

## **SECTION 2 - ALTERNATIVES INCLUDING THE PROPOSED ACTION**

### **2.1 DESCRIPTION OF THE PROPOSED ACTION**

This section provides a description of TMC's Proposed Project (Project), presenting the premining operations/construction and mining operations phases. This description is based on TMC's Mining and Reclamation Plan (TMC 1991) 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 proposed mining operation was designed to avoid or minimize potentially significant adverse environmental impacts. Therefore, many avoidance and mitigation measures have been designed into the Project and are described in the following sections.

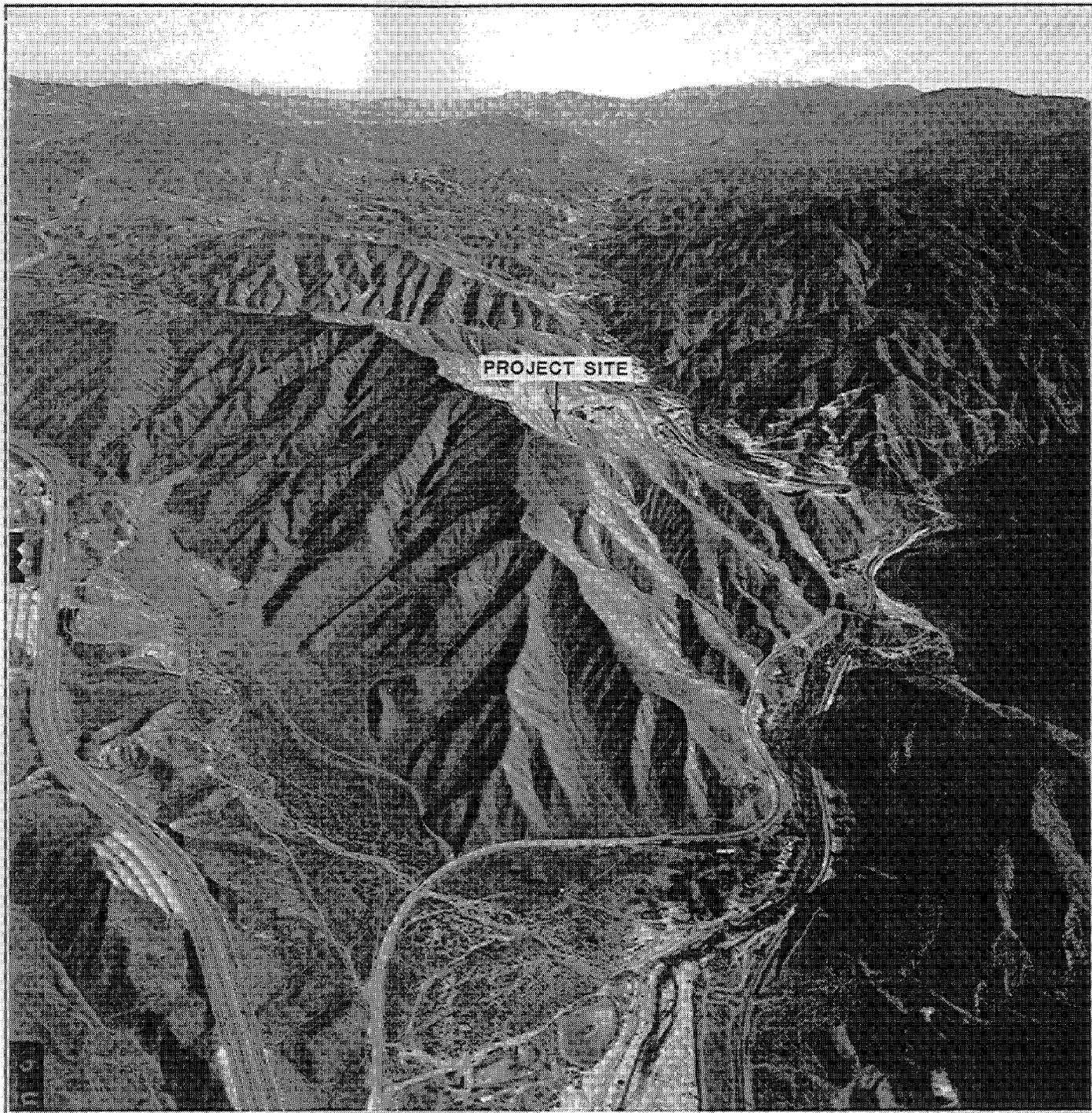
It should be noted that the Reduced North Fines Storage Area Alternative has been identified as the Agency Preferred Alternative (APA). This APA determination is described on page S-19.

#### **2.1.1 General Mining Plan**

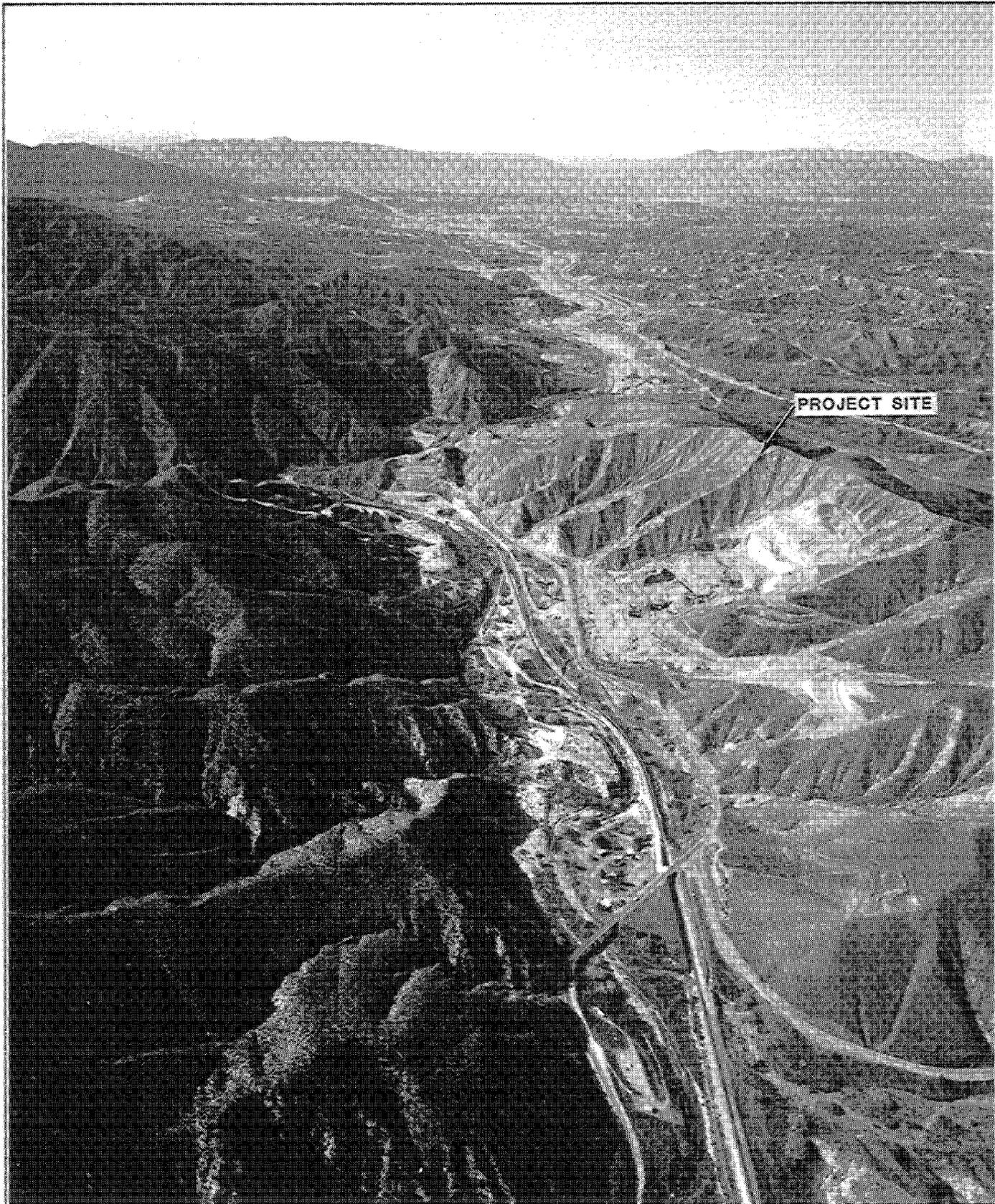
##### **2.1.1.1 General Layout and Project Plan**

