Proposal by the County of San Benito before the

CENTRAL VALLEY
REGIONAL WATER QUALITY CONTROL BOARD

Request for Investigation, Enforcement, and Regional Planning necessary to clean up and abate the discharge of pollutants from the New Idria Mercury Mine in San Benito County, California

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1. Scope of the Proposal

This proposal from the County of San Benito (the County) seeks specific actions from the Central Valley Regional Water Quality Control Board (the Regional Board) necessary to clean up and abate discharge of pollutants from the New Idria mercury mine into San Carlos Creek, which is located in San Benito County. The County respectfully requests that the Regional Board, pursuant to section 13225(a) of the Porter-Cologne Water Quality Control Act, follow the process shown in Figure 1 by taking the following actions:

i) Determine whether a corporate successor to the New Idria Mining and Chemical Company (NIMC) currently exists.

ii) If a successor to NIMC is identified, issue a cleanup and abatement order to that party (the discharger), pursuant to section 13304 of the Porter-Cologne Water Quality Control Act, directing the discharger to abate the ongoing discharge of pollution into San Carlos Creek.

iii) Adopt a resolution in support of the County's request for funds from the State Cleanup and Abatement account so that the County can initiate steps necessary to evaluate the degree of impairment and the feasibility of strategies to stop the discharge.

iv) Support the County in seeking funds needed to conduct risk assessment, risk communication, and watershed assessment to ensure that the approach to restoring water quality in San Carlos Creek and its receiving waters is consistent with the values and goals of all affected stakeholders.

2. Location of discharges and affected water bodies

The New Idria mercury mine is located in the southeastern Panoche Valley, approximately 55 miles southeast of Paicines, California (Figure 2). Pollution from the mine discharges into San Carlos Creek. Approximately five miles of San Carlos Creek have been confirmed as impaired, according to the State's 303-d list.

San Carlos Creek drains into Silver Creek, which drains into Panoche Creek. Panoche Creek drains into the Panoche fan, which is flushed into the Mendota Wildlife Area during moderate rainfall years and into the San Joaquin River during extremely high flow years.

The extent of additional downstream impairment is unknown at present, owing to a lack of sufficient monitoring information. San Carlos Creek flows year-round due to the acid

mine drainage, but reportedly percolates underground within five miles of the discharge (CVRWQCB, 2003). However, there have been no efforts to monitor the flow and resultant loads of mercury-polluted sediments into the downstream Panoche-Silver Creek watershed during storm events, so the risk to downstream aquatic ecosystems cannot be ruled out at this time.

3. Nature of discharges and degree of impairment

Subsurface acid mine drainage (AMD) pours from a mine opening known as the "10-level adit" at a rate of 10-50 gallons per minute (GPM) into San Carlos Creek (CVRWQCB 1975, 1988, 2003; Ganguli et al. 2000; USEPA 1998) (Figure 3). This has the immediate and obvious effect of severe discoloration of the water and complete destruction of aquatic life for at least five miles downstream. In addition to acidity (drainage from the 10-level adit is pH 3-4), the AMD contains elevated levels of metals and sulfate, and a strong odor of sulfides. Surface piles of waste rock erode and discharge mercury into a non-functioning settling pond, which discharges into San Carlos Creek (Figure 4). Downstream of the mine site, concentrations of mercury and nickel exceed state numeric water quality objectives (Table 1). Measurably elevated concentrations of methylmercury (Ganguli et al, 2000) may be in violation of the State's narrative objective prohibiting toxic substances in toxic amounts. Additional narrative water quality objectives violated as a result of AMD discharge include color, suspended matter, toxicity, and pH.

The ongoing discharges from surface and subsurface sources into San Carlos Creek threaten or impair the beneficial uses of domestic water supply (MUN), groundwater recharge (GWR), industrial service supply (IND), warm freshwater habitat (WARM), agricultural supply (AGR), non-contact water recreation (REC-2), wildlife habitat (WILD), rare, threatened or endangered species (RARE), and subsistence and sport fishing (REC-1). The existing or potential beneficial uses of water, evidence for threats or impairment of those uses, and additional monitoring, risk assessment, and risk communication needs are discussed below. The beneficial uses are discussed roughly in order of upstream (3.1 – 3.5) to downstream (3.6 – 3.7).

Pollutant	Water Quality Objective or Goal	Measured Concentrations	Reference
Filtered Nickel	169 mg/L (CTR chronic)	30-391 mg/L	Ganguli (1998) USEPA (1998)
Unfiltered Nickel	1000 mg/L (Texas goal for livestock)	345 – 1270 mg/L	Ganguli (1998) USEPA (1998)
Filtered Mercury	CTR Reserved	0.03 – 3.1 mg/L	Ganguli et al. (2000) USEPA (1998)
Unfiltered Mercury	0.051 mg/L (CTR human health)	0.1 – 5 mg/L	Ganguli et al. (2000) USEPA (1998)
Filtered Methylmercury	Risk assessment	0.3 – 1.2 ng/L	Ganguli et al. (2000)
Unfiltered Methylmercury	Risk assessment	0.3 – 1.7 ng/L	Ganguli et al. (2000)
Acid Mine Drainage	"The pH of water shall not be depressed below 6.5, raised above 8.3, or changed at any time by more than 0.3 units from normal ambient pH." (Tulare Lake Basin Plan)	Ambient pH = 8.9 Downstream pH = 4.7 – 8.3	Ganguli et al. (2000) USEPA (1998) CVRWQCB (1975, 1988, 2003)
Acid Mine Drainage	"Waters shall be free of discoloration that causes nuisance or adversely affects beneficial uses" (Tulare Lake Basin Plan)	Complaints and observations 1975-present	CVRWQCB (1975 – 2003) Ganguli et al. (2000)
Acid Mine Drainage	"Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses" (Tulare Lake Basin Plan)	Observation of iron precipitates 1975-present	CVRWQCB (1975 – 2003) Ganguli et al. (2000)
Acid Mine Drainage	"Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses (Tulare Lake Basin Plan)	Not measured at present	
Acid Mine Drainage	"All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant or aquatic life." (Tulare Lake Basin Plan)	Absence of Aquatic Life in San Carlos Creek	USEPA (1998)

