EL ALAMO DISTRICT

Baja California Norte, Mexico
A Promising and Proven Mineralized District

Summary and prospectus prepared for MEXORE, S.A. de V.C., et al.
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PRECIS

The Alamo District, located in northern Baja California Norte, approximately 100 kilometers southeast of Ensenada, represents an area of outstanding economic potential. Discovered in 1888, production in the first thirty years was from both placer and locally high-grade lode deposits, and was estimated at 220,000 ounces. Production ceased due to the Mexican revolution and the subsequent nationalization of mineral deposits, since which most of the deep workings have flooded and caved. Exploration since then has been scattered and erratic, hampered until recently by the logistic and political impediments to foreign exploration find production, and by inadequate understanding of the basic geological framework and history.

Geologically, the area is a product of several critical stages in the plate tectonic evolution of the western boundary of North America, in which initial plate collision resulted in plate subduction, crustal shortening and emplacement of lithologically varied igneous plutons. Later, beginning in the Miocene, crustal spreading resulted in Basin and Range style faulting and uplift of normal fault-bounded blocks, characterized in places by base- and precious metal mineralization associated with locally common quartz veins. Various authors have compared the area to the Mother Lode of California,' USA. However, essential aspects of the geological evolution of the area suggest a more apt analogy might be coastal range gold deposits in northern California.

El Alamo District lies in the east of the Alamo Block, which is bounded on two sides by regionally significant fault systems, some of which have been active since the Cretaceous, and which have localized episodic hydrothermal activity and mineralization. The upper, epithermal environment, which elsewhere in Baja California may exhibit economic mineralization, has been removed due to post-Miocene uplift and erosion, exposing the potentially richer mesothermal roots of the gold bearing quartz-vein systems. The lower limits of these vein systems have never been reached or otherwise determined, although elsewhere in western North America such veins may continue to considerable depths. Vein systems continue though the region for over twenty kilometers, in complex swarms that locally may be over two kilometers wide. Early historical workings encountered high grade ore to depths in excess of 100m.

Holdings by MEXORE, S.A, de V.C. include over 10,148 hectares along the principal tectonic and structural features associated with mineralization. It is clear that early production tapped just some of the shallow deposits that day-lighted in the rugged area. Potential for continued high-grade production is extreme, but will require careful reconnaissance using the latest in exploration techniques and understanding of the geological framework and history that controlled mineralization. These include careful surface mapping using stereo aerial photographs, analysis of select band satellite images, magnetic and gravity data, resistivity, petrography, geochemistry and paragenetic analysis.

Advances in our understanding of the geologic evolution of the western margin of North America and the geochemistry of ore mineralization, technological breakthroughs, opening of Mexican mineral resources to foreign exploration and development, and the uniquely situated holdings of MEXORE make this area one of the most interesting and promising in northwestern Mexico. MEXORE is committed to developing the area in a methodical, responsible and careful manner. Most particularly, it is believed that by not short-cutting the initial detailed geologic study of the surface before embarking on more expensive, high-profile coring and deep prospect development, that they may avoid the pitfalls that precluded successful development in the recent past. El Alamo, properly approached, has the potential of developing into the richest of gold producing areas in the Baja.

BACKGROUND

This prospectus has been prepared for MEXORE based on a brief reconnaissance of the area and analysis, synthesis and interpretation of existing literature by the author. The purpose is to provide interested parties with a readable and concise summary of this highly interesting and potentially significant area. Further readings utilized in this report are listed separately in the Bibliography, but are not called out individually in the summary. The author has no vested interest in MEXORE or its holdings.

LOCATION AND SETTING

El Alamo District is located in the Alamo Block of the Northern Stable Plateau, approximately 100 kilometers southeast of Ensenada (Figure 1). It is relatively easily accessed by paved and dirt roads. The area is one of generally gentle to moderate relief. Elevations in the area range from approximately 700 - 1700 meters. Rainfall averages approximately 30 cm., generally as infrequent winter storms and summer thunder storms, the effect of which on vegetation is increased by coastal fogs. It is thickly vegetated by chaparral and other flora tolerant of hot, dry conditions. Thick and commonly spiny vegetation interferes with field geological reconnaissance, except where cleared by fire or roads, or limited by locally rugged topography. Similarly, thick residual soils commonly obscure the bedrock and make direct observation of the bedrock geology difficult.

HISTORY OF MINING

Placer gold was discovered in what was known as the Santa Clara placers in 1888 (Figure 2). The exact location of the discovery is not recorded. It may have been somewhat south of the actual Santa Clara wash, in the rugged area near la Chispa (=spark, e.g. nugget). Lode deposits, some of which were very high grade, were discovered in El Alamo the next year, which triggered a gold rush in the years following. This resulted, using the most basic prospecting and production techniques and a minimal grasp of local geology, in numerous shallow placer workings and hard-rock prospects, and in several remarkable mines. Early production is estimated at over 220,000 ounces before civil unrest and eventual revolution terminated efforts and led to the nationalization of mineral resources.

Exploration and production between 1920 and 1970 is undocumented and probably minor. Most early subsurface workings flooded and/or caved or have been filled, and are not presently accessible for inspection. Since 1970, limited placer workings have resulted in scattered and low-level production, probably totaling less than ten thousand ounces. Hard-rock exploration during this period was shallow, haphazard and unproductive, although supportive of scattered mineralization.

Recent exploration efforts by Calais Resources, including taking approximately 15,000 meters of core, resulted in the recognition of scattered significant mineralized intercepts, without defining any discrete, exploitable ore body. However, these cores were apparently taken without much regard for or understanding of the local geology. Additionally, and unfortunately, unethical
9 activities on the part of select company management interfered with implementing production. Even the value of the cores has been compromised by careless curation. Recorded intercepts, some of significant value, are presented on PC compatible three-D data bases (www.mexore.com) The spacing of the cores was such as to support the contention that considerable resources remain untapped, without having defined discrete targets. What was a disaster for Calais Resources investors plays directly into the hands of current explorationists.

Lode gold occurs in quartz veins, which exhibit considerable vertical and horizontal variation in thickness and continuity, as well as in richness (e.g. a pronounced nugget effect). Locally, pods of extremely rich ore (>100 oz/ton) have been documented. Given (1) the geological complexity of this area, (2) the only-recent advances in understanding of the tectonic, geochemical and lithologic evolution of the region, (3) the highly vegetated and soil covered bedrock, and (4) the erratic and primitive exploration and production techniques that have historically been employed, it is inconceivable that all the rich deposits of the region have been found or developed.

MEXORE HOLDINGS IN THE DISTRICT

Over the last several years, MEXORE, S.A. de V.C. has put together a significant group of claims in the district. From north to south these are the La Helice, M. Carter and San Vicente claims (figure 2), and is negotiating on rights to several others strategically placed properties of merit. Together, they comprise the most promising land position ever assembled in the area. Access to other holdings is possible, given the general relationship with other local claim holders, which MEXORE and its precursors Compania Minera Santa Fe and Calafia have maintained.

GEOLOGICAL SETTING

Structure

El Alamo District is located near the southeastern comer of the Alamo structural block (figure 3). This is defined on the southwest by the Agua Blanca Fault and on the northeast by the San Migucl Fault. The former has been active since at least the Cretaceous as a strike-slip fault. Since the Miocene, some extension has occurred along this fault due to Basin and Range extension of the region. The San Miguel Fault, a right-lateral strike-slip system, has been active since at least the early Tertiary and remains active today. These two regionally significant faults are parallel to the principal faults present in the Alamo District, the Tres Hermanos and El A!amo Faults, which exhibit a similar sense of displacement (figure 4). Gold bearing veins seem to parallel the Agua Blanca Fault, suggesting that auriferous quartz veins were associated with early post-Miocene spreading along this feature.

Bedrock Types

The Alamo block is located in a northwest-southeast trending belt of Paleozoic and Mesozoic metasediments, volcanics, and varied igneous intrusives, which lies to the west of the Peninsular Batholiths and east of the coastal belt of volcanics and volcanoclastic sediments. Bedrock types in the district are diverse and their relationship complex (figure 5). However, careful geologic mapping by both American and Mexican researchers has been conducted, and the maps are presently available, providing a data base into which detailed observations of the district may be integrated.

