

where the public has accessibility, then a potentially significant safety impact could result. The same issues as described for the Proposed Action also apply to this alternative.

Mitigation Measures

Standard measures would be required to safe guard the public from construction and operations activities, including signage and fencing. In addition, the mitigation remains as described for the Proposed Action (measures PHS1 through PHS5). No residual significant impacts would remain.

3.2.13.6 Alternative North Fines Storage Area Analysis

Impacts

Areas A, B, and C are privately owned and rights to use these properties would have to be acquired. Since there are no public use areas, no additional public safety and health issues are identified under this alternative as compared to the Proposed Action. The impacts for this alternative relative to public health and safety are the same as identified for the Proposed Action.

Mitigation Measures

The mitigation remains as described for the Proposed Action (measures PHS1 through PHS5). No residual significant impacts would remain.

3.2.13.7 Reduced Quantity Mining Concept Alternative Analysis

Impacts

As with the Proposed Action, the same issues apply to this alternative.

Mitigation Measures

The mitigation remains as described for the Proposed Action (measures PHS1 through PHS5). No residual significant impacts would remain.

3.2.14 Expanded Description of the Agency Preferred Alternative

3.2.14.1 Description of Proposed Mining and Facilities

This section provides an expanded description of the Reduced North Fines Storage Area (RNFSA) Alternative, which in combination with Mitigation Measure AQ3 is the BLM Agency Preferred Alternative. This description is based on a Mining and Reclamation Plan that is subject to changes due to a varying market demand, actual geologic conditions encountered, and

changing regulations. The Mining and Reclamation Plan is subject to modification by the mine operator to compensate for unexpected conditions, provided that applicable regulations are met. Based on the appropriate studies and analyses, the RNFSA Alternative mining operation was designed to avoid or minimize potentially significant adverse environmental impacts. Therefore, many avoidance and mitigation measures have been designed into the mining operation and are described in the following sections.

General Mining Plan

General Layout and Project Plan

A series of four excavation cuts are planned on the south side of the ridge at angles up to 45 degrees. A fill area for excess natural fines will be established on the north side of the ridge as well as in other areas that will be established in the mine cuts on the south side of the ridge. The area on the north side will be used for fines storage over approximately a five year period; however, revegetation of this area will be sequential as filling proceeds and benches are prepared for reclamation. Figure 3.2-5 presents the RNFSA Alternative plan, including the mining operations boundary, the fines storage area on the north side of the ridge (North Fines Storage Area or NFSA) and other existing facilities to be used. Setbacks for all aspects of the mining operation have been designed to comply with the County codes. The setbacks will be at least 50 feet for mining operations adjacent to public roads or other parcels.

A total of 63 million tons of product is available to be mined within the parameters of the RNFSA mining plan. TMC currently holds Federal Contracts with the BLM to either mine up to 56.1 million tons of product or mine through 20 years. Additional aggregate product would be available from this property. The exact tonnage remaining to be mined will depend on the mining economics at that time and the requirements of additional contracts with the BLM.

Mining under future contracts would be subject to County, state, and federal approval. For purposes of this assessment, the Project will be complete at the end of the 20th year.

If the maximum mining production (56.1 million tons) is realized by the end of the Federal Contracts term, the resultant modification to the landform would result in lowering the peak ridge elevation from approximately 700 to about 600 feet above Soledad Canyon Road. Several existing ravines on the north side of the ridge will be partially filled, resulting in a hillside as well as a ridge with ravines. TMC will revegetate disturbed ground surfaces, returning the site to an open space condition. Reclamation of the site for TMC's mining impacts has already been guaranteed by TMC through posting a bond with the BLM and state and County governments.

The principal material to be mined will be the Vasquez Conglomerate, which can be divided into the "lower unit" Tv1 and the "middle unit" Tv2. Figure 3.2-6 shows a cross section of the site and the principal material to be mined. A higher proportion of good-quality sand and gravel is located in the unit identified as Tv1, which is overlain by unit Tv2. It is estimated that 70 percent or more of the Tv1 material and at least 45 percent of the Tv2 material can be sold as product. Therefore, to produce 56.1 million tons of aggregate product, it is estimated that 77.7 million tons of materials will be mined, up to 0.5 million ton of fines will either be sold or taken offsite to another TMC facility in the early stages of the mining operation. Up to

15.1 million tons of fines will be backfilled into the mined-out areas of the quarry, and 6.0 million tons of fines will be stockpiled in the NFSA. Based on the amount of fines that may be sold as product and the amount of fines actually encountered during operations, the need for permanent fines storage may be decreased and/or the NFSA may be reduced in size.

Mine Preproduction Activities

Slope Stability - Existing Site

Preproduction operations will include stabilizing the steep slopes of the existing quarry at the southeast corner of the site. This existing quarry will be stabilized by using fill to buttress the slopes. The area will then be used to stockpile the products of the mining operation. In addition, protective berms will be used where rockfall potential is high such as on the northwest corner of the existing cut slope.

Drainage Concept and Erosion Control

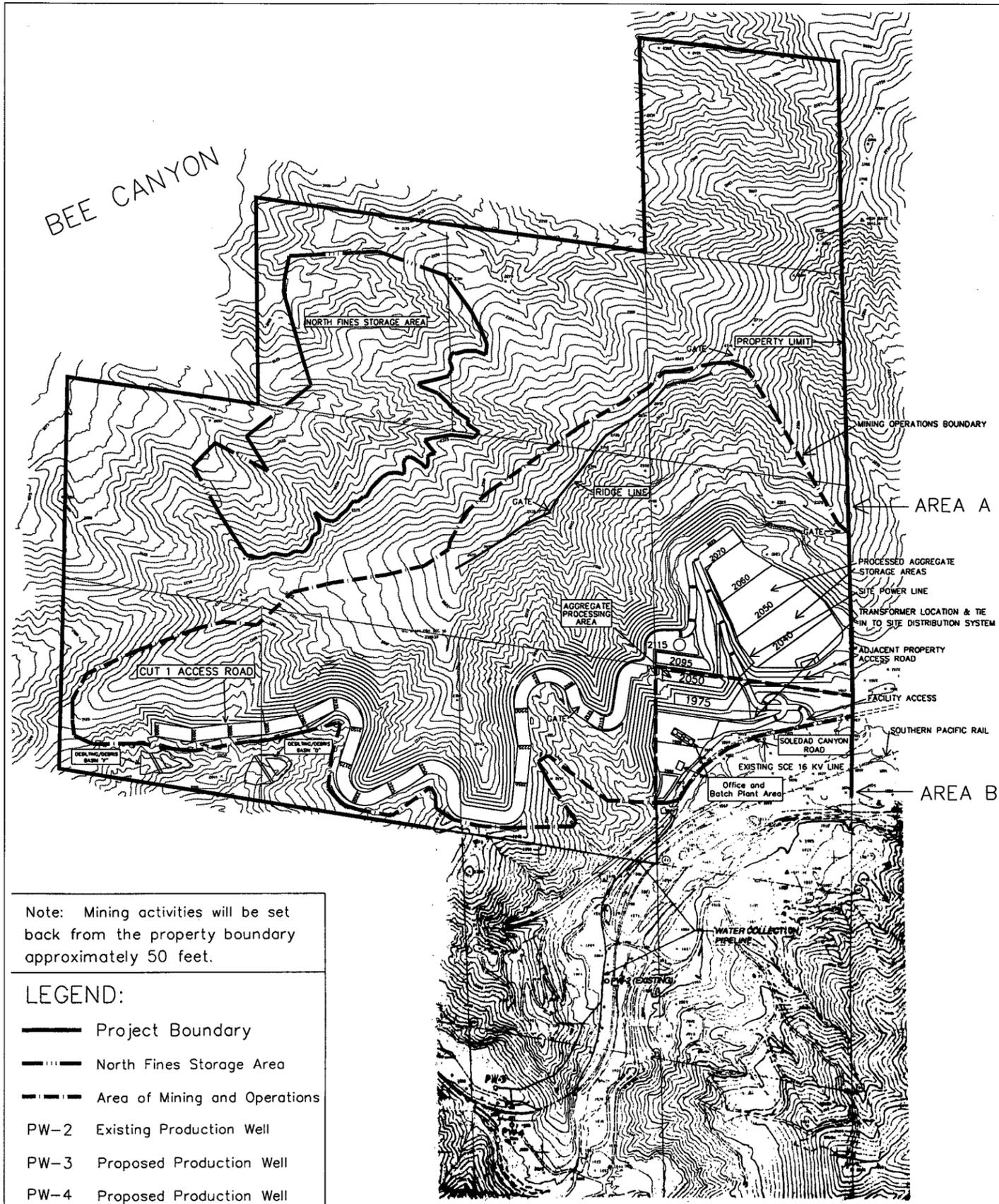
No portion of the operations area is subject to floodplain inundation, and no permanent watercourses are in the area of mining activities; however, four steep canyons are located in Area A. The storm runoff watercourses in these canyons will have seven dikes constructed to form desilting/debris basins before the water is allowed to leave the property. The basins shown on Figure 3.2-10 will be constructed before subsequent project work or mining commences in the catchment area above each watercourse. Overflow ditches around each dike will be riprapped to minimize erosion. The desilting/debris basins have been designed to perform both during a 50-year storm event and the more frequent storm events to reduce sediment loading in downstream waters (C.A. Rasmussen). It is anticipated that the final design of the sediment basins will be reviewed and approved by the County of Los Angeles Department of Public Works (DPW) after project approval but prior to construction, and will be based on applicable County standards. The Drainage Concept Plan described herein is based on the current DPW hydrology/sedimentation manual. A Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the project that describes the stormwater management practices for all phases of operation (Appendix B1).

