Paul D. Horton, P.G., C.HG.

Principal Hydrogeologist

Summary

As a founder and Principal of SGI, Mr. Horton has decision-making authority for company & client business and is able to marshal the full resources of SGI in support of projects he manages across the United States. He maintains an extremely active role with his industrial clients and is often asked to be at their disposal during crucial environmental planning and negotiating events.

Working in the industry, Mr. Horton has over 23 years of experience in both the technical and management aspects of large scale environmental investigation and remediation projects, with a focus on large industrial projects. Mr. Horton has built a strong reputation in the industry and with the regulatory agencies for his bold, innovative and risk taking approach to large, complex projects. Mr. Horton has stamped this culture of boldness and innovation on the corporate culture of SGI. He honed his technical skills early on with large engineering firms, working on complex sites with a wide variety of subsurface challenges, including large petroleum and chemical refineries, utility facilities, large coastal petroleum production fields, copper and mercury mines, quarry sites, and a large number of chlorinated solvents sites at locations throughout the United States. His contaminant expertise includes various CVOCs, TPH, PAHs, PCBs, pesticides, various metals including copper and mercury, perchlorate, rocket propellants and a variety of other COCs.

As a result of his wide ranging experience in supporting and managing projects across the United States, Mr. Horton has developed expertise in effectively managing the regulatory engagement and compliance process with various local, state and federal agencies. Agency experience of note includes EPA Region 9, California EPA-DTSC, California Water Boards, Oregon DEQ, Federal BLM, Oklahoma DEQ, Kansas DEP, North Carolina DENR, New Jersey DEP, Rhode Island DEM, Massachusetts DEP and EPA Region 2.

As an expert Hydrogeologist, Mr. Horton has experience in the general evaluation of site-specific hydrogeologic conditions, the design, implementation, and analysis of aquifer tests, application of numerical and analytical groundwater flow and contaminant transport models, and the design of groundwater remedial programs utilizing the full range of technology options available. Recently he has worked as a specialist in providing evaluation of complex hydrogeologic systems and the effectiveness and efficiency of remedial action programs for system enhancement and for expert witness in support of cost allocations. This work has included evaluations of groundwater systems within alluvial deposits of various origins including fractured hard rock terrain, karst terrain and groundwater systems in pyroclastic volcanic deposits.

Due to his expertise in environmental remediation and hydrogeologic evaluations, Mr. Horton has been retained as an expert witness for a total of eighteen cases of which the majority have settled prior to trial. As a result of these expert cases, he has been deposed six times and testified in court on one occasion. In addition to these technical expert services, Mr. Horton has been retained as an expert to support water rights permitting processes and environmental remediation programs that have involved testimony before regulatory boards and in front of community action groups

A discussion of selected project experience is presented below.

Selected Project Experience

- Mercury Mine Characterization and Closure, Oregon. Managed and conducted complete characterization and development and implementation of closure plans for an abandoned Mercury Mine in the central Oregon desert from 2004-2009. Work included complete sampling and characterization of mercury and methyl-mercury impacts in the adjacent Horse Heaven and Cherry Creeks. This work included a human health and eco-risk analysis to address concerns over methyl-mercury in the adjacent waterways, development of closure plans for portals, development of waste consolidation and cover plans for waste rock and tailings, and development of final grading plans. Work included the implementation of the closure plans in compliance with ODEQ guidelines that involved tailings movement and grading, installation of surface drainage controls and construction of a large impoundment, portal closures, installation of Bat gates on certain portals, and securing the Site. Work included balancing of priorities of multiple RP's, the State of Oregon and the Federal Bureau of Land Management.

Selected Project Experience, Continued

- Copper Mining District, Globe Arizona. Provided expert hydrogeologic analytical services for a large cost allocation and litigation project in the Globe copper mining district from 2002-2008. Work has included the analysis of hydrogeologic and chemical data collected over a 30 year period for an entire watershed that contained three large copper mines. Based on analysis of this data, a comprehensive hydrogeologic conceptual model was developed and demonstrated for the watershed and including the nature and interactions of tailings drainage and impoundment drainage into the classic desert alluvial aquifer system. Based on the developed hydrogeologic conceptual model, a back-forecasted water budget model was built and calibrated for the watershed and the alluvial aquifer system extending back to 1910. The water budget model is based partly on correlation of precipitation to subsurface flow of groundwater in the highly transmissive alluvial groundwater system. The work has included evaluation of existing groundwater flow models, development of 3-D groundwater flow models, development of the water budget back-casting model, and the development of supporting documentation. The results of the work have been used for evaluation of groundwater flow contributions from sub-basins within the watershed as it relates to historic mining activity.

- Higgins Farm Superfund Site, New Jersey. Managing a complex site clean-up at a former illegal landfill site in New Jersey since 2006. Buried waste drums containing chlorinated and non-chlorinated solvents buried on site in glacial till lying above a fractured rock aquifer. The site is an NPL listed Superfund site formerly managed by EPA Region 2 and the Core of Engineers. Work includes management of the priorities of the EPA, the USACE, NJDEP, our client and the property owner not to mention the Public. Work includes optimization of existing VOC remedial systems and the elimination of 80% of operational cost, completion of characterization and development of long-term attenuation strategies for cost reduction.

- Bulk Solvent Storage and Blending Plant, Sunnyvale, California. Principal-in-Charge, technical advisor, and lead modeler for large scale solvent DNAPL characterization and remediation project ongoing since 2000. In addition to effectively characterizing a one mile long solvent plume distributed in multiple aquifer zones in an alluvial floodplain geologic environment, work has included flow modeling, degradation modeling, remedial alternatives analysis, development and implementation of remedial feasibility studies, implementation of remedial plans that have included the use of soil vapor extraction, ozone injection, injection of EOS, and the installation of a 700 foot long and 35 foot deep zero-valent iron permeable reactive barrier to provide plume remediation. Project is nearing successful completion with a monitoring-only status on schedule for implementation in 2010. Project has included significant and continuous regulatory negotiation with the Regional Water Quality Control Board to get this large project on a monitoring-only footing while addressing the concerns of the public and the multiple overlying businesses in the plume footprint.

- Brentwood Oil and Gas Field, California. Project manager for ongoing oil field closure project since 2000. Work has included complete multi-site characterization, development of hydrogeologic conceptual models, development and implementation of remedial action plans at seen well sites and one well-field service yard and product transfer station. The remedial action plans included assisted aerobic degradation in-situ, above ground soil treatment with innovative use of inexpensive mushroom compost, development and negotiation of site closure for 7 of nine facility locations. The final two locations are on-track for closure in 2010.

- Petroleum Refinery, Tulsa, Oklahoma. Managed the remedial optimization of free phase petroleum (LNAPL) containment and recovery systems at a large Oklahoma Refinery located on the banks of the Arkansas River from 2002-2009. The LNAPL plume size is 1.5 miles long by 0.5 miles long abutting the banks of the Arkansas River. Work has included development of rapid techniques for characterizing waste dumps along the river, LNAPL recovery modeling and remediation system design and implementation, development of chemical dilution models describing potential impacts to the Arkansas River for use in negotiations with ODEQ, participation in negotiations with ODEQ regarding the RCRA Part B permit and implementation of compliance actions contained in the Part B Permit. Work also included the development of remedial optimization plans and 5-year execution plans to maximize LNAPL containment and recovery and associated technical support.