The site consists of a northeast-southwest-trending ridge that rises about 700 feet in elevation above Soledad Canyon Road. Figure 2.1-1 shows the ridge looking toward the east. Previous mining operations have left a large excavation on the south side of the ridge. Figure 2.1-2 shows the south side of the ridge and the previous mining operation. Extensive geologic mapping has identified distinct geologic units in the Vasquez Conglomerate of the ridge. The general mining plan is to mine on the south side of the ridge to minimize surface disturbance and visual impacts. Figure 2.1-3 shows the Project parcel and areas of operation. A series of four excavation cuts are planned on the south side of the ridge starting at higher elevations and sloping downward at angles approaching 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 throughout the life of the site; however, revegetation of this area will be sequential as filling proceeds and benches are prepared for reclamation. Figure 2.1-4 presents the Project 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 64 million tons of product is available to be mined within the parameters of the 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



**AERIAL VIEW OF PROJECT SITE LOOKING EAST**  
**Figure 2.1-1**



**AERIAL VIEW OF PROJECT SITE LOOKING WEST**  
**Figure 2.1-2**



**LEGEND:**

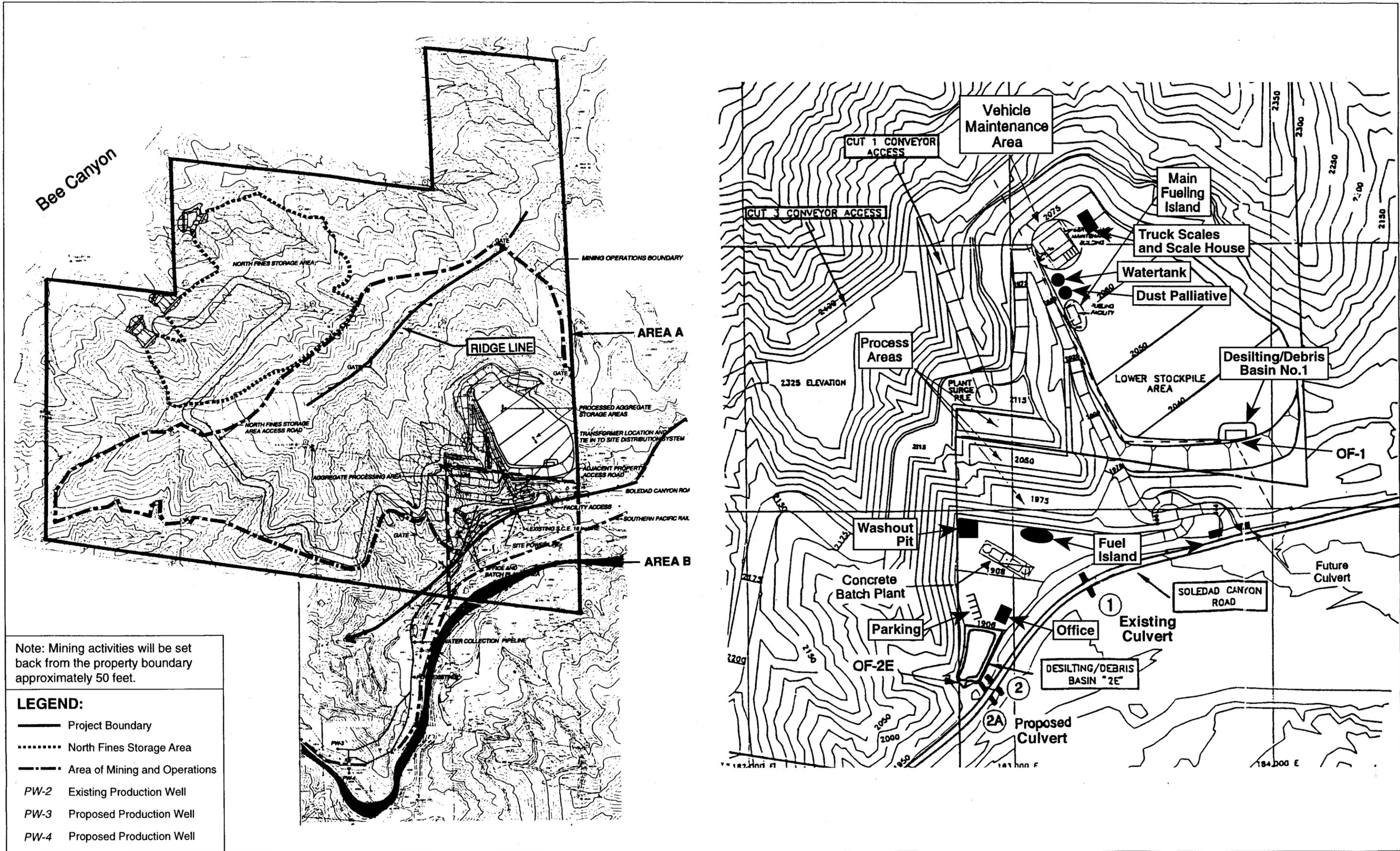
-  Operations Area
-  Subarea



Feet  
0 12,000

SOURCE: Chambers Group, Inc.

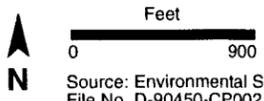
**AERIAL PHOTO OF THE PROJECT SITE  
SHOWING BOUNDARIES AND SUBAREAS**  
Figure 2.1-3



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: Environmental Solutions, 1992  
File No. D-90450-CP002

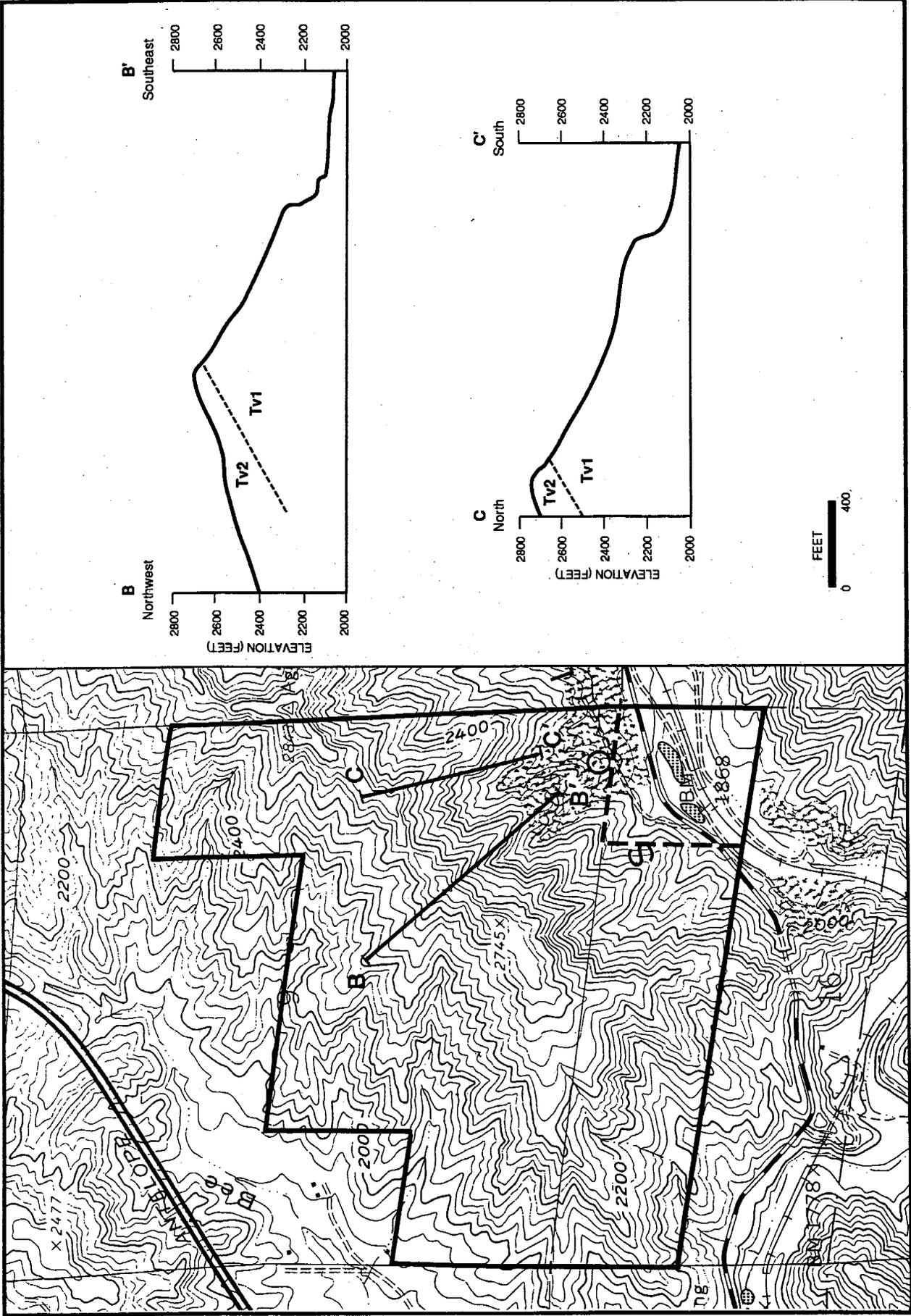
**PROJECT PLAN**  
Figure 2.1-4

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 500 feet above Soledad Canyon Road. Several existing ravines on the north side of the ridge will be filled, resulting in a hillside rather than 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 2.1-5 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 82.7 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 Project (years 1 through 3), up to 13.2 million tons of fines will be backfilled into the mined-out areas of the quarry, and 12.9 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.