Early (Pre-Intrusive) Geological History

The geological evolution of the region is diagrammed in figure 6. Metamorphism era belt of coastal and offshore sediments resulted from collision of the Pacific and Farallon Plates. Igneous intrusion resulted from subduction and melting of the Farallon Plato and of the oceanic and littoral sediments that blanketed it. This continued from the middle and upper Mesozoic to the Miocene (mid Cenozoic). Varied Iithologies of igneous rock intrude the country rock as stocks, diapirs and dikes. Tonalites, granodiorites and quartz-diorites predominate in the region, and predate rarer Miocene gabbros, which in turn predate gold-bearing quartz veins. This indicates that igneous intrusives were derived by subduction and melting of diverse sediments and metasediments, rather than by progressive differenciation and crystallization of an initially homogeneous magma body. This may help explain the dramatic lateral variations in gold mineralization observed along the length of the Pacific and North American Plate suture zone.

Intrusive and Post-Intrusive Geologic History of the Area

Following emplacement of the peninsular batholiths and associated diapiric plutons, erosion reduced relief caused by uplift to a gently rolling surface, This removed significant parts of the metasedimentary cover and of the shallow intrusives and extrusives, and bared the deeper roots of the intrusive complex to a depth of five to nine kilometers. Crossing this gently rolling surface were rivers, which carried sediments from elevated sources in Sonora, before the opening of the Gulf of California. Discrete erosional remnants of these fluvial deposits are preserved in rare areas across the now-uplifted erosional surface. Some contain coarse gold in gravels derived from the east. No relic channel deposits are recognized in the Alamo District.

The Gulf of California began to open in the mid-Miocene, accompanied by emplacement of oceanic basalts and local hydrothermal alteration. This alteration included aerially patchy quartz vein development, and deposits of base metal sulfides concentrated in extentional fractures. The Aqua Blanca Fault may represent the western limit of extension during the rifting of the Gulf of California. Hydrothermal alteration along this feature was probably active only during the initial stages of spreading.

Uplift of the peninsula, caused by rifting and Basin and Range tectonics, elevated and tilted the surface developed after erosion of the roof of the batholiths and plutons. In El Alamo District this resulted in considerable chemical weathering of the surface rocks, accompanied by erosion of the fine-grained (and low density) weathering products. River and stream deposited sediments in the area of El Alamo are of limited vertical and aerial extent, which suggests that removal of coarse-grained and/or high density weathering products has been minimal. As such, residual soils are common in the Alamo District and probably contain most of the high density weathering products.

GOLD IN THE REGION

Potential Environments of Mineralization

Within this regional setting, gold might potentially be found in a variety of environments:

1 Relic stream deposits, which drained the mineralized highlands of Sonora before the opening of the Gulf of California. Sources of the coarse gold found in some of these deposits may have existed in the country rock before emplacement of the Peninsular Range Batholiths.
2 In Mesozoic coastal sedimentary deposits derived from this early gold-bearing terrane, which were subducted and metamorphosed during plate collision.
3 As native gold in post-Miocene hydrothermal quartz veins cutting the metasediments. Shallow quartz vein systems may coalesce at depth. The depth of these systems in the area has never been reached or otherwise determined. Elsewhere in the western North American suture zone, such vein systems may extend to considerable depths.
4 In solid solution in veins of base-metal sulfides localized by hydrothermal alteration along post-Miocene fault zones.
5 As native gold following the oxidation of base-metal sulfides.
6 As low grade (disseminated) deposits in alteration aureoles surrounding zones of hydrothermal mineralized veins.
7 As native gold in residual soils derived from the in situ weathering of auriferous bedrock, following the removal of low-density and fine grained weathering products.
8 As native gold in fluvial (stream-deposited) sediments derived locally from the erosion from 3, 5, and 7, above.

Of these potential sites of gold occurrence, (1) is not known in the immediate area of El Alamo, and (2) and (6) have never been identified, but should be considered while conducting fieldwork.

Controlling Factors of Gold Mineralization

Factors controlling gold mineralization are considered to be: 1) a structural setting leading to fracturing and extension; 2) rock types conducive to fracturing and quartz mineralization (especially tonalites); 3) localized hydrothermal activity associated with early post-Miocene spreading; 4) underlying gold-rich sediments or metasediments from which gold might be dissolved by ascending hydrothermal salt waters. As such, the original source of gold in El Alamo was probably the Paleozoic and Mesozoic hinterland to the east of the Gulf of California, which provided auriferous sediments to the marine coastal complex, which would eventually be subducted and metamorphosed.

The limited development of coarse-grained fluvial deposits in the area suggests that there has been minimal transport of gold, and limited concentration of detrital gold in late Tertiary fluvial deposits. As such, most of the gold derived by weathering of the surface remains in-place in the widespread residual soils, which have been locally and successfully worked as "placer" deposits. Wide-spread exploitation of these deposits might prove profitable, but would be of considerable, and in this authors opinion, unacceptable environmental and social impact.

Similarities and Dissimilarities to the Mother Lode

Although the region of El Alamo shares many geological similarities to the Mother Lode of California (USA), there are Significant differences as well, which complicate the comparison. Although the tectonic regimes are similar, much of the gold in the Mother Lode was developed in the bedrock prior to or accompanying batholithic emplacement, and was concentrated in extremely rich placer deposits. These are equivalent to the relic fluvial deposits derived from sources presently east of the Gulf ofCalifornia. G01d mineralization in these settings was terminated before Miocene volcanism and uplift. Although some comparable deposits are found in the Baja, most of the deposits of gold here apparently derive from mid-Tertiary hydrothermal activity associated with Basin and Range tectonics. These deposits may be equivalent of gold found in the Coastal Ranges of California (USA), as for example those of Clear Lake.

SUMMARY

El Alamo District is one of demonstrated gold mineralization and economic potential, in which considerable and locally rich reserves are felt to remain undiscovered and undeveloped. Difficulties in past exploration and production are felt to result from political and logistic difficulties, from an historic lack of understanding of the tectonic and geochemical evolution of the area, and from ethical deficiencies on the part of some past developers. Clearly the origins and present distribution of gold in the Alamo District of Baja California may only be understood by the careful study of its tectonic setting and geological evolution, which is only recently possible. With this is mind, the Alamo District in general and the holdings of MEXORE in particular are optimally situated:

1 They lie near gold bearing Paleozoic or Mesozoic sediments derived from auriferous deposits presently east of the Gulf of California.

2 They lie near the western edge of the Basin and Range tectonic province, in which the reeks have been highly fractured in an extensional tectonic regime, and in which hydrothermal flow was possible and demonstrated.

3 Complicated structure, political and logistic rigors guarantee that early exploration and production efforts failed to locate or develop much ff not most of the exploitable gold deposits.

4 Post-Miocene erosion of the epithermal surface deposits, which elsewhere in the Baja may carry economic gold values, resulted in the exposure of the mesothermal and potentially far richer roots of the hydrothermal system.

5 Present understanding of the regional geologic evolution allows a far better interpretation of structural evolution and mineralization than was remotely possible even thirty years ago (let alone during the period of active mining). Holdings of MEXORE (currently the La Helice, M. Carter and San Vicente claims) represent an excellent land position, certainly one of the best ever assembled in the district. These include over twenty kilometers along the Tres Hermanos and El AlamoFaults.

7 Cost effective techniques of exploration utilizing remote sensing have been 9ested in related mineralic settings in the Baja and in southern California (USA), and may be profitably applied here.

8 Present understanding of the geochemical and hydrological processes associated with gold mineralization, and of igneous petrography allow a better interpretation of regional geological evolution (paragenesis) than ever before.

9 Availability of maps aerial photographs, satellite images, magnetic and gravity surveys is greater than ever before.

10 Present politics in Mexico are more conducive to foreign investment and resource ownership *than* ever before.

As such, El Alamo represents an exploration and investment potential of considerable opportunity in Baja California, which MEXORE is proud to offer interested parties committed to careful preliminary study and responsible development.