- Sand Quarry Hydrogeologic Evaluation, Santa Cruz, California. Conducted a comprehensive hydrogeologic study of an operating sand quarry near Santa Cruz, California. Additional support was provided during this study. Meetings with the local regulators and participation in round table meetings with local water resource management councils, preparation of information for distribution at a public meeting, and the presentation of results to the local water council were all a part of this project.

Selected Project Experience, Continued

- Chemical Manufacturing Facility – Pesticides, California. Managed project from 2000-2008. Provided technical services related to optimization of ongoing groundwater remedial program for cleanup of large DBCP plume beneath a chemical manufacturing plant in deep groundwater used locally for municipal supply. The DBCP plume is 0.75 miles long by 0.5 miles wide and permeates 200 vertical feet of aquifer. Initial services involved a comprehensive review of 18 years of site operations and development of a complete hydrogeologic conceptual model of the Site. The objective of this work was to evaluate the effectiveness of the pump-and-treat system currently in place at the Site. A three-dimensional MODFLOW™ and MT3D™ model was constructed for the Site to simulate the effects of variable pumping scenarios/re-injection of treated water with respect to contaminant migration pathways and assess potential future impacts on municipal supply wells. Based on the results of modeling and pumping well profiling, additional pumping wells were installed, and existing pumping wells were modified in order to decrease total cleanup time and significantly boost contaminant mass removal efficiency.
- Former Petroleum Refinery, Wichita Kansas. Managing the characterization and remediation of a small petroleum refinery since 2007. Refinery is now covered with metal recycling business resulting in recycler generated impacts imprinted on residual refinery contamination of soil and groundwater including residual tarry waste pit areas. Services being provided include development and implementation of characterization program to fully delineate impacts and allow for successful allocation of ultimate remedial costs. Presumptive remedial plans are in development for tarry waste pit areas and negotiations with Kansas DEH are ongoing.
- Manufacturing Facility – Solvent Cleanup, Warwick, Rhode Island. Project manager for remediation project at the largest single manufacturing facility in the state of Rhode Island from 1997-2008. Conducted the complete characterization of a solvent (DNAPL) plume overlain with petroleum impacts and including buried drum sites. Work included the preparation of a remedial design based on innovative technologies combining the use of in-situ oxidation techniques with vertical mixing wells, installation of v-trench cutoff trench system to protect residential neighborhood. Conducted pilot testing of combined technologies and implemented the remedial program, which involves on-site thermal treatment, dual-phase extraction systems, vertical mixing wells and, in-situ oxidation systems.
- Safety-Kleen Solvent Facilities, California. Project manager and Lead Technical Advisor for a group of solvent distribution and collection centers in the 1990's. Work included hydrogeologic analysis, groundwater flow modeling, and groundwater remedial design for seventeen projects throughout California for a large solvent distribution client involving chlorinated solvents (TCE and PCE) and mineral spirits. Work included: meetings with and presentations to DTSC, negotiation of cleanup levels and remedial action plans, injection system installation and testing coupled with flow modeling, design, implementation, and impact analysis of multi-well extraction programs and the general management of complex remedial action implementation.
- Petroleum Refinery Remediation (Former TOSCO), Northern California. Managed and conducted a technical evaluation of site conditions and evaluated the effectiveness and technical merit of existing free-phase hydrocarbon removal systems at a Northern California refinery. Free-phase hydrocarbons in the Site subsurface included lighter refined gasoline-range hydrocarbons and heavier oil products. Work included: the development of modified remedial strategies and cost forecasting.
- RCRA Hydrogeologic Study, Petroleum Refinery, Southern California. Conducted and prepared a RCRA hydrogeologic study as part of a refinery closure plan in Southern California. Work included: the design and implementation of characterization studies, research into available information for the site area, development of a conceptual hydrogeologic model, a determination of water balance and surface runoff mapping.
- Bulk Chemical Facility, Richmond, California. Conducted a RCRA hydrogeologic evaluation and remedial system effectiveness evaluation of a large chemical manufacturing and bulk storage facility in Richmond, California. Technical reviews of all site data, analysis of aquifer testing data, analytical flow modeling, and generation of a Hydrogeological Assessment Report (HAR) were a part of this evaluation.
- Hydrogeologic Forensics in Volcanic Rock, Northern California. Prepared a complete hydrogeologic investigation for a water supply project in fractured volcanic rocks in Mt. Shasta, California. Work included: cored borings and wells, down-hole geophysical testing, surface geophysical testing, isotope tracer studies, fluoroscein dye tracer studies, and pumping tests. Based on the work conducted, a complete conceptual hydrogeological model was developed and spring source production wells installed and permitted.

Selected Project Experience, Continued

- Multiple UST Remedial Sites, California. Conducted effectiveness evaluations of multiple petroleum UST sites that have been operating groundwater extraction programs in Northern California. Work involved evaluation of hydrogeologic conditions, groundwater flow modeling, geo-statistical data analysis, and evaluation of groundwater removal efficiencies.

Selected Expert Support Project Summaries are Available Upon Request

Education

M.S., Hydrogeology, Western Michigan University, 1986.
B.S., Geology, Olivet Nazarene College, 1984.

Registrations/Certifications

Registered Geologist, California (No. 5435).
California Certified Hydrogeologist (No. 581).
Registered Geologist, Oregon (No. G1522).
40-Hour OSHA Health & Safety Certification (29 CFR 1910.120.
8-Hour OSHA Supervisor's Certification.

EXHIBIT B

DIVISIBILITY POSITION PAPER

Mt. Diablo Mercury Mine
Sunoco Inc. as Related to Cordero Mining Company

01-SUN-050

Prepared For:

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1.0 INTRODUCTION

This report is responsive to the California Regional Water Quality Control Board Central Valley Region (CRWQCB) Revised Order to Sunoco, Inc. to Submit Technical Reports in accordance with Section 13267 of the California Water Code, Mount Diablo Mercury Mine, Contra Costa County (Revised Order), dated 30 June, 2009. In relevant part, the Revised Order requires that:

> "2. – By 1 August 2009, Sunoco will submit a report that supports its "divisibility" contention including figures showing the area leased by Cordero, extent of operations, and proposed area of study under the Order. This shall include the total volume of rock removed from the underground working and an estimate of the total volume of broken rock discharged (use a realistic swell factor to calculate the volume of broken rock)."