Table 1: Constituents known or suspected to violate water quality standards in San Carlos Creek downstream of New Idria. USEPA has reserved numeric objectives for filtered mercury pending consultation with the US Fish and Wildlife Services. Although there are no numeric objectives for methylmercury at present, risk assessment needs to be conducted to evaluate compliance with the State narrative objective prohibiting toxic substances in toxic amounts. These data are supplemental to the findings of CVRWQCB (2003). State WQOs for nickel are hardness-dependent; absent reliable data for San Carlos Creek a hardness of 400 mg/L was assumed, consistent with USEPA (1998).

3.1 Domestic Water Supply (MUN) and Groundwater Recharge (GWR)

The Tulare Lake Basin Plan does not designate Westside streams (including San Carlos Creek) for domestic water supply (MUN). Westside streams are designated for groundwater recharge (GWR).

Despite the fact that Westside streams are not designated MUN, year-round residents of New Idria do in fact drink water from a reservoir (Figure 5) that is filled from San Carlos Creek upstream of the AMD discharge (USEPA, 1998). This use isn't new – San Carlos Creek supplied domestic water to a thriving mining town for over a century (Gilbert, 1984).

Downstream of the discharge, bathing in or drinking untreated water from San Carlos Creek is probably unsafe and obviously undesirable because of the AMD. Downstream residents have attempted to install water treatment systems (Figure 6), but the current technology employed is insufficient to provide potable water, so they are compelled to buy and haul water in from afar.

Water quality standards consist of three parts:

i) Beneficial uses;
ii) Objectives to protect those beneficial uses; and
iii) An anti-degradation policy.

Violation of a water quality standard occurs when *any* of the three parts is not attained. If upstream users can choose to drink water from San Carlos Creek, and downstream users cannot, then water quality has been degraded, in violation of the State's anti-degradation policy.

The beneficial use of domestic water supply is raised in this proposal to highlight the critical shortage of quality water in the San Carlos Creek watershed. It should be acknowledged that San Carlos Creek water, absent mercury mining impacts, would likely still be only of a marginal quality for drinking and bathing. Upstream of New Idria, San Carlos Creek is alkaline (ph 8.9; CVRWQCB 2003; Ganguli 2000). The alkaline water drains over serpentine formations that are enriched in chromium, resulting in 10 – 20 ppb dissolved chromium in upstream waters. A preliminary study showed that this is mostly hexavalent chromium (Abu-Saba, 1998), and that the occurrence of hexavalent chromium in an alkaline water body draining a serpentine formation is a naturally occurring process (Abu-Saba, 2001).

Thus, the expected result is not that San Carlos Creek will ever fully attain the beneficial use of MUN. Rather, the expectation is that further degradation of MUN from natural conditions will cease once the discharge of AMD is abated. But because San Carlos Creek in its natural state is only marginal for domestic use, groundwater is a critical resource in this region.

There is no information available on the quality of groundwater in the San Carlos Creek watershed. There is only one well completion record in the watershed, located on private property approximately 3 miles north of the town of New Idria (CVRWQCB, 2003). Given the facts that San Carlos Creek does exceed maximum contaminant levels (MCLs) for drinking water (CVRWQCB, 2003) and that most of the dry-season flow percolates underground (CVRWQCB, 2003), it is reasonable to state that GWR is threatened or impaired in San Carlos Creek. Therefore, a critical next step is a comprehensive assessment of groundwater quality in this severely water-limited valley.

3.2 Industrial Service Supply (IND)

A mining claim for benitoite is being actively worked approximately ten miles south of New Idria. The Whimsy Mining Company, which owns the claim, processes gravel to extract benitoite using water from San Carlos Creek, downstream of the AMD discharge. There is little choice about the location for this operation. The Idria formations are the only place in the world where crystalline benitoite is found, and the Whimsy Mining Company processing area is downstream of the discharge. Risks to people processing gravel with San Carlos Creek water are unknown at present. While this is an admittedly small industry, it is one of the only commercial producers of benitoite, the official California State Gem. Thus, the beneficial use of industrial service supply is also threatened or impaired. Important next steps would be to conduct a risk assessment for water contact exposure, and/or to seek alternate water supply (i.e., groundwater) for this operation.

3.3 Warm Freshwater Habitat (WARM)

The best evidence that freshwater habitat for aquatic life is impaired in San Carlos Creek is that all aquatic life has been killed off. This is most likely the result of constituents in the acid mine drainage, including dissolved nickel (which exceeds State Water Quality Objectives), iron precipitates (which inhibit sunlight penetration and destroy benthic habitat), and possibly other constituents of acid mine drainage (e.g., cobalt, zinc, sulfide, sulfate). Absent this pollution, native species which could potentially inhabit the creek are listed in Table 1.

