicts the location of intermodal facilities in Texas.

3.8.1 Dallas

3.8.1.1 Transportation

The SP Dallas intermodal facility currently serves approximately 392 trucks per day. This facility is expected to experience an average increase of 101 trucks per day.

The SP Dallas facility is located off South Central Expressway (SR 310), east of Interstate 45, as shown on Figure 3-23. The primary truck transportation routes to the facility are via South Central Expressway (SR 310), Interstate 45, and Linfield Avenue.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Dallas. A count done in 1994 showed the ADT volume along State Route 310 north of State Route 12 at about 16,000 vehicles. The additional 101 trucks per day that are expected at this facility would represent a 1.3% increase in ADT volume on State Route 310, which is not expected to be significant because the intermodal facility is directly accessed from State Route 310. Therefore, local traffic is not expected to be affected.

3.8.1.2 Air Quality

The Dallas intermodal facility is located in the Metropolitan Dallas-Ft. Worth AQCR (AQCR 215) which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 2.57, 12.03, 14.22, 0.39, and 2.52 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Dallas intermodal facility is part of the Dallas Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.8.1.3 Noise

The expected increase in truck traffic on Highway 310 near the intermodal facility is projected to cause a maximum of a 1.0 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

3.8.2 San Antonio

3.8.2.1 Transportation

The UP San Antonio intermodal facility currently serves approximately 33 trucks per day. This facility is expected to experience an average increase of 116 trucks per day increase in activity due to consolidation of SP San Antonio intermodal operations at the UP San Antonio facility.

The UP San Antonio facility is located on Quintana Road, south of Interstate 90, as shown in Figure 3-24. The primary truck transportation route to the facility is via Interstate 90, General Hudnell Road, and Quintana Road.

ADT volume for the vicinity of the intermodal facility was obtained from the City of San Antonio. A count done in 1994 showed the ADT volume along Quintana Road, south of South Cross at 17,694 vehicles. The additional 116 trucks per day that are expected at this facility would represent a 1.3% increase in ADT volume on Quintana Road, which is not expected to be significant.

Regionally, traffic increases at the UP San Antonio facility will be offset by decreases at the SP ramp, which will be closed.

3.8.2.2 Air Quality

The San Antonio intermodal facility is located in the Metropolitan San Antonio AQCR (AQCR 217), which is presently designated as attainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 2.97, 13.86, 16.38, 0.45, and 2.90 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The San Antonio intermodal facility is part of the San Antonio Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.8.2.3 Noise

The expected increase in truck traffic on Quintana Avenue near this intermodal facility is projected to cause a maximum of a 1.2 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

3.9 WASHINGTON

The UP Seattle intermodal facility in Washington is projected to have an activity increase greater than the ICC threshold of 50 trucks per day for this nonattainment AQCR. Figure 3-25 depicts the location of intermodal facilities in Washington.

3.9.1 Seattle

3.9.1.1 Transportation

The UP Seattle intermodal facility currently serves approximately 561 trucks per day. This facility is expected to realize an average increase of 59 trucks per day based on UP/SP projections.

The UP Seattle facility is located on Denver Avenue South., west of Interstate 5, as shown in Figure 3-26. The primary truck transportation route to the facility is via Interstate 5, West Seattle Freeway, and 1st Avenue.

ADT volume for the vicinity of the intermodal facility was obtained from the City of Seattle. A count done in 1994 showed the ADT volume along 1st Avenue, north of Hudson Avenue, at 14,300 vehicles. The additional 59 trucks per day expected at this facility would represent an 0.8% increase in ADT volume on 1st Avenue, which is considered insignificant.

3.9.1.2 Air Quality

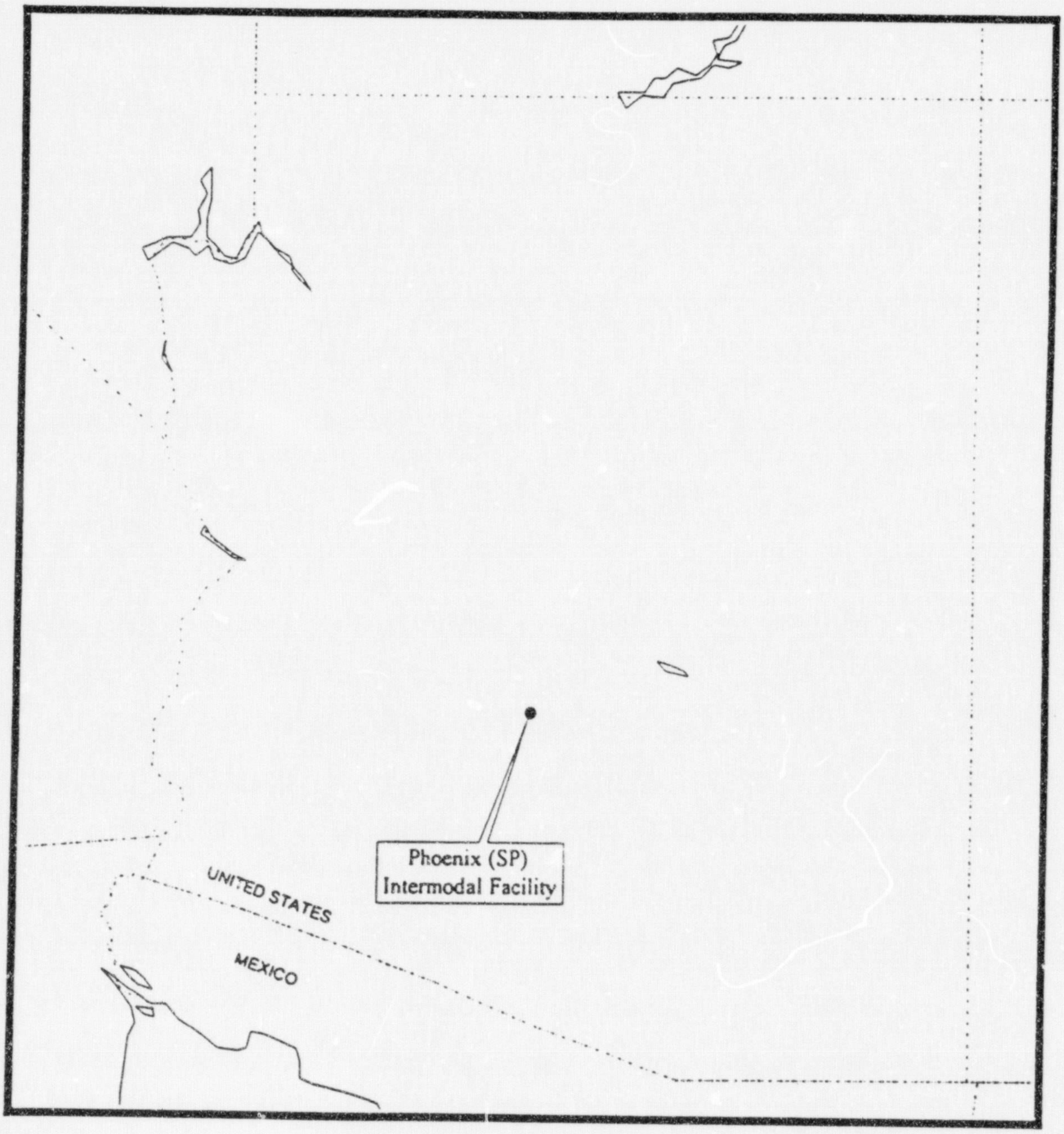
The Seattle intermodal facility is located in the Puget Sound AQCR (AQCR 229), which is presently designated as nonattainment. The estimated post-merger increases in HC, CO, NO_x, SO_2, and PM emissions from all intermodal operations are 1.51, 7.06, 8.34, 0.23 and 1.48 tons per year, respectively. A summary of intermodal facility and rail yard impacts for each AQCR is presented in Part 1, Section 4.

The Seattle intermodal facility is part of the Seattle Terminal. An analysis of the change in emissions associated with changes in operations at all rail yards, intermodal and automotive facilities in this terminal is presented in Part 1, Section 4.

3.9.1.3 Noise

The expected increase in truck traffic on First Avenue near this intermodal facility is projected to cause a maximum of a 0.4 dBA increase in noise exposure along this road, and therefore no adverse noise impacts are anticipated.

FIGURE 3-1
INTERMODAL FACILITIES
IN ARIZONA

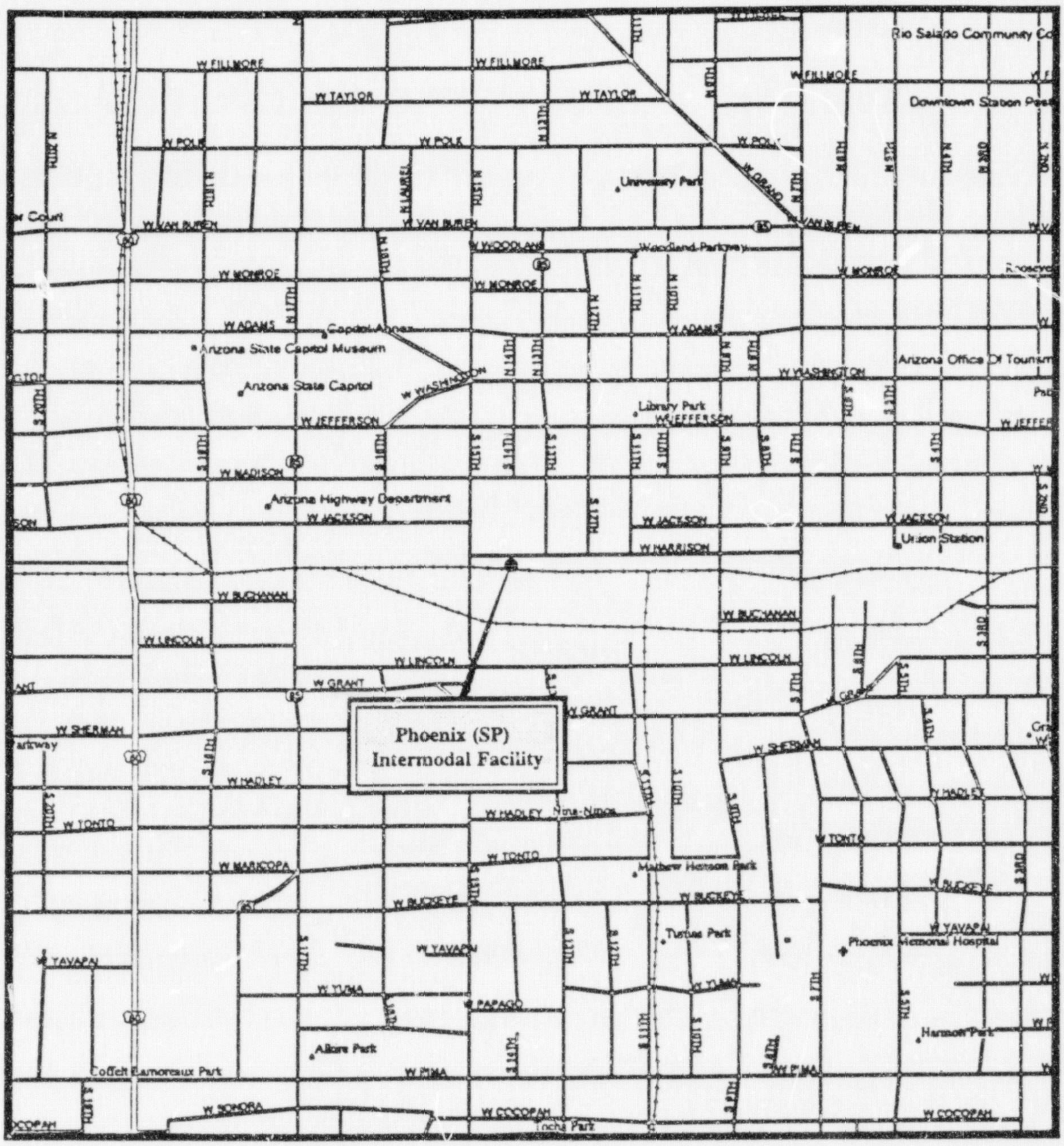


KEY:
- • INTERMODAL FACILITY
- ▪ INTERMODAL FACILITY TO BE CLOSED

97

N ↑

FIGURE 3-2
INTERMODAL FACILITY
PHOENIX, ARIZONA



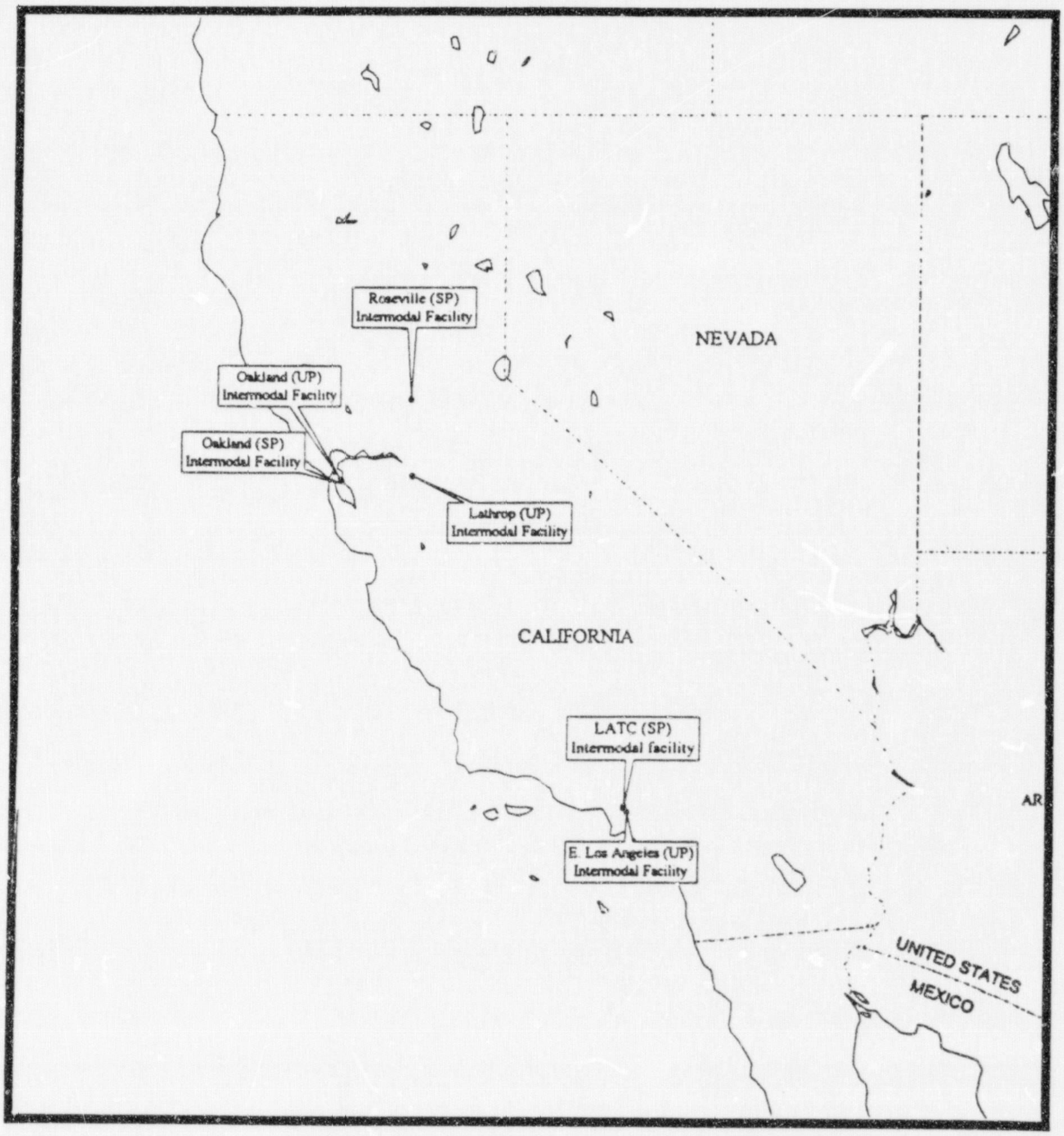
KEY:
- INTERMODAL FACILITY
- INTERMODAL FACILITY TO BE CLOSED

98

N ↑

STB FD 32760 11-30-95 A 1648V18 6/6

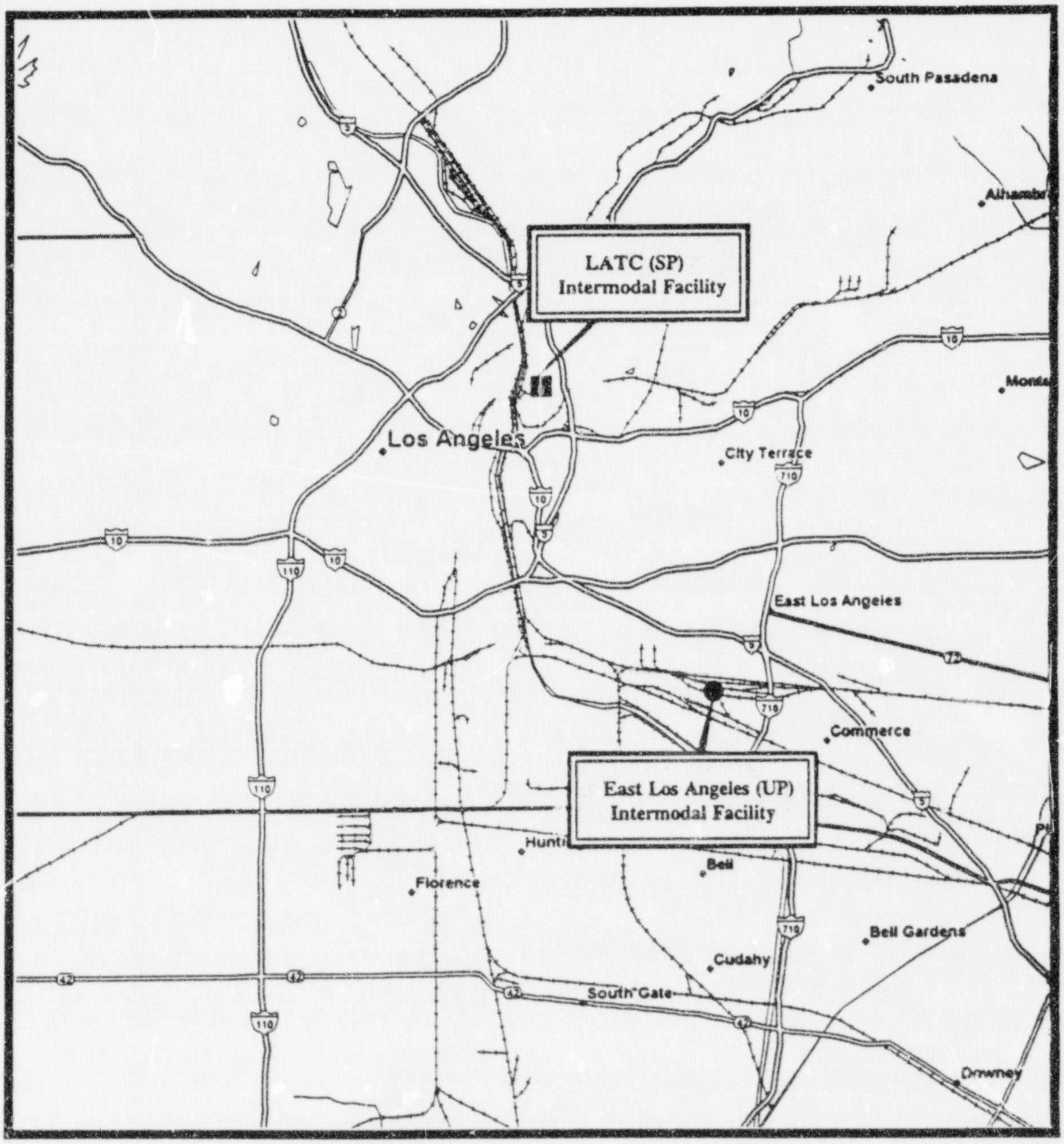
FIGURE 3-3
INTERMODAL FACILITIES IN CALIFORNIA



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

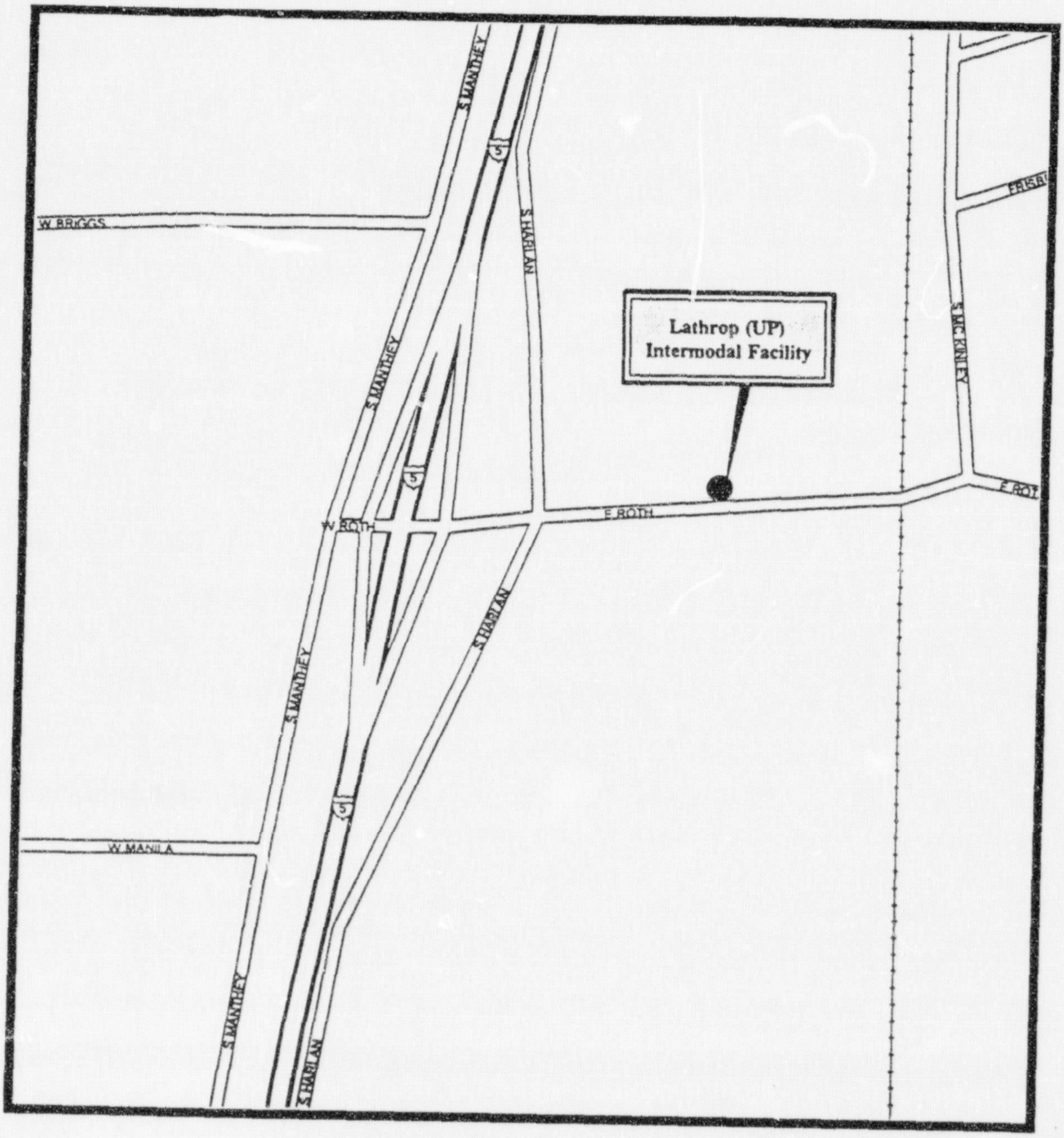
FIGURE 3-4
INTERMODAL FACILITIES
LOS ANGELES, CALIFORNIA



KEY:
- INTERMODAL FACILITY
- INTERMODAL FACILITY TO BE CLOSED

N ↑

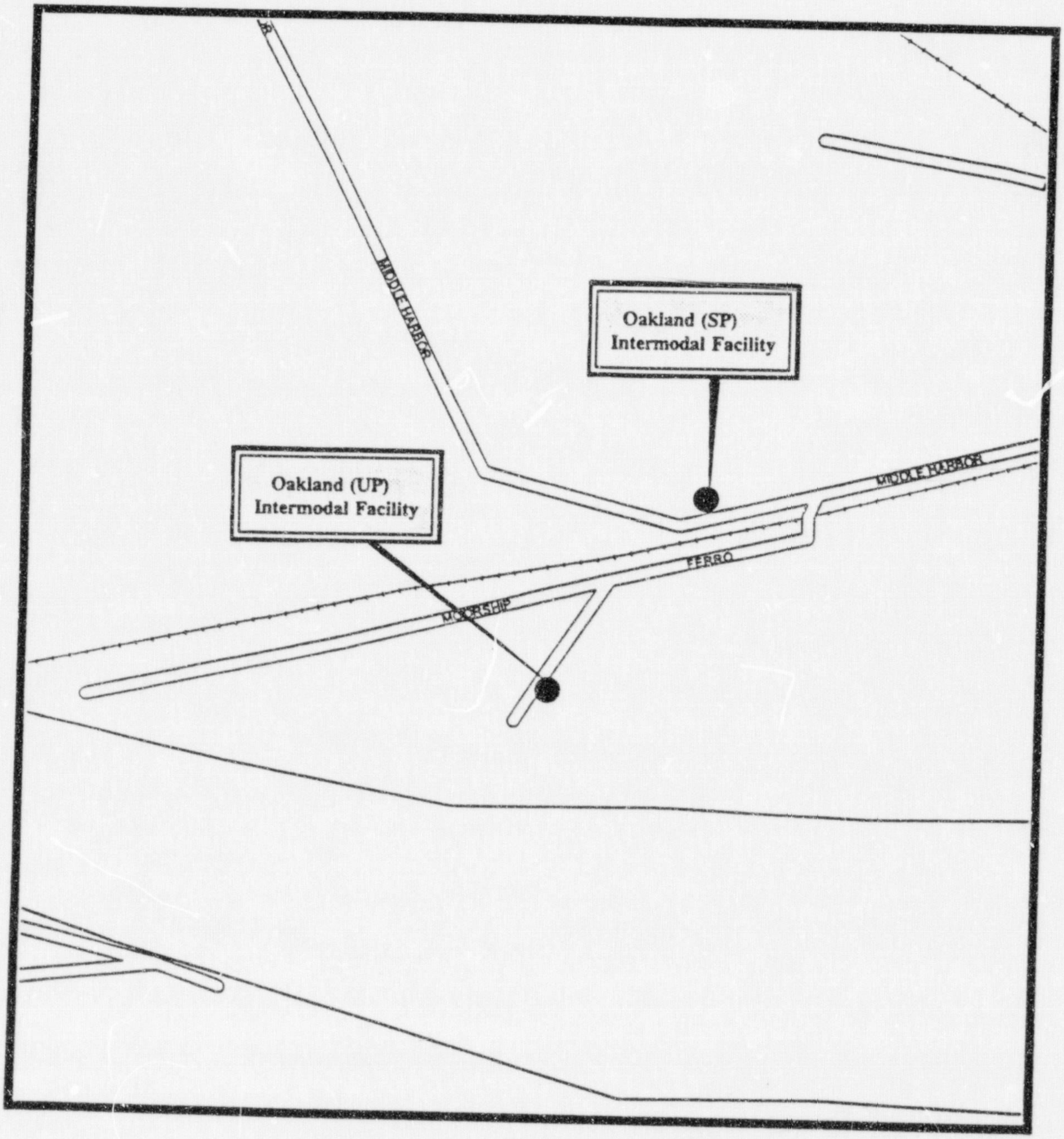
FIGURE 3-5
INTERMODAL FACILITY
LATHROP, CALIFORNIA



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

FIGURE 3-6
INTERMODAL FACILITIES
OAKLAND, CALIFORNIA

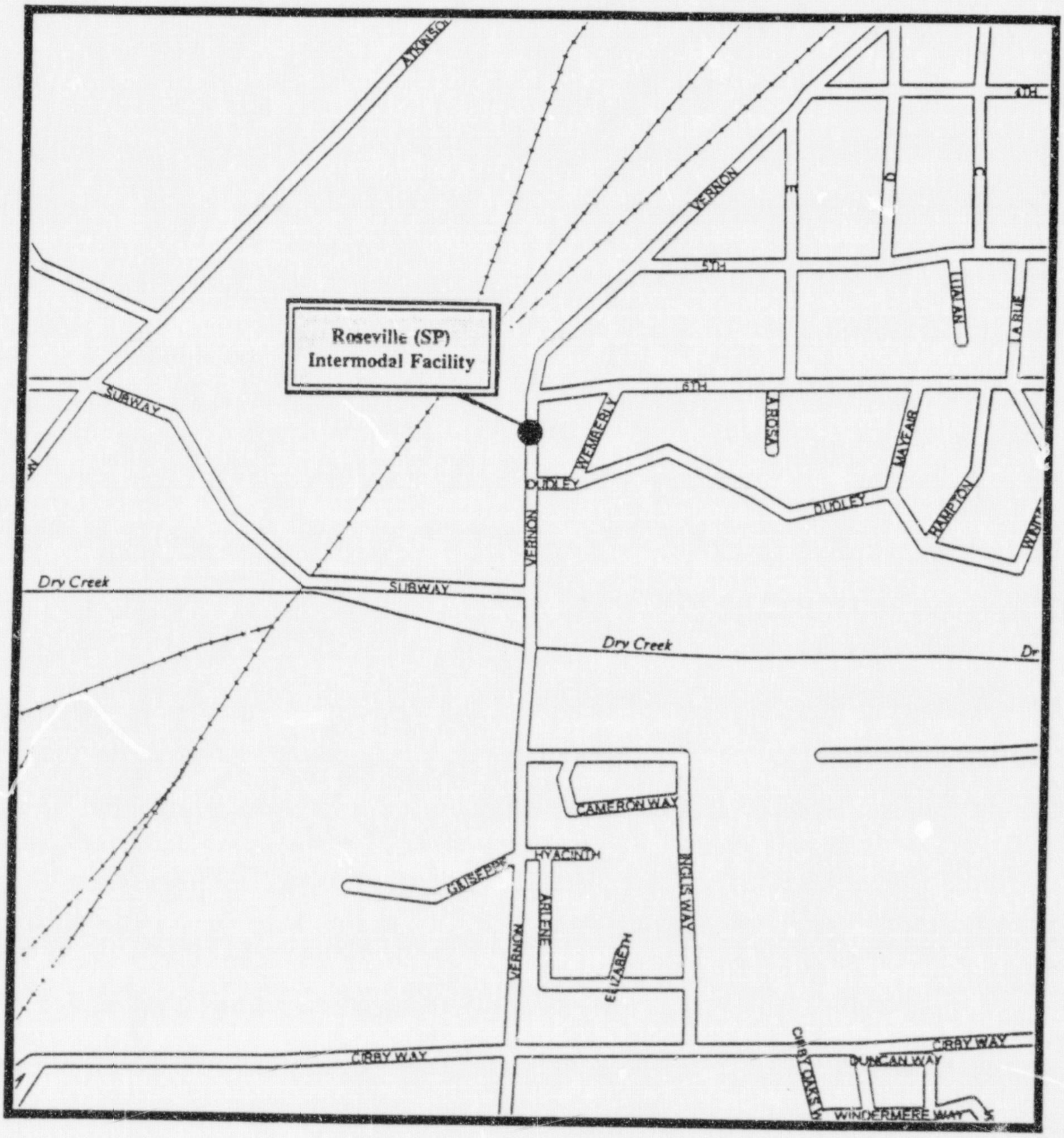


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

102

N ↑

FIGURE 3-7
INTERMODAL FACILITY
ROSEVILLE, CALIFORNIA

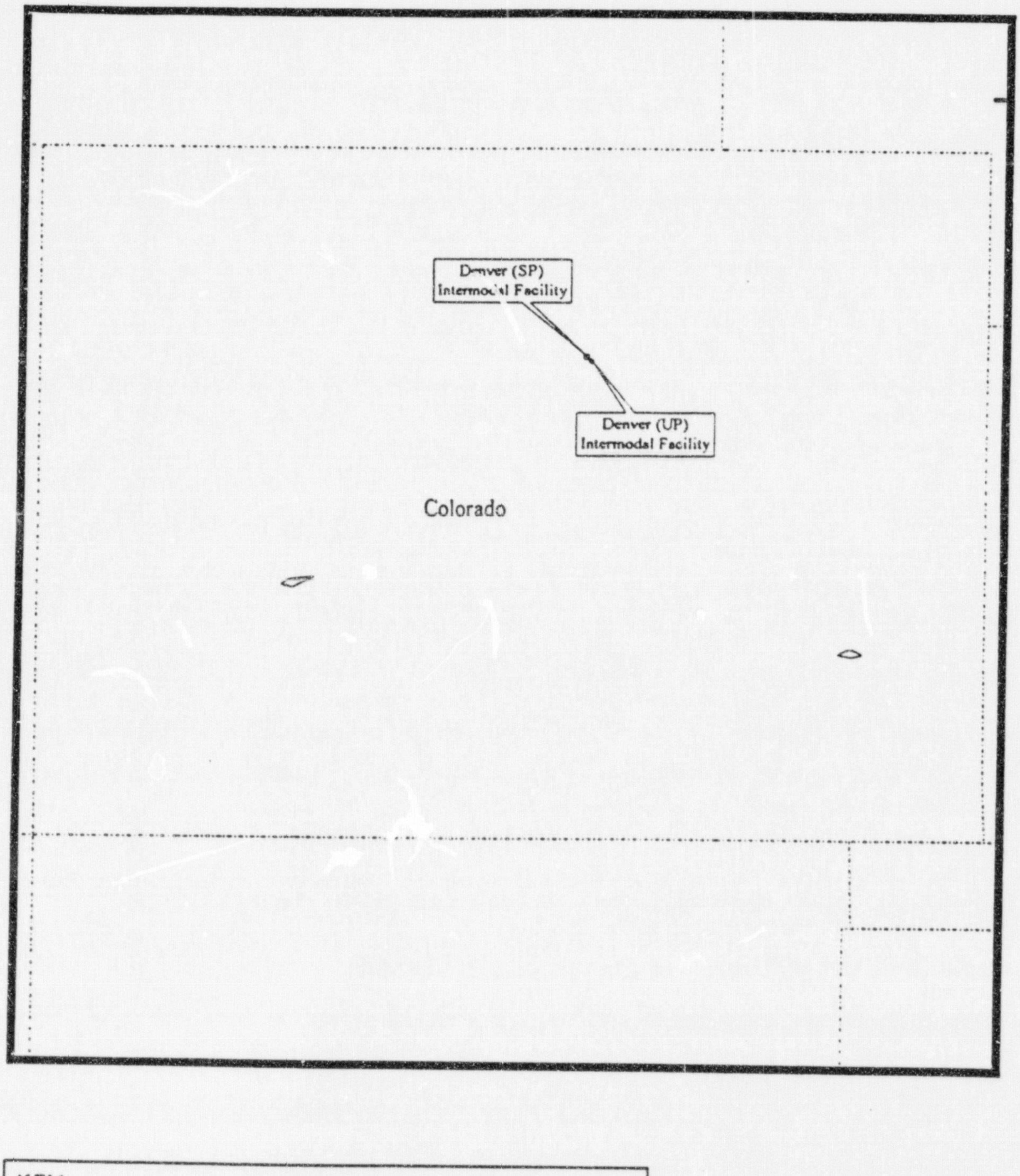


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

103

N ↑

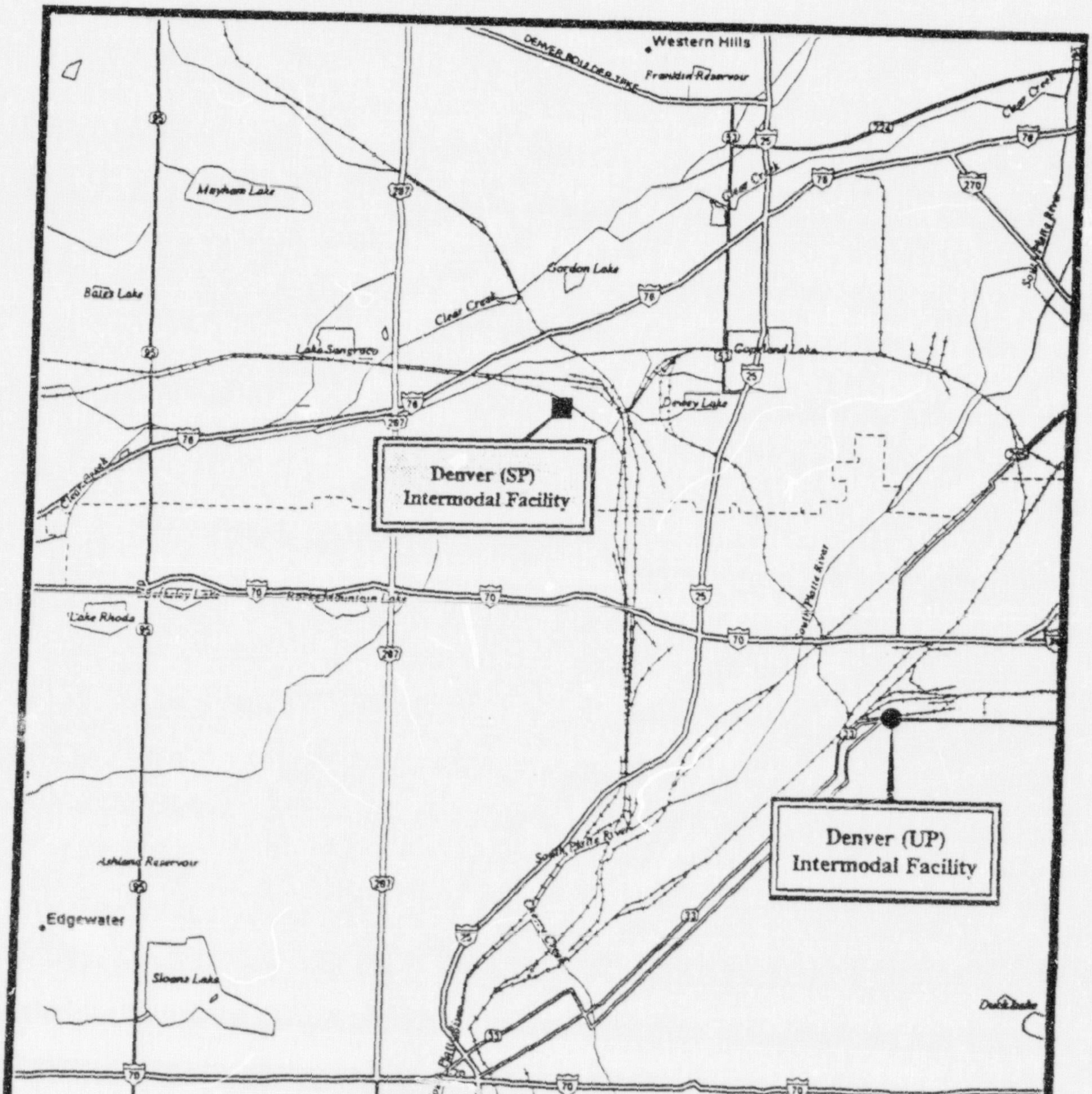
FIGURE 3-8
INTERMODAL FACILITIES IN COLORADO



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

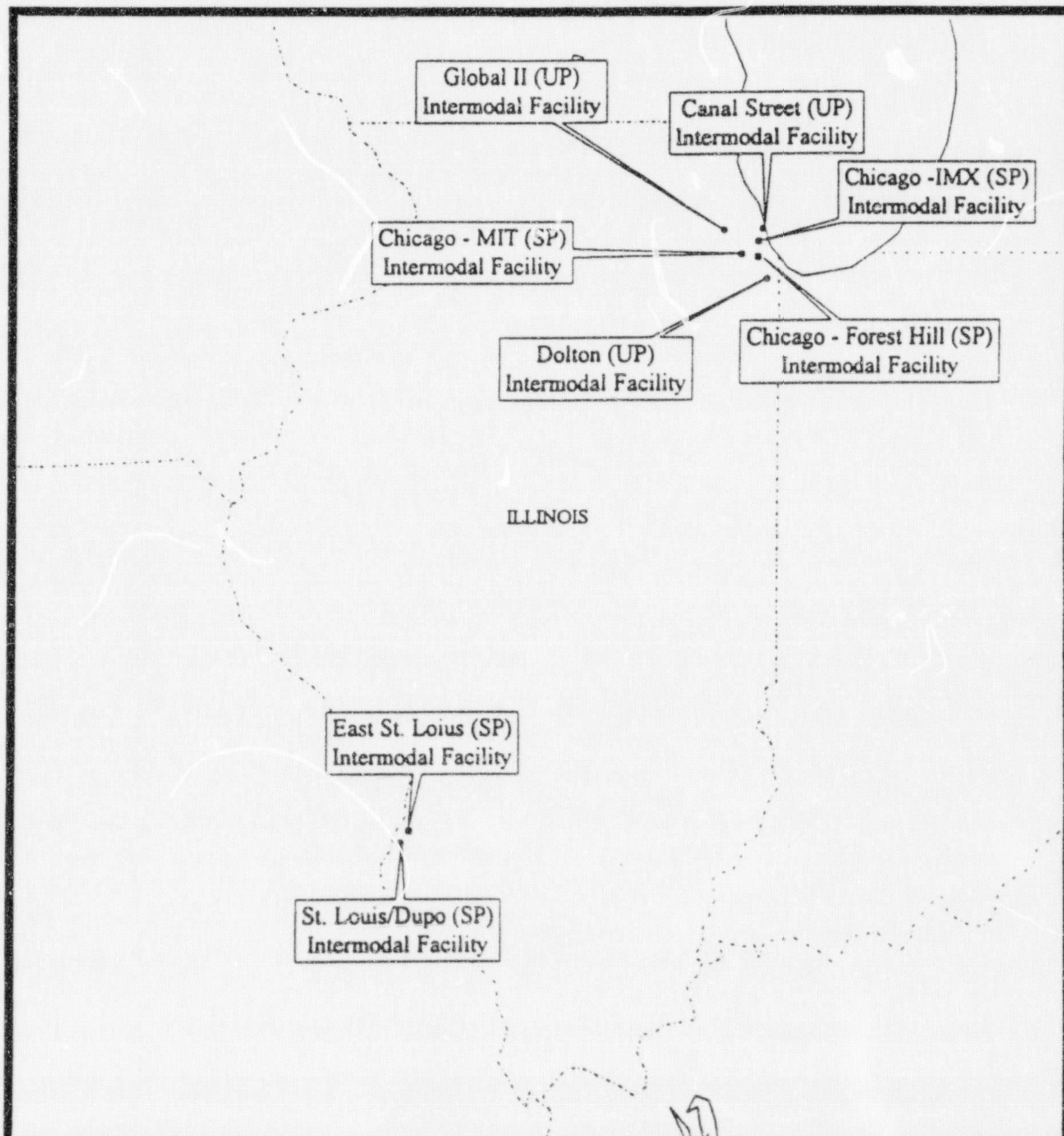
FIGURE 3-9
INTERMODAL FACILITIES
DENVER, COLORADO



KEY:
- INTERMODAL FACILITY
- INTERMODAL FACILITY TO BE CLOSED

N ↑

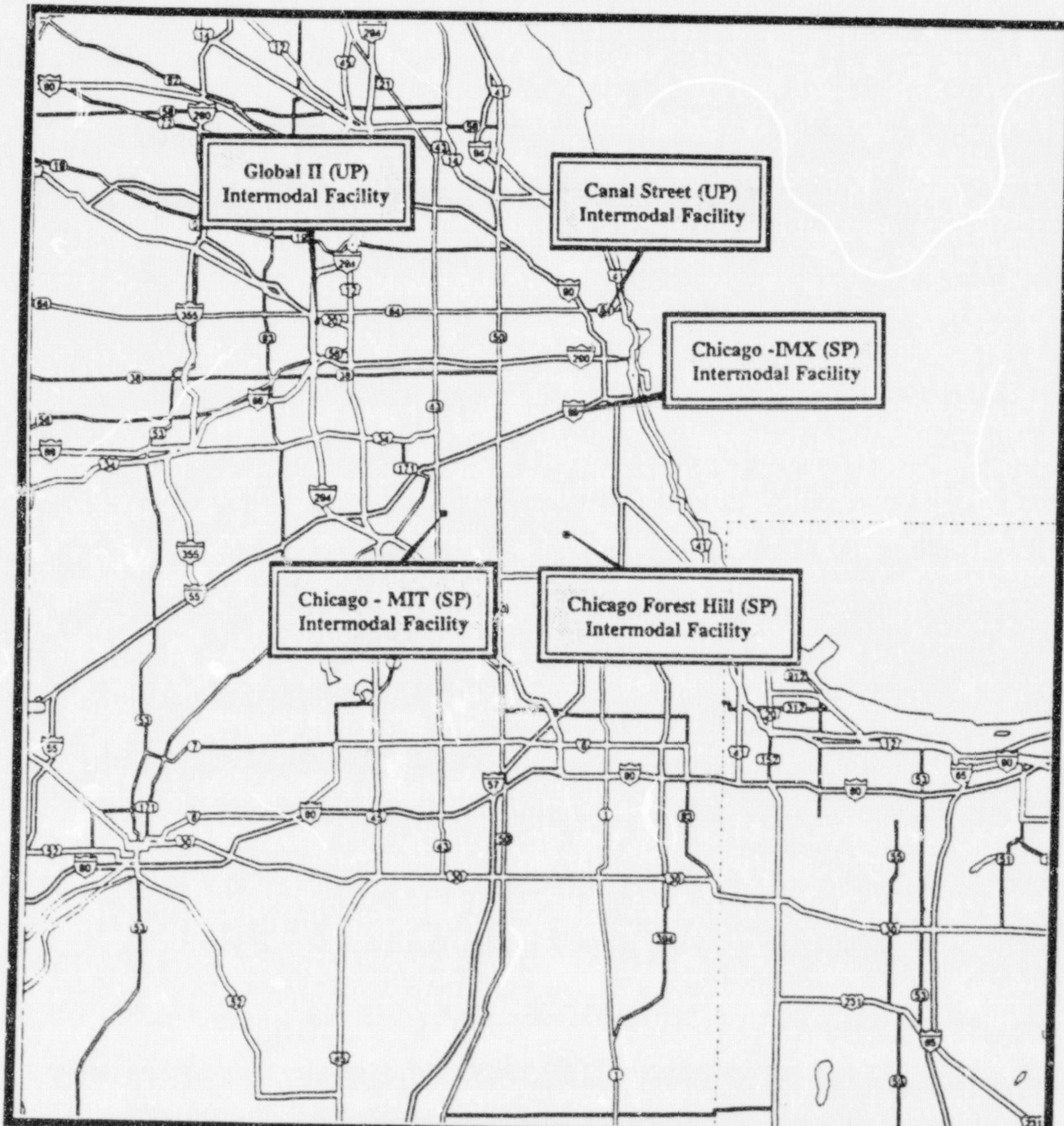
FIGURE 3-10
INTERMODAL FACILITIES IN ILLINOIS



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

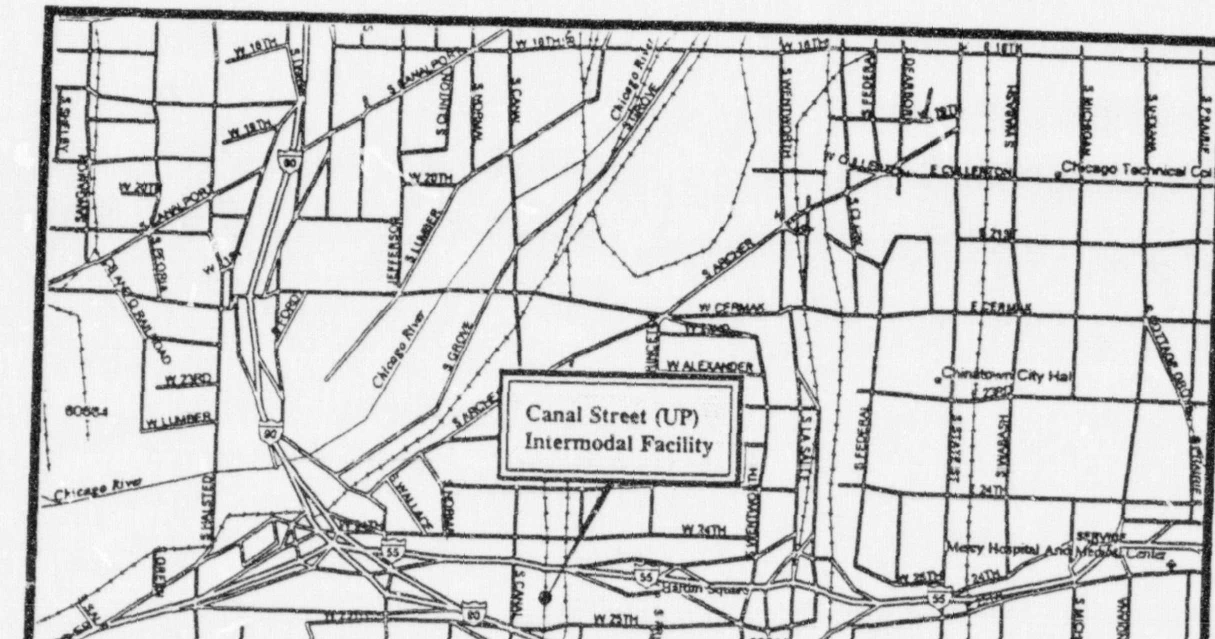
FIGURE 3-11
INTERMODAL FACILITIES
CHICAGO, ILLINOIS