Research conducted into the history of mining operations at the Mt. Diablo Mercury Mine (the Mine) provides a clear record of the limited involvement of the Cordero Mining Company (Cordero). This record allows a determination of how the work conducted by Cordero relates to the current and past condition of the Mine, and the historic and continuing release of contaminants into lower Dunn Creek and, ultimately, the Marsh Creek watershed. The record indicates that work conducted and materials generated during Cordero's operations were not and are not related to the past and continuing release of mercury laden waters into the existing impoundments at the base of the Mine, moving then into lower Dunn Creek and ultimately Marsh Creek. The Cordero work areas both above and below ground appear to be demonstrably separate and "divisible" from the existing piles of waste rock, tailings, impoundments, and springs that currently combine to create the condition of continuing impacts to the Marsh Creek watershed. The following sections of this report document the history and technical data that support this conclusion, followed by a legal analysis regarding divisibility.

2.0 THE CORDERO OPERATIONAL PERIOD

Cordero actively operated at the Mine from January 1955 into December 1955, a total of 12 months. This operational period is documented in multiple sources including lease documents, United States Defense Minerals Exploration Administration (DMEA) documents, as well as a complete history of the Mt. Diablo Mine written by Clyde P. Ross in the California Journal of Mine and Geology (Ross, 1958). As documented by Ross (1958) and supplemented with additional references, the context of the Cordero operation within the total history of activities at the Mine is summarized below:

The first shaft on what became the Mt. Diablo Mine site was sunk by a Mr. Welch in about 1863. Mr. Welch encountered ore at 37 feet below ground where "both cinnabar and native mercury could be obtained by panning the soil removed". After a short period of production between 1875 and 1877, the mine was relatively idle until 1930 when Mr. Vic Blomberg organized the Mt. Diablo Quicksilver Mining Company (Mt. Diablo Quicksilver), which operated the mine between 1930 until 1936 producing an estimated 739 flasks of mercury. Mt. Diablo Quicksilver then leased the property to the Bradley Mining Company (Bradley) from 1936 to 1951, during which time Bradley produced over 10,000 flasks of mercury. At the end of Bradley's operations, the underground mine workings consisted of four levels in a steeply dipping shear zone. The Bradley workings were accessed by a main shaft and a drain tunnel on the 165 foot level (Pampeyan, 1963).

Mt. Diablo Quicksilver next leased the mine to Ronnie B. Smith and partners (Smith et. al.) in 1951. Using surface (open pit) mining methods, Smith et. al. produced an estimated 125 flasks of mercury in a rotary furnace. In 1953 the United States Defense Minerals Exploration Agency (DMEA) granted Smith et.al. a loan to explore the deeper parts of the shear zone. With DMEA's grant money, and under the DMEA's supervision, Smith et. al. constructed a 300-foot-deep shaft (historically referred to as the DMEA Shaft) during the period August 15, 1953 to January 16, 1954. After completing the shaft, Smith turned southeast with a 77-foot-long crosscut in dry shale, in the direction of the shear zone mined by the Bradley Mining Company. At the surface, Smith constructed dump tracks north and across the road (away from the pre-existing Bradley waste at the southeast portion of the site) to an "unlimited location" (Schuette, 1954a), presumably on the north facing slope in the Dunn Creek watershed where a large waste dump is mapped by Pampeyan (1963). Smith et. al. assigned their lease and DMEA contract to J. L. Jonas and J. E. Johnson in January 1954. Jonas and Johnson extended the drift to 120 feet but stopped after encountering water and gas. The DMEA Shaft and workings flooded on February 18, 1954 to the level of the old drain tunnel on the 165 Level and, subsequently, Jonas and Johnson abandoned the project.

Cordero acquired a lease for the Mine site from Mt. Diablo Quicksilver dated November 1, 1954 and began working at the Mine in January 1955 to recondition the DMEA Shaft in order to access the 360 Level (Cordero and DMEA were unable to negotiate a contract, but records reveal that

Cordero ultimately completed the scope of the project proposed by the DMEA). Cordero replaced failed lagging, and mucked out and dewatered the DMEA Shaft, bypassing the Jonas and Johnson tunnel, and drove a series of crosscut and drift tunnels a total of 790 feet from the DMEA Shaft to the shear zone. Intense rain storms during December 1955 increased the normal flow of mine water beyond pumping capacity and resulted in re-flooding of the mine workings (Pampeyan and Sheahan, 1957). At this time, Cordero suspended operations. As a result of the re-flooding of the Mine, the total active mining operations by Cordero at the Mine are documented to be for just 12 months.

The Mine remained idle until March 1956, when the Cordero lease was transferred to Nevada Scheelite, Inc., which began dewatering with a 500 (gpm) pump. Nevada Scheelite apparently operated an unidentified portion of the Mine site from 1956-58. Downstream ranchers objected to the discharge of acid mine waters to the creek and the operation was suspended. The lease was relinquished after developing only a small tonnage of ore from the open pit. In June 1958, a CVRWQCB inspection report states the mine was leased to John E. Johnson and he was operating it, but he apparently died later that year and the Mine again ceased operation. Subsequent operations on an unidentified portion of the Mine site were conducted by Welty and Randall Mining Co. from approximately 1965-69. They apparently re-worked mine tailings at the Mine site, under a lease from Victoria Resources Company, which purchased the Mine from Mt. Diablo Quicksilver in May 1962.. On or about December 9, 1969, Guadalupe Mining Co. (Guadalupe) purchased the Mine from Victoria Resources. It is unclear whether any operations were conducted by Guadalupe. In June 1974, Jack and Carolyn Wessman and the Wessman Family Trust purchased the Mine site from Guadalupe. In 1977, the Wessmans sold the portion of the Mine site containing the settlement pond to Ellen and Frank Meyer, but subsequently repurchased it in 1989.

3.0 CORDERO MINING ACTIVITY

Cordero mining activity consisted of repairing lagging, and mucking out and de-watering of the existing DMEA Shaft beginning in January 1955, followed by driving a new crosscut and drifts from the shaft on the 360 foot level. Additionally, the existing furnace plant was repaired, and a trestle was constructed from the shaft to the ore bin (Sheahan, 1956). Cordero's workings totaled 790 feet and extended south from the DMEA Shaft and ultimately connected with the Main Winze of the Bradley workings (Pampeyan and Sheahan, 1957).

The Cordero tunnel system was mapped by investigators for the DMEA as documented in the Report of Examination by Field Team Region II, Final Report, and dated January 30, 1957 (Pampeyan and Sheahan, 1957). Figure 3-1 depicts the Cordero mine tunnels in plan view and their relationship to the DMEA Shaft and the originally flooded DMEA crosscut that was abandoned by Jonas and Johnson. Figure 3-2 shows the same plan view of the Cordero tunnel system and includes the Plan view of the entire pre-Cordero tunnel system located to the south. As noted above, the workings on the 360 Lever were connected to the Main Winze of the original workings at its northern terminus as shown on Figure 3-2. A cross section produced by the DMEA demonstrates the Pre-Cordero tunnel system as presented on Figure 3-3. The Cordero tunnels were advanced at the 360 Level which is below all of the workings depicted on Figure 3-3 and were connected to the bottom of the Pre-Cordero Main Winze via a 15 foot raise (Sheahan, 1956).