RECOMMENDATIONS FOR FUTHERWORK

1 Use available stereo aerial photographs of the district to carefully map lithologic contacts and most particularly structural lineaments and relationships, looking especially to define areas of post=Miocene fracturing and extension likely to carry gold values.

2 Use analyses of satellite images in various bands to help recognize areas of greater hydrothermal alteration, based on similar work conducted in the northeastern Baja and southern California (USA).

2 Determine if sites of hydrothermal alteration correlate with magnetic or gravity anomalies.

4 Analyze the petrographic characteristics of non-auriferous (first generation) and auriferous (second generation) quartz veins, so that they may be recognized in the lab or field without the presence of visible gold.
5 Walk out the areas of the claims and adjacent lands in a methodical grid with regular north-south and cast-west transects (determined by aerial photos and GPS), collecting samples of vein quartz present in thesoils and float, and residual soils for further analysis. Samples of soil should be collected to determine if there are compositional characteristics that might be related to the lithology of the bedrock beneath, and to determine if residual gold is present. Sites recognized from (1) and (2) will be studied at this time.
6 CoLlectsamples of bedrock adjacent to mineralized zones looking for alteration aureoles and for primary differences in the composition of the metasediments, which might have sourced the gold.
7 Conduct resistivity surveys in areas displaying appropriate structure and either magnetic or gravity anomalies

Based on this detailed reconnaissance, a coring program may be designed and/or adjacent lands acquired before embarking on subsequent stages of development and production. This is a more ambitious preliminary stage than has been proposed or conducted in the past, but one which offers the greatest chance of recognizing significant deposits before expensive coring and land acquisition.

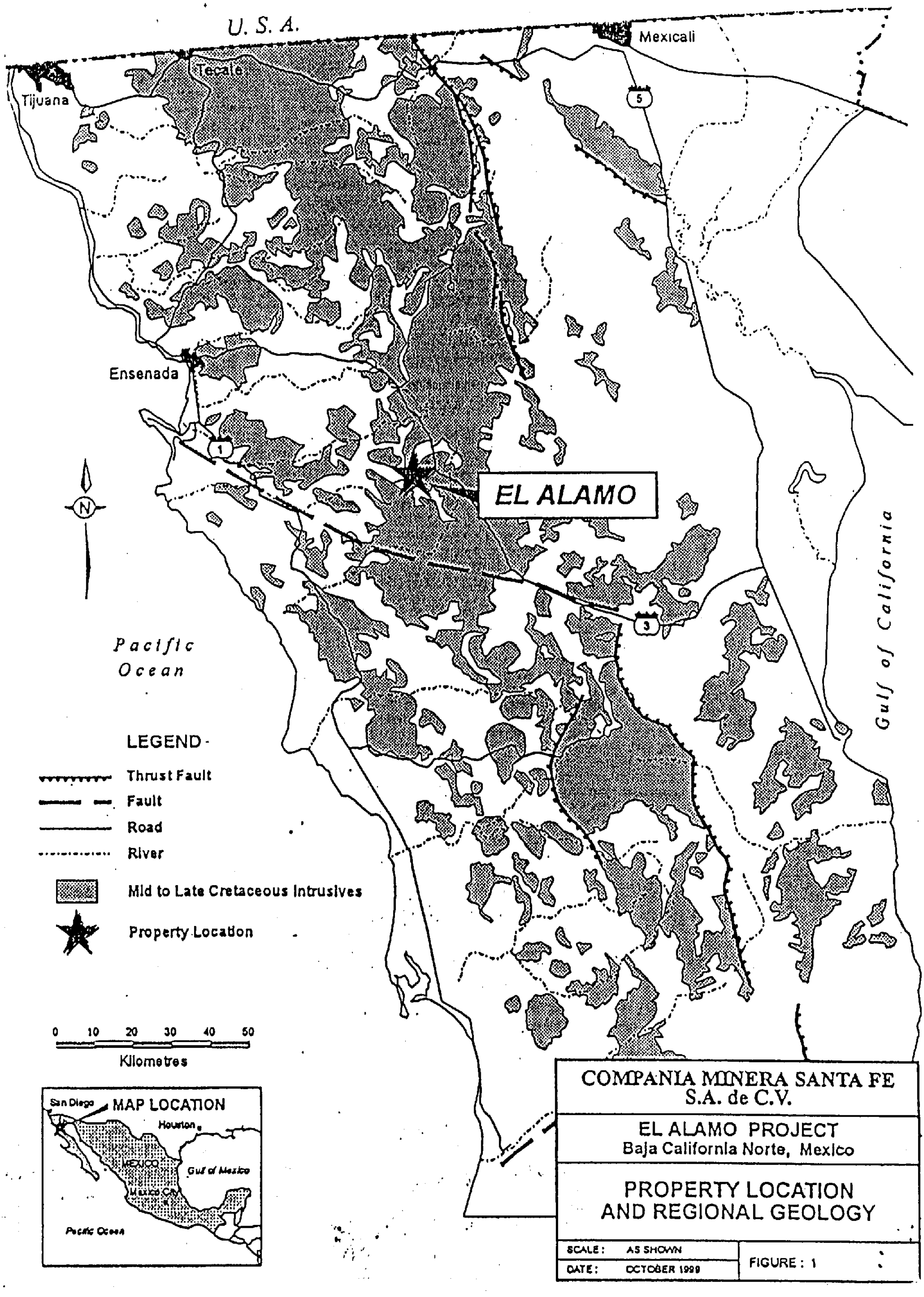


Figure 1. The northern part of Baja California Norte is Shown, with the location of the Alamo district, southeast of Ensenada indicated. From Game (1999).