While Table 1 lists potentially useful indicators of ecosystem recovery, the list is by no means exhaustive. Support of habitat for these species and others would require not only water of a quality that is nontoxic to the organisms themselves, but also to their prey (e.g., aquatic invertebrates.) Thus, watershed assessment should include a comprehensive determination of biological and stream habitat indicators for attainment of WARM in San Carlos Creek.

Species	Listing status
California Red-Legged Frog (*Rana aurora draytonii*)	Federally Threatened
Foothill Yellow-Legged Fog (*Rana boylii*)	Federal Species of Concern
Southwestern Pond Turtle (*Clemmys marmorata pallida*)	Federal Species of Concern
California Tiger Salamander (*Ambystoma californiense*)	Candidate for federal listing
Western Spadefoot Toad (*Scaphiopus hammondii*)	Federal Species of Concern

Table 2: Aquatic life native to the San Carlos Creek watershed. Data summarized from Belli (2002).

3.4 Agricultural supply (AGR)

At present, the primary agricultural use of water downstream of New Idria is for livestock watering (Figure 8). Data collected by Regional Board staff on a recent site inspection (CVRWQCB 2003) suggest that measured Title-22 constituent concentrations are meeting water quality goals for livestock published by the Texas agricultural extension service. However, previously collected data (Ganguli, 1998; USEPA, 1998; Appendices K-L) shows that unfiltered nickel concentrations do exceed the 1000 mg/L Texas water quality goal downstream from New Idria.

It is not clear whether the numeric goals used to evaluate attainment of AGR consider incorporation of mercury into cow's flesh, and what the resultant risk to consumers might be. To resolve this question, it is essential to include potentially affected stakeholders in the discussion, including cattle producers, cattle buyers and processors, and public health officials. Acknowledging the Regional Board staff finding that mercury concentrations are below Texas numeric water quality goals for livestock watering, risk assessment and risk communication is clearly needed. We are neither asserting nor denying that a risk exists, but rather stating that risk must be accurately assessed and effectively explained to those potentially affected.

3.5 Water non-contact recreation (REC-2)

The simple pleasure of living, playing and working beside a creek without being forced to view noxious pollution (Figure 7) is not a trivial issue. In addition to the previously discussed threats to water supply, agricultural, habitat, and groundwater beneficial uses, impairment of REC-2 is a potentially significant cause of economic loss. Land with visibly polluted water is less valuable, and difficult to sell or use as equity (Woods, 1994; Okazaki, 1994; Appendix J). Moreover, just as blighted urban landscapes can draw crime and other urban problems, the blight upon San Carlos Creek may also have

contributed to some of the questionable practices that have taken place at the New Idria Mine over the past three decades since mercury mining stopped. These unintended consequences are discussed below in section 5 (land ownership history).

In addition to local stakeholders, visitors to the County are also affected by impairment of REC-2. Although San Carlos Creek is in a relatively remote area, mineral collectors, geologists, rock-hounds and other recreational explorers are known to travel along New Idria road, parallel to San Carlos Creek, in their quest for high-grade mineral specimens of benitoite, the official California State Gem, or on their way to off-road recreation in the Bureau of Land Management areas South of New Idria.

Little or no additional monitoring is needed to assess impairment or demonstrate recovery of REC-2. When people no longer look at San Carlos Creek and say “that is extremely ugly, someone should fix that,” REC-2 will be attained. In fact, if the AMD were abated, restoring the beneficial use of REC-2, most of the concerns of local stakeholders would likely be allayed.

3.6 Wildlife Habitat (WILD) and Preservation of Rare and Endangered Species (RARE)

There are two distinct questions with respect to habitat for wildlife and threats to rare and endangered species. First, what are the threats to wildlife as a direct result of the pollution in San Carlos Creek? Second, what are the threats that result from mercury bioaccumulation in downstream ecosystems?

With regards to the first question, one point of concern is habitat for the California Condor, which formerly inhabited eastern San Benito County. The United States Fish and Wildlife Services plans to release captive-bred condors into the wild at Pinnacles National Monument. The release site is within 30 miles of San Carlos Creek, which is a relatively short distance for these soaring foragers. The upper watershed of San Carlos Creek contains attractive habitat for the condor, including many small caves and rocky crevices which could serve as nesting sites (Belli, 2002). Thus, condors could reasonably be expected to use San Carlos Creek for drinking and bathing.

The data available are insufficient to determine whether the pollutants in San Carlos Creek pose a risk to condors exposed through drinking or contact. Therefore an environmental risk assessment should be conducted to determine if direct exposure to San Carlos Creek could impair the recovery of the California Condor.

Species	Listing Status
California Condor (*Gymnogyps californianus*)	Federally Endangered
Giant Garter Snake (*Thamnophis gigas*)	Federally Threatened
San Joaquin Kit Fox (*Vulpes macrotis mutica*)	Federally Endangered
Golden Eagle (*Aquila chrysaetos*)	California Species of Special Concern
Prairie Falcon (*Falco mexicanus*)	California Species of Special Concern
Burrowing Owl (*Speotyto cunicularia*)	California Species of Special Concern
Cooper's Hawk (*Accipiter cooperi*)	California Species of Special Concern
Northern Harrier (*Circus cyaneus*)	California Species of Special Concern
Long Eared Owl (*Asio otus*)	California Species of Special Concern

Table 3: Predatory species native to eastern San Benito and western Fresno Counties that are potentially at risk from mercury exposure through the food chain. Data summarized from Belli (2002).