The plan view outlines of the Pre-Cordero and the Cordero workings are transposed on a current aerial photograph for perspective with the current condition of the Mine (Figure 3-4).

4.0 CORDERO LEASE AND WORK AREAS

The Cordero lease with Mt. Diablo Quicksilver (Cordero Mining Company, November 1, 1954) indicates the specific area for Cordero operational activities (Attached as Appendix A). The Cordero Mining lease covers an area of approximately 60 acres and its location as described in the lease document is excerpted as follows:

DESCRIPTION:

The northeast quarter of the southeast quarter of Section 29 and the south half of the southwest quarter of the northeast quarter of Section 29, Township 1 North, Range 1 East, Mount Diablo Base and Meridian, containing 60 acres more or less.

EXCEPTING THEREFROM: "That certain syphon pipe leading therefrom to a water trough on the northeast quarter of the southeast quarter of said Section Twenty-nine (29), which said water spring, trough, and pipe are excepted from this deed, "as provided for in the deed from Edward A. Howard and Daisy B. Howard, his wife, to Mount Diablo Quicksilver Company, Ltd., a corporation, dated 'December 29, 1933, and recorded Feb. 1, 1934 (File .No, 1060); And

The northwest quarter (N.W.1/4) of the southeast quarter (S.E.1/4) of Section 29, in Township 1 North of, Range 1 East, Mount Diablo Base and Meridian. Said property shall not include the following described property, to wit: that land beginning at the northwest corner of the northwest quarter of the southeast quarter of Section 29, Township 1 North, Range 1 East, Mount Diablo Base and Meridian; thence running southerly along the dividing line between the northeast quarter of the southwest quarter and the northwest quarter of the southeast quarter of said Section 29, a distance of 20 chains to the southwest corner of the northwest quarter of the southeast quarter of Section 29; thence running along the southerly line of the northwest quarter of the southeast quarter of Section 29, a distance of 2.924 chains; thence leaving said line, and running in a northerly direction a distance of 20.23 chains to the point of beginning.

EXCEPTING from the demised premises the house known as the Blomberg house together with the right to use such water as is necessary for domestic purposes. In the event the option to purchase is exercised then this exception will be without effect and title to the Blomberg house shall pass with the other property.

IN ADDITION Lessee shall have the right to any access road over which Lesser has control.

The Cordero lease area within the Mine site is graphically presented on Figure 4-1 which is overlain on the map of mining produced by the California Division of Mines and Geology (CDMG) in 1963. The lease area encompasses the historic mining operations areas, but notably excludes a significant portion of the easterly areas of exposed waste rock, the spring outflow area and the current waste and water impoundments below the Mine adjacent to Morgan Territory Road.

Cordero worked the DMEA Shaft and rehabilitated the furnace and constructed a trestle from the DMEA Shaft to the furnace location (Pampeyan and Sheahan, 1957). This area is highlighted on Figure 4-1, delineating the main surface work area for Cordero. Additional documentation indicates that Cordero conducted water handling and treatment operations extending from the DMEA Shaft to a location 1,350 feet to the west within the lease area (Sheahan, 1956 and WPCB, A.J. Inerfield, April 8, 1955 Activity Report).

The surface and below ground areas depicted on Figure 4-2 showing the DMEA Shaft and furnace area, the waste dump area, and the water disposal area west of the DMEA Shaft are the only documented work areas during Cordero's mining activities and represent the extent of known operations by Cordero.

5.0 CORDERO WASTE MANAGEMENT AND DISPOSITION

As documented in Section 3.0, the Cordero activities generated waste rock, a small amount of ore material, and water as a result of Mine de-watering before and during the mining activity. As discussed in detail below, based on documents produced by the DMEA, Regional Water Quality Control Board (RWQCB), and the California Division of Mines and Geology (CDMG), the ultimate disposition of these wastes can be effectively defined and related to the current condition of the Mine.

5.1 Waste Rock and Ore Generation and Disposition

The tunnels advanced by Cordero on the 360 Level totaled 790 feet as documented by Pampeyan and Sheahan (1957). The total volume of waste rock generated by Cordero during its 12 months of operation is calculated using a 20% bulking factor to be approximately 1,228 cubic yards (Table 1). Near the end of Cordero's operational period, Cordero encountered small zones of ore that resulted in the stockpiling of that ore for sampling and assay. The DMEA field team inspected the Mine and sampled the Cordero ore stockpile. The total ore generated by Cordero was estimated to be between 100 to 200 tons of ore with a grade of 3-10 lbs of mercury per ton (Pampeyan and Sheahan, 1957). This tonnage of ore translates to approximately 50 to 100 cubic yards of ore material.

The calculated total ore and waste rock generated by all documented mining activities prior to and including Cordero is calculated to be approximately 105,848 cubic yards as noted and referenced on Table 1. Based on these material calculations, waste rock and ore generated by the Cordero activities represents less than 1.2% of the estimated total volume of mined material at the entire Mine site.

The final disposition of the Cordero mined ore and waste rock can be ascertained through a review of before and after maps of the mine created by Pampeyan for the CDMG in 1954 and 1963 and on review of aerial photographs before and after the Cordero operational period. Pampeyan (CDMG, 1954) prepared maps of the underground mine workings, waste rock dumps and general mine information. Figure 5-1 illustrates the proposed location of the DMEA Shaft. In 1956/57, following mining by the DMEA and Cordero, Pampeyan updated this map as published in the document "CDMG, Special Report 80, Plate 3" dated 1963. The updated map is shown as Figure 5-2. A comparison of the maps shows the location of the DMEA Shaft and the addition of waste rock adjacent to the shaft that did not exist on the 1954 map as demonstrated on Figure 5-3. The map clearly shows that material generated by DMEA and Smith during the sinking of the DMEA Shaft was located at the Shaft. Site inspections in 2008 confirmed that the pile of waste rock adjacent to the DMEA Shaft on the 1956 map no longer exists (Figures 5-2 and 5-3). Based on interviews with the current property owner, Jack Wessman, it was ascertained that waste rock adjacent to the DMEA Shaft was used by Jack Wessman to re-fill the DMEA Shaft.

Additionally, the Pampeyan 1963 map depicts a large "waste dump" located north of the DMEA Shaft to the North (Figure 5-2). This waste dump is clearly seen in an aerial photograph from 1952 indicating that it appeared active at that time as shown on Figure 5-4. Dump tracks were extended north and across the road to an "unspecified location" (Schuette, 1954a) by Smith, presumably on the north facing slope in the Dunn Creek watershed where the large waste dump is mapped by Pampeyan (1963). Review of an aerial photograph from 1957 (Figure 5-5) also confirms the location of the large waste dump to the north of the DMEA Shaft, although the clarity of this photograph does not allow determination of changes as compared to the 1952 photo. The large waste dump north of the DMEA Shaft was inspected in 2008. The waste dump is on a steep slope and contains approximately 1.3 acres of large blocks of rock 2 to 10 feet in diameter that are now densely covered with vegetation. There was no indication of small amount of finer material that would have been extracted from the shaft. The current condition of the waste dump in 2008 can be seen on the aerial photo presented as Figure 5-6.