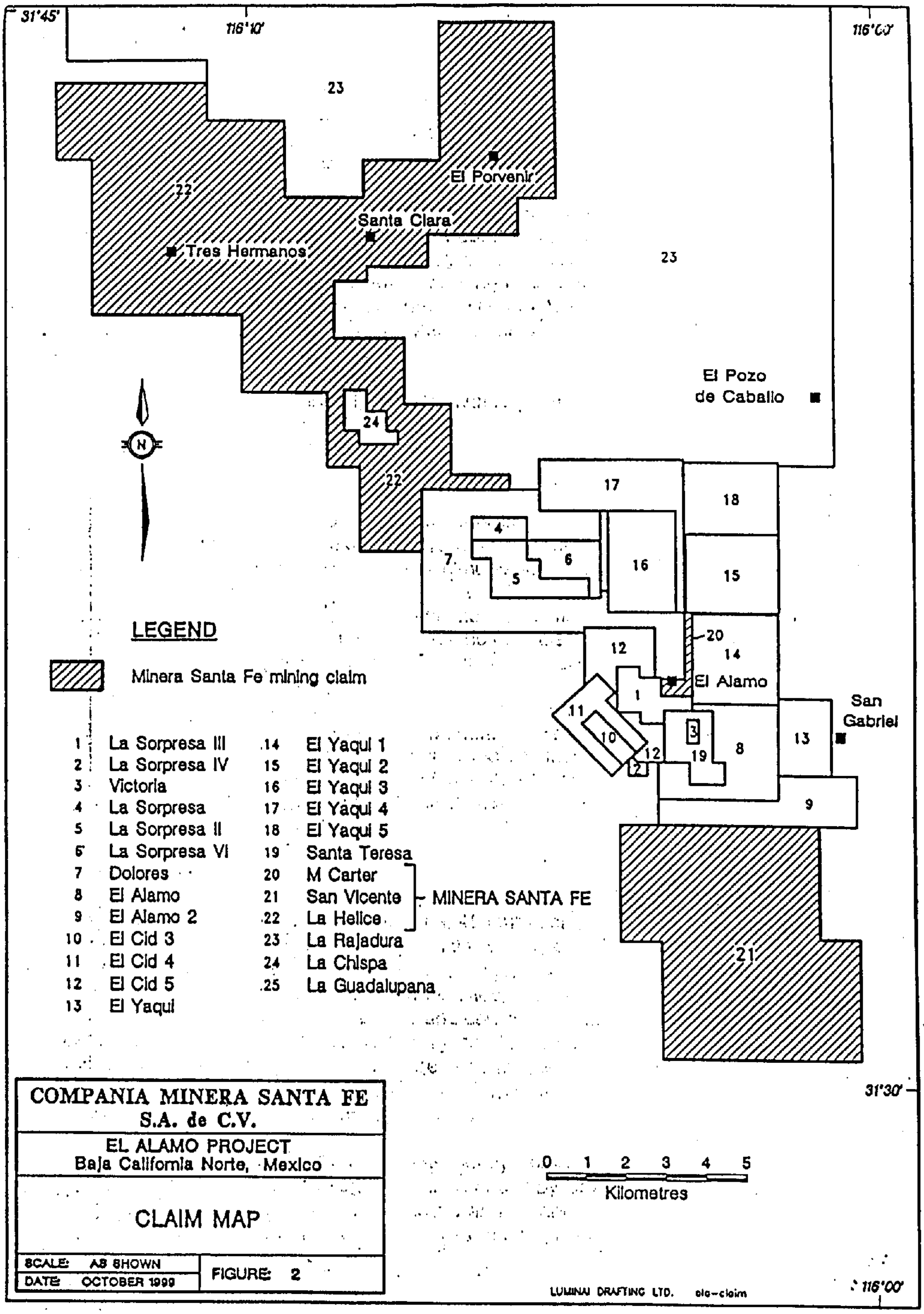


Figure 2. The Alamo district is shown with the location of the principal claims, as presently defined. MEXORE holdings include the Helice, San Vicente and M. Carter claims, as well as that of other historic claims, by agreement with the

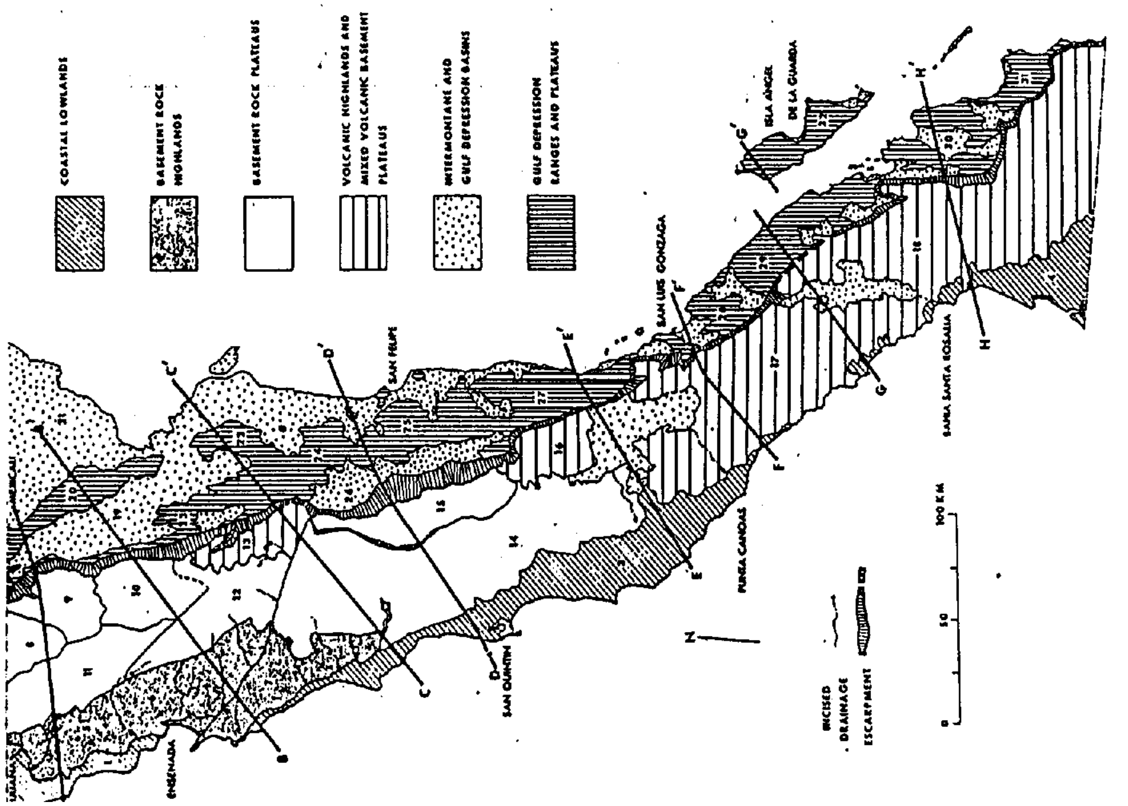


Figure 38. Geomorphic provinces of Baja California. For profiles A-A' to H-H', see Plate 4. Numbers correspond to the following geographic provinces: 1, northwest coastal area; 2, Todos Santos coastal plain; 3, central coastal area; 4, Llano del Berrendo; 5, La Zorra block; 6, Ensenada block; 7, Tomás block; 8, McCain plateau; 9, La Rumorosa plateau; 10, Laguna Hansen surface; 11, Tecate surface; 12, Alamo block; 13, Santa Catarina plateau; 14, Peterson block; 15, Sierra San Pedro Mártir; 16, Matomí plateau; 17, Jaraguay block; 18, San Borja block; 19, Laguna Salada; 20, Sierra de los Cucapas and Sierra del Mayor; 21, Colorado River Delta; 22, Sierra Pinta; 23, Sierra Tinaja; 24, Cerro Borrego block; 25, Sierras San Felipe and Santa Rosa; 26, Valles San Felipe and San Pedro; 27, Puertecitos block; 28, Gonzaga block; 29, Remedios block; 30, Los Angeles-Las Animas block; 31, El Barril block; 32, Isla Angel de la Guarda.