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

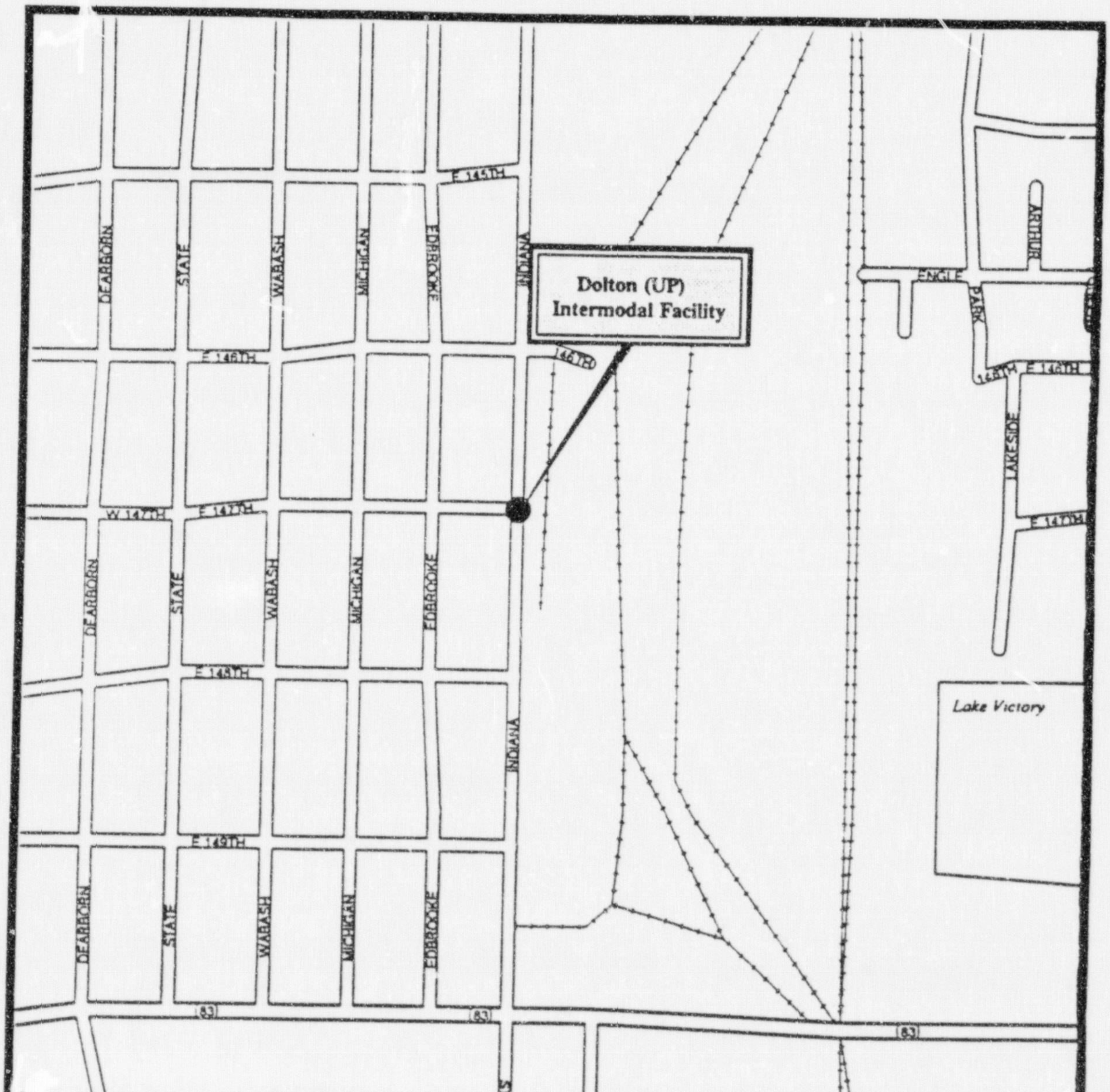
FIGURE 3-12
INTERMODAL FACILITY
CANAL STREET, CHICAGO, ILLINOIS



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

FIGURE 3-13
INTERMODAL FACILITY
DOLTON, ILLINOIS

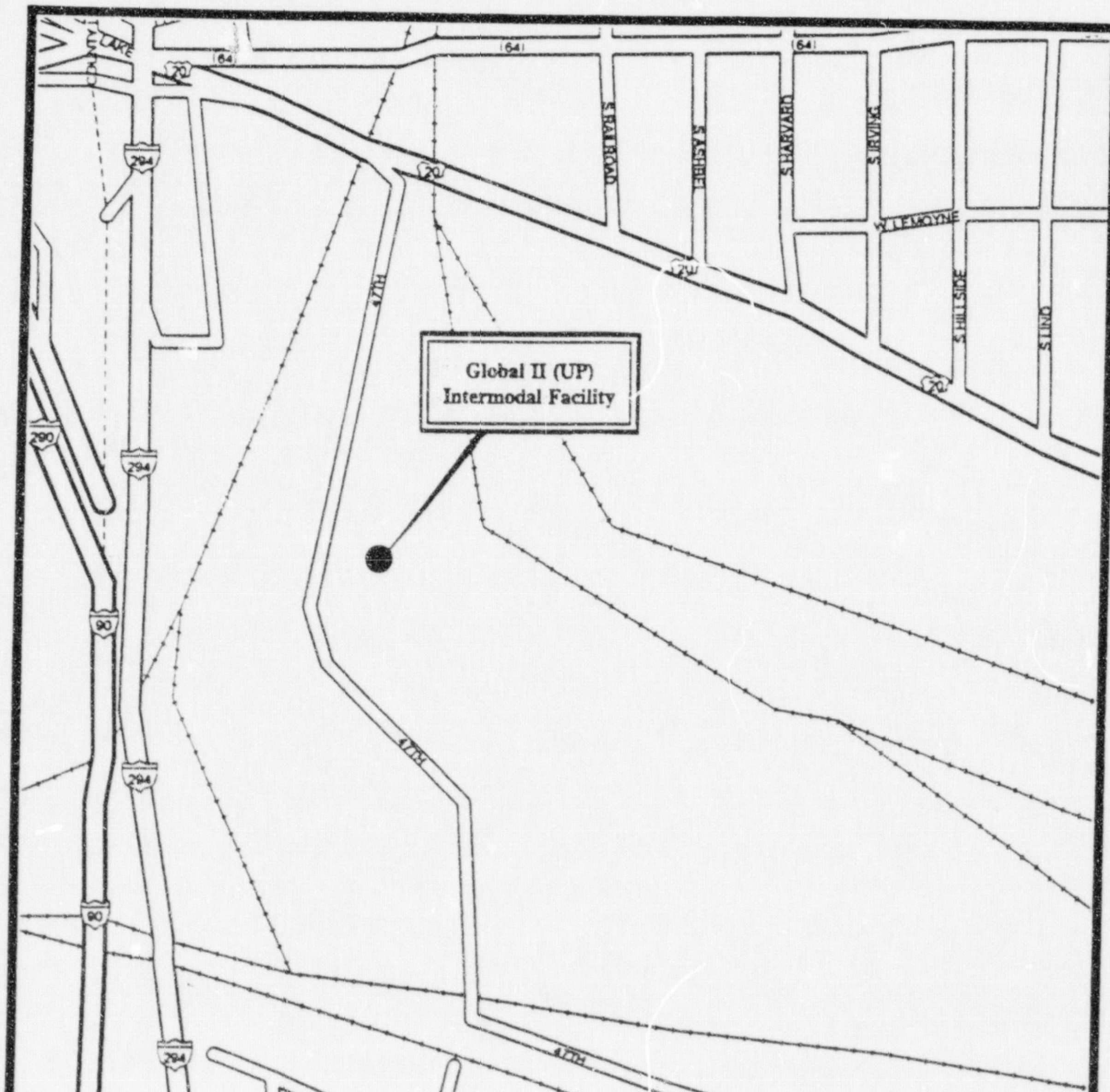


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

109

N ↑

FIGURE 3-14
INTERMODAL FACILITY
GLOBAL II, CHICAGO, ILLINOIS

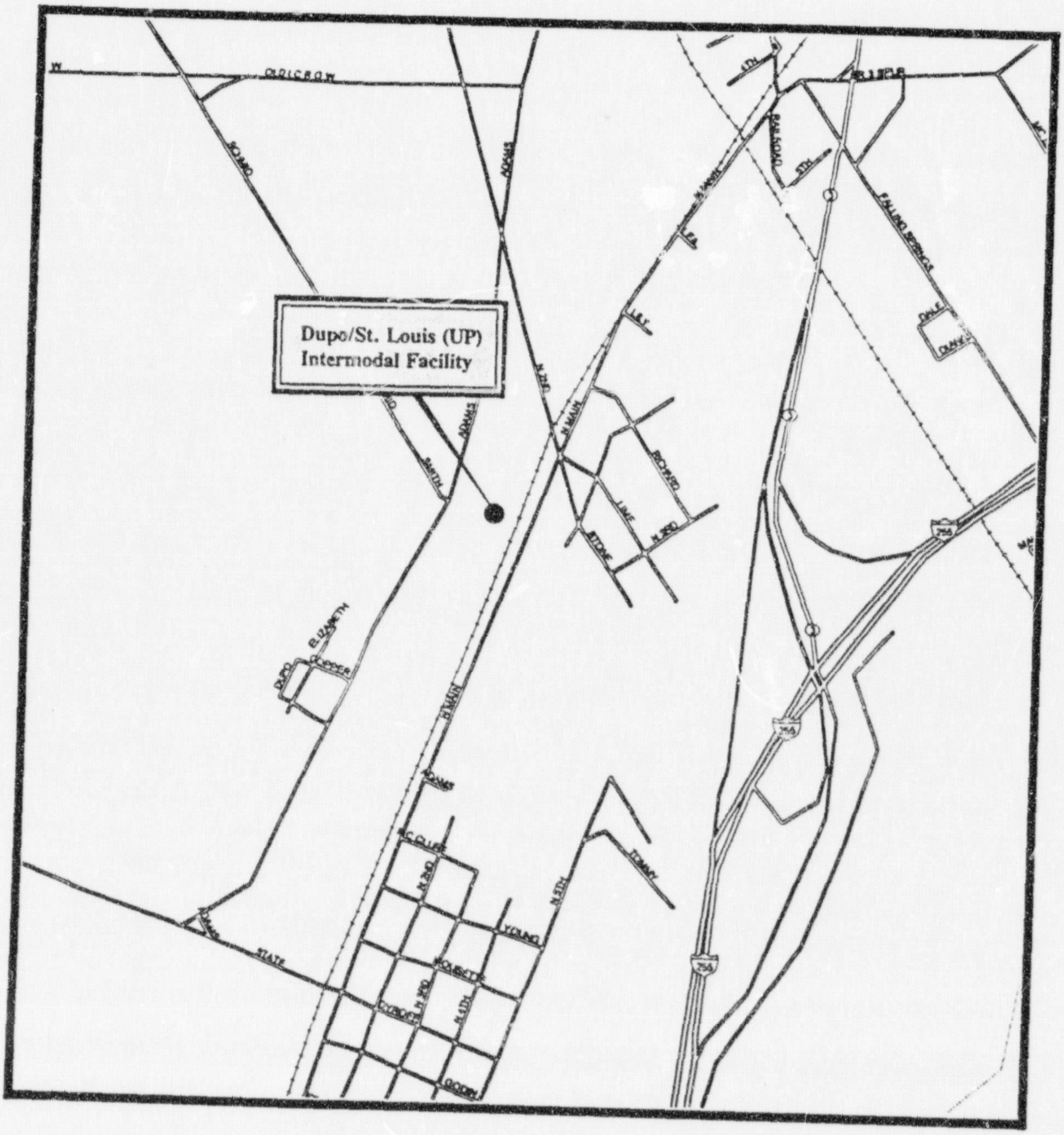


KEY:
- INTERMODAL FACILITY
- INTERMODAL FACILITY TO BE CLOSED

110

N ↑

FIGURE 3-15
INTERMODAL FACILITY
DUPO/ST. LOUIS, ILLINOIS

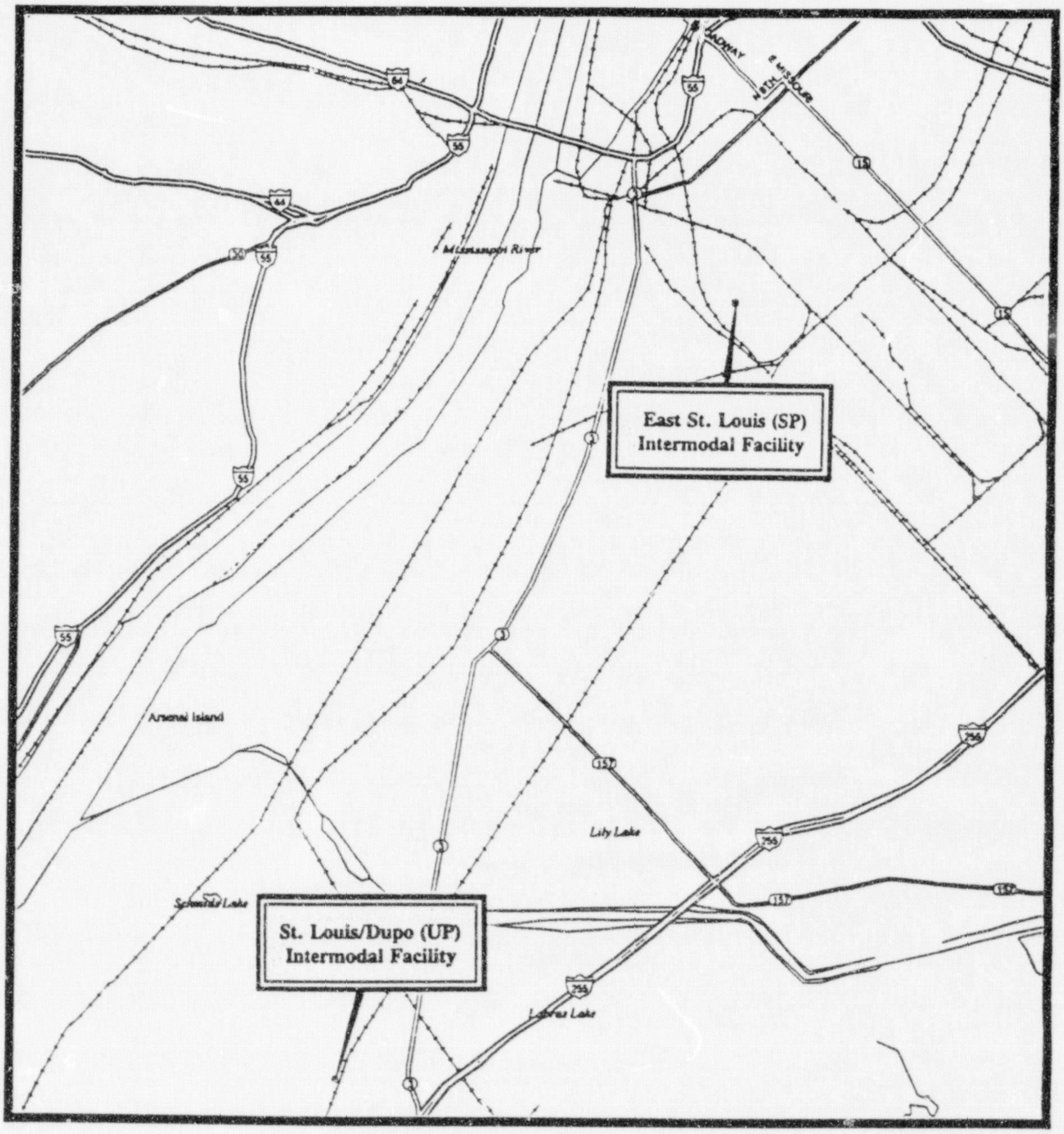


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

111

N ↑

FIGURE 3-16
INTERMODAL FACILITIES
EAST ST. LOUIS, ILLINOIS

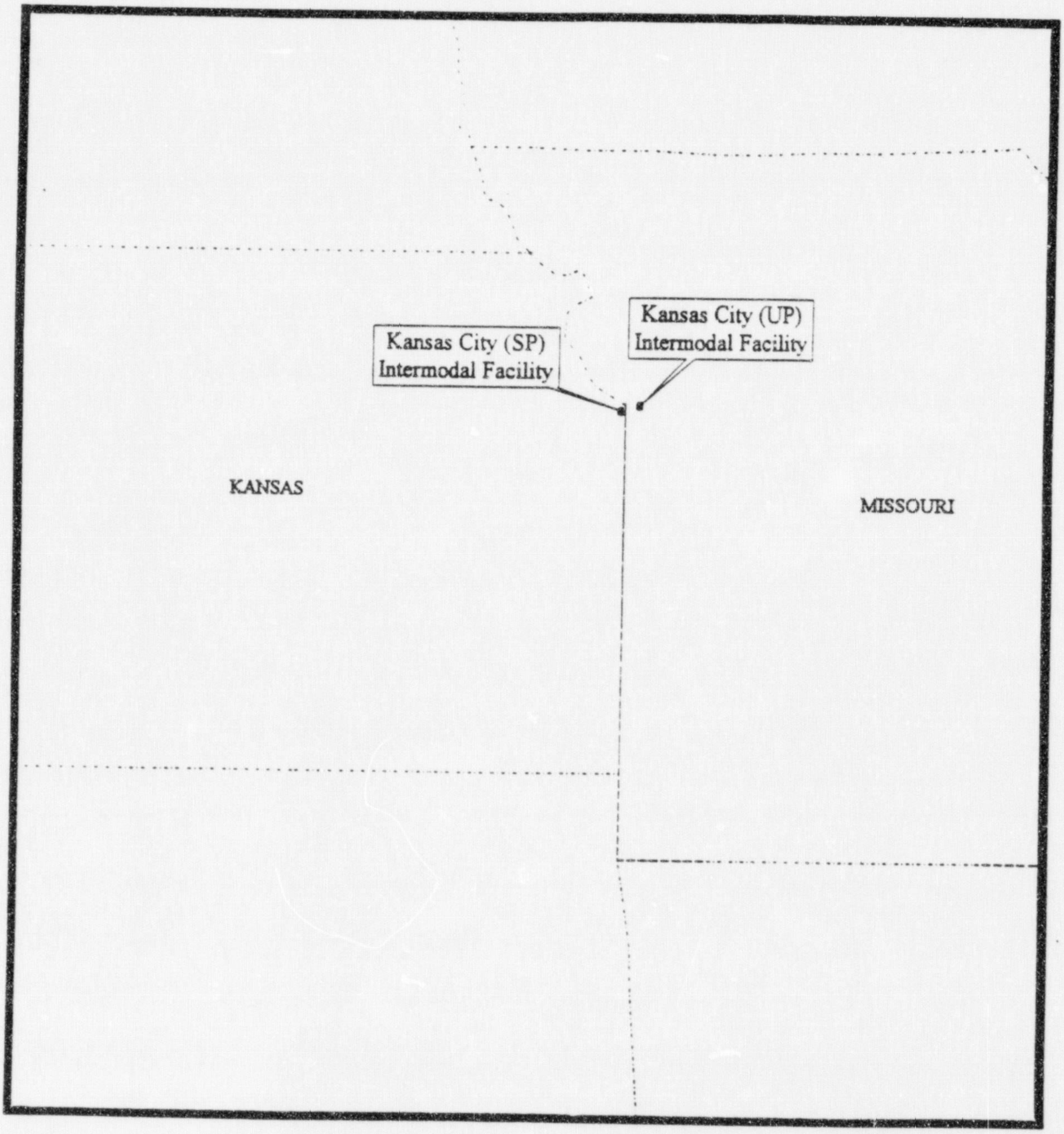


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

112

N ↑

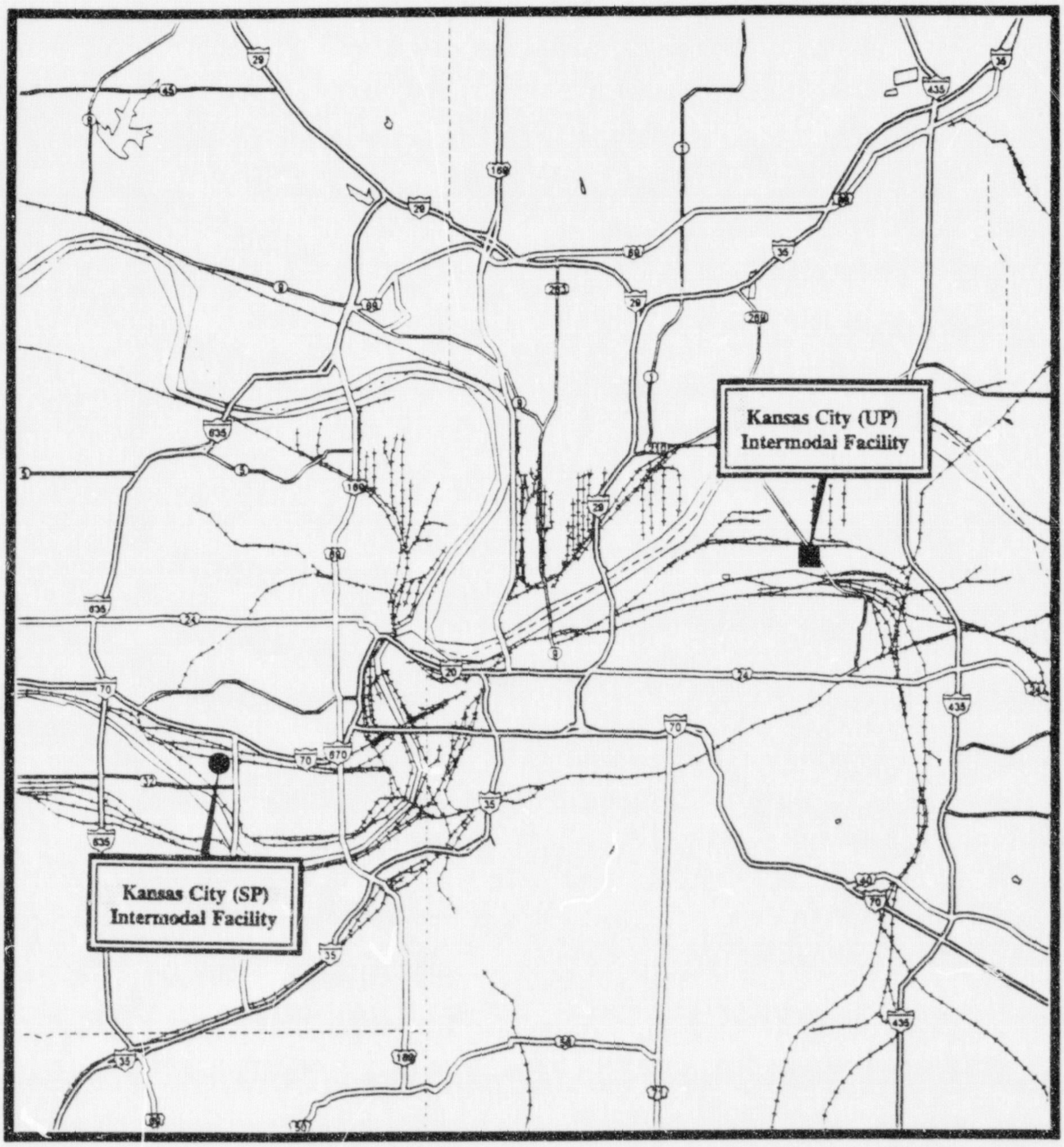
FIGURE 3-17
INTERMODAL FACILITIES
IN KANSAS



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

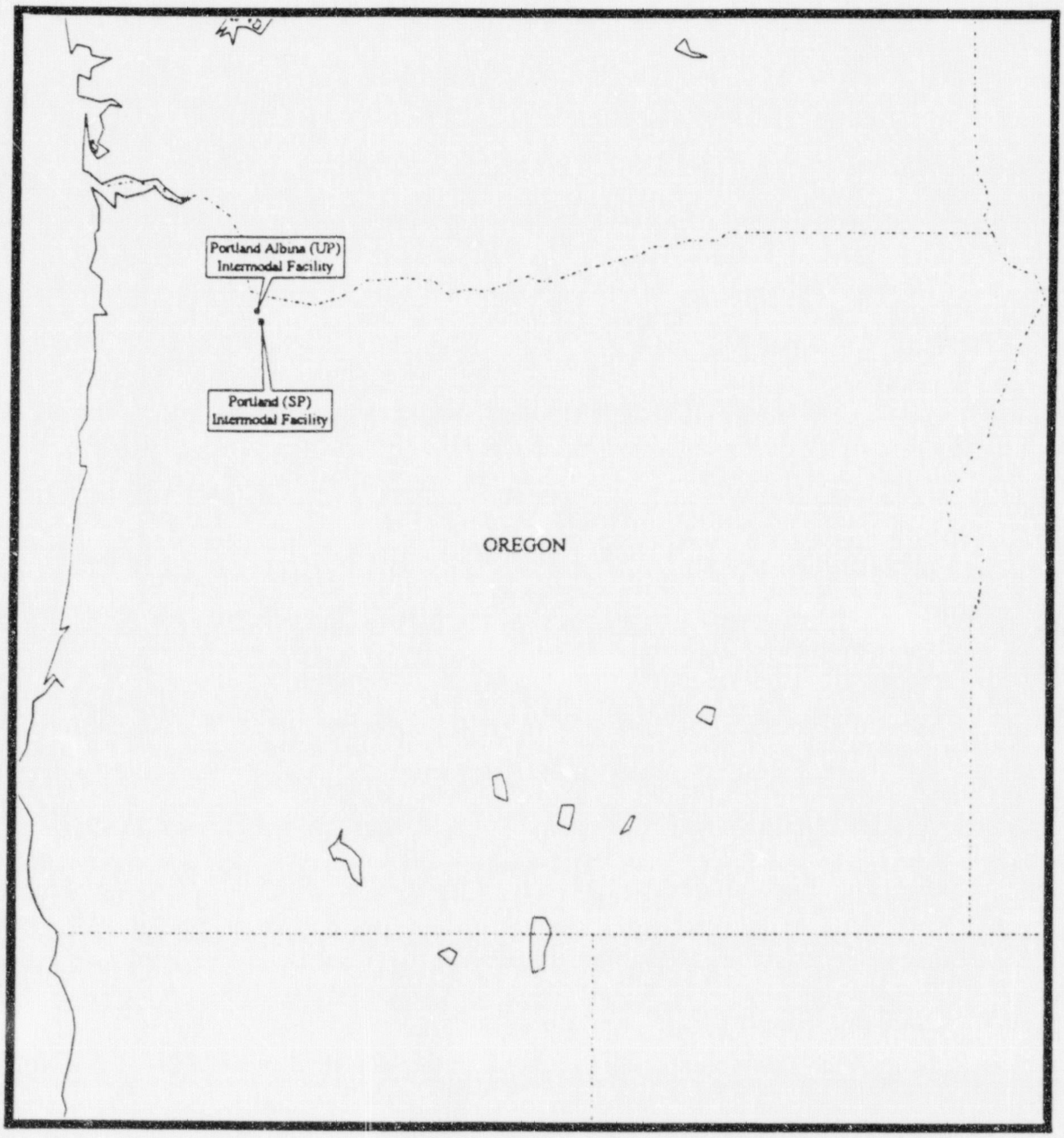
FIGURE 3-18
INTERMODAL FACILITIES
KANSAS CITY, KANSAS



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

FIGURE 3-19
INTERMODAL FACILITIES IN OREGON

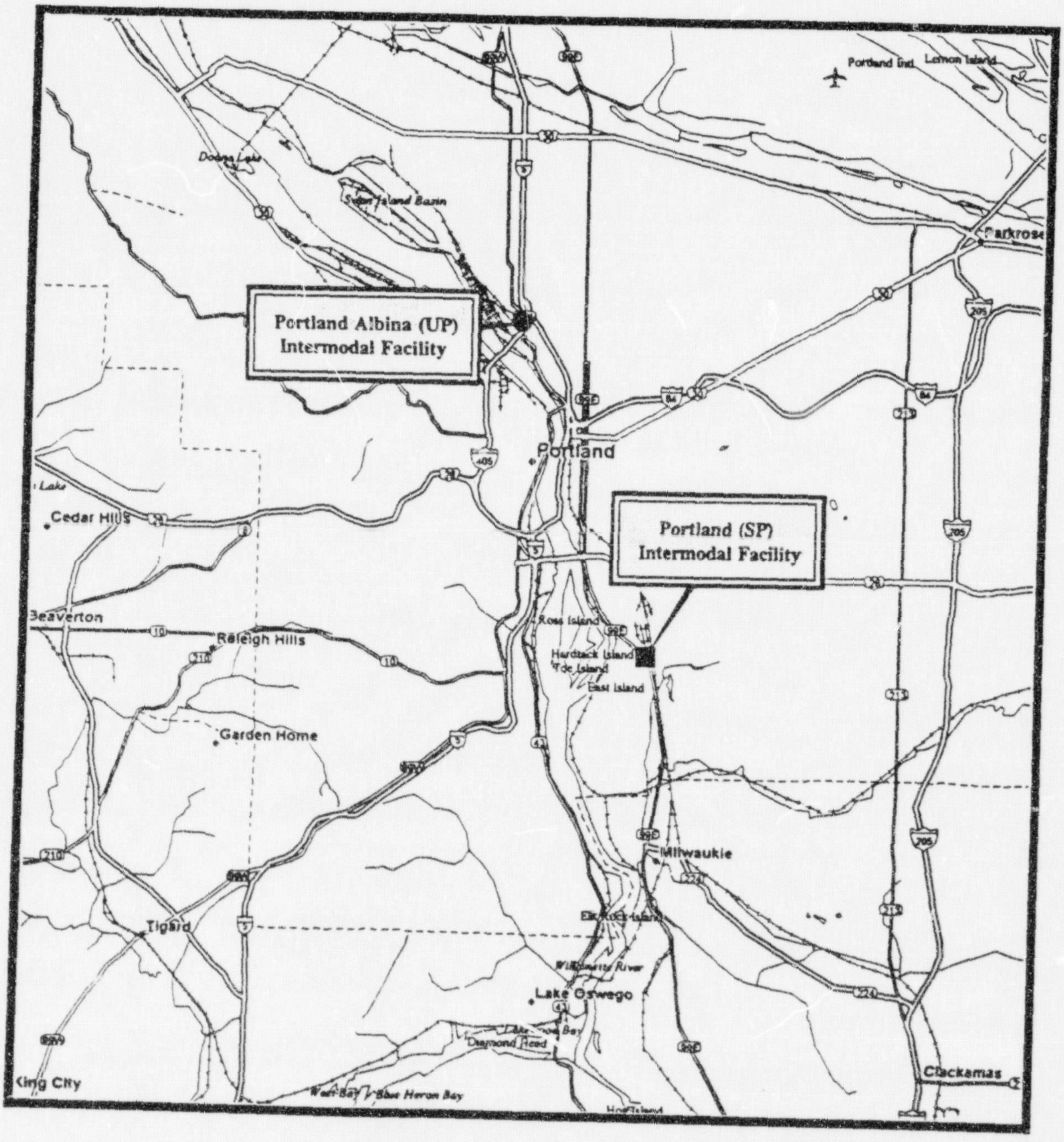


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

115

N ↑

FIGURE 3-20
INTERMODAL FACILITIES
PORTLAND, OREGON



KEY:
- INTERMODAL FACILITY
- INTERMODAL FACILITY TO BE CLOSED

116

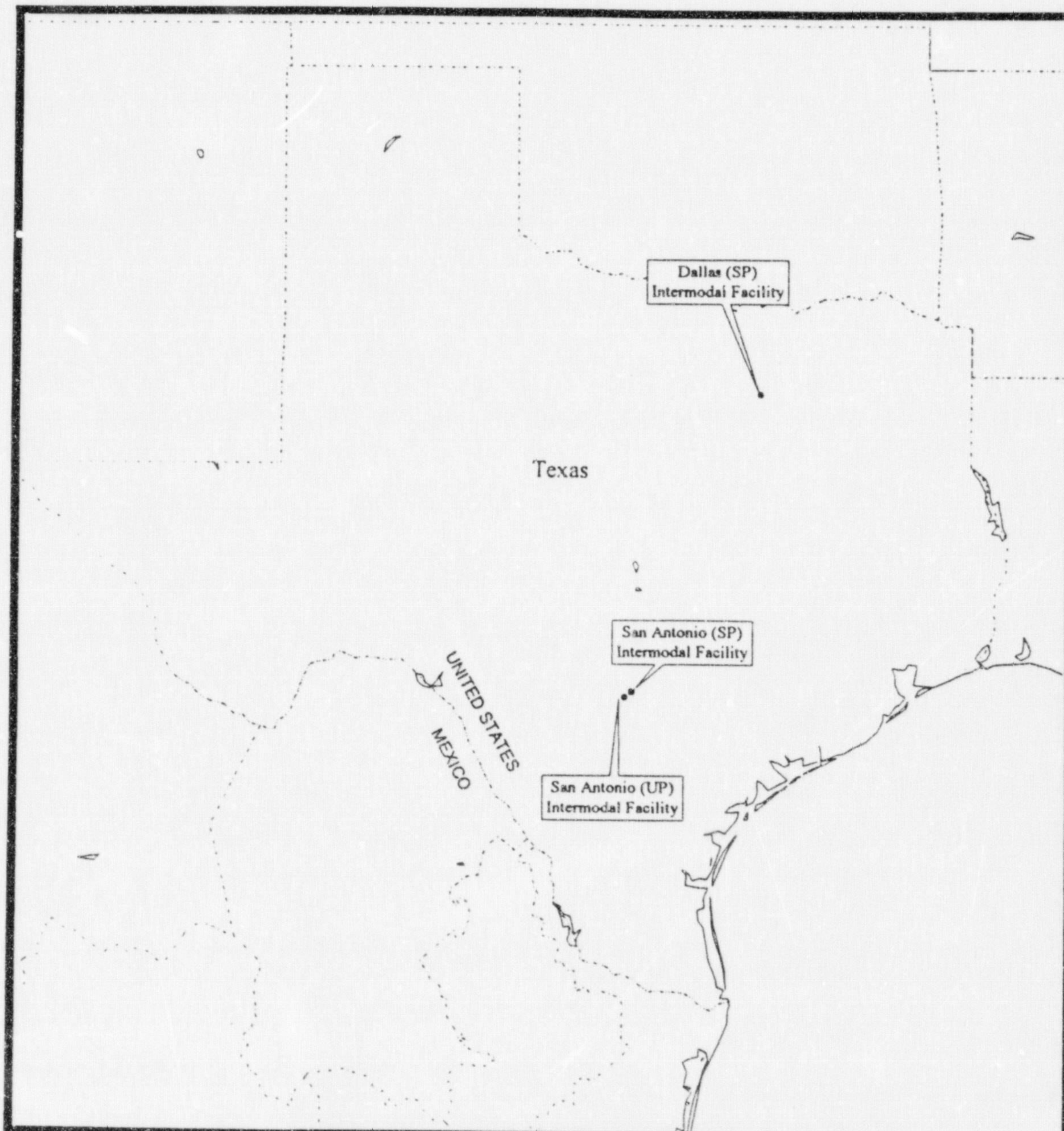
N ↑

FIGURE 3-21
INTERMODAL FACILITY
PORTLAND, OREGON

KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

FIGURE 3-22
INTERMODAL FACILITIES IN TEXAS

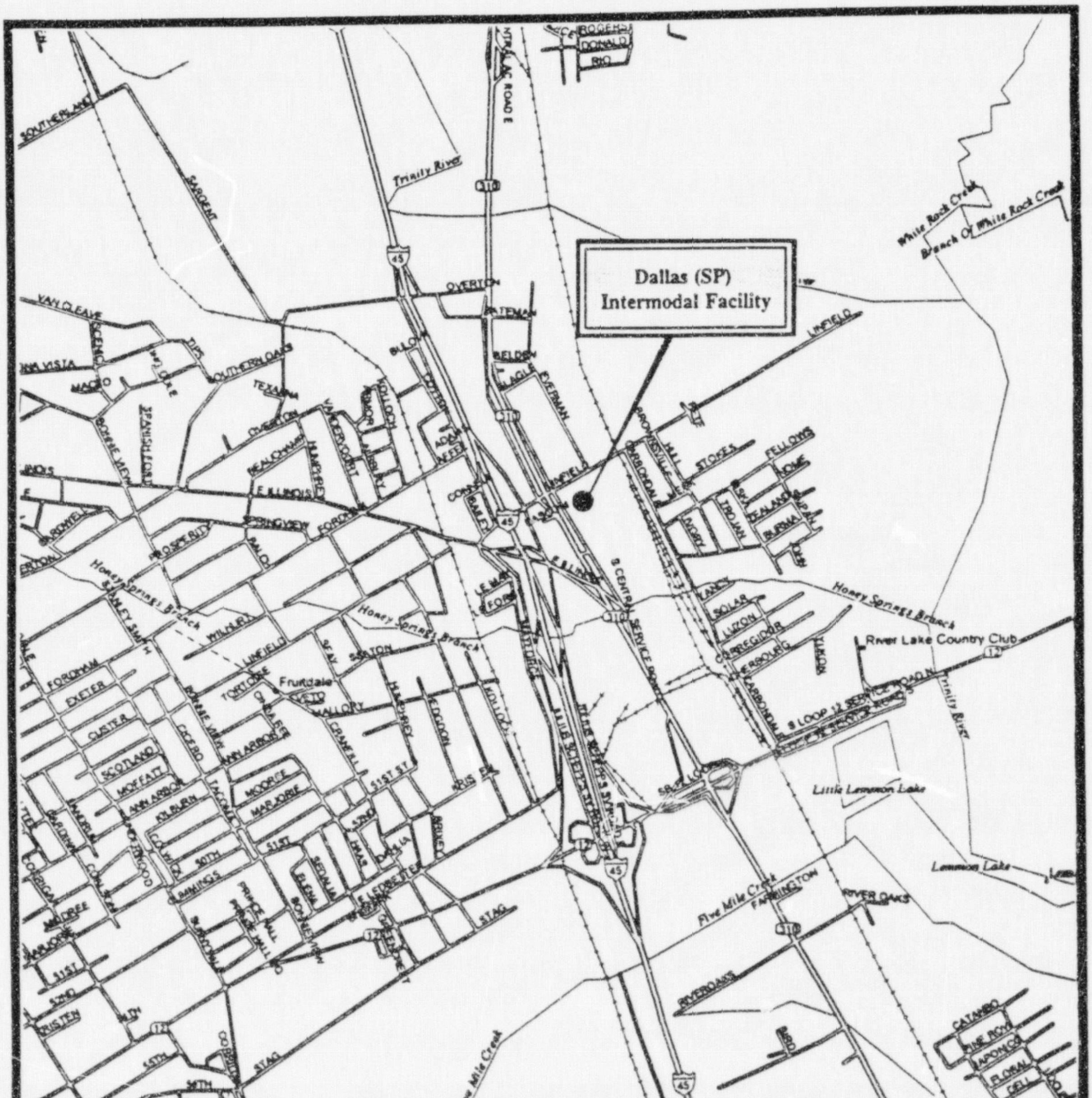


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

118

N ↑

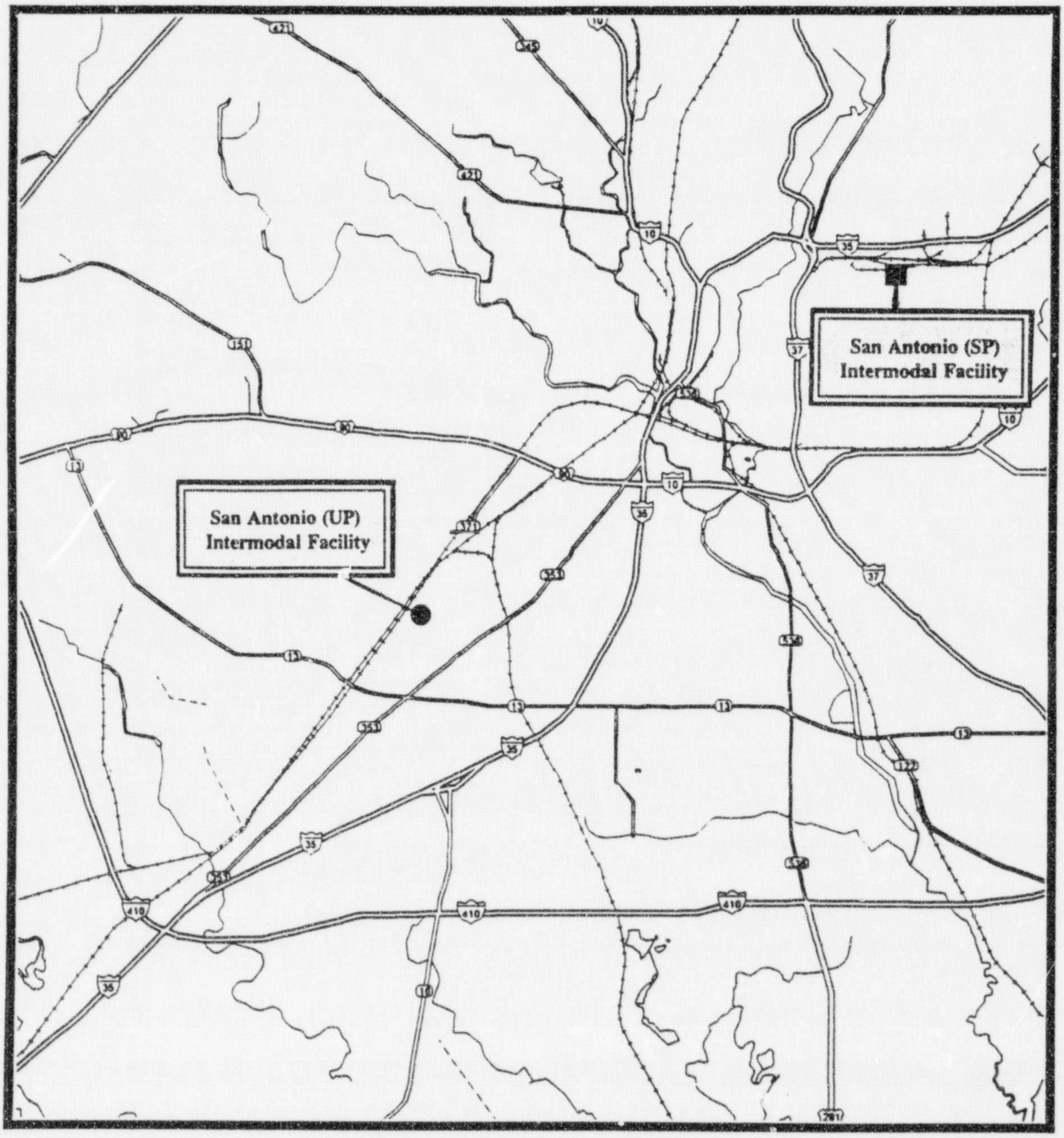
FIGURE 3-23
INTERMODAL FACILITY
DALLAS, TEXAS



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

FIGURE 3-24
INTERMODAL FACILITIES
SAN ANTONIO, TEXAS

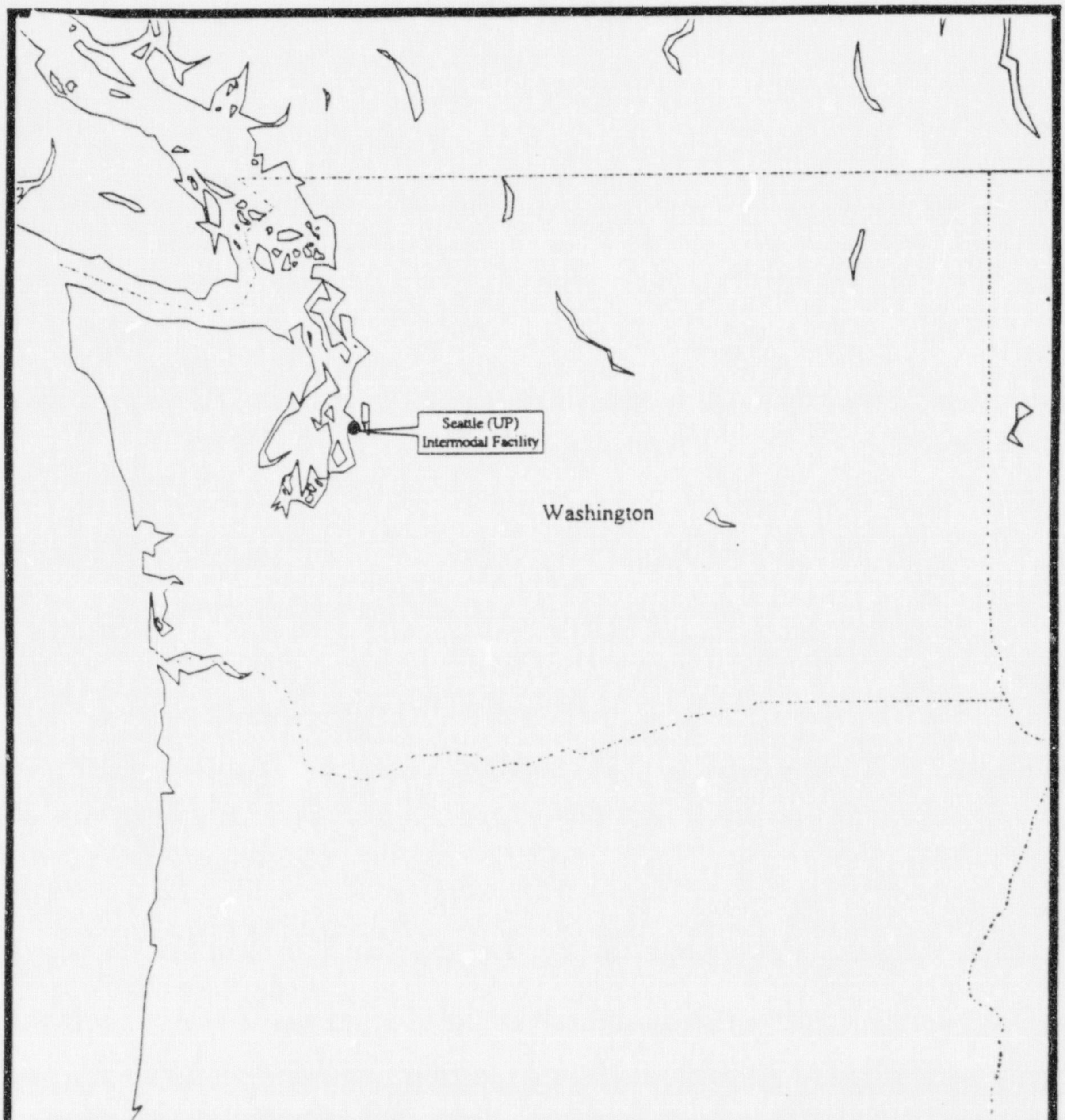


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

120

N ↑

FIGURE 3-25
INTERMODAL FACILITIES IN WASHINGTON

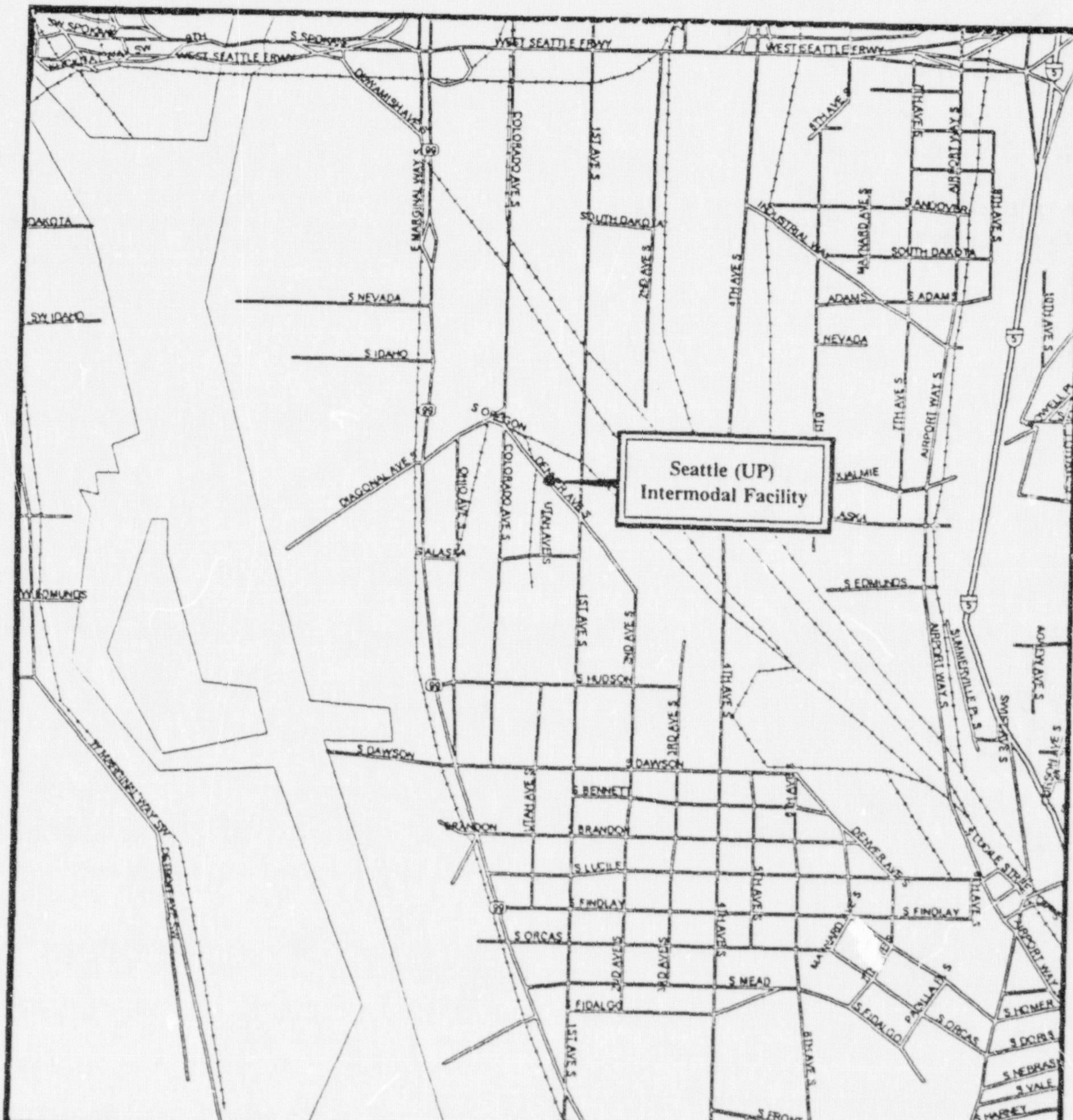


KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

121

N ↑

FIGURE 3-26
INTERMODAL FACILITY
SEATTLE, WASHINGTON



KEY:
- ● INTERMODAL FACILITY
- ■ INTERMODAL FACILITY TO BE CLOSED

N ↑

4.0 MITIGATION

4.1 TRANSPORTATION

If increased traffic in the vicinity of intermodal facilities creates negative effects on local transportation patterns or systems as a result of the merger, UP/SP would consult with the local transportation authorities, to the extent appropriate, to determine a course of action. Such action may include adjusting signal timing or adding turn lanes at intersections, or other modifications.

4.2 AIR QUALITY

UP/SP will consult, to the extent appropriate, with federal, state, or local regulatory agencies responsible for regulation of air quality in nonattainment areas if emission increases are potentially significant.

4.3 NOISE

The potential facility noise impacts identified are associated with the increase in rail operations at the Herington, Kansas, Bellmead, Texas and Salem, Illinois rail yards. These impacts are expected to be limited to the first one or two rows of houses that are closest to these facilities, and are likely to be caused principally by switch engine operation and idling locomotives and refrigerator cars. UP/SP intends to operate yards in accordance with applicable noise regulations and will take such other measures as may be appropriate to reduce adverse noise impacts to affected areas.

5.0 REFERENCES

5.1 TRANSPORTATION

5.1.1 References

Los Angeles County Department of Public Works. 1993. Traffic Volumes.

Reebie Associates. 1995. Truck diversion studies for UP/SP merger.

Transmode Consultants, Inc. 1995. Truck diversion studies for UP/SP merger.

Union Pacific Railroad Company. 1995. Data for intermodal and automotive facility base case and post-merger scenarios.

5.1.2 Personal References

State of Denver, Regional Council of Governments. Information on Average Daily Traffic Volume.

City of Portland, Traffic Division. Information on Average Daily Traffic Volume.

City of Memphis, Transportation Division. Information on Average Daily Traffic Volume.

State of Tennessee, Department of Transportation. Information on Average Daily Traffic Volume.

City of Salt Lake City, Transportation Division. Information on Average Daily Traffic

City of Seattle, Transportation Division. Information on Average Daily Traffic Volume. Personal Communication.

State of Indiana, Department of Transportation. Information on Average Daily Traffic Volume.

City of Chicago, Department of Transportation. Information on Average Daily Traffic Volume.

City of Chicago, Cook County Highway Department. Information on Average Daily Traffic Volume.

Village of Dolton Public Works. Information on Average Daily Traffic Volume.

City of San Antonio, Traffic Division. Information on Average Daily Traffic Volume.

State of Texas, Department of Transportation. Information on Average Daily Traffic Volume.

City of Dallas, Traffic Division. Information on Average Daily Traffic Volume.

State of Arkansas, Street and Highway Department. Information on Average Daily Traffic Volume.

City of Pine Bluff. Information on Average Daily Traffic Volume.

City of Kansas City Transportation Department. Information on Average Daily Traffic

City of Oakland, Transportation Division. Information on Average Daily Traffic Volume.

City of Roseville, Engineering Division. Information on Average Daily Traffic Volumes.

State of Louisiana, Department of Transportation. Information on Average Daily Traffic Volume.

Douglas County, Department of Transportation. Information on Average Daily Traffic Volume.

City of El Paso, Traffic Division. Information on Average Daily Traffic Volume.

State of California, Department of Transportation in Caltrans. Information on Average Daily Traffic Volume.

Caltrans ADT Publication 1992. Information on Average Daily Traffic Volume.

City of Phoenix, Department of Transportation. Information on Average Daily Traffic Volume.

Cook County, ADT Map 1990. Information on Average Daily Traffic Volume.

Delorne, Street Atlas USA. Information on Average Daily Traffic Volume.

5.2 AIR QUALITY

5.2.1 References

Booz, Allen, Hamilton, Inc., 1991. "Locomotive Emission Study," California Air Resources Board.

40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Appendix A to Part 81.

40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Sub Part C, Section 107, Attainment Status Designation.

40 CFR Part 1105 - Procedures for Implementation of Environmental Laws.

40 CFR Part 52 - Approval and Promulgation of Implementation Plans.

40 CFR Part 70 - State Operating Permit Programs.

Union Pacific Railroad Company. 1995. Data for rail yards, intermodal and automotive facilities base case and post-merger scenarios.

United States Environmental Protection Agency, 1995. "Compilation of Air Pollution Emission Factors," Volume 2, January 1995.

United States Environmental Protection Agency, 1985. "Compilation of Air Pollution Emission Factors," Volume 2, January 1985.

5.3 NOISE

5.3.1 References

Union Pacific Railroad Company. 1995. Data for rail yards, intermodal and automotive facilities base case and post-merger scenarios.

STB FD 32760 11-30-95 A 1648V19 1/5

UNION PACIFIC

Finance Docket No. 32760, VOLUME 6, PART 4

19

Before the
INTERSTATE COMMERCE COMMISSION

Finance Docket No. 32760

UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY AND MISSOURI PACIFIC RAILROAD COMPANY
— CONTROL AND MERGER —
SOUTHERN PACIFIC RAIL CORPORATION, SOUTHERN PACIFIC TRANSPORTATION COMPANY, ST. LOUIS SOUTHWESTERN RAILWAY COMPANY, SPCSL CORP. AND THE DENVER AND RIO GRANDE WESTERN RAILROAD COMPANY

RAILROAD MERGER APPLICATION

VOLUME 6, PART 4

ENVIRONMENTAL REPORT (EXHIBIT 4) - ABANDONMENTS

CANNON Y. HARVEY
LOUIS P. WARCHOT
CAROL A. HARRIS
Southern Pacific Transportation Company
One Market Plaza
San Francisco, California 94105
(415) 541-1000

PAUL A. CUNNINGHAM
RICHARD B. HERZOG
JAMES M. GUINIVAN
Harkins Cunningham
1300 Nineteenth Street, N.W.
Washington, D.C. 20036
(202) 973-7600

Attorneys for Southern Pacific Rail Corporation, Southern Pacific Transportation Company, St. Louis Southwestern Railway Company, SPCSL Corp. and The Denver and Rio Grande Western Railroad Company

CARL W. VON BERNUTH
RICHARD J. RESSLER
Union Pacific Corporation
Martin Tower
Eighth and Eaton Avenues
Bethlehem, Pennsylvania 18018
(610) 861-3290

JAMES V. DOLAN
PAUL A. CONLEY, JR.
THOMAS E. GREENLAND
LOUISE A. RINN
Union Pacific Railroad Company
Missouri Pacific Railroad Company
1416 Dodge Street
Omaha, Nebraska 68179
(402) 271-5000

ARVID E. ROACH II
J. MICHAEL HEMMER
MICHAEL L. ROSENTHAL
Covington & Burling
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044-7566
(202) 662-5388

Attorneys for Union Pacific Corporation, Union Pacific Railroad Company and Missouri Pacific Railroad Company

November 30, 1995

1 of 2

ENVIRONMENTAL REPORT
UNION PACIFIC RAILROAD COMPANY/
SOUTHERN PACIFIC RAILROAD COMPANY
MERGER

PART 4 OF 6
ABANDONMENTS

Prepared for:
Union Pacific Railroad Company
1416 Dodge Street
Omaha, Nebraska 68179

Prepared by:
Dames & Moore
5425 Hollister Avenue
Suite 160
Santa Barbara, California 93111

November 6, 1995

PART 4
ABANDONMENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

Section | Page

Section | Page

Section | Page

Section	Page

Section Page

Section | Page

Section | Page

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

1.1 OVERVIEW

This document is Part 4 of the Environmental Report (ER) prepared for the proposed UP/SP merger. This Part analyzes potential environmental impacts associated with the 17 rail line segments proposed for abandonment within three years of the merger. UP/SP state that the through traffic currently moving on these rail lines will be rerouted after the merger to other UP/SP lines, and that it would no longer be economical or efficient to keep these segments in rail service.

The proposed process for rail removal and related salvage activities after abandonment is discussed in Section 2 of this Part. The proposed abandonments involve 17 rail line segments, which are described in Sections 3 through 10. These projects are located in the states of Arkansas, California, Colorado, Illinois, Kansas, Louisiana, Texas, and Utah. The segments vary in length from 4.9 miles to 122 miles, as follows:

Abandonment Location	Length (miles)	Milepost Numbers	Section in Part
Gurdon to Camden, AR	28.7	428.3 - 457.0	3
Alturas to Wendel, CA	85.5	445.6 - 360.1	4
Magnolia Tower to Melrose, CA	4.9	5.8 - 10.7	4
Whittier Jct. to Colima Jct., CA	5.2	0.0 - 5.18	4
Sage to Leadville, CO	69.1	335.0 - 276.10	5
Malta to Cañon City, CO	109.0	271.0 - 162.0	5
Towner to NA Jct., CO	122.4	747.0 - 869.4	5
Barr to Girard, IL	38.4	51.0 - 89.4	6
DeCamp to Edwardsville, IL	14.6	119.2 - 133.8	6
Edwardsville to Madison, IL	15.0	133.8 - 148.78	6
Hope to Bridgeport, KS	31.2	459.2 - 491.2	7
Whitewater to Newton, KS	9.0	476.0 - 485.0	7
Iowa Jct. to Manchester, LA	8.5	680.0 - 688.5	8
Seabrook to San Leon, TX	10.5	30.0 - 40.5	9
Suman to Bryan, TX	16.2	117.6 - 101.4	9
Troup to Whitehouse, TX	7.5	0.5 - 8.0	9
Little Mountain Jct. to Little Mountain, UT	12.0	0.0 - 12.0	10

The environmental impact analyses of the 17 proposed abandonments are described in Sections 3 through 10 of this part and are assessed according to location. Each chapter provides the following information for each abandonment: (1) proposed action and no-action alternative; (2) description of existing environment; (3) potential environmental impacts (if any) of the proposed action; (4) potential environmental impacts (if any) of the no-action alternative; and (5) summary of agency comments.

1.2 POTENTIAL IMPACT AREAS AND METHODOLOGIES

The following areas were analyzed for each proposed abandonment: land use, water resources and wetlands, biological resources, historic and cultural resources, safety, transportation, air quality, noise, and energy. The discussions below include descriptions of methods used in assessments for each area, and explanations of significance criteria for impact analyses. Methodologies and approaches for air quality, noise, transportation, and safety are discussed in appendices in Part 6. Summary lists of potential Historic and Cultural Resources and Rare, Threatened, and Endangered Species are also in Part 6.

Following track removal and other salvage activities, the right-of-way (ROW) would either: (1) contain land uses which conform to land uses on adjacent property; or (2) be used for recreational purposes, such as the "Rails to Trails" program. It is, therefore, highly unlikely that there would be negative overall community and social impacts due to the new uses.

The abandonment of these rail lines would result in long-term beneficial environmental effects. For example, the cessation of human and mechanical disturbance associated with maintenance activities would result in fewer impacts to vegetation types and wildlife habitats. In turn, that may allow native vegetation to re-establish in areas where repeated disturbance has eliminated vegetation or favored introduced and ruderal species over native species. Diversion of rail traffic will result in closing of grade crossings and the reduction in rail/motor vehicle collisions. General beneficial effects associated with abandonment of the rail lines are described in the following paragraphs, and are listed in Section 12.0.

1.2.1 Land Use

A rail line abandonment could affect local or regional land uses. Uses of concern include receptors sensitive to environmental changes (residential, commercial, schools, hospitals, churches, agriculture, institutional), water resources, and prime farmland. Inventories for these resources were completed based on U.S. Geological Survey (USGS) land use and cover maps, topographic maps, and a Natural Resources Conservation Service national database for prime farmland. Post-abandonment salvage operations and their impacts on land uses are assessed.

Land use was mapped using the USGS land use and land cover maps in combination with 7.5-minute topographic maps. The width of the mapped land use corridor is approximately two miles (one mile on each side of the railroad line). Land use most commonly occurring on both sides of the railroad line was mapped to indicate the land use type most characteristic of the area. In some instances where a small area of land differed from neighboring most characteristic land uses, the small area was mapped. This was done to prevent the exclusion of unusual and potentially sensitive land uses.

In addition to land use, building structures (residential and others) near abandonment activities were inventoried because of their possible sensitivity to noise disturbance. USGS 7.5-minute topographic maps were the data sources. In rural areas, structures were counted within a 500-foot radius of the projects. In urban areas, shadings are shown on the topographic maps to indicate area concentrations of structures rather than showing the individual structures. For these cases, the number of feet in which an abandonment occurred within the shaded areas was measured as a substitute indicator for the number of structures.

Existing uses at the abandonment locations are consistent with local (general, comprehensive, master, or coastal) plans and zoning. Future uses at these locations would be controlled by the requirements of these local public policies. Therefore, public policy consistency is not an issue for the abandonments and is not discussed further in this part of the ER.