In summary, maps and aerial photos combined with anecdotal information from the current property owner indicate that material generated by Cordero in 1955 was hoisted out of the DMEA Shaft and placed adjacent to the Shaft in a waste pile that has subsequently been placed back into the Shaft. Additionally, most or all of any remaining waste rock, if any, generated by Cordero would have been disposed of in the large waste dump located immediately north of the DMEA Shaft via the dump tracks installed by Smith in 1954 expressly for this purpose (Schuette, 1954a).

5.2 De-Watering and Disposition of Waste Water

Records indicate that the first actions taken by Cordero at the Mine were to de-water and re-condition the DMEA Shaft as documented by Sheahan in his interim field report of March 6, 1956 (Sheahan, 1956). Sheahan notes in this report that *"Water from the 300 level was pumped to the surface and conveyed through two transite pipe lines to land northwest of the mine"*. Sheahan (1956) goes on to state in the final paragraph of his report that *"A major contribution to the value of the property was the discovery by Cordero Mining Co. of a means for disposing of acid mine waters to the satisfaction of the State Water Pollution Board"*.

Further elaboration on the disposition of water generated by Cordero was provided in the final DMEA field report (Pampeyan and Sheahan, 1957) as follows: *"A location for seepage ponds for disposing of acid mine water, heretofore a severe problem, was discovered by Cordero and met the requirements of the State Water Pollution Board."* This report also provides information on the typical pumping rate from the DMEA Shaft in the following quote: *"Intense rain storms during December 1955 increased the normal flow of mine water from about one hundred to several hundred gallons per minute and the workings were reflooded."* Thus, from these two field reports it is concluded that pumping from the mine shaft was on the order of 100 gallons per minute and the water was transported west to northwest of the Mine and the DMEA Shaft location, the opposite direction from existing ponds located on the eastern boundary of the Mine site (Figure 5-6).

These references to the pumping and transport of water from the Cordero shaft to a treatment and seepage location to the northwest are independently corroborated by inspection reports from the State Water Pollution Control Board (WPCB). On April 8, 1955, a field inspection was conducted by Arthur J. Inerfield (A.J.I.) and W.D.B. of the WPCB as documented in a short field memorandum. This memorandum provides additional detail on the disposition of water by Cordero as follows: *"Visited Mt. Diablo Mine and was shown the waste disposal installation. The water is pumped out of the shaft is aerated by passing over a few riffles and then goes to a shallow pond. Here some of the ion precipitates and settles. The supernatant is picked up and pumped through a 4" transite line 1350 ft. across the valley to the west onto a high hill where a sump has been excavated (The suction line of the pump is too low in the first pond and picks up too much sediment). On the hill the water passes over aerating riffles and goes to the excavated sump. The water percolates here to some extent."* (Field Inspection, April 8, 1955; emphasis added.)

It is clear from these inspection reports that water generated by Cordero was handled and treated in areas to the west and northwest of the DMEA Shaft. An additional site inspection was documented in an Activity Report by C.T.C. of the WPCB dated July 18, 1955, during the time of Cordero's operations, and provides further elaboration on Cordero's waste water management as follows: *"Drainage from the mine tunnels is pumped to a sump and then pumped to two disposal sites on the side of Mt. Diablo. One site receives 1/3 to 2/3 of the waste which flows into holding ponds on a flat area. Disposal is by percolation and evaporation... The percolating drainage waters are appearing in Dunn Creek which has quite good flow at the mine (probably 20-30 gallon per minute) for this time of year. Dunn Creek is usually dry now...Flow in Dunn Creek was clear and odorless. No drainage was entering the pond at the foot of the hill and there was no overflow from the pond to Dunn Creek below the mine. Present waste disposal methods are not causing nuisance downstream from the mine." (WPCB Activity Report, July 18, 1955.)*

The July 18, 1955 WPCB report quoted above further documents a key fact. Namely, the water treated by Cordero ultimately traveled into Dunn Creek, yet bypassed the existing ponds below the Mine site to the East.

The spatial relationship of the disposal program implemented by Cordero, as documented through the inspection reports referenced above, is depicted on Figures 5-2 and 5-6 demonstrating the interpreted disposal process extent and features. The notable conclusions that can be drawn from these first-hand field reports are as follows:

1. Cordero conducted water treatment in compliance with, direction from, and to the satisfaction of the WPCB;
2. The water generated was treated through small holding ponds and sumps located west to northwest of the DMEA Shaft location on the slope of Mt. Diablo;
3. The water treatment consisted of settling of solids, aeration and percolation, and mercury contamination was not a concern of the WPCB;

4. As a result of the water treatment methods, discharge by Cordero into Dunn Creek was clear and odorless and was considered to not be a nuisance;
5. The area for water disposal by Cordero is not connected to the exposed waste rock, tailings, ponds, and springs that historically and currently have negatively impacted the lower stretch of Dunn Creek and the general Marsh Creek Watershed; and
6. At no time during Cordero's leasehold or afterwards do documents indicate that the WPCB or any other regulatory agency request or Order Cordero to remove or abate any alleged nuisance concerning any mercury discharge or mercury contaminated water.

6.0 CURRENT CONDITION OF MINE SITE

The current condition of the Mine is shown on the attached 2004 aerial photograph (Figure 6-1). The aerial photo has been overlain with a mine features map taken from the CDMG 1963 publication to demonstrate the relevant position of pre- and post-Cordero mining features (CDMG 1963). The relevant features of note on Figure 6-1 are labeled and include the following; collapsed mine workings area, furnace and processing area, DMEA Shaft, northern waste dump, eastern tailings piles and waste rock piles, series of three ponds on the eastern part of the Mine adjacent to Morgan Territory Road, the locations of two springs, and the outline of underground workings.

Since the operations of Cordero in 1955, multiple operators and property owners have been involved in actions that have modified the physical features of the general Mine area. Most notably, the current property owner, Jack Wessman, over the period of his ownership since 1974, has conducted significant earth moving work at the Mine involving the importation of a significant quantity of fill material (reported by Jack Wessman to be on the order of 50,000 cubic yards) and the movement and grading of this fill material around the Mine site and area.

Based on discussions with Jack Wessman conducted during site inspections in 2008, this work has specifically included: 1) infilling of the original collapsed Mine workings located to the north of the DMEA Shaft and Cordero work area, 2) filling of the DMEA Shaft and filling and covering of waste rock below the shaft toward the furnace, 3) filling of a small pond located west of the DMEA Shaft, 4) grading of waste rock and tailings piles located to the east of and overlying the Mine workings as part of surface drainage control actions, and 5) installation of drains and drainage pipe for the purpose of redirecting surface rainfall runoff in the upper Mine area around the exposed tailings and waste rock into Dunn Creek directly bypassing flow through the lower collection pond.