Prestripping

Observations of Area A show that little to no topsoil is present in the areas that will be disturbed during the mining excavation operations. However, where practical, topsoil will be salvaged and stored onsite. Clearing vegetation will occur as necessary as mining proceeds; therefore, the potential for erosion will be minimized. As mining and/or backfilling or fines storage proceeds, areas will be seeded with a plant mix designed to reduce erosion.

Conveyor Way and Haul Road Construction

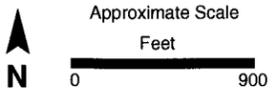
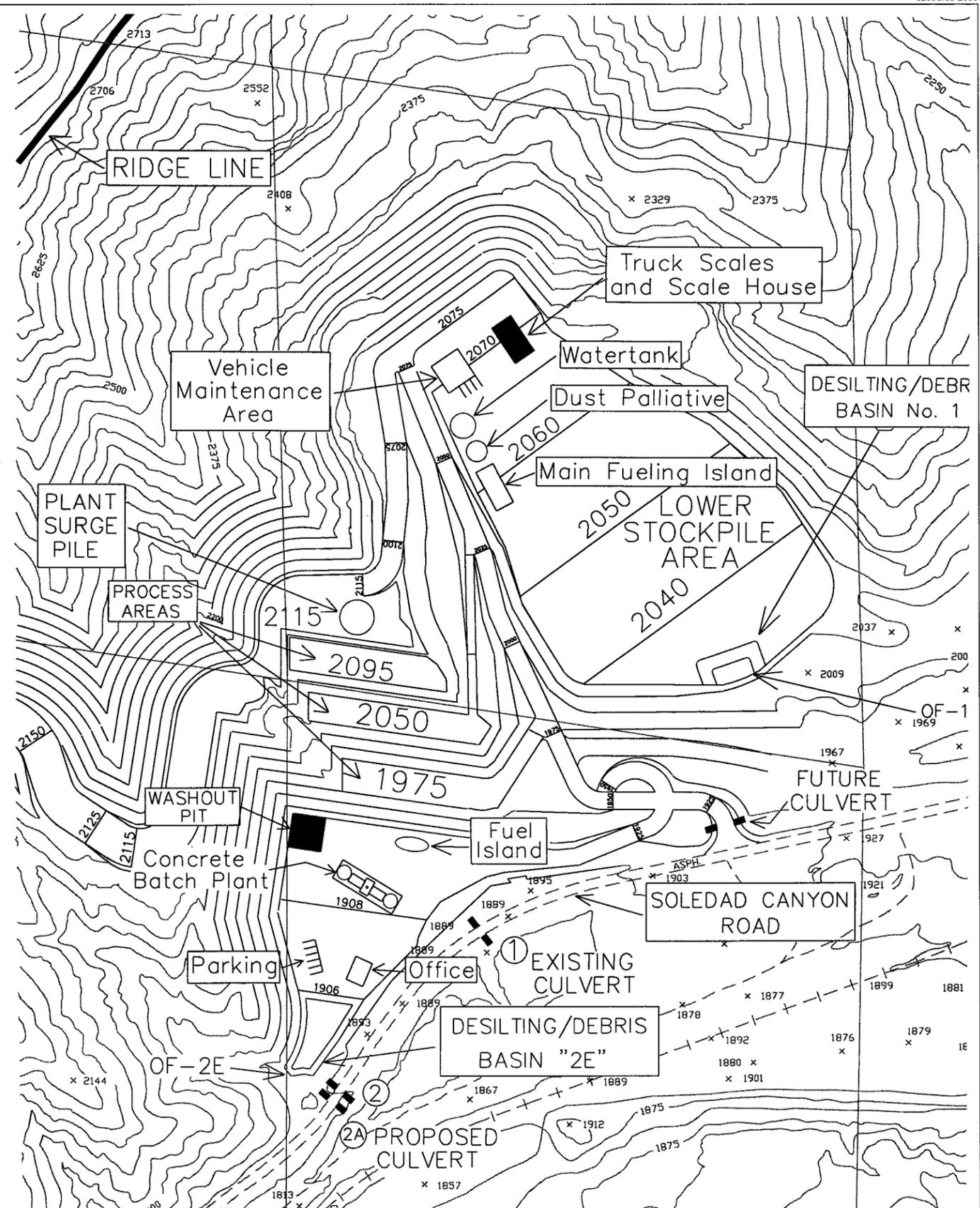
After the necessary desilting/debris basins and ditches have been constructed for erosion control, mine preproduction work will continue with the construction of roads for the mobile mine



Note: Mining activities will be set back from the property boundary approximately 50 feet.

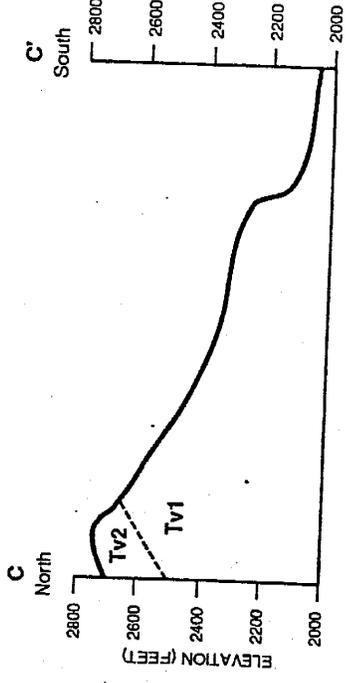
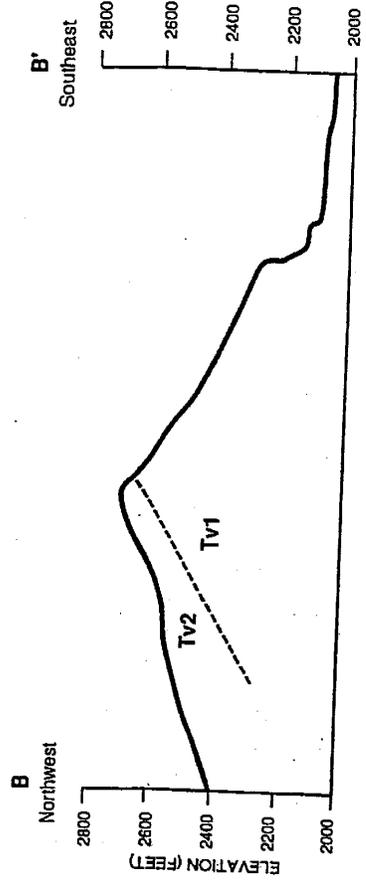
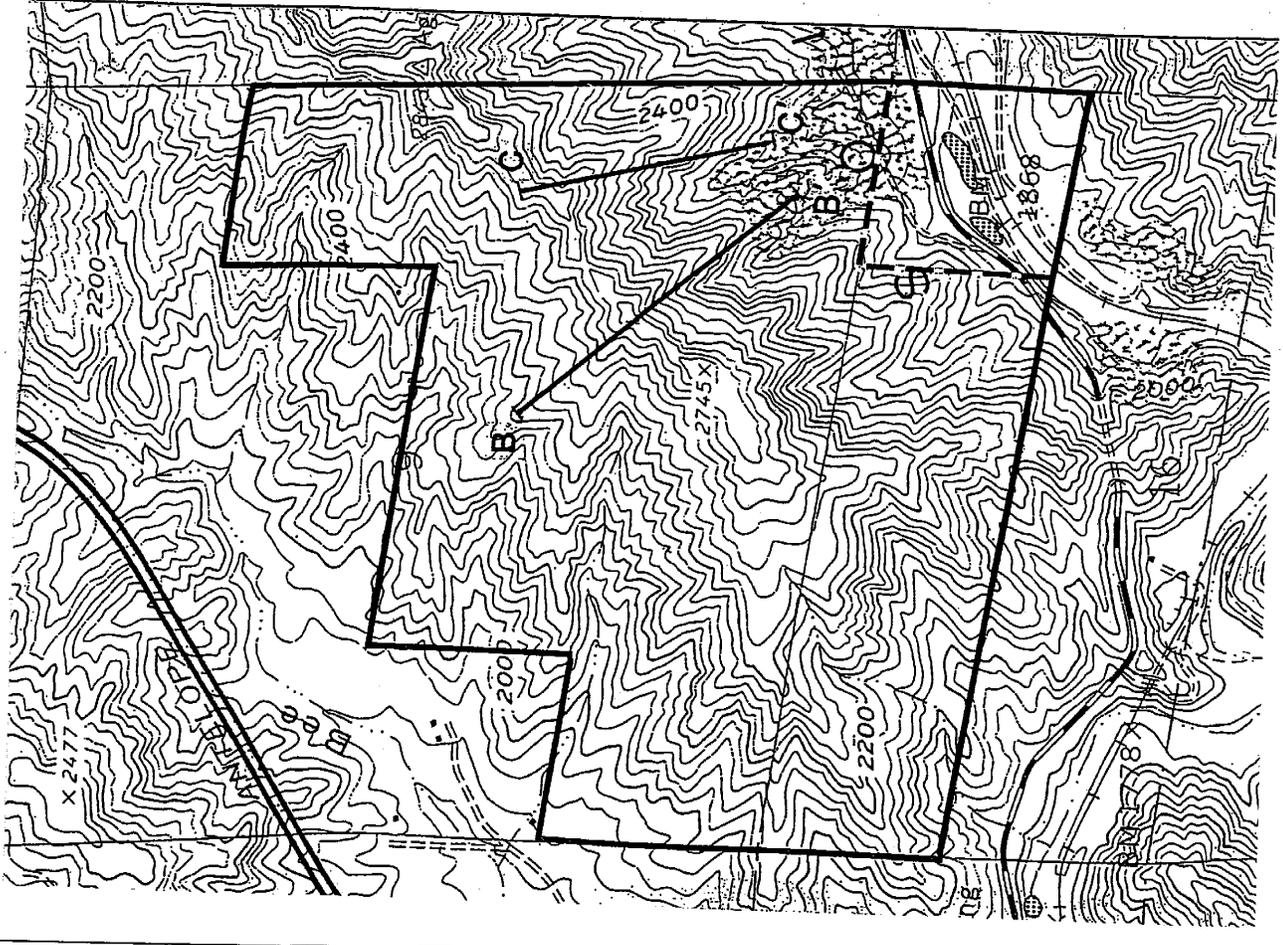
LEGEND:

- Project Boundary
- North Fines Storage Area
- Area of Mining and Operations
- PW-2 Existing Production Well
- PW-3 Proposed Production Well
- PW-4 Proposed Production Well



Source: DANIEL J. PELLOW CONSULTING

PROJECT PLAN
Figure 3.2-5



Source: USGS 1:24,000 SERIES, AGUA DULCE, CA



CROSS-SECTION GRAPHS AND LOCATION MAP
Figure 3.2-6

equipment and a right-of-way for the product conveyor system. The preproduction construction work is shown on Figure 3.2-7.

The required product conveyors and mobile crushing plant will begin operation in Cut 1 at elevation 2,000 near the westerly end of the mining area (see description below of the RNFS Alternative cut sequence). During preproduction work, a temporary 90-foot-wide haul road is proposed to be constructed between this area and the plant production site. The road will have a maximum grade of 10 percent (ascending to the 2,250-foot elevation) and is sized to accommodate a 15-foot-wide berm and a running surface equal to 3.5 times the width of an 85-ton haulage truck and a conveyor system. The road will be used throughout the life of Cut 1 and will be available if necessary during the Cut 2 mining period.

Facilities Construction

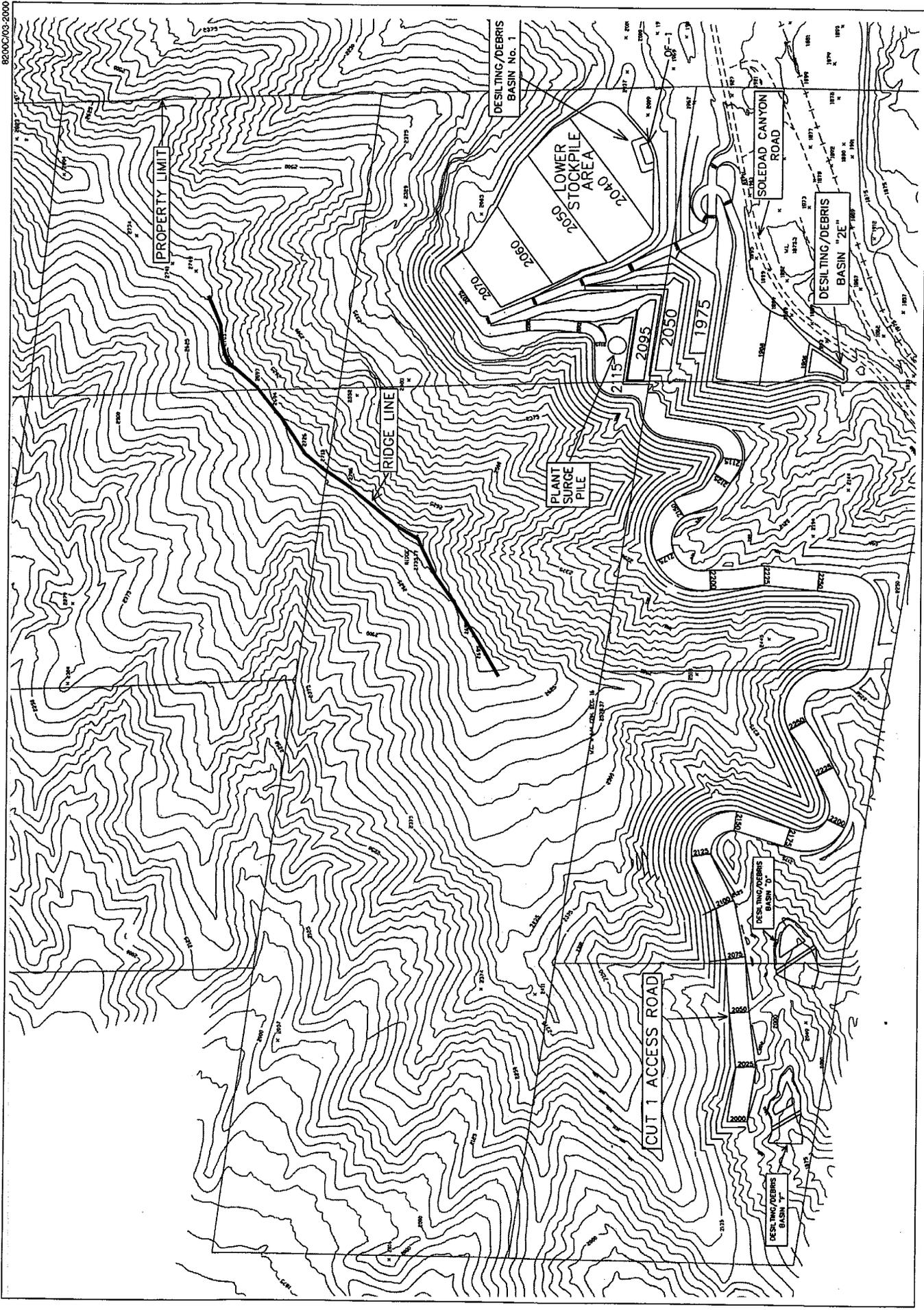
Facilities are proposed to be located in Areas A and B north of Soledad Canyon Road. The facilities include the following:

- ▶ aggregate processing plant,
- ▶ concrete batch plant,
- ▶ fuel island,
- ▶ truck washout,
- ▶ truck scale and scale house,
- ▶ service and maintenance building,
- ▶ stockpile areas,
- ▶ water tanks,
- ▶ dust palliative storage tank,
- ▶ office, and
- ▶ facility parking area.

Construction of the facilities will proceed after appropriate site grading and access road construction are completed in accordance with standard construction practices and zoning and grading ordinances of the County.

A significant amount of grading will be required to prepare the site for the permanent aggregate processing facilities, the processed aggregate material stockpiling and shipping area, and the ready-mixed concrete manufacturing facilities (Concrete Batch Plant). Initially, a temporary aggregate processing plant will be used to process material as the relatively flat area of the site is leveled and widened. Leveling and widening the relatively flat area of the site are necessary to provide adequate area for processed aggregate stockpiles. Stockpile areas are necessary for consistent shipping operations and typically take up the largest amount of area within aggregate production and shipping operational areas.

Initially, ready-mixed concrete may be produced at the site for shipment to local markets using a temporary portable plant. The portable plant may operate until facilities grading and construction are completed. The components of the portable plant are arranged on skids and will



Source: DANIEL J. PELLOW CONSULTING

PREPRODUCTION
Figure 3.2-7

be brought to the site by truck for assembly. Upon completion of permanent batch plant facilities, the portable unit will be disassembled and removed from the site by truck.

Specifically, construction of the fuel island will include two 6,000- to 10,000-gallon aboveground diesel storage tanks, as well as a propane storage tank. Additional tanks include a 1,000-gallon waste oil tank, three 250- to 1,000-gallon fresh motor oil tanks, and a 1,000-gallon hydraulic fluid tank. The construction and installation of these tanks are designed to meet the requirements of the South Coast Air Quality Management District (SCAQMD) standards and the County fire codes. Two 600,000-gallon water storage tanks are proposed for the facilities area. All tanks are addressed in the Spill Prevention, Control, and Countermeasures Plan (SPCCP) (Appendix B2). A chemical storage tank to hold dust palliatives will be located onsite. All oil wastes collected onsite will be disposed of at a certified oil recycling center offsite.