The following criteria were used to assess the significance of land use impacts:

- Land Use Compatibility
  - Construction: A significant compatibility impact may result if combined visual, air quality (particularly dust), and noise impacts on sensitive land use receptors would be substantial and cannot be mitigated to a level that is not significant.
  - Operation: A significant compatibility impact on adjacent sensitive land uses may result if: (1) there is interference with the normal functioning of adjacent land uses; (2) the interference persists for several sustained periods (more than one hour) daily over a prolonged period of time; and (3) affected uses comprise a substantial portion (at least ⅓) of the area within a two-mile zone surrounding the proposed project.
- Prime Farmland
  - A temporary loss of prime farmland from production is not considered significant because the loss is not permanent.

1.2.2 Water Resources and Wetlands

The focus of this section was to identify the types and numbers of surface waters occurring along the abandonments. Five types of information sources were used to identify water resources and wetlands, including:

- United States Geological Survey (USGS) 7.5-minute series topographic maps (USGS topos).
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps.
- Soil Conservation Service (SCS) (currently this agency is named the Natural Resources Conservation Service) soil survey maps.
- Site visits by Dames & Moore personnel.
- Photographs taken by UP and SP personnel.

The information source available for all abandonments was USGS topos; accordingly, water resources were primarily identified from inspection and interpretation of surface hydrologic features delimited on USGS topos. The other four information sources, when available, were used to augment and refine these identifications. Discussion is presented below about how these information sources were used to identify water resources.

1.2.2.1 Information Sources

1.2.2.1.1 USGS Topographic Maps

The following types of water resources were identified from USGS topos:

• blue-line streams (bls)	=	permanent and intermittent watercourses, including creeks, streams, rivers, washes, and sloughs
• waterbodies (wb)	=	permanent and intermittent bodies of standing water including ponds, lakes, reservoirs, bayous, catchments, and beaver ponds
• wetlands (wl)	=	areas depicted with the USGS wetland symbol, primarily including marshes and wet meadows

• tidal channels (tc)	=	tidal channels including inlets, harbors, bays, and sloughs subject to tidal influences
• mudflats (mf)	=	permanent to intermittently wet, non-vegetated, usually alkaline, mudflats
• sewage-treatment ponds, salt evaporators, etc. (ss)	=	areas used for public facilities or commercial purposes
• canals, culverts, ditches (cd)	=	human-made water conveyances

Water resources that were intercepted by the abandonment, and water resources that occurred immediately adjacent to it, were compiled separately by type for each abandonment. The term "intercepted" refers to USGS map depiction of a particular water resource that is crossed by the rail line via some type of structure, such as a bridge, elevated railbed, or some other type of causeway. The term "immediately adjacent" is defined as an approximate interval of 200 feet from the line depicting the railway line to the edge of the particular water resource (based upon a topo scale interval of 200 feet equaling 0.1 inch). It should be noted that multiple intercepts of certain water resources (e.g., some rivers) are recorded in the table summaries. That is, each separate intercept of a particular water resource was given a value of 1. This rationale is in keeping with the current Army Corps of Engineers (COE) definition of a "single and complete project." COE General Regulatory Policies state the definition (in part) at 33 CFR § 330.2(i) as: "...for linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project."

1.2.2.1.2 NWI Maps

NWI maps depict water resources inventoried by USFWS. The inventory consists primarily of stereoscopic analysis of high altitude aerial photography and delimitation of wetland types on USGS 7.5-minute series base maps. Wetlands are classified by USFWS in accordance with the reference document entitled *Classification of Wetlands and Deepwater Habitats of the United States* (USFWS/OBS - 79/31 December 1979). Wetlands are depicted on NWI maps and classified by type. The wetland type is indicated by a sequence of alphabetical and numerical symbols that represent the attributes of a given wetland. Legends that precede water resources and wetlands figures in Sections 3 through 10 provide a comprehensive explanation of all symbols used in the classification system. It should be noted that this classification system is broadly inclusive in defining what types of surface waters constitute wetlands, and that there may be conflicts between the USFWS definition of a "wetlands" and the definitions, delineations, and jurisdictional determinations, of various federal, state, and local regulatory agencies.

Wetlands that are intercepted by, and immediately adjacent to, abandonment alignments are depicted on figures in Sections 3-10. Wetland boundaries are drawn on the figures out to a maximum distance of 500 feet (topo scale interval of 0.25 inch) from the rail line to help distinguish one wetland type from another. Unmarked areas along the abandonments are upland habitats. NWI information is not available for some portions of the abandonment alignments. Other areas do not contain wetlands. Accordingly, some water resources and wetlands figures do not present NWI information. For consistency with location and land use figures, a complete set of wetlands figures is presented for each segment to be abandoned, even though wetlands do not occur on some of the figures.

1.2.2.1.3 SCS Maps

SCS maps depict the land surface extent of different soil types also called soil phases. Some soil phases are known as hydric soils (also referred to as wetland soils). The occurrence of hydric soils (and soils that display one or more characteristics of hydric soils) provides strong evidence that an area may be (or may historically have been) a wetland.

The information contained on SCS maps was used to a limited extent when cross-referencing the other types of research materials described previously, in order to better understand potential hydrogeologic conditions at select locations. Accordingly, SCS information is not depicted on figures in this part of the ER.

1.2.2.1.4 Site Visits

All lines proposed for abandonment were reviewed in the field by UP or SP personnel. In addition, many were also visited by Dames & Moore personnel. Information about streams and wetlands was collected during the visits. Field notes and photographs taken during site visits were reviewed to supplement and refine water resources and wetlands data collected from other sources.

1.2.2.2 Significance Criteria For Impacts

Disturbance due to salvage operations associated with abandonments will be limited to surface area and potential impacts would be restricted to surface water resources. Impacts to groundwater resources are not expected. Surface water resources that are intercepted by line segments include those traversed by bridges and causeways. We considered whether abandonment activities could cause:

- Alteration of bed and embankments of creeks, ponds, etc.
- Incidental deposition of fill (e.g., sidecast material) that temporarily or permanently decreases the area of surface waters.
- Sediment deposition due to fill, or on-site erosion, that increases turbidity.
- Destruction and/or degradation of aquatic, riverine, and riparian vegetation, and habitats that are dependent upon the water resources being subjected to impacts.
- Alteration of water flow that may increase bank erosion, affect vegetation, or affect fish and wildlife habitats.
- Degradation of water quality by sediment loading or fluid spills.

It is anticipated that the salvage operations on segments to be abandoned would be conducted within the existing ROW. Therefore, potential impacts to water resources and wetlands are likely to be negligible.

We also considered the effects of removing existing structures (e.g., bridge supports, causeways, etc.) from within a water resource, of operation of mechanized equipment within the area occupied by a water resource (e.g., creek bed or embankment, wetland, etc.), of possible fluid spills from mechanized equipment, and of possible bank and streambed erosion.

Similar to biological resources, the long-term effects of the rail line abandonments on water resources and wetlands would be beneficial. Periodic surface disturbance from rail operations which may affect water resources and wetlands in some areas would be discontinued. Although some limited areas of wetlands or other water resources could temporarily be affected during track removal or other salvage activities, it is expected that those habitats would restore naturally over time. Moreover, mitigation measures can be implemented to minimize the extent and duration of salvage-related impacts.

1.2.3 Biological Resources

1.2.3.1 Information Sources

Information about the biological resources potentially occurring along each line segment was collected from a variety of sources. Federal, state and local agencies were consulted and site visits were conducted where warranted for clarification. Materials reviewed included USGS 7.5- minute series topographic maps, NRCS survey maps, lists of threatened and endangered species, reference books on regional flora and fauna, and data bases.

The following state agencies were contacted: Arkansas Natural Heritage Commission, California Department of Fish and Game, Colorado Division of Wildlife, Illinois Department of Conservation, Kansas Department of Parks and Wildlife, Louisiana Game and Fish Commission, Texas Parks and Wildlife Department and Utah Division of Wildlife. USFWS offices were also contacted. Specific information on the potential occurrence of threatened and endangered plants and wildlife in the vicinity of the 17 lines proposed for abandonment was solicited. Site visits were made by Dames & Moore at the following proposed abandonment sites: Malta to Cañon City, Colorado; Sage to Leadville, Colorado; Towner to NA Jct., Colorado; Magnolia Tower to Melrose, California; Iowa Jct. to Manchester, Louisiana; Barr to Girard, Illinois; DeCamp to Edwardsville, Illinois; Edwardsville to Madison, Illinois; Gurdon to Camden, Arkansas; Hope to Bridgeport, Kansas; and Whitewater to Newton, Kansas. All sites were visited and photographed by UP or SP personnel.

Occurrence and potential impact information regarding sensitive biological resources is presented in tables in Sections 3 through 10. Rare, threatened, and endangered species are referred in the text and tables by common name without reference to specific sensitive status. More specific information about rare, threatened, and endangered species with potential to occur in the vicinity of the abandonment segments is presented in an appendix in Part 6.

1.2.3.2 Significance Criteria

This part of the ER examines whether and to what extent the proposed rail line abandonments would affect biological resources, including threatened and endangered species, areas designated as critical habitats and movement or migration corridors. The part also examines whether wildlife sanctuaries, refuges, national, state, and local parks, and forests would be affected by the proposed abandonments. Potential impacts are categorized as significant, potentially significant, or not significant for each abandonment. Criteria for significant impacts include:

- Loss of individuals or populations of threatened or endangered plants or wildlife;
- Disturbance of nesting or breeding grounds (or behaviors) of threatened or endangered wildlife.
- Loss or degradation of areas designated as critical habitat.
- Loss or degradation of parks or refuges.
- Interference or severance of movement over migration corridors of resident or migratory fish or wildlife species.

Impacts to foraging habitat of threatened and endangered avian species would not be considered significant whereas impacts to occupied or nesting habitat might be considered significant.

Sensitive species with known or potential occurrence in the region of an abandonment may not be impacted by abandonment activities. For instance, although some rare, threatened, and endangered species are known from the region, suitable habitat and/or habitat features (nest sites, etc.), they do not occur in the immediate vicinity of the rail line, where current rail operations could affect nesting. Thus, they would not be affected by abandonment activities. In addition, significant impacts to aquatic species are not anticipated. Implementation of appropriate mitigation measures, such as those described in Section 11 can minimize or eliminate potential impacts.

For a number of rare plants, actual occurrence at and near the line could not be assessed at this time. However, it is unlikely that there would be significant impacts because track removal and related abandonment activities would occur primarily, if not entirely, within the existing ROW which is either unvegetated or generally dominated by introduced and ruderal vegetation.

Generally, the likelihood for significant adverse impacts to sensitive biological resources due to salvage operations associated with abandonment is low.

Because the salvage would be completed primarily within the existing ROW, impacts to native habitat (and corresponding sensitive resources) would be negligible. In situations where disturbance may extend beyond the ROW (such as bridge removal, noted above), mitigation measures and Best Management Practices (BMPs) could be implemented to minimize the magnitude of impacts.

Overall, the long-term effects of rail line abandonments are beneficial. There would be a decrease in human-caused disturbance, including noise, nighttime lighting, disturbance due to rail maintenance operations, and the elimination of potential for fluid spills and animal-train collisions.

1.2.4 Historic and Cultural Resources

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations at 36 CFR 800, "Protection of Historic Properties," the ICC is required to determine whether its actions affect historic properties. Historic properties are those listed on or potentially eligible for listing on the National Register of Historic Places (NRHP). Historic properties may include districts, sites, buildings, structures, or objects, as well as archaeological sites.

UP and SP personnel conducted a field verification to identify bridges and other structures along all proposed abandonments. UP and SP bridge reports were used to determine the date of construction of bridges. Bridges that were built at least 50 years ago are potentially eligible for the NRHP. To identify documented historic properties in the project areas, Dames & Moore contacted the State Historic Preservation Officer (SHPO) in each state where a rail line abandonment is proposed. A letter was sent to the SHPOs in all states with proposed abandonments asking SHPOs to provide existing information on historic properties potentially affected by the abandonments, to indicate whether further actions were needed to identify historic properties, and to provide a determination of project effect on historic properties. Subsequently telephone contact was made with

SHPOs in each state to further document historic and cultural resources in the project area, evaluate bridges identified as potentially eligible for the NRHP, and determine impacts of the abandonment process on any bridges or structures determined eligible for the NRHP.

Impacts to historic and cultural resources may be considered significant if there is potential for disturbance to occur to historic and cultural resources that may be eligible for inclusion on the NRHP. The removal of bridges, buildings, or structures that are eligible for the NRHP may be a significant impact. Since salvage operations associated with abandonments do not usually cause disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). If significant ground disturbance is necessary, impacts to archaeological resources could potentially occur. An example of this would be the ground disturbance associated with the removal of bridges.

In accordance with 49 C.F.R. § 1105.8, each of the line segments discussed in Sections 3 through10 is shown on USGS topographic maps on which the urban or rural characteristics of the surrounding areas are depicted, as well as the location of the abandonment, and the location of railroad structures that are 50 years old or older. Each of the Sections provide data with respect to the topography and characteristics of the surrounding area.

Photographs of all structures known to be 50 years old, and the surrounding areas, will be sent to each of the State Historic Preservation officers on or before the filing of the Merger Application and a set of these photographs has been submitted to the ICC. In addition, an inventory of structures on each line segment is included in Part 6.

Each of the Sections provides historical information concerning construction and, if known, maintenance of the lines and a discussion of carrier operations on the various line segments.

UP and SP maintain engineering records and drawings that may be useful in documenting the age or character of structures.

Based on information available, all of the bridges and other structures potentially eligible for listing on the NRHP have been identified. With the exception of isolated bridges and structures identified on the Sage-Leadville and Malta-Cañon City lines, none of the bridges or structures is likely to meet the NRHP criteria nor has evidence of archaeological resources been discovered on any line.

Neither UP nor SP has information concerning known archaeological conditions on any line segment. Any conditions that could affect recovery of archaeological resources are depicted on the topographical maps. It is highly unlikely that salvage activities would disturb or uncover archaeological resources from the ROW.

1.2.5 Safety

A review of locations identified on topographic maps indicate 587.7 miles of rail line and approximately 550 grade crossings would be abandoned, which will improve highway safety conditions. As shown in Table 1-1, some local traffic from the abandoned rail lines may be diverted to trucks; however there should be no significant adverse safety impacts from such traffic as a result of the proposed UP/SP line abandonments.

As a result of the proposed abandonments, adverse impacts to human health and safety are expected to be minimal and, on balance, the effects would be beneficial. The line abandonments generally would: (1) eliminate a number of lines and grade crossings from the total system; (2) decrease accidents that occur at grade crossings; (3) remove the risk of releases of hazardous materials resulting from shipments of hazardous commodities; and (4) improve safety.

1.2.5.1 Hazardous Waste Site Issues

Hazardous wastes issues were addressed for each abandoned rail line segment. Information from UP/SP and from several federal and state environmental databases obtained through VISTA Environmental Information Inc. (VISTA) were reviewed to assess if activities on or adjacent to the rail segment (within 500 feet) would threaten the environmental quality of the rail segment to be abandoned. The VISTA reports included review of the following databases: National Priorities List (NPL), Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), RCRA Treatment, Storage, or Disposal sites (TSDs), Emergency Response Notification System (ERNS) spill sites, State Priority List (SPL) or State Inventory of Solid Waste Facilities (SWLF), State Inventory of Leaking Underground Storage Tanks (LUST), and the Orphan or Unmappable Sites list. Orphan, or unmappable sites, have missing locational information, or the information provided does not allow VISTA to plot the sites with the required degree of accuracy on the vicinity maps. These sites may or may not be present within 500 feet of the segment proposed for abandonment. A description of the VISTA reports is provided in an appendix in Part 6. Reported hazardous waste sites or known environmental conditions along each of the proposed rail abandonments are discussed in Sections 3 through 10.

1.2.6 Transportation

Transportation effects of a rail line abandonment relate to the consequent diversion of freight currently carried on the line to motor carrier. It is anticipated that 6 of the 17 rail abandonments would result in rail-to-truck diversions of local traffic. Using an assumption of one rail car equivalent to four trucks, it is expected that there would be minor increases in truck traffic on some regional highways. These potential impacts range from a low of eight additional trucks per year in the vicinity of the Iowa Jct. to Manchester, Louisiana abandonment to a high of approximately 2000 trucks per year for traffic originating at Malta, CO. For the most part, however, rail lines to be abandoned carry either very little or no local (i.e. originating or terminating) traffic and the overhead traffic on the lines is expected to be rerouted over other UP/SP lines to improve the efficiency of rail operations. Consequently, the abandonments would result in overall benefits for the rail transportation system. The minimal rail to truck diversions will be offset by the beneficial effect of significant truck to rail diversions as a result of the merger. Table 1-1 summarizes the freight diversions expected from the rail line abandonments.

1.2.7 Air Quality

The decrease in rail traffic along rail lines proposed for abandonment would result in a decrease in emissions. It is anticipated that 6 of the 17 rail lines proposed for abandonment would require rail-to-truck diversions. Although trucks are less fuel efficient and their emissions per gross ton mile are greater than locomotives, the small number of rail-to-truck diversions is expected to have a minor effect, which would be offset by emission decreases from abandonments. Therefore, it is anticipated that the net impact on ambient air quality associated with proposed rail abandonments would be minimal.

1.2.8 Noise

Based on review of the abandonment projects, none of the proposed projects is expected to cause any direct adverse noise impacts. Once a rail facility is abandoned, whether a yard or a line segment, all adjacent land uses would experience reduced noise exposure. Some minimal short-term noise exposure would occur in connection with salvage operations. The only potential for long-term negative impacts would be the result of moving the rail operations to another line or facility. These impacts are covered in Part 2, Rail Line Segments, or Part 5, Construction Projects.

1.2.9 Energy

The ICC requires an analysis of the net change in energy consumption resulting from a rail line abandonment if the abandonment would cause a diversion of traffic from rail to truck of: (1) more than 1,000 rail cars per year; or (2) more than 50 rail cars per mile per year over any line segment. Based on 1994 traffic data the current annual local traffic for all lines to be abandoned totals 992 cars. (This does not include rail cars of ballast or other company maintenance material which is not generally divertable to trucks). Even if all local traffic is diverted to truck, no single line nor all lines in total would exceed the regulatory threshold. Over 587.7 miles of rail lines to be abandoned, only an average of 1.7 carloads per mile could be diverted to truck. The estimated maximum number of carloads per mile that could be diverted to truck is only six. Therefore, a calculation of energy consumption impacts is not required.

As a result of the abandonments, there will be a slight decrease in fuel consumption by locomotives currently used to transport local traffic over the abandoned lines. The corresponding result will be a negligible nationwide increase in fuel consumption by trucks for the six abandonments that may require rail-to-truck diversions.

1.2.9.1 Effects on Transportation of Energy Resources and Recyclable Commodities

No significant volumes of energy producing or recyclable products are expected to be diverted from any line segment to truck transport as a result of the proposed abandonments.

018

TABLE 1-1

TRANSPORTATION ASSESSMENT OF SEGMENTS PROPOSED FOR ABANDONMENT

Segment	Affected State(s)	Beginning Mile Post	Ending Mile Post	Miles Abandoned (miles)	Number of Cars/Year*	Rail-to-Truck Diversion	Commodity
Gurdon - Camden	AR	428.3	457	28.7	0	No	
Alturas - Wendel	CA	455.6	360.1	85.5	0	No	
Magnolia Tower - Melrose	CA	5.8	10.7	4.9	0	No	
Whittier Jct. - Colima Jct.	CA	0	5.2	5.2	0	No	
Sage - Leadville	CO	335	276.1	69.1	0	No	
Malta - Cañon City	CO	271	162.0	109.0	516	Yes	Mining Products
Towner - NA Junction	CO	747	869.4	122.4	119	Yes	Wheat/Corn
Barr - Girard	IL	51	89.4	38.4	38	Yes	Plastic Resin, Fertilizer
DeCamp - Edwardsville	IL	119.2	133.8	14.6	0	No	
Edwardsville - Madison	IL	133.8	148.8	15	26	No	Rail Cars
Hope - Bridgeport	KS	459.2	491.2	31.2	238	Yes	Grain/ Fertilizer
Whitewater - Newton	KS	476	485	9	0	No	
Iowa Jct. - Manchester	LA	680	688.5	8.5	2	Yes	Grass Seed
Seabrook - San Leon	TX	30	40.5	10.5	0	No	
Suman - Bryan	TX	117.6	101.4	16.2	53	Yes	Wood Particle Board
Troup - Whitehouse	TX	.5	8	7.5	0	No	
Little Mt. Branch	UT	0	12	12	0	No	

* Based on 1994 Traffic.

2.0 ABANDONMENT PROCESS

Salvage of rail line segments to be abandoned would involve a minimum of surface disturbance. Nearly all abandonment activities would be completed within the railroad ROW. Exceptions would be some bridges and areas where the railroad ROW is relatively narrow (less than 50 feet). It should be noted that the original rail line construction involved the removal of topsoil, some subsoil grading, and the addition of fill and ballast. Salvage of abandoned lines would add, little, if any, disturbance to existing conditions.

Below are descriptions of the process involved for removal of: (1) rail, ties, and ballast throughout a segment (comprising most of the lineal extent of the segments to be abandoned); (2) large structures (bridges, culverts, tubes under the rail, tunnels, etc.); (3) appurtenances (signals, switches, phone boxes, other buildings); and (4) road crossings.

Most of the abandonment process would involve removal of the rail, exclusive of structures. This part of the abandonment process would be completed primarily within the ROW. The principal method of removal would be with steel-wheeled equipment from the rail line. The process would begin at one end of the abandonment segment. The rail would be picked up by equipment moving on the tracks. That equipment would place the rail onto a rubber-tired truck driven alongside the tracks or onto a railcar moving in front of the removal equipment. The latter would be the more likely scenario. Removal and transport of rail is typically done with on-rail equipment only. Rail removed in this manner would be salvaged for other uses or sold for scrap. For those areas where high-quality welded rail (rail that can be reused elsewhere as rail) is removed, the rail would be removed and transported in one-quarter-mile lengths by a rail train crew. No rubber-tired equipment would be involved.

After the rail is removed, rubber-tired equipment would be used to remove and transport the ties. The rubber-tired equipment would likely include a boom truck. These vehicles would use existing access roads adjacent to the railbed, or would use the actual railbed as a road. The ties would be salvaged for other uses or disposed of appropriately. In most situations, the ballast would be left in place. In areas where the ballast is removed and salvaged, dump trucks and front-end loaders would be used. Similar to the removal of the ties, the ballast removal process would take place from the actual railbed or from existing dirt roads adjacent to the railbed.

In situations where bridges (wooden and steel) would be removed, the rail and decking on a bridge would be removed first. This would be done from the railbed. Next, the main support structure of the bridge would be removed from the railbed and adjacent areas, including streambanks. Finally, the bridge pilings would be either taken out completely, or cut down to streambed level. Nearly all bridge removal work would be completed from the bridge decking, railbed, or adjacent areas outside of the streambed. Work in the streambed would generally be avoided. If there are bridges with larger spans that include pilings actually located in the water, streambed work might be necessary; at those locations, the amount of work within, and disturbance to, the streambed would be minimized. In the case of large steel bridges, an alternative to complete removal is the removal of only the decking, leaving the remainder of the structure and pilings in place. Other water-conveyance structures, including tubes and culverts, would be left in place. Similarly, there would be no removal of tunnels.

Portions of some abandonment segments may be considered for "Rails to Trails" programs. In this type of program, the railroad ROW would be maintained for recreation purposes. Concurrently, the ROW remains available for potential future transportation uses. Bridges along segments to be included in this type of program would not be removed. The decking, main structure, and pilings would be maintained by the trail owner or operator.

Appurtenances, such as signals and phone boxes, would be removed down to foundation level. Some relatively smaller structures that occur in only limited areas may be left in place. An example would be rock slide detectors. Removal of appurtenances would be accomplished primarily with rubber-tired vehicles from the railbed, or occasionally, from an existing road adjacent to the railbed.

Road crossings would be removed last. The rails would be removed and those areas backfilled with aggregate. Then that portion of the road would be repaved. During abandonment of road crossings, there would be short-term disruption of vehicular traffic. The specific road might be closed completely for a short period of time. Alternately, the road might be reduced to one lane during the removal process.

3.0 ARKANSAS

3.1 GURDON TO CAMDEN

The Gurdon to Camden, Arkansas rail line proposed for abandonment is 28.7 miles long (Figures 3A and 3.1-1 to 3.1-9). Gurdon, Arkansas is located in Clark County, approximately 75 miles southwest of Little Rock, Arkansas. Camden, Arkansas is located in Ouachita County, approximately 80 miles southwest of Little Rock. The proposed abandonment is along the UP Gurdon Branch from Gurdon to El Dorado, Arkansas.

3.1.1 Proposed Action and No-action Alternative

3.1.1.1 Proposed Action

The proposed action would involve the abandonment of 28.7 miles of rail line following procedures described in Section 2.0. There is no local traffic. Through traffic would be rerouted along an SP line through Camden.

3.1.1.2 No-action Alternative

If the merger is approved and implemented, it is anticipated that all overhead traffic would be moved from this line to another UP/SP route whether or not the abandonment is implemented.

3.1.2 Description of Existing Environment And Potential Environmental Impacts of Proposed Action

3.1.2.1 Land Use

Information for existing land use conditions is presented in Table 3-1 and on Figures 3.1-1 through 3.1-9. Potential land use impacts are listed in Table 3-1. No significant land use impacts are expected.

3.1.2.2 Water Resources and Wetlands

Existing water resources and wetlands information is summarized in Table 3-2. NWI data along the Gurdon-Camden, Arkansas abandonment were collected, as available. Those data are shown on Figures 3.2-1 to 3.2-9. Significant impacts are not expected.

3.1.2.3 Biological Resources

Existing biological resources information and potential impacts are summarized in Table 3-3. Rare, threatened, and endangered species potentially occurring in the vicinity include scarlet beardtongue, smooth twistflower, and silky camellia; however, we have not determined that they are actually located on this line. Potentially significant impacts to biological resources due to this proposed abandonment are not expected. Suggested mitigation measures included in Section 11.0 address potential occurrences of rare, threatened, and endangered species. If disturbance associated with salvage operations is restricted to the existing ROW, the likelihood of significant impacts to these species would be very low; in most areas along rail lines, the ROW is dominated by ruderal and introduced species.

3.1.2.4 Historic and Cultural Resources

The Gurdon to Camden rail line was constructed in 1881 as part of the St. Louis, Iron Mountain & Southern Railway (subsequently the MPRR).

There are 20 bridges that are 50 years old or older (one 1924 bridge, one 1928 bridge, seven 1930 bridges, one 1940 bridge, one 1941 bridge, two 1944 bridges, and seven 1945 bridges) (UP, 1995). Based solely on their ages, these bridges are potentially eligible for the NRHP; however, UP currently has no other evidence that any such bridges meet NRHP criteria. The Arkansas SHPO has been contacted, and has requested that: the project location be delineated on a USGS quad map, and that photographs, the date of construction, and location be provided for the bridges in order to complete its review, (AHPP, 1995). Photos of the line taken by UP will be provided to the Arkansas SHPO. There were also 28 wooden bridges built between 1946 and 1949 (five 1946 bridges, four 1947 bridges, four 1948 bridges, and fifteen 1949 bridges). Further consultation with the Arkansas SHPO is expected concerning mitigation measures for bridges or structures if any are determined eligible.

Since salvage operations associated with abandonments usually cause little disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). Where significant ground disturbance is necessary, impacts to archaeological resources could possibly occur. An example of this would be the ground disturbance associated with the removal of bridges. To date, no evidence of archeological resources on this line has been discovered.

3.1.2.5 Safety

Hazardous waste sites near the abandonment, obtained from a VISTA search, are included in Table 3-4.

3.1.2.5.1 Conditions of the Rail Segment

Three UP ERNS sites were identified on the Gurdon to Camden, Arkansas rail segment. The ERNS sites consisted of a nitric acid spill in 1990, acetic acid spill in 1990, and a diesel fuel spill in 1994.

3.1.2.5.2 Conditions Adjacent to the Rail Segment

The database search indicates two CERCLIS sites, two RCRA TSD sites, one ERNS site, and three SWLF sites are reported to have been located in the vicinity of the rail segment. The information provided by VISTA does not indicate that these sites have adversely affected the rail segment.

3.1.2.6 Transportation

Since there is no local traffic on the Gurdon to Camden line, no diversions from rail to highway would occur as a result of the abandonment. This line provides UP access to the Camden/El Dorado area which, after the merger, would be served by the SP main line through Camden.

3.1.3 Potential Environmental Impacts of No-action Alternative

Under the no-action alternative, the overhead traffic on this segment would be rerouted to another UP/SP line. As such, there would be no new adverse environmental impacts.

3.2 SUMMARY OF COMMENTS

To assist in assessing the potential environmental impacts of the proposed UP/SP merger, Dames & Moore sent letters requesting information to various Federal, state, and local agencies. In these letters, information was requested for the areas of: air quality, noise, land use, biological and water resources, historic and cultural resources, transportation systems, energy, and public health and safety. Copies of all correspondence received and telephone conversation notes recorded in response to the requests for information are included in Part 6.

There is only one line segment proposed for abandonment in Arkansas. The following agencies responded to requests for information: Arkansas Historical Preservation Program, Arkansas Department of Pollution Control and Ecology, Natural Resources Conservation Service, and the COE in Memphis, Tennessee.

A summary of comments received through October 30, 1995 is listed below.

- The Arkansas Historic Preservation Program stated that their review would be completed when they receive additional location information.
- The State of Arkansas Department of Pollution Control and Ecology provided information on biologically sensitive areas of Arkansas. They provided copies of Gulf Coastal and Delta portions of Appendix A of Arkansas' water quality standards.
- The USDA Natural Resources Conservation Service in Little Rock does not anticipate impacts to prime farmlands due to the abandonments. It was recommended that conservation practices be applied to prevent soil erosion.

- The COE in Memphis, Tennessee provided information regarding parks and wildlife management areas near the Gurdon to Camden abandonment segment in Arkansas.

3.3 REFERENCES

3.3.1 Land Use

Mitchell, Jerry L., 1995. Letter to Julie Donsky, Dames & Moore, from USDA Natural Resources Conservation Service, Little Rock.

U.S. Department of Agriculture, 1994. State soil geographic (STATSGO) data base. July.
U.S. Geological Survey, various dates. Land use and land cover maps.
U.S. Geological Survey, various dates. 1:24,000-scale topographic maps.

3.3.2 Water Resources and Wetlands

Giese, John, 1995. Letter and attachments to Julie Donsky, Dames & Moore, from Arkansas Department of Pollution Control and Ecology, Little Rock. October 6.

U.S. Fish and Wildlife Service, various dates. National Wetland Inventory maps.
U.S. Geological Survey, various dates. 1:24,000-scale topographic maps.

3.3.3 Biological Resources

Mauney, Morris, 1995. Personal communication with Julie Donsky, Dames & Moore, from U.S. Army Corps of Engineers, Memphis, Tennessee. October 10.

3.3.4 Historic and Cultural Resources

Arkansas Historic Preservation Program, 1995. Letter from Randy Jeffery (Section 106 Review Coordinator), September 29, 1995.

UP, 1995. Information on Gurdon to Camden, AR proposed abandonment.

3.3.5 Safety

VISTA Information Solutions, Inc., 1995. Reports for all rail line abandonments pertaining to NPL, CERCLIS, ERNS, SPL, LUST, and SWL located in the 500-foot buffer zone of each rail line. Information collected between September 11 and October 18.

TABLE 3-1

LAND USE INFORMATION ALONG THE GURDON-CAMDEN, ARKANSAS ABANDONMENT

EXISTING CONDITIONS

Segment	Existing Land Uses	Structures Near Site		Occurrence Within	
		Within 500 Feet	Length in Urbanized Areas (Feet)	Prime Farmland	Coastal Zone
Gurdon - Camden	Residential, cropland and pasture, mixed forest land, forested wetland or nonforested wetland, streams and canals, other urban, evergreen forest land, mixed urban or built-up land	198	0	No	No

IMPACTS

Segment	Compatible with Surrounding Land Uses	Loss of Prime Farmland
Gurdon - Camden	Yes - Not significant	No - Not significant

TABLE 3-2

WATER RESOURCES AND WETLANDS INFORMATION ALONG THE GURDON-CAMDEN, ARKANSAS ABANDONMENT

Type of Water Resource[1]	Number Along the Segment	
	Intercepted by the Segment	Adjacent to the Segment
Blue-line streams	47	23
Waterbodies	7	8
Wetlands	3	0

[1] Type:

Blue-line streams = permanent and intermittent watercourses, including creeks, streams, rivers, washes, and sloughs

Waterbodies = permanent and intermittent bodies of standing water including ponds, lakes, reservoirs, bayous, catchments, and beaver ponds

Wetlands = areas depicted with the USGS wetland symbol, primarily including marshes and wet meadows

TABLE 3-3

BIOLOGICAL RESOURCES INFORMATION
SEGMENTS ALONG THE GURDON-CAMDEN, ARKANSAS ABANDONMENT

EXISTING CONDITIONS:

Segment	Vegetation Types Along and Adjacent to the Segment	Known and Potential Occurrence in the Region of Rare, Threatened and Endangered Species in the Region	Critical Habitat Along the Segment	Parks, Forests, Refuges, Sanctuaries Within 5 Miles
Gurdon to Camden	• Ruderal	• Scarlet beard tongue • Smooth twistflower • Silky camellia	None	Poison Springs State Forest, White Oak Lake State Park

POTENTIAL IMPACTS TO:

Segment	Vegetation Types/ Wildlife Habitats	Rare, Threatened and Endangered Species	Critical Habitat	Parks, Forests, Refuges, Sanctuaries
Gurdon to Camden	Not significant	• Scarlet beard tongue* • Smooth twistflower* • Silky camellia*	None	Not significant

* Potential impacts may not exist for these sites/species as visual confirmation has not been completed. It is assumed that salvage operations would be limited to the existing ROW. Therefore, adverse impacts to rare, threatened, and endangered species, as well as to parks forests, refuges, and sanctuaries would be negligible. Abandonment of the rail line would result in long-term beneficial effects to these resources.

TABLE 3-4

HAZARDOUS WASTE SITE ISSUES
ALONG THE GURDON-CAMDEN, ARKANSAS ABANDONMENT

Right-of-Way Issues [1]			Adjacent issues (Within 500 Feet)						Area Issues (Unmappable Sites)					
Onsite ERNS	Onsite LUST	COMMENTS	NPL	CERCLIS	RCRA TSD	ERNS	SPL/ SWLF	LUST	NPL	CERCLIS	RCRA TSD	ERNS	SPL/ SWLF	LUST
3	--	UP ERNS sites include nitric acid spill and acetic acid spill 1990, and diesel fuel spill 1994.	---	---	---	---	---	---	---	2	2	1	3	---

[1] - issues identified through VISTA database search.

KEY FOR LAND USE FIGURES

URBAN OR BUILT-UP LAND

RE	Residential
C	Commercial and services
I	Industrial
T	Transportation, communications and utilities
I/C	Industrial and commercial complexes
MU	Mixed urban or built-up land
OU	Other urban or built-up land

AGRICULTURAL LAND

CP	Cropland and pasture
CH	Orchards, groves, vineyards, nurseries, and ornamental horticultural areas
CF	Confined feeding operations
CO	Other agricultural land

WATER

WS	Streams and canals
WL	Lakes
WR	Reservoirs
WB	Bays and estuaries

WETLANDS

WE	Forested wetlands, and/or nonforested wetlands

RANGELAND

Rh	Herbaceous rangeland
Rsb	Shrub and brush rangeland
Rm	Mixed rangeland

FOREST LAND

FD	Deciduous forest land
FE	Evergreen forest land
FM	Mixed forest land

BARREN LAND

Bsf	Dry salt flats
Bb	Beaches
Bs	Sandy areas other than beaches
Br	Bare exposed rocks
Bm	Strip mines, quarries, and gravel pits
Bt	Transitional areas
B	Mixed barren land

HISTORIC AND CULTURAL RESOURCES

●	Potentially Eligible Historic Resource

Figure 3A Overview of Proposed Abandonment: Gurdon – Camden, Arkansas

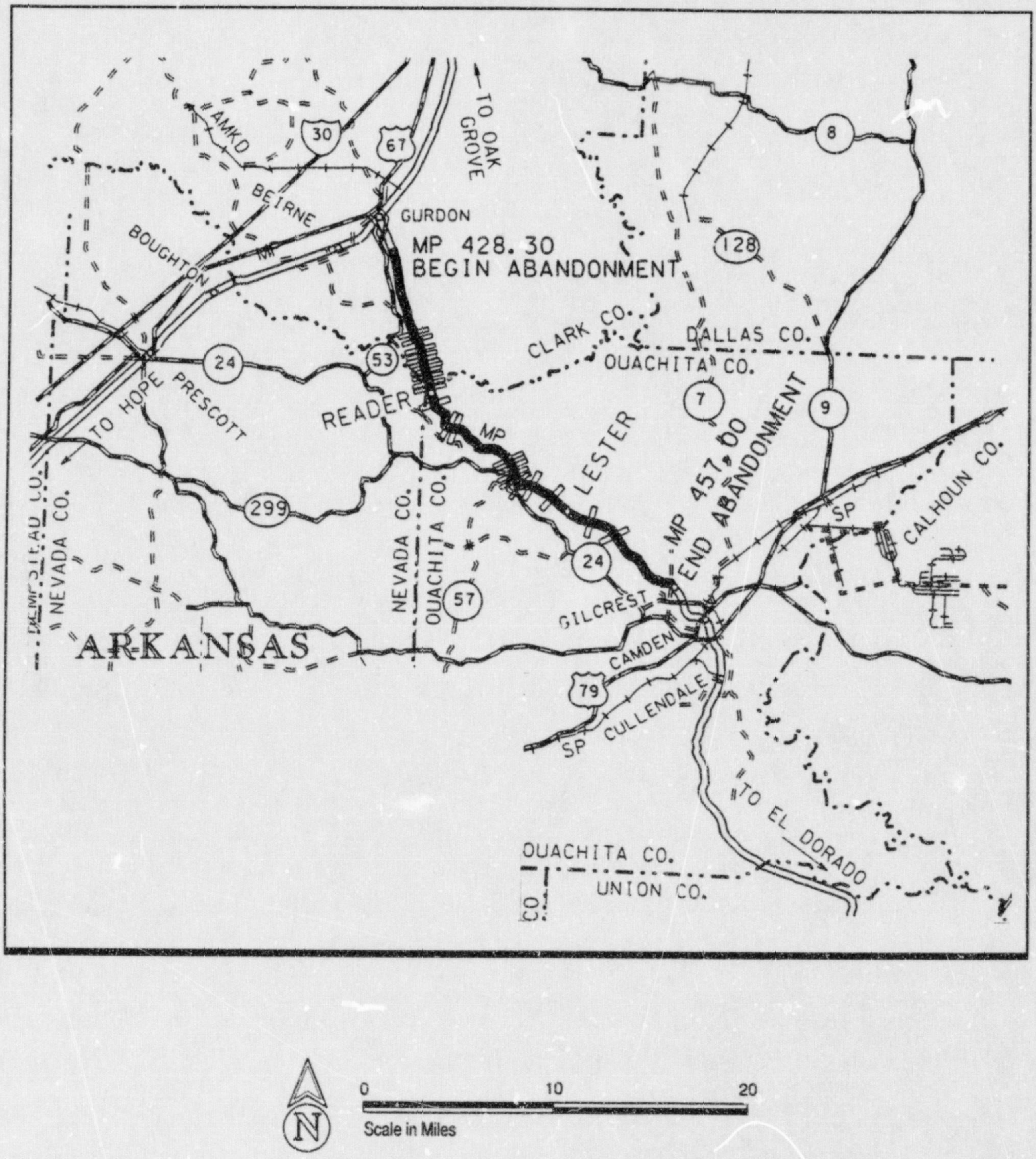
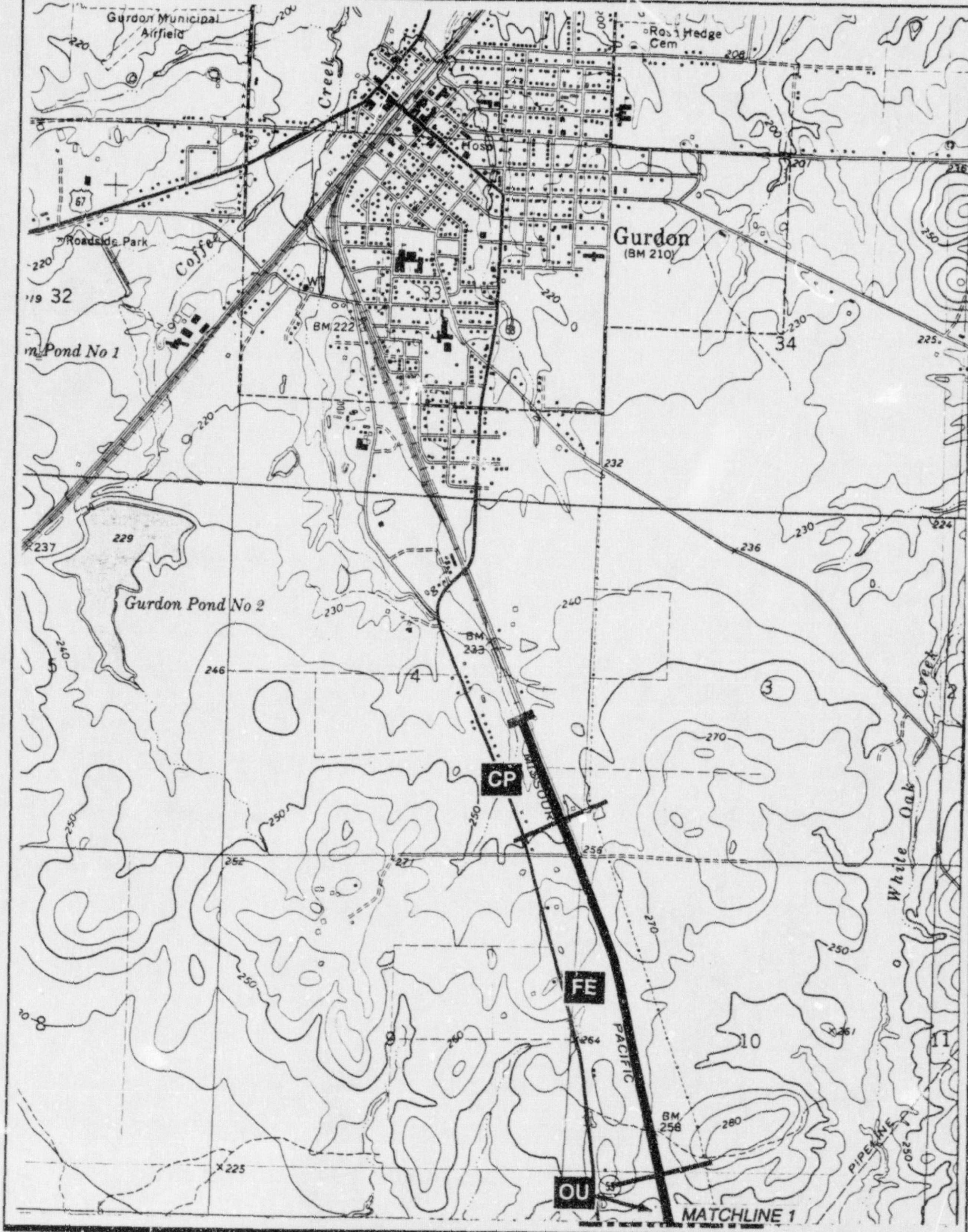


Figure 3.1-1 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.



SCALE 1:24000

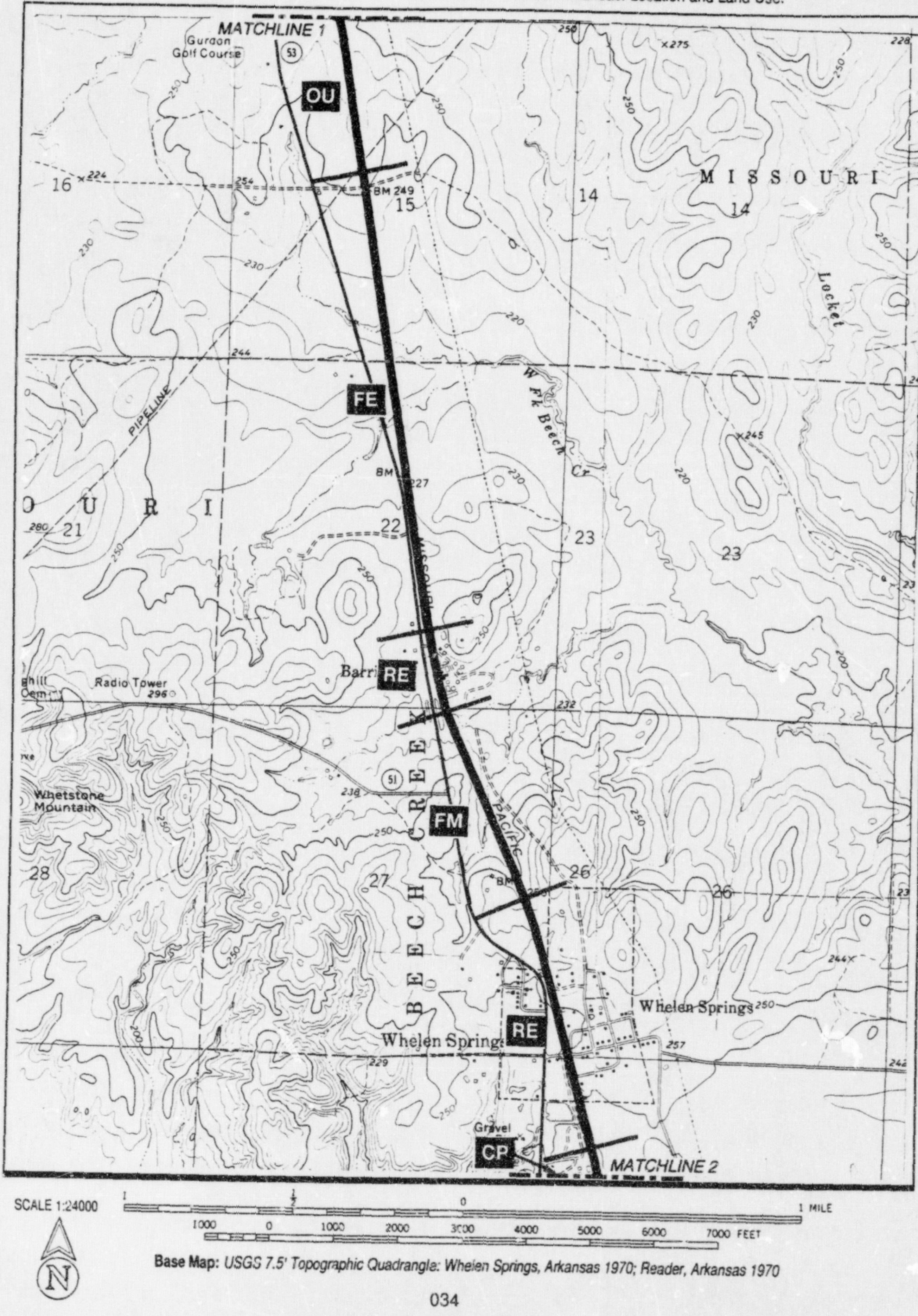
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Gurdon, Arkansas 1970*

Figure 3.1-2 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.



Base Map: *USGS 7.5' Topographic Quadrangle: Whelen Springs, Arkansas 1970; Reader, Arkansas 1970*

Figure 3.1-3 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.

Base Map: *USGS 7.5' Topographic Quadrangle: Whelen Springs, Arkansas 1970; Reader, Arkansas 1970*

Figure 3.1-4 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.

SCALE 1:24000

1 ½ 0 1 MILE

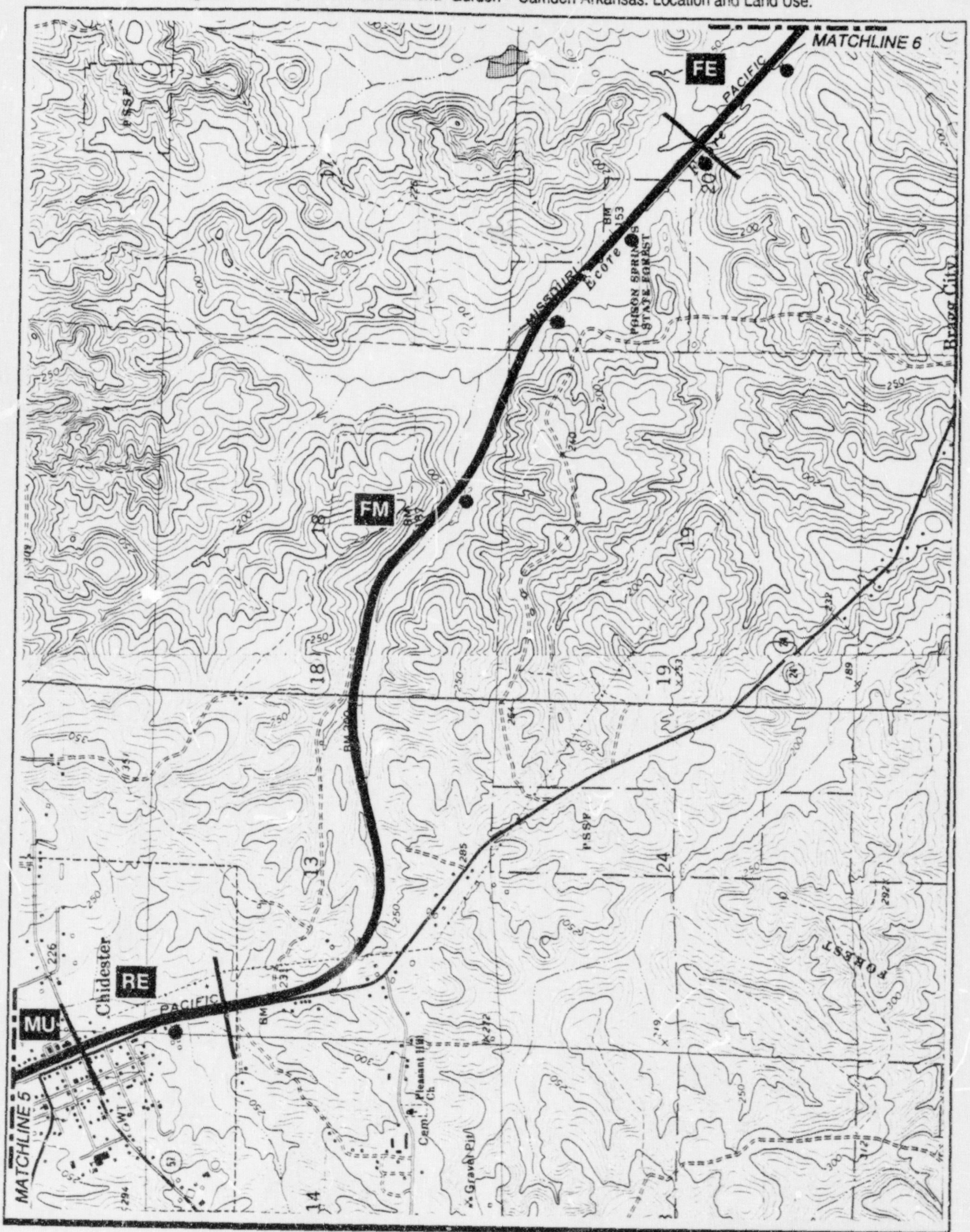
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

Base Map: *USGS 7.5' Topographic Quadrangle: Reader, Arkansas 1970; Chidester, Arkansas 1973*

Figure 3.1-5 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.

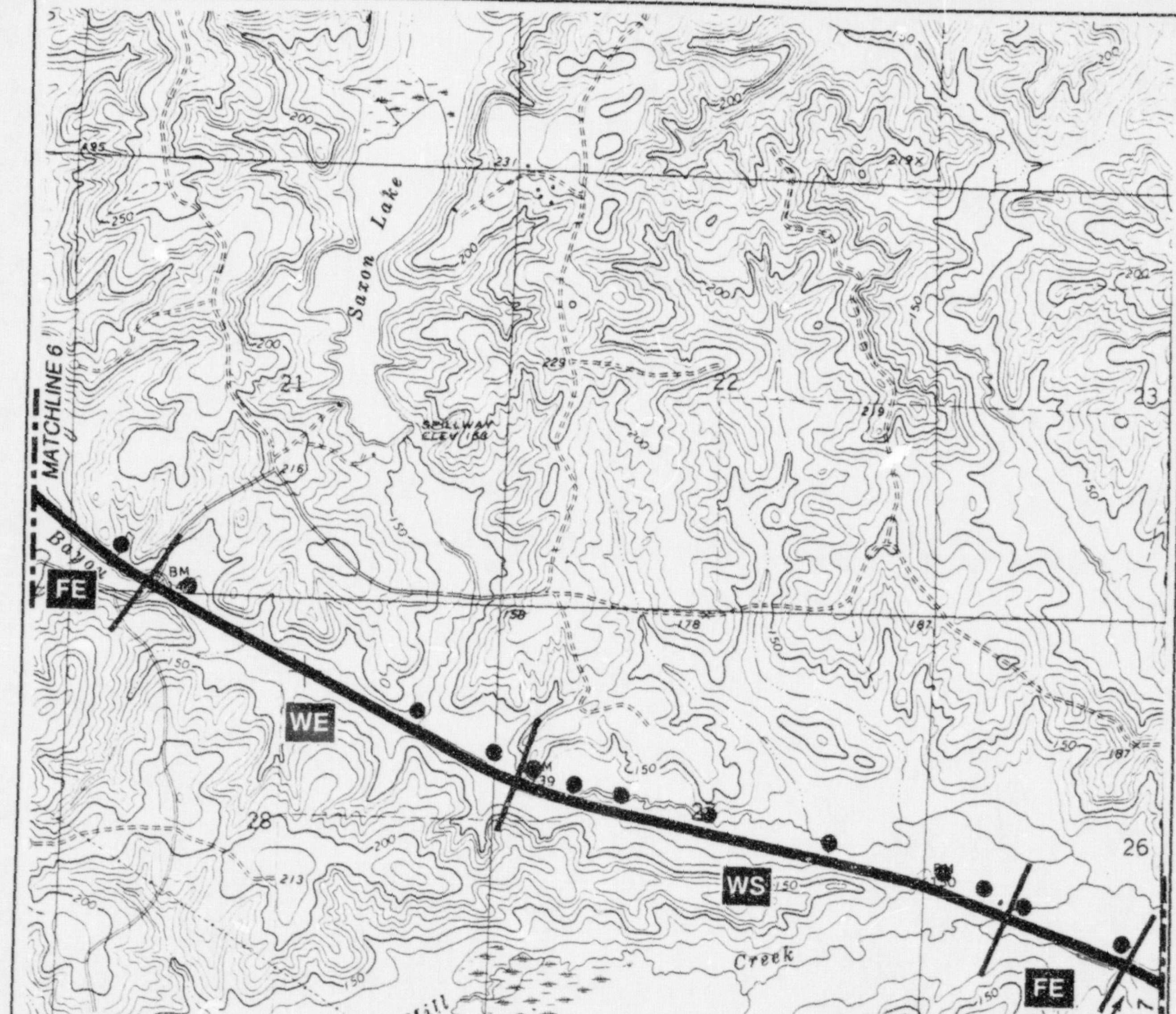
Base Map: *USGS 7.5' Topographic Quadrangle: Bragg City, Arkansas 1971 (Photorevised 1985)*

Figure 3.1-6 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.