The purpose of this earthwork and grading by Jack Wessman was to diminish the ability for surface water runoff to be channeled through the exposed waste rock and tailings such that the total loading of mercury and other contaminants to the Lower Pond, and ultimately Marsh Creek, was reduced. According to Jack Wessman, he conducted this work directly at the behest and generally under the direction and guidance of the CRWQCB, purportedly too reduce mercury and contaminant loading to Marsh Creek and environs.

As a result of the property modifications described above, the current condition of surface drainage across the Mine has been roughly interpreted and plotted on the attached Figure 6-2. This Figure demonstrates surface drainage as it exists related to the Cordero operations. As intended by the current property owner, current surface drainage for the upper Mine areas, including the Cordero operations around the DMEA Shaft area, is captured and routed around the exposed tailings and waste rock and around the Lower Pond emptying directly into Dunn Creek at a location up-gradient of the Lower Pond.

6.1 Mine Condition as It Relates to Sources of Current and Historic Pollution in Marsh Creek

The potential for contamination of Marsh Creek has long been of concern, resulting in considerable sampling of Marsh Creek, Dunn Creek, Horse Creek, pond effluent, etc., over the past 50+ years (WPCB Document Log). Generally, these sampling events have consisted of collecting grab samples under varying conditions (ranging from high runoff periods, to periods of little or no runoff). Sampling has usually been conducted by the RWQCB and its predecessor, the WPCB, as part of annual inspection visits to the mine that have occurred since the early 1950's. Indeed, the WPCB was involved prior to and during the Cordero operations period and issued an order regarding control of discharges to Marsh Creek from mining activities prior to Cordero's lease of part of the Mine site in November 1955. Compliance with this prior order was a stipulation in the Cordero Lease (Appendix A), and as discussed in Section 5.2, Cordero was in compliance with State Board requirements with respect to their water discharge.

Prior to the operational period of Cordero, sources of pollution of lower Dunn Creek and Marsh Creek included the continuous discharge of water produced from de-watering of the mine workings by previous operators and, the surface runoff across mine waste rock and tailings into the Lower Ponds and ultimately into Dunn Creek and the Marsh Creek Watershed.

Since the Cordero operational period, sources of pollution to Marsh Creek have been the movement of surface runoff over and through the eastern side of the Mine, consisting of Bradley's tailings and waste rock combined with the draining of acidic water from a spring located underneath the waste rock. This spring is interpreted to emit from the buried mine portal that was the only lateral tunnel exiting the pre DMEA/Cordero original mine workings (the 165 foot tunnel (Figure 3-3). This surface and spring/mine water drain directly into the Lower Pond. As the Lower Pond fills, it overflows out of its southwest corner and mixes with spring water from a nearby flowing spring on State Park land, moving into Dunn Creek and thence into Marsh Creek and the greater Marsh Creek watershed. These site features/conditions are demonstrated on Figure 6-2.

A three year study of the Marsh Creek Water shed was conducted by Contra Costa County to comprehensively determine the sources of mercury in the Marsh Creek watershed, both natural and anthropogenic. The results of this study are summarized in a March 1996, report titled "Marsh Creek Watershed 1995 Mercury Assessment Project – Final Report" prepared by Darell G. Slotton, Shaun M. Ayers, and John E. Reuter (Slotton et. al, 1996).

As part of this Mercury Assessment Project, sampling was conducted at the Mine area including the Lower Pond, the spring on State Park property, the spring emanating from the waste rock, and other locations upstream in Dunn Creek and downstream along Marsh Creek. Based on the results of the 3-year study and extensive sampling of the entire Marsh Creek watershed, the Slotton report concluded that the Mount Diablo Mercury Mine, and specifically the exposed tailings and waste rock (Bradley's waste) above the existing pond combined with acidic discharge from the

spring emanating from the waste rock above the pond, was the dominant source of mercury in the watershed. Sampling of Dunn Creek above the Lower Ponds indicated minimal sourcing of mercury was occurring from the watershed immediately above the Lower Pond. The chemical results of the Slotton et. al. 1996 study in the Mine area are depicted graphically in Figure 6-3 excerpted from the Slotton Report.

As stated by Slotton et. al. (1996) the data indicates that *"the great majority of the mercury load emanating from the tailings is initially mobilized in the dissolved state. This dissolved mercury rapidly partitions onto particles as it moves downstream. The bulk of downstream mercury transport is thus particle-associated."* The Slotton report also states that *"...major mitigation focus should be directed toward source reduction from the tailings piles themselves, with subsequent containment of the remaining mobile mercury fraction being a secondary consideration."*

In summary, the results of years of sampling, numerous site inspections by the WPCB and the RWQCB, and the results of an extensive study of the Marsh Creek watershed, all indicate that the continuing source of mercury impact to lower Dunn Creek and Marsh Creek and its environs emanates from the Lower Pond that is filled via spring discharge and surface runoff that flows over Bradley's eastern tailings and waste rock piles at the Mine. These areas and the origin of these materials are separate in space and time from activities conducted by Cordero during its short period of operation at the Mine. Any residual waste rock and sediment from water treatment activities by Cordero exist, if at all, primarily in the northwestern portion of the Mine area that naturally drains into Dunn Creek at locations above and up-gradient of the identified sourcing area for mercury impacts to Marsh Creek. Sampling of Dunn Creek and "My" Creek above the Lower Pond indicates minimal to no mercury impact.

7.0 SUMMARY OF CORDERO DIVISIBILITY POSITION

Cordero mining activity occurred over 12 months from January to December 1955 and consisted of repairing lagging, and mucking and de-watering of the existing DMEA Shaft, followed by driving a new crosscut and drifts from the shaft at the 360 Level totaling 790 feet of new tunnel. The Cordero cross-cutting and drifting activities generated approximately 1,228 cubic yards of waste rock (less than 1.2% of material generated by others at the Mine) of which 50 to 100 cubic yards was considered low grade ore material. This waste rock and ore was ultimately used to backfull the DMEA Shaft and/or incorporated into the Waste dump located immediately north of the shaft. De-watering the Mine required a pumping rate on the order of 100 gallons per minute. The water was transported west to northwest of the Mine where it was treated via settlement of solids, aeration and percolation to the satisfaction of the WPCB (predecessor to the RWQCB).

Mining activities by Cordero were naturally confined to a small portion of the area Cordero leased from Mt. Diablo Quicksilver which, above-ground, encompasses the historic mining operations areas, but notably excludes the easterly areas of exposed waste rock, the spring outflow area and the current waste and water impoundments below the Mine adjacent to Morgan Territory Road. The results of years of sampling, site inspections by the WPCB and the RWQCB, and the results of an extensive study of the Marsh Creek watershed indicate that the continuing source of impact to lower Dunn Creek and Marsh Creek and its environs emanates from the Lower Pond that is filled via spring discharge and surface runoff that flows over Bradley's eastern tailings and waste rock piles at the Mine. These locations and the origin of these materials are outside the Cordero Lease area and are separate from activities conducted by Cordero during its short period of operation at the DMEA shaft location at the Mine. As a result of property modifications by the current property owner, current surface drainage for the upper Mine areas, including the former Cordero operations area, is captured and routed around these exposed source areas of tailings and waste rock, and around the Lower Pond, emptying directly into Dunn Creek and thus bypassing the current source of mercury to Marsh Creek.