The second question has more far-reaching implications, and is more complicated. The exposure route to predators such as those listed in Table 3 is through the food chain. As discussed above, San Carlos Creek has no food chain, because aquatic life has been exterminated. Therefore, the place to look for risks to predators would be in downstream aquatic ecosystems, particularly in regions where mercury is likely to be converted its bioaccumulative form, methylmercury. The most obvious downstream place to begin looking would be the pools and wetlands of the Mendota Wildlife Area, because wetlands are known to convert mercury to methylmercury (Delta Tributaries Mercury Council, 2002).

Water and sediment transport from San Carlos Creek, through Silver Creek, and into Panoche Creek is complex and highly variable. During dry years, Panoche Creek drains into an alluvial fan with poorly defined channels. During moderate and heavy rainfall years, water can reach the Mendota Pool, the Mendota Wildlife Area, and the San Joaquin River. Thus, while there is established hydraulic connectivity between San Carlos Creek and sensitive downstream ecosystems (PSC-CRMP, 1998), the timing, mechanisms, amounts and effects of pollutant loads from San Carlos Creek are uncertain. Next steps to protect the beneficial uses of WILD and RARE in downstream water bodies are a watershed loads assessment for mercury and other pollutants originating from San Carlos Creek and an ecological risk assessment for the Mendota Wildlife Area.

One useful way to approach the loads assessment would be to evaluate how much sediment is discharged from sub-watersheds in the Panoche / Silver Creek watershed, and determine the average or median mercury concentration in those sediments. This approach helps mercury load management strategies focus on discharges of highly

polluted sediments, rather than large volumes of sediment with moderate to low mercury concentrations (Abu-Saba and Tang, 2000).

The Panoche-Silver Creek Coordinated Resource Management Planning Group (PSC-CRMP) has been established with the primary purpose of addressing flooding and selenium contamination along Panoche Creek to improve the riparian condition of the watershed. Through a 205–j grant and a Packard foundation grant the PSC-CRMP has produced a watershed assessment report (PSC-CRMP, 1998) and an economic analysis of best management practices to reduce siltation and flooding (PSC-CRMP, 2001). These efforts may not be sufficient for mercury load management and contain no mercury risk assessment, because those issues are beyond the scope of the projects. However, the reports produced by the PSC-CRMP and its current study of the Silver Creek alluvial fan are essential starting points to develop scopes for subsequent projects. As a stakeholder-based group with a recent history of successful watershed assessment projects, the PSC-CRMP is probably the most appropriate forum for discussing downstream beneficial uses.

3.7 Fishing (REC-1)

In its preliminary assessment, USEPA noted that people fish the Mendota Pools for food (USEPA, 1998). The Tulare Lake Basin Plan lists fishing under the beneficial use of Water Contact Recreation (REC-1). As with ecological risk assessment for wildlife, the monitoring, risk assessment, and risk communication for subsistence and sport fishing are best coordinated through the PSC-CRMP program.

In the interim, because of the Clean Water Act requirement to consider downstream beneficial uses [40 CFR 131.1(b)], the current CTR human-health water quality objective of 0.051 mg/L (unfiltered) applies to San Carlos Creek. This objective is consistently violated because of ongoing discharge of mercury-polluted sediments into San Carlos Creek from above-ground waste rock piles located at New Idria (Table 1; Figure 4; USEPA, 1998; Ganguli et al, 2000; CVRWQCB 2003). It is important to carefully assess and clearly describe the downstream effects of mercury discharged into San Carlos Creek. However, there is no question that those mercury discharges violate extant State water quality standards.

4. Causes of impairment and Primary Responsible Party

4.1 Compliance History of the New Idria Mining and Chemical Company

Mercury was mined at New Idria from 1854 – 1972. It was one of the largest producers of mercury in North America, second only to the New Almaden Mines of Santa Clara County in overall production. Because most of the production at New Almaden had fallen off by 1912, mercury produced at New Idria was extremely important as a strategic mineral for the United States as it fought World War One, World War Two, the Korean War, and the Vietnam War (Gilbert, 1984).

In 1970 the Regional Board issued Waste Discharge Requirements (Resolution number 70-205, Appendix A) to the New Idria Mining and Chemical Company (NIMC) stipulating that:

i) The waste discharge shall not cause a pollution of ground or surface waters;

ii) Neither the treatment facility nor the discharge shall cause any nuisance; and

iii) The discharger may be required to furnish technical or monitoring program reports.

It appears that the NIMC failed to comply with the provisions of resolution 70-205, as evidenced by subsequent Regional Board staff reports on investigations conducted in 1975, 1988, and 2003 (Appendix B), and a peer-reviewed scientific article published in 2000 (Appendix C). In 1971, the NIMC began a diversification program by acquiring first the Fort Steuben Metal Products Company, and then the Star Studs Company (Appendix D). These acquisitions used wealth amassed from mining mercury in California to build and enhance a business primarily engaged in lumber and metal manufacturing. In 1974, NIMC had revenues of $20,000,000, assets of $17,000,000, and a net worth of $9,000,000 (Appendix D). By 1976, NIMC had sold its New Idria properties to EMC Energies of Casper Wyoming for $300,0000, and reorganized under the name New Idria Incorporated. Based on readily available information, including newspaper articles and business reports (Appendix E), it appears that New Idria Incorporated was acquired by a manufacturing corporation that is today a viable business.

If this is the case, then considerable economic resources produced through mercury mining in San Benito County, California were used to help build that business. Had some of those economic resources been used to comply with the Regional Board's orders in 1970, severe degradation of San Carlos Creek would have been prevented, and today it would likely not be on California's list of impaired water bodies (the 303-d list). Pursuant to Section 13351 of the Porter-Cologne Water Quality Control Act, it is reasonable to ask whether the economic savings that were derived by NIMC though a

failure to control discharges resulting from mercury mining at New Idria should be applied to control those discharges today.