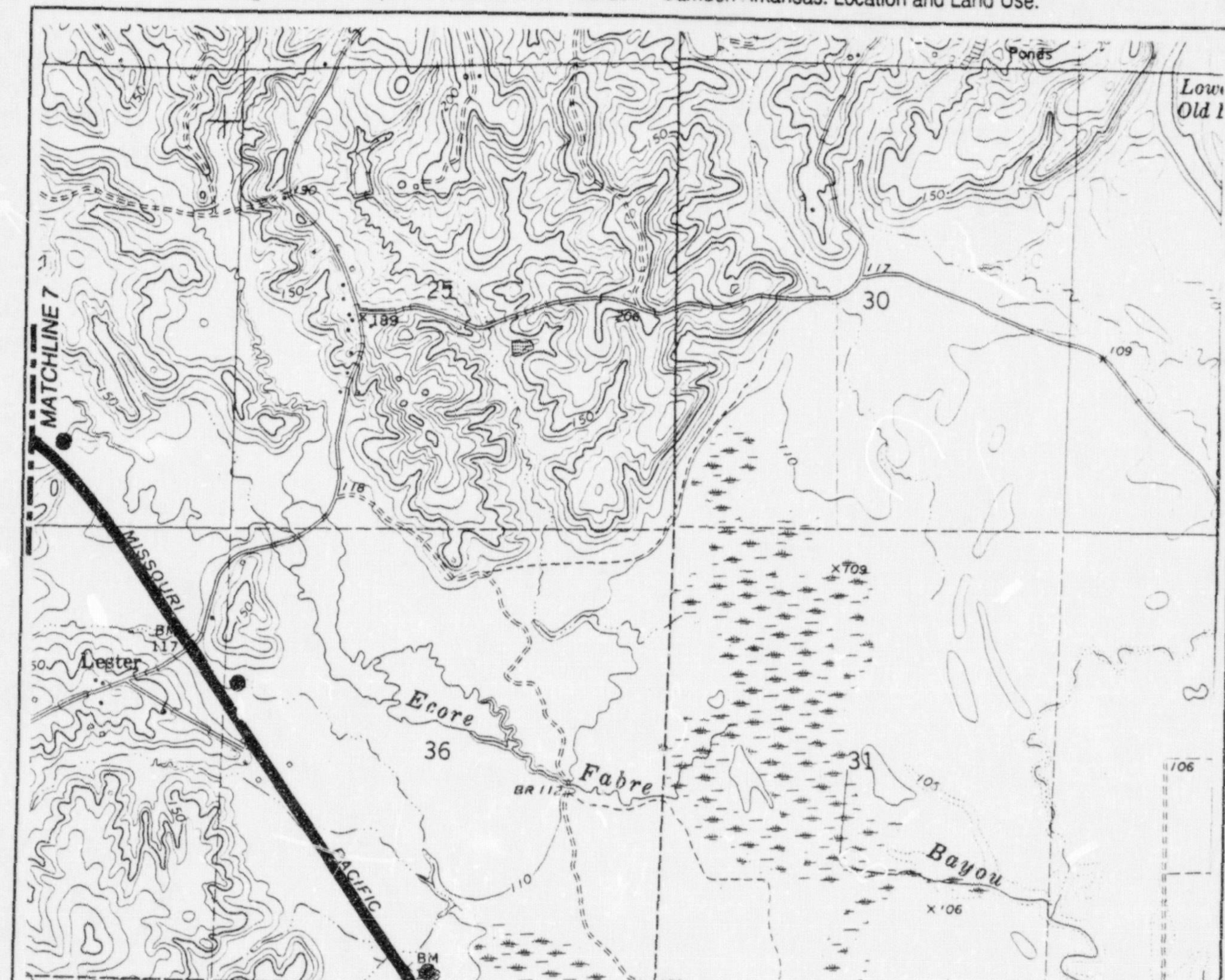
Base Map: *USGS 7.5' Topographic Quadrangle: Chidester, Arkansas 1973; Bragg City, Arkansas 1971 (Photorevised 1985)*

Figure 3.1-7 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.



Base Map: *USGS 7.5' Topographic Quadrangle: Bragg City, Arkansas 1971 (Photorevised 1985)*

Figure 3.1-8 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Bragg City, Arkansas 1971 (Photorevised 1985); Camden SW, Arkansas 1971, (Photorevised 1985)*

STB FD 32760 11-30-95 A 1648V19 2/5

Figure 3.1-9 Proposed Abandonment: Gurdon – Camden Arkansas. Location and Land Use.

SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

Base Map: *USGS 7.5' Topographic Quadrangle: Camden SW, Arkansas 1971, (Photorevised 1985); Camden, Arkansas 1971 (Photorevised 1985)*

NWI LEGEND

E — ESTUARINE

1 — SUBTIDAL

RB — ROCK BOTTOM
1 Bedrock
2 *Rubble*

UB — UNCONSOLIDATED BOTTOM
1 Cobble-Gravel
2 *Sand*
3 Mud
4 Organic

AB — AQUATIC BED
1 Algal
3 *Rooted Vascular*
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

RF — REEF
2 Mollusc
3 Worm

OW — *OPEN WATER/ Unknown Bottom*

2 — INTERTIDAL

AB — AQUATIC BED
1 Algal
3 Rooted Vascular
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

RF — REEF
2 Mollusc
3 Worm

SB — STREAMBED
1 *Cobble-Gravel*
2 Sand
3 Mud
4 Organic

RS — ROCKY SHORE
1 *Bedrock*
2 Rubble

US — UNCONSOLIDATED SHORE
1 *Cobble-Gravel*
2 Sand
3 Mud
4 Organic

EM — EMERGENT
1 Persistent
2 Nonpersistent

SS — SCRUB-SHRUB
1 Broad-Leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved Evergreen
5 Dead
6 *Deciduous*
7 *Evergreen*

FO — FORESTED
1 Broad-Leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved Evergreen
5 Dead
6 *Deciduous*
7 *Evergreen*

L — LACUSTRINE

1 — LIMNETIC

RB — ROCK BOTTOM
1 Bedrock
2 Rubble

UB — UNCONSOLIDATED BOTTOM
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

AB — AQUATIC BED
1 Algal
2 Aquatic Moss
3 Rooted Vascular
4 Floating Vascular
5 Unknown Submergent
6 *Unknown Surface*

OW — *OPEN WATER/ Unknown Bottom*

2 — LITTORAL

RB — ROCK BOTTOM
1 Bedrock
2 Rubble

UB — UNCONSOLIDATED BOTTOM
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

AB — AQUATIC BED
1 Algal
2 Aquatic Moss
3 Rooted Vascular
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

RS — ROCKY SHORE
1 Bedrock
2 Rubble

US — UNCONSOLIDATED SHORE
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic
5 Vegetated

EM — EMERGENT
2 Nonpersistent

OW — *OPEN WATER/ Unknown Bottom*

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal

A Temporarily Flooded
B Saturated
C Seasonally Flooded
D *Seasonally Flooded/ Well Drained*
E *Seasonally Flooded/ Saturated*
F Semipermanently Flooded
G Intermittently Exposed
H Permanently Flooded
J Intermittently Flooded
K *Artificially Flooded*
W Intermittently Flooded/Temporary
Y Saturated/Semipermanent/ Seasonal
Z Intermittently Exposed/Permanent
U *Unknown*

Tidal

K *Artificially Flooded*
L Subtidal
M Irregularly Exposed
N Regularly Flooded
P Irregularly Flooded
*S Temporary-Tidal
*R Seasonal-Tidal
*T Semipermanent-Tidal
*V Permanent-Tidal
U *Unknown*

*These water regimes are only used in tidally influenced, freshwater systems

WATER CHEMISTRY

Coastal Halinity
1 Hyperhaline
2 Euhaline
3 Mixohaline *(Brackish)*
4 Polyhaline
5 Mesohaline
6 Oligohaline
0 Fresh

Inland Salinity
7 Hypersaline
8 *Eusaline*
9 Mixosaline
0 Fresh

pH Modifiers for all Fresh Water
a Acid
t Circumneutral
i Alkaline

SOIL

g Organic
n Mineral

SPECIAL MODIFIERS

b *Beaver*
d *Partially Drained/Ditched*
f Farmed
h *Diked/Impounded*
r Artificial Substrate
s *Spoil*
x Excavated

Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

NWI LEGEND

SYSTEM: M — MARINE

SUBSYSTEM: 1 — SUBTIDAL

CLASS	RB ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB AQUATIC BED	RF REEF	OW OPEN WATER *Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm	

SUBSYSTEM: 2 — INTERTIDAL

CLASS	AB — AQUATIC BED	RF — REEF	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE
Subclass	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM: R — RIVERINE

SUBSYSTEM: 1 — TIDAL; 2 — LOWER PERENNIAL; 3 — UPPER PERENNIAL; 4 — INTERMITTENT; 5 — *UNKNOWN PERENNIAL*

CLASS	RB ROCK BOTTOM	UB UNCONSOLIDATED BOTTOM	*SB STREAMBED	AB AQUATIC BED	RS ROCKY SHORE	US UNCONSOLIDATED SHORE	**EM — EMERGENT	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM

**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

043

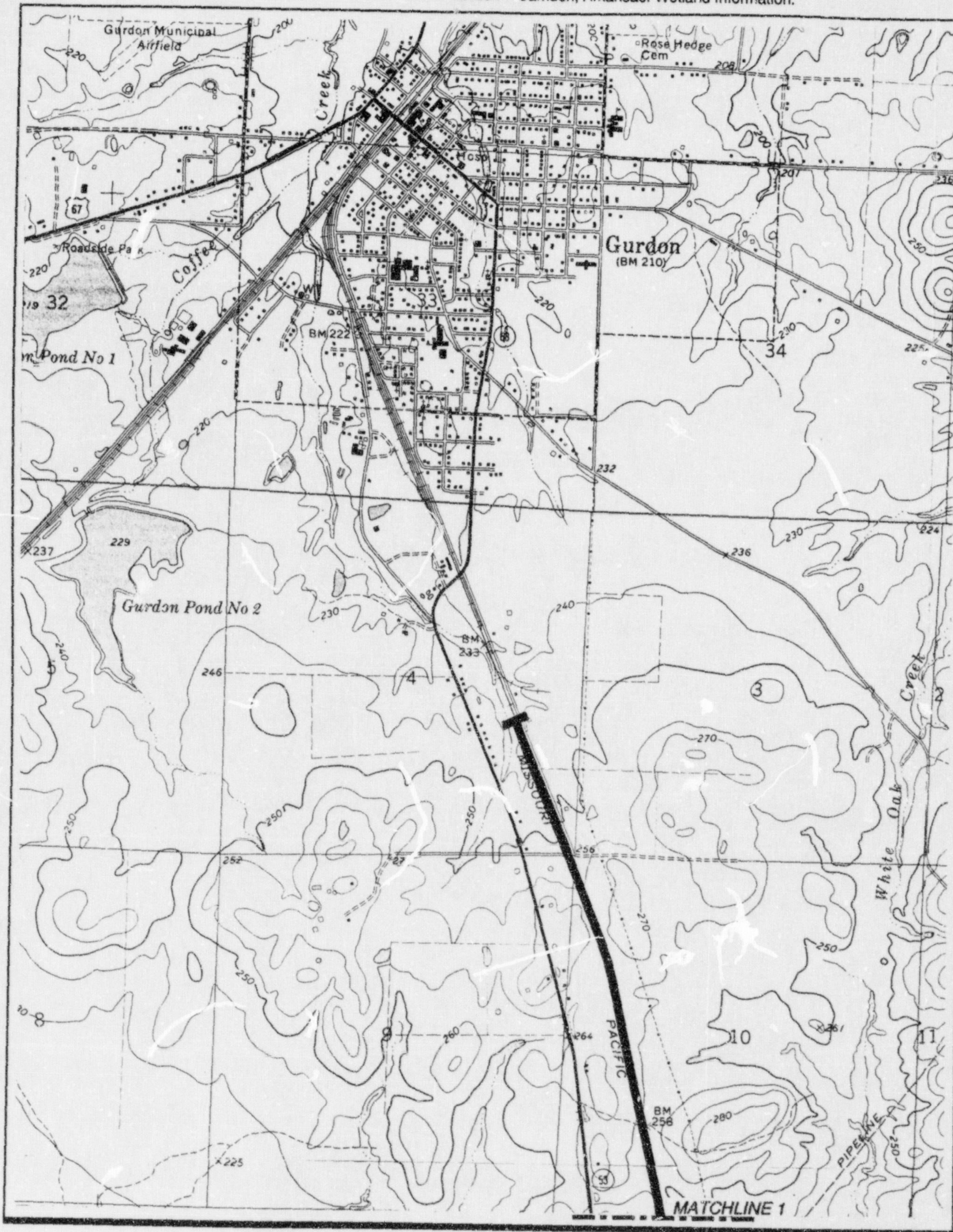
SYSTEM: P — PALUSTRINE

CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	US — UNCONSOLIDATED SHORE	ML — MOSS LICHEN	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	

Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

Figure 3.2-1 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.



SCALE 1:24000

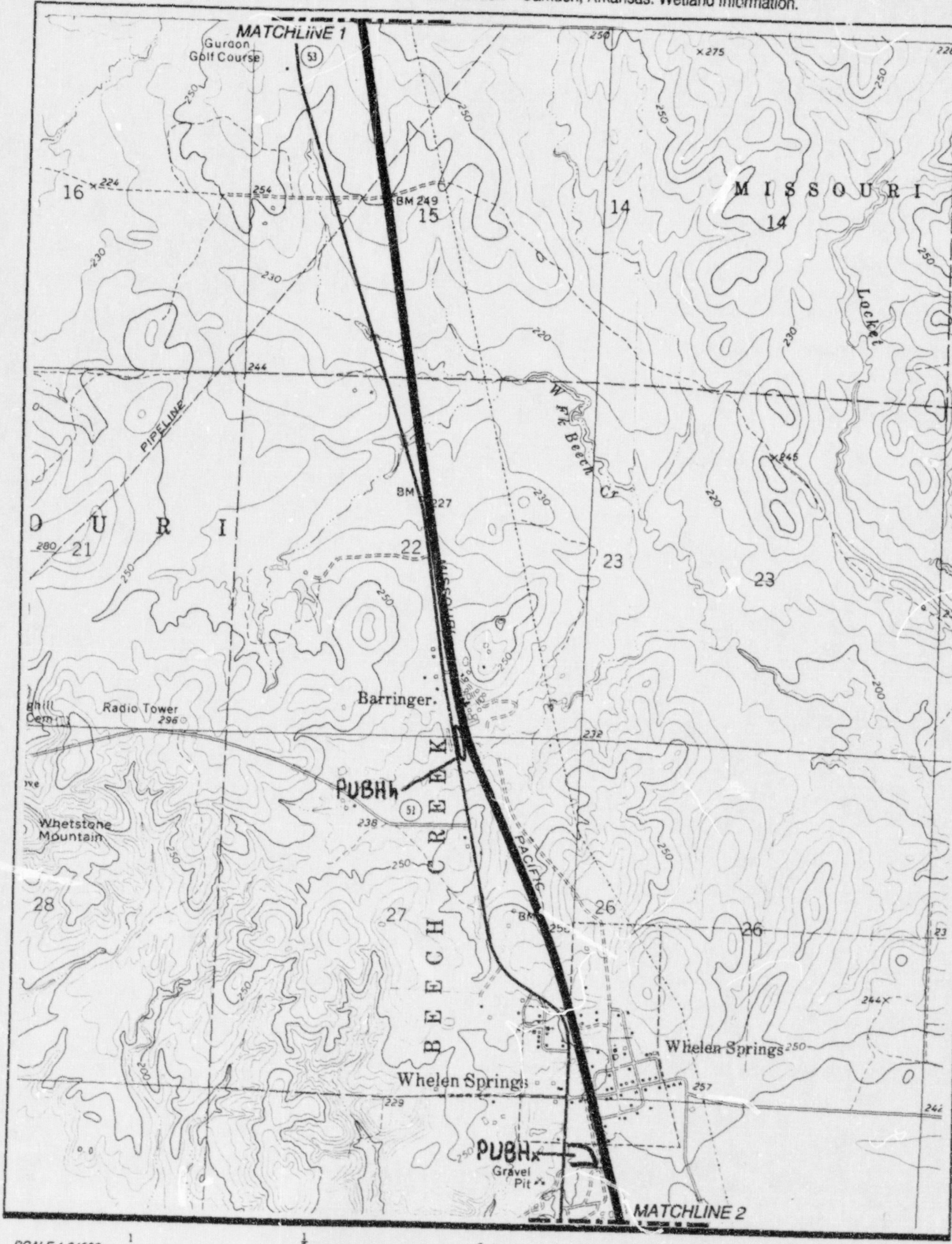
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

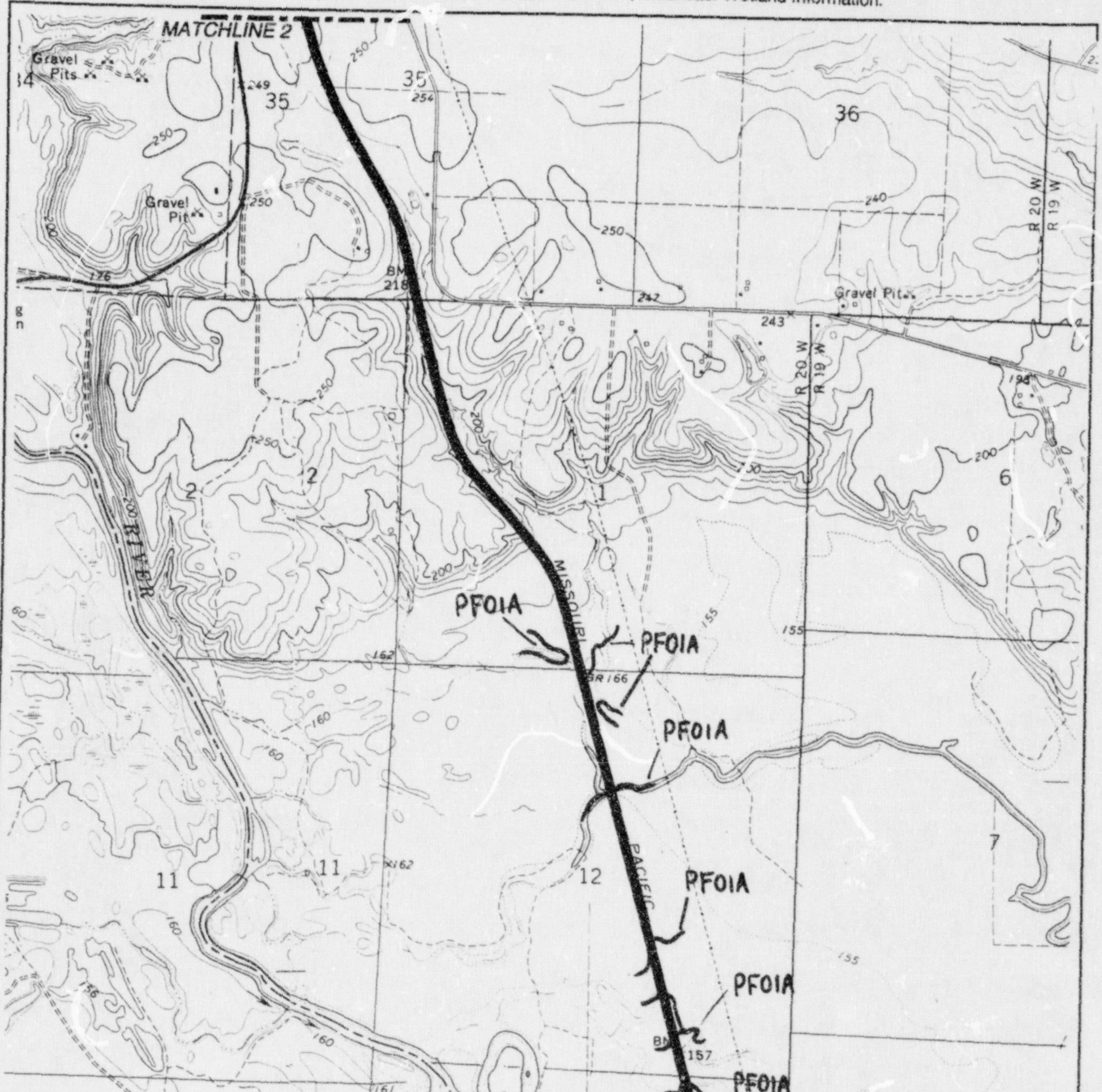
Base Map: *USGS 7.5' Topographic Quadrangle: Gurdon, Arkansas 1970*

Figure 3.2-2 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle: Whelen Springs, Arkansas 1970; Reader, Arkansas 1970*

Figure 3.2-3 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.



SCALE 1:24000

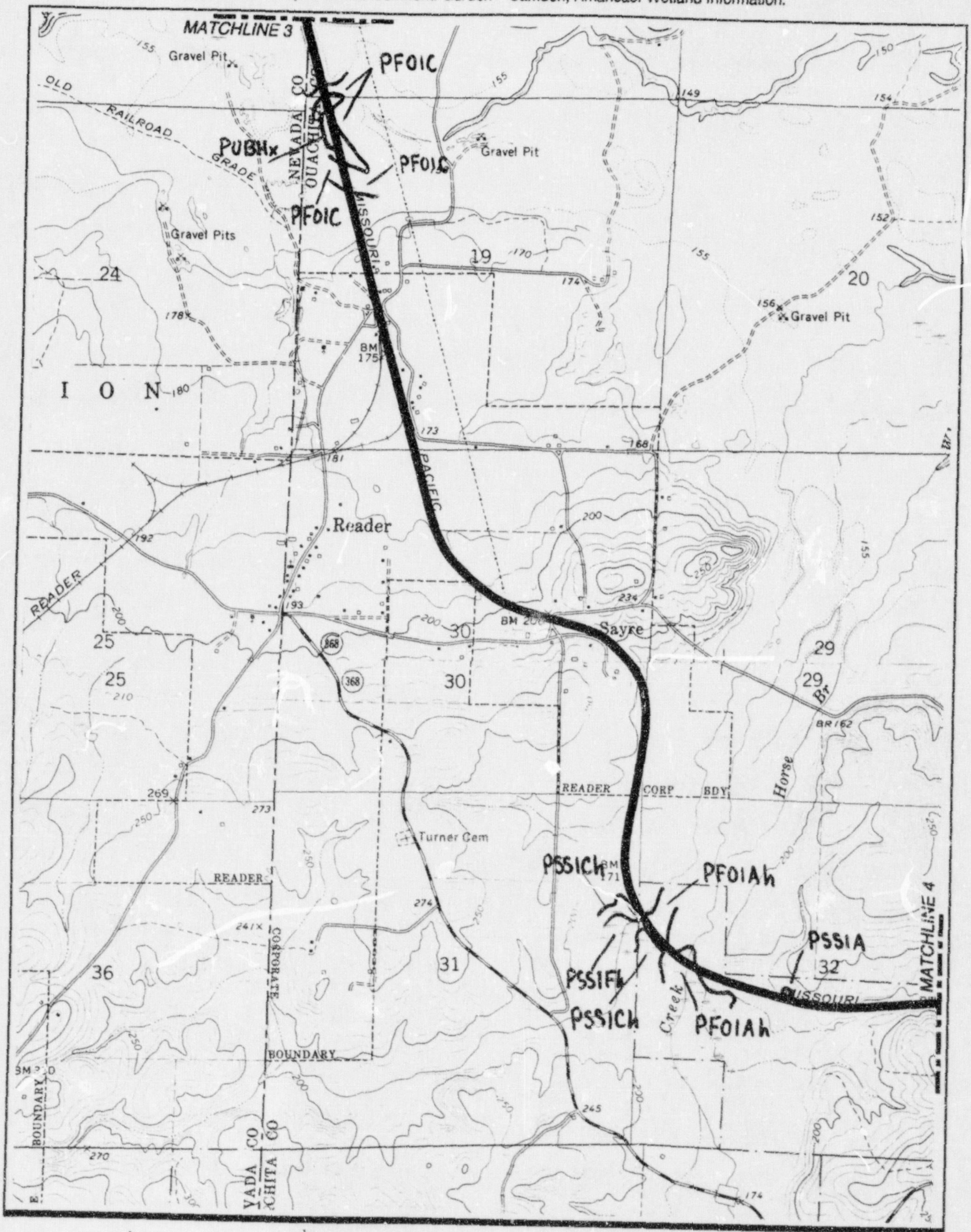
1 MILE

7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Whelen Springs, Arkansas 1970; Reader, Arkansas 1970*

Figure 3.2-4 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

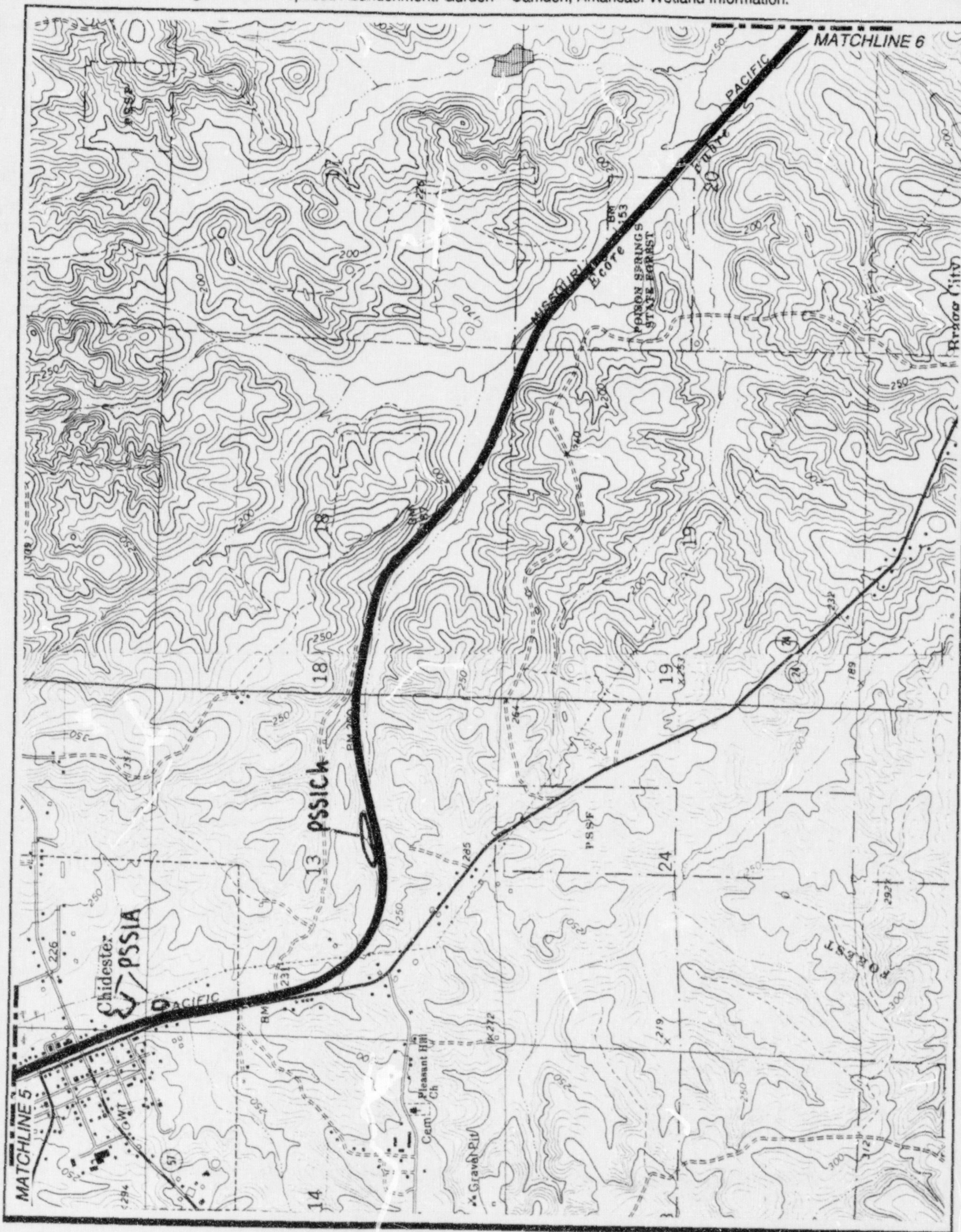
N

Base Map: USGS 7.5' Topographic Quadrangle: Reader, Arkansas 1970; Chidester, Arkansas 1973

Figure 3.2-5 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.

Base Map: *USGS 7.5' Topographic Quadrangle: Bragg City, Arkansas 1971 (Photorevised 1985)*

Figure 3.2-6 Proposed Abandonment: Gurden ~ Camden, Arkansas. Wetland Information.

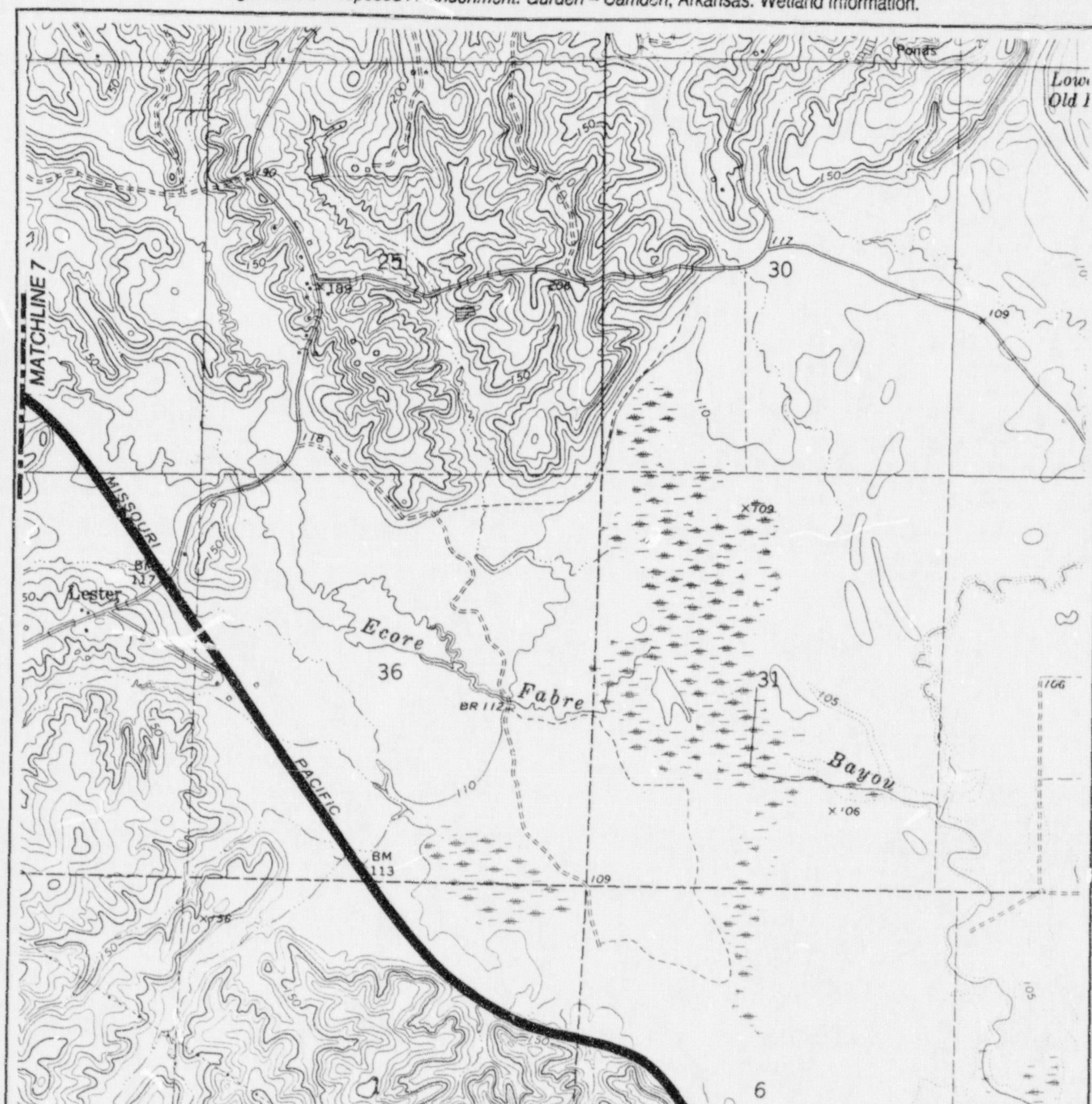


Base Map: *USGS 7.5' Topographic Quadrangle: Chidester, Arkansas 1973; Bragg City, Arkansas 1971 (Photorevised 1985)*

Figure 3.2-7 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.

Base Map: *USGS 7.5' Topographic Quadrangle: Bragg City, Arkansas 1971 (Photorevised 1985)*

Figure 3.2-8 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle: Bragg City, Arkansas 1971 (Photorevised 1985); Camden SW, Arkansas 1971, (Photorevised 1985)*

Figure 3.2-9 Proposed Abandonment: Gurden – Camden, Arkansas. Wetland Information.

SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Camden SW, Arkansas 1971, (Photorevised 1985); Camden, Arkansas 1971 (Photorevised 1985)*

4.0 CALIFORNIA

4.1 ALTURAS TO WENDEL

The Alturas to Wendel, California rail line proposed for abandonment is 85.5 miles long (Figures 4A and 4.1-1 to 4.1-22). Alturas, California is located in Modoc County, approximately 290 miles northeast of San Francisco, California. Wendel, California is located in Lassen County, approximately 50 miles northwest of Reno, Nevada. The proposed abandonment is along the SP Modoc Subdivision.

4.1.1 Proposed Action And No-action Alternative

4.1.1.1 Proposed Action

The proposed action would involve the abandonment of 85.5 miles of rail line following procedures described in Section 2.0. This segment currently serves as a through route for certain northern California and Oregon traffic to and from the East. It is an infrequently used line. Overhead traffic would be diverted via Portland and the UP main line, resulting in a shorter and faster route. Recent local traffic (early 1995) has been limited to support a non-recurring construction project.

4.1.1.2 No-action Alternative

If the merger is approved and implemented, it is anticipated that all overhead traffic would be moved from this line to another UP/SP route whether or not the abandonment is implemented.

4.1.2 Description of Existing Environment and Potential Environmental Impacts of Proposed Action

4.1.2.1 Land Use

Information for existing land use conditions is presented in Table 4-1 and on Figures 4.1-1 through 4.1-22. Potential land use impacts are listed in Table 4-1. No significant land use impacts are expected.

4.1.2.2 Water Resources and Wetlands

Existing water resources and wetlands information is summarized in Table 4-2. NWI data along the Alturas-Wendel, California abandonment were collected, as available. Those data are shown on Figures 4.2-1 to 4.2-22. Significant impacts are not expected.

4.1.2.3 Biological Resources

Existing biological resources information and potential impacts are summarized in Table 4-3. Swainson's hawk nests are within one mile of the segment at several locations. Potentially significant impacts to biological resources due to this proposed abandonment are not expected. Mitigation measures to keep potential impacts at non-significant levels are discussed in Section 11.0.

4.1.2.4 Historic and Cultural Resources

The Alturas to Wendel line was originally part of the Nevada-California-Oregon company system, which was organized in 1880 to build from Reno through Beckwith Pass into California and on to The Dalles, Oregon. The railroad was extended as finances permitted and reached Alturas in 1906 and Lakeview, Oregon in 1912, where the terminus was established. SP purchased the line from Wendel to Lakeview in 1926. SP rehabilitated this narrow gauge road as part of the Modoc Line. The road rebuilt to broadgauge was opened to Alturas by 1927 and to Lakeview by 1928 (Turney, 1995).

There are 21 wooden bridges that are 50 years old or older (two 1927/1929 bridges, nineteen 1930 bridges). Adjacent to the rail line at MP 439.19 there is one 1931 water tank and pump house owned by SP; at MP 418.8 there is one 1931 water tank and pumphouse that is owned by the Madeline Fire Protection Districts; at MP 397.9 there is one ca. 1931 water tank that has been sold to a private party; at MP 392.5 there is one ca. 1930s possible dispatcher communication structure (Turney, 1995). Based solely on their ages, these bridges and structures may be eligible for the NRHP; however, SP currently has no other evidence that any such bridges or structures meet NRHP criteria. The California SHPO has been contacted, and requested that the project location be delineated on a USGS quad map, and that photographs, the date of construction, and location be provided for the bridges in order to complete its review. (Turney, 1995). Further consultation with the California SHPO is expected concerning mitigation measures for bridges or structures if any are determined eligible.

Since salvage operations associated with abandonments usually cause little disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). Where significant ground disturbance is necessary, impacts to archaeological resources could possibly occur. An example of this would be the ground disturbance associated with the removal of bridges. To date, no evidence of archeological resousrces on this line has been discovered.

4.1.2.5 Safety

Hazardous waste sites near the abandonment, which were developed from the database search, are included in Table 4-4.

4.1.2.5.1 Conditions of the Rail Segment

No hazardous waste sites were identified on the Alturas to Wendel, California segment, based on available information. The segment does not include rail yards at Alturas and Wendel.

4.1.2.5.2 Conditions Adjacent to the Rail Segment

The database search indicated one ERNS site, six LUST sites, and eight SWLF sites reported to have been located in the vicinity of the rail segment. The information provided by VISTA does not indicate that these sites have adversely affected the rail segment.

Two LUST sites were identified in yards adjacent to the Alturas to Wendel, California rail segment based on the available information. The LUST sites include a waste oil LUST at the SP site located at Old Highway 97 in Alturas and a gasoline LUST located at the Wendel Yard site located at Wendel Lane in Janesville. The gasoline LUST site at the Wendel Yard is listed as having been completely remediated. Both yards are outside of the limits of this abandonment.

4.1.2.6 Transportation

Currently, SP operates seven trains each day, seven days a week over this line, all overhead traffic between points in Oregon and the Central Corridor. The Alturas to Wendel line currently carries no local traffic. Recent local traffic was the result of a construction project which has been completed. Since there is no local traffic on the Alturas to Wendel line, no rail to highway diversions would occur.

Northern California and Oregon through traffic would be handled via Portland on the UP main line, which is a much shorter and faster route. Therefore, the abandonment would result in a transportation benefit.

4.1.3 Potential Environmental Impacts of No-action Alternative

Under the no-action alternative, the overhead traffic on this segment would be rerouted to another UP/SP line. As such, there would be no new potential adverse environmental impacts.

4.2 MAGNOLIA TOWER TO MELROSE, CALIFORNIA

The Magnolia Tower to Melrose, California rail line proposed for abandonment is 4.9 miles long (Figures 4B and 4.3-1 to 4.3-2). Magnolia Tower and Melrose are located in Alameda County. The proposed abandonment is along the UP Canyon Subdivision.

4.2.1 Proposed Action and No-action Alternative

4.2.1.1 Proposed Action

The proposed action would involve the abandonment of 4.9 miles of rail line following procedures described in Section 2.0. This segment currently has no local traffic. Operation over this segment in Oakland would be replaced by use of an adjacent SP line.

4.2.1.2 No-action Alternative

If the merger is approved and implemented, it is anticipated that all overhead traffic would be moved from this line to another UP/SP route whether or not the abandonment is implemented.

4.2.2 Description of Existing Environment and Potential Environmental Impacts of Proposed Action

4.2.2.1 Land Use

Information for existing land use conditions is presented in Table 4-1 and on Figures 4.3-1 through 4.3-2. Potential land use impacts are listed in Table 4-1. No significant land use impacts are expected.

4.2.2.2 Water Resources and Wetlands

Existing water rescurces and wetlands information is summarized in Table 4-2. NWI data along the Magnolia Tower-Melrose, California abandonment were collected, as available. Those data are shown on Figures 4.4-1 to 4.4-2. Significant impacts are not expected.

4.2.2.3 Biological Resources

Existing biological resources information and potential impacts are summarized in Table 4-3. Sensitive biological resources that occur in the general region include saltmarsh habitat, saltmarsh harvest mouse, and California sea blite. All three may occur near this line, but primarily or entirely out of the existing ROW. Potentially significant impacts to biological resources due to this proposed abandonment are not expected.

Impacts to these resources would be potentially significant only if disturbance due to salvage operations would extend into the saltmarsh vegetation which is mostly adjacent to, but outside of, the existing ROW. General mitigation measures to keep impacts to the two species above and the saltmarsh habitat at non-significant levels are discussed in Section 11.0.

4.2.2.4 Historic and Cultural Resources

This line was originally constructed by the WP between 1906 and 1908. There is one 1907 bridge that is listed in the UP bridge report, although it was not identified in the field verification (UP, 1995). Based solely on age, this bridge may be eligible for the NRHP; however, UP currently has no other evidence that this bridge meets NRHP criteria. The California SHPO has been contacted, and has requested that the project location be delineated on a USGS quad map, and that photographs, the date of construction, and location be provided for the bridge in order to complete its review.

The removal of a bridge or structure that is eligible or potentially eligible for the NRHP may be a significant impact. Further consultation with the California SHPO is expected concerning mitigation measures for bridges or structures, if any, that are determined eligible.

Since salvage operations associated with abandonments usually cause little disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). Where significant ground disturbance is necessary, impacts to archaeological resources could possibly occur. An example of this would be the ground disturbance associated with the removal of bridges. To date, no evidence of archaeological resources on this line has been discovered.

4.2.2.5 Safety

Hazardous waste sites near the abandonment identified from the database search, are included in Table 4-4.

4.2.2.5.1 Conditions of the Rail Segment

The Melrose to Magnolia, California database search indicated 37 ERNS spill incidents at the SP Oakland Yard, one spill incident at the UP Oakland Yard, one diesel LUST at the SP Rail Yard at 8th Street and 8th Avenue, 1 LUST at the SP site at the SP Private Road in Oakland, and one LUST at Peralta Maintenance Yard at 501 5th Avenue.

4.2.2.5.2 Conditions Adjacent to the Rail Segment

The database search indicated one RCRA TSD site, 58 ERNS sites, and 57 LUST sites located within 500 feet of the rail segment; and 42 ERNS and four LUST sites potentially located in the vicinity of the rail segment. Information provided by VISTA does not indicate that these sites have adversely affected the rail segment.

4.2.2.6 Transportation

There would be no negative transportation impacts from the abandonment of the Magnolia Tower to Melrose line because the line currently carries no local traffic. Operation over this segment in Oakland can be replaced by use of the adjacent SP segment.

4.2.3 Potential Environmental Impacts of No-action Alternative

Under the no-action alternative, any overhead traffic on this segment would be rerouted to another UP/SP line. As such, there would be no new potential adverse environmental impacts.

4.3 WHITTIER JCT. TO COLIMA JCT.

The Whittier Jct. to Colima Jct., California rail line proposed for abandonment is 5.18 miles long (Figures 4C and 4.5-1 to 4.5-2). Whittier Jct. and Colima Jct. are both located in Los Angeles County, approximately 15 miles east of Los Angeles. The proposed abandonment is along the UP Anaheim Branch, and is used to access the La Habra and Fullerton area.

4.3.1 Proposed Action and Alternative

4.3.1.1 Proposed Action

The proposed action would involve the abandonment of 5.18 miles of rail line following procedures described in Section 2.0. This segment currently serves as a through route to serve the La Habra and Fullerton area. Following the merger, a parallel SP route would be used to serve this area. Currently, there is no local traffic.

4.3.1.2 No-action Alternative

If the merger is approved and implemented, it is anticipated that all overhead traffic would be moved from this line to another UP/SP route whether or not the abandonment is implemented.

4.3.2 Description of Existing Environment and Potential Environmental Impacts of Proposed Action

4.3.2.1 Land Use

Information for existing land use conditions is presented in Table 4-1 and on Figures 4.5-1 through 4.5-2. Potential land use impacts are listed in Table 4-1. No significant land use impacts are expected.

4.3.2.2 Water Resources and Wetlands

Existing water resources and wetlands information is summarized in Table 4-3. NWI data along the Whittier Jct.-Colima Jct., California abandonment were collected, as available. Those data are shown on Figures 4.6-1 to 4.6-2. Significant impacts are not expected.

4.3.2.3 Biological Resources

Existing biological resources information and potential impacts are summarized in Table 4-3. Potentially significant impacts to biological resources due to this proposed abandonment are not expected.

4.3.2.4 Historic and Cultural Resources

This line was constructed in 1923 between Whittier and Anaheim by the Los Angeles & Salt Lake Railroad. There are two bridges (one older 1917 truss bridge and one 1933 steel bridge) that are 50 years old or older (UP, 1995). Based solely on age, these bridges are potentially eligible for the NRHP; however, UP currently has no other evidence that these bridges meet MRHP criteria. The California SHPO has been contacted, and has requested that the project location be delineated on a USGS quad map, and that photographs, the date of construction, and location be provided for the bridges in order to complete its review.

The removal of bridges that are eligible or potentially eligible for the NRHP may be a significant impact. Further consultation with the California SHPO is expected concerning mitigation measures for bridges or structures, if any, that are determined eligible.

Since salvage operations associated with abandonments usually cause little disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). Where significant ground disturbance is necessary, impacts to archaeological resources could possibly occur. An example of this would be the ground disturbance associated with the removal of bridges. To date, no evidence of archaeological resources on this line has been discovered.

4.3.2.5 Safety

Hazardous waste sites near the abandonment, developed from the database search, are included in Table 4-4.

4.3.2.5.1 Conditions of the Rail Segment

The Whittier Jct. to Colima Jct., California rail line was identified as having a 100-gallon diesel fuel spill incident located at Mile Post 10.5 in 1989.

4.3.2.5.2 Conditions Adjacent to the Rail Segment

The database search indicated two CERCLIS sites, one RCRA TSD site, two ERNS sites, and six LUST sites within 500 feet of the rail segment; and four ERNS sites potentially within the vicinity of the rail segment. The information provided by VISTA does not indicate that these sites have adversely affected the rail segment.

4.3.2.6 Transportation

The Whittier Jct. to Colima Jct. segment carries no local traffic. This line is used by UP to serve the La Habra and Fullerton area. After the merger, a parallel SP route would be used to connect the branch from La Habra south.

Because no diversions of freight are required on the Whittier Jct. to Colima Jct. segment, there would be no negative transportation related impacts.

4.3.3 Potential Environmental Impacts of No-action Alternative

Under the no-action alternative, the overhead traffic on this segment would be rerouted to another UP/SP line. As such, there would be no new potential adverse environmental impacts.

4.4 SUMMARY OF COMMENTS

To assist in assessing the potential environmental impacts of the proposed UP/SP merger, Dames & Moore sent letters requesting information to various Federal, state, and local agencies. In these letters, information was requested for the areas of: air quality, noise, land use, biological and water resources, historic and cultural resources, transportation systems, energy, and public health and safety. Copies of all correspondence received and telephone conversation notes recorded in response to the requests for information are included in Part 6.

There are three segments proposed for abandonment in California. The following agencies responded to requests for information: Modoc County Planning Department, Alameda County Planning Department, California Water Quality Control Board (Region 7), and U.S. Fish and Wildlife Service (Sacramento Field Office).

A summary of comments received through October 30, 1995 is listed below.

- The Modoc County Planning Department expressed concerns regarding abandonment of the Alturas to Wendel rail line which services the county. It was stated that: the rail line is an economic asset and abandonment would result in a loss of tax dollars; chips from a lumber mill have been shipped north via this, the only, rail line; the roundhouse in Alturas is a full repair facility, is a hazardous waste site (on state records), and has a diesel fuel tank adjacent. The County stated that remediation would be involved with abandonment.
- The Alameda County Planning Department states that they had no comments on the Melrose to Magnolia abandonment.
- The U.S. Environmental Protection Agency, Region 9, in San Francisco provided contacts for other agencies regarding endangered species, wildlife, and botany.
- The California Regional Water Quality Control Board, Region 7, in Palm Desert stated that they were currently unable to determine the size of the projects. A NPDES permit is needed for projects that are five acres or greater in size.

- The U.S. Fish and Wildlife Service, Sacramento office, provided a list of listed, proposed and candidate species that may be present in the areas of Alturas to Wendel and Magnolia Tower to Melrose lines. The telephone number for the U.S. Fish and Wildlife Service, Carlsbad office was provided for the species list in the Whittier Jct. to Colima Jct. line. Additionally, contact information for the California Natural Diversity Data Base, a program of the Department of Fish and Game office, as well as the Chief, California Department of Fish and Game, Non-game Heritage Program were given as resources for further information concerning candidate species.

4.5.2 Water Resources and Wetlands

4.5 REFERENCES

4.5.1 Land Use

Jensen, Bruce, 1995. Personal communication to Julie Donsky, Dames & Moore, from Alameda County Planning Department. October 11.

Kessler, Bruce, 1995. Personal communication to Julie Donsky, Dames & Moore, from Modoc County Planning Department. October 2.

Scott, Randy, 1995. Letter to Julie Donsky, Dames & Moore, from San Bernardino County Planning Department. October 13.

U.S. Department of Agriculture, 1994. State soil geographic (STATSGO) data base. July.
U.S. Geological Survey, various dates. Land use and land cover maps.
U.S. Geological Survey, various dates. 1:24,000-scale topographic maps.

4.5.2 Water Resources and Wetlands

U.S. Fish and Wildlife Service, various dates. National Wetland Inventory Maps.
U.S. Geological Survey, various dates. 1:24,000-scale topographic maps.

4.5.3 Biological Resources

Blevins, Mary, 1995. Personal communication with Julie Donsky, Dames & Moore, from U.S. Environmental Protection Agency, San Francisco. October 13.

California Department of Fish and Game Natural Diversity Data Base. 1995. Rarefind Report. The following USGS 7.5 minute topographic maps were queried: Alturas, Anderson Mtn., El Monte, Infernal Caverns, Karlo, Likely, Little Mud Flat, Madeline, Mahogany Ridge, McDonald Peak, Oakland East, Oakland West, Petes Valley, Ravendale, San Leandro, Shaffer Mtn., Snowstorm Mtn., Termo, Tule Mtn., Wendel, West of Snowstorm Mtn., Whittier.

Jensen, Bruce, 1995. Personal communication to Julie Donsky, Dames & Moore, from Alameda County Planning Department. October 11.

Medlin, Joel, 1995. Letter to Julie Donsky, Dames & Moore, from U.S. Fish and Wildlife Service, Sacramento Field Office. October 13.

Kessler, Bruce, 1995. Personal communication to Julie Donsky, Dames & Moore, from Modoc County Planning Department. October 2.

Prat, Dean, 1995. Letter to Julie Donsky, Dames & Moore, from California Regional Water Quality Control Board, Region 7, Palm Desert.

Scott, Randy, 1995. Letter to Julie Donsky, Dames & Moore, from San Bernardino County Planning Department. October 13.

Senga, Robert, 1995. Letter to Julie Donsky, Dames & Moore, from California Department of Toxic Substance Control, Long Beach. October 10.

Steiner, John, 1995. Personal communication with Brian Leatherman, Dames & Moore, from United States Fish and Wildlife Service, October 11.

Swift, Camm C., Jack L. Nelson, Carolyn Maslow, and Theodore Stein, 1989. Biology and distribution of the tidewater goby, *Eucyclogobius newberry*, (Pisces:Gobiidae) in California. Contributions in Science 404:1-20.

Thayer, Doug, 1995. Personal communication with Brian Leatherman, Dames & Moore, from California Department of Fish and Game, September 26.

Welsh, Hartwell Jr., 1994. Bioregions: An ecological and evolutionary perspective and a proposal for California. Calif. Fish and Game: 3:97-124.

4.5.4 Historic and Cultural Resources

Turney, Paul (SP), 1995. Information on Alturas to Wendel, CA proposed abandonment.

UP, 1995. Information on: Magnolia Tower to Melrose, CA proposed abandonment; Whittier Jct. to Colima Jct. proposed abandonment.

4.5.5 Safety

S5enga, Robert, 1995. Letter to Julie Donsky, Dames & Moore, from California Department of Toxic Substance Control, Long Beach. October 10.

VISTA Information Solutions, Inc., 1995. Reports for all rail line abandonments pertaining to NPL, CERCLIS, ERNS, SPL, LUST, and SWL located in the 500-foot buffer zone of each rail line. Information collected between September 11 and October 18.

TABLE 4-1

LAND USE INFORMATION ALONG SEGMENTS PROPOSED FOR ABANDONMENT IN CALIFORNIA

EXISTING CONDITIONS

Location	Existing Land Uses	Structures Near Site		Occurrence Within	
		Within 500 Feet	Length in Urbanized Areas (Feet)	Prime Farmland	Coastal Zone
Alturas - Wendel	Cropland and pasture, residential, shrub and brush rangeland, other urban or built-up land, herbaceous rangeland, bare exposed rocks, evergreen forest land, mixed rangeland, strip mines or quarries or gravel pits	93	0	Yes	No
Magnolia Tower - Melrose	Commercial, transportation	0	24,800	No	Yes
Whittier Jct. - Colima Jct.	Residential, transportation, other urban or built-up land, commercial	0	28,900	No data available	No

IMPACTS

Location	Compatible with Surrounding Land Uses	Loss of Prime Farmland
Alturas - Wendel	Yes - Not significant	No - Not significant
Magnolia Tower - Melrose	Yes - Not significant	No - Not significant
Whittier Jct. - Colima Jct.	Yes - Not significant	No - Not significant

TABLE 4-2

WATER RESOURCES AND WETLANDS INFORMATION ALONG SEGMENTS PROPOSED FOR ABANDONMENT IN CALIFORNIA

Segment	Type of Water Resource[1]	Number Along the Segment	
		Intercepted by the Segment	Adjacent to the Segment
Alturas-Wendel	Blue-line streams	58	8
	Waterbodies	0	9
	Wetlands	0	2
	Canals, culverts, ditches	10	4
Magnolia Tower-Melrose	Tidal channel	1	0
Whittier Jct.-Colima Jct.	Canals, culverts, ditches	1	0

[1] Type:

Blue-line streams = permanent and intermittent watercourses, including creeks, streams, rivers, washes, and sloughs

Waterbodies = permanent and intermittent bodies of standing water including ponds, lakes, reservoirs, bayous, catchments, and beaver ponds

Wetlands = areas depicted with the USGS wetland symbol, primarily including marshes and wet meadows

Tidal channels = tidal channels including inlets, harbors, bays, and sloughs subject to tidal influences

Canals, culverts, ditches = human-made water conveyances

TABLE 4-3

BIOLOGICAL RESOURCES INFORMATION ALONG SEGMENTS PROPOSED FOR ABANDONMENT IN CALIFORNIA

EXISTING CONDITIONS:

Segment	Vegetation Types Along and Adjacent to the Segment	Known and Potential Occurrence of Rare, Threatened and Endangered Species in the Region	Critical Habitat Along the Segment	Parks, Forests, Refuges, Sanctuaries Within 5 Miles
Alturas to Wendel	• Ruderal • Sagebrush steppe • Mixed chaparral • Chamise-redshank chaparral • Juniper-shrub savanna • Yellow pine-shrub forest • Montane hardwood forest • Montane riparian	• Swainson's hawk • Greater sandhill crane • Bank swallow • Western yellow-billed cuckoo	None	Modoc National Wildlife Refuge, Modoc National Forest, Biscar State Wildlife Area, Honey Lake State Wildlife Area
Magnolia Tower to Melrose	• Non-native grasses • Ruderal • Salt marsh • Tidal slough	• Tidewater goby - H[a] • California clapper rail • Western snowy plover • California least tern • Salt-marsh harvest mouse • California sea blite	None	Joaquin Miller Park, Redwood Regional Park, Chabot Regional Park, Leona Heights Park, Knowland State Arboretum and Park, Lakeside Park,
Whittier to Colima	• Non-native grasses • Ruderal • Ornamental trees and shrubs	• Western yellow-billed cuckoo - H[a] • Least Bell's vireo - H[a] • Bank swallow - H[a]	None	Whittier Narrows Wildlife Sanctuary, Portero Heights Park, Whittier Narrows Recreation Area, Tony Arceo Park, Heilman Park, Broadway Park, Hadley Park, J C Whittier Park, Friends Park, Los Robles Park, Michigan Park, Riviera Park, Rio Vista Park, Wm. Penn Park, Kennedy Park, York Field, Gunn Avenue Park, Parnel Park, Palm Park

TABLE 4-3

(concluded)

POTENTIAL IMPACTS TO:				
Segment	**Vegetation Types/ Wildlife Habitats**	**Rare, Threatened and Endangered Species in the Region**	**Critical Habitat**	**Parks, Forests, Refuges, Sanctuaries**
Alturas to Wendel	Not significant	• Potential impact to Swainson's hawk that can be mitigated.*	None	Not significant
Magnolia Tower to Melrose	Potential impacts to salt marsh (see also Section 4.2.2.2 and mitigation in Section 11.0)	• Salt-marsh harvest mouse* • California sea blite*	None	None
Whittier to Colima	Not significant	None	None	None

H[a] Historical records only. No recent observations of this species.

* Potential impacts may not exist for these sites/species as visual confirmation has not been completed. It is assumed that salvage operations would be limited to the existing ROW. Therefore, adverse impacts to rare, threatened, and endangered species, as well as to parks, forests, refuges, and sanctuaries , would be negligible. Abandonment of the rail lines would result in long-term beneficial effects on these resources.

TABLE 4-4

HAZARDOUS WASTE SITE ISSUES ALONG SEGMENTS PROPOSED FOR ABANDONMENT IN CALIFORNIA

Segment	Right-of-Way Issues [1]			Adjacent Issues (Within 500 Feet)						Area Issues (Unmappable Sites)					
	Onsite ERNS	Onsite LUST	COMMENTS	NPL	CERCLIS	RCRA TSD	ERNS	SPL/ SWLF	LUST	NPL	CERCLIS	RCRA TSD	ERNS	SPL/ SWLF	LUST
Alturas - Wendel	---	---	One waste oil LUST site located at Old Highway 97 in Alturas & one gasoline LUST site at Wendel Yard in Janesville.	---	---	---	---	---	---	---	---	---	1	8	6
Melrose - Magnolia Tower	38	3	ERNS spill at SP Oakland Yard & UP Oakland Yard. One diesel LUST at SP Rail Yard at 8th St. & 8th Ave., one LUST at SP at the private road in Oakland, and one LUST at Peralta Yard.	---	---	1	58	---	57	---	---	---	42	---	4
Whittier Jct - Colima Jct.	1	---	UP spill at mile post 10.5 (100 gallon release of diesel fuel, 1989).	---	2	1	2	---	6	---	---	---	4	---	---

[1] Issues identified through VISTA database search.