This General Mining Concept Plan accommodates potential future mining at the site of up to 7.9 million tons beyond the 56.1 million tons of product proposed by the Project (64 million ton total) due to geotechnical constraints in designing the Project's mining cuts. However, the environmental impact analysis in this EIS addresses the impacts of the Project itself, which is limited to mining 56.1 million tons of product over a 20-year period. TMC does not own the minerals on the site but rather has rights to mine the site in accordance with the Federal Contracts entered into with the Federal Government, which owns the minerals. The Federal Contracts limit TMC's rights to mine the site to 56.1 million tons over 20 years and thus serve as the basis for defining the scope of the Project. Future mining of the additional mineral material on the site can only occur after the material is sold or otherwise disposed of pursuant to the requirements of the federal Materials Act of 1947 and only after additional federal and state environmental review. Potential impacts of any future mining of additional material in accordance with the mining concept (if any) are discussed in the cumulative impacts section of the EIS (Section 3.1.15).



**CROSS-SECTION GRAPHS AND  
LOCATION MAP**  
Figure 2.1-5

 **N**  
 FEET  
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 Source: USGS 1:24,000 series,  
 Agua Dulce, CA

### 2.1.1.2 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

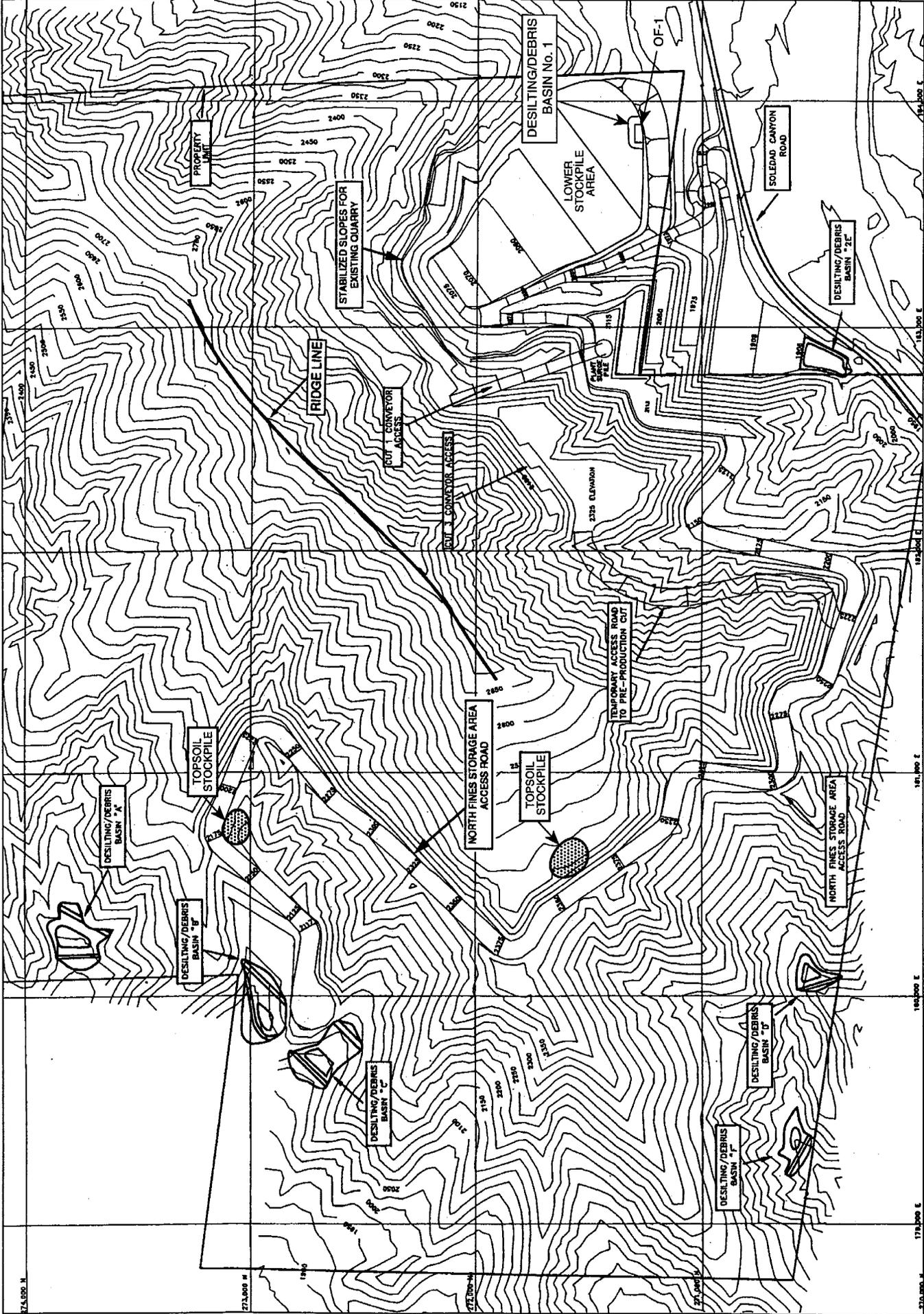
No portion of the operations area is subject to floodplain inundation, and no permanent watercourses are in the area of mining activities; however, four steep canyons are located in Area A. The storm runoff watercourses in these canyons will have seven dikes constructed to form desilting/debris basins before the water is allowed to leave the property. The basins shown on Figure 2.1-6 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 1993; see also Section 3.1.3.2 for additional discussion). It is anticipated that the final design of the sediment basins will be reviewed and approved by the 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 (West Coast Environmental 1997a; Appendix B1 herein).

#### 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, topsoil will be salvaged in areas that are accessible by equipment, and salvaged topsoil will be 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 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 equipment and a right-of-way for the conveyor system. The preproduction construction work is shown on Figure 2.1-6.



**PREPRODUCTION**  
**Figure 2.1-6**



Source: Mineral Resources Development

The proposed right-of-way for the 12.5-degree sloped conveyor is 50 feet wide. This width provides a 10-foot-wide berm on either side, a 10-foot area for the conveyor, and a 20-foot-wide road for the small vehicles required to service the conveyor.

The 2,325-foot elevation above mean sea level (elevation) bench is the first area of sufficient width to locate the required conveyors and mobile crushing plant. A temporary 80-foot-wide haul road is proposed to be constructed between this bench and the NFSA haul road. The road will have a maximum grade of 8 percent (descending to the 2,225-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. The 80-foot-wide NFSA haul road will be constructed from the plant site to the ridgeline elevation of 2,375 feet with a grade of about 8 percent. The haul road will continue from the ridgeline to the bottom of the fines storage area and will complete the preproduction work needed for the mine. The roads and fines storage area will be used throughout the life of Cut 1 and will be available if necessary during the Cut 2 mining period. The haul road to the bottom of the fines storage area will be covered as the area is backfilled as discussed in the Reclamation Plan.

### **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,
- ▶ 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 setbacks 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 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) (West Coast Environmental 1997b; Appendix B2 herein). 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.