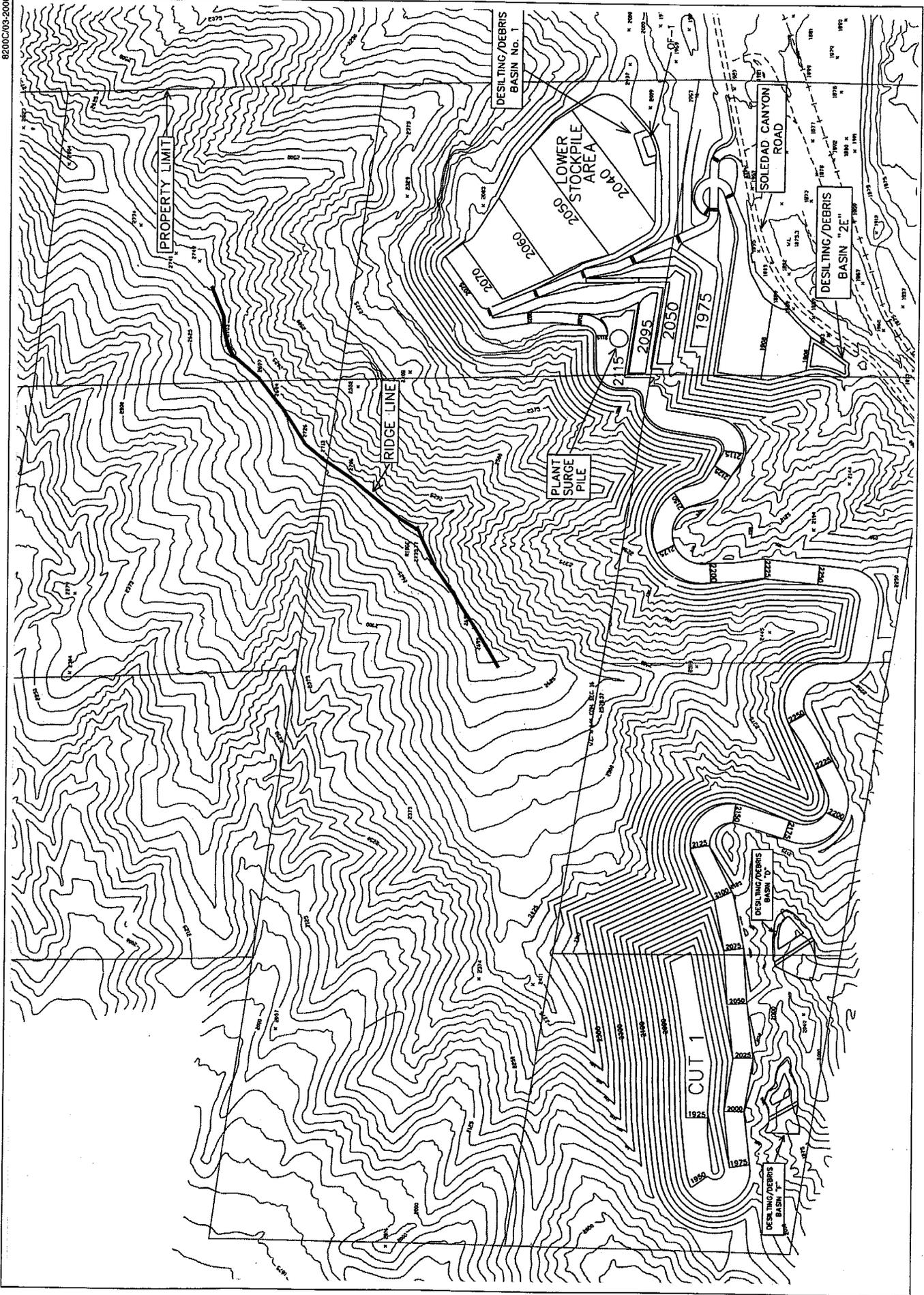
RNFSA Plan of Mining Cuts

The RNFSA Alternative mining concept includes excavation of the deposit in four successive cuts to produce up to 56.1 million tons of aggregate product. The total mine production tonnage, including estimated quantity of fines and product, is provided in Table 3.2.14-1. The mining operation will be designed to minimize onsite production transportation distances and provide adequate storage of natural fines.

Mining cuts are described beginning with Cut 1 and proceeding through Cut 4. The RNFSA Alternative is a modified approach to mining the site that involves a deeper first cut allowing for storage of fines materials in the cut, thus reducing the need for fines placement in the NFSA. The cuts as they were described for the Proposed Action have been renamed in this section for clarification purposes. This is because the previously denoted Cut 3 in the DEIR is now Cut 1 in this document. The approximate correlation between the cuts is as follows:

Proposed Action	RNFSA (APA)
Cut 1	Cut 2
Cut 2	Cut 3
Cut 3	Cut 1
Cut 4	Cut 4

The RNFSA Alternative's first cut would start from a point near the west property line in the Cut 1 area. Cut 1 would be mined from west to east for a distance of approximately 2,500 feet. Cut 1 would be mined to the 1,925-foot elevation as shown in Figure 3.2-8. The excess fines screened out at the crusher feed will be filled into the western end of the cut, and reclamation of the area will proceed from west to east as the area is filled. Fines would continue to be stored in the Cut 1 area until it reaches capacity.



MAXIMUM EXTENT OF MINING CUT 1
Figure 3.2-8



Source: DANIEL J. PELLOW CONSULTING

Table 3.2.14-1
CUTS 1 TO 4 MINE TOTAL TONNAGES¹
(tons x 1,000)

Elevation (feet)	Total Mined	Fines	Product	Cumulative Fines	Cumulative Product
2,700	66	36	30	36	30
2,675	261	144	117	180	147
2,650	600	279	321	459	468
2,625	827	351	476	811	943
2,600	992	405	587	1,215	1,531
2,575	1,104	433	671	1,648	2,202
2,550	1,257	490	767	2,138	2,969
2,525	1,350	500	851	2,638	3,819
2,500	1,373	494	879	3,132	4,698
2,475	2,303	772	1,531	3,904	6,229
2,450	2,649	829	1,820	4,733	8,049
2,425	2,862	821	2,041	5,554	10,090
2,400	3,088	806	2,282	6,360	12,372
2,375	3,413	884	2,529	7,244	14,901
2,350	3,734	967	2,767	8,211	17,668
2,325	3,929	1,018	2,911	9,229	20,579
2,300	4,029	1,044	2,985	10,272	23,565
2,275	4,182	1,083	3,099	11,355	26,664
2,250	4,292	1,112	3,180	12,467	29,844
2,225	4,291	1,111	3,180	13,578	33,024
2,200	4,317	1,118	3,199	14,696	36,223
2,175	4,114	1,066	3,048	15,762	39,271
2,150	4,118	1,067	3,051	16,829	42,322
2,125	4,076	1,056	3,020	17,884	45,343
2,100	3,638	942	2,696	18,826	48,039
2,075	3,974	1,029	2,945	19,856	50,983
2,050	3,668	950	2,718	20,806	53,701
2,025	3,247	841	2,406	21,647	56,107*
2,000	2,873	744	2,129	22,391	58,236
1,975	2,471	640	1,831	23,031	60,067
1,950	1,966	509	1,457	23,540	61,524
1,925	1,481	384	1,097	23,924	62,621
Total	86,545	23,924	62,621	23,924	62,621

¹ Anticipated mining and production volumes are estimates only and could change on an annual basis because of market conditions or other factors.

* TMC's Federal Contracts limit for the Project at 56.1 million tons.

Note: The last columns are not sum totals; they are cumulative totals.

The plus 1/4-inch aggregate material will be crushed to minus 6 inches and transferred to a horizontal movable conveyor. Then this material will be transferred to the semipermanent, sloped conveyor leading to the plant stockpile. The fines screened at the crusher feed will be temporarily stacked on the operating bench and then loaded into 85-ton haul trucks or 44-cubic-yard scrapers and moved to the western end of Cut 1. The storage area will be constructed from the bottom up in 4- to 5-foot lifts. Each successive lift will be set back 8 to 10 feet to produce the overall slope of 2 horizontal feet for every 1-foot rise in elevation.

The second mining cut (Cut 2) will start at approximately the 2,350-foot elevation three-quarters of the way up the south side of the ridge and proceed downslope in 25- to 35-foot benches to approximately the 2,075-foot elevation. Figure 3.2-9 shows the configuration of the maximum extent of Cuts 2 and 3.

The third cut (Cut 3) will start at the 2,600-foot elevation near the top of the south side of the ridge and continue to the east end of the property. A portion of Cut 3 will be excavated to the 1,925 elevation. This elevation has been chosen because drainage from this elevation will still be able to flow to Desilting/Debris Basin "2E". However, if the material meets the quality requirements for PCC aggregate, mining may continue until the excavation is restricted by the south property limit or the Soledad Canyon Fault.