KEY FOR LAND USE FIGURES

URBAN OR BUILT-UP LAND

RE	Residential
C	Commercial and services
I	Industrial
T	Transportation, communications and utilities
I/C	Industrial and commercial complexes
MU	Mixed urban or built-up land
OU	Other urban or built-up land

AGRICULTURAL LAND

CP	Cropland and pasture
CH	Orchards, groves, vineyards, nurseries, and ornamental horticultural areas
CF	Confined feeding operations
CO	Other agricultural land

WATER

WS	Streams and canals
WL	Lakes
WR	Reservoirs
WB	Bays and estuaries

WETLANDS

WE	Forested wetlands, and/or nonforested wetlands

RANGELAND

Rh	Herbaceous rangeland
Rsb	Shrub and brush rangeland
Rm	Mixed rangeland

FOREST LAND

FD	Deciduous forest land
FE	Evergreen forest land
FM	Mixed forest land

BARREN LAND

Bsf	Dry salt flats
Bb	Beaches
Bs	Sandy areas other than beaches
Br	Bare exposed rocks
Bm	Strip mines, quarries, and gravel pits
Bt	Transitional areas
B	Mixed barren land

HISTORIC AND CULTURAL RESOURCES

●	Potentially Eligible Historic Resource

Figure 4A Overview of Proposed Abandonment: Alturas – Wendel, California

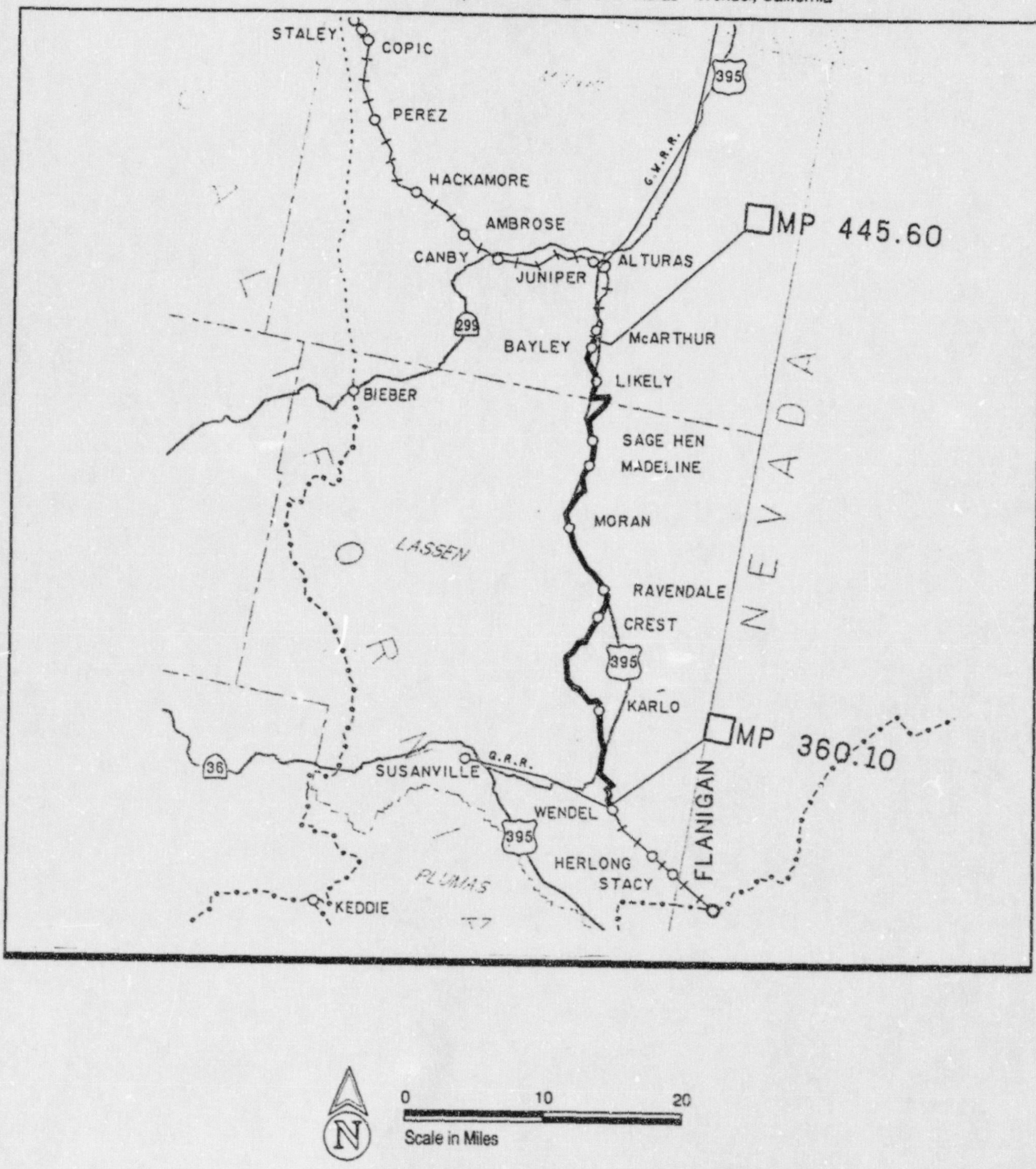
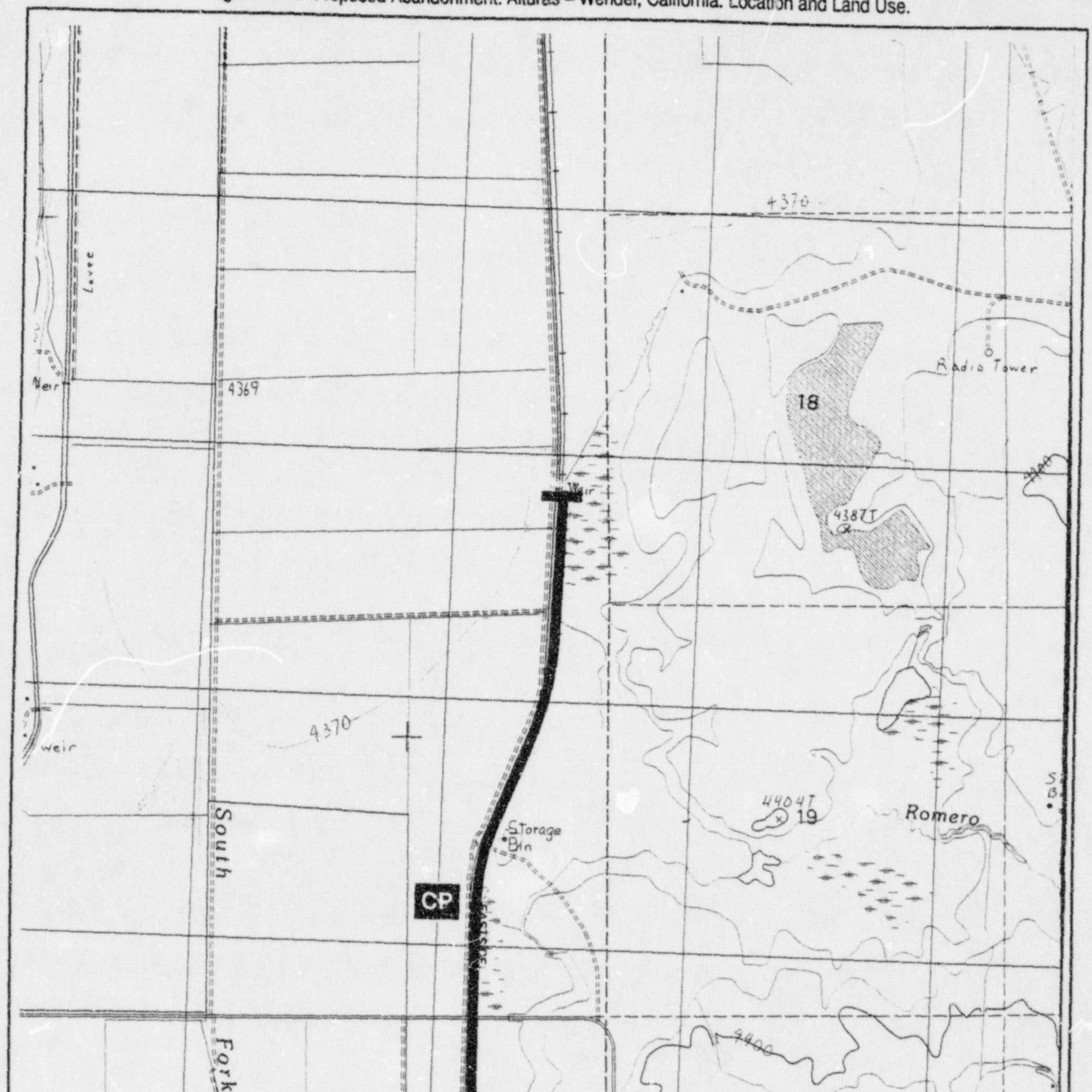


Figure 4.1-1 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

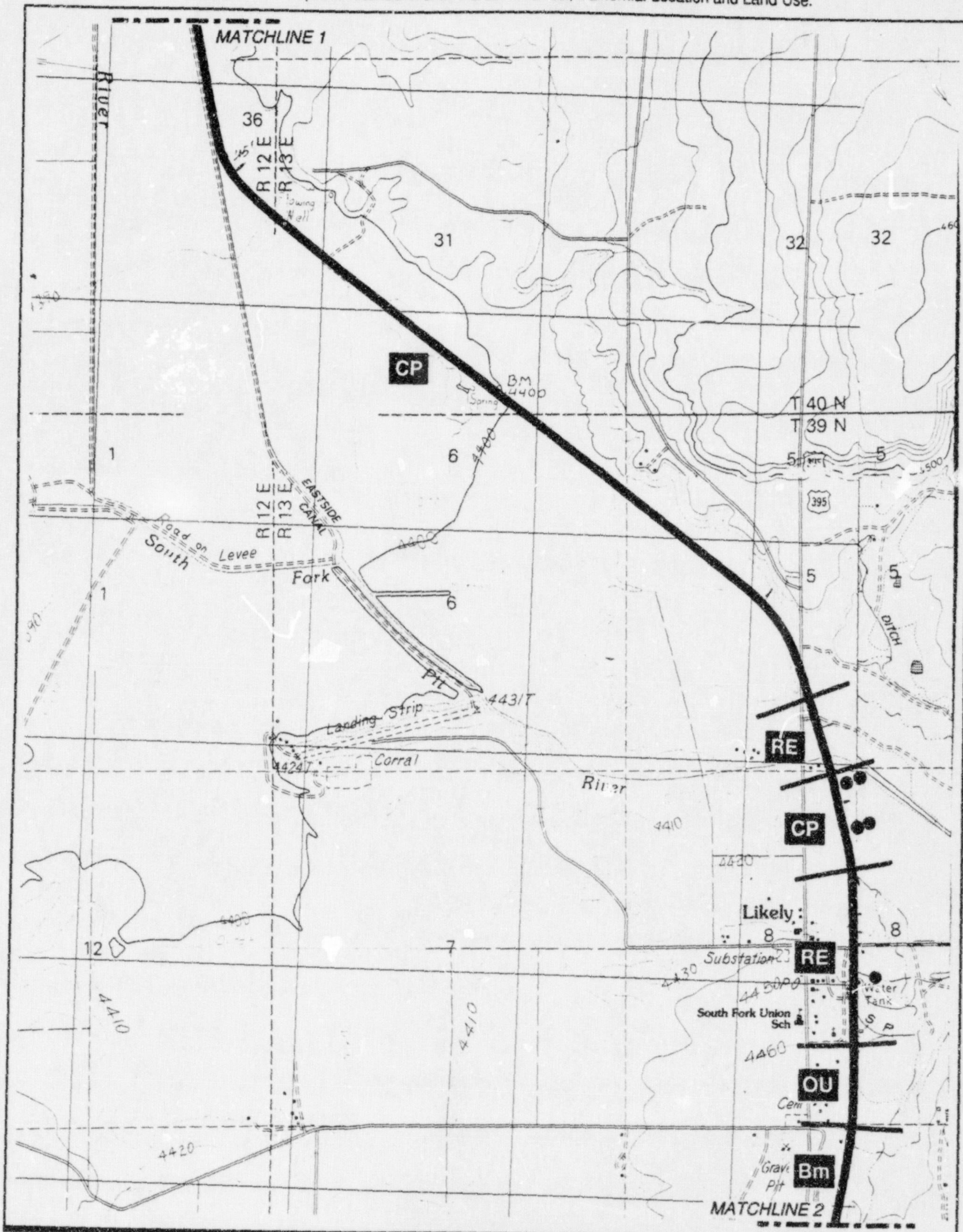
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle:* Infernal Caverns, California (Provisional Edition 1990)

Figure 4.1-2 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



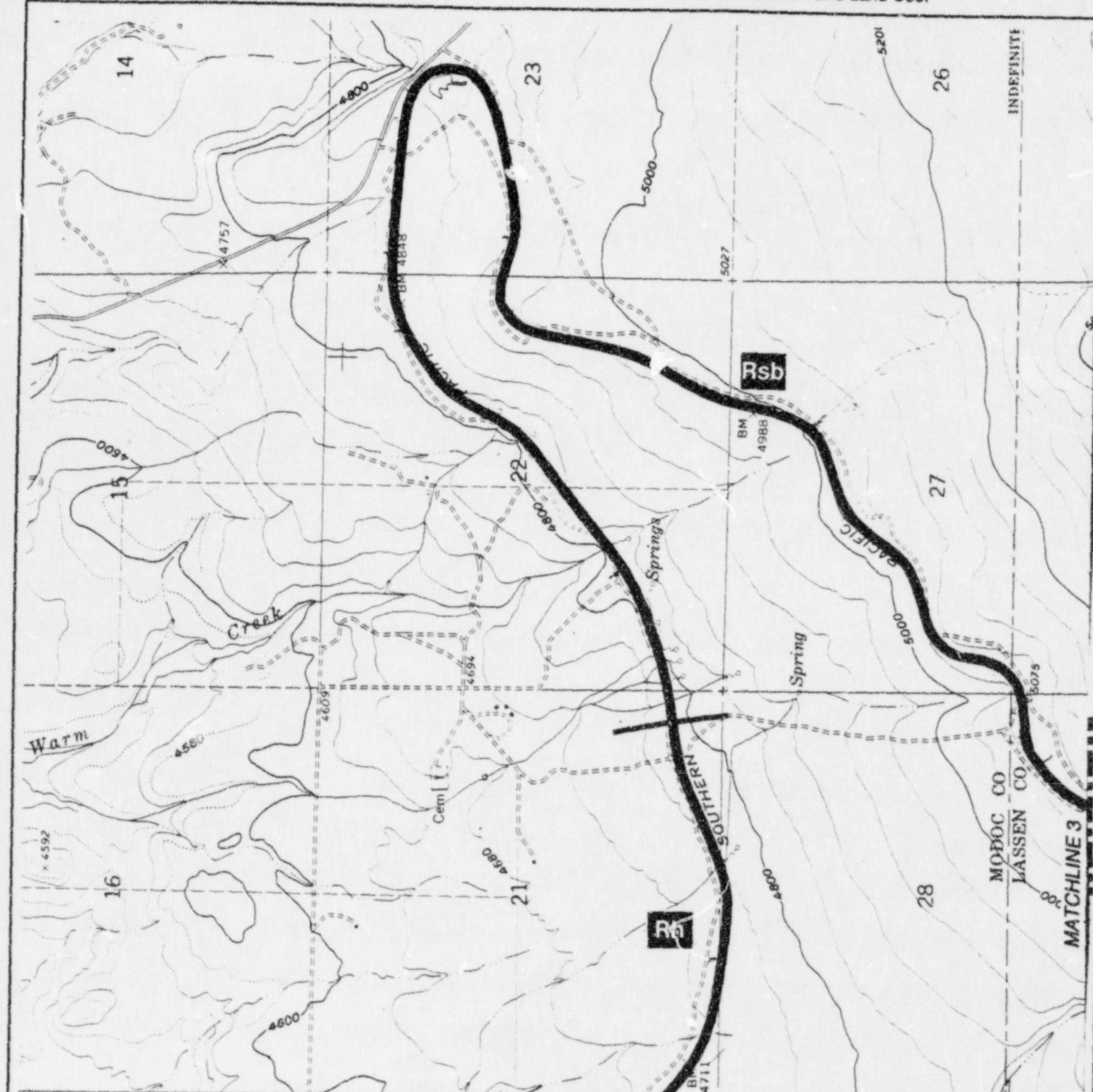
SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

Base Map: *USGS 7.5' Topographic Quadrangles:* Infernal Caverns, California (Provisional Edition 1990); Little Juniper Reservoir, California 1963 (Photorevised 1982); Likely, California (Provisional Edition 1990); Tule Mountain, California 1962 (Photorevised 1982)

Figure 4.1-3 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

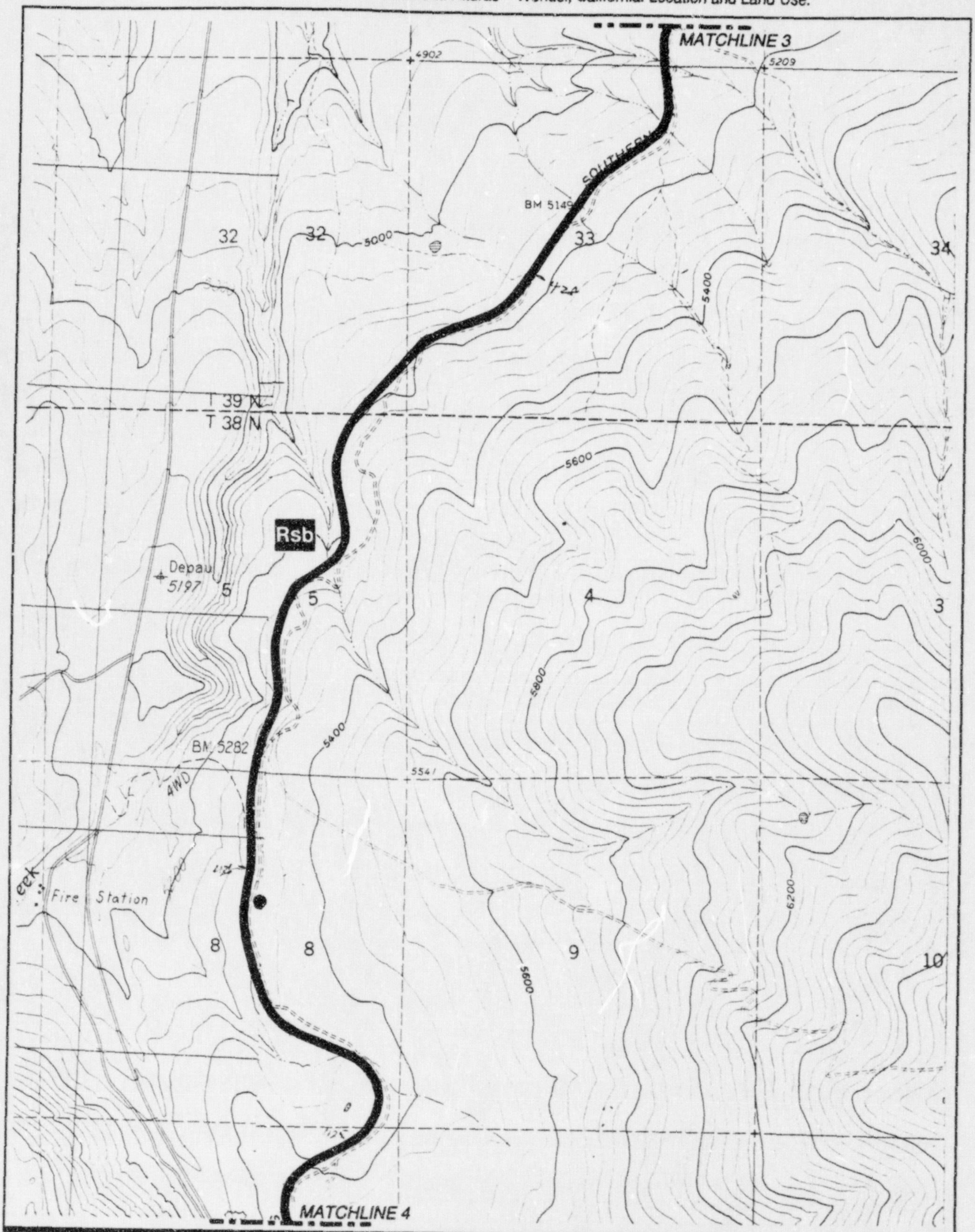
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles:* Likely, California (Provisional Edition 1990); Tule *Mountain* ,California 1962 (photorevised 1982);

Figure 4.1-4 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

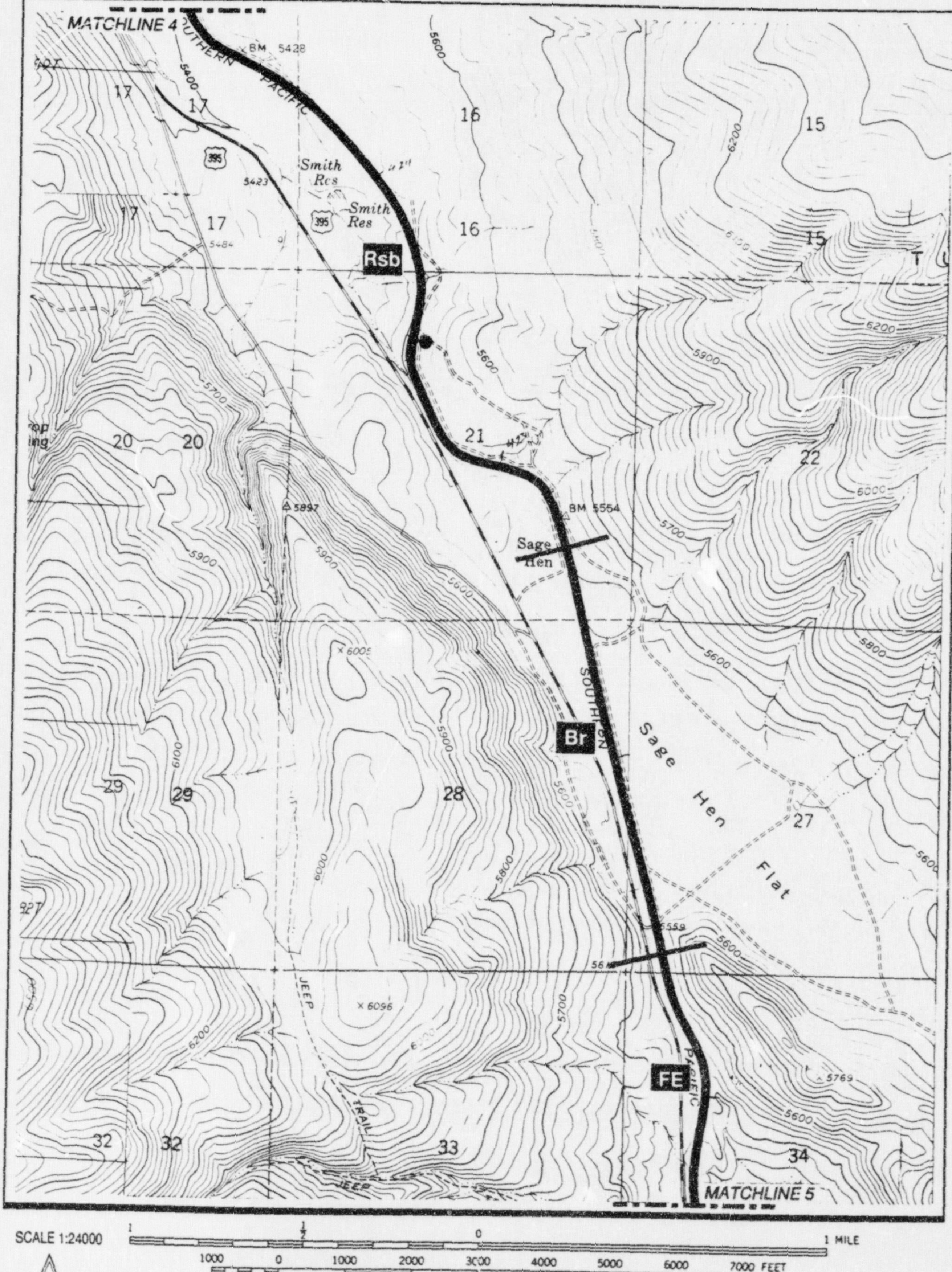
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

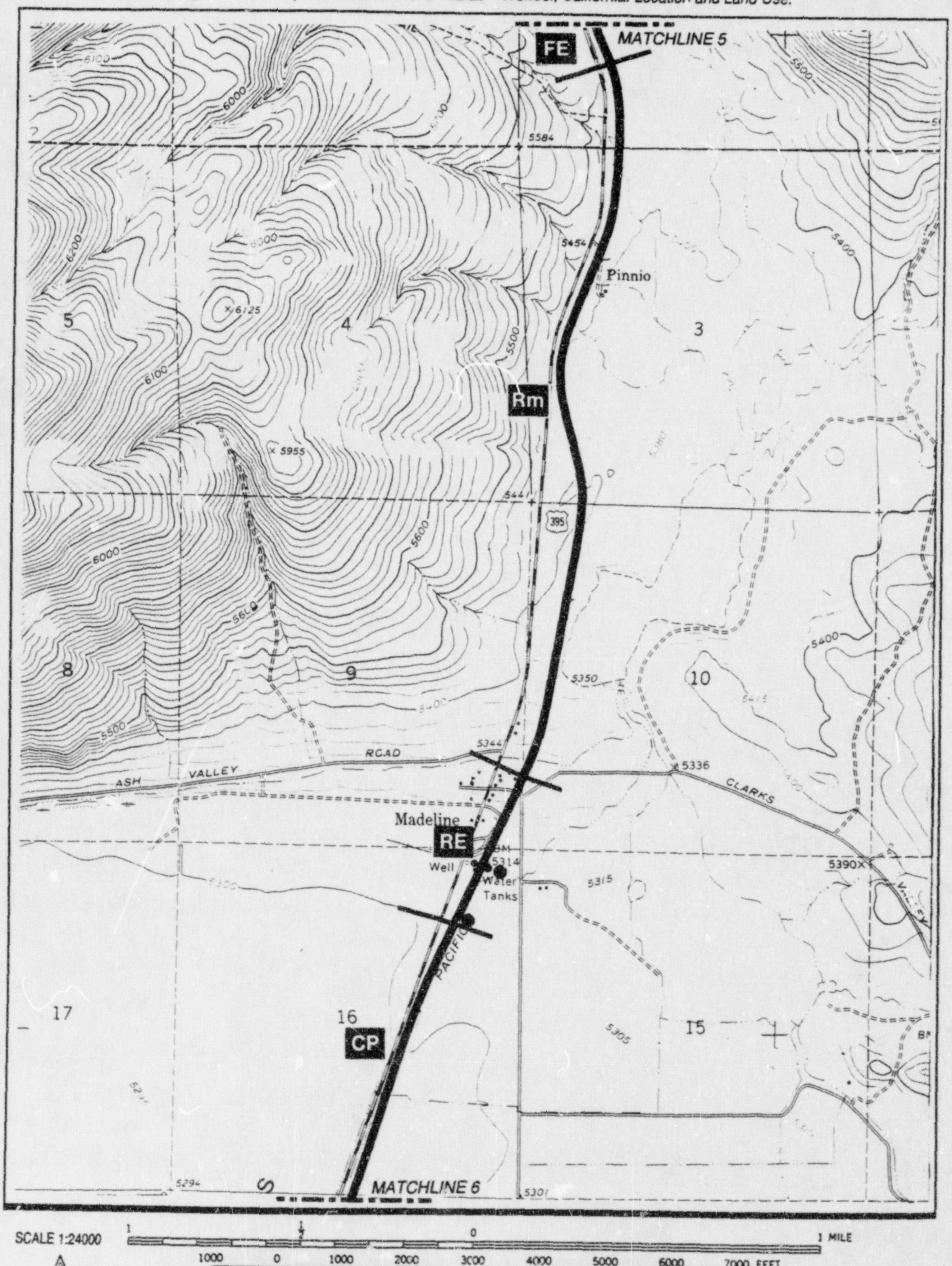
Base Map: *USGS 7.5' Topographic Quadrangles:* Likely, California (Provisional Edition 1990); Tule Mountain ,California 1962 (photorevised 1982)

Figure 4.1-5 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



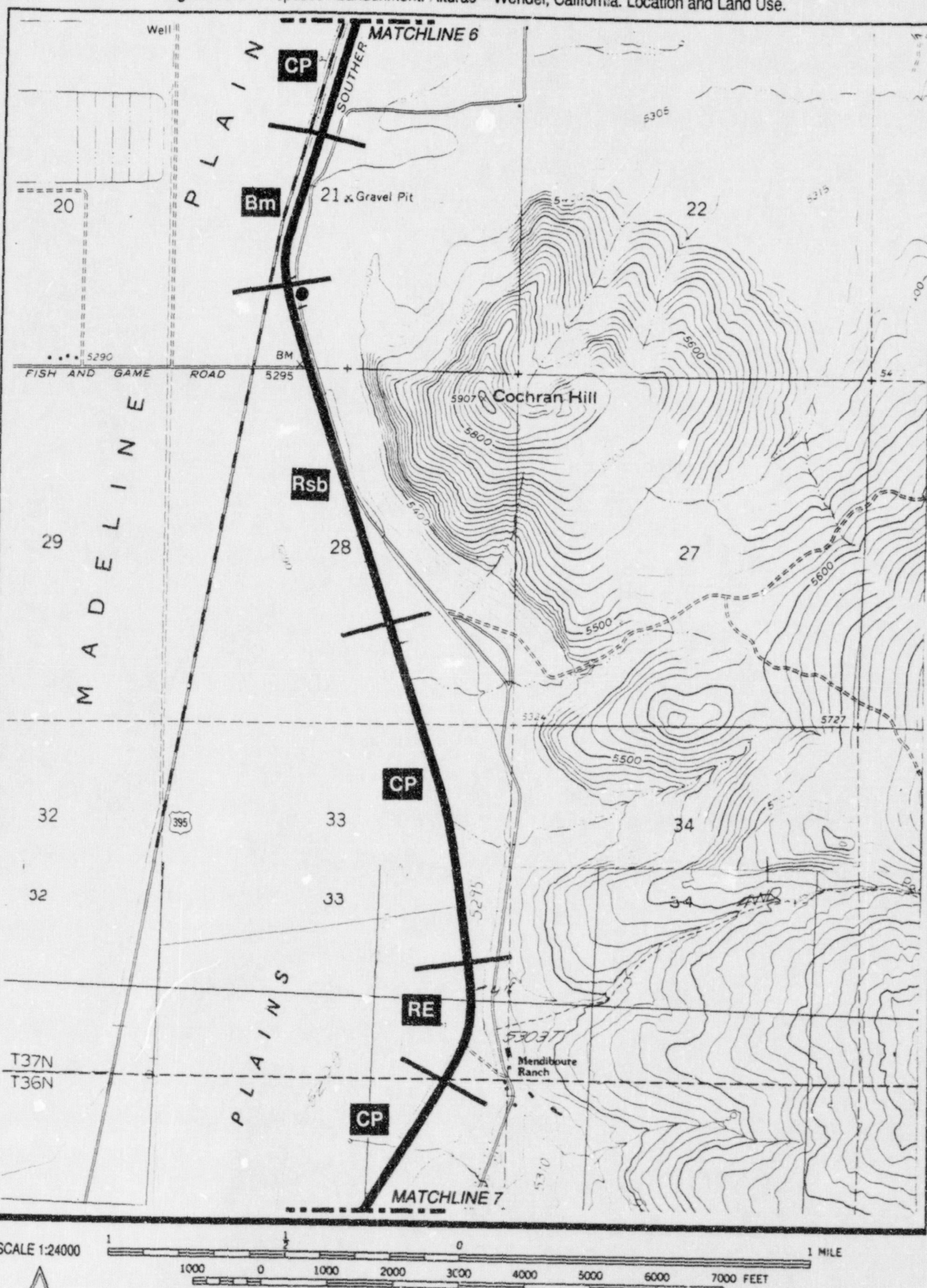
Base Map: *USGS 7.5' Topographic Quadrangles:* Likely, California (Provisional Edition 1990); Tule Mountain, California 1962 (Photorevised 1982); Holbrook Canyon, California (Provisional Edition 1990); Madeline, California 1962 (Photoinspected 1975)

Figure 4.1-6 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



Base Map: *USGS 7.5' Topographic Quadrangle:* Madeline, California 1962 (Photoinspected 1975)

Figure 4.1-7 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles:* Madeline, California 1962 (Photoinspected 1975); McDonald Peak, California (Provisional Edition 1989)

Figure 4.1-8 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.

SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

Base Map: *USGS 7.5' Topographic Quadrangles:* Anderson Mountain, California (Provisional Edition 1989); McDonald Peak, California (Provisional Edition 1989)

Figure 4.1-9 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.

SCALE 1:24000

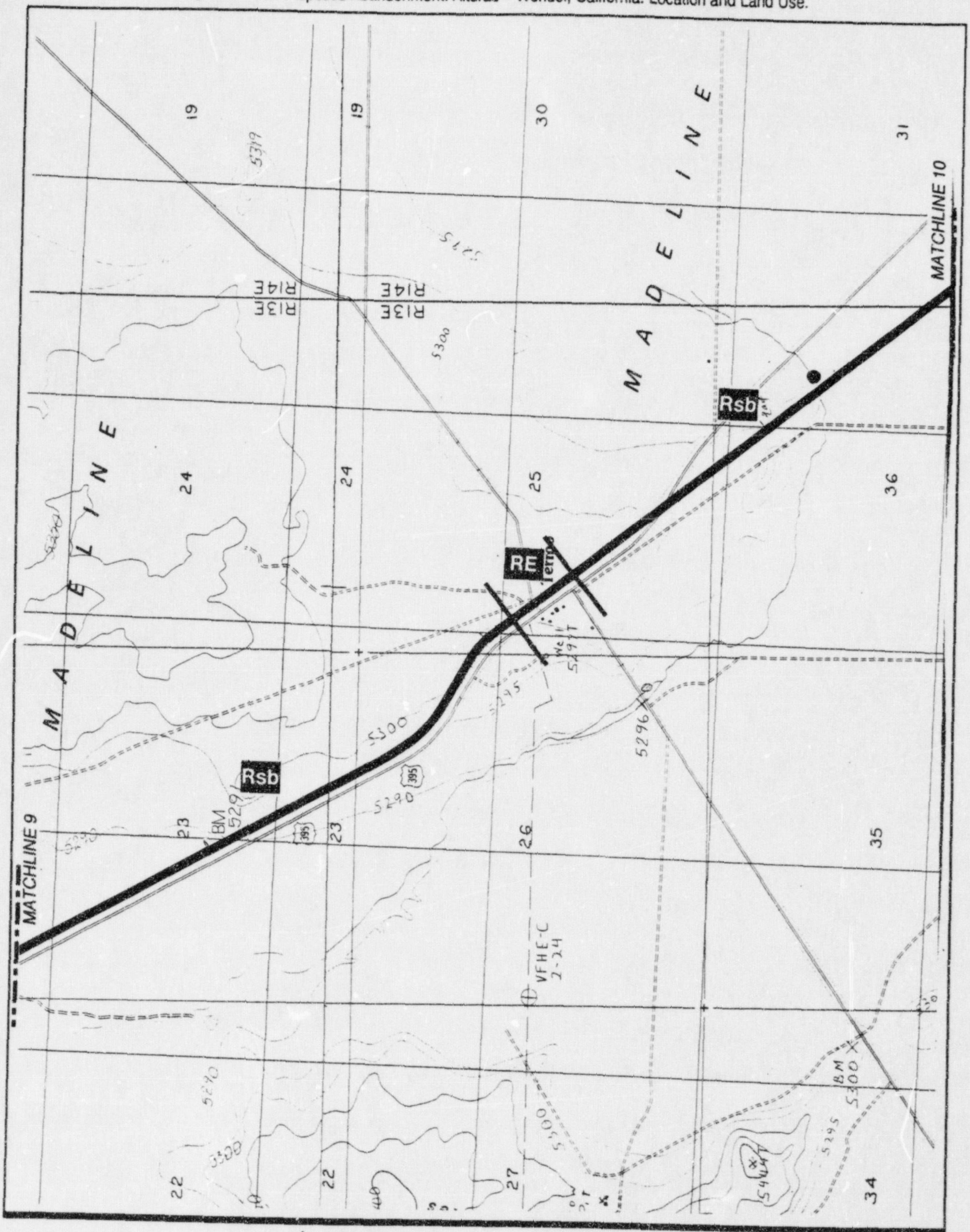
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles:* Anderson Mountain, California (Provisional Edition 1989); McDonald Peak, California (Provisional Edition 1989)

Figure 4.1-10 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

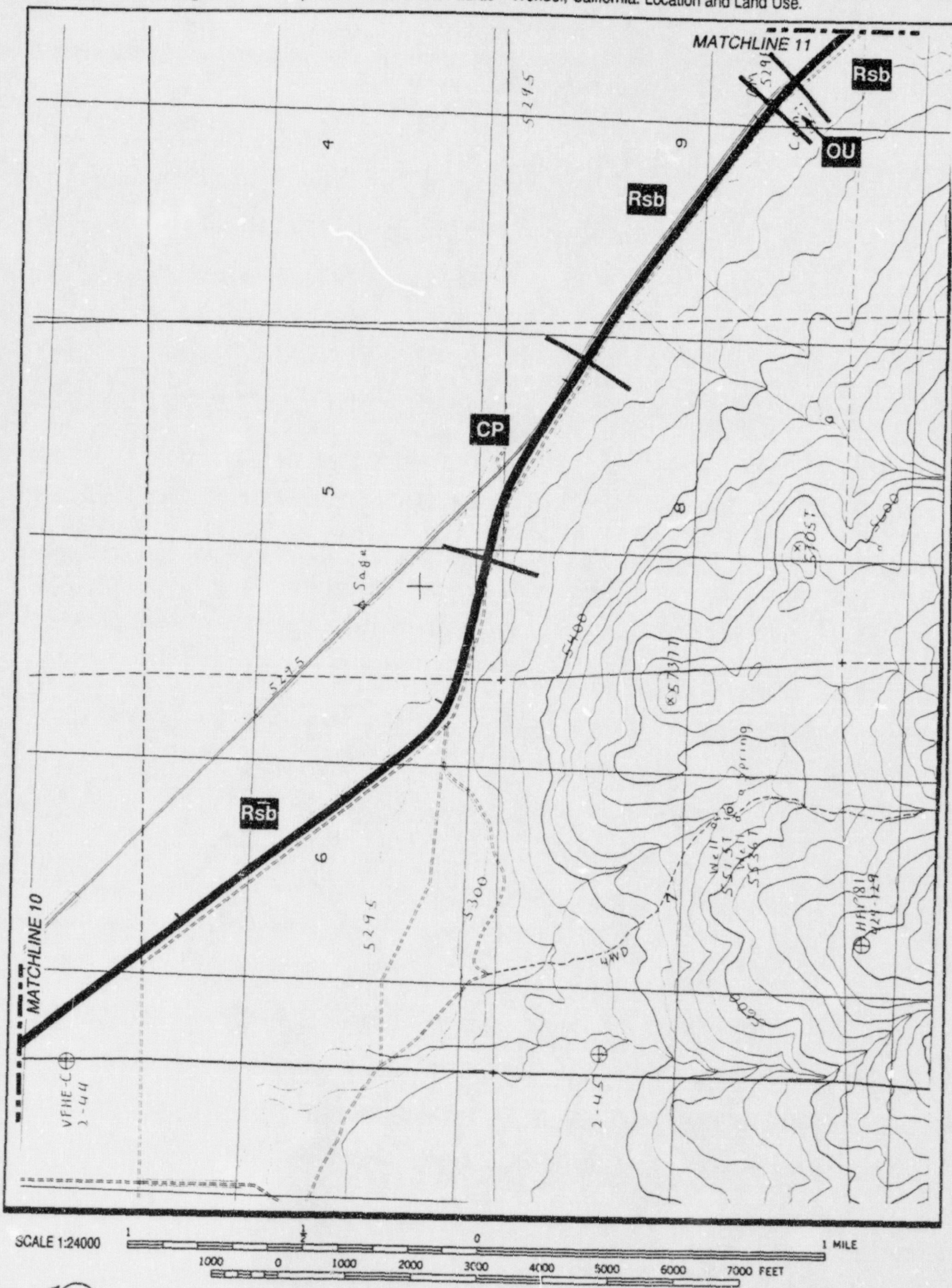
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

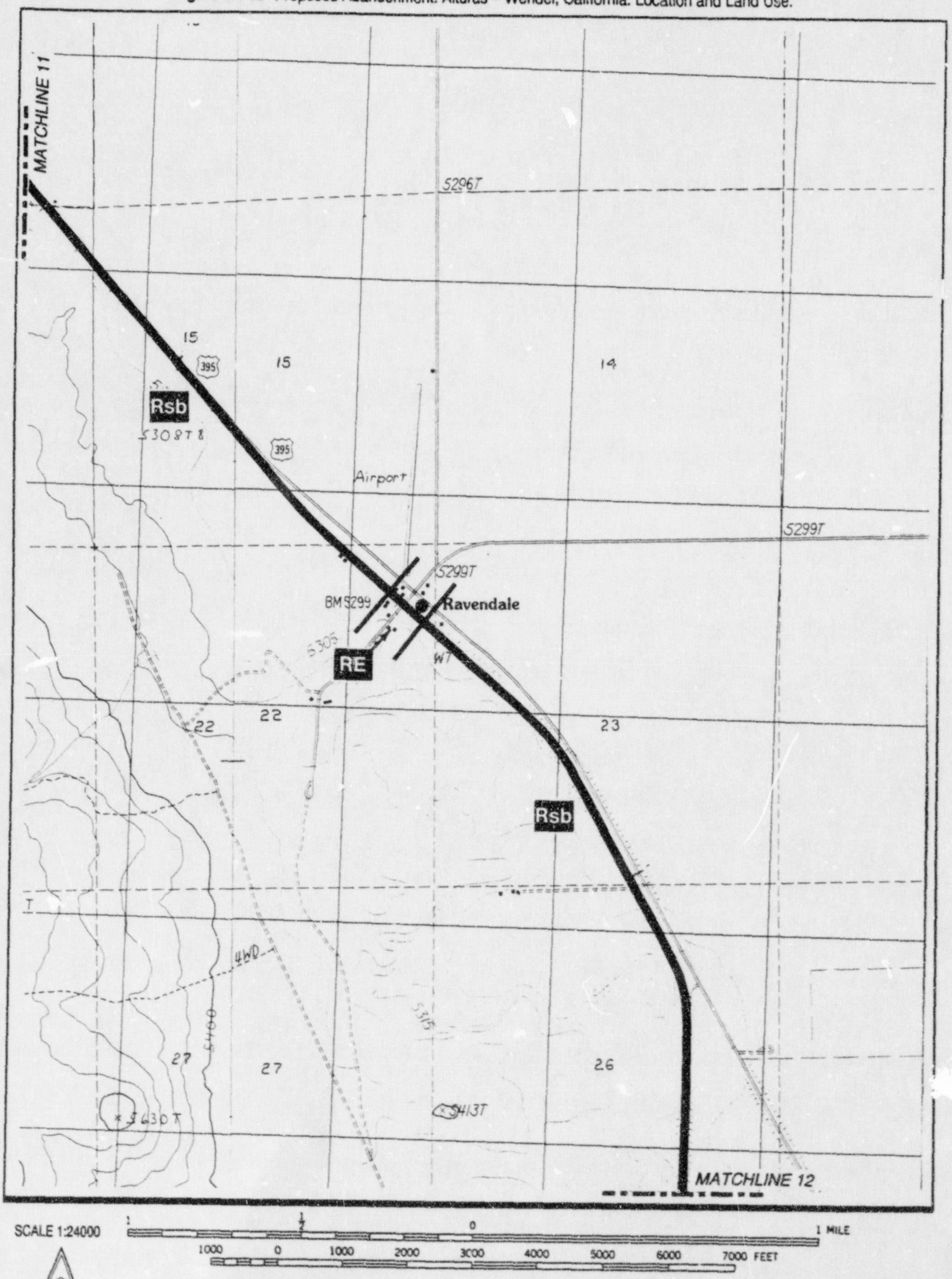
Base Map: *USGS 7.5' Topographic Quadrangles:* McDonald Peak, California (Provisional Edition 1989); Termo, California (Provisional Edition 1989)

Figure 4.1-11 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



Base Map: *USGS 7.5' Topographic Quadrangle:* Termo, California (Provisional Edition 1989)

Figure 4.1-12 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.

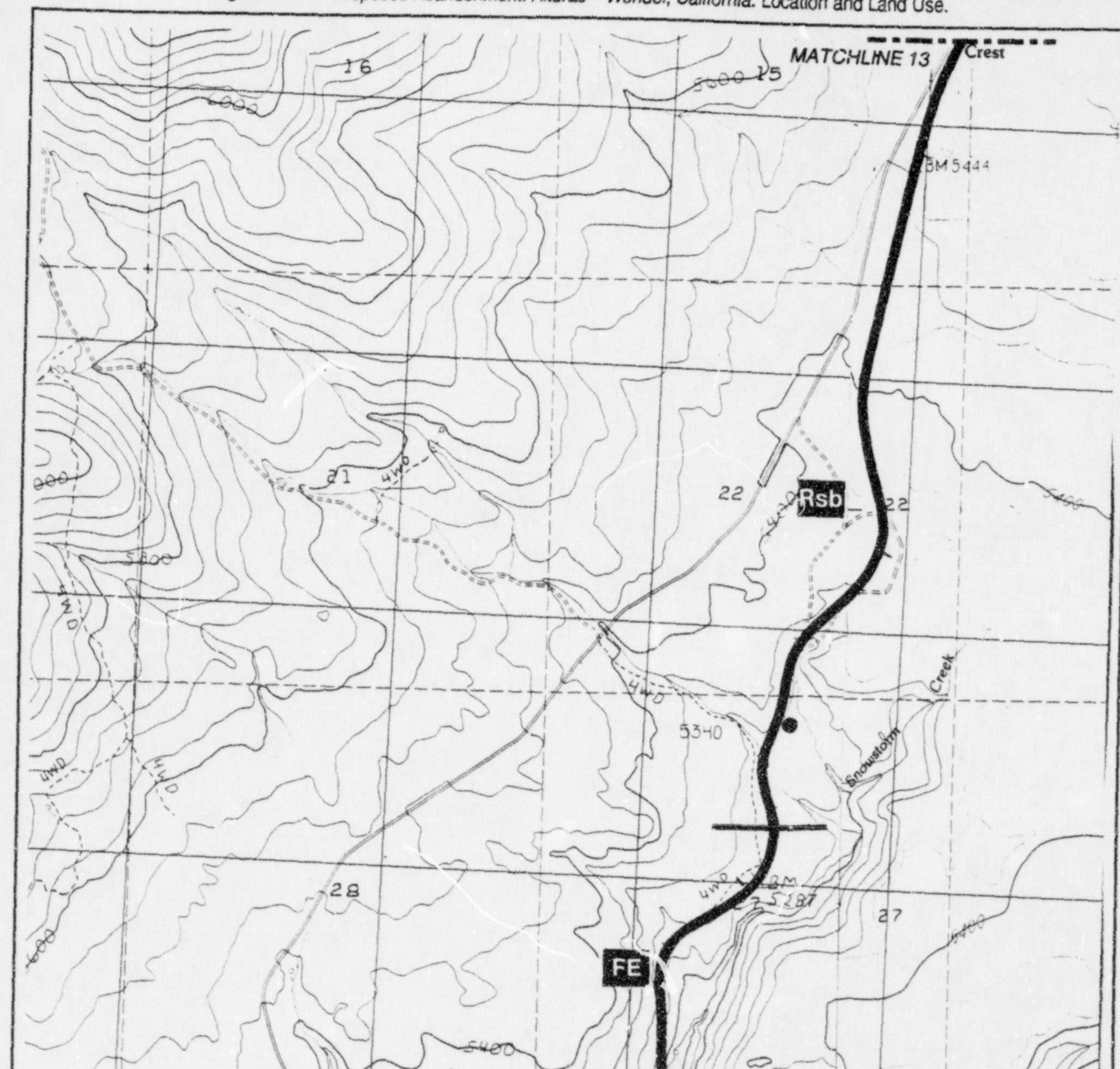


Base Map: *USGS 7.5' Topographic Quadrangles:* Termo, California (Provisional Edition 1989); Ravendale, California (Provisional Edition 1989)

Figure 4.1-13 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.