### 2.1.1.3 Concept Plan of Mining Cuts

The Project 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 2.1-1. The mining operation will be designed to minimize onsite production transportation distances and provide adequate storage of natural fines. The anticipated mining process is further described below, although conditions on the site as mining proceeds relative to the quantity and quality of fines material may indicate a modified approach. Such a modified approach could include deeper or shallower cuts in the four mining stages, greater ability to store fines in mining cuts, and a potentially reduced quantity of fines requiring placement in the NFSA. An alternative mining cut concept is discussed as the Reduced North Fines Storage Alternative in Sections 2.3.2 and 3.2.2

The first mining cut (Cut 1) 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 2.1-7 shows the maximum extent of Cut 1. The plus ¼-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 NFSA. 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.

Table 2.1-1

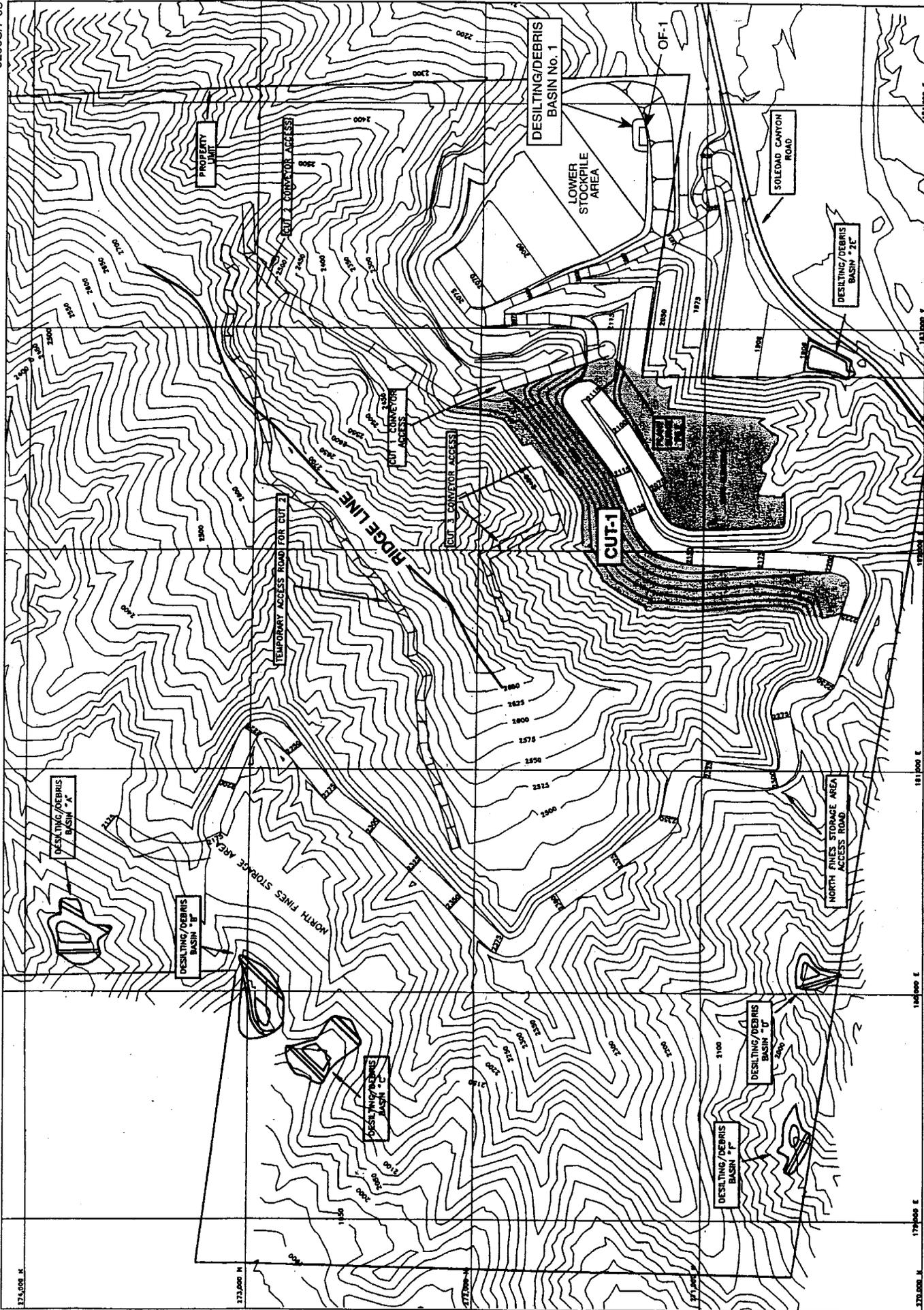
**CUTS 1 TO 4 MINE TOTAL TONNAGES<sup>1</sup>**  
**(tons x 1,000)**

<b>Elevation (feet)</b>	<b>Total Mined</b>	<b>Fines</b>	<b>Product</b>	<b>Cumulative Fines</b>	<b>Cumulative Product</b>
2,700	66	36	30	36	30
2,675	261	144	117	180	147
2,650	600	279	321	459	468
2,625	929	395	534	854	1,002
2,600	1,297	529	768	1,383	1,770
2,575	1,724	676	1,048	2,059	2,818
2,550	2,207	861	1,346	2,920	4,164
2,525	2,613	967	1,646	3,887	5,810
2,500	2,942	1,059	1,883	4,946	7,693
2,475	3,324	1,114	2,210	6,060	9,903
2,450	3,670	1,147	2,523	7,207	12,426
2,425	3,883	1,165	2,718	8,372	15,144
2,400	4,109	1,233	2,876	9,605	18,020
2,375	4,435	1,331	3,104	10,936	21,124
2,350	4,756	1,427	3,329	12,363	24,453
2,325	4,951	1,485	3,466	13,848	27,919
2,300	5,051	1,515	3,536	15,363	31,455
2,275	5,204	1,561	3,643	16,924	35,098
2,250	5,314	1,594	3,720	18,518	38,819
2,225	5,313	1,594	3,719	20,112	42,537
2,200	5,339	1,601	3,738	21,713	46,275
2,175	5,425	1,627	3,798	23,340	50,073
2,150	5,502	1,650	3,852	24,990	53,925
2,125	5,534	1,661	3,873	26,651	57,798*
2,100	3,278	983	2,295	27,634	60,093
2,075	5,579	1,673	3,906	29,307	63,999
<b>Total</b>	<b>93,306</b>	<b>29,307</b>	<b>63,999</b>	<b>29,307</b>	<b>63,999</b>

<sup>1</sup> 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 two columns are not sum totals; they are cumulative totals.



**MAXIMUM EXTENT OF MINING CUT 1**  
**Figure 2.1-7**



Source: Mineral Resources Development

This mining method will be repeated until Cut 1 is mined out. The 2,075-foot elevation has been chosen as the working floor because the existing quarry bottoms out at approximately this level. 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.

Figure 2.1-8 shows the configuration of the maximum extent of Cuts 2 and 3. Cut 2 will start at the 2,700-foot elevation near the top of the south side of the ridge and continue to the east end of the property. Fines from Cut 2 will be sent to the NFSA and later to the mined-out area of Cut 1. It is anticipated that Cut 2 will be completed near the 13th year of mining operations.

Cut 3 will begin operation near the 11th year of production in the west end of the mine with the installation of a second front-end loader or hydraulic excavator, a second mobile crusher, and another conveying system leading to the plant stockpile. The fines will be backfilled into the NFSA, Cut 1 mined-out area, and then into the mined-out area of Cut 2.