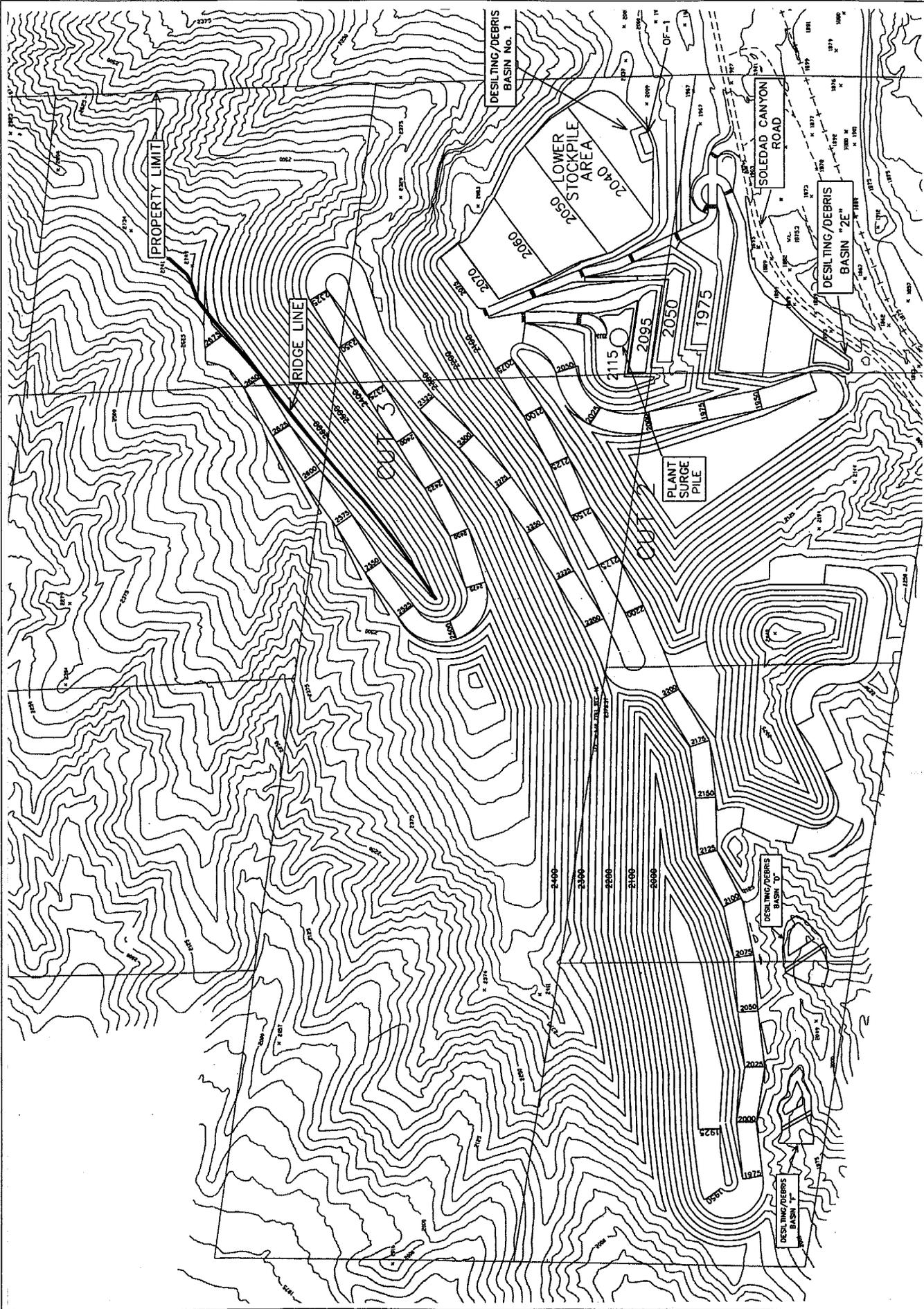
The eastern portion of Cut 1 will be mined concurrently with Cut 3. Fines from Cut 2 and Cut 3 will be sent to the Cut 1 area until it reaches capacity. It is anticipated that Cut 3 will be completed near the 15th year of mining operations.

Cut 4 is an extension of the quarry to the north and will be the last cut required to obtain the contracted 56.1 million tons of aggregate product. This cut extends to the north side at the top of the ridge, and the natural fines will be stored in the NFSA.

Figure 3.2-10 shows the maximum extent of mining at the completion of Cut 4. Cut 4 will be put into production near the 15th year of operation when mining in Cuts 2 and 3 will be completed. The upper elevations of Cut 4 consist of material that may not be of the quality required for aggregate; therefore, the unmarketable material will be removed and backfilled into the NFSA. The mobile crusher will begin operation at the 2,650-foot elevation, and a conveying system will transport the crushed product down to the plant stockpile.

This mining concept would result in the storage of approximately 1.9 million tons of fines in Cut 1, and reduce the amount of excess fines generated from Tv2 by approximately 5 million tons. This should allow the excess fines from approximately the first 15 years of mining to be placed in Cut 1. When the maximum volume of the produced fines exceeds the amount of storage in the western end of Cut 1, fines would be stored in the lower elevations of Cut 3 and/or in the NFSA. In this concept, the NFSA would have approximately 50 percent of the fill estimated in the DEIR Concept Plan of mining cuts.

Cross section C-C on Figure 3.2-11 and the corresponding Figure 3.2-10, show the maximum extent of mining and the fill of the NFSA if the RNFSA Alternative approach is used. Cross section D-D shows a profile of the mining fill through the main mine area.