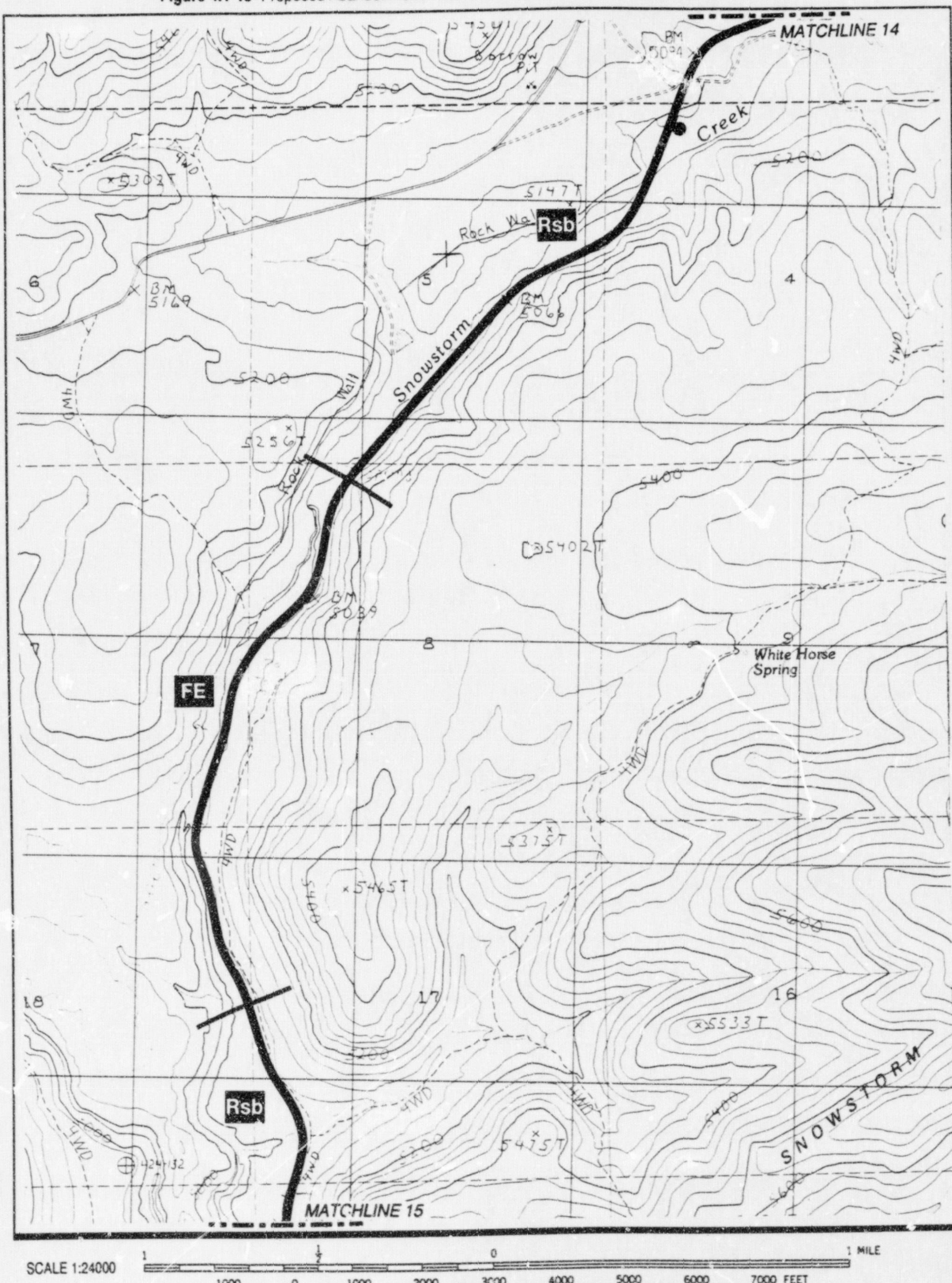
Base Map: *USGS 7.5' Topographic Quadrangles:* Termo, California (Provisional Edition 1989); Ravendale, California, California (Provisional Edition 1989); West of Snowstorm Mountain, California (Provisional Edition 1989); Snowstorm Mountain, California (Provisional Edition 1989)

Figure 4.1-14 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



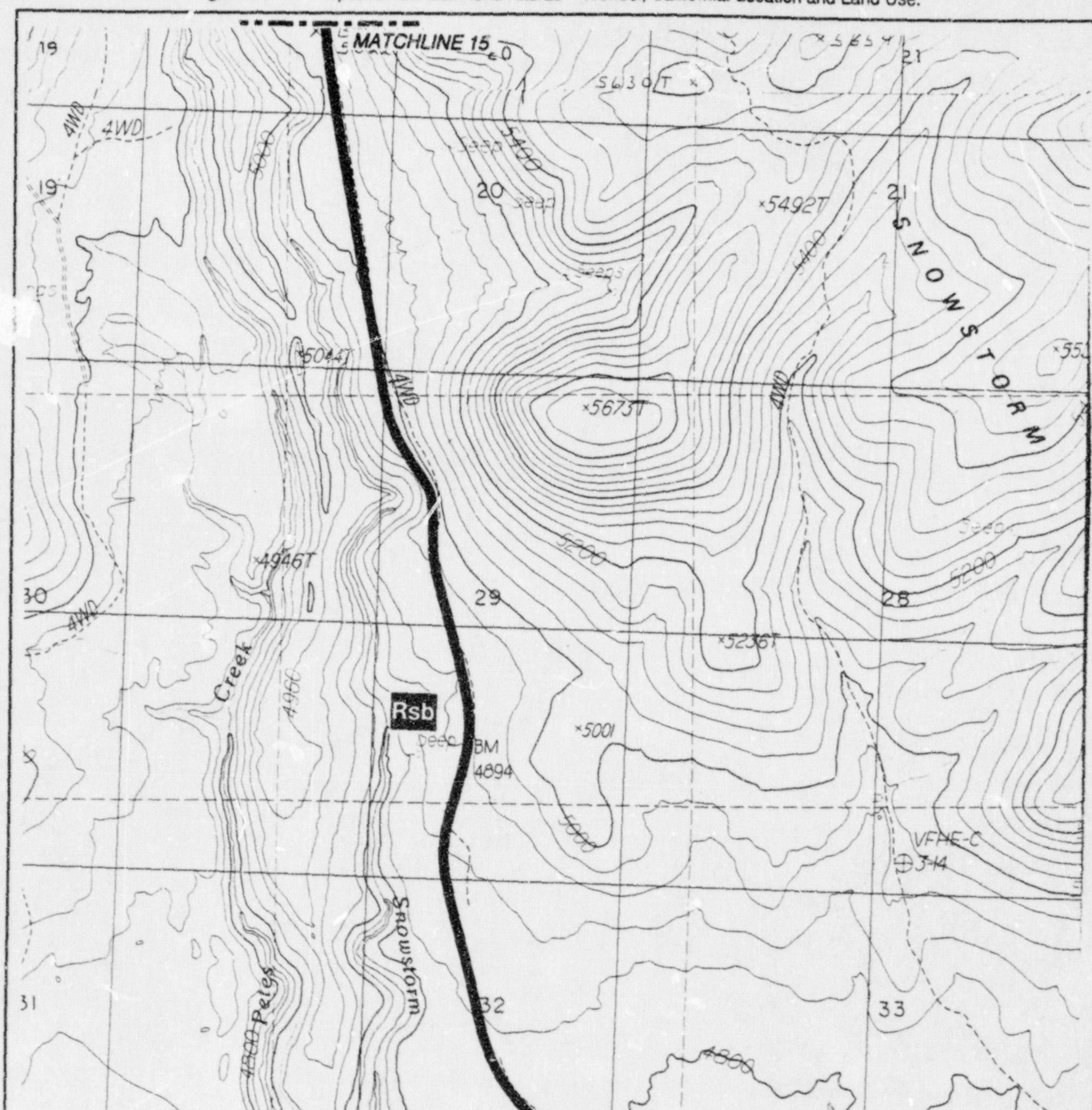
Base Map: *USGS 7.5' Topographic Quadrangles:* West of Snowstorm Mountain, California (Provisional Edition 1989); Snowstorm Mountain, California (Provisional Edition 1989)

Figure 4.1-15 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



Base Map: *USGS 7.5' Topographic Quadrangle:* West of Snowstorm Mountain, California

Figure 4.1-16 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



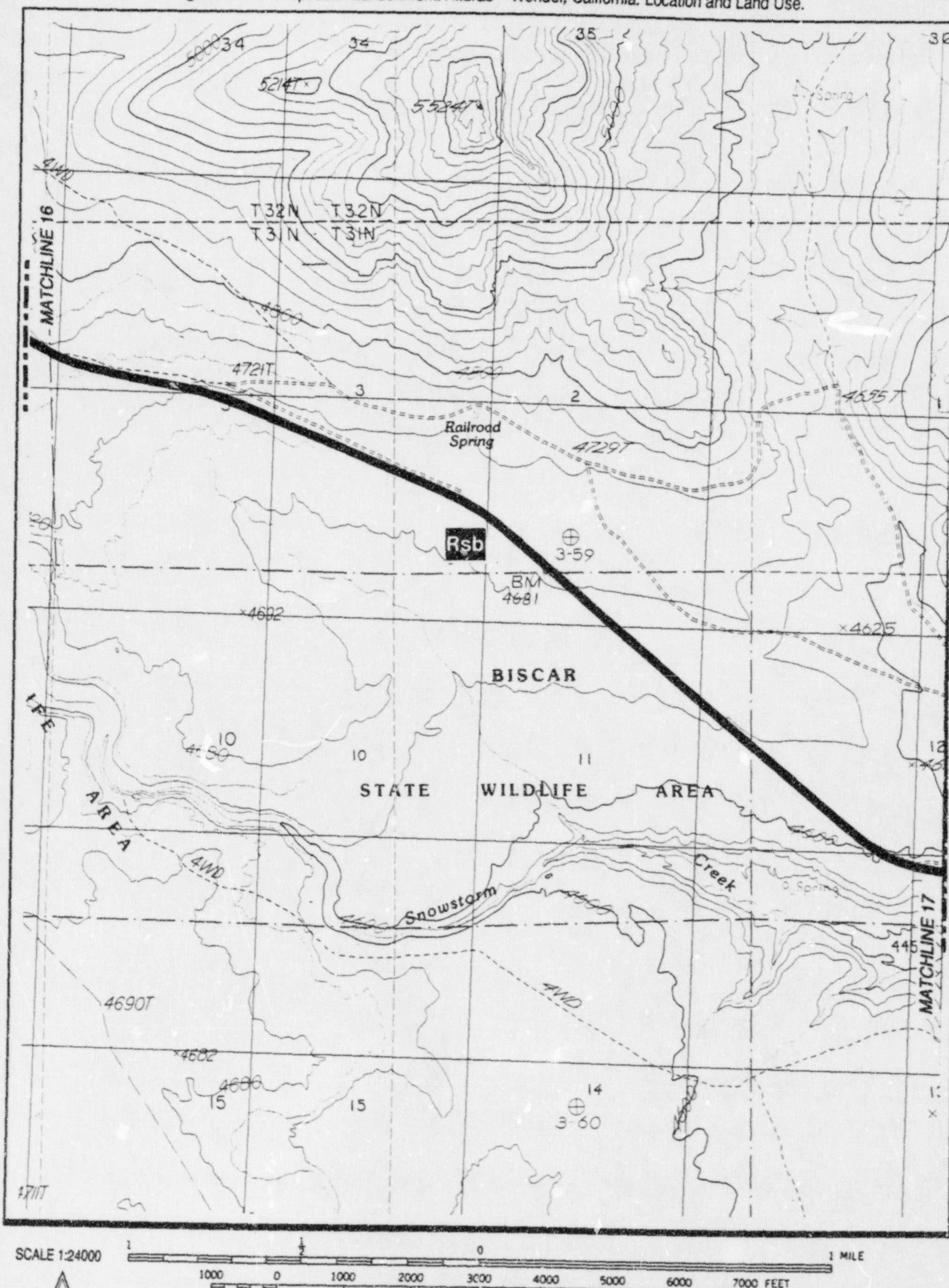
SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

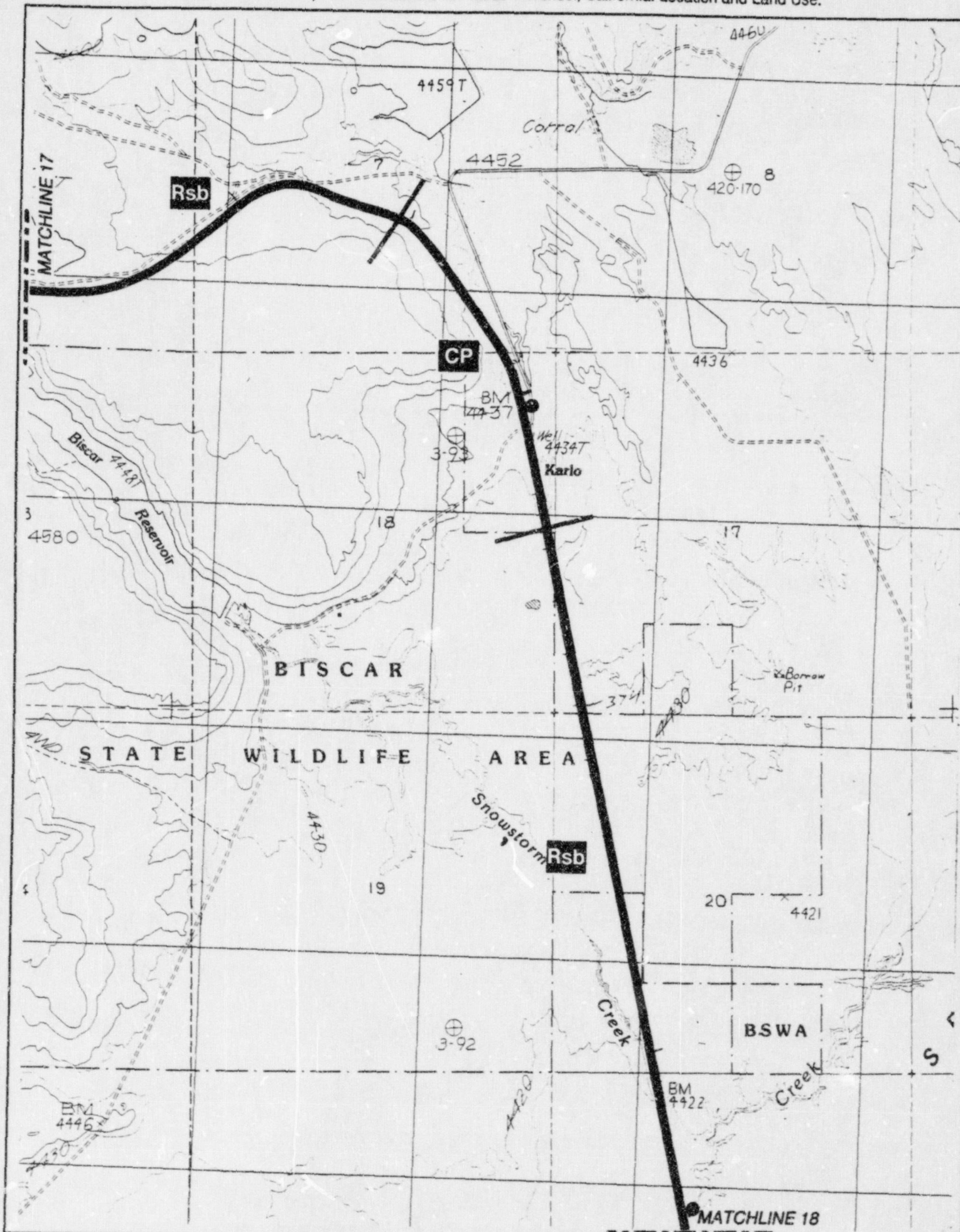
Base Map: *USGS 7.5' Topographic Quadrangles:* West of Snowstorm Mountain, California; Petes Valley, California (Provisional Edition 1989)

Figure 4.1-17 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



Base Map: *USGS 7.5' Topographic Quadrangles:* Petes Valley, California (Provisional Edition 1989); Karlo, California (Provisional Edition 1989)

Figure 4.1-18 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

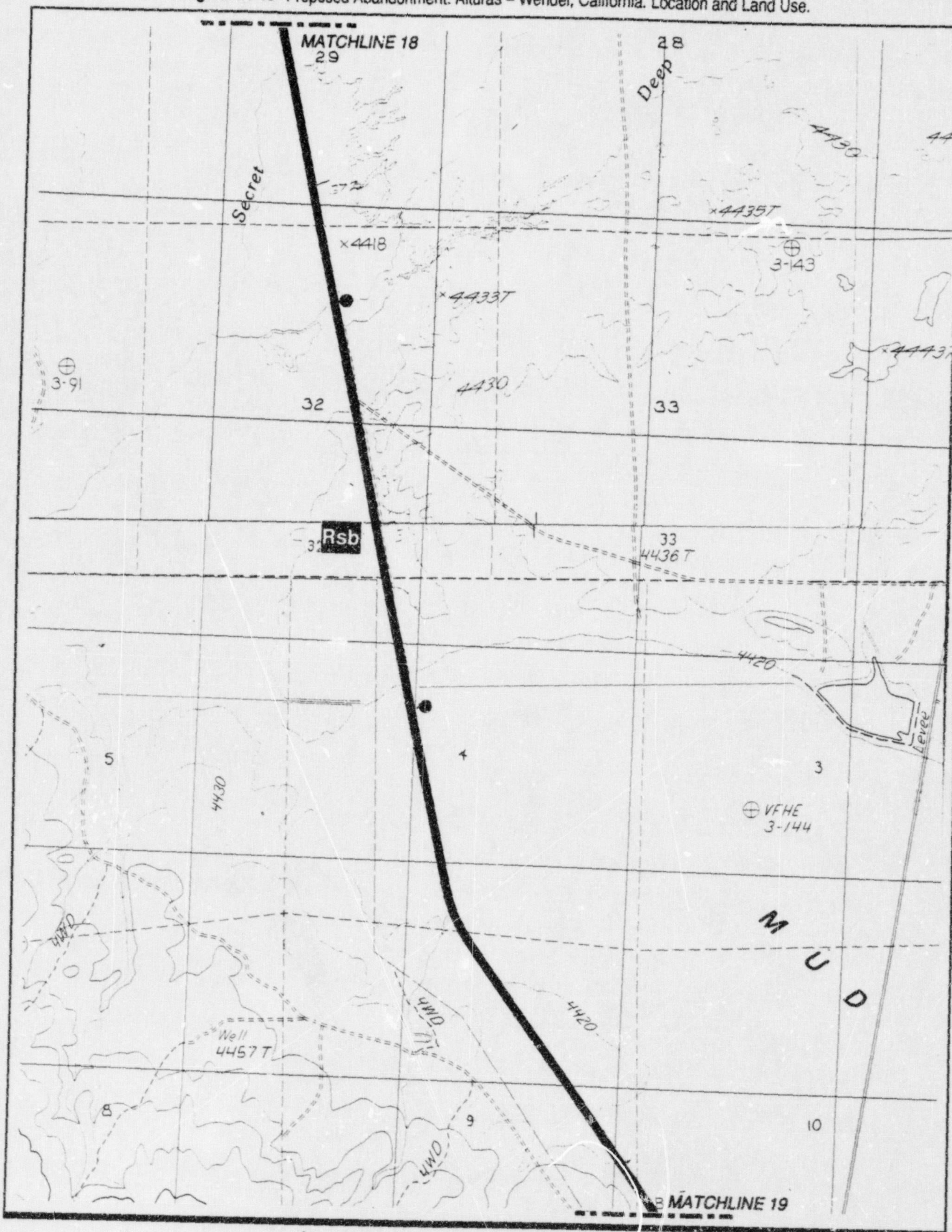
1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

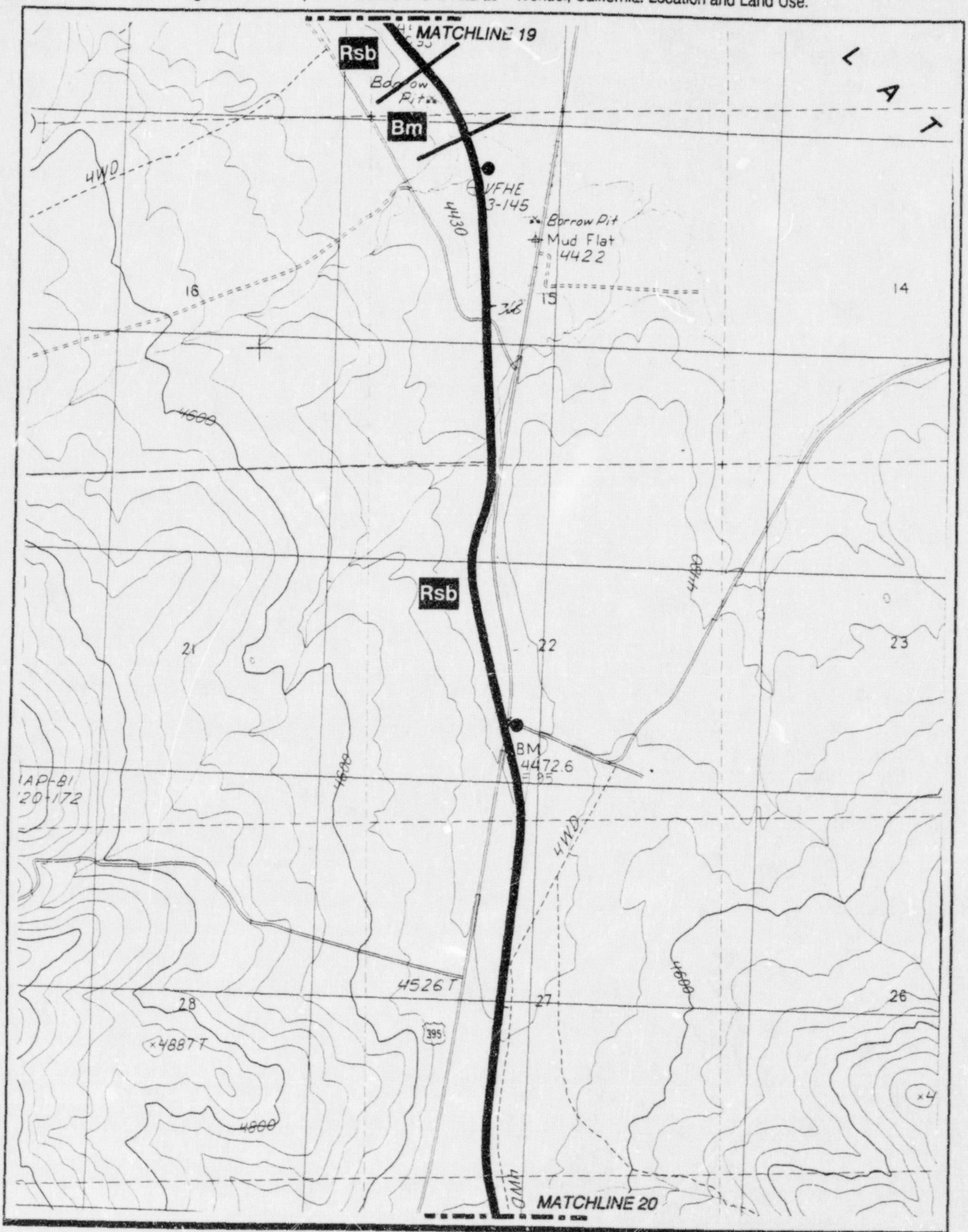
Base Map: *USGS 7.5' Topographic Quadrangle:* Karlo, California (Provisional Edition 1989)

Figure 4.1-19 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



Base Map: *USGS 7.5' Topographic Quadrangles:* Karlo, California (Provisional Edition 1989); Shaffer Mountain, California (Provisional Edition 1988)

Figure 4.1-20 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

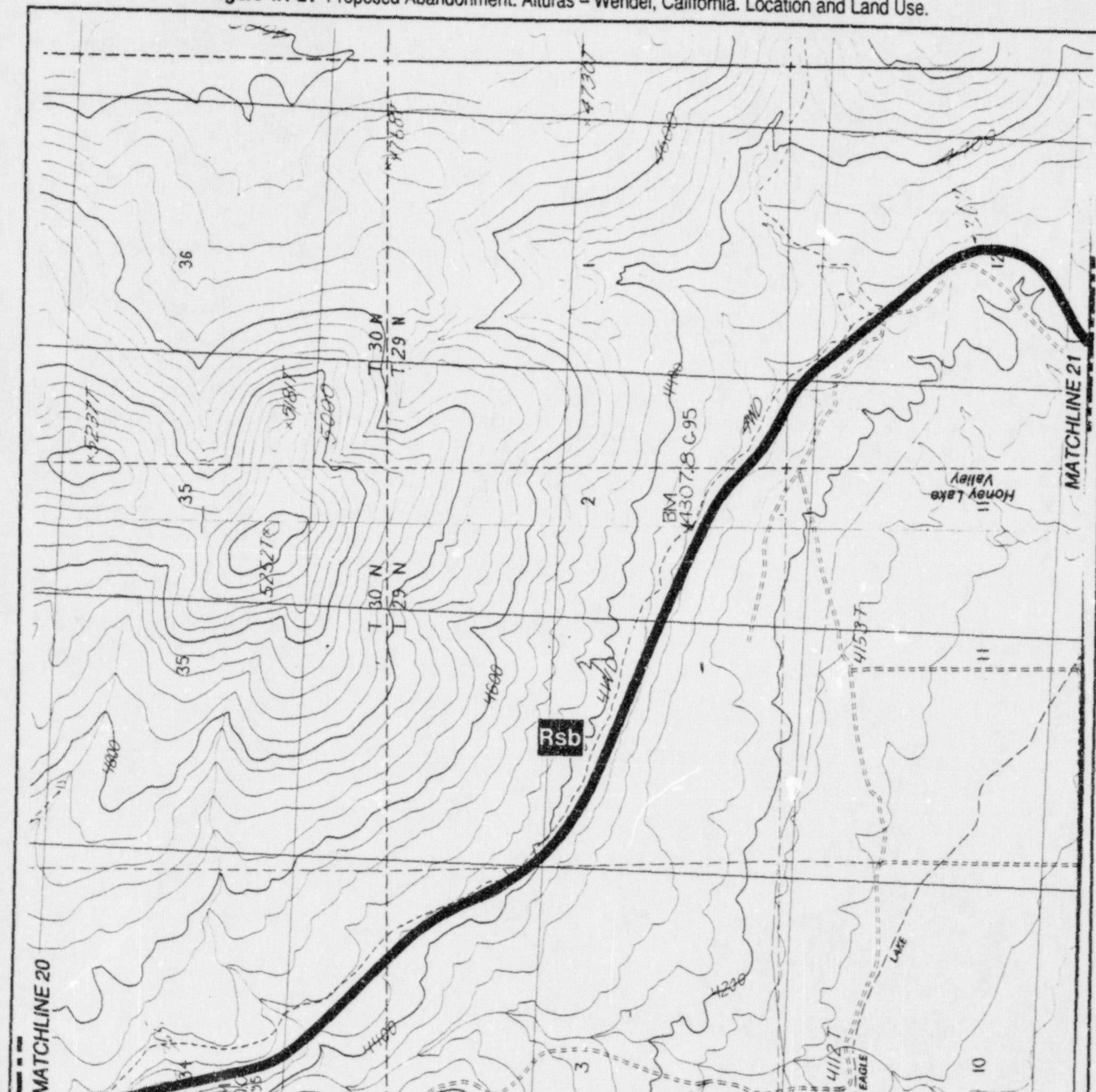
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle:* Shaffer Mountain, California (Provisional Edition 1988)

Figure 4.1-21 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



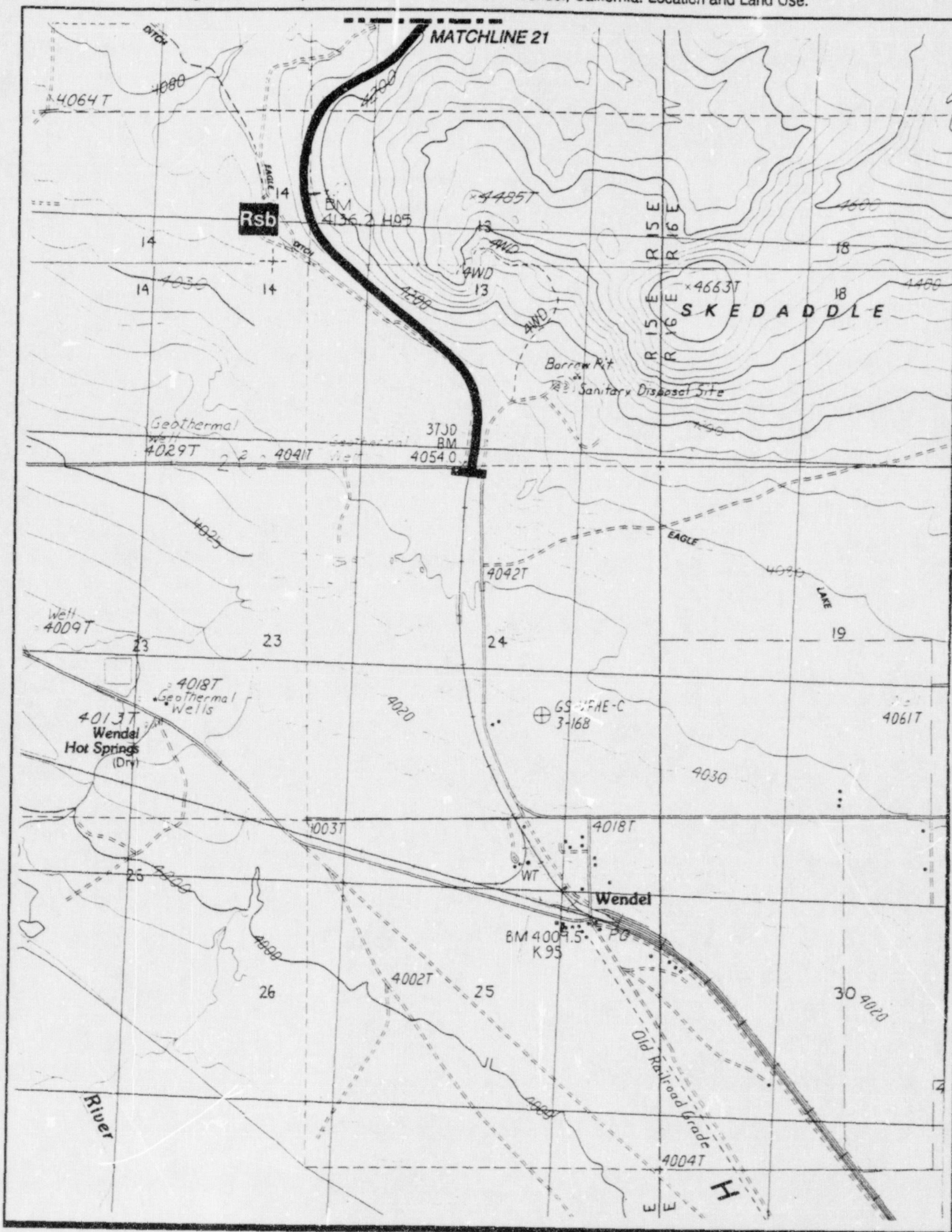
SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

Base Map: *USGS 7.5' Topographic Quadrangle:* Shaffer Mountain, California (Provisional Edition 1988); Little Mud Flat, California (Provisional Edition 1988)

Figure 4.1-22 Proposed Abandonment: Alturas – Wendel, California. Location and Land Use.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles: Shaffer Mountain, California (Provisional Edition 1988); Little Mud Flat, California (Provisional Edition 1988); Wendel Hot Springs, California (Provisional Edition 1988); Wendel, California (Provisional Edition 1988)*

NWI LEGEND

E — ESTUARINE

1 — SUBTIDAL

- **RB — ROCK BOTTOM**
  - 1 Bedrock
  - 2 Rubble
- **UB — UNCONSOLIDATED BOTTOM**
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- **AB — AQUATIC BED**
  - 1 Algal
  - 3 Rooted Vascular
  - 4 Floating Vascular
  - 5 *Unknown Submergent*
  - 6 *Unknown Surface*
- **RF — REEF**
  - 2 Mollusc
  - 3 Worm
- **OW — *OPEN WATER/ Unknown Bottom***

2 — INTERTIDAL

- **AB — AQUATIC BED**
  - 1 Algal
  - 3 Rooted Vascular
  - 4 Floating Vascular
  - 5 *Unknown Submergent*
  - 6 *Unknown Surface*
- **RF — REEF**
  - 2 Mollusc
  - 3 Worm
- **SB — STREAMBED**
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- **RS — ROCKY SHORE**
  - 1 Bedrock
  - 2 Rubble
- **US — UNCONSOLIDATED SHORE**
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- **EM — EMERGENT**
  - 1 Persistent
  - 2 Nonpersistent
- **SS — SCRUB-SHRUB**
  - 1 Broad-Leaved Deciduous
  - 2 Needle-Leaved Deciduous
  - 3 Broad-Leaved Evergreen
  - 4 Needle-Leaved Evergreen
  - 5 Dead
  - 6 *Deciduous*
  - 7 *Evergreen*
- **FO — FORESTED**
  - 1 Broad-Leaved Deciduous
  - 2 Needle-Leaved Deciduous
  - 3 Broad-Leaved Evergreen
  - 4 Needle-Leaved Evergreen
  - 5 Dead
  - 6 *Deciduous*
  - 7 *Evergreen*

L — LACUSTRINE

1 — LIMNETIC

- **RB — ROCK BOTTOM**
  - 1 Bedrock
  - 2 Rubble
- **UB — UNCONSOLIDATED BOTTOM**
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- **AB — AQUATIC BED**
  - 1 Algal
  - 2 Aquatic Moss
  - 3 Rooted Vascular
  - 4 Floating Vascular
  - 5 *Unknown Submergent*
  - 6 *Unknown Surface*
- **OW — *OPEN WATER/ Unknown Bottom***

2 — LITTORAL

- **RB — ROCK BOTTOM**
  - 1 Bedrock
  - 2 Rubble
- **UB — UNCONSOLIDATED BOTTOM**
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
- **AB — AQUATIC BED**
  - 1 Algal
  - 2 Aquatic Moss
  - 3 Rooted Vascular
  - 4 Floating Vascular
  - 5 *Unknown Submergent*
  - 6 *Unknown Surface*
- **RS — ROCKY SHORE**
  - 1 Bedrock
  - 2 Rubble
- **US — UNCONSOLIDATED SHORE**
  - 1 Cobble-Gravel
  - 2 Sand
  - 3 Mud
  - 4 Organic
  - 5 Vegetated
- **EM — EMERGENT**
  - 2 Nonpersistent
- **OW — *OPEN WATER/ Unknown Bottom***

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal

- A Temporarily Flooded
- B Saturated
- C Seasonally Flooded
- D *Seasonally Flooded/ Well Drained*
- E *Seasonally Flooded/ Saturated*
- F Semipermanently Flooded
- G Intermittently Exposed
- H *Permanently Flooded*
- J Intermittently Flooded
- K Artificially Flooded
- W Intermittently Flooded/Temporary
- Y Saturated/Semipermanent/ Seasonal
- Z Intermittently Exposed/Permanent
- U *Unknown*

Tidal

- K *Artificially Flooded*
- L Subtidal
- M Irregularly Exposed
- N Regularly Flooded
- P Irregularly Flooded
- *S Temporary-Tidal
- *R Seasonal-Tidal
- *T Semipermanent-Tidal
- *V Permanent-Tidal
- U *Unknown*

*These water regimes are only used in tidally influenced, freshwater systems

WATER CHEMISTRY

Coastal Halinity

- 1 Hyperhaline
- 2 Euhaline
- 3 Mixohaline *(Brackish)*
- 4 Polyhaline
- 5 Mesohaline
- 6 Oligohaline
- 0 Fresh

Inland Salinity

- 7 Hypersaline
- 8 Eusaline
- 9 Mixosaline
- 0 Fresh

pH Modifiers for all Fresh Water

- a Acid
- t Circumneutral
- i Alkaline

SOIL

- g Organic
- n Mineral

SPECIAL MODIFIERS

- b *Beaver*
- d *Partially Drained/Ditched*
- f Farmed
- h *Diked/Impounded*
- r Artificial Substrate
- s *Spoil*
- x *Excavated*

Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

NWI LEGEND

SYSTEM M — MARINE

SUBSYSTEM	1 — SUBTIDAL					2 — INTERTIDAL			
CLASS	RB ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB AQUATIC BED	RF REEF	OW *OPEN WATER/ Unknown Bottom*	AB — AQUATIC BED	RF — REEF	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM R — RIVERINE

SUBSYSTEM 1 — TIDAL; 2 — LOWER PERENNIAL; 3 — UPPER PERENNIAL; 4 — INTERMITTENT; 5 — *UNKNOWN PERENNIAL*

CLASS	RB ROCK BOTTOM	UB UNCONSOLIDATED BOTTOM	*SB STREAMBED	AB AQUATIC BED	RS ROCKY SHORE	US UNCONSOLIDATED SHORE	**EM — EMERGENT	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM

**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

SYSTEM P — PALUSTRINE

CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	US — UNCONSOLIDATED SHORE	ML — MOSS-LICHEN	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	

Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

Figure 4.2-1 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

SCALE 1:24000

1 ½ 0 1 MILE

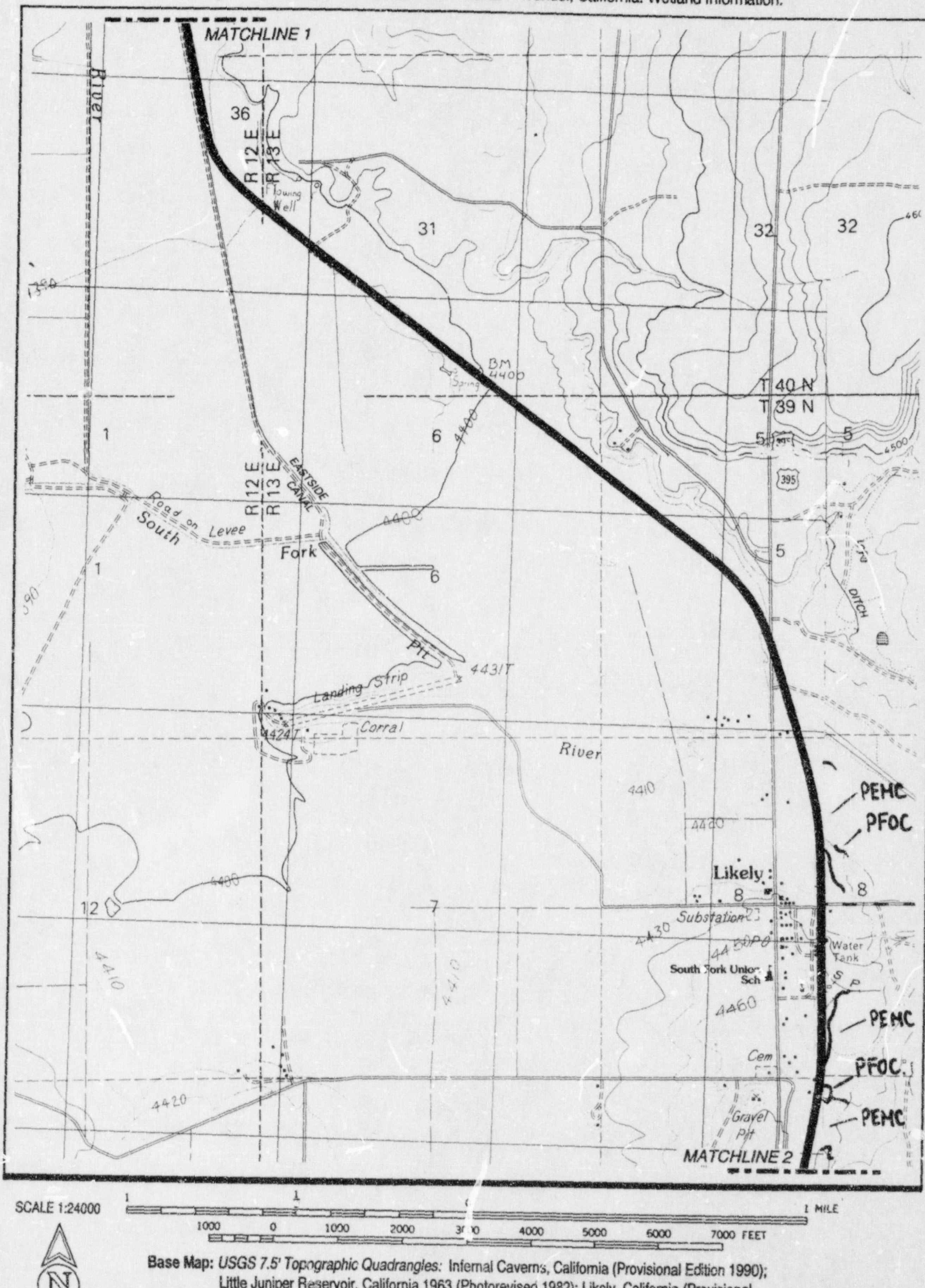
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle:* Infernal Caverns, California (Provisional Edition 1990)

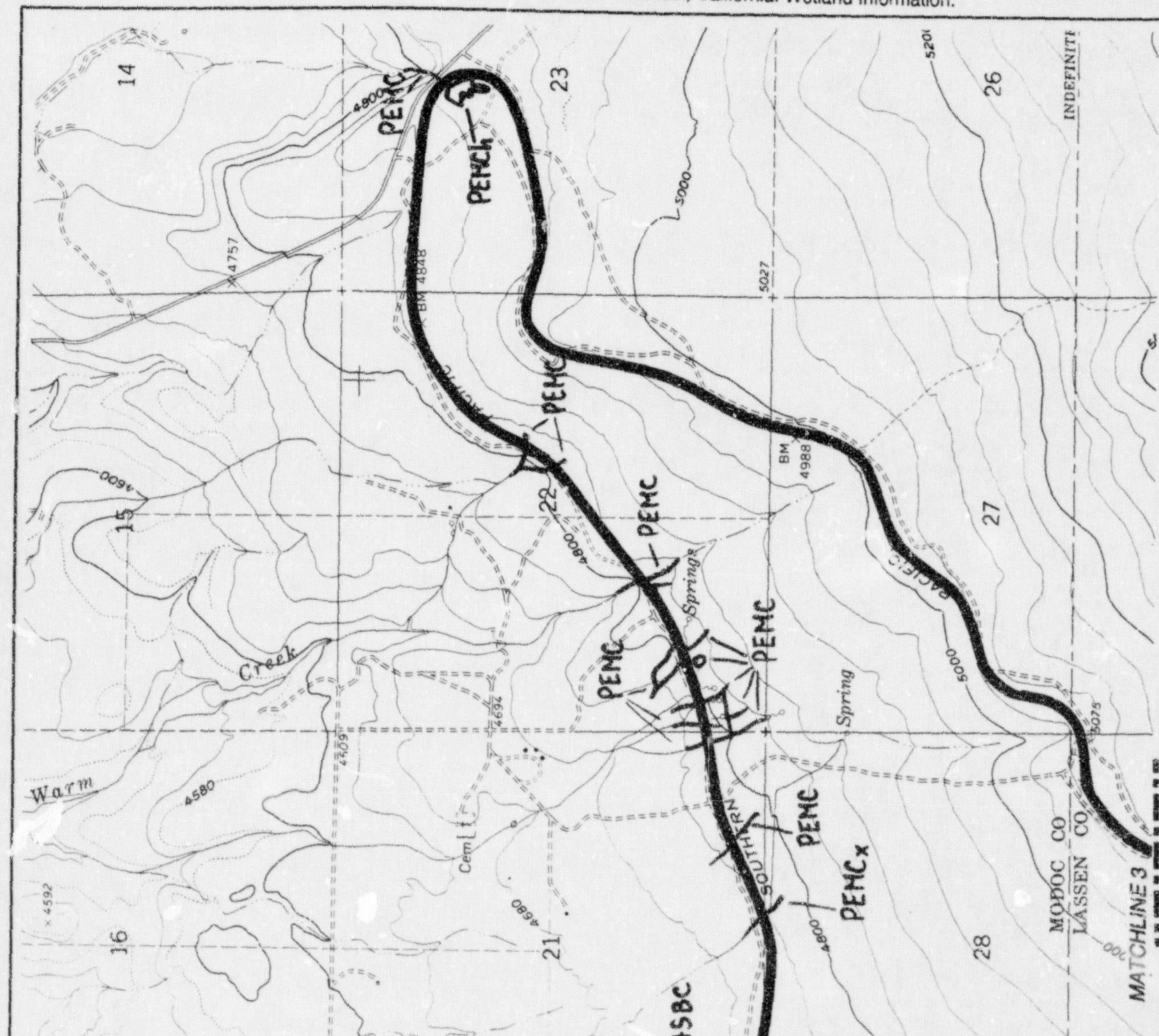
STB FD 32760 11-30-95 A 1648V19 3/5

Figure 4.2-2 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangles:* Infernal Caverns, California (Provisional Edition 1990); Little Juniper Reservoir, California 1963 (Photorevised 1982); Likely, California (Provisional Edition 1990); Tule Mountain, California 1962 (Photorevised 1982)

Figure 4.2-3 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

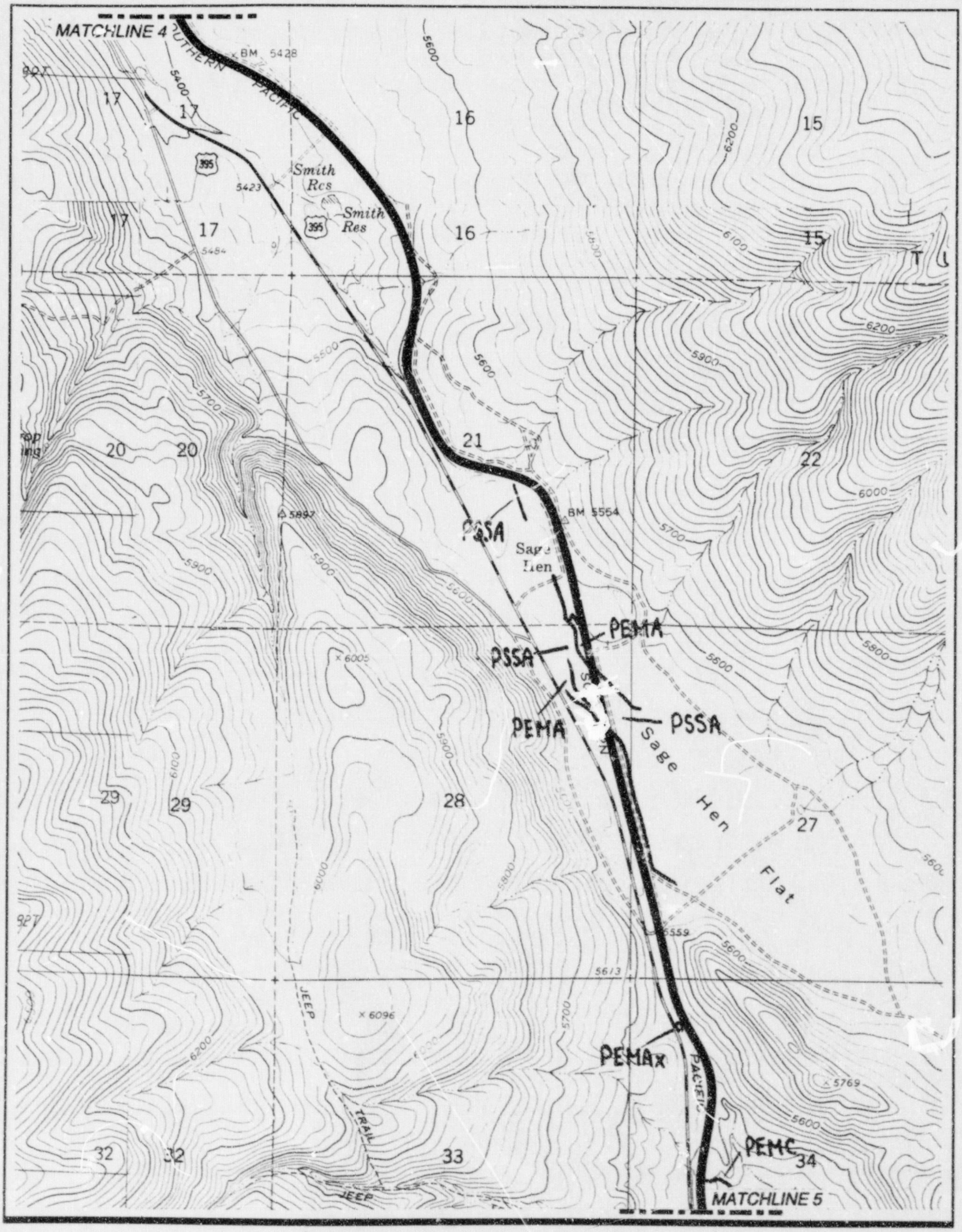


Base Map: *USGS 7.5' Topographic Quadrangles:* Likely, California (Provisional Edition 1990);
Tule Mountain ,California 1962 (photorevised 1982);

Figure 4.2-4 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

Base Map: *USGS 7.5' Topographic Quadrangles:* Likely, California (Provisional Edition 1990); Tule Mountain ,California 1962 (photorevised 1982)

Figure 4.2-5 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



SCALE 1:24000

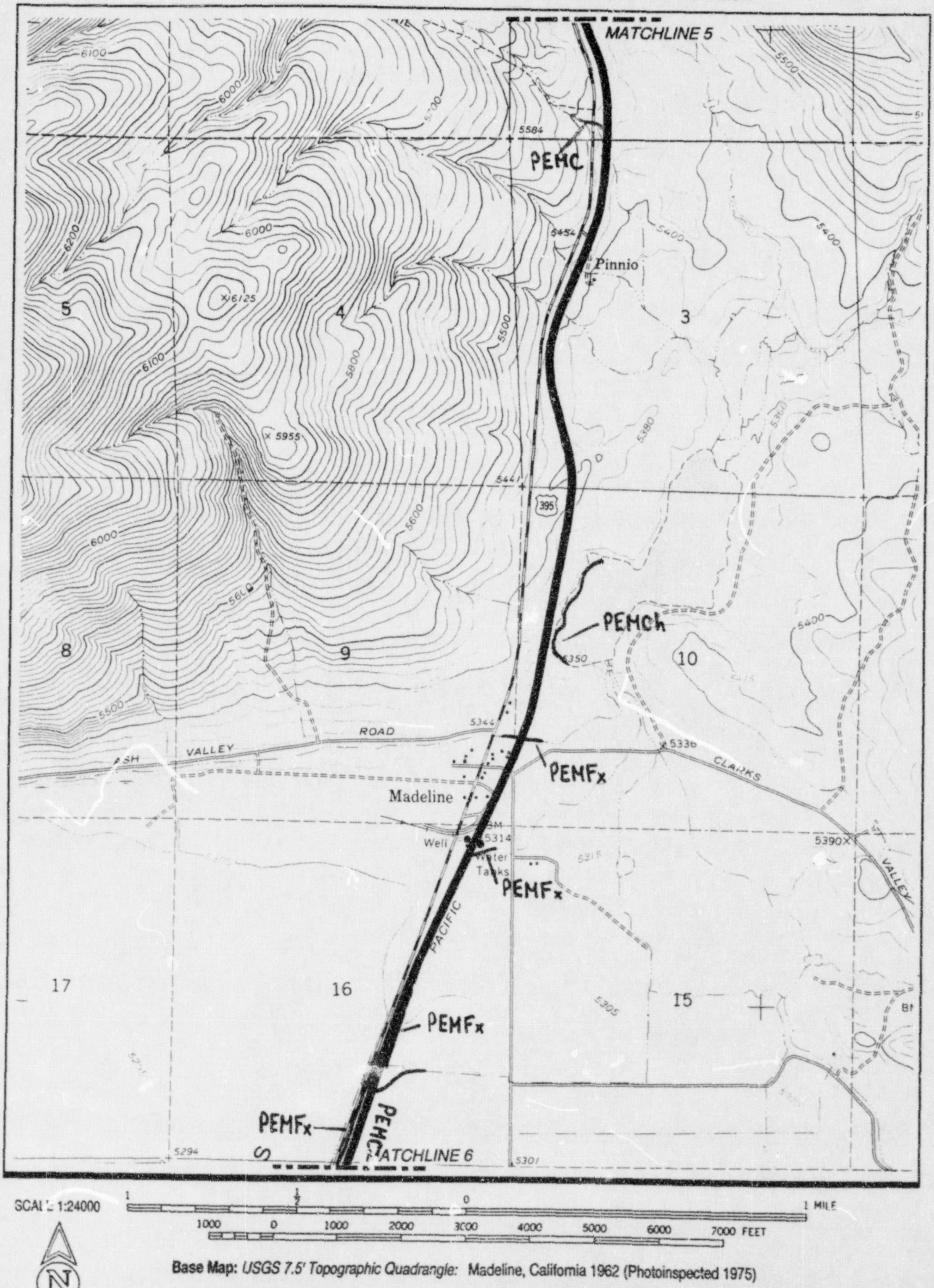
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

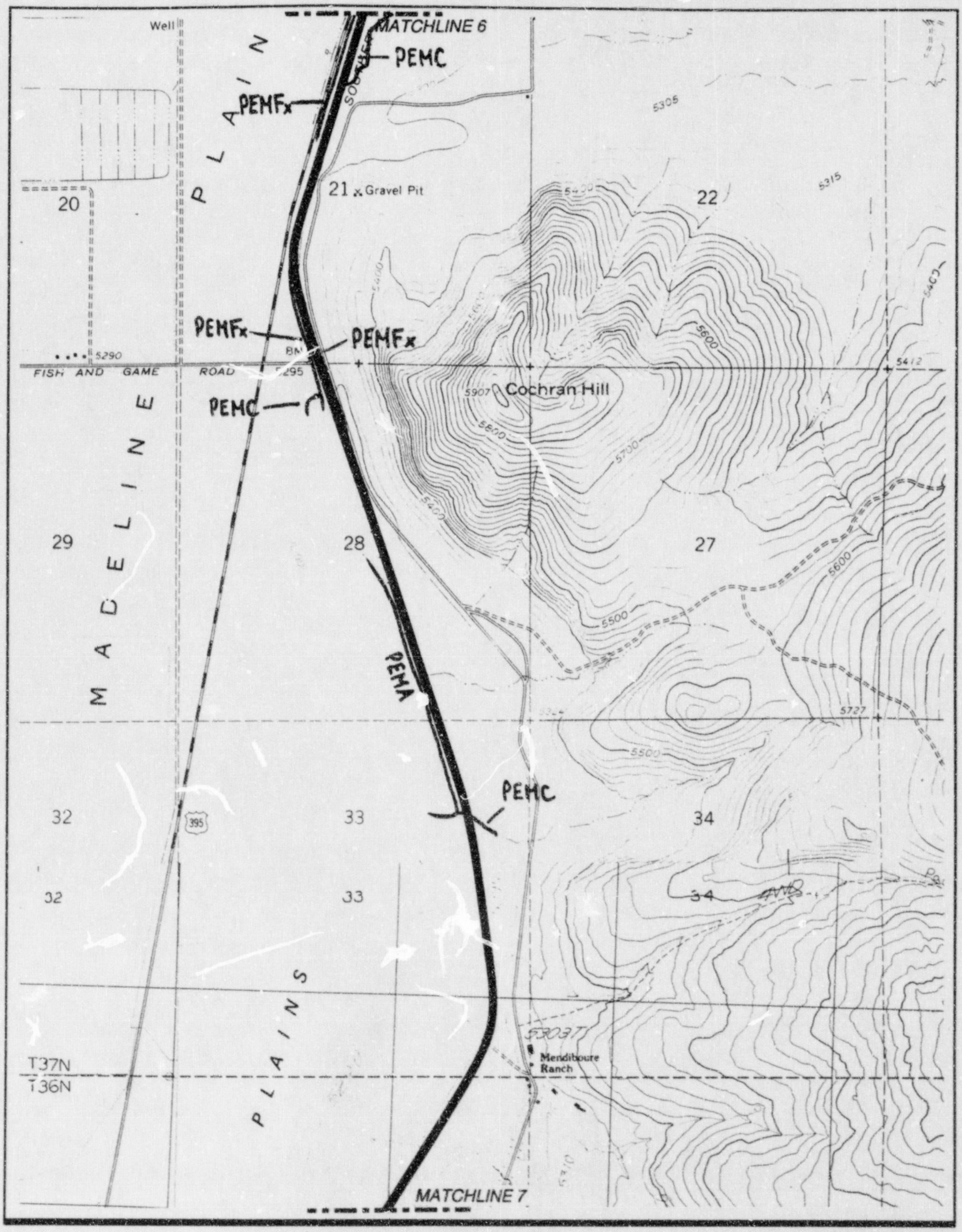
Base Map: *USGS 7.5' Topographic Quadrangles:* Likely, California (Provisional Edition 1990); Tule Mountain, California 1962 (Photorevised 1982); Holbrook Canyon, California (Provisional Edition 1990); Madeline, California 1962 (Photoinspected 1975)

Figure 4.2-6 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle:* Madeline, California 1962 (Photoinspected 1975)

Figure 4.2-7 Proposed Abandonment: Alturas – Wendel, California. Wetla d Information.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles* Madeline, California 1962 (Photoinspected 1975); McDonald Peak, California (Provisional Edition 1989)

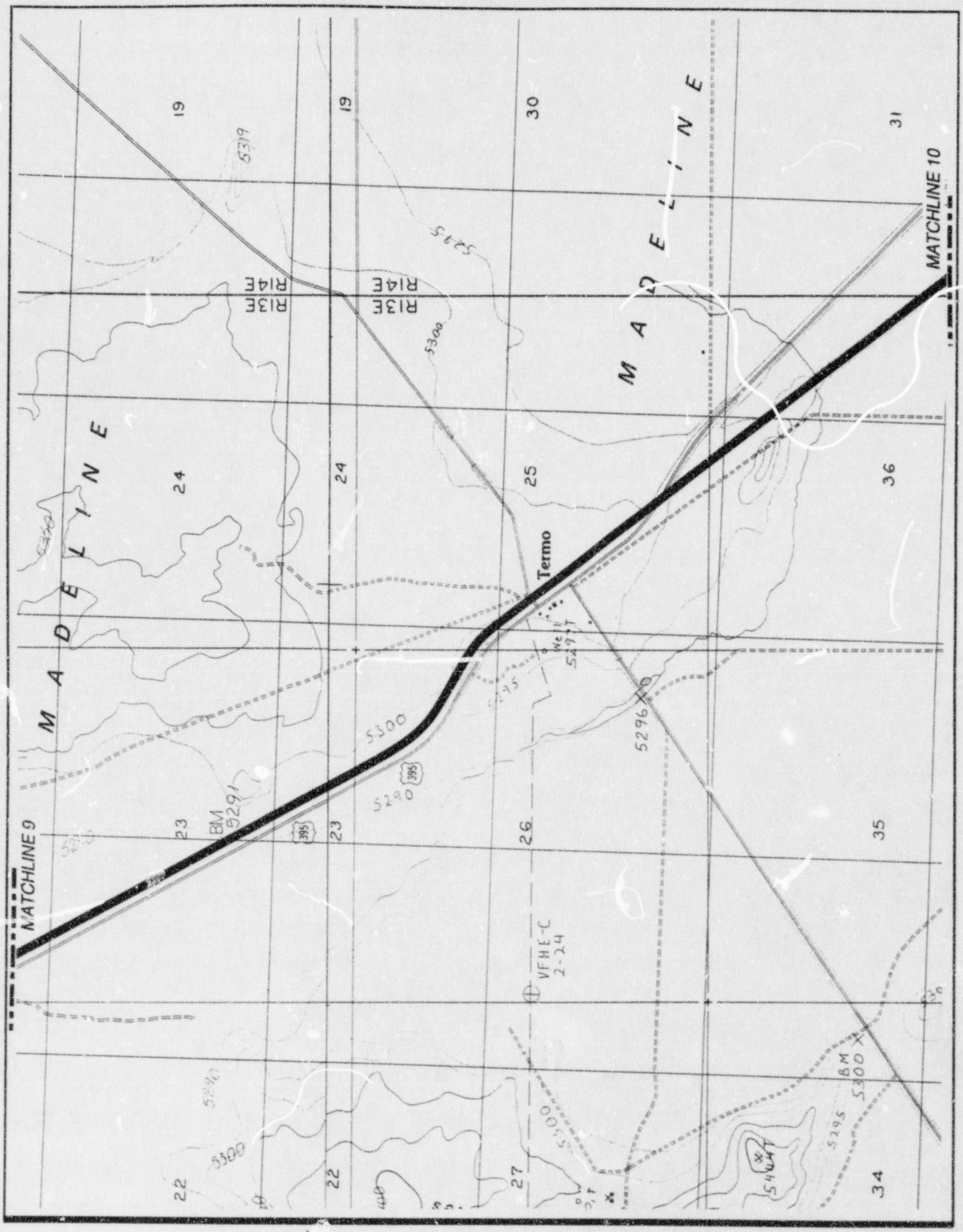
Figure 4.2-8 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

Base Map: *USGS 7.5' Topographic Quadrangles:* Anderson Mountain, California (Provisional Edition 1989); McDonald Peak, California (Provisional Edition 1989)

Figure 4.2-9 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

Base Map: *USGS 7.5' Topographic Quadrangles:* Anderson Mountain, California (Provisional Edition 1989); McDonald Peak, California (Provisional Edition 1989)

Figure 4.2-10 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



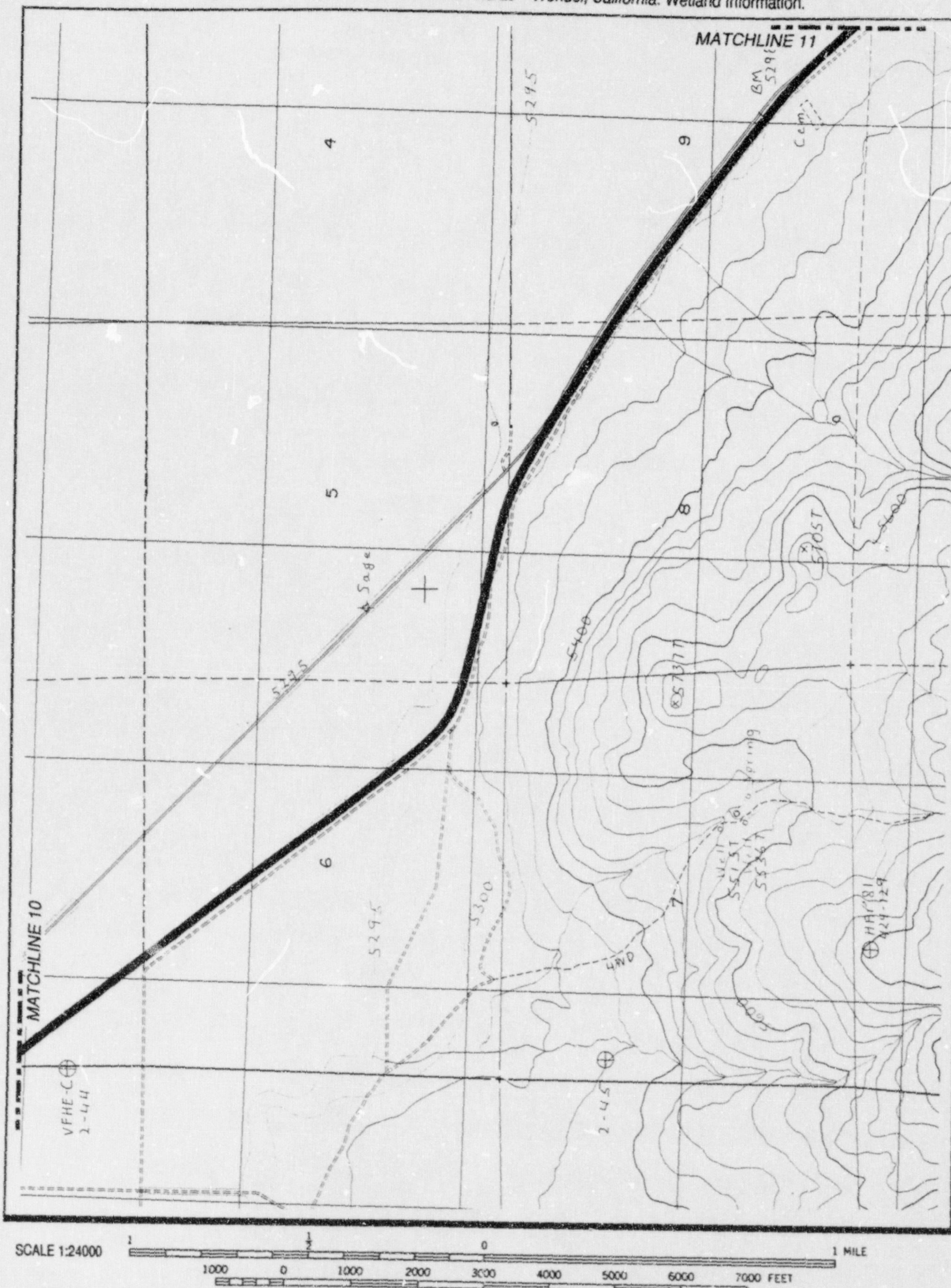
SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