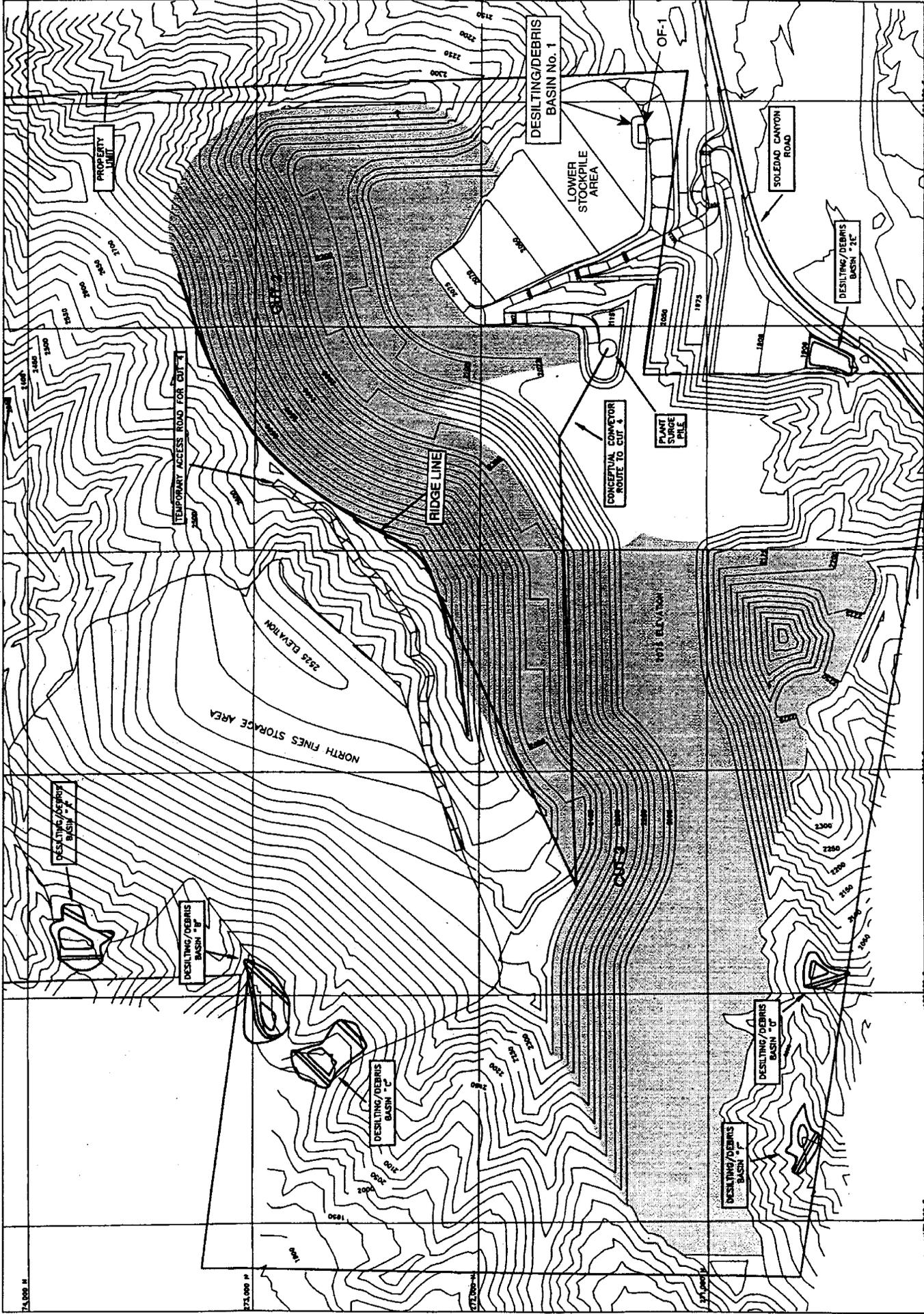
The mining of Cuts 1 through 3 will be concentrated on the south side of the ridge. Cut 4 is an extension of the quarry to the north and will be the last cut required to obtain the contracted 56.1 million tons of aggregate product. This cut extends to the north side at the top of the ridge, and the natural fines will be stored in the NFSA, Cut 2 mined-out area, and then in the mined-out area of Cut 3.

Figure 2.1-9 shows the maximum extent of Cut 4. Cut 4 will be put into production near the 13th year of operation when mining in Cut 2 will be completed. The upper elevations of Cut 4 consist of material that is not of the quality required for aggregate; therefore, this unmarketable material will be removed and backfilled into Cut 2. 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.

Near the 15th year of operation, Cut 3 will be completed and the mining operation from this cut will be moved into Cut 4 on the 2,425-foot elevation. At this time, both mobile crushers will operate in the same area, although they will usually be on different benches. The two product conveying systems will parallel each other to the plant stockpile. Fines will be backfilled into Cut 3.

Figure 2.1-10 presents two cross-sectional representations of Cuts 1 through 4. The location of the cross sections is depicted on Figure 2.1-9. Cross section A-A<sup>1</sup> shows the maximum extent of the cuts and includes the fines storage contouring on the NFSA as well as the backfilling of fines within Cuts 1 through 3. Cross section B-B<sup>1</sup> does not cross the NFSA but does show reclaimed area contouring.

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 2,125-foot elevation of Cut 4. The reclaimed contours for the site at the end of mining are shown on Figure 2.1-11.

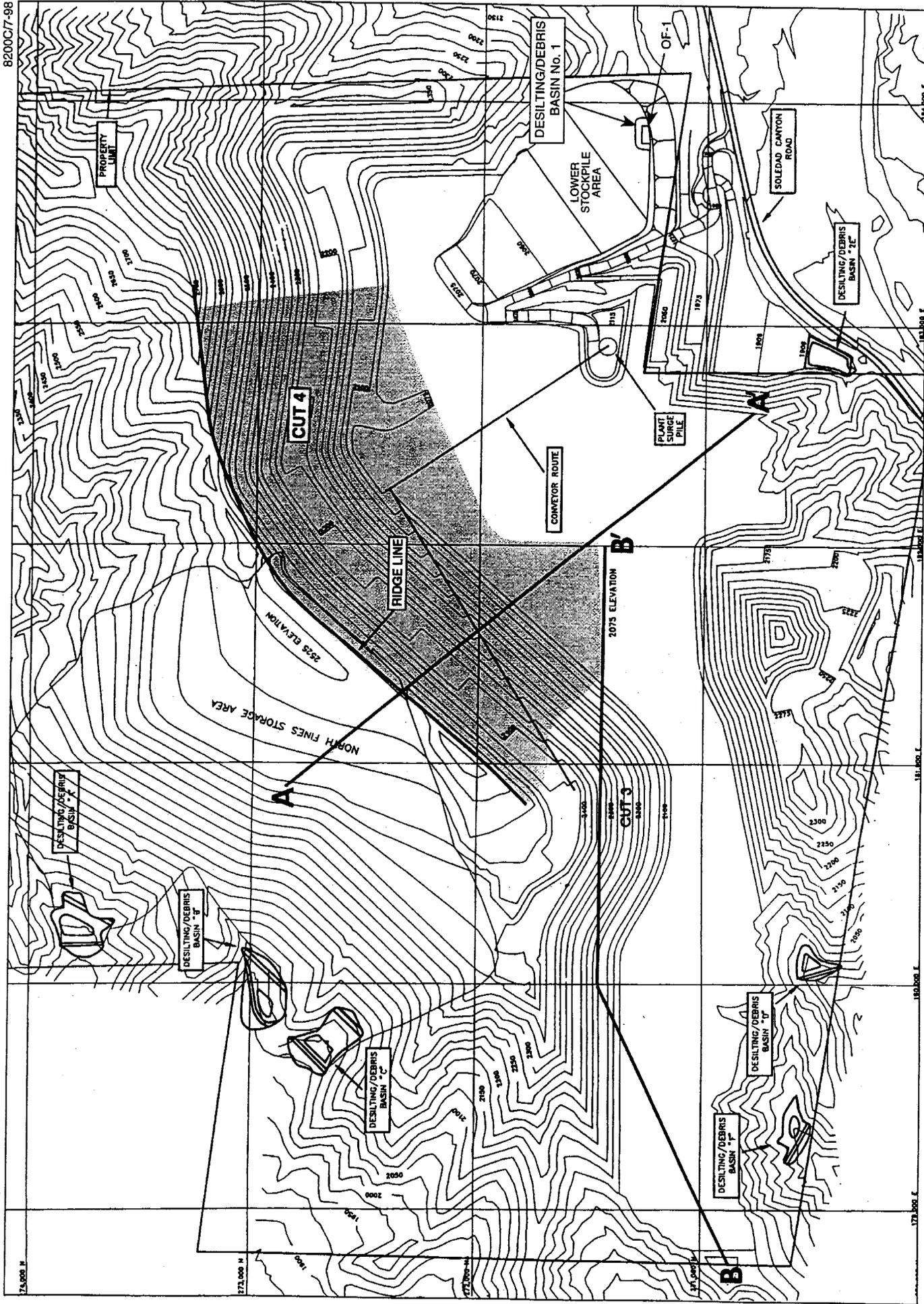


MAXIMUM EXTENT OF MINING CUTS 2 AND 3  
Figure 2.1-8

NOTE:  
Cross section designations  
pertain to Figure 1.4-10.



