SURFACE WATER AND GROUNDWATER AVAILABILITY ASSESSMENT
MONO CITY AREA

MONO COUNTY, CALIFORNIA

PREPARED ON SEPTEMBER 27, 2006 FOR

MONO COUNTY PLANNING DEPARTMENT
MAMMOTH LAKES, CALIFORNIA

PREPARED BY

TEAM
ENGINEERING & MANAGEMENT, INC.
Bishop • Mammoth Lakes

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Mr. Scott Burns
Mono County Community Development Department
Planning Division
P.O. Box
Mammoth Lakes, CA 93546

September 27, 2006

RE: Surface Water and Groundwater Availability Assessment, Mono City Area, Mono County, California

Dear Mr. Burns:

TEAM Engineering & Management, Inc. (TEAM) is pleased to provide the attached "Surface Water and Groundwater Availability Assessment, Mono City Area, Mono County, California." Information provided in this report includes discussions of existing water resource management and conditions in the Mono City area, potential groundwater and surface water quality issues, and recommendations for future water resource management and associated water resource investigations for the area.

If you require additional information, please call us at your convenience.

Sincerely,
TEAM Engineering & Management, Inc.

Andrew Zdon, PG, CEG, CHG
Senior Hydrogeologist

cc: Mr. Greg Newbry, Mono County
Mr. Rick Kattleman

Andrew Zdon, California Professional Geologist, Certified Engineering Geologist and Certified Hydrogeologist, as an employee of TEAM Engineering & Management, Inc., with expertise in the investigation of water resources and hydrogeology, has reviewed the report entitled, "Surface Water and Groundwater Availability Assessment - Mono City Area, Mono County, California," dated September 27, 2006. His signature and stamp appear below:

Andrew Zdon
Professional Geologist #6006
Certified Hydrogeologist #348
Certified Engineering Geologist #1974
September 27, 2006

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1.0 INTRODUCTION

This report summarizes the results of a surface water and groundwater availability assessment performed by TEAM Engineering & Management, Inc. (TEAM) for the Mono City area, Mono County, California. Surface water and groundwater are both considered in this report because both surface and groundwater are interconnected components of a single resource. Therefore, describing the conditions of both surface water and groundwater is key to understanding the water resources of the Mono City area.

This report is one of a series of watershed assessment reports designed to provide the Mono County Planning Department with key information to evaluate and identify future development issues in the outlying, but rapidly growing, areas of the county. Additionally, this report provides recommendations concerning future studies and water management issues. This report is consistent with published guidelines for groundwater investigation reports (California Board for Geologists and Geophysicists, 1998).

Mono City was identified by county staff as a community to be evaluated as part of this project. This work is being prepared for the Mono County Planning Department under a grant that the County received from the California State Water Resources Control Board (Agreement No. 03-008-556-0).

1.1 PURPOSE AND SCOPE

The purpose of this report is to provide an overview of the water resources (both quantity and quality) of the Mono City area. Additionally, this report addresses potential future water resource issues of concern for the area, and needs for additional data and analysis.

The work described above included the following key tasks:

- Literature Search and Review
- Surface Water Availability Assessment
- Groundwater Availability Assessment
- Report Preparation

The literature search and review included the evaluation of government technical reports (U.S. Geological Survey, Inyo National Forest, California Department of Water Resources), the California Regional Water Quality Control Board – Lahontan Region Basin Plan, precipitation data for regional precipitation stations, streamflow data for Mill Creek and Wilson Creek, an environmental database search, and water rights information.

The surface water availability assessment includes a summarization of surface water conditions including stream flows, an evaluation of existing surface water usage versus availability, a review of surface water quality issues, a review of regulatory issues associated with surface water usage, and qualitative analyses of potential areas for surface water development (if available) and associated potential impacts.

The groundwater availability assessment includes the development of groundwater recharge estimates for Mono City area subwatersheds as represented in Mono County's existing geographic information system (GIS), evaluation of existing groundwater pumping and resulting groundwater availability, a review of groundwater quality issues, and qualitative analyses of potential groundwater development areas and potential impacts due to groundwater development.

1.2 LOCATION AND PHYSIOGRAPHIC SETTING

Mono City is located approximately 3-1/2 miles north of Lee Vining, California, and east of U.S. Highway 395 (Figures 1 and 2). Access to the area is via the north-south U.S. Highway 395, and Highway 167, which intersects Highway 395 in the study area and runs 55 miles east to Hawthorne, Nevada.

The Mono City study area covers approximately 36,000 acres and is bounded on the west by the crest of the Sierra Nevada, on the north by the Bodie Hills, and on the southeast by Mono Lake. Elevations in the Mono City study area range from 12,440 feet above mean sea level (ft msl) at Excelsior Mountain in the rugged, steep Sierra Nevada to the west, to approximately 6,380 ft msl at Mono Lake. The more rounded Bodie Hills to the north rise up to an elevation of 8,662 ft msl in the study area.

The principal streams in the study area are Mill Creek, Wilson Creek and Virginia Creek. Additional streams present are generally ephemeral.

1.3 LAND USE

The principal land uses (not including open space / wild lands) in the Mono City area are residential and agricultural. The Mono City and Conway Ranch residential areas are the most prominent areas of residential development, with water supplied with groundwater, and sewage treated by individual septic systems. Other residences are scattered throughout the area. Agricultural land use is primarily irrigated pasture and grazing. Hydroelectric power is generated by Southern California Edison (SCE) using diversions from Mill Creek / Lundy Lake.

1.4 WATER RESOURCES MANAGEMENT

The Lundy Mutual Water Company operates and maintains the domestic water system for the Mono City area. Mono County conducts water-related activities such as issuing well permits and is responsible for numerous water-quality related activities through the county health department. Other community planning and environmental review processes are conducted through the community development department.

1.5 DATA SOURCES

Data used in this report were gathered by TEAM Engineering & Management, Inc. (TEAM) from TEAM's reference library, Mono County, the Western Regional Climate Center, U.S. Geological Survey (USGS), Los Angeles Department of Water & Power (LADWP), Inyo National Forest, State of California Department of Water Resources, SCE, California State Water Resources Control Board (SWRCB) Geotracker system, and the Lundy Mutual Water Company. Records of environmental concerns were based on a search of 41 environmental databases associated with hazardous wastes, leaking underground storage tanks, regulatory agency enforcement actions, drinking water programs, and other potential sources of impacts to surface water and groundwater.

2.0 SURFACE WATER AVAILABILITY ASSESSMENT

2.1 GENERAL CONDITIONS

Most of the surface water available to the Mono City study area originates in the Sierra Nevada, derived primarily from the spring and summer melt of the previous winter's snow pack. The surface runoff available to the Mono City area is primarily in three streams: Mill Creek, Wilson Creek and a diversion into the basin from Virginia Creek. Of these, only Mill Creek naturally drains into Mono Lake, but historic diversions of Mill Creek into Wilson Creek and from Virginia Creek to the Conway Ranch are significant in how surface water is made available to Mono City and the adjacent lands.

2.2 AVAILABLE RECORDS

Available records reviewed for the surface water availability analysis included streamflow data for Mill and Wilson Creeks from the USGS and LADWP; water quality data collected from Virginia Creek at Conway Summit from USGS; information from the Mono County General Plan, Mono County Master Environmental Assessment, the Lahontan Basin Plan, Department of Fish and Game, and the State Water Resources Control Board Division of Water Rights. Also referenced were the reports "A Water Balance Forecast Model for Mono Lake, California" (Vorster, 1985), "North Mono Basin Watershed/Landscape Analysis" (USFS, 2001) and personal correspondence with representatives of Southern California Edison and the USFS Inyo National Forest.

2.3 SURFACE WATER FLOW / RUNOFF

Under natural conditions, precipitation falling primarily as snow in the Sierra Nevada west of the study area would runoff into Mill Creek and its tributaries down Lundy Canyon, into Lundy Lake and through Mill Creek to Mono City and surrounding areas before draining into Mono Lake. Natural flows in Mill Creek would typically reach a maximum between late May and early July (estimated to have averaged 89 cfs) and then decline to base flow levels of approximately 11 cfs (Vorster, 1985). Wilson Creek was naturally an ephemeral stream.

Since 1911, Lundy Lake dam has been enhanced for storage of runoff, and water is diverted from Mill Creek for hydroelectric power generation. After being diverted through the Lundy Power Plant, water is released primarily to Wilson Creek, with a small amount occasionally being returned to Mill Creek through a return ditch downstream of the power plant tailrace.

Current available streamflow data from the USGS and LADWP for Mill and Wilson Creeks are summarized in Appendix A. USGS mean streamflow data for Mill Creek include historic flow data from 1969 through 1990, as measured below Lundy Lake at USGS Stations #10287071 and #10287070, and recent streamflow data from 1988 through 2003 as measured below Lundy Lake at USGS Station #10287069. USGS mean streamflow data for Wilson Creek include flows measured up Conway Drive prior to power plant returns (USGS Station #10287145) and at the Lundy Power Plant Tailrace (USGS Station #10287195) from 1986 through 2004. Additional data supplied by LADWP includes streamflow data for Wilson Creek as measured at the County

Road from 1990 to 1993, and flow measured in the Tailrace Diversion (Wilson to Mill Return) from 1991 to 2004.

SCE is allowed a maximum of 65 cfs of non-consumptive flow to be diverted out of Lundy Lake, through the power plant and into Wilson Creek. Actual diversions from SCE depend on many factors, including lake level, optimized efficiency of the power plant turbines, minimizing spill over the dam into Mill Creek, seasonal variability and power demands. Streamflow gauged from USGS Station #10287195 at the Lundy Power Plant Tailrace in Wilson Creek, from 1986 through 2004, indicates a maximum monthly average in June of 45 cfs, and an annual average of 20 cfs. This diversion from Mill Creek into Wilson Creek significantly augments the natural flow of Wilson Creek, which has an annual mean flow of two cfs, typically flowing only during May through August (as measured at USGS Station #10287145).

Streamflow in Mill Creek just below the Lundy Lake dam is greatly reduced by the hydroelectric diversion. As measured just below Lundy Lake at USGS station #10287069, the annual average flow in Mill Creek is three cfs with a maximum monthly average of 18 cfs in June and eight months of the year averaging one cfs or less. Downstream of this gauging station, flow is augmented by the inflow of Deer Creek (one to three cfs), several springs, and seepage and accretion from Lundy Lake, which can increase the base flow of Mill Creek to approximately 13 cfs by the intersection of Highway 395 (B. Almond, 2005). A gain of three to ten cfs is estimated between Lundy Lake