4.2 Actions causing the discharges

At least three specific actions by the NIMC are suspected to have caused the current discharge of AMD and mercury mining waste into San Carlos Creek:

i) Extensive underground tunnels and mine workings were constructed to access cinnabar (mercury ore) deposits (Figure 9). Those subterranean chambers are now filled with water, which reacts with sulfide ores to produce sulfuric acid.

ii) Construction of a small reservoir above the mine workings. Because of a fault line that runs underneath the reservoir, and because flow into the reservoir exceeds flow out of the reservoir (CVRWQCB, 2003; Ganguli et al. 2000), it is suspected that the reservoir may be filling the subterranean chambers by seepage. This reservoir was permitted under a pre-1914 appropriative water right issued to the New Idria Mining Company. The reservoir was used to supply the mining town of New Idria with water for domestic use (MUN) and ore processing (IND).

iii) Disposal of mining and ore processing waste on the surface without adequate erosion control or sediment traps (Figure 4). This appears to be the principle source of mercury loadings to San Carlos Creek (Ganguli et al., 2000).

5. Land ownership history

A title search (Appendix G) for the parcels containing the New Idria Mercury Mine, the waste rock piles, and the 10-level adit resulted in the land ownership timeline shown in Table 4.

Owner	Transaction Date	Purchase Amount	Acquired From
EMC Energies, Inc.	April 23, 1976	$300,000	New Idria Mining and Chemical Company
The Hawk Company	November 11, 1977	N/A	Partnership with EMC Energies
Charles R. Morse	January 8, 1982	$855,000	EMC Energies, Inc.
Idria Land and Development Company, Inc.	September 10, 1982	$250,000	Unclear
EMC Energies, Inc. and the Hawks Company	December 8, 1983	N/A	Foreclosure
Donald G. Mountz Edward J. Lazzarini Joseph Kraut Thomas Burklay (aka the New Idria Association)	May 8, 1986	$400,000	EMC Energies Inc. and the Hawks Company
Futures Foundation, Inc.	April 3, 1991	$400,000	The New Idria Association

Table 4: Preliminary findings of a title search for parcels containing the New Idria Mercury Mine.

With the exception of Charles R. Morse, the previous and current property owners have been located by CVRWQCB staff. An internet search showed that a Charles R. Morse was sentenced to 25 years in prison by the U.S. District Court for an armed robbery carried out in Kentucky in 1987 (Appendix G), but it is unknown at present whether this is the same Charles R. Morse who briefly claimed title to the land in 1982. The circumstances surrounding the 1982-1983 transactions are dubious because of the inflated 1982 purchase price and subsequent foreclosure.

CVRWQCB staff have made several attempts to compel current and previous landowners to abate the discharges (CVRWQCB, 2003), but have been confounded by the landowner's lack of financial resources and questions about who is actually responsible for discharges of AMD and overburden material. In 1989 the consulting firm

Dames and Moore filed a Report of Waste Discharge on behalf of New Idria Associates, and stated that it was preparing a work plan and schedule to develop a remedial action plan for mine drainage from the No. 10 portal (Appendix H). That plan has never been implemented.

In 2001, the County cited the current property owner for various code violations, and in the process reported to the Department of Toxics Substances Control that it appeared that hazardous wastes (paints, solvents, lead acid batteries, transformers) were being stored on the property illegally. Following charges filed by DTSC, in 2002 the property owner was ordered by a Superior Court Judge to clean up the property (Appendix J). That matter is in the process of being resolved, and should be distinguished from the discharges related to mercury mining. However, the incident, as well as previous transactions of a dubious nature, illustrate the unintended consequences of allowing blight to persist in rural landscapes.

It is important to keep the names of various corporations and associations distinct. From 1854 – 1972, mercury was mined by the New Idria Mining Company, the New Idria Quicksilver Mining Company (a name taken by two different incarnations), New Idria Mines Incorporated, New Idria Quicksilver Mines Incorporated, and most recently (after 1951), the New Idria Mining and Chemical Company (Gilbert, 1984). After ceasing mining operations in 1972, during the process of converting its business operations to lumber and metal manufacturing, the New Idria Mining and Chemical Company reformed as New Idria, Incorporated (Appendix D). Subsequent users of the name New Idria, such as the New Idria Land and Development Company, Incorporated, and the New Idria Association, appear to be connected only by holding title to the land for a period of time.

6. Desired outcomes

Through this proposal the County seeks relief from pollutant discharges into San Carlos Creek. The desired outcome is that the Regional Board, pursuant section 13225(a) of the Porter-Cologne Water Quality Control Act, follow the process shown in Figure 1 to implement the State's program of water quality standards in San Carlos Creek. It appears that all efforts to compel current and previous landowners to clean up and abate pollution have been stymied (Path "A-1"). Therefore, a reasonable next step is to determine whether the party originally responsible for the discharges can be located and compelled to control them (Path "A-2"). If this is unsuccessful, then the County would ask what public funding mechanisms are available to control the discharges (Path "A-3"). If public funds cannot or will not be used to control the discharges, then it appears the only remaining alternative would be to admit that the beneficial uses listed in 3.2 – 3.7 will never be attained, and update the Tulare Lake Basin Plan accordingly through a Use Attainability Analysis (Path B). While this latter path is not a desireable outcome, it is important to recognize that it is the likely consequence of the "no-action" alternative.