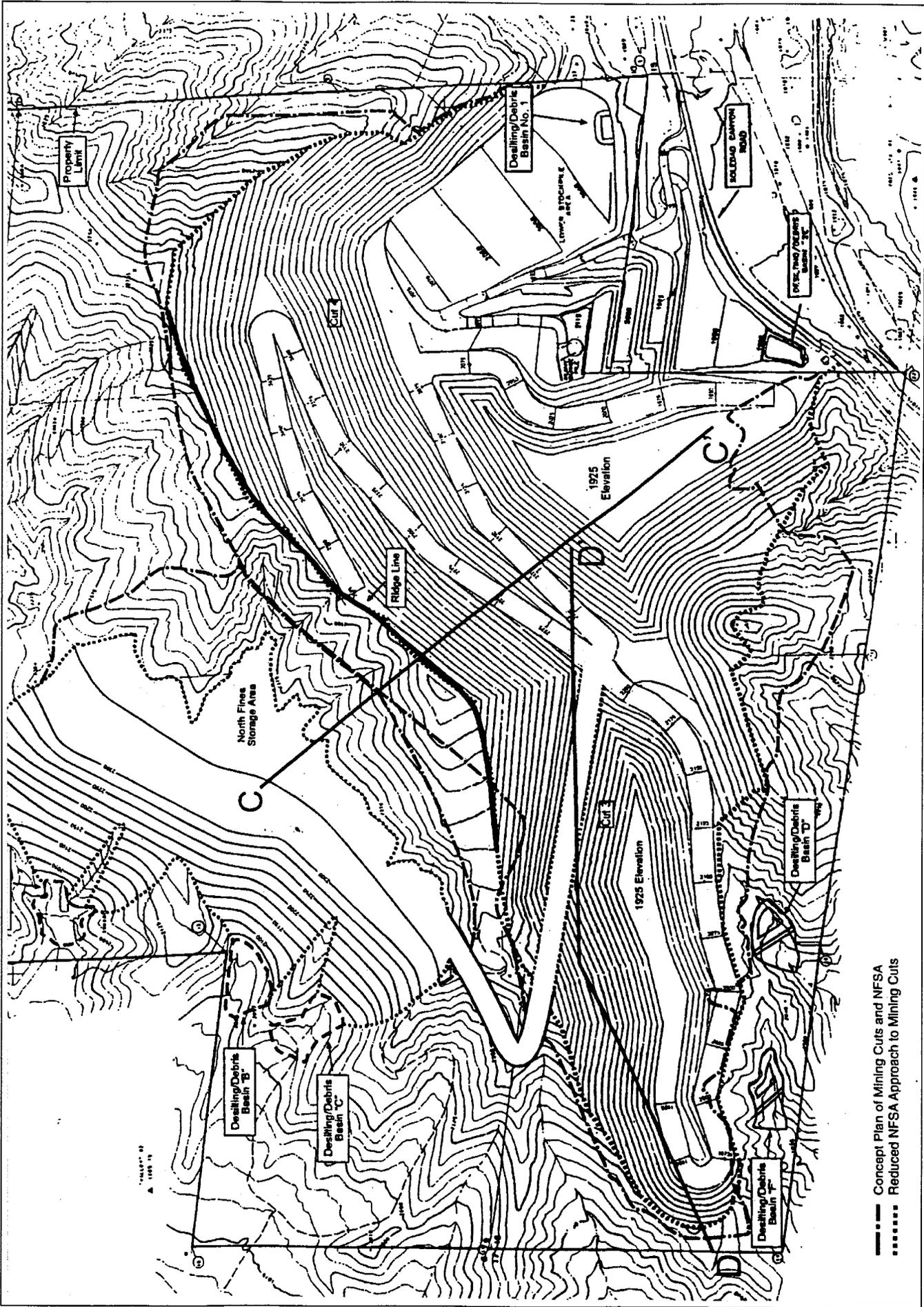


MAXIMUM EXTENT OF MINING CUTS 2 AND 3 Figure 3.2-9



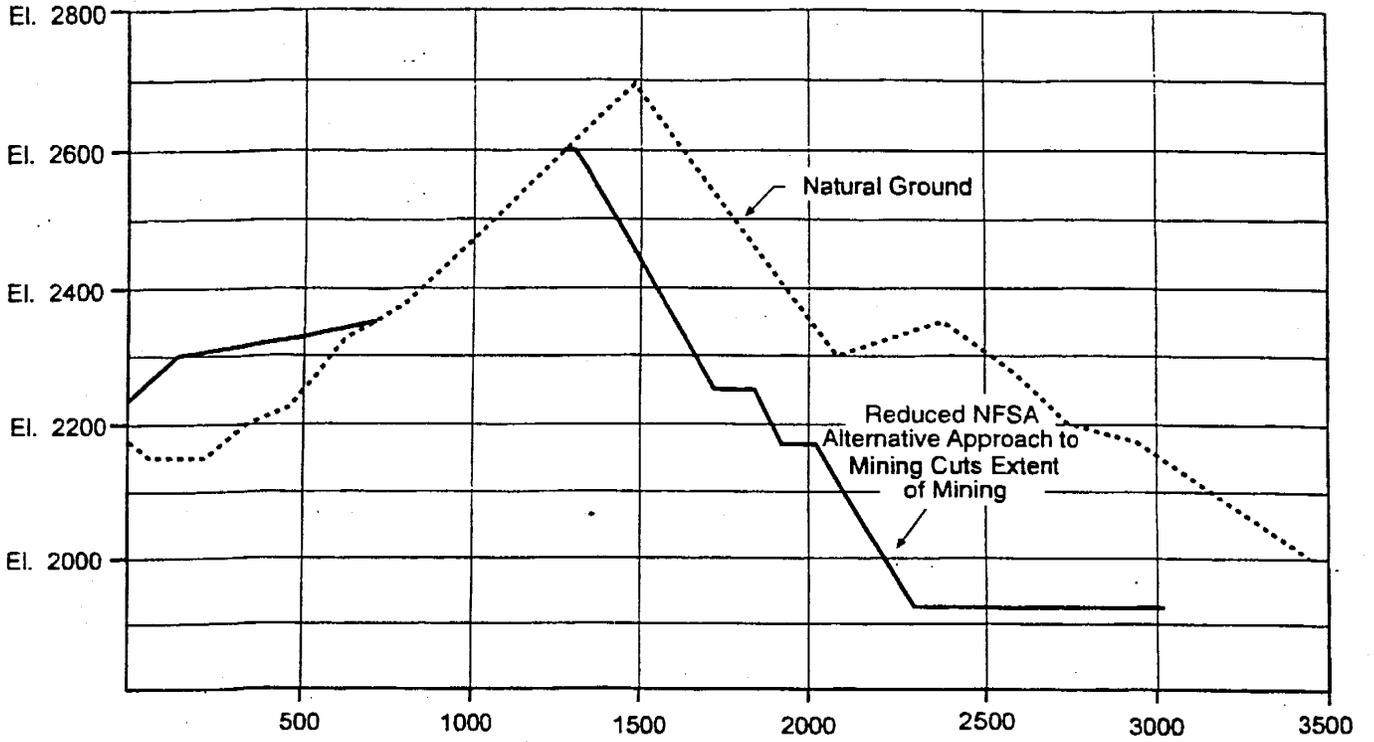
Source: DANIEL J. PELLOW CONSULTING



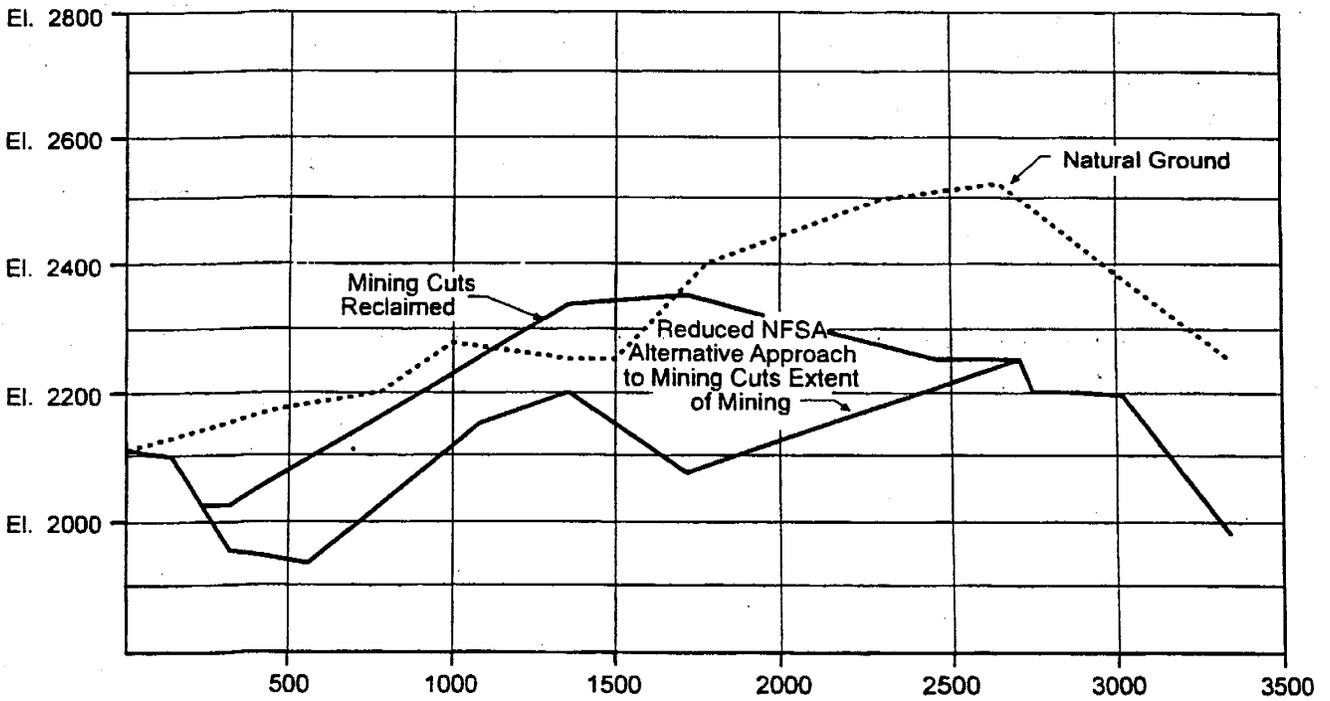


**MAXIMUM EXTENT OF MINING
REDUCED NFSA ALTERNATIVE**
Figure 3.2-10

Approximate Scale
Feet
0 600
N
SOURCE: WEST COAST ENVIRONMENTAL, DECEMBER



CROSS-SECTION C-C'



CROSS-SECTION D-D'

CROSS SECTIONS
REDUCED NFS ALTERNATIVE TO MINING CUTS
Figure 3.2-11

TMC's current Federal Contracts with the BLM will expire at the end of the 20th year of operation when mining will be on the 2,375-foot elevation of Cut 4. The reclaimed contours for the site at the end of mining are shown on Figure 3.2-12.

Mitigation Measure B7 as applied to the RNFSA Alternative would provide for the storage of 6.0 million tons of excess natural fines without the need to place these materials as earthen fill in the westerly or easterly ephemeral drainages which would otherwise be filled with the RNFSA Alternative (See Figures 3.2-13, 3.2-14, and 3.2-15). The concept of Mitigation Measure B7 is to limit the lateral extent of the RNFSA Alternative to avoid these ephemeral drainages. The vertical extent of the earthen fill under mitigation B7 approximates the vertical extent of the NFSAs as described in the proposed Project. Figures 3.2-16 and 3.2-17 show the RNFSA Alternative with implementation of mitigation measure B7 at 50 percent Project completion and at the end of the Project, respectively.

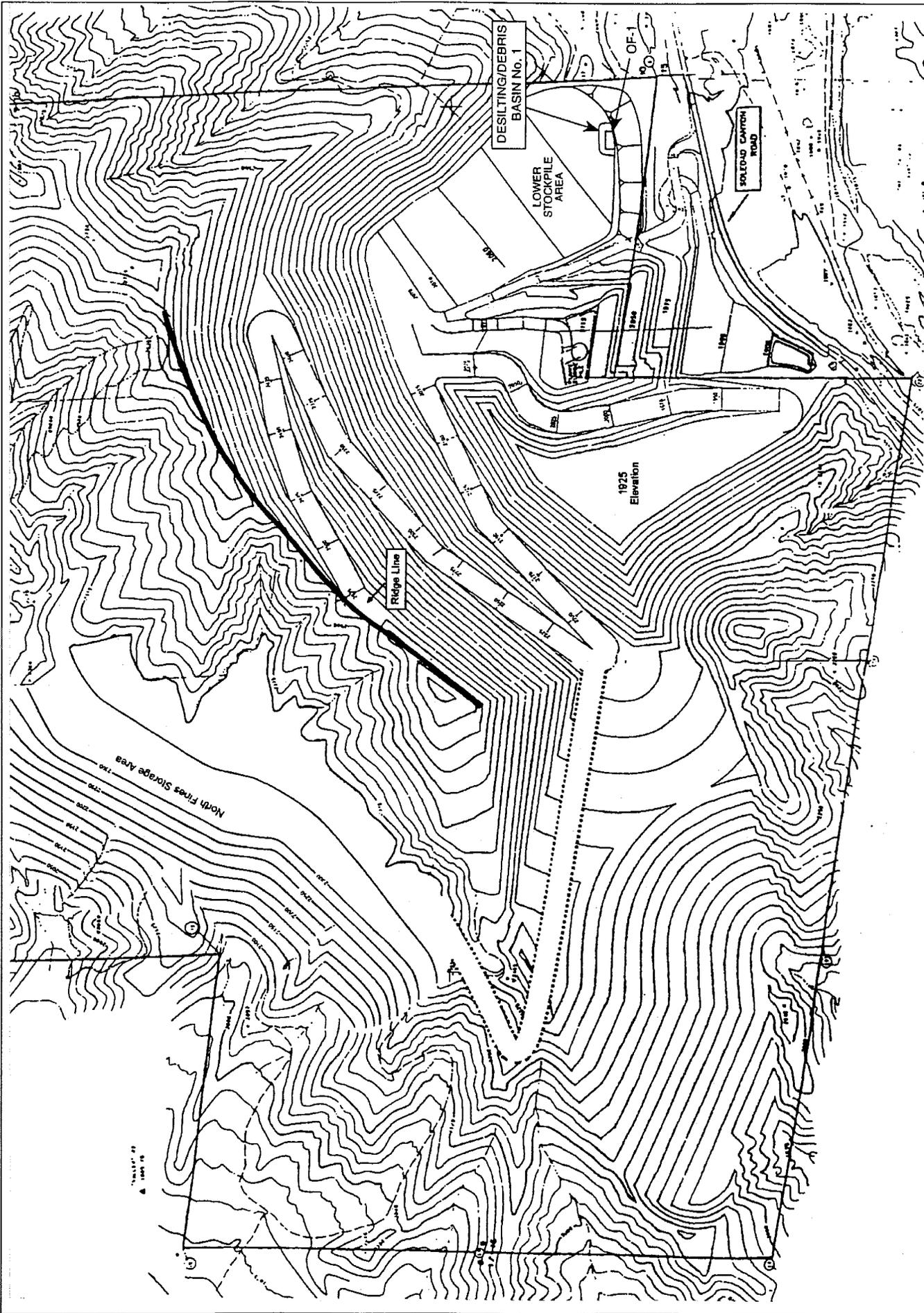
It is the position of TMC and BLM (as manager of the mineral rights) that the site will be reclaimed to create an open space environment. The debris basins are not permanent structures and will be removed after reclamation.