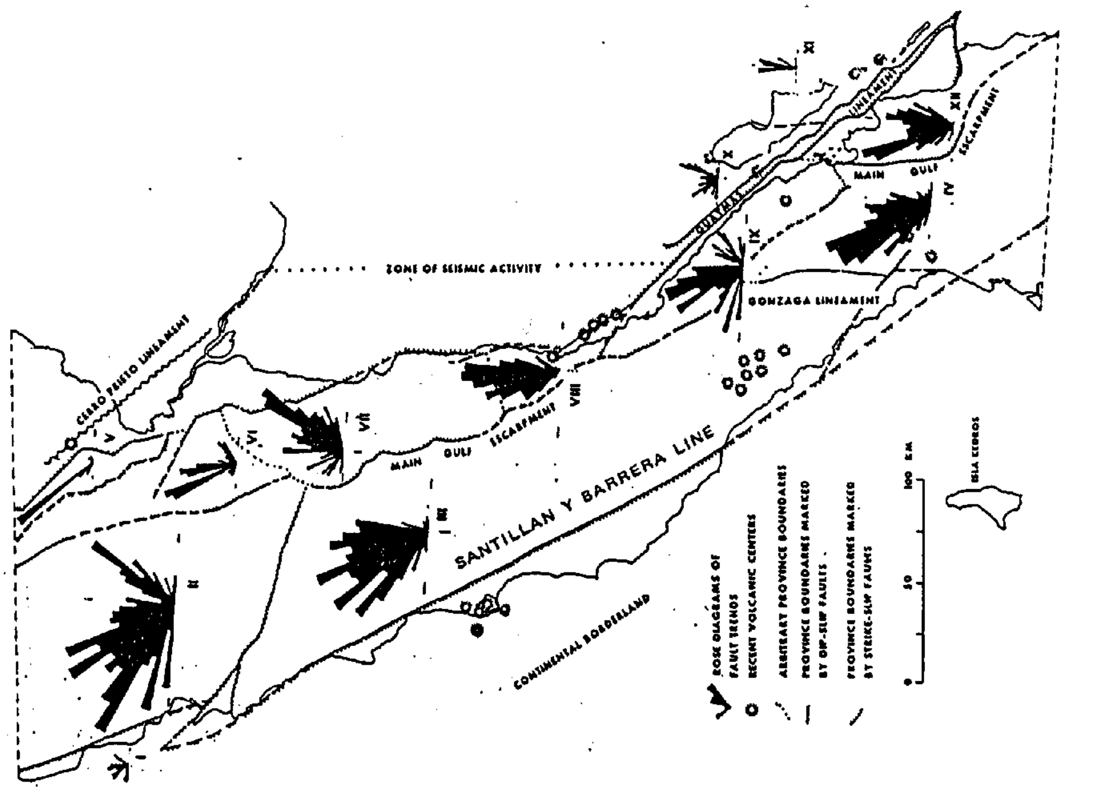


Figure 55. Structural provinces of the state of Baja California. Roman numerals correspond to provinces as follows: I, continental borderland; II, northern stable peninsula; III, central stable peninsula; IV, San Borja-Santa Gertrudis; V, Sierra de los Cucapas; VI, northern Sierra Pinta; VII, southern Sierra Pinta, Sierra San Felipe, and Sierra Santa Rosa; VIII, Puertecitos; IX, Gonzaga-Remedios coastal ranges and basins; X, Isla Angel de la Guarda; XI, Isla San Lorenzo; XII, Los Angeles-Las Animas.

Figure 3. Structural framework of the area of the Alamo District is shown, including the Alamo Block, bounded on the southwest by the Agua Blanca Fault and on the northeast by the San Miguel Fault. From Gastil, et al, 1975.

Figure 4. The principal faults in the district are the Tres Hermanos and El Alamo faults, which parallel the regional features, which define the Alamo Block. Displacement on the local faults is similar in direction to that on the regional features they parallel. From El Zacaton (HI 1B23) geologic map, Commision de Estudios del Territorio National.

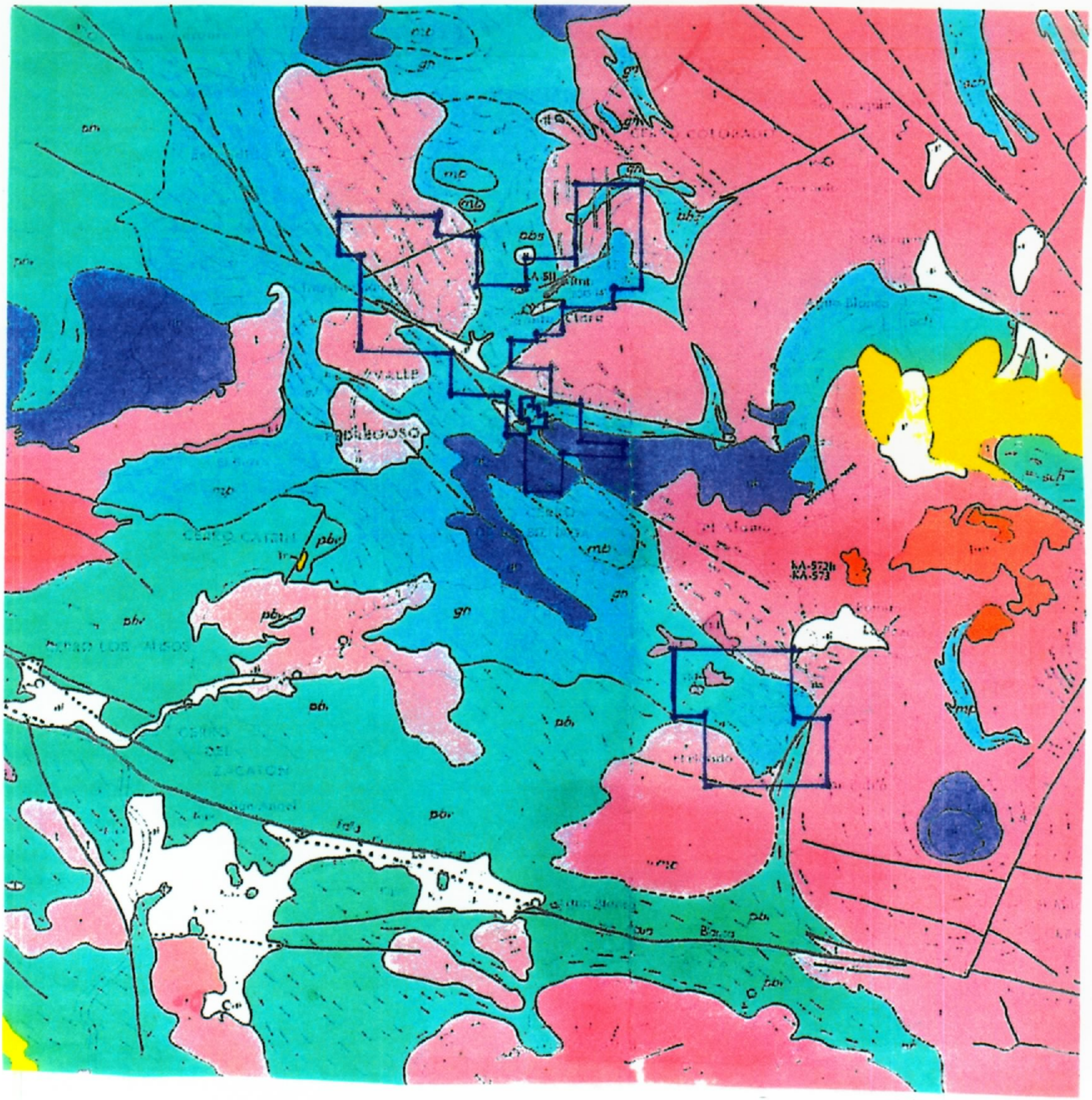


Figure 5. Geologic map of the Alamo district. From Gastil, et al (1975).

FOR SOURCES AND ACKNOWLEDGEMENTS SEE GEOLOGICAL SOCIETY OF AMERICA MEMOIR 140

LEGEND

ROCK UNITS

POST-BATHOLITHIC SEDIMENTARY ROCKS

al, Qd — QUATERNARY
al, alluvium; Qd, dunes

Qm, marine; Qf, fluvial
Ql, lacustrine

PLIOCENE
Tpm, marine; Tpf, fluvial

Tmm, Tmf — MIOCENE
Tmm, marine; Tmf, fluvial

LOWER TERTIARY
Te, Eocene; Tpe, Paleocene
m, marine; f, fluvial
Tc, conglomerate

UPPER CRETACEOUS
Kr, Rosario Group
m, marine; f, fluvial
Kuc, Redondo Formation

POST-BATHOLITHIC VOLCANIC ROCKS

Qb, Quaternary basalt
Tpb, Pliocene basalt and basaltic andesite
Tmb, Miocene basalt and basaltic andesite

Tp, Pliocene, Tm, Miocene;
v, undifferentiated volcanic;
a, andesite; r, rhyolite and dacite

BATHOLITHIC ROCKS

ad, adamellite and granite
gd, granodiorite

t, tonalite
gr, undifferentiated

gb, gabbro
d, diabase

PRE-BATHOLITHIC ROCKS

Ka, Kas, Kav, Kalm, Jv?, pbv — Ka, Alisitos Formation
s, sedimentary; v, volcanic
lm, limestone
Jv ?, Jurassic ?
pbv, undifferentiated volcanic

pbs, pbc, sl, am, sch, gn, pbq, pb, mp — pbs, meta sedimentary
pbc, Paleozoic
sl, slate; am, amphibolite
sch, schist; gn, gneiss
pbq, quartzite
pb, undifferentiated
mp, mixed metamorphic and plutonic