If the Regional Board agrees that Figure 1 is the appropriate process, then the County suggests that the projects listed in Table 5 be carried out to implement the process. These projects flow from the next steps discussed under each beneficial use (Sections 3.2 – 3.7). The County believes that the first three projects are of the highest priority, and is prepared to seek funding for those projects effective immediately. In the interim, while the Regional Board determines whether a responsible party can be identified and held accountable, the County requests that the Regional Board support the County in seeking funds from the State Cleanup and Abatement Account, or other funding sources, as deemed appropriate.

Project	Suggested Leads	Possible Funding Mechanisms
Risk assessment and communication for livestock watering	San Benito County Or CAL-EPA	Cleanup and Abatement Account
Groundwater quality assessment	San Benito County Or San Benito County Water District	Cleanup and Abatement Account
Feasibility assessment for remediation alternatives	San Benito County Or San Benito County Water District	Cleanup and Abatement Account
Impairment Assessment for San Carlos Creek	San Benito County (This report)	Cleanup and Abatement Account
Remediation of the New Idria Mine	Responsible Party Or USEPA	Enforcement Superfund, USACE WRDA Funds, special congressional authorization
Eco-risk assessment for Mendota Wildlife Area	Panoche-Silver Creek CRMP	CALFED, Prop-13, Prop-50 319-h grant program Cleanup and Abatement Account
Risk assessment and communication for Mendota Pools	Panoche-Silver Creek CRMP	CALFED, Prop-13, Prop-50 319-h grant program
Mercury loads assessment for Panoche Creek	Panoche-Silver Creek CRMP	CALFED, Prop-13, Prop-50 319-h grant program Cleanup and Abatement Account
Post-remediation monitoring of San Carlos Creek	Designated site management authority (e.g., BLM, special district, etc.)	319-h grant program Cleanup and Abatement Account CALFED, Prop-13, Prop-50

Table 5: Suggested projects necessary to resolve uncertainties and restore impaired water quality resulting from discharges from the New Idria mercury mine. Projects are listed in approximate order of priority and expected timing. Shaded areas indicate projects that the County requests immediate support in developing and funding.