Source: Mineral Resources Development



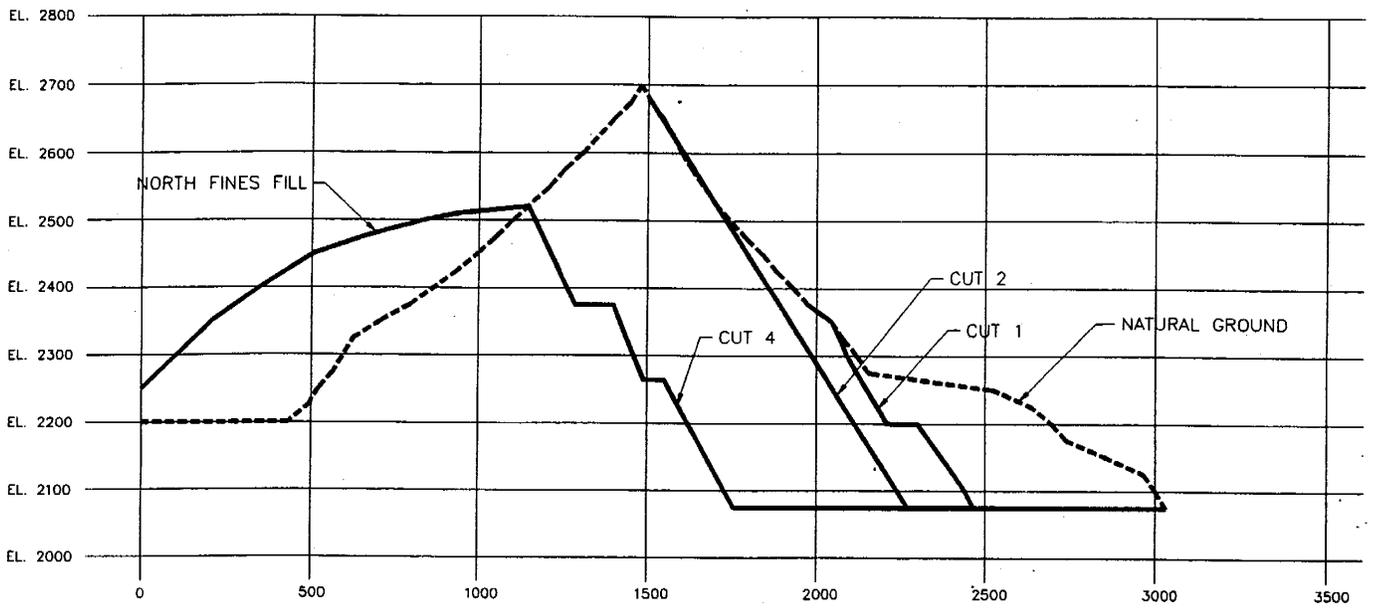
MAXIMUM EXTENT OF MINING CUT 4  
Figure 2.1-9

NOTE:  
Cross section designations  
pertain to Figure 1.4-10.

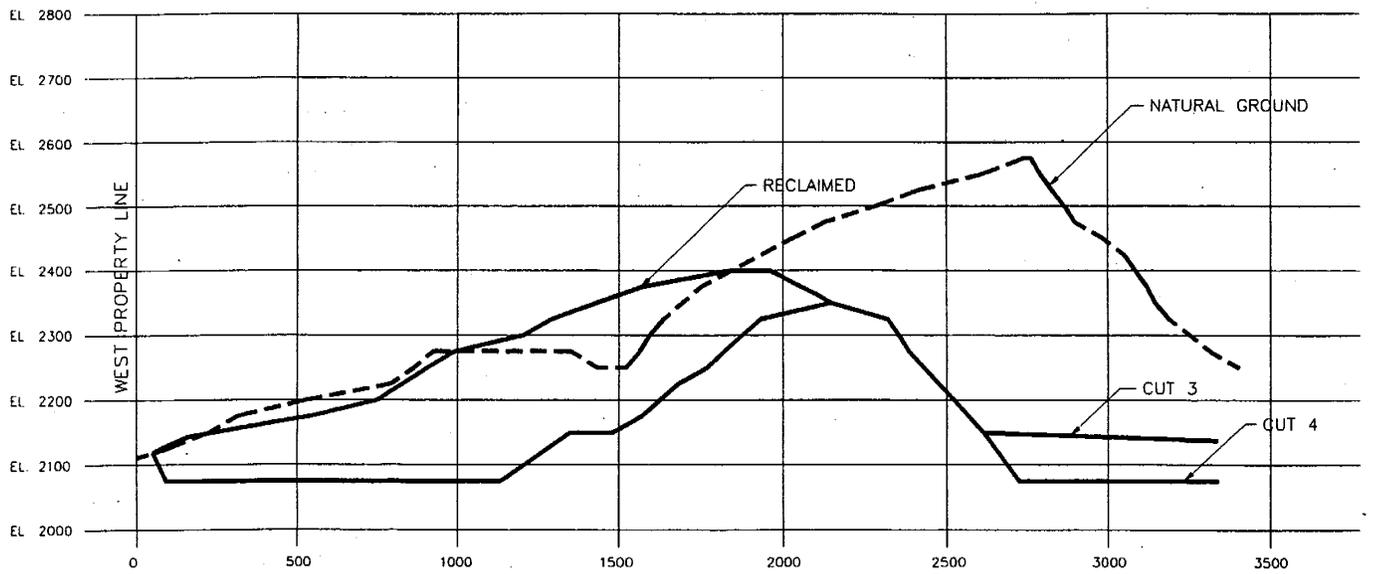


Source: Mineral Resources Development





**CROSS-SECTION A-A'**



**CROSS-SECTION B-B'**

**CROSS-SECTIONS OF MINING CUTS**

**Figure 2.1-10**



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.

### **2.1.2 Mine Production Phasing and Schedule**

Based on the current permitting schedule, it is anticipated that mining will commence in 2000 and be completed in 2020. Any delay in permitting would cause a corresponding delay in the mining schedule. As shown in Table 2.1-2, 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.

### **2.1.3 Operations Plan**

#### **2.1.3.1 Mining**

It is anticipated that excavation activities will take place 6 days a week between the hours of 5:00 a.m. and 10:00 p.m. but generally will not exceed 14 hours per day. The number of hours of excavation per day will vary based on market demand, as mentioned above, water demand, and seasonal water availability. It is anticipated that when water is more plentiful (typically winter and spring), daily excavation activity will be higher than other times of the year. Additional factors that may affect operating hours include possible restrictions on operating equipment to meet air quality emission limitations and/or off-peak electricity demand "time-of-use" considerations.

Excavation and backfilling operations are anticipated to include the following equipment:

- ▶ 13-cubic-yard pit loader (one or two),
- ▶ D-11 dozer (one),
- ▶ Earthmover (scraper) (one in Phase 1, one in Phase 2),
- ▶ 100-ton haul trucks (two to four),
- ▶ compactor (one),
- ▶ portable drilling unit (one),
- ▶ semiportable primary crusher system (one in Phase 1, two in Phase 2), and
- ▶ conveyor system (one in Phase 1, two in Phase 2).

Mining will be conducted by low-yield blasting with excavation by a 13-cubic-yard rubber-tired loader. The excavated material will be transported to a 42- by 48- inch jaw crusher by 100-ton haul trucks. The crushed material will be transported to the processing plant by an electronic-

Table 2.1-2

**PROPOSED MINE SCHEDULE**  
(tons x 1,000)<sup>1</sup>

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	6,000	1,800	4,200	18,200
2	12	6,000	1,800	4,200	22,400
2	13	6,000	1,800	4,200	26,600
2	14	6,000	1,800	4,200	30,800
2	15	6,000	1,800	4,200	35,000
2	16	6,000	1,800	4,200	39,200
2	17	6,000	1,800	4,200	43,400
2	18	6,000	1,800	4,200	47,600
2	19	6,000	1,800	4,200	51,800
2	20	6,000	1,800	4,200	56,000
<b>Operating days/year</b>		- Phase 1	<b>270</b>		
		- Phase 2	<b>290</b>		
<b>Plant operating hours/day</b>		- Phase 1	<b>14</b>		
		- Phase 2	<b>16</b>		
<b>Plant tons/hour</b>		- Phase 1	<b>575</b>		
		- Phase 2	<b>905</b>		
<b>Mine tons/hour</b>		- Phase 1	<b>821</b>		
		- Phase 2	<b>1,293</b>		
<sup>1</sup> Anticipated mining and production volumes are estimates only and could change on an annual basis because of market conditions or other factors.					

powered conveying system. The feed material will be screened at the jaw crusher, and the minus ¼-inch fines that cannot be used for product will be backfilled for storage in the fines storage areas. Figure 2.1-12 shows some of the typical equipment that will be used in the mining operations.