• KA-501 Location of analyzed or dated samples

SYMBOLS

CONTACTS OF ROCK UNITS

Dashed where approximate

INCLINATIONS

BEDDING

30 measured; observed; photo interpretation; horizontal; vertical

FOLIATION

30 measured; observed; joint

Trend in plutonic rocks
Trend in pre-batholithic rocks

FOLDS

Anticline; Syncline

FAULTS

	covered	uncertain	observed
Dip-slip	U D		
Strike-slip			
Undifferentiated			

Eruptive center; Dike; Mine or prospect

Spring; Well; Drainage

Habitation; Airport; Trail

Improved road; Unimproved road

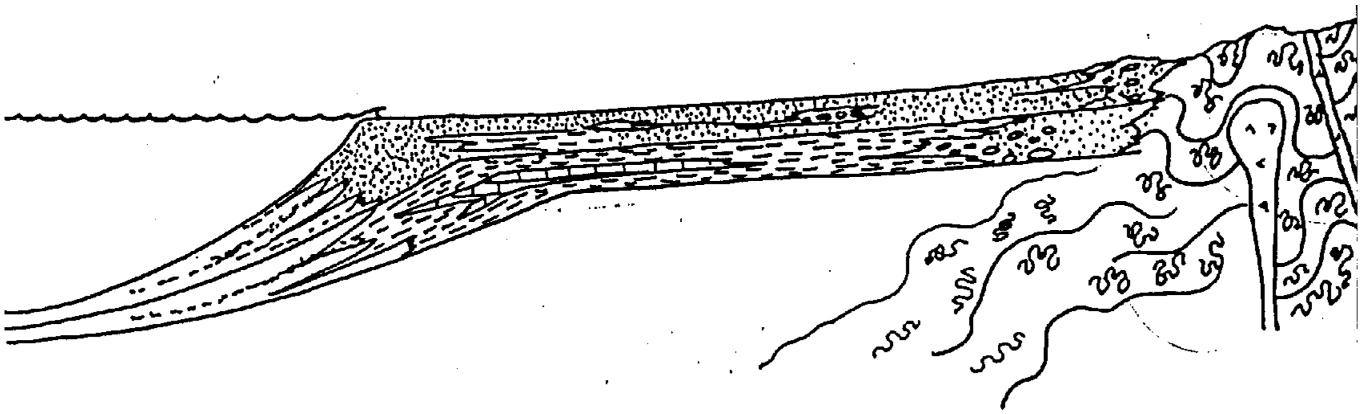


Figure 6a. Pre-Cretaceous - A coastal plain and continental shelf build westward from a pre-Laramide mature highland source. Gold sources in the upland may have sourced alluvial and littoral placer deposits in the coastal plain.

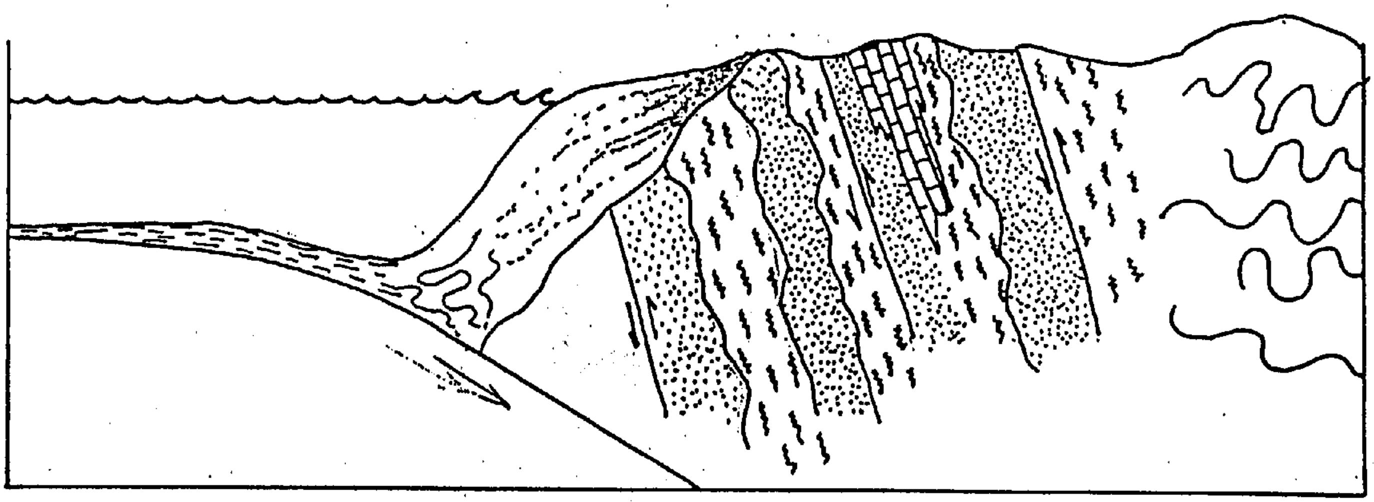


Figure 6b. Upper Mesozoic - Subduction of the Farallon Plate beneath the North American Plate results in crustal shortening, low-grade metamorphism of sediments, and repetition of the stratigraphic section. Quartz sands become metaquartzites (auriferous?), mudstones become phyllites. Deformed lithic Units strike NW and dip Steeply to the east.

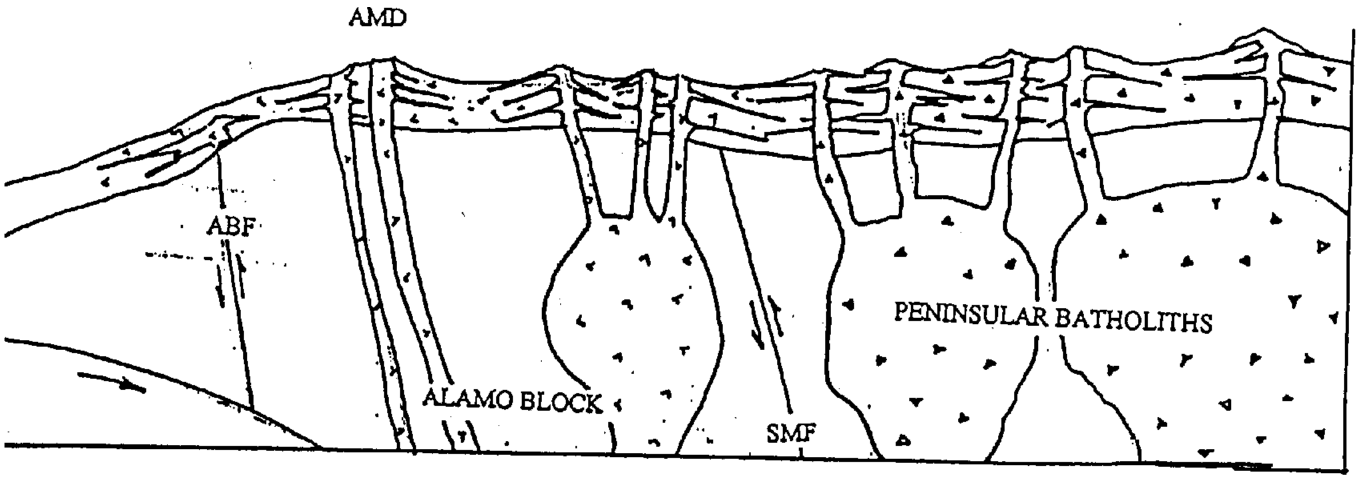


Figure 6c. Upper Mesozoic - Continued subduction results in crustal melting and emplacement of diverse acidic igneous rocks as plutons and dikes, Granites of the Peninsular Batholiths are shown by triangles; diorites, granodiorites and tonalites of the metasedimentary belt are represented by v's. Igneous dikes parallel the *strike* and dip of the metasediments. The San Miguel Fault (SMF) defines the boundary of the Alamo Block igneous and metasedimentary belt and the belt of granitic peninsular batholiths. The Agua Blanca Fault (ABF) divides the Alamo Block from the belt of.volcanics and volcanoclastic sediments to the southwest. The relative location of the Alamo mining district is indicated (AMD)