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Figures

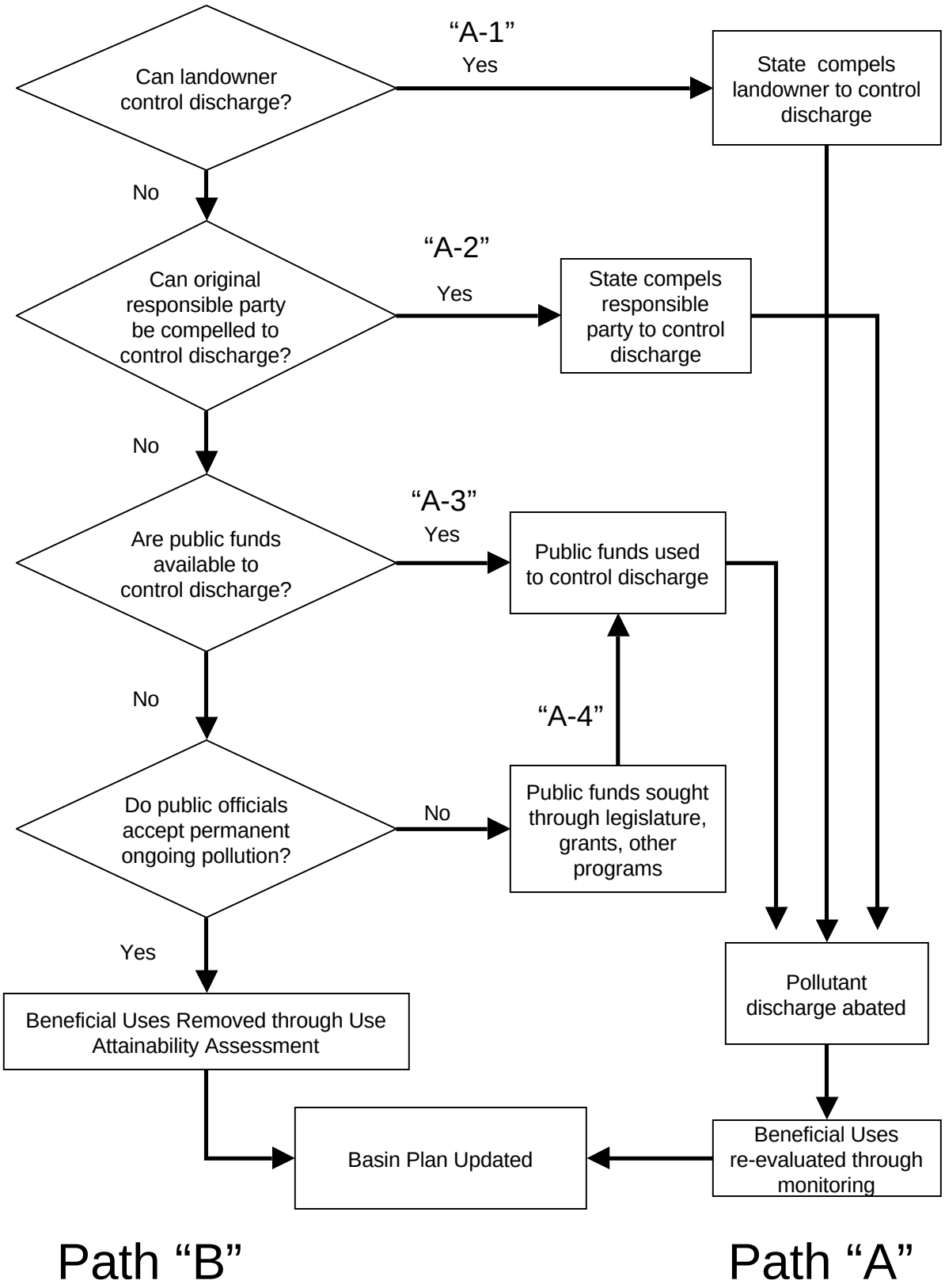

Figure 1: Process for implementing water quality standards in San Carlos Creek

Courtesy of Priya Ganguli

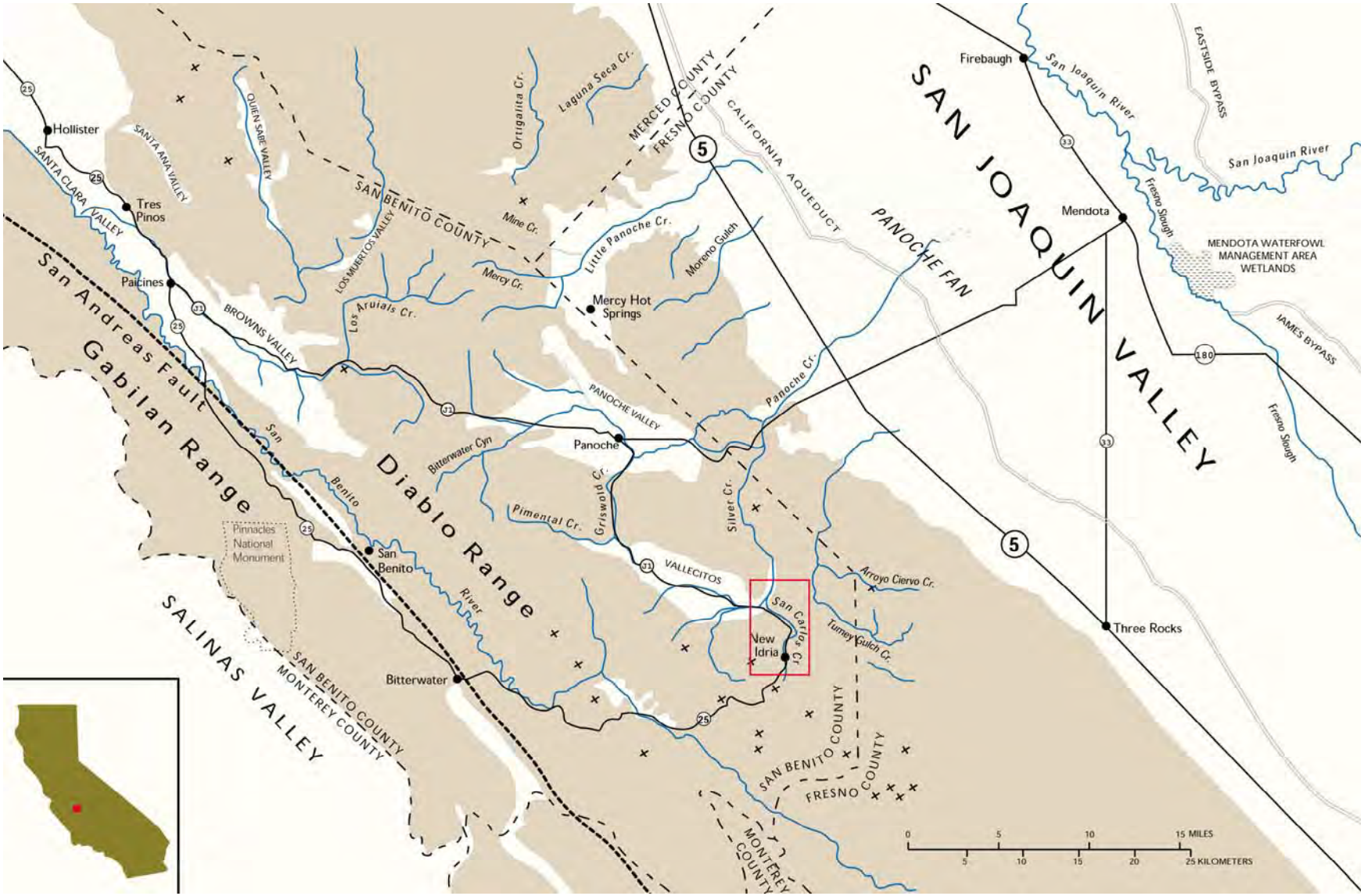

Figure 2 : Location of the New Idria mercury mine and San Carlos Creek with respect to Hollister, CA, the Panoche-Silver Creek Watershed, the Mendota Wetlands, and the San Joaquin River

Courtesy CVRWQCB

Figure 3: Discharge of acid mine drainage from the 10-level adit

Courtesy Priya Ganguli

Figure 4: Piles of waste rock eroding into a non-functioning settling pond that discharges into San Carlos Creek.

Courtesy CVRWQCB

Figure 5: Composite Photo of Reservoir above New Idria.