The use of a mobile crusher and conveying system will reduce air pollution and noise levels because the use of diesel equipment will be minimized. However, because of the steep irregular terrain, some diesel-driven equipment will be needed to handle the minus ¼-inch material.

### **2.1.3.2 Processing**

It is proposed that the aggregate processing will take place 16 hours a day, and aggregate shipping will take place 24 hours a day, depending on market demand. Aggregate plant operations are anticipated to include the following equipment:

- ▶ 9-cubic-yard wheel loader (two),
- ▶ rough-terrain forklift (one),
- ▶ motor grader (one),
- ▶ rough-terrain crane (one),
- ▶ 35-ton end dump truck (one),
- ▶ street sweeper/broom truck (one),
- ▶ Bobcat loader (one),
- ▶ miscellaneous service trucks and welders (three to four estimated),
- ▶ 4,000-gallon water truck (one), and
- ▶ portable light plant generator.

Figure 2.1-13 shows some of the facilities and equipment typically used in the processing of aggregate.

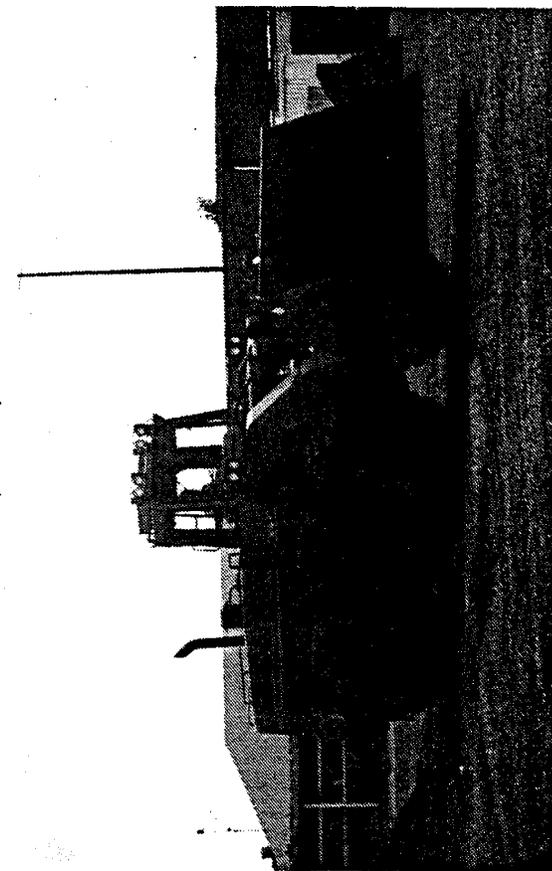
The concrete batch plant and ready-mixed shipping may run 7 days a week, 24 hours a day, depending on market demand. However, at the present time, it is anticipated that these operations will take place 17 hours per day from 5:00 a.m. to 10:00 p.m., 6 days a week.

A total of 347 outbound truck trips per day will occur during Phase 1 for aggregate and concrete shipping. During Phase 2, it is estimated that the outbound truck trips per day will total 582.

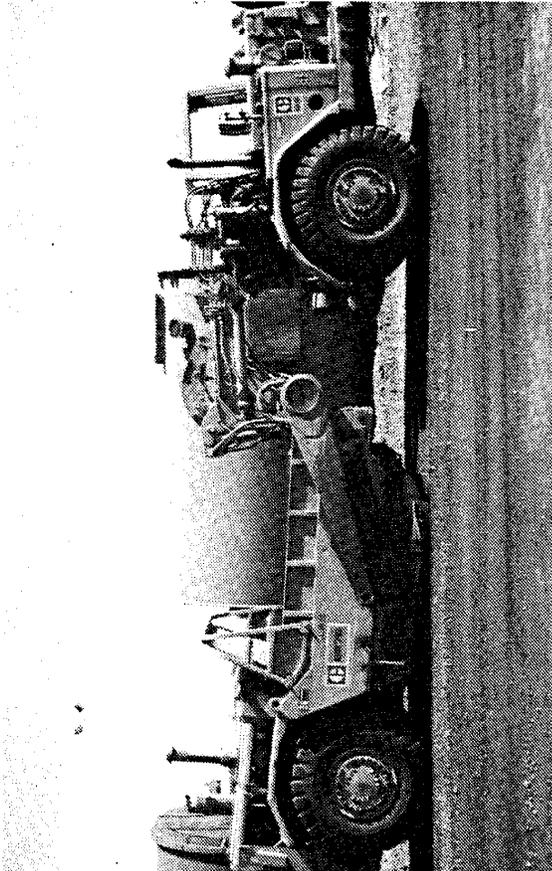
The number of employees onsite is estimated to be 15 in Phase 1 and 30 in Phase 2. The exact number of employees will depend on the market demand for material at any given time.

### **2.1.3.3 Water Resources**

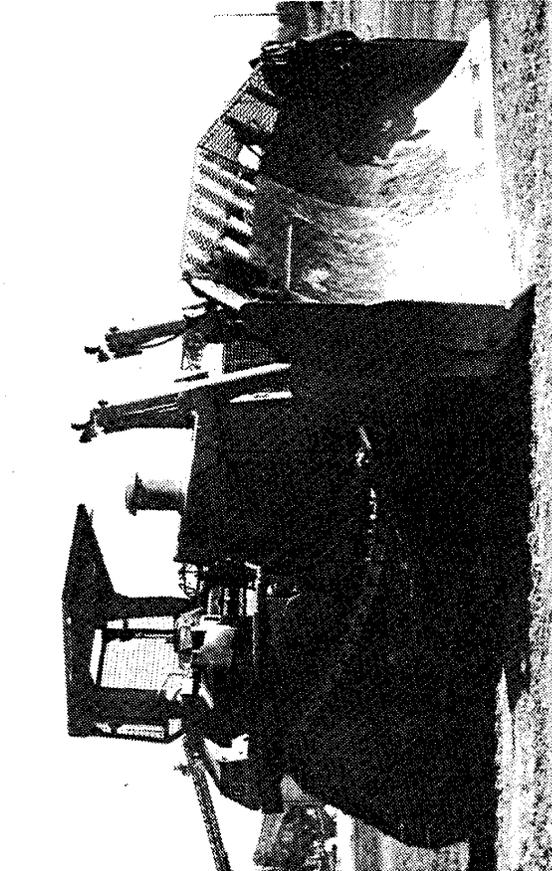
Water will be used in several aspects of the operations including aggregate production, dust suppression, compaction of excess fines, ready-mixed production, and truck washing. The water system proposed for the aggregate production has been designed to conserve water and