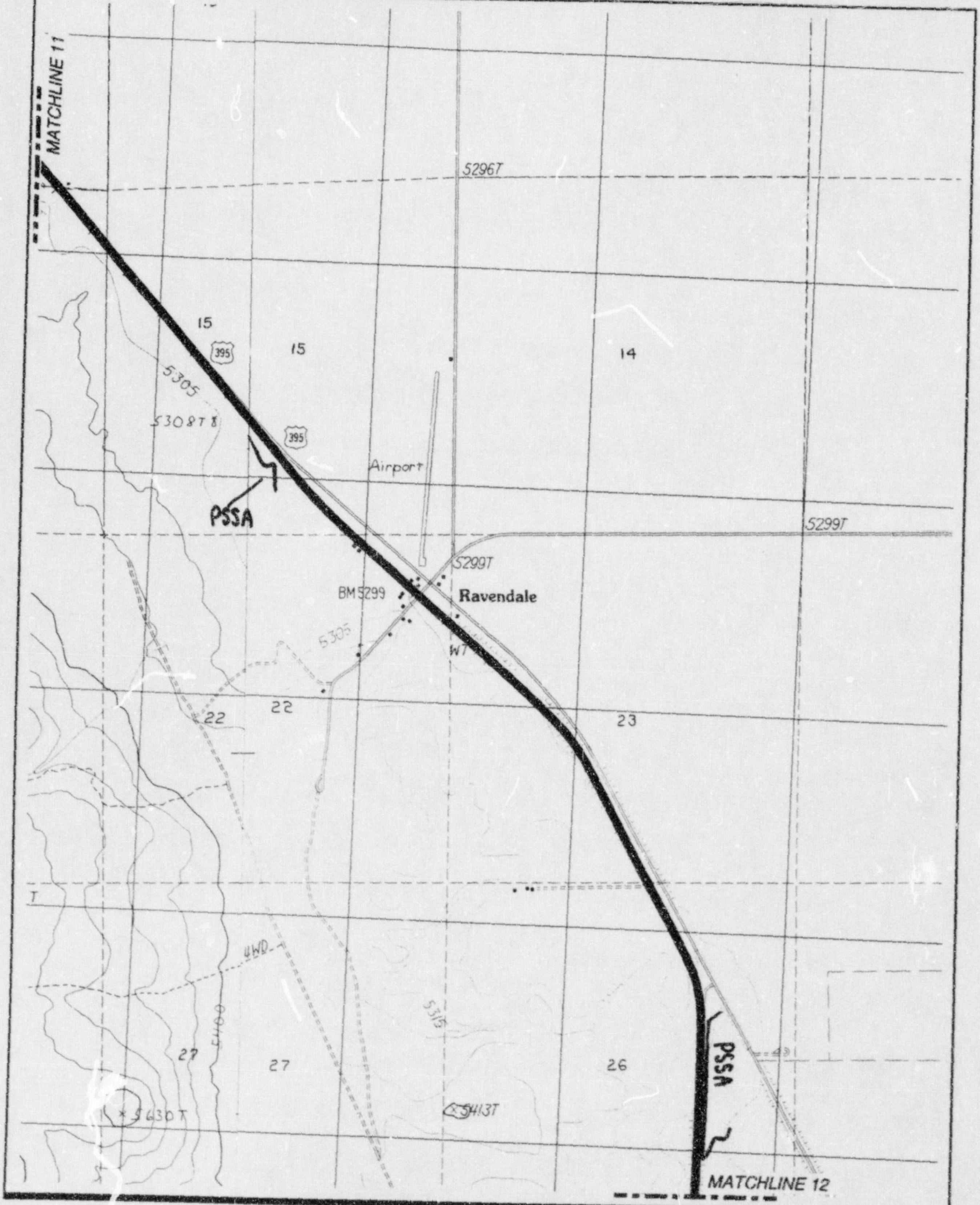
Base Map: *USGS 7.5' Topographic Quadrangles:* McDonald Peak, California (Provisional Edition 1989); Termo, California (Provisional Edition 1989)

Figure 4.2-11 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle:* Termo, California (Provisional Ediition 1989)

Figure 4.2-12 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles:* Termo, California (Provisional Edition 1989); Ravendale, California (Provisional Edition 1989)

Figure 4.2-13 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles:* Termo, California (Provisional Edition 1989); Ravendale, California, California (Provisional Edition 1989); West of Snowstorm Mountain, California (Provisional Edition 1989); Snowstorm Mountain. California (Provisional Edition 1989)

Figure 4.2-14 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

SCALE 1:24000

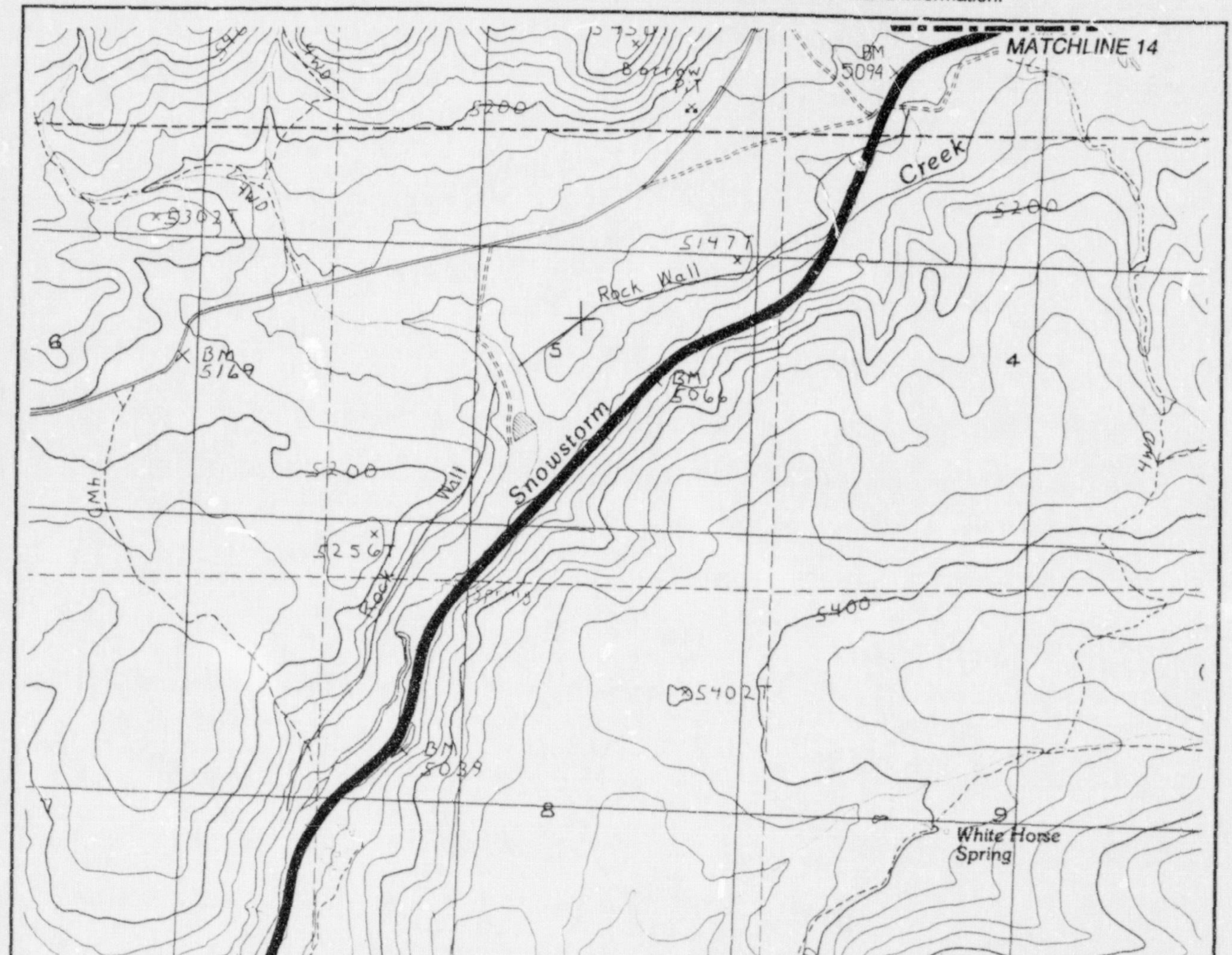
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles:* West of Snowstorm Mountain, California (Provisional Edition 1989); Snowstorm Mountain, California (Provisional Edition 1989)

Figure 4.2-15 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



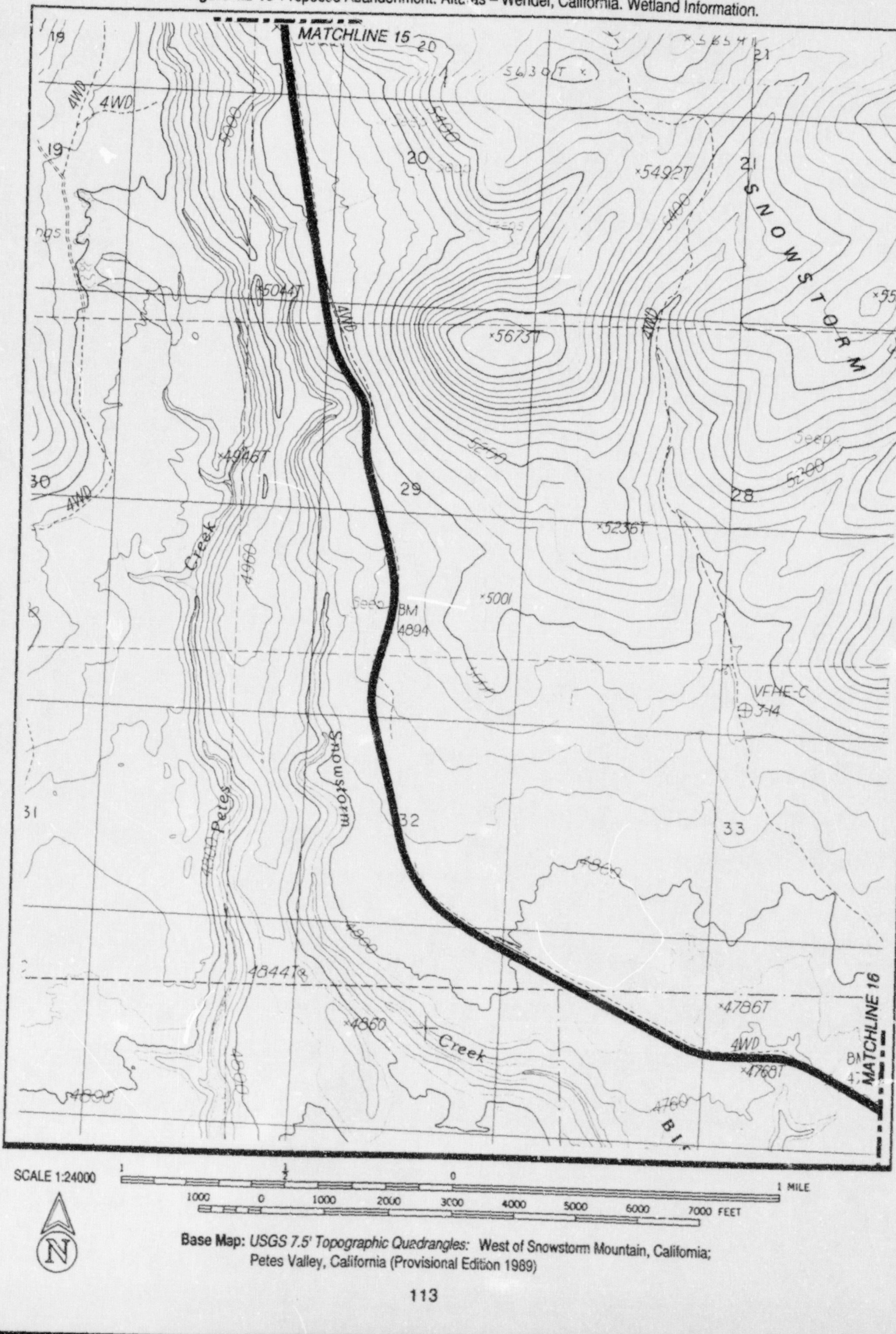
SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

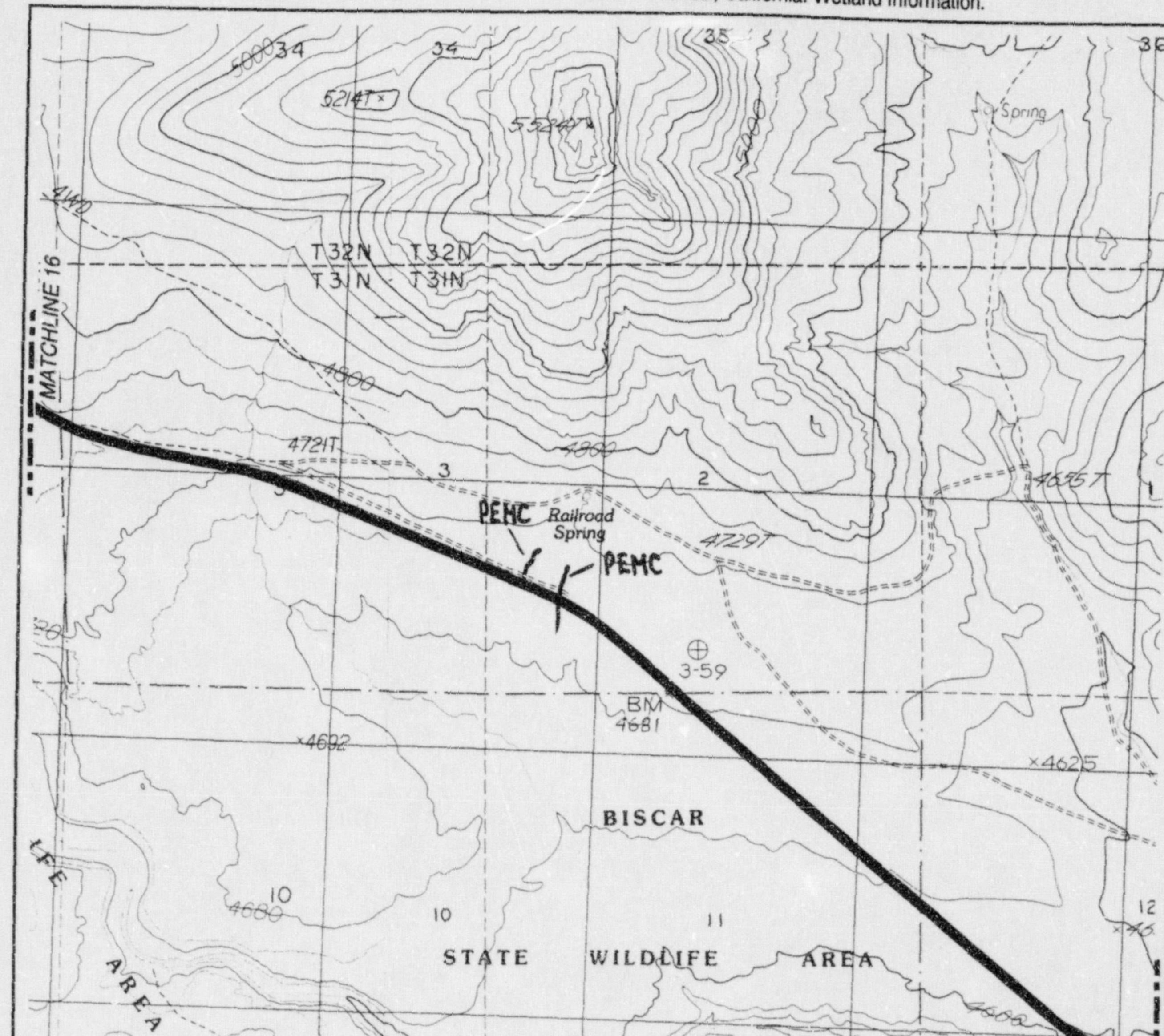
Base Map: *USGS 7.5' Topographic Quadrangle:* West of Snowstorm Mountain, California

Figure 4.2-16 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



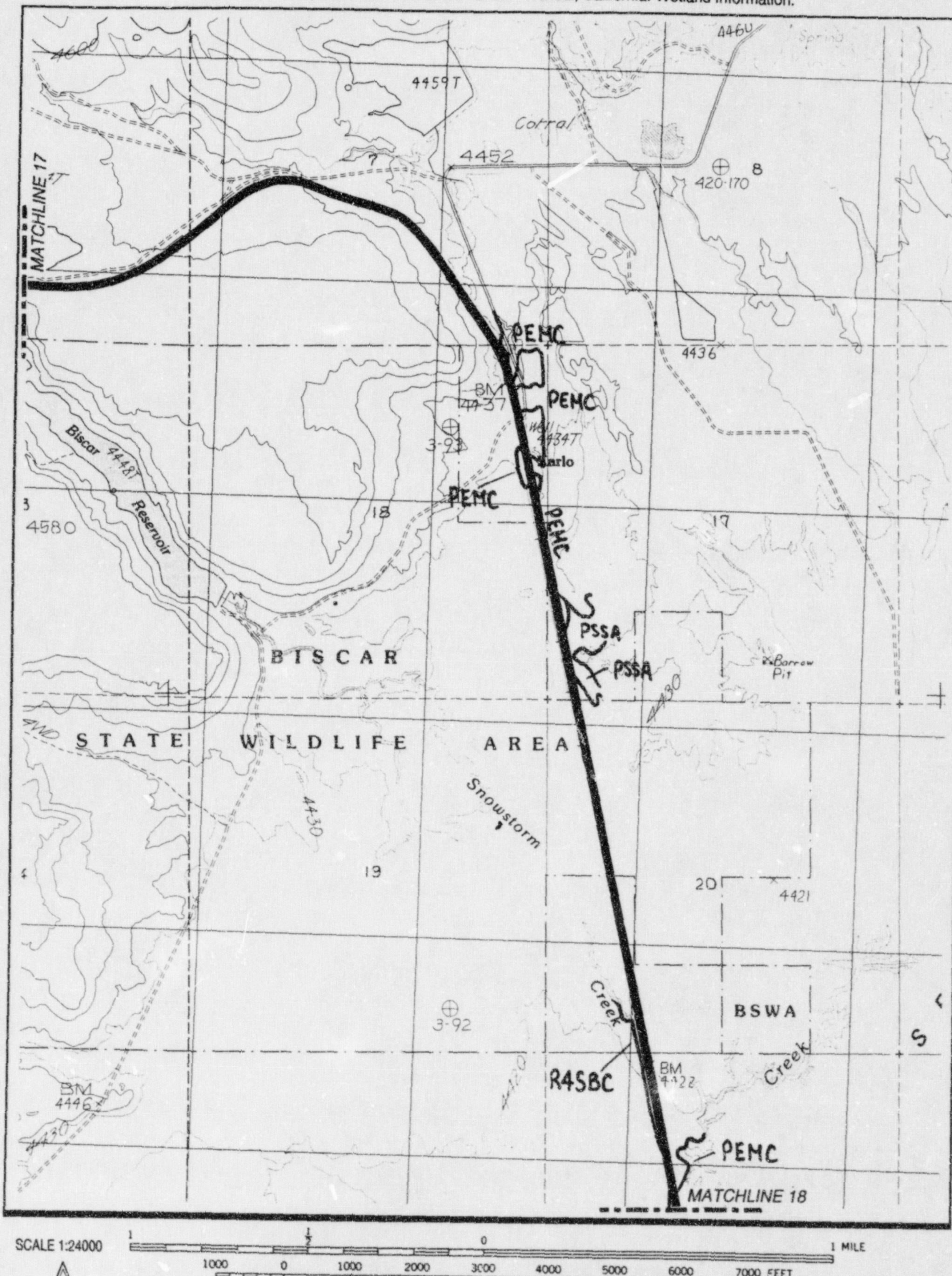
Base Map: *USGS 7.5' Topographic Quadrangles:* West of Snowstorm Mountain, California; Petes Valley, California (Provisional Edition 1989)

Figure 4.2-17 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



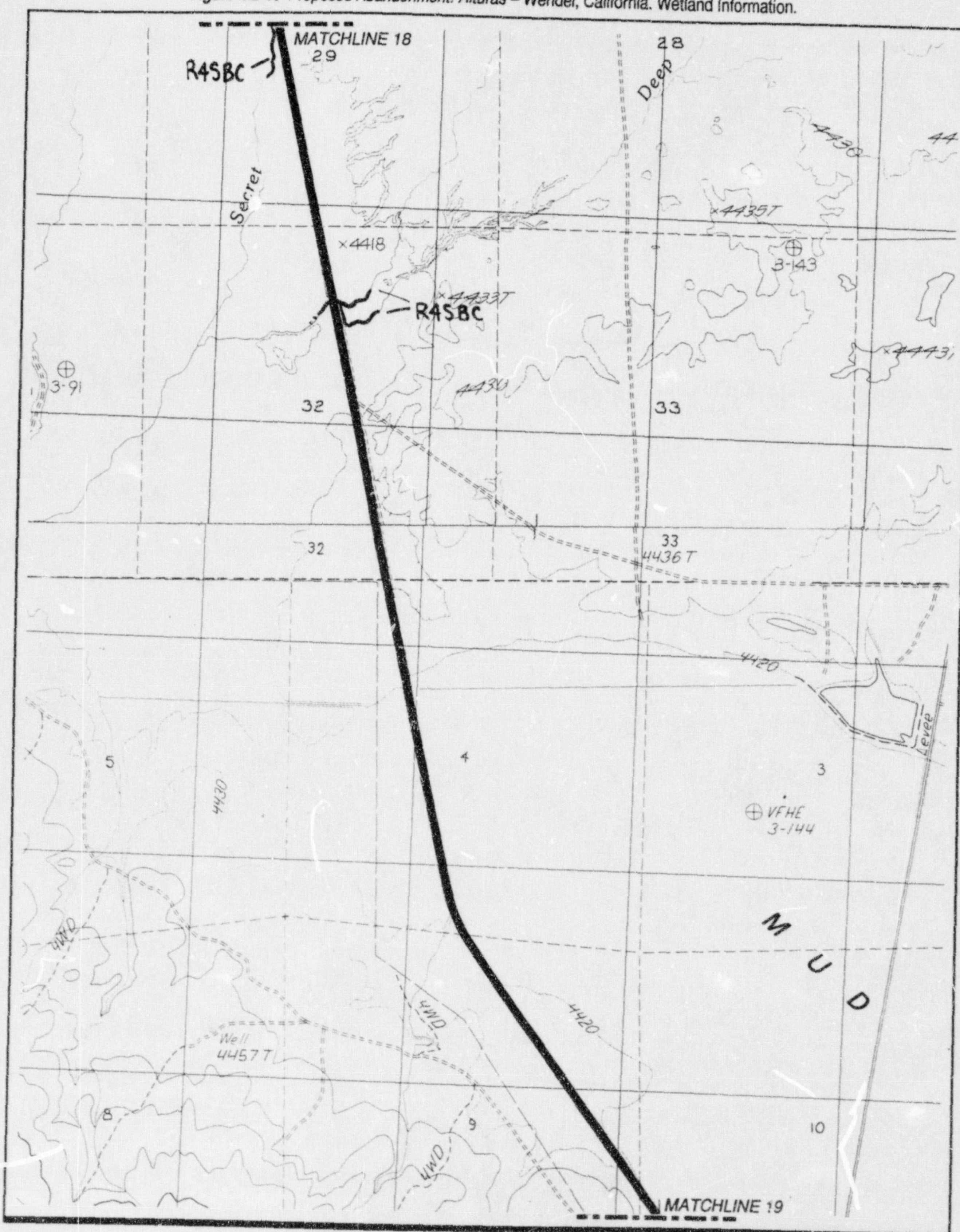
Base Map: *USGS 7.5' Topographic Quadrangles:* Petes Valley, California (Provisional Edition 1989); Karlo, California (Provisional Edition 1989)

Figure 4.2-18 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle:* Karlo, California (Provisional Edition 1989)

Figure 4.2-19 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles:* Karlo, California (Provisional Edition 1989); Shaffer Mountain, California (Provisional Edition 1988)

Figure 4.2-20 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.

SCALE 1:24000

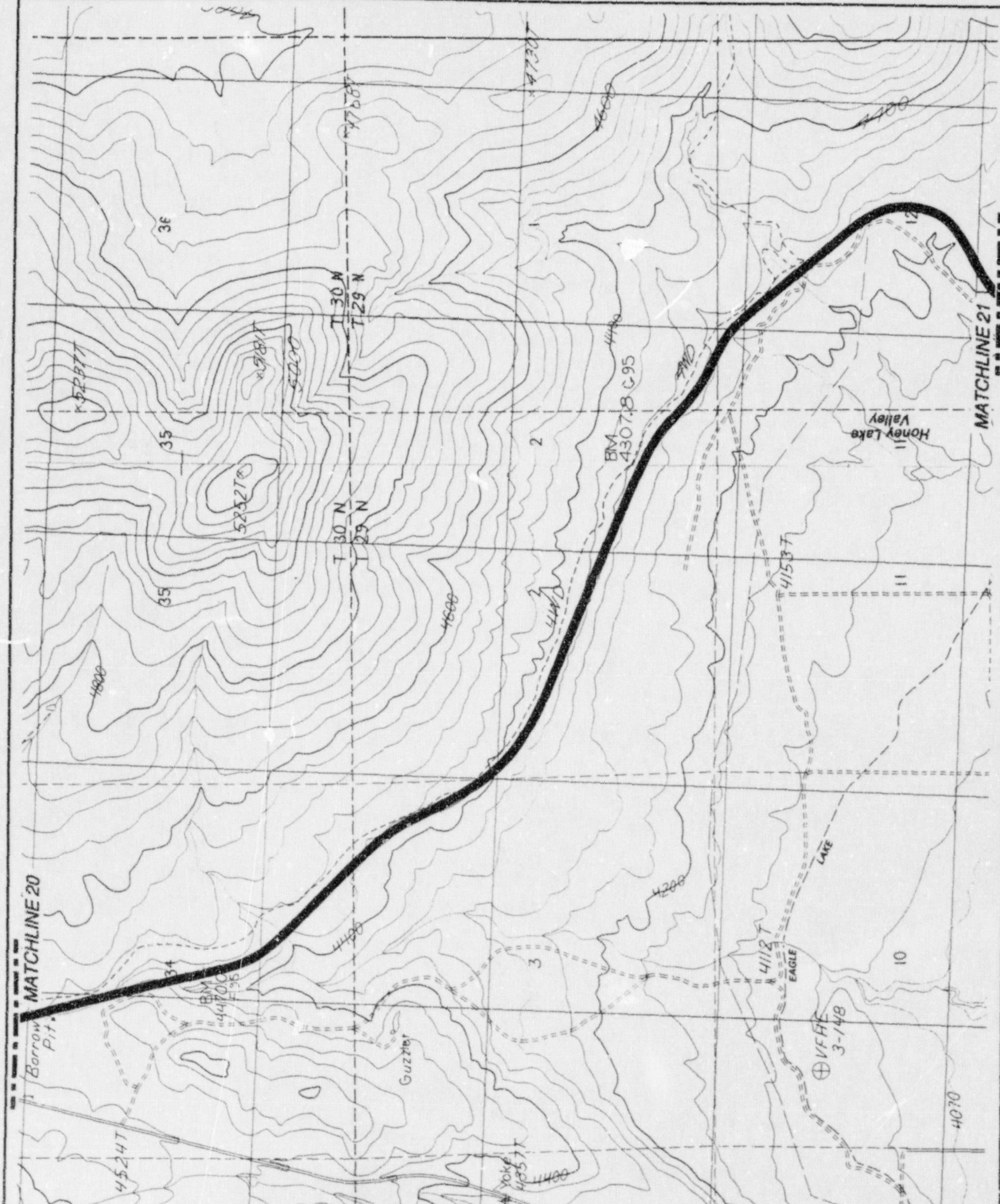
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

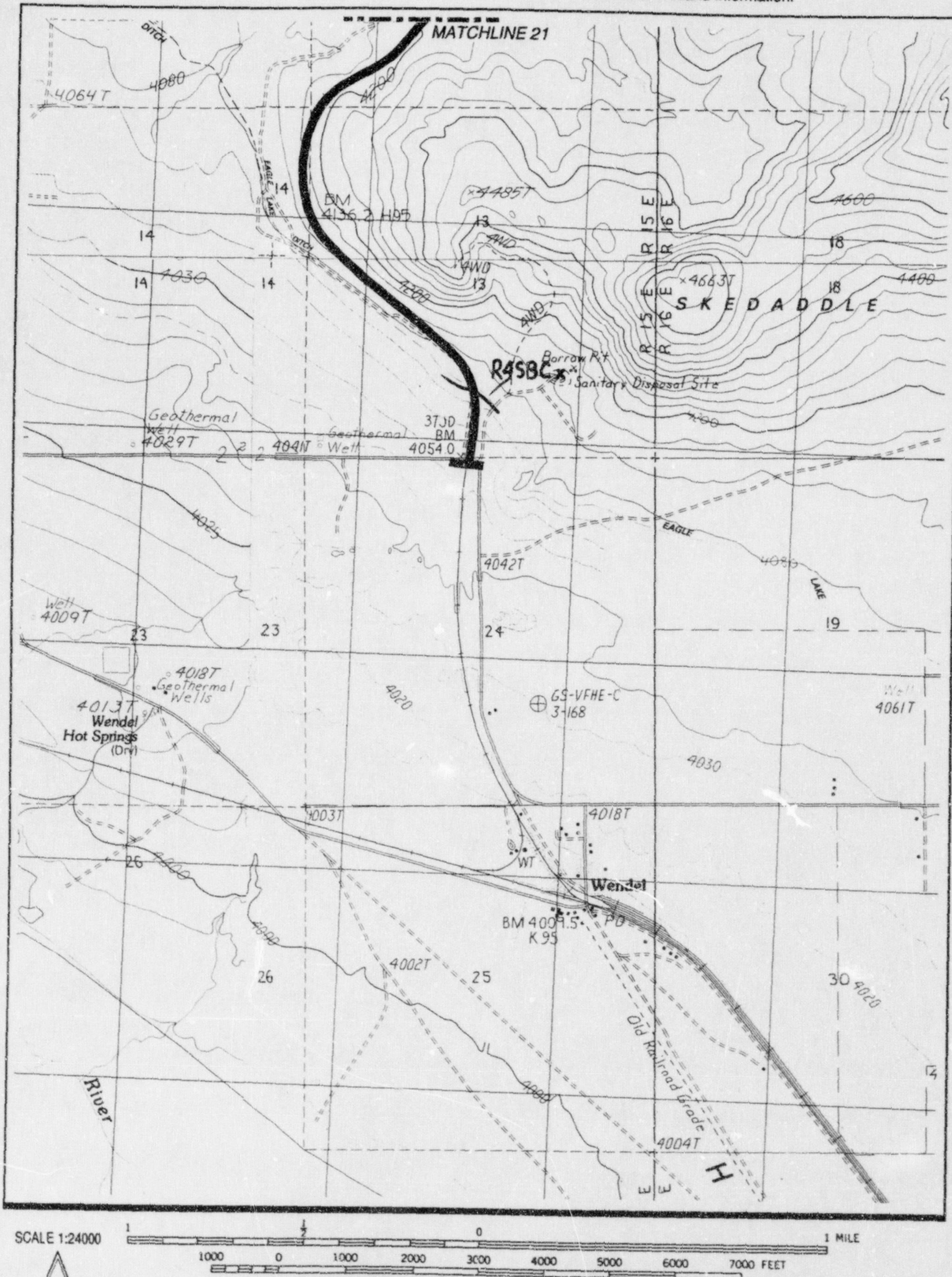
Base Map: *USGS 7.5' Topographic Quadrangle:* Shaffer Mountain, California (Provisional Edition 1988)

Figure 4.2-21 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle:* Shaffer Mountain, California (Provisional Edition 1988); Little Mud Flat, California (Provisional Edition 1988)

Figure 4.2-22 Proposed Abandonment: Alturas – Wendel, California. Wetland Information.



Base Map: USGS 7.5' Topographic Quadrangles: Shaffer Mountain, California (Provisional Edition 1988); Little Mud Flat, California (Provisional Edition 1988); Wendel Hot Springs, California (Provisional Edition 1988); Wendel, California (Provisional Edition 1988)

KEY FOR LAND USE FIGURES

URBAN OR BUILT-UP LAND

RE	Residential
C	Commercial and services
I	Industrial
T	Transportation, communications and utilities
I/C	Industrial and commercial complexes
MU	Mixed urban or built-up land
OU	Other urban or built-up land

AGRICULTURAL LAND

CP	Cropland and pasture
CH	Orchards, groves, vineyards, nurseries, and ornamental horticultural areas
CF	Confined feeding operations
CO	Other agricultural land

WATER

WS	Streams and canals
WL	Lakes
WR	Reservoirs
WB	Bays and estuaries

WETLANDS

WE	Forested wetlands, and/or nonforested wetlands

RANGELAND

Rh	Herbaceous rangeland
Rsb	Shrub and brush rangeland
Rm	Mixed rangeland

FOREST LAND

FD	Deciduous forest land
FE	Evergreen forest land
FM	Mixed forest land

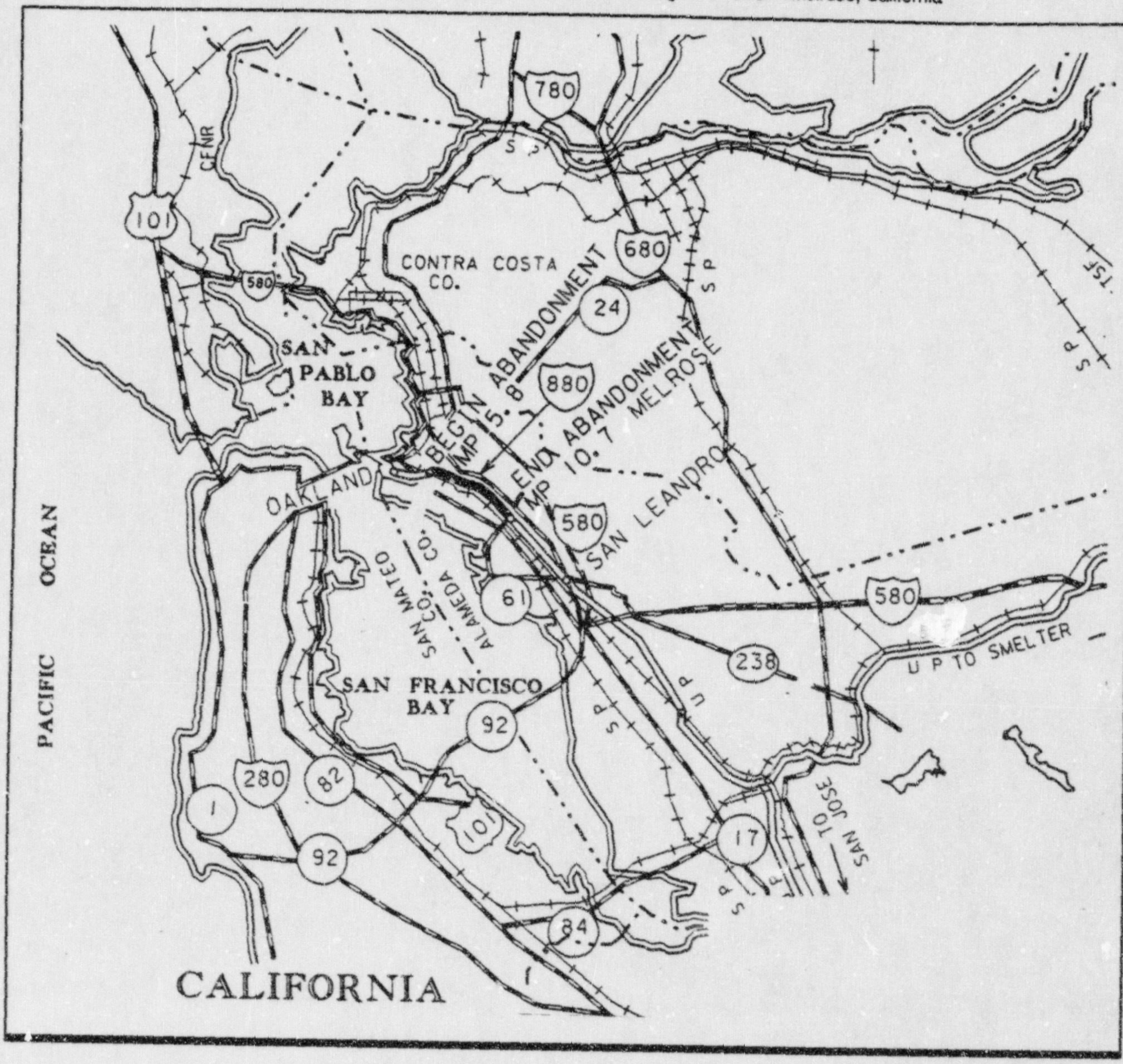
BARREN LAND

Bsf	Dry salt flats
Bb	Beaches
Bs	Sandy areas other than beaches
Br	Bare exposed rocks
Bm	Strip mines, quarries, and gravel pits
Bt	Transitional areas
B	Mixed barren land

HISTORIC AND CULTURAL RESOURCES

●	Potentially Eligible Historic Resource

Figure 4B Overview of Proposed Abandonment: Magnolia Tower – Melrose, California



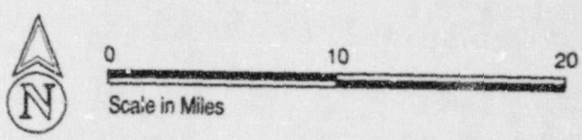


Figure 4.3-1 Proposed Abandonment: Magnolia Tower – Melrose, California . Location and Land Use.

SCALE 1:24000

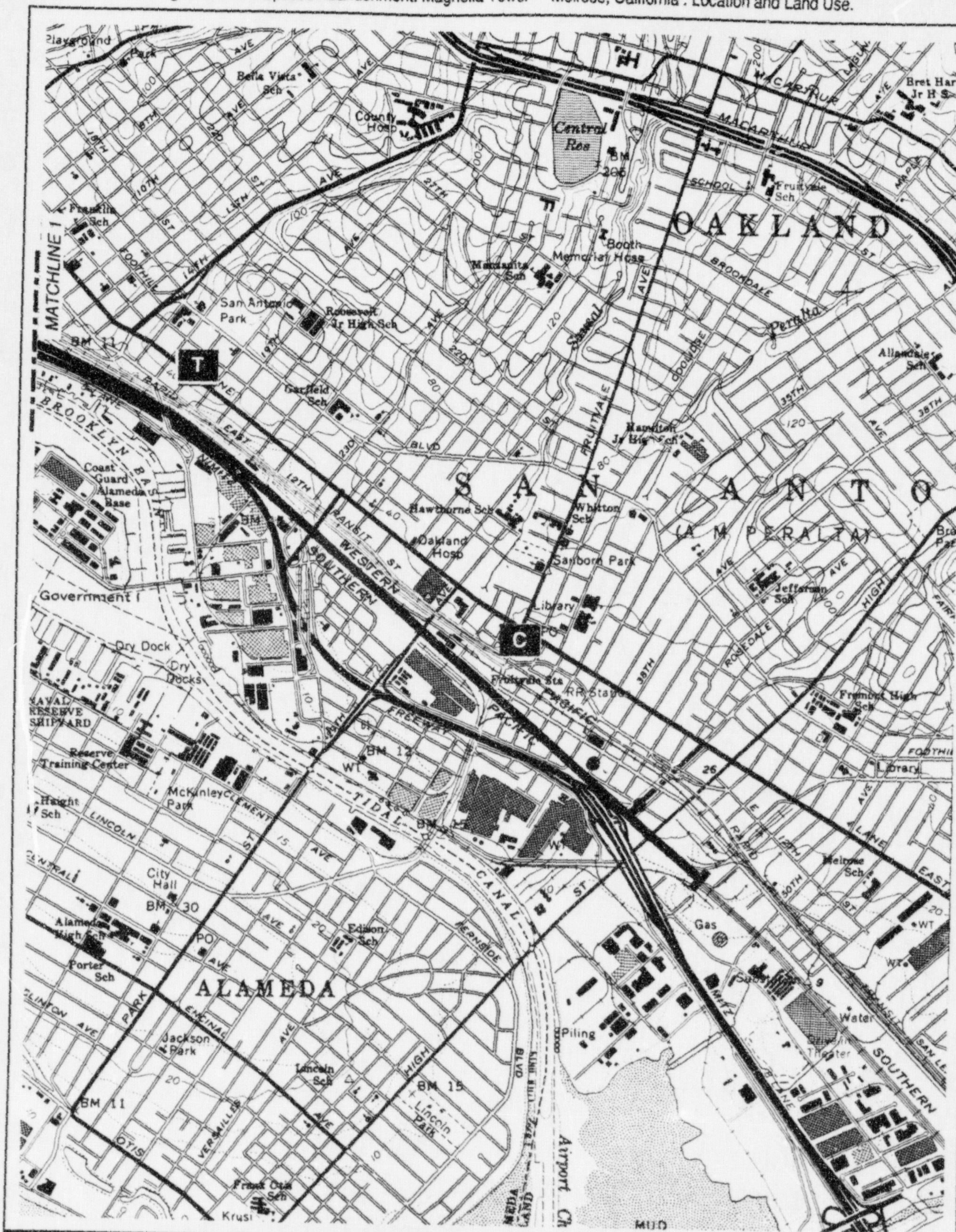
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Oakland West, California 1959 (Photorevised 1980)*

Figure 4.3-2 Proposed Abandonment: Magnolia Tower – Melrose, California . Location and Land Use.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Oakland East, California 1959 (Photorevised 1980)*

NWI LEGEND

E — ESTUARINE

1 — SUBTIDAL

RB — ROCK BOTTOM
1 Bedrock
2 Rubble

UB — UNCONSOLIDATED BOTTOM
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

AB — AQUATIC BED
1 Algal
3 Rooted Vascular
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

RF — REEF
2 Mollusc
3 Worm

OW — *OPEN WATER/ Unknown Bottom*

2 — INTERTIDAL

AB — AQUATIC BED
1 Algal
3 Rooted Vascular
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

RF — REEF
2 Mollusc
3 Worm

SB — STREAMBED
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

RS — ROCKY SHORE
1 Bedrock
2 Rubble

US — UNCONSOLIDATED SHORE
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

EM — EMERGENT
1 Persistent
2 Nonpersistent

SS — SCRUB-SHRUB
1 Broad-Leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved Evergreen
5 Dead
6 *Deciduous*
7 *Evergreen*

FO — FORESTED
1 Broad-Leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved Evergreen
5 Dead
6 *Deciduous*
7 *Evergreen*

L — LACUSTRINE

1 — LIMNETIC

RB — ROCK BOTTOM
1 Bedrock
2 Rubble

UB — UNCONSOLIDATED BOTTOM
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

AB — AQUATIC BED
1 Algal
2 Aquatic Moss
3 Rooted Vascular
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

OW — *OPEN WATER/ Unknown Bottom*

2 — LITTORAL

RB — ROCK BOTTOM
1 Bedrock
2 Rubble

UB — UNCONSOLIDATED BOTTOM
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic

AB — AQUATIC BED
1 Algal
2 Aquatic Moss
3 Rooted Vascular
4 Floating Vascular
5 *Unknown Submergent*
6 *Unknown Surface*

RS — ROCKY SHORE
1 Bedrock
2 Rubble

US — UNCONSOLIDATED SHORE
1 Cobble-Gravel
2 Sand
3 Mud
4 Organic
5 Vegetated

EM — EMERGENT
2 Nonpersistent

OW — *OPEN WATER/ Unknown Bottom*

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal

A Temporarily Flooded
B Saturated
C Seasonally Flooded
D *Seasonally Flooded/ Well Drained*
E *Seasonally Flooded/ Saturated*
F Semipermanently Flooded
G Intermittently Exposed
H Permanently Flooded
J Intermittently Flooded
K Artificially Flooded
W Intermittently Flooded/Temporary
Y Saturated/Semipermanent/ Seasonal
Z Intermittently Exposed/Permanent
U *Unknown*

Tidal

K *Artificially Flooded*
L Subtidal
M Irregularly Exposed
N Regularly Flooded
P Irregularly Flooded
*S Temporary-Tidal
*R Seasonal-Tidal
*T Semipermanent-Tidal
*V Permanent-Tidal
U *Unknown*

*These water regimes are only used in tidally influenced, freshwater systems

WATER CHEMISTRY

Coastal Halinity

1 Hyperhaline
2 Euhaline
3 Mixohaline *(Brackish)*
4 Polyhaline
5 Mesohaline
6 Oligohaline
0 Fresh

Inland Salinity

7 Hypersaline
8 Eusaline
9 Mixosaline
0 Fresh

pH Modifiers for all Fresh Water

a Acid
t Circumneutral
i Alkaline

SOIL

g Organic
n Mineral

SPECIAL MODIFIERS

b *Beaver*
d *Partially Drained/Ditched*
f Farmed
h *Diked/Impounded*
r Artificial Substrate
s *Spoil*
x Excavated

Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

NWI LEGEND

SYSTEM: M — MARINE

SUBSYSTEM: 1 — SUBTIDAL

- CLASS: RB — ROCK BOTTOM
  - Subclass: 1 Bedrock; 2 Rubble
- CLASS: UB — UNCONSOLIDATED BOTTOM
  - Subclass: 1 Cobble-Gravel; 2 Sand; 3 Mud; 4 Organic
- CLASS: AB — AQUATIC BED
  - Subclass: 1 Algal; 3 Rooted Vascular; 5 *Unknown Submergent*
- CLASS: RF — REEF
  - Subclass: 1 Coral; 3 Worm
- CLASS: OW — *OPEN WATER Unknown Bottom*

SUBSYSTEM: 2 — INTERTIDAL

- CLASS: AB — AQUATIC BED
  - Subclass: 1 Algal; 3 Rooted Vascular; 5 *Unknown Submergent*
- CLASS: RF — REEF
  - Subclass: 1 Coral; 3 Worm
- CLASS: RS — ROCKY SHORE
  - Subclass: 1 Bedrock; 2 Rubble
- CLASS: US — UNCONSOLIDATED SHORE
  - Subclass: 1 Cobble-Gravel; 2 Sand; 3 Mud; 4 Organic

SYSTEM: R — RIVERINE

SUBSYSTEM: 1 — *TIDAL*; 2 — LOWER PERENNIAL; 3 — UPPER PERENNIAL; 4 — INTERMITTENT; 5 — *UNKNOWN PERENNIAL*

- CLASS: RB — ROCK BOTTOM
  - Subclass: 1 Bedrock; 2 Rubble
- CLASS: UB — UNCONSOLIDATED BOTTOM
  - Subclass: 1 Cobble-Gravel; 2 Sand; 3 Mud; 4 Organic
- CLASS: *SB — STREAMBED
  - Subclass: 1 Bedrock; 2 Rubble; 3 Cobble-Gravel; 4 Sand; 5 Mud; 6 Organic; 7 Vegetated
- CLASS: AB — AQUATIC BED
  - Subclass: 1 Algal; 2 Aquatic Moss; 3 Rooted Vascular; 4 Floating Vascular; 5 *Unknown Submergent*; 6 *Unknown Surface*
- CLASS: RS — ROCKY SHORE
  - Subclass: 1 Bedrock; 2 Rubble
- CLASS: US — UNCONSOLIDATED SHORE
  - Subclass: 1 Cobble-Gravel; 2 Sand; 3 Mud; 4 Organic; 5 Vegetated
- CLASS: **EM — EMERGENT
  - Subclass: 2 Nonpersistent
- CLASS: OW — *OPEN WATER/ Unknown Bottom*

*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM

**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

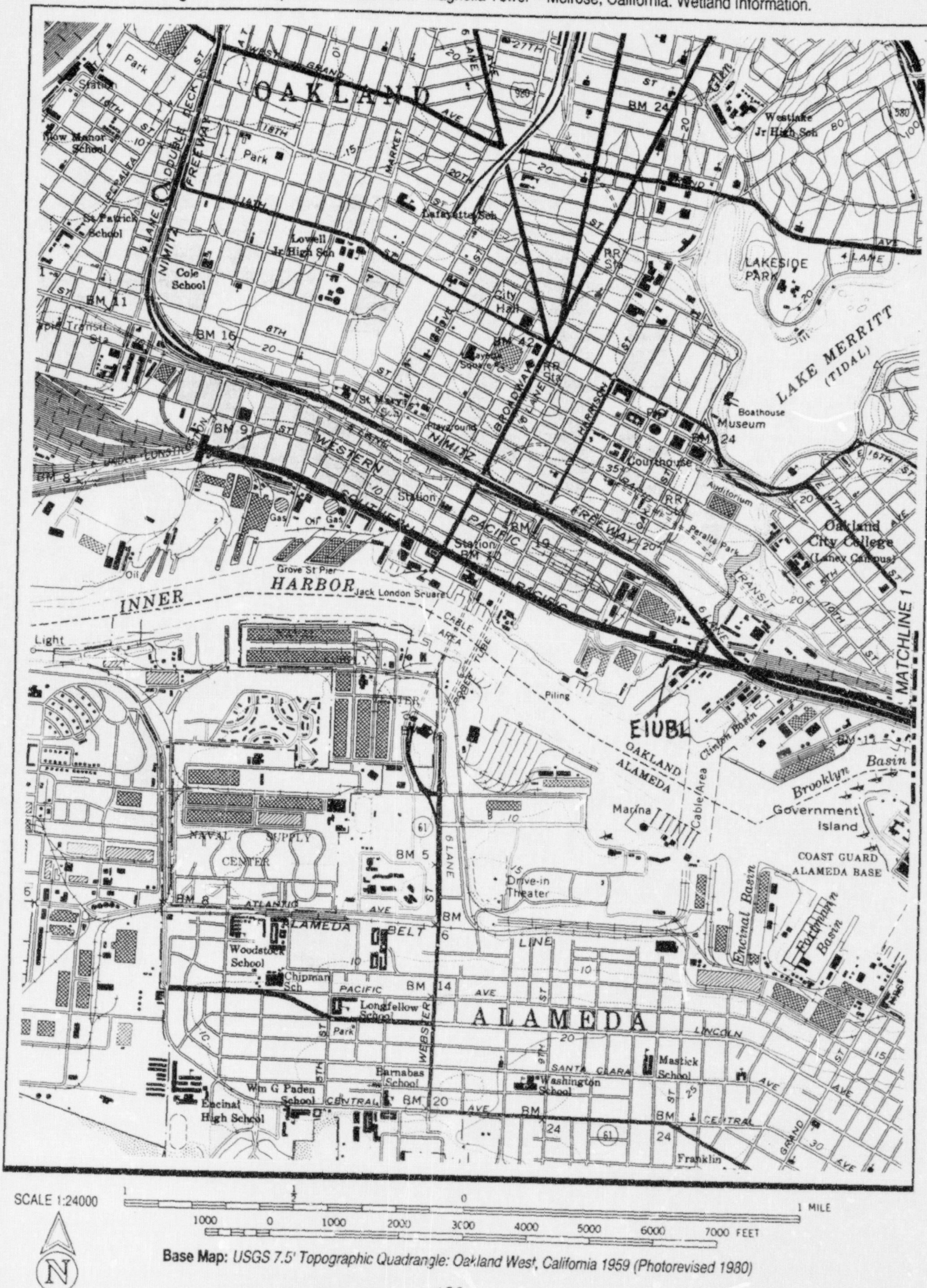
SYSTEM: P — PALUSTRINE

- CLASS: RB — ROCK BOTTOM
  - Subclass: 1 Bedrock; 2 Rubble
- CLASS: UB — UNCONSOLIDATED BOTTOM
  - Subclass: 1 Cobble-Gravel; 2 Sand; 3 Mud; 4 Organic
- CLASS: AB — AQUATIC BED
  - Subclass: 1 Algal; 2 Aquatic Moss; 3 Rooted Vascular; 4 Floating Vascular; 5 *Unknown Submergent*; 6 *Unknown Surface*
- CLASS: US — UNCONSOLIDATED SHORE
  - Subclass: 1 Cobble-Gravel; 2 Sand; 3 Mud; 4 Organic; 5 Vegetated
- CLASS: ML — MOSS LICHEN
  - Subclass: 1 Moss; 2 Lichen
- CLASS: EM — EMERGENT
  - Subclass: 1 Persistent; 2 Nonpersistent
- CLASS: SS — SCRUB-SHRUB
  - Subclass: 1 Broad-Leaved Deciduous; 2 Needle-Leaved Deciduous; 3 Broad-Leaved Evergreen; 4 Needle-Leaved Evergreen; 5 Dead; 6 *Deciduous*; 7 *Evergreen*
- CLASS: FO — FORESTED
  - Subclass: 1 Broad-Leaved Deciduous; 2 Needle-Leaved Deciduous; 3 Broad-Leaved Evergreen; 4 Needle-Leaved Evergreen; 5 Dead; 6 *Deciduous*; 7 *Evergreen*
- CLASS: OW — *OPEN WATER/ Unknown Bottom*

Instructions for using the legend:

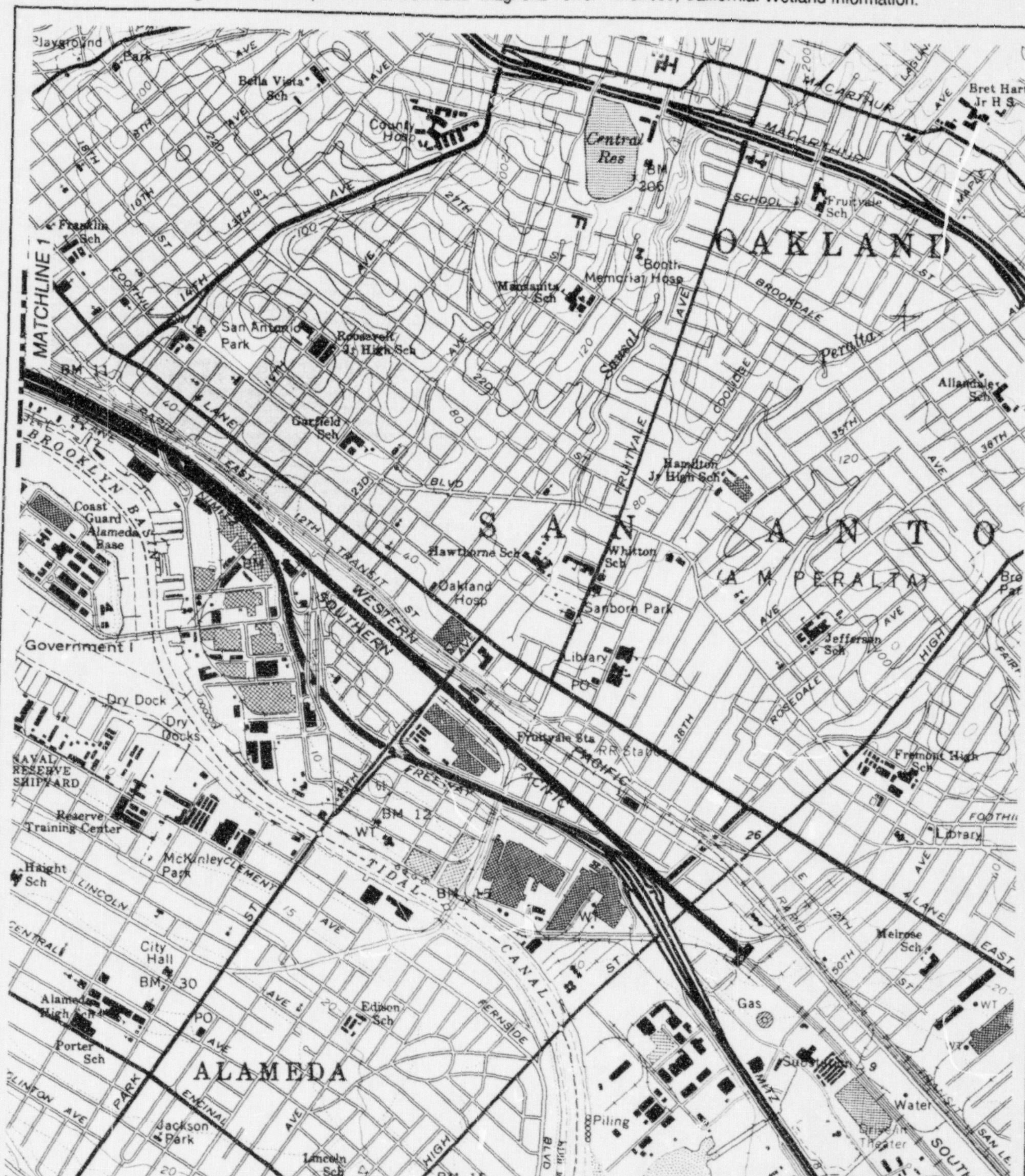
The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

Figure 4.4-1 Proposed Abandonment: Magnolia Tower – Melrose, California. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle: Oakland West, California 1959 (Photorevised 1980)*

Figure 4.4-2 Proposed Abandonment: Magnolia Tower – Melrose, California. Wetland Information.