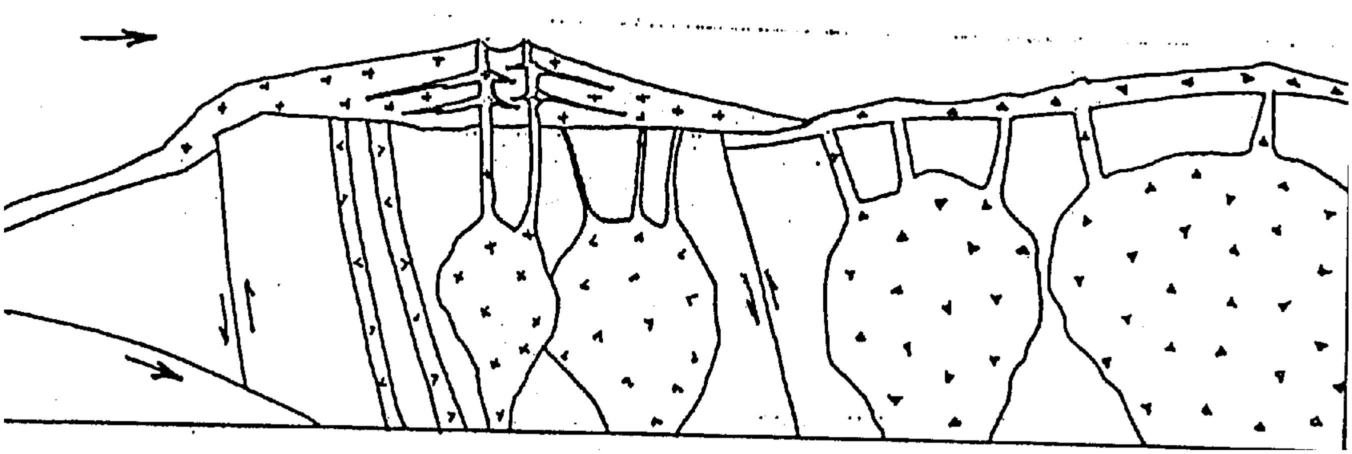
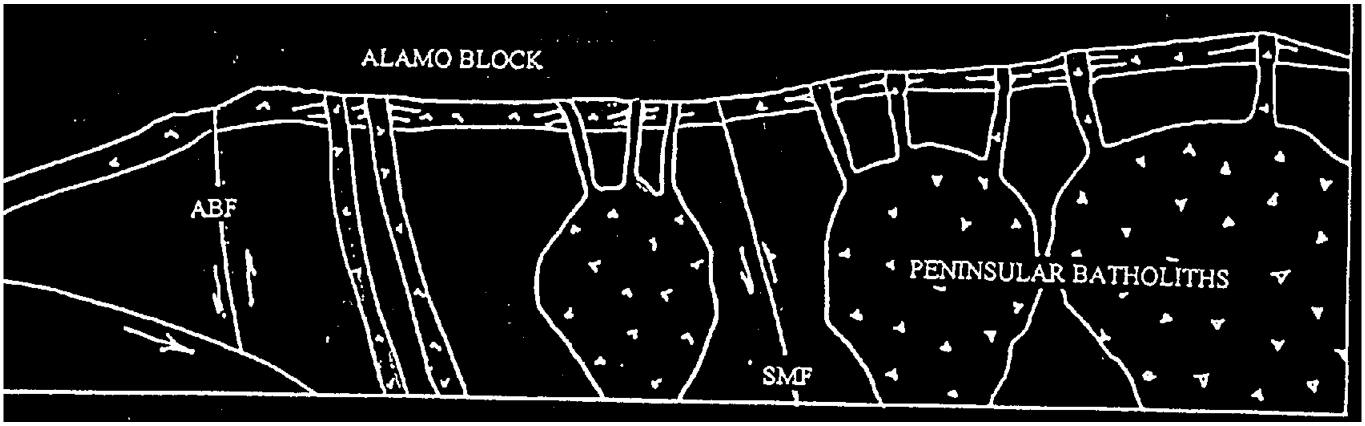
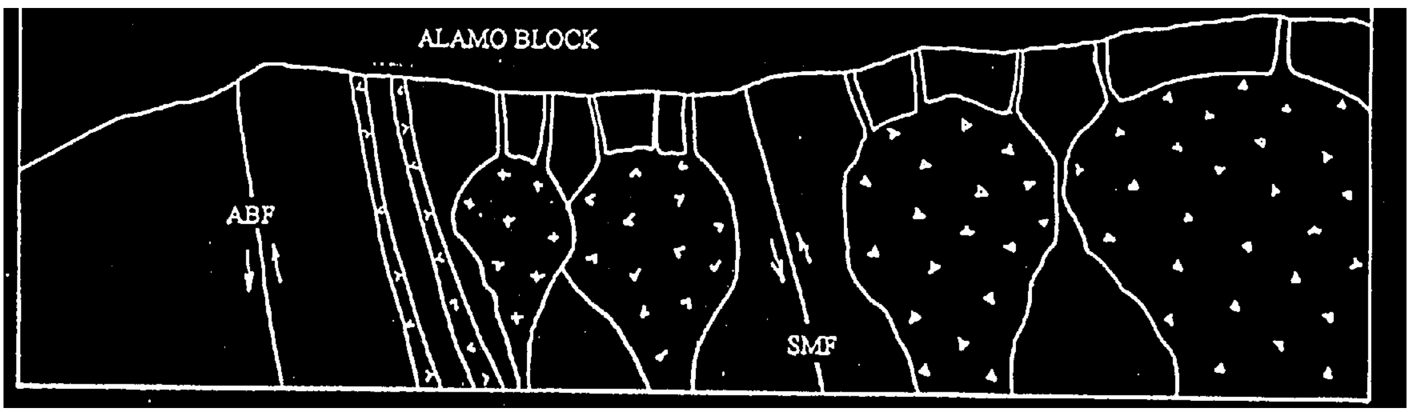


Figure 6d. Lower Cenozoic - Uplift of the peninsula results in erosion of the acidic igneous extrusives, shallow intrusives and shallow metasedimentary complex. The Agua Blanca and San Miguel Faults remain active.


ALAMO BLOCK
ABF
PENINSULAR BATHOLITHS
SMF


ALAMO BLOCK
ABF
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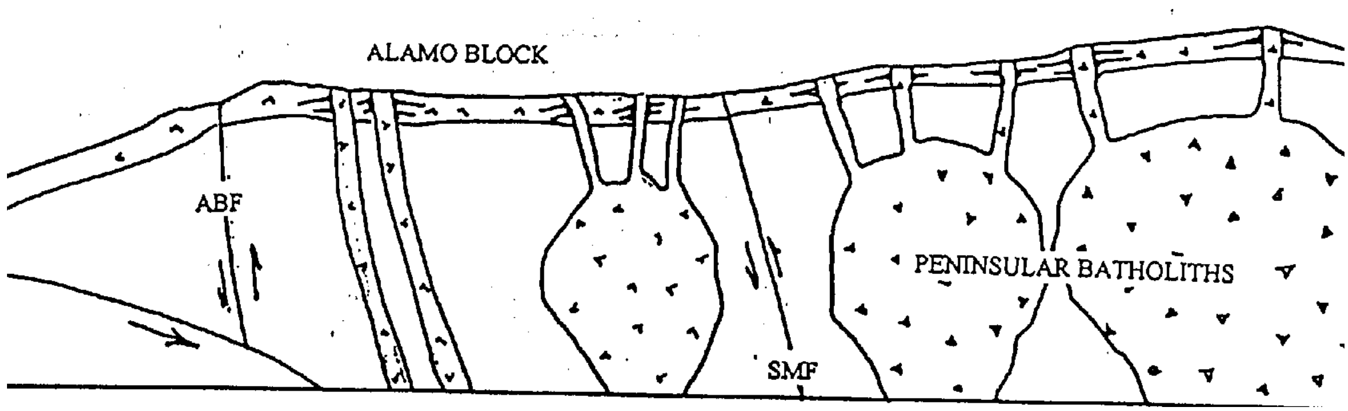

Figure 6e. Eocene-Lower Miocene - Melting of marie (offshore oceanic?) sediments results in emplacement of gabbro dikes and plutons (indicated by x's), of which La Visnaga Pluton is an example. Gabbro dikes parallel regional structure.