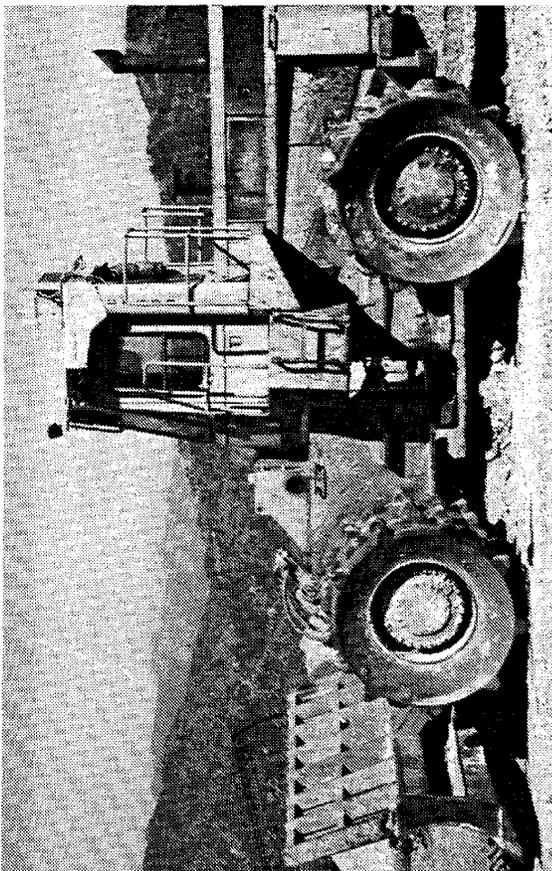
Front-end Loader



Earthmover



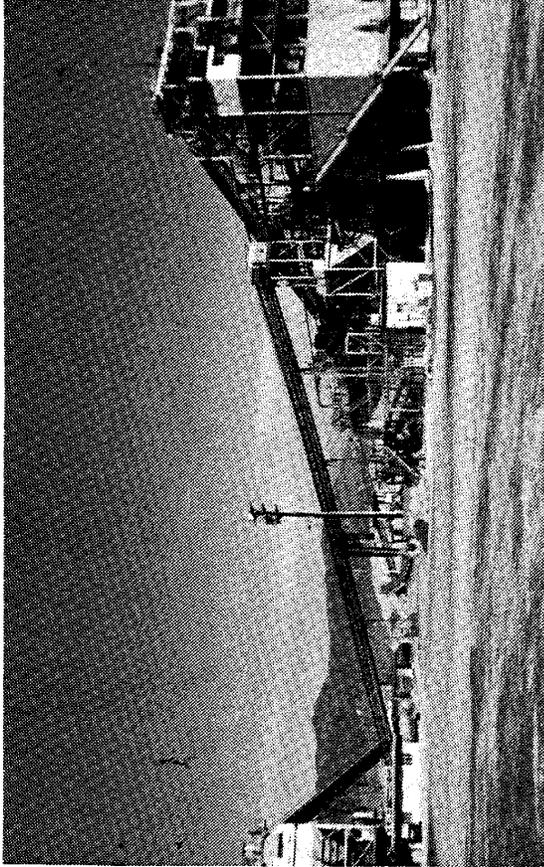
Dozer



Sheepsfoot Compactor

**TYPICAL EQUIPMENT TO BE USED  
DURING MINING OPERATIONS**  
Figure 2.1-12

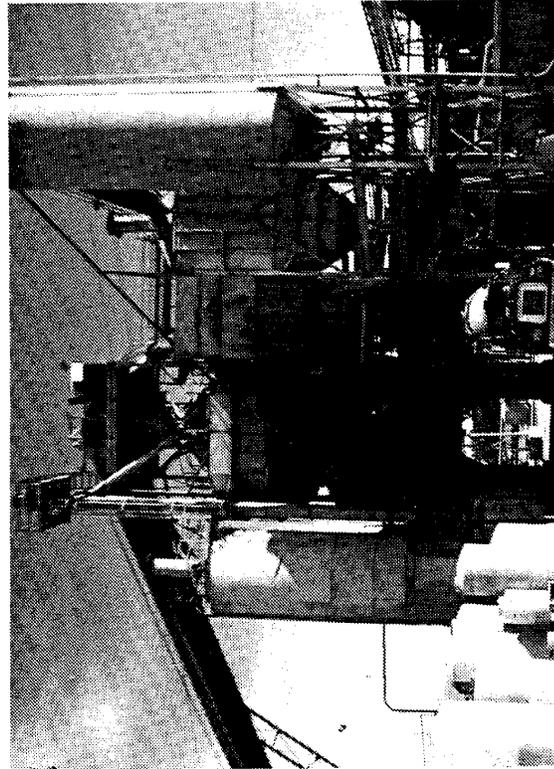
SOURCE: TMC Azusa Facilities



Aggregate Plant and Conveyor



Conveyor Belt with Aggregate



Concrete Batch Plant



Front-end Loader

**TYPICAL PLANT FACILITIES AND EQUIPMENT  
TO BE USED DURING PROCESSING**  
Figure 2.1-13

represents a state-of-the-art recycling system. The process will consist of collecting water that was used to wash excess fines and clays off the sand and gravel product. The recovered water will be treated with a polymer flocculating agent that attracts the fines/clay particles and causes these particles to clump together. The flocculating agent that will be used is HYDROFLOC 437, or equivalent, which has been approved by the U.S. Environmental Protection Agency (EPA) and is not considered hazardous.

The water and solids will be fed into a clarifying tank where the solids settle to the bottom and the clarified water flows over a weir at the top of the unit, returning to the process system for reuse. The solids, including the flocculating agent, will be collected and dried to between 35 to 50 percent solids by weight. The solids then will be blended with the excess natural fines for compaction onsite.

The washout station for trucks that carry concrete will be equipped with a recycling system. Excess water from the washout system will be pumped to the aggregate production system.

Use of the operating and recycling systems described above will result in approximately 40-percent conservation of water resources compared to standard methods of mining and operations. The total amount of water necessary for operations is estimated at 423 (winter) and 461 (summer) acre-feet per year during Phase 1 and 717 (winter) and 775 (summer) acre-feet per year during Phase 2. Table 2.1-3 presents the Project water balance summary with recycling systems described above for the Project. The table presents "original recovery", which is the water usage rate that will result from planned recycling operations. "Maximal recovery" represents the potential minimal water usage that could result from additional recovery efforts, if feasible. The additional recovery will include recovering water draining from aggregate stockpiles, if feasible. However, these methods are not intended to be used as seasonal adjustments to temporary water conditions. If additional reductions in usage are necessary due to a prolonged drought, production will be curtailed. Production scale-backs may be facility-wide or specific to operations requiring the greatest water consumption (i.e. aggregate washing, fines placement, etc.). The information used to develop this water balance summary is presented in Appendix C.

The water resources to support the Project are proposed to be developed from three wells located in the area southwest of Area B with on-demand pumping and an aboveground pipeline to the facilities site. The proposed production wells and water collection pipeline are shown on Figure 2.1-4. A 600,000-gallon storage tank is proposed to be located on the facility site for temporary water storage and a fire safety measure. During Phase 2 of the mining operation, a second water storage tank will be provided.

#### 2.1.3.4 Dust Suppression

Dust suppression for the Project will be accomplished several ways including the use of dust palliatives and graveled and paved facility surfaces. The use of water for dust suppression during operations will be reduced through the use of dust palliatives. Several dust palliatives have been evaluated by TMC for use in the Project in Soledad Canyon. A combination of ligno-

**Table 2.1-3  
PROJECT WATER BALANCE SUMMARY<sup>1</sup>**

	Winter Rate			Summer Rate		
	Usage (gpm)	Usage (gpd)	Usage (ac-ft/yr)	Usage (gpm)	Usage (gpd)	Usage (ac-ft/yr)
<b>Phase 1 - First 10 Years of Operation</b>						
Original Recovery	623	511,993	423	679	558,541	461
Maximum Recovery	359	380,113	314	521	499,874	352
<b>Phase 2 - Following 10 Years of Operation</b>						
Original Recovery	847	805,105	717	914	870,742	775
Maximum Recovery	609	576,683	513	677	642,321	572
<sup>1</sup> Based on detailed water use tables presented in Appendix C. gpm = gallons per minute gpd = gallons per day ac-ft/yr = acre-feet per year						

sulfonates, magnesium chloride, and water will most likely be used, depending on the different areas and activities of the operation.

The use of dust palliatives is discussed in both the air quality and water quality sections. All dust palliatives used will meet air quality and water quality standards and will meet the USFWS and the California Department of Fish and Game (CDFG) standards.

**2.1.3.5 Solid Waste Recycling**

The Project will generate very minimal amounts of solid waste requiring disposal in County waste management landfills. However, recycling will be implemented by the Project through composting of green wastes stripped from mining areas and the separation of recyclable office wastes, consistent with the requirements of the California Solid Waste Reuse and Recycling Access Act of 1991. All green waste will be retained onsite and composted for use in the proposed concurrent revegetation program. Composting areas for green wastes could occur at various areas throughout the site and are not specifically designated.

Other wastes, consisting primarily of paper products, will be separated from any food wastes and will be stored in containers at the site office building.

**2.1.3.6 Sediment Placement Site**

To the extent feasible, the Soledad Canyon facility may be designated as a County of Los Angeles Sediment Placement Site (SPS). Upon completion of a Memorandum of Understanding (MOU), the County of Los Angeles Flood Maintenance Division may deposit sand, silt, and

small gravel materials excavated during maintenance of County debris basins at the Soledad Canyon facility. The County estimates that the volume of material generated would not exceed 10,000 cubic yards per year or 50,000 cubic yards over the 20 year life of the Project. At a minimum, no material would be deposited at the facility. The County's material would come from various debris basins, but mostly from Bouquet, Plum, and Sand Canyons. The operation of the sediment placement site will be accommodated within the parameters of Project operations with no net increase in material processed or truck operations. Accordingly, there are no additional environmental impacts associated with this potential operational modification relative to the project analysis presented in this EIS.