The record shows that work conducted and materials generated during Cordero's mining activity were not and are not related to the past and continuing release of mercury-contaminated waters into the existing impoundments (including the Lower Pond) at the base of the Mine, or into Marsh Creek. The Cordero work areas both above and below ground are demonstrably separate and "divisible" from the existing piles of waste rock, tailings, impoundments, and springs that currently combine to create the condition of continuing impacts to the Marsh Creek watershed. Furthermore, the Slotton Report reveals that sampling data collected during the Marsh Creek watershed study indicate that surface drainage from the areas of Cordero work and waste materials do not contribute any significant mercury and contaminant loading to Dunn or Marsh Creeks.

8.0 PROPOSED AREA OF STUDY

Documents indicate that Cordero's operations were centered on the DMEA shaft and facilities/roads in the immediate area. The proposed area of study is recommended to be centered on the shaft and immediately around the shaft area. The study would be focused on an assessment of materials that may be related to Cordero activities and that may have the potential to produce negative contaminant impacts to Dunn and Marsh Creeks.

9.0 LEGAL BASES FOR DIVISIBILITY[1]

Any order requiring Sunoco to investigate and/or remediate the Mine site should be limited in scope because, as outlined in more detail below: (1) under well-established California law, lessees such as Cordero are not responsible for investigating or remediating continuing nuisances related to discharges by others, and (2) under federal law, the United States Supreme Court has recently held that divisibility is proper where a party such as Cordero can show that a reasonable basis for apportionment exists.

The Revised Order states that:

> "[a]' discharger has a legal obligation to investigate and remediate contamination. As described above, Sunoco, Inc. is subject to this Order because of its ownership interest in the Cordero Mining Company, which operated Mount Diablo Mercury Mine and discharged waste to waters of the state. Therefore, it is a 'person[s] who [have] discharged . . . waste' within the meaning of CWC section 13267.

While a discharger may have a legal obligation to investigate and remediate contamination they caused, no such obligation exists where another caused the contamination. This is particularly true of alleged dischargers who merely leased, but did not own, a site. Moreover, the Revised Order's reference to the "Mount Diablo Mercury Mine" is vague, and appears to suggest, without any evidentiary basis, that Cordero mined the entire underground workings and is somehow responsible for all waste mine rock and tailings in the area of the Mine, as well as for all historical discharges of mercury contaminated water to a settlement pond at the base of the site and into the Marsh Creek watershed generally. In this regard, the Revised Order appears to suggest that Sunoco is required to investigate waste and discharges known to have been caused by others (i.e., Bradley Mining Company). The Revised Order states:

> "[a]cid mine drainage containing elevated levels of mercury and other metals are being discharged to a pond that periodically overflows into Horse and Dunn Creeks" and that "[f]urther site investigation is required to assess the extent of pollution discharged from the mine site and to evaluate the remedial options to mitigate the discharge." (RO at p. 1.)

This Divisibility Report provides the legal and factual basis for limiting the scope of Sunoco's Site investigation and any potential subsequent remediation. The Regional Board has not articulated any legal or factual basis for requiring Sunoco to investigate or remediate areas of the Mine that were historically operated by other responsible parties, such as Bradley.

1. The Regional Board's Purported Theory of Liability – Passive Migration/ Continuing Nuisance

[1] This section 9.0 was prepared by Edgcomb Law Group

i. In the Matter of the Petition of Zoecon Corporation

In discussions with Edgcomb Law Group (outside counsel for Sunoco) regarding Cordero's alleged liability, Patrick Pulupa, Staff Counsel, State Water Resources Control Board Office of Chief Counsel, stated that the Regional Board is basing Cordero's liability on a passive migration theory. According to this theory, Cordero's lease of a portion of the Mine site provided it with legal control sufficient to allow it to remediate continuing nuisances in the areas covered in the lease – including discharges caused by other parties. Under California law, however, while subsequent *owners* may be liable in some instances for passive migration of contaminants from a continuing nuisance created by a predecessor, lessees such as Cordero cannot be held liable for discharges of another. While the Revised Order generally references sections of the California Water Code, neither the Revised Order nor Mr. Pulupa have specifically articulated any legal authority that might support liability of a lessee under a passive migration theory, although it appears to be loosely and erroneously based on the State Water Resource Control Board decision In the Matter of the Petition of Zoecon Corporation, Order No. WQ 86-02 ("Zoecon").

Zoecon applies to site owners and former owners, but not to lessees such as Cordero. Under Zoecon, a current owner may face liability because it has the authority to abate a continuing nuisance resulting from the passive migration of contaminants, even where caused by a predecessor owner. However, nothing in Zoecon supports a finding of liability for former lessees such as Cordero, which neither caused any continuing nuisance resulting from the mining operations of others (i.e., Bradley), nor has any current authority to abate it. In Zoecon, the Regional Board concluded that the petitioner, the *current site owner*, was legally responsible for conducting the required investigation or remedial action. (Zoecon at p. 2.) The State Board based its decision on a passive migration, continuing nuisance theory, stating:

> "Therefore we must conclude that there is an actual movement of waste from soils to ground water and from contaminated to uncontaminated ground water at the site which is sufficient to constitute a "discharge" by the petitioner for purposes of Water Code §13263(a)." (Zoecon at p. 4.)
>
> Water Code §13263(a) provides:
>
> "(a) The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241." (CWC §13263(a).)

Zoecon also states, "...here the waste discharge requirements were imposed on Zoecon not because it had 'deposited' chemicals on to land where they will eventually 'discharge' into state waters, but because it ***owns*** contaminated land which is directly discharging chemicals into water." (Zoecon at p. 5; emphasis added.) Similarly, in Zoecon the Regional Board made the "determination that property ***owner*** is a discharger for purposes of issuing waste discharge requirements when wastes continue to be discharged from a site into waters of the state." (Id.; emphasis added.)

Later, Zoecon states, in explaining why a New Jersey court's conclusion regarding application of the common law nuisance doctrine would probably not be applied by a California court, that, "[t]his is because California Civil Code §3483 provides that every successive ***owner*** of property who neglects to abate a continuing nuisance upon, or in the use of, such property, created by a former owner, is liable therefore in the same matter as the one who first created it." (Zoecon at p. 10; emphasis added). Zoecon acknowledged that "[c]ommon law governs in California only to the extent that it has not been modified by statute." (Id. at p. 10, fn 6.) In this regard, Zoecon recognized that the California legislature specifically excluded lessees from liability in codifying nuisance law, since Civil Code §3483 only applies to "owners," and not lessees. Thus, Zoecon does not apply to lessees such as Cordero, and to the extent the Revised Order attempts to require Sunoco to investigate and remediate waste discharged by others such as Bradley, it is inappropriate and unsupported by the facts and law.

ii. Under California Civil Code §3483 Lessees Such As Cordero Are Not Liable For Nuisances Created Prior To The Leasehold.