Mine Production Phasing and Schedule

Based on the current permitting schedule, it is anticipated that mining will commence in late year 2000 and be completed in year 2020. Any delay in permitting would cause a corresponding delay in the mining schedule. As shown in Table 3.2.14-2, the proposed mining schedule is divided into two phases in accordance with TMC's agreement with the BLM. Phase 1 will last 10 years with a gross mine production rate averaging about 1.4 million tons of product per year but ranging up to 2.15 million tons per year. Phase 2 will begin near the 11th year, and mining will proceed at a rate resulting in approximately 4.2 million tons of product per year. The mine is scheduled to continue at this rate for 10 years. It should be noted that the anticipated mining and production volumes are estimates only and could change on an annual basis because of market conditions or other factors.

Operations Plan

The operations plan remains as presented for the Proposed Action.

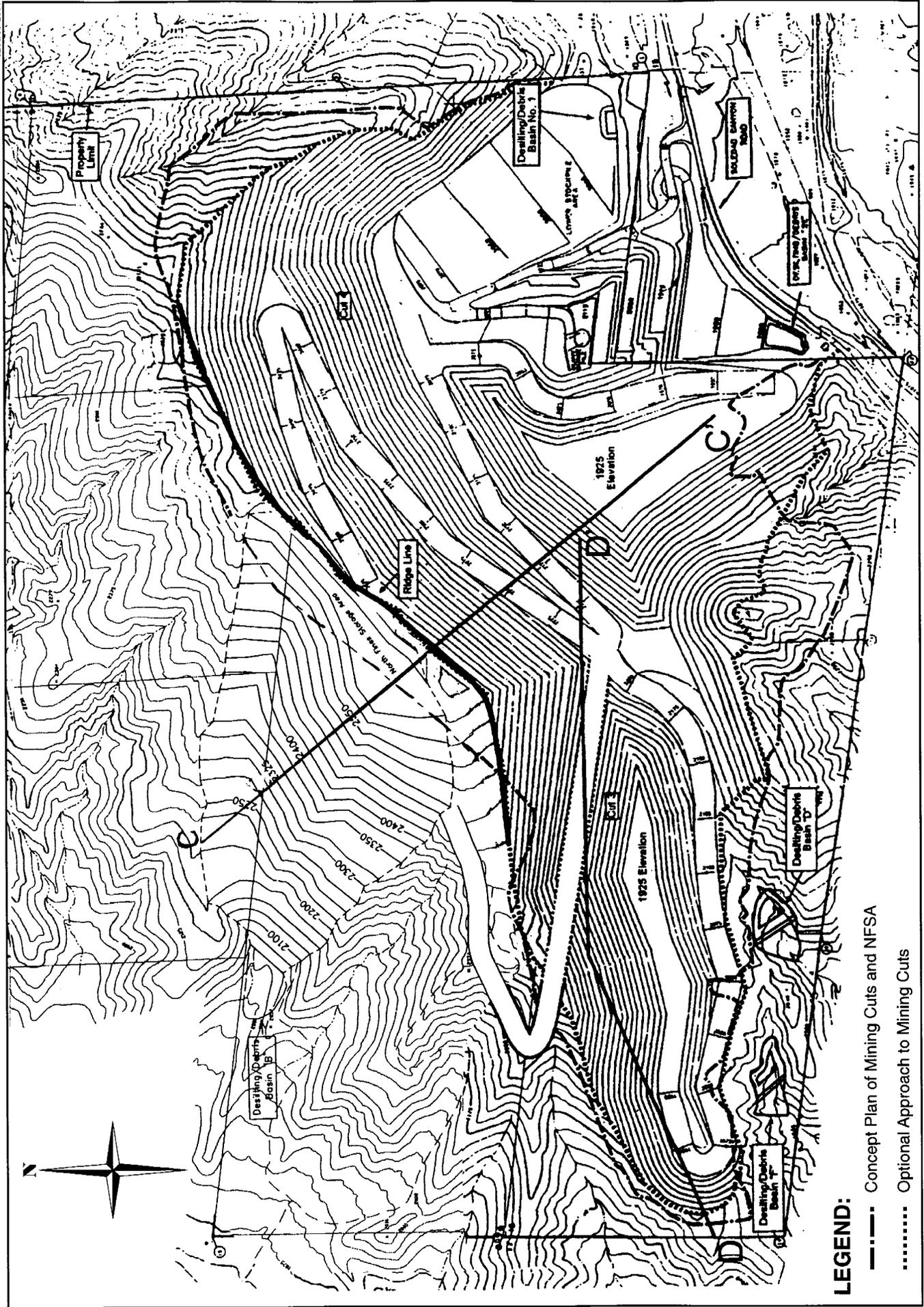


**RECLAIMED CONTOURS AT END OF MINING
WITH REDUCED NFSA ALTERNATIVE**
Figure 3.2-12

Approximate Scale
Feet
0 600

▲ N

SOURCE: WEST COAST ENVIRONMENTAL, DECEMBER

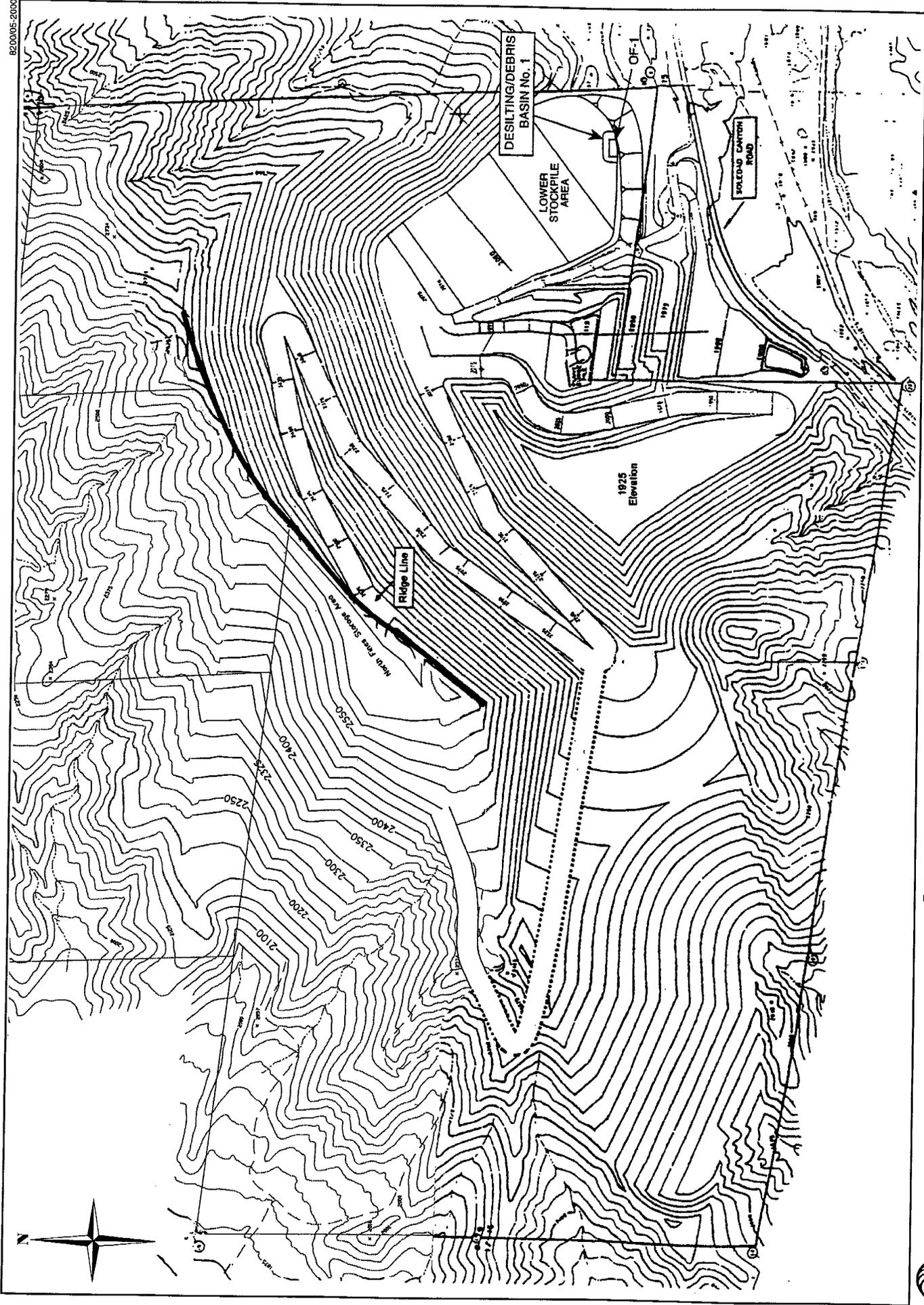


**MAXIMUM EXTENT OF MINING REDUCED NFSA
ALTERNATIVE WITH MITIGATION MEASURE B7
Figure 3.2-13**

LEGEND:
 - - - - - Concept Plan of Mining Cuts and NFSA
 ······· Optional Approach to Mining Cuts