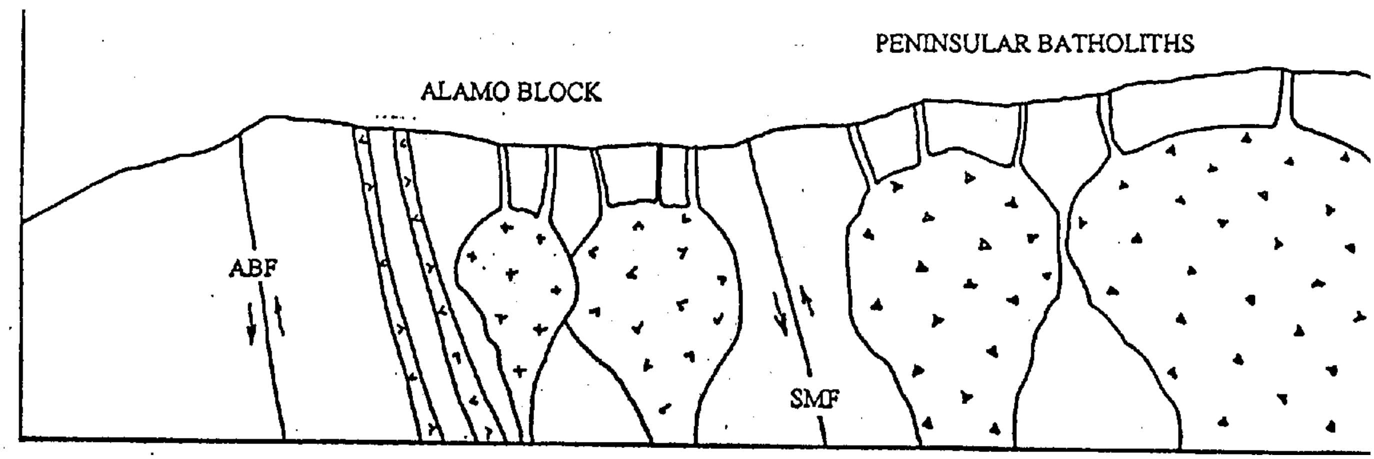

Figure 6f. Lower Miocene - Continued uplift and erosion results in removal of igneous extrusive rocks. This is the last event before the subduction of the East Pacific Rise and cessation of compressional tectonics in the region.

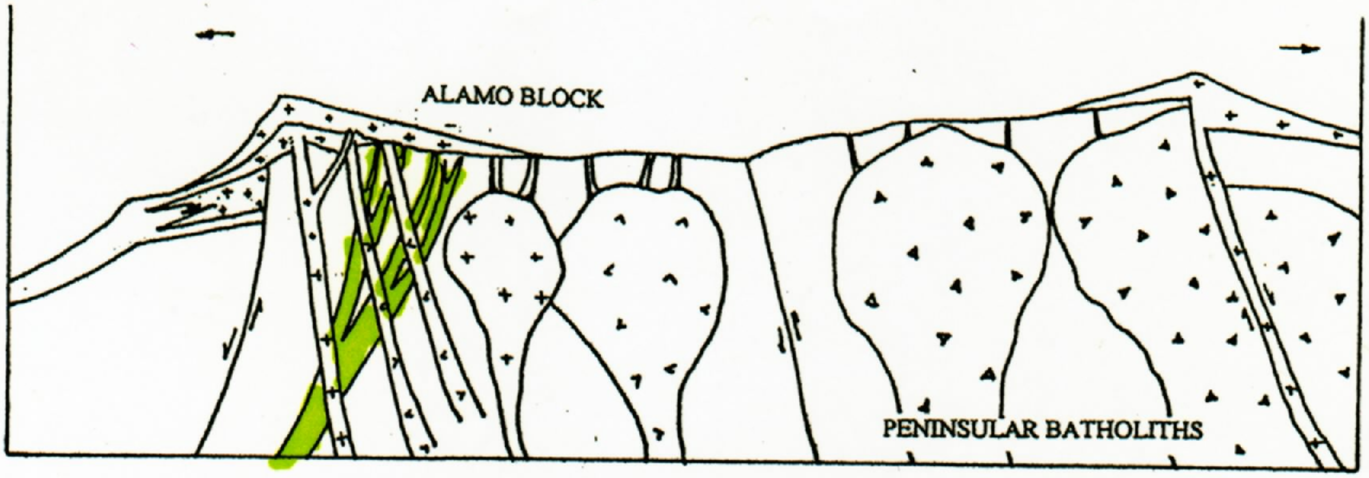

Figure 6g. Lower- mid-Miocene Subduction of the East Pacific Rise results in extension of the peninsula perpendicular to its axis, particularly along the Agua Blanca Fault (ABF), which continues activity as a transform fault. Basalt (also shown by x's) is emplaced along dikes parallel the fault. Extensional veins parallel the fault am filled with two generations of quartz (colored gold), the latter of which carries gold, and " base metal sulfide deposits, which may carry gold in solid solution. Gold may be derived from laterally discontinuous auriferous metaquartzites at depth by leaching with rising hydrothermal brines. Some quartz veins might be surrounded by mineralized aureoles. Quartz veins may in some cases join at depth.

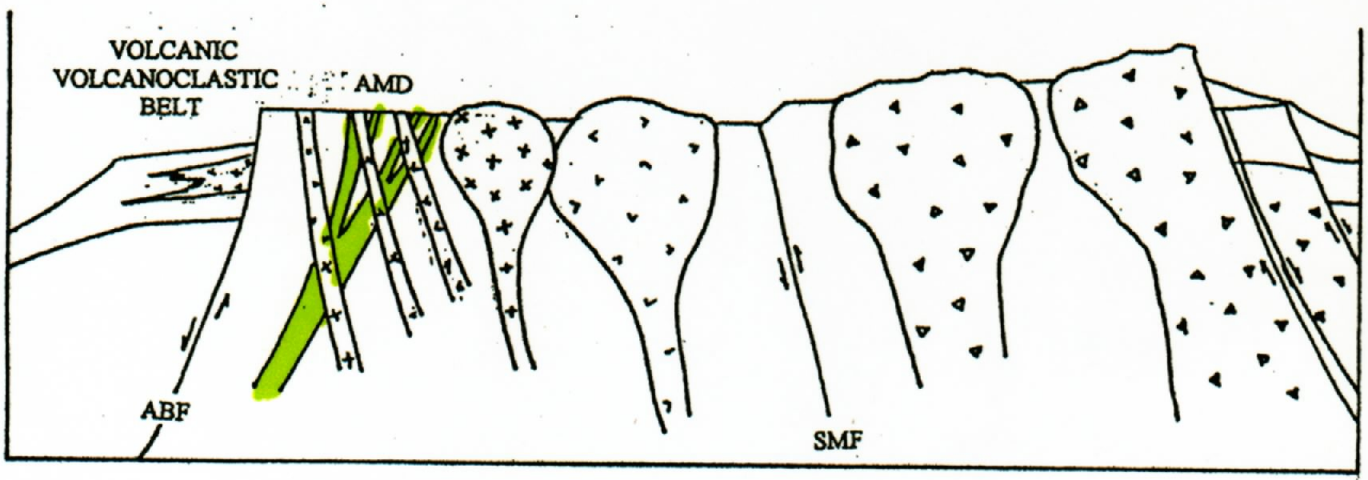

Figure 6h. Mid-Miocene - Recent - Crustal extension results in the opening of the Gulf of California Continued uplift associated with Basin and Range style extension removes all igneous extrusives from the Alamo Block, although they are preserved on the down-thrown block to the west of the Agua Blauca Fault. This uplift and erosion has also removed all of the epithermal mineralized zone from the Alamo Block, although this environment is preserved and still active to the northeast, nearer the Gulf of California, where economic gold deposits formed in this geological setting are mined. These have been compared to deposits at the Mesquite Mine in southern California (USA), presently one of the richest producing gold mines in the state. Gold contained in the quartz veins and associated aureoles has been maintained in the residual soils, except where erosion has been most active

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