California Civil Code §3483 assesses continuing nuisance liability only upon owners and former owners, not lessees. The plain language of §3483 reveals that the legislature explicitly excluded lessees from liability for continuing nuisance:

> "Every successive ***owner*** of property who neglects to abate a continuing nuisance upon, or in the use of, such property, created by a former owner, is liable therefor in the same manner as the one who first created it." (Cal. Civ. Code § 3483; emphasis added.)

Even if the Regional Board were to somehow find that Cordero was a constructive owner of the Site (which it was not), Cordero would still not face liability under California law, because it is well-established that ". . . ***there is no dispute in the authorities that one who was not the creator of a nuisance must have notice or knowledge of it before he can be held [liable].***" (Reinhard v. Lawrence Warehouse Co., 41 Cal.App.2d 741 (1940) (emphasis added), citing Grigsby v. Clear Lake Water Works Co., 40 Cal. 396, 407 (1870); Edwards v. Atchison, T. & S. F. R. Co., 15 F.2d 37, 38 (1926).) Moreover, "[i]t is a prerequisite to impose liability against a person who merely passively continues a nuisance created by another that he should have notice of the fact that he is maintaining a nuisance and be requested to remove or abate it, or at least that he should have knowledge of the existence of the nuisance." (Reinhard, supra, at 746.)

The Revised Order's allegation that "[a]cid mine drainage containing elevated levels of mercury and other metals are being discharged to a pond that periodically overflows into Horse and Dunn Creeks" (RO at p. 1), is insufficient to trigger liability on the part of Cordero since, in addition to it never having been an owner, no evidence is presented proving that Cordero was on notice of the fact that it was maintaining a nuisance and had been requested to remove or abate it, or that it had knowledge of the existence of the nuisance. Indeed, records indicate that during Cordero's leasehold, the SWPCB specifically noted that Cordero was not maintaining any nuisance related to soil or water discharge of any contaminant, and in fact commended Cordero for its beneficial water management practices. If the Regional Board was not aware of the nuisance at the time, there is no reason to believe that Cordero should have had knowledge that a continuing nuisance – created by it or any other lessee or owner of the Site – existed on its leased property at the time.

Simply put, the Regional Board fails to provide any legal or factual basis for the conclusion that Cordero has legal liability as an "owner" and, therefore, a discharger, under a passive migration/continuing nuisance theory. Thus, the Revised Order's attempt to name Cordero as a party responsible for the discharge(s) of others at the Mine site is unsupported by California law.

iii. Under Federal Law, Divisibility Is Proper Because Sunoco Can Show A Reasonable Basis For Apportionment

The United States Supreme Court recently held that divisibility is appropriate where a party can show a reasonable basis for apportionment. (Burlington Northern & Santa Fe Railway Co. et al. v. United States, (2009) 129 S. Ct. 1870.) In Burlington, neither the parties nor the lower courts disputed the principles that govern apportionment in CERCLA cases, and both the District Court and Court of Appeals agreed that the harm created by the contamination of the Arvin site, although singular, was theoretically capable of apportionment. (Id. at 1881.) Thus, the issue before the Court was whether the record provided a "reasonable basis" for the District Court's divisibility conclusion. (Id.) Despite the parties' failure to assist the District Court in linking the evidence supporting apportionment to the proper allocation of liability, the District Court ultimately concluded that this was "a classic 'divisible in terms of degree' case, both as to the ***time period in which defendants' conduct occurred***, and ownership existed, ***and as to the estimated maximum contribution of each party's activities that released hazardous substances that caused Site contamination.***" (Id. at 1882; emphasis added.)

Consequently, the District Court apportioned liability, assigning one set of defendants 9% of the total remediation costs. (Id.) The Supreme Court concluded that the facts contained in the record reasonably supported the apportionment of liability, because the District Court's detailed findings made it abundantly clear that the primary pollution at the facility at issue was contained in an unlined sump and an unlined pond in the southeastern portion of the facility most distant from the defendants' parcel and that the spills of hazardous chemicals that occurred on that parcel contributed to no more than 10% of the total site contamination, some of which did not require remediation. (Id. at 1882-3) Thus, the Supreme Court recognized that ". . . ***if adequate***

information is available, divisibility may be established by 'volumetric, chronological, or other types of evidence,' including appropriate geographic considerations" (Id. at 1883; emphasis added.) Although the evidence adduced by the parties did not allow the court to calculate precisely the amount of hazardous chemicals contributed by the parcel to the total site contamination or the exact percentage of harm caused by each chemical, the evidence did show that fewer spills occurred on the parcel and that of those spills that occurred, not all were carried across the parcel to the sump and pond from which most of the contamination originated. (Id.) Because the District Court's ultimate allocation of liability was supported by the evidence and comported with general apportionment principles, the Supreme Court reversed the Court of Appeals' conclusion that the defendants are subject to joint and several liability for all response costs arising out of the contamination of the facility. (Id.)

It is well-established that "litigants may not invoke state statutes in order to escape the application of CERCLA's provisions in the midst of hazardous waste litigation." (Fireman's Fund Insurance Company v. City of Lodi, 303 F.3d 928, 947 n. 15 (9th Cir. 2002).) Similarly, because "[f]ederal conflict preemption [exists] where 'compliance with both the federal and state regulations is a physical impossibility,' or when the state law stands as an 'obstacle to the accomplishment and execution of the full purposes and objectives of Congress'" (Id. at 943), the Regional Board may not – in an attempt to assess joint and several liability – assert any state law provisions that would be inconsistent with Burlington, and applying its holding to the facts outlined herein related to Cordero's operations at the Mine site, apportionment is appropriate and there is no basis for the Regional Board to find Cordero jointly and severally liable for mercury contamination caused by any other discharger at the Site based solely on a former lease.

Specifically, Cordero can show adequate information to support divisibility "by volumetric, chronological, or other types of evidence, including appropriate geographic considerations." Cordero can make a reasonable showing based on records of its operations produced by the United States Geological Survey ("USGS"), that: (1) Cordero is only responsible for 1% of the total volume of mine related waste at the Site; (2) Cordero's operations did not result in the processing of any mercury ore, which means that it generated no calcine tailings, unlike the extensive tailings generated by Bradley and others; (3) Cordero discharged or otherwise treated its mine water to the satisfaction of the SWPCB (which specifically did not find any nuisance) and disposed of it to the west of the Mt. Diablo Mine Site, which drained into the Dunn Creek watershed – which is unrelated to areas of concern identified in the *Marsh Creek Watershed 1995 Mercury Assessment Project – Final Report* ("Slotton Report"); and (4) Cordero dumped its waste mine rock to the north of the DMEA mine site, away from the Bradley waste rock and tailings (which the Slotton Report identify as the source of mercury contamination) on the eastern side of the site. Thus, based on all relevant facts, Cordero has demonstrated a reasonable basis for apportionment and divisibility, and should not be required under state or federal law to investigate or remediate any continuing nuisance caused by other lessees, owners, or operators of the Mine site.

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