Courtesy Priya Ganguli

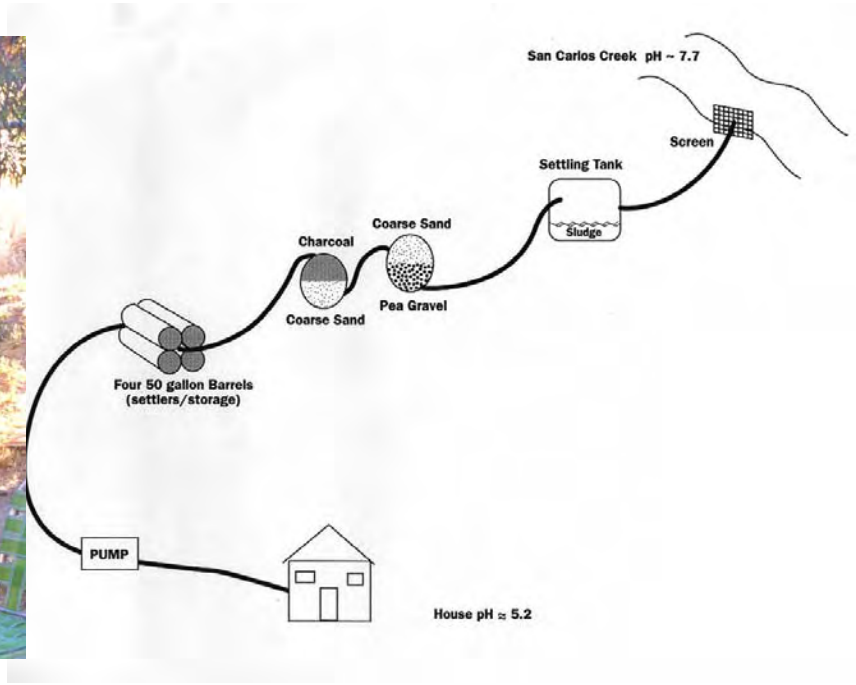

Figure 6: Household water treatment system along San Carlos Creek downstream of New Idria.

Courtesy Priya Ganguli

Figure 7: Visibly polluted water impairs water non-contact recreation.

Courtesy Priya Ganguli

Figure 8: Cattle drinking water from San Carlos Creek downstream of New Idria.

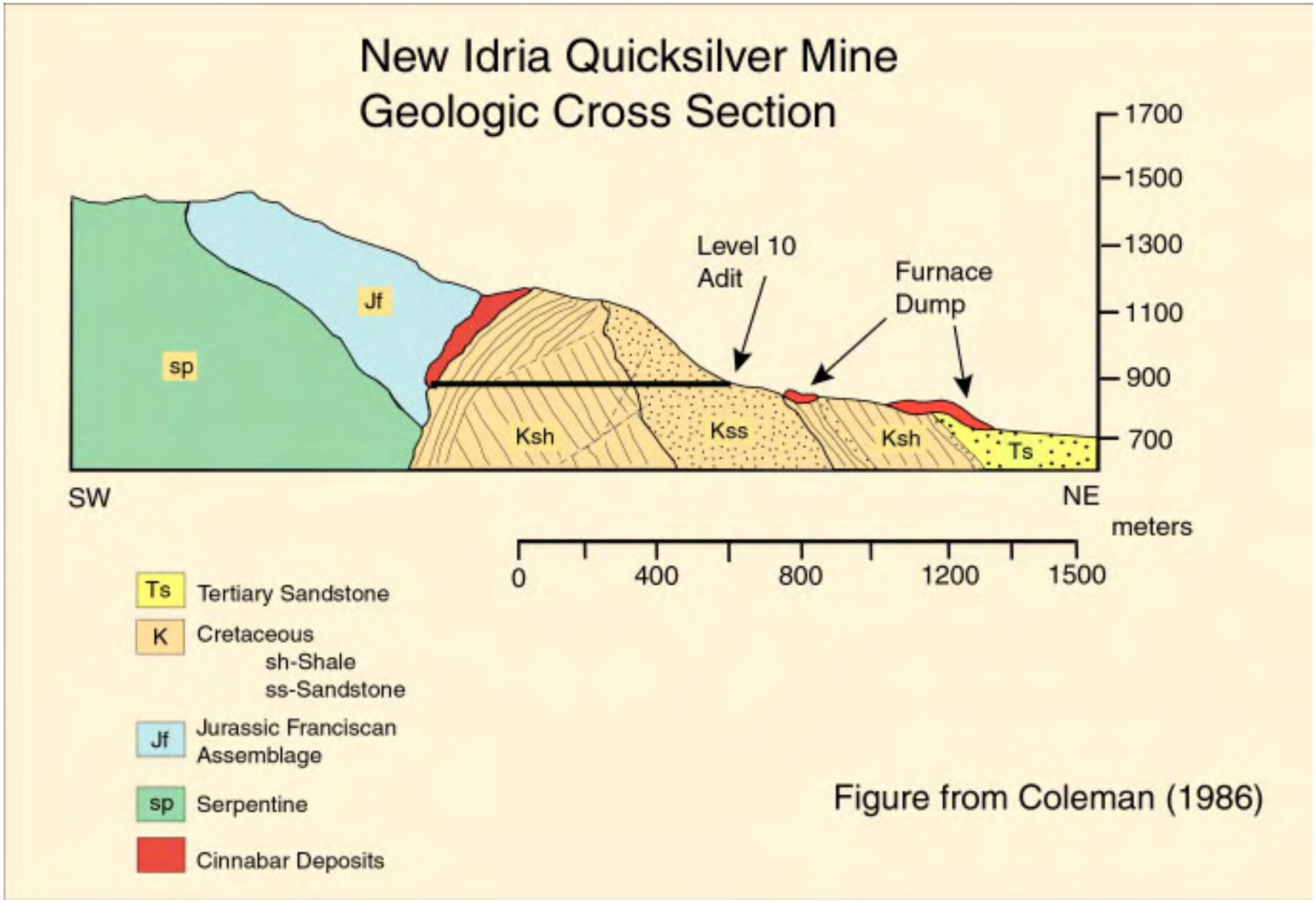

Figure 9: Geologic cross section of New Idria.