Base Map: *USGS 7.5' Topographic Quadrangle: Oakland East, California 1959 (Photorevised 1980)*

KEY FOR LAND USE FIGURES

URBAN OR BUILT-UP LAND

RE	Residential
C	Commercial and services
I	Industrial
T	Transportation, communications and utilities
I/C	Industrial and commercial complexes
MU	Mixed urban or built-up land
OU	Other urban or built-up land

AGRICULTURAL LAND

CP	Cropland and pasture
CH	Orchards, groves, vineyards, nurseries, and ornamental horticultural areas
CF	Confined feeding operations
CO	Other agricultural land

WATER

WS	Streams and canals
WL	Lakes
WR	Reservoirs
WB	Bays and estuaries

WETLANDS

WE	Forested wetlands, and/or nonforested wetlands

RANGELAND

Rh	Herbaceous rangeland
Rsb	Shrub and brush rangeland
Rm	Mixed rangeland

FOREST LAND

FD	Deciduous forest land
FE	Evergreen forest land
FM	Mixed forest land

BARREN LAND

Bsf	Dry salt flats
Bb	Beaches
Bs	Sandy areas other than beaches
Br	Bare exposed rocks
Bm	Strip mines, quarries, and gravel pits
Bt	Transitional areas
B	Mixed barren land

HISTORIC AND CULTURAL RESOURCES

- ● Potentially Eligible Historic Resource

Figure 4C Overview of Proposed Abandonment: Whittier Junction – Colima Junction, California

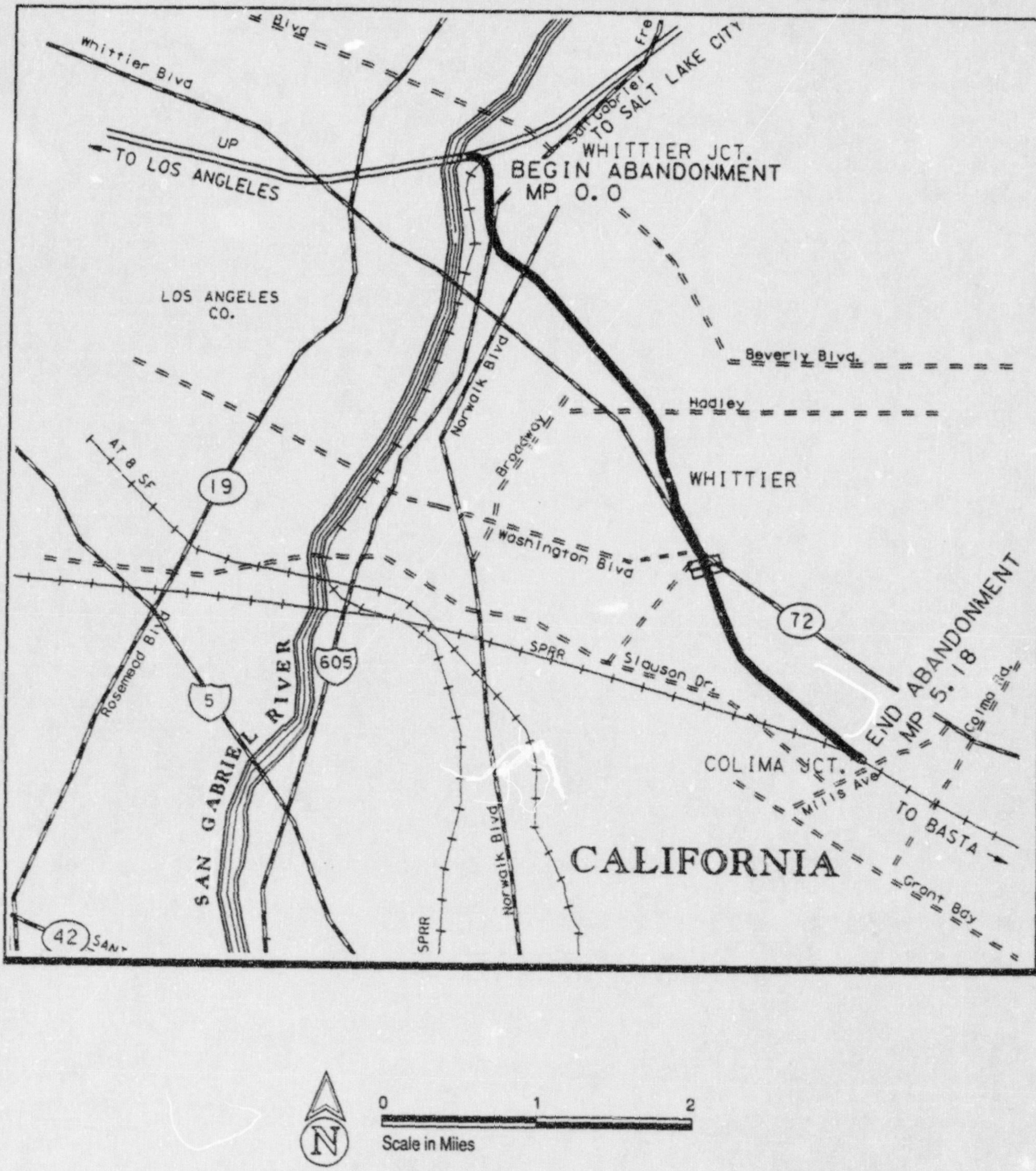
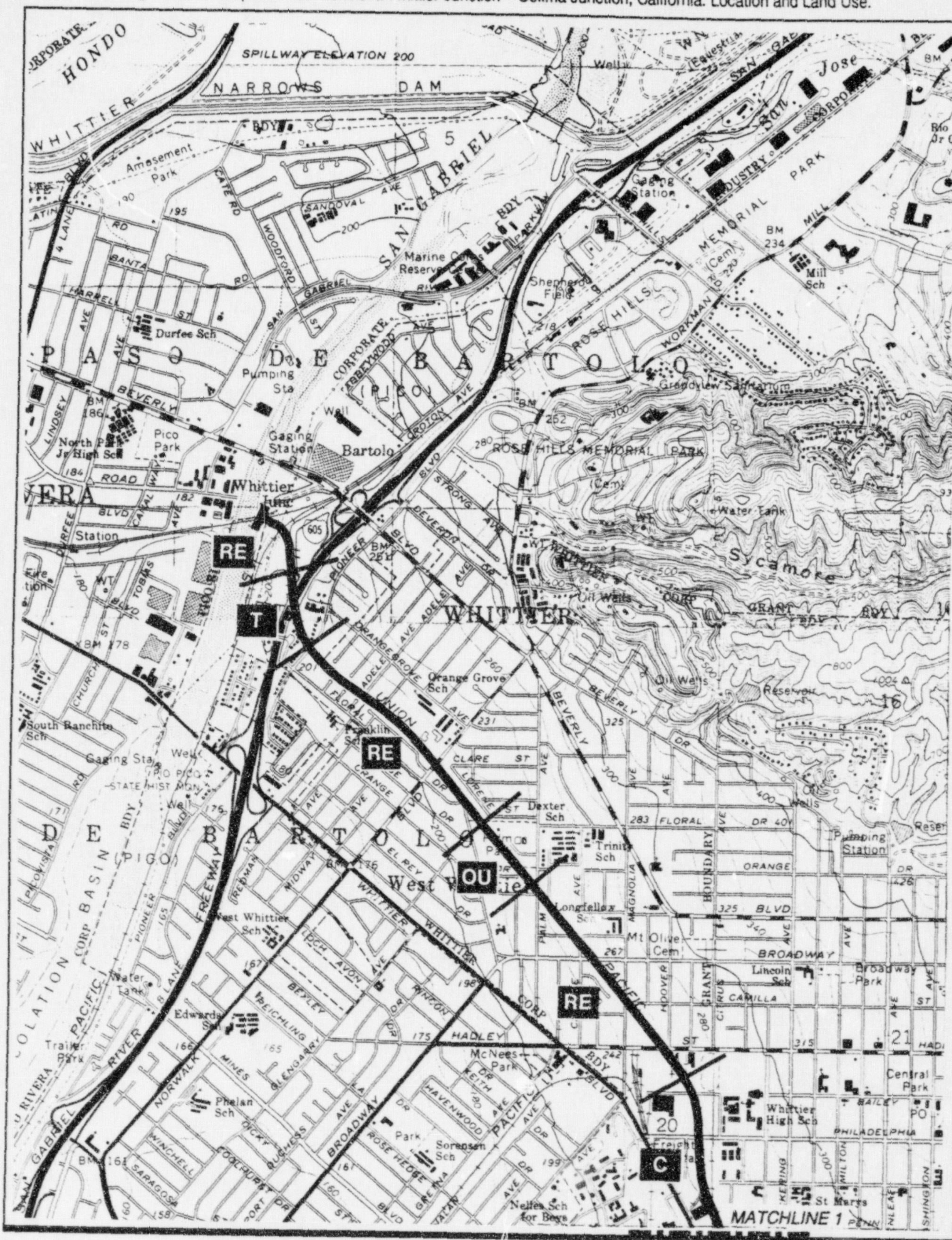


Figure 4.5-1 Proposed Abandonment: Whittier Junction – Colima Junction, California. Location and Land Use.



SCALE 1:24000

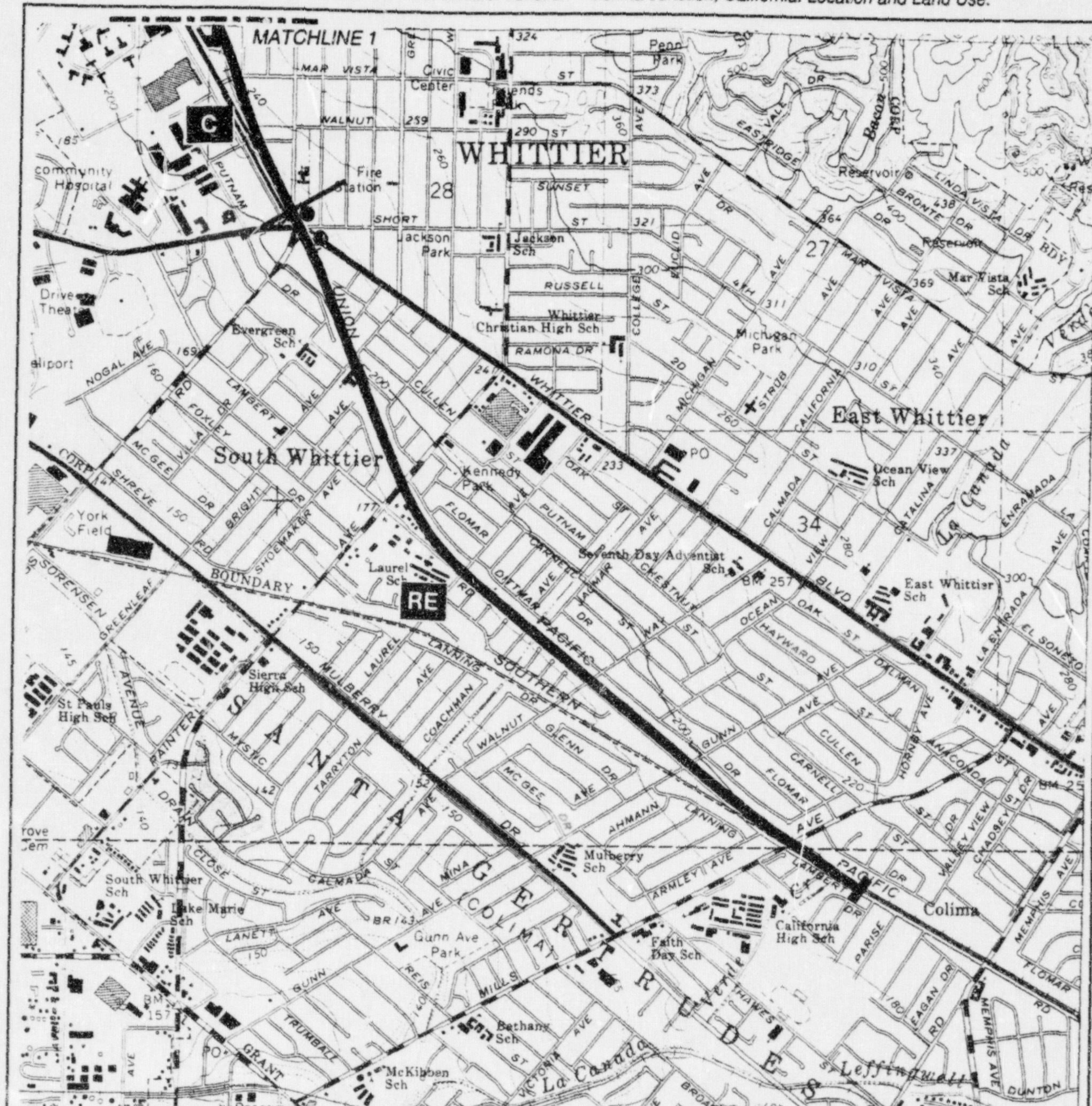
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangles: El Monte, California 1966 (Photorevised 1981); Whittier, California 1965 (Photorevised 1972)*

Figure 4.5-2 Proposed Abandonment: Whittier Junction – Colima Junction, California. Location and Land Use.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Whittier, California 1965 (Photorevised 1972)*

NWI LEGEND

E — ESTUARINE

1 — SUBTIDAL

RB — ROCK BOTTOM
- 1 Bedrock
- 2 Rubble

UB — UNCONSOLIDATED BOTTOM
- 1 Cobble-Gravel
- 2 Sand
- 3 Mud
- 4 Organic

AB — AQUATIC BED
- 1 Algal
- 3 Rooted Vascular
- 4 Floating Vascular
- 5 *Unknown Submergent*
- 6 *Unknown Surface*

RF — REEF
- 2 Mollusc
- 3 Worm

OW — *OPEN WATER/ Unknown Bottom*

2 — INTERTIDAL

AB — AQUATIC BED
- 1 Algal
- 3 Rooted Vascular
- 4 Floating Vascular
- 5 *Unknown Submergent*
- 6 *Unknown Surface*

RF — REEF
- 2 Mollusc
- 3 Worm

SB — STREAMBED
- 1 Cobble-Gravel
- 2 Sand
- 3 Mud
- 4 Organic

RS — ROCKY SHORE
- 1 Bedrock
- 2 Rubble

US — UNCONSOLIDATED SHORE
- 1 Cobble-Gravel
- 2 Sand
- 3 Mud
- 4 Organic

EM — EMERGENT
- 1 Persistent
- 2 Nonpersistent

SS — SCRUB-SHRUB
- 1 Broad-Leaved Deciduous
- 2 Needle-Leaved Deciduous
- 3 Broad-Leaved Evergreen
- 4 Needle-Leaved Evergreen
- 5 Dead
- 6 *Deciduous*
- 7 *Evergreen*

FO — FORESTED
- 1 Broad-Leaved Deciduous
- 2 Needle-Leaved Deciduous
- 3 Broad-Leaved Evergreen
- 4 Needle-Leaved Evergreen
- 5 Dead
- 6 *Deciduous*
- 7 *Evergreen*

L — LACUSTRINE

1 — LIMNETIC

RB — ROCK BOTTOM
- 1 Bedrock
- 2 Rubble

UB — UNCONSOLIDATED BOTTOM
- 1 Cobble-Gravel
- 2 Sand
- 3 Mud
- 4 Organic

AB — AQUATIC BED
- 1 Algal
- 2 Aquatic Moss
- 3 Rooted Vascular
- 4 Floating Vascular
- 5 *Unknown Submergent*
- 6 *Unknown Surface*

OW — *OPEN WATER/ Unknown Bottom*

2 — LITTORAL

RB — ROCK BOTTOM
- 1 Bedrock
- 2 Rubble

UB — UNCONSOLIDATED BOTTOM
- 1 Cobble-Gravel
- 2 Sand
- 3 Mud
- 4 Organic

AB — AQUATIC BED
- 1 Algal
- 2 Aquatic Moss
- 3 Rooted Vascular
- 4 Floating Vascular
- 5 *Unknown Submergent*
- 6 *Unknown Surface*

RS — ROCKY SHORE
- 1 Bedrock
- 2 Rubble

US — UNCONSOLIDATED SHORE
- 1 Cobble-Gravel
- 2 Sand
- 3 Mud
- 4 Organic
- 5 Vegetated

EM — EMERGENT
- 2 Nonpersistent

OW — *OPEN WATER/ Unknown Bottom*

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal
- A Temporarily Flooded
- B Saturated
- C Seasonally Flooded
- D *Seasonally Flooded/ Well Drained*
- E *Seasonally Flooded/ Saturated*
- F Semipermanently Flooded
- G Intermittently Exposed
- H Permanently Flooded
- J Intermittently Flooded
- K Artificially Flooded
- W Intermittently Flooded/Temporary
- Y Saturated/Semipermanent/ Seasonal
- Z Intermittently Exposed/Permanent
- U *Unknown*

Tidal
- K *Artificially Flooded*
- L Subtidal
- M Irregularly Exposed
- N Regularly Flooded
- P Irregularly Flooded
- *S Temporary-Tidal
- *R Seasonal-Tidal
- *T Semipermanent-Tidal
- *V Permanent-Tidal
- U *Unknown*

*These water regimes are only used in tidally influenced, freshwater systems

WATER CHEMISTRY

Coastal Halinity
- 1 Hyperhaline
- 2 Euhaline
- 3 Mixohaline *(Brackish)*
- 4 Polyhaline
- 5 Mesohaline
- 6 Oligohaline
- 0 Fresh

Inland Salinity
- 7 Hypersaline
- 8 Eusaline
- 9 Mixosaline
- 0 Fresh

pH Modifiers for all Fresh Water
- a Acid
- t Circumneutral
- i Alkaline

SOIL
- g Organic
- n Mineral

SPECIAL MODIFIERS
- b *Beaver*
- d *Partially Drained/Ditched*
- f Farmed
- h *Diked/Impounded*
- r Artificial Substrate
- s *Spoil*
- x Excavated

Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

NWI LEGEND

SYSTEM: M — MARINE

SUBSYSTEM: 1 — SUBTIDAL

CLASS	RB ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB AQUATIC BED	RF REEF	OW OPEN WATER Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm	

SUBSYSTEM: 2 — INTERTIDAL

CLASS	AB - AQUATIC BED	RF — REEF	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE
Subclass	1 Algal 3 Rooted Vascular 5 *Unknown Submergent*	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM: R — RIVERINE

SUBSYSTEM: 1 — TIDAL; 2 — LOWER PERENNIAL; 3 — UPPER PERENNIAL; 4 — INTERMITTENT; 5 — *UNKNOWN PERENNIAL*

CLASS	RB ROCK BOTTOM	UB UNCONSOLIDATED BOTTOM	*SB STREAMBED	AB AQUATIC BED	RS ROCKY SHORE	US UNCONSOLIDATED SHORE	**EM — EMERGENT	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM

**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

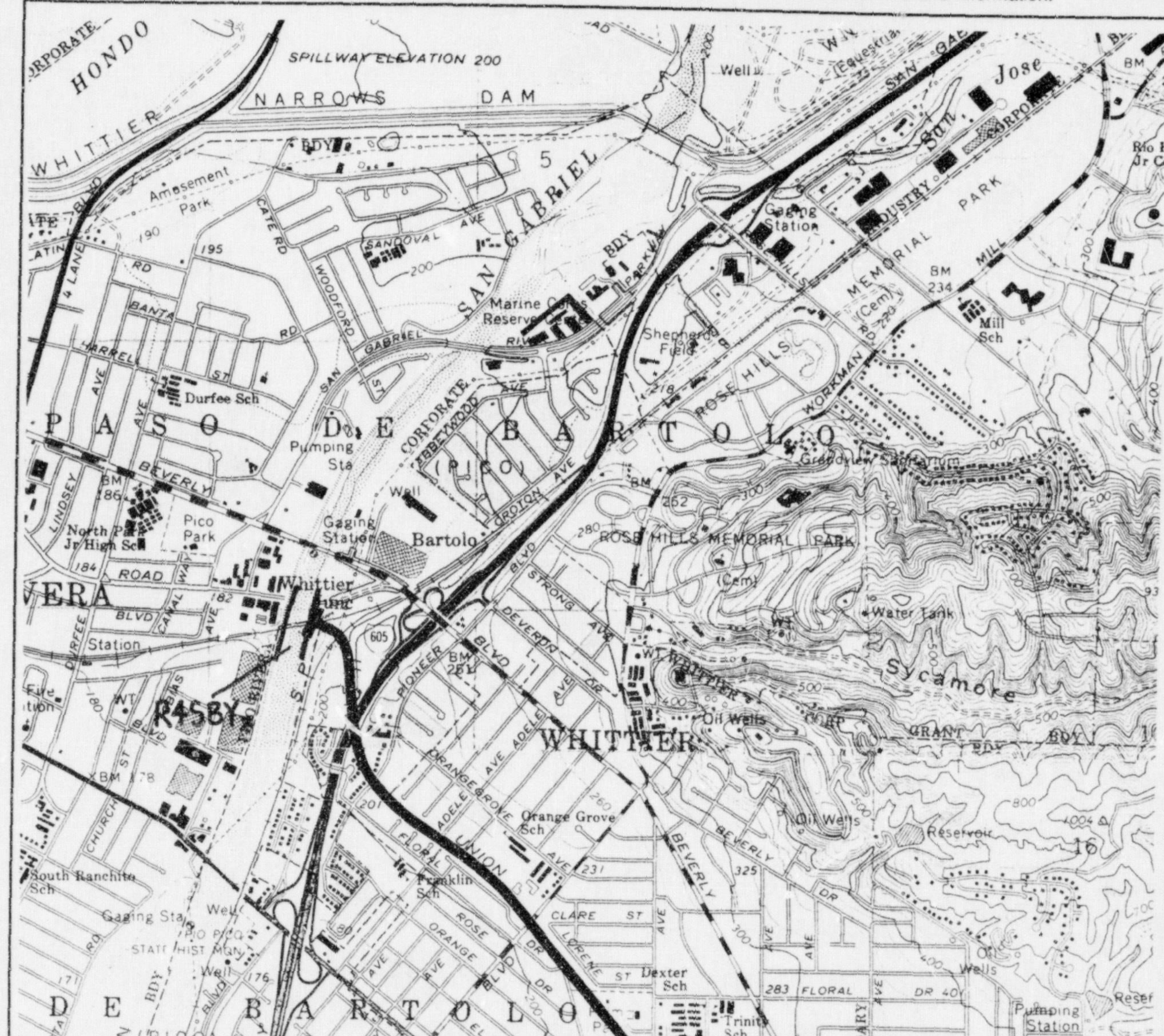
SYSTEM: P — PALUSTRINE

CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	US — UNCONSOLIDATED SHORE	ML — MOSS LICHEN	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	OW — *OPEN WATER/ Unknown Bottom*
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	

Instructions for using the legend:

The NWI inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

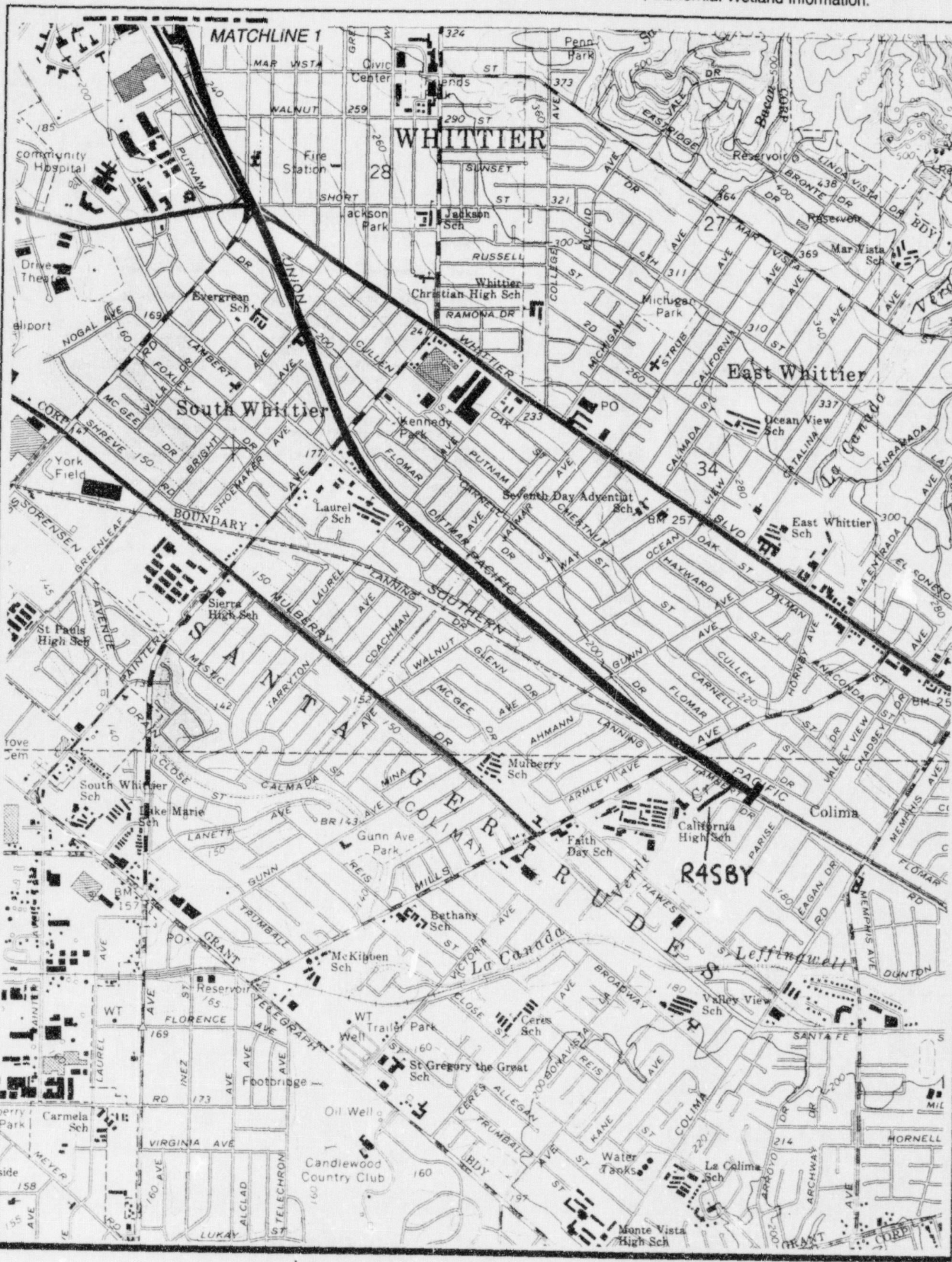
Figure 4.6-1 Proposed Abandonment: Whittier Junction – Colima Junction, California. Wetland Information.



SCALE 1:24000

Base Map: *USGS 7.5' Topographic Quadrangles: El Monte, California 1966 (Photorevised 1981); Whittier, California 1965 (Photorevised 1972)*

Figure 4.6-2 Proposed Abandonment: Whittier Junction – Colima Junction, California. Wetland Information.



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Whittier, California 1965 (Photorevised 1972)*

5.0 COLORADO

5.1 SAGE TO LEADVILLE, COLORADO

The Sage to Leadville, Colorado rail line proposed for abandonment is 69.1 miles long (Figures 5A and 5.1-1 to 5.1-46). The end points are near Gypsum in Eagle County (approximately 110 miles west of Denver) and Leadville in Lake County (approximately 80 miles southwest of Denver). The proposed abandonment is part of the SP Central Corridor route.

5.1.1 Proposed Action and No-action Alternative

5.1.1.1 Proposed Action

The proposed action would involve the abandonment of 69.1 miles of rail line following procedures described in Section 2.0. This segment currently serves as a portion the SP Central Corridor route, and carries only overhead traffic (except for SP shipments of ballast). Following the merger, traffic would be diverted to other east-west routes that are shorter and faster, and have a lower grades. The current line has grades of up to 3 percent.

5.1.1.2 No-action Alternative

If the merger is approved and implemented, it is anticipated that all overhead traffic would be moved from this line to another UP/SP route whether or not the abandonment is implemented.

5.1.2 Description of Existing Environment and Potential Environmental Impacts of Proposed Action

5.1.2.1 Land Use

Information for existing land use conditions is presented in Table 5-1 and on Figures 5.1-1 through 5.1-46. Potential land use impacts are listed in Table 5-1. No significant land use impacts are expected.

5.1.2.2 Water Resources and Wetlands

Existing water resources and wetlands information is summarized in Table 5-2. NWI data along the Leadville, Colorado abandonment were collected, as available. Those data are shown on Figures 5.2-1 to 5.2-46. Significant impacts are not expected.

5.1.2.3 Biological Resources

Existing biological resources information and potential impacts are summarized in Table 5-3. Sensitive biological resources in the vicinity of this line include greenback cutthroat trout, as well as several streams and rivers. The actual occurrence of the former has not been determined along this line. Potentially significant impacts to biological resources due to this proposed abandonment are not expected.

Impacts to cutthroat trout may be potentially significant only if bridges are removed within the range of that species and only during the period when removal activities are occurring. General mitigation measures, if necessary, to maintain impacts to the cutthroat trout at non-significant levels are discussed in Section 11.0. General measures discussed in Section 11.0. for wetlands and water resources would maintain potential impacts to those habitats at non-significant levels.

5.1.2.4 Historic and Cultural Resources

The railroad was originally constructed as a narrow gauge line by the Denver and Rio Grande Railroad in the 1880s. The line served mines and mining communities. It was converted to standard gauge in the 1890s. Most of the narrow guage rail was removed between Malta and Leadville in 1940. An additional track was added to the main line between Tennessee Pass and Minturn between 1903 and 1909. In the late 1920s, the Denver and Rio Grande Railroad conducted a major reconstruction to improve the alignment (Thode, 1986). The original construction and grades were changed as part of the conversion. The line has subsequently been upgraded over the years.

The Colorado SHPO has been contacted, and it requested that Colorado state historic resources forms be submitted for this rail line (designated in the notice as Dotsero-Cañon City and Malta-Leadville), and for all potentially eligible buildings and structures in order to complete its review (Hardy-Hunt, 1995). Based solely on age, potentially eligible bridges and structures include: Red Hill Tunnel (508 feet long; Tennessee Pass Tunnel (2,550 feet long); Pando Tunnel (242 feet long); Belden Tunnel (396 feet long); Rock Creek Tunnel (408 feet long); tunnel and concrete portal at MP 206.3; 23 steel or truss bridges built between 1901 and 1943; three concrete bridges (ca. 1929); one wooden bridge (ca. 1929/1930); nine buildings at Belden; a brick depot, metal sand tower, and assorted wooden sheds at Minturn; and various wooden loading chutes, phone boxes, phone booths, signals, freight sheds, and tool sheds along the line (Turney, 1995). There are two structures (a storage building at MP 273.5 and a concrete freight dock at MP 275.9) that are potentially eligible for the NRHP although exact dates of construction have not been determined. Further consultation with the Colorado SHPO is expected concerning mitigation measures for bridges or structures if any are determined eligible.

Since salvage operations associated with abandonments usually cause little disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). Where significant ground disturbance is necessary, impacts to archaeological resources could possibly occur. An example of this would be the ground disturbance associated with the removal of bridges. To date, however, no evidence of archaeological resources on the line has been discovered.

5.1.2.5 Safety

Hazardous waste sites, developed from the database search, are included in Table 5-4.

5.1.2.5.1 Conditions of the Rail Segment

Rail ballast containing lead slag was identified in some sections of the Sage to Leadville, Colorado segment. The SP rail line at Mile Post 302 in Minturn was identified as a fuel oil spill (ERNS) site. The Denver and Rio Grande Railroad is identified with two ERNS sites (one crude oil spill and one corrosive spill). Two NPL sites (the California Gulch-Leadville and the Eagle Mine site) cover separate large areas which include the segment to be abandoned. The Leadville site has been affected by historical lead, silver, copper and gold mining operations. The Eagle Mine site has been affected by heavy metals, and is located at Belden. The rail segment passes through Belden; therefore the segment potentially may have been affected by the Eagle Mine Superfund site. Currently, the surface water and groundwater are being monitored for potential effects from the Eagle Mine site in the vicinity of the rail segment.

The California Gulch-Leadville Superfund site covers the vicinity of the Malta to Leadville, Colorado rail segment. Mill tailings, slag, and waste rock piles are found at the site. Heavy metals classified as hazardous occur in the tailings, slag, and waste rock. SP owns three slag piles included in the site, referred to as the Harrison Street pile, La Plata pile, and ASARCO pile.

Prior to the designation of the Site as a CERCLA site in 1986, the lead slag was used as rail line ballast. That practice was discontinued from 1988 through 1995. Ballast-sized slag (greater than 0.25 inch in diameter) was released for use by the Environmental Protection Agency (EPA) in 1993. As a result of that ruling, SP resumed use of appropriately sized slag as ballast in 1995.

The three slag piles in SP ownership contain some lead "fines" (slag less than 0.25 inch in diameter), as well as ballast-sized slag. It is anticipated that following the merger, slag would continue to be used as ballast, an action that would reduce the size of the piles. Because the exact timing of abandonment of this segment has not yet been scheduled, the amount of slag that might remain in the SP piles is uncertain.

Safety issues related to slag material such as the leachability of metals and risks of unacceptable human health effects have been addressed. The leachability of metals in slag material is generally low. Based on the nature of the slag material, the most probable pathway for significant exposure is ingestion/inhalation. Recent studies involving arsenic-containing slag orally administered to microswine indicated that arsenic (and, similarly, lead) found in slag is not bioavailable (Dames & Moore, 1995; Environmental Science and Engineering, 1992). The lack of bioavailability indicates there is not a risk of unacceptable human health effects. Prior to the commencement of abandonment activities on either segment, contacts to the appropriate agencies would be made regarding disposition of the slag piles.

5.1.2.5.2 Conditions Adjacent to the Rail Segment

The database search indicated two NPL, two CERCLIS, four ERNS, two SWLF sites, and one LUST site located within 500 feet of the rail segment. Four ERNS, 11 LUST, and 25 SWLF sites have been reported in the vicinity of the rail segment. An additional 26 SWLF unmappable sites are identified along the Sage to Leadville line. The information provided by VISTA does not indicate that these sites have adversely affected the rail segment except those noted above.

5.1.2.6 Transportation

The Sage to Leadville line serves as part of an overhead route between Dotsero and Pueblo. Currently there is no recurring local traffic. This line is also used by

SP to transport slag ballast from Leadville. Following abandonment of this line, no additional truck traffic or new rail-to-truck diversions would occur.

This line contains the highest rail crossing of the Continental Divide and has grades of up to 3 percent. After the merger, through traffic would be diverted to other east-west routes that are shorter and faster, and have a lower grade. This represents a benefit to the rail transportation system.

5.1.3 Potential Environmental Impacts of No-action Alternative

Under the no-action alternative, the overhead traffic on this segment would be rerouted to another UP/SP line. As such, there would be no new potential environmental impacts.

5.2 MALTA TO CAÑON CITY

The Malta to Cañon City, Colorado rail line proposed for abandonment is 109.0 miles long (Figures 5B and 5.3-1 to 5.3-2). Malta is located in Lake County, about 80 miles southwest of Denver; Cañon City is located in Fremont County, approximately 35 miles southwest of Colorado Springs.

5.2.1 Proposed Action and No-action Alternative

5.2.1.1 Proposed Action

The proposed action would involve the abandonment of 109 miles of rail line following procedures described in Section 2.0.

5.2.1.2 No-action Alternative

If the merger is approved and implemented, it is anticipated that all overhead traffic would be moved from this line to another UP/SP route whether or not the abandonment is implemented.

5.2.2 Description of Existing Environment and Potential Environmental Impacts of Proposed Action

5.2.2.1 Land Use

Information for existing land use conditions is presented in Table 5-1 and on Figures 5.3-1 through 5.3-2. Potential land use impacts are listed in Table 5-1. No significant land use impacts are expected.

5.2.2.2 Water Resources and Wetlands

Existing water resources and wetlands information is summarized in Table 5-2. NWI and FIRM data along the Malta-Cañon City, Colorado abandonment were collected, as available. Those data are shown on Figures 5.4-1 to 5.4-2. Significant impacts are not expected.

5.2.2.3 Biological Resources

Existing biological resources information and potential impacts are summarized in Table 5-3. Sensitive biological resources in the vicinity of this line include greenback cutthroat trout, as well as streams and rivers. The actual occurrence of the former has not been determined along this line. Potentially significant impacts to biological resources due to this proposed abandonment are not expected.

Impacts to cutthroat trout are potentially significant only if bridges are removed within the range of that species and only during the period when removal activities are occurring. General mitigation measures, if necessary, to maintain impacts to the cutthroat trout at non-significant levels are discussed in Section 11.0. General measures discussed in Section 11.0 for wetlands and water resources would maintain potential impacts to those habitats at non-significant levels.

5.2.2.4 Historic and Cultural Resources

The Malta to Cañon City line is part of the narrow guage railroad constructed by the Denver and Rio Grande Railroad (DRG) in 1880. It was converted to standard guage in the 1890's. In the late 1920's DRG conducted a major reconstruction to improve the alignment (Thode 1986). The original construction and grades were changed as part of the conversion. The line has subsequently been upgraded over the years.

Based solely on age, potentially eligible bridges and structures include: 38 steel or truss bridges (built between 1901 and 1943); 44 concrete bridges (ca. 1929); 31 wooden bridges (ca. 1929/30); Red Hill Tunnel; an 1879 hanging bridge; concrete mine loading facility at MP 170.3; concrete drainage overchute and concrete retaining wall at MP 166; and various wooden loading chutes, phone boxes, phone booths, signals, freight sheds, and tool sheds along the line (Tumey, 1995). The Colorado SHPO has been contacted, and it requested that Colorado state historic resources forms be submitted for the Malta to Cañon City (designated as Dotsero-Cañon City and Malta-Leadville) rail line and for all potentially eligible buildings and structures in order to complete its review (Hardy-Hunt, 1995). Further consultation with the Colorado SHPO is expected concerning mitigation measures for bridges and structures if any are determined eligible.

Since salvage operations associated with abandonments usually cause little disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). Where significant ground disturbance is necessary, impacts to archaeological resources could possibly occur. An example of this would be the ground disturbance associated with the removal of bridges. To date, however, no evidence of archaeological resources on the line has been discovered.

5.2.2.5 Safety

Hazardous waste sites near the segment identified from the database search are included in Table 5-4.

5.2.2.5.1 Conditions of the Rail Segment

One CERCLIS site was identified at the railroad loading area south of 4th Street and immediately east of the 4th Street viaduct in Cañon City. Rail ballast containing lead slag was identified in some sections of the Malta to Cañon City segment. Two NPL sites (the California Gulch-Leadville and the Smeltertown facility site) cover separate areas which include the segment to be abandoned. The Smeltertown site has been affected by smelter and wood treating facility operations. The Leadville site has been affected by historical lead, silver, copper, and gold mining operations. A discussion of this site is included in the Sage to Leadville sections (Section 5.1.2.5.1). The focus of the site is one lead slag pile in the vicinity of the Dotsero-Cañon City segment (ASARCO pile).

5.2.2.5.2 Conditions Adjacent to the Rail Segment

The database search indicated two NPL, four CERCLIS, six ERNS, and eight LUST sites located within 500 feet of the rail segment; and 11 LUST, 10 SWLF, two CERCLIS, one RCRA, one TSD, and three ERNS sites have been located within the vicinity of the rail segment. Additional unmappable SWLF sites are along the Malta to Cañon City line. The information provided by VISTA does not indicate that these sites have adversely affected the rail segment, with the exception of those discussed above.

5.2.2.6 Transportation

Currently most of the local traffic consists of mining products which originate from Asarco in Malta. It is expected that if the line is abandoned, this traffic will move by truck to a transload facility at another location. This will result in additional truck traffic on local highways.

5.2.3 Potential Environmental Impacts of No-action Alternative

Under the no-action alternative, the overhead traffic on this segment would be rerouted to another UP/SP line. As such, there would be no new adverse potential environmental impacts.

5.3 TOWNER TO NA JCT.

The Towner to NA Jct., Colorado rail line proposed for abandonment is 122.4 miles long (Figures 5C and 5.5-1 to 5.5-36). Towner, Colorado is located in Kiowa County, approximately 135 miles east of Pueblo. NA Jct. is located in Pueblo County, approximately 25 miles east of Pueblo. The proposed abandonment is along the UP line between Pueblo, Colorado and Herington, Kansas.

5.3.1 Proposed Action and No-action Alternative

5.3.1.1 Proposed Action

The proposed action would involve the abandonment of 122.4 miles of rail line following procedures described in Section 2.0. This segment currently is part of the UP Hoisington Subdivision. The line runs between Pueblo and Herington. Traffic to and from local customers was 119 cars in 1994. Following the merger, through traffic would be diverted to a more efficient east-west line.

5.3.1.2 No-action Alternative

If the merger is approved and implemented, it is anticipated that all overhead traffic would be moved from this line to another UP/SP route whether or not the abandonment is implemented.

5.3.2 Description of Existing Environment and Potential Environmental Impacts of Proposed Action

5.3.2.1 Land Use

Information for existing land use conditions is presented in Table 5-1 and on Figures 5.5-1 through 5.5-36. Potential land use impacts are listed in Table 5-1. No significant land use impacts are expected.

5.3.2.2 Water Resources and Wetlands

Existing water resources and wetlands information is summarized in Table 5-2. NWI data along the Towner-NA Jct., Colorado abandonment were collected, as available. Those data are shown on Figures 5.6-1 to 5.6-36. Significant impacts are not expected.

5.3.2.3 Biological Resources

Existing biological resources information and potential impacts are summarized in Table 5-3. Potentially significant impacts to biological resources due to this proposed abandonment are not expected.

5.3.2.4 Historic and Cultural Resources

This rail line was constructed in 1887 by the Pueblo and State Line Railroad (subsequently MPRR). There are 32 bridges that are 50 years old or older: 28 wooden bridges built between 1922 and 1945; three concrete bridges (1934, 1939, 1943); and one concrete and steel bridge (1932) (UP, 1995). Based solely on age, these bridges are potentially eligible for the NRHP; however, neither UP nor SP currently has other evidence that such bridges meet NRHP criteria. The Colorado SHPO has been contacted and has requested that Colorado state historic resources forms be submitted for the Towner to NA Junction rail line and for all potentially eligible buildings and structures so that a determination of NRHP eligibility can be provided (Hardy-Hunt, 1995). There is one 1947 wooden bridge which has so far been identified on this line. Further consultation with the Colorado SHPO is expected concerning mitigation measures for bridges or structures if any are determined eligible.

Since salvage operations associated with abandonments usually cause little disturbance to lands within or adjacent to the railroad ROW, impacts to archaeological resources are not normally anticipated (ICC, 1976:6.36). Where significant ground disturbance is necessary, impacts to archaeological resources could possibly occur. An example of this would be the ground disturbance associated with the removal of bridges. To date, however, no evidence of archaeological resources has been determined to be present on this line.

5.3.2.5 Safety

Hazardous waste sites, developed from the database search, are included in Table 5-4.

5.3.2.5.1 Conditions of the Rail Segment

The UP rail segment from NA Jct. to Towner, Colorado was identified as having a spill of an unknown material at Mile Post 830 in Heath in 1990 (Agency ID 48123).

5.3.2.5.2 Conditions Adjacent to the Rail Segment

The database search indicated two ERNS, one LUST, and 29 SWLF sites potentially in the vicinity of the rail segment. The information provided by VISTA does not indicate that these sites have adversely affected the rail segment.

5.3.2.6 Transportation

Local shippers are currently served three times each week both eastbound and westbound by a UP local train. The Towner to NA Jct. line carried 119 cars of inbound wheat and outbound corn in 1994. Customers are located at Eads and Haswell. Alternatives available to serve diverted traffic include SR 96 which parallels the line, and US 287 which provides north-south access at Eads. NA Jct. has access to a BN/Santa Fe rail line. The abandonment of this segment would result in a diversion of 119 cars per year to approximately 476 trucks per year. This is not expected to have a significant impact on the local highway system.

SP uses this UP line for through traffic between Pueblo and Herington. Since the overhead traffic would be rerouted as a result of the merger, there would be no adverse effect on rail transportation.

5.3.3 Potential Environmental Impacts of No-action Alternative

Under the no-action alternative, the overhead traffic on this segment would be rerouted to another UP/SP line. As such, there would be no new potential adverse environmental impacts.

5.4 SUMMARY OF COMMENTS

To assist in assessing the potential environmental impacts of the proposed UP/SP merger, Dames & Moore sent letters requesting information to various Federal, state, and local agencies. In these letters, information was requested for the areas of: air quality, noise, land use, biological and water resources, historic and cultural resources, transportation systems, energy, and public health and safety. Copies of all correspondence received and telephone conversation notes recorded in response to the requests for information are included in Part 6 of this Environmental Report.

There are three segments proposed for abandonment in Colorado. For abandonments in this state, the following agency responded: Eagle County Engineering Department. A summary of comments received through October 30, 1995 is listed below.

- Eagle County, Colorado submitted a wildlife habitat map of Eagle County and indicated that additional information is available in digital format.

5.5 REFERENCES

5.5.1 Land Use

U.S. Department of Agriculture, 1994. State soil geographic (STATSGO) data base. July.
U.S. Geological Survey, various dates. Land use and land cover maps.
U.S. Geological Survey, various dates. 1:24,000-scale topographic maps.

5.5.2 Water Resources and Wetlands

U.S. Fish and Wildlife Service, various dates. National Wetland Inventory maps.
U.S. Geological Survey, various dates. 1:24,000-scale maps.

5.5.3 Biological Resources

Lovell, Dave, 1995. Personal communication with Brian Leatherman, Dames & Moore, from Colorado Division of Wildlife, September 29.

Roussos, George, 1995. Personal communication to Julie Donsky, Dames & Moore, from Eagle County (Colorado) Engineering Department, October 18.

5.5.4 Historic and Cultural Resources

Beck, Lynn (UP), 1995. Information on Towner to NA Jct., CO proposed abandonment.

Hardy-Hunt, Karen, 1995. Telephone conversation between Colorado Historical Society and Denise Bradley, Dames & Moore. October 25.

Thode, Jackson C., 1986. George L. Bean and the Denver and Rio Grande. Sundance Publications Limited, Denver.

Turney, Paul (SP), 1995. Information on Dotsero to Cañon City and Malta to Leadville, CO proposed abandonments.

5.5.5 Safety

Dames & Moore, 1995. Interim report. Determination of the bioavailability of soluble arsenic and arsenic in slag following oral administration in microswine. Prepared for Union Pacific Railroad. Submitted to California Department of Toxic Substance Control.

Davis, Ruby and Bergstrom, 1992. Bioavailability of Arsenic and Lead in Soils from the Butte, Montana Mining District, *Environmental Science and Engineering,* Volume 26, No. 3, pages 461-468.

VISTA Information Solutions, Inc., 1995. Reports for all rail line abandonments pertaining to NPL, CERCLIS, ERNS, SPL, LUST, and SWL located in the 500-foot buffer zone of each rail line. Information collected between September 11 and October 18.

TABLE 5-1

LAND USE INFORMATION ALONG SEGMENTS PROPOSED FOR ABANDONMENT IN COLORADO

EXISTING CONDITIONS

Segment	Existing Land Uses	Structures Near Site		Occurrence Within	
		Within 500 Feet	Length in Urbanized Areas (Feet)	Prime Farmland	Coastal Zone
Sage to Leadville	Cropland and pasture, transportation, strip mines or quarries or gravel pits, streams or canals, commercial, residential, shrub and brush rangeland, mixed urban or built-up land, mixed rangeland, evergreen forest land, lakes, forested wetland or nonforested wetland, deciduous forest land, transitional areas, herbaceous rangeland, industrial	480	5,100	No	No
Malta to Cañon City	Residential, evergreen forest land, strip mines or quarries or gravel pits, transportation, forested wetlands or nonforested wetlands, reservoirs, cropland or pasture, lakes, streams or canals, herbaceous rangeland, mixed rangeland, mixed urban or other built-up land, commercial, shrub and brush rangeland	605	8.400	No	No
Towner to Na Jct.	Residential, herbaceous rangeland, shrub and brush rangeland, cropland and pasture, other urban or built-up land, mixed urban or built-up land, lakes, mixed rangeland, sandy areas other than beaches, confined feeding operations, commercial, streams and canals, strip mines or quarries or gravel pits, forested wetland or nonforested wetland	650	0	Yes	No

IMPACTS

Location	Compatible with Surrounding Land Uses	Loss of Prime Farmland
Sage to Leadville	Yes - Not significant	No - Not significant
Malta to Cañon City	Yes - Not significant	No - Not significant
Towner to Na Jct.	Yes - Not significant	No - Not significant

TABLE 5-2

WATER RESOURCES AND WETLANDS INFORMATION ALONG SEGMENTS PROPOSED FOR ABANDONMENT IN COLORADO

Segment	Type of Water Resource[1]	Number Along the Segment	
		Intercepted by the Segment	Adjacent to the Segment
Sage - Leadville	Blue-line streams	91	43
	Waterbodies	0	5
	Wetlands	2	4
	Canals, culverts, ditches	10	9
Malta-Cañon City	Blue-line streams Waterbodies Canals, culverts, ditches	136 0 8	72 4 9
Towner-NA Jct.	Blue-line streams	36	1
	Canals, culverts, ditches	20	7

[1] Type:

Blue-line streams	=	permanent and intermittent watercourses, including creeks, streams, rivers, washes, and sloughs
Waterbodies	=	permanent and intermittent bodies of standing water including ponds, lakes, reservoirs, bayous, catchments, and beaver ponds
Wetlands	=	areas depicted with the USGS wetland symbol, primarily including marshes and wet meadows
Canals, culverts, ditches	=	tidal channels including inlets, harbors, bays, and sloughs subject to tidal influences

TABLE 5-3

BIOLOGICAL RESOURCES INFORMATION ALONG SEGMENTS PROPOSED FOR ABANDONMENT IN COLORADO

EXISTING CONDITIONS:

Segment	Vegetation Types Along and Adjacent to the Segment	Known and Potential Occurrence of Rare, Threatened and Endangered Species in the Region	Critical Habitat Along the Segment	Parks, Forests, Refuges, Sanctuaries Within 5 Miles
Sage to Leadville	• Ruderal • Agricultural • Riparian • Big sagebrush scrub • Pinyon juniper woodland • Deciduous forest • Coniferous forest	• Greenback cutthroat trout • Penland eutrema • Bald eagle • Black-footed ferret - H[a]	None	White River National Forest, Tennessee Park, Berriam Park, Sand Park, Temple Canyon Park, South Webster Park, Holy Cross Wilderness, Mount Massive Wilderness, Wolf Park
Malta to Cañon City	• Ponderosa pine forest • Open grassland • Agricultural • Ruderal • Riparian • Big sagebrush scrub • Pinyon juniper woodland • Deciduous forest • Coniferous forest	• Greenback cutthroat trout • Penland eutrema • American peragrine falcon • Mexican spotted owl • Black-footed ferret H[a]	None	San Isabel National Forest, Tennessee Park Berriam Park, Temple Canyon Park,
Towner to NA Jct.	• Ruderal • Agricultural • Shortgrass prairie • Wetlands	• Bald eagle • Least tern • Piping plover • Eskimo curlew • Western snowy plover • Whooping crane • Black-footed ferret - H[a]	None	None

POTENTIAL IMPACTS TO:

Segment	Vegetation Types/ Wildlife Habitats	Rare, Threatened and Endangered Species in the Region	Critical Habitat	Parks, Forests, Refuges, Sanctuaries
Sage to Leadville	Not significant	Potential impacts to greenback cutthroat trout can be mitigated (see Section 4.5).*	None	Not significant
Malta to Cañon City	Not significant	Potential impacts to greenback cutthroat trout can be mitigated (see Sectin 4.5)*	None	Not significant
Towner to NA	Not significant	None	None	None

H[a] Historical records only. No recent observations of this species.

* Potential impacts may not exist for this species as occurrence has not been verified. It is assumed that salvage operations would be limited to the existing ROW. Therefore, impacts to rare, threatened, and endangered species, as well as to parks, forests, refuges, and sanctuaries would be negligible.

TABLE 5-4
HAZARDOUS WASTE SITE ISSUES FOR COLORADO

Segment	Right-of-Way Issues [1]			Adjacent Issues (Within 500 Feet)						Area Issues (Unmappable Sites)					
	Onsite ERNS	Onsite LUST	COMMENTS	NPL	CERCLIS	RCRA TSD	ERNS	SPL/ SWLF	LUST	NPL	CERCLIS	RCRA TSD	ERNS	SPL/[2] SWLF	LUST
Sage - Leadville, CO	3	--	Sections of rail ballast contain lead slag. Fuel oil spill at SP mile post 302 in Minturn and crude oil spill at DRGRR near Camp Hale. Segment traverses Belden in which Eagle Mine site has potentially affected the rail segment. Currently, surface water and ground water at points along the rail segment are being monitored for potential effects from the Eagle Mine site. California Gulch-Leadville Superfund area is affected by lead, copper, silver, and gold from historical mining activities.	2	2	---	4	2	1	---	-----	----	4	25	11
Malta - Cañon City, CO	---	---	California Gulch-Leadville Superfund area is affected by lead, copper, silver, and gold from historical mining activities. CERCLIS' site is adjacent located at railroad loading area in Cañon City, Smeltertown site is affected by historical smelter and wood treating facility operations. Sections of the rail ballast contain lead slag.	2	4	--	6	---	8	---	2	1	3	10	11
NA Junction - Towner, CO	1	---	UP spill of unknown material at mile post 830 (1990).	---	---	---	---	---	---	---	---	---	2	29	1

1 - Issues identified through VISTA database search.

2 - 26 SWLF sites are identified as between the Sage to Cañon City rail line which can not be located specifically on either the Sage to Leadville or Malta to Cañon City rail segments.

KEY FOR LAND USE FIGURES

URBAN OR BUILT-UP LAND

RE	Residential
C	Commercial and services
I	Industrial
T	Transportation, communications and utilities
I/C	Industrial and commercial complexes
MU	Mixed urban or built-up land
OU	Other urban or built-up land

AGRICULTURAL LAND

CP	Cropland and pasture
CH	Orchards, groves, vineyards, nurseries, and ornamental horticultural areas
CF	Confined feeding operations
CO	Other agricultural land

WATER

WS	Streams and canals
WL	Lakes
WR	Reservoirs
WB	Bays and estuaries

WETLANDS

WE	Forested wetlands, and/or nonforested wetlands

RANGELAND

Rh	Herbaceous rangeland
Rsb	Shrub and brush rangeland
Rm	Mixed rangeland

FOREST LAND

FD	Deciduous forest land
FE	Evergreen forest land
FM	Mixed forest land

BARREN LAND

Bsf	Dry salt flats
Bb	Beaches
Bs	Sandy areas other than beaches
Br	Bare exposed rocks
Bm	Strip mines, quarries, and gravel pits
Bt	Transitional areas
B	Mixed barren land

HISTORIC AND CULTURAL RESOURCES

●	Potentially Eligible Historic Resource

Figure 5A Overview of Proposed Abandonment: Sage – Leadville, Colorado.