Feet
 0 600

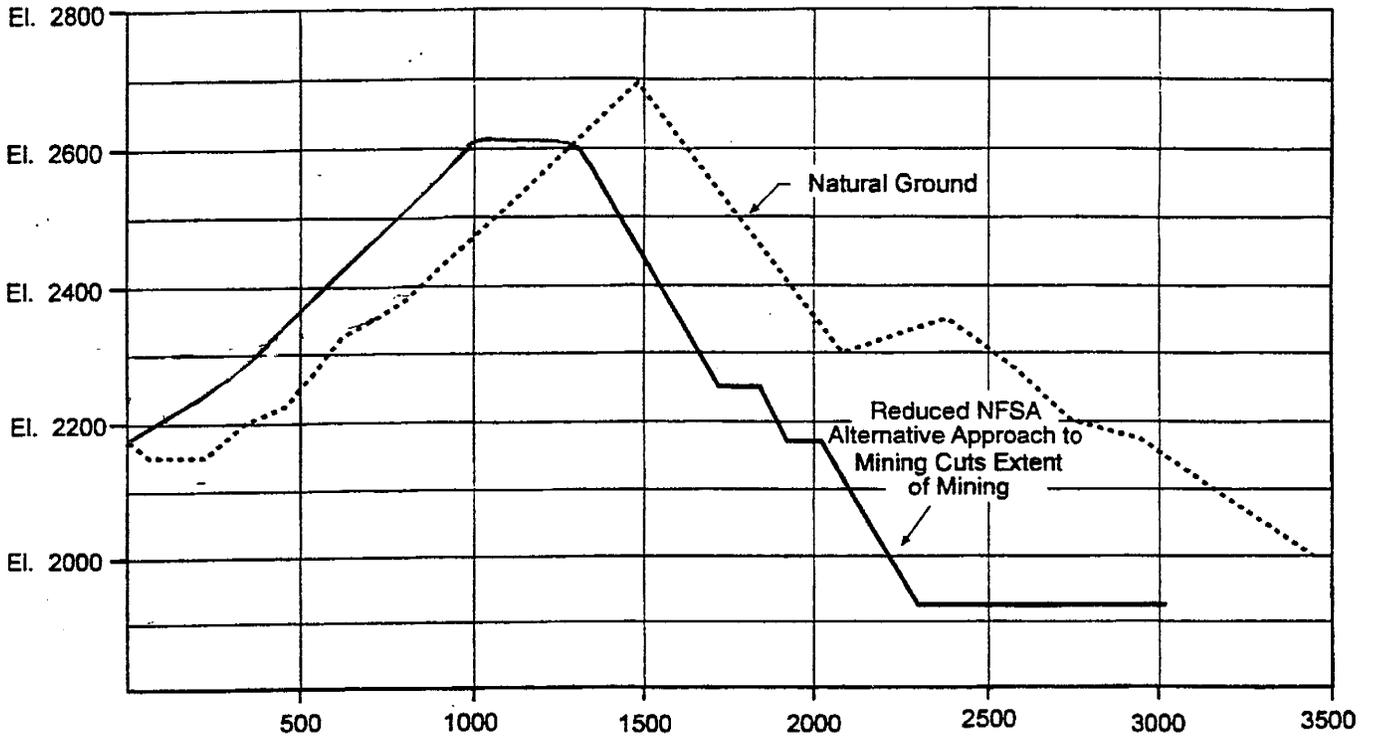
Source: Daniel J. Pellow Consulting



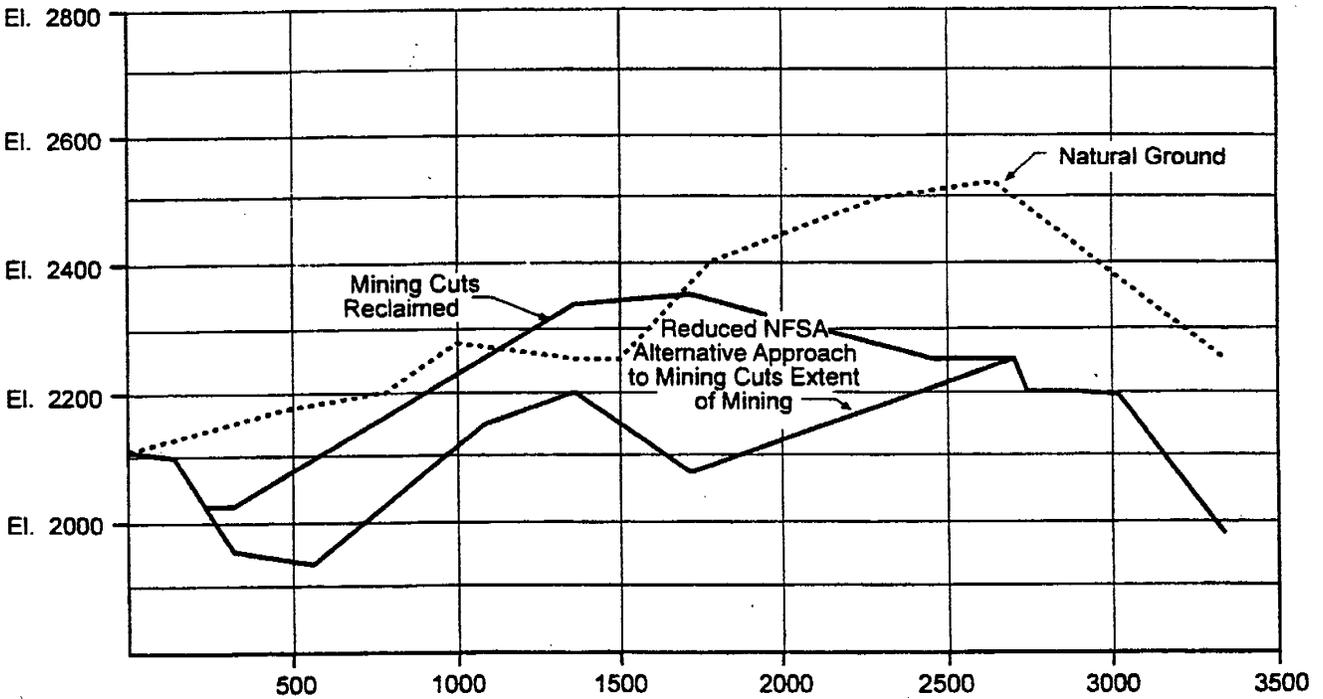
**RECLAIMED CONTOURS AT END OF MINING REDUCED NFSA
ALTERNATIVE WITH MITIGATION MEASURE B7
Figure 3.2-14**



Source: Daniel J. Pellow Consulting



CROSS-SECTION C-C'



CROSS-SECTION D-D'

CROSS SECTIONS REDUCED NFSA ALTERNATIVE TO MINING CUTS WITH MITIGATION MEASURE B7
Figure 3.2-15





Table 3.2.14-2
PROPOSED MINE SCHEDULE¹
(tons x 1,000)

Phase	Year	Feed	Fines	Product	Cumulative Product
1	1	429	129	300	300
1	2	714	214	500	800
1	3	1,143	343	800	1,600
1	4	1,429	429	1,000	2,600
1	5	1,786	536	1,250	3,850
1	6	2,500	750	1,750	5,600
1	7	2,786	836	1,950	7,550
1	8	3,071	921	2,150	9,700
1	9	3,071	921	2,150	11,850
1	10	3,071	921	2,150	14,000
2	11	5,760	1,560	4,200	18,200
2	12	5,760	1,560	4,200	22,400
2	13	5,760	1,560	4,200	26,600
2	14	5,760	1,560	4,200	30,800
2	15	5,760	1,560	4,200	35,000
2	16	5,760	1,560	4,200	39,200
2	17	5,760	1,560	4,200	43,400
2	18	5,760	1,560	4,200	47,600
2	19	5,760	1,560	4,200	51,800
2	20	5,760	1,560	4,200	56,000
Operating days/year		- Phase 1	270		
		- Phase 2	290		
Plant operating hours/day		- Phase 1	14		
		- Phase 2	16		
Plant tons/hour		- Phase 1	575		
		- Phase 2	905		
Mine tons/hour		- Phase 1	821		
		- Phase 2	1,241		
¹ Anticipated mining and production volumes are estimates only and could change on an annual basis because of market conditions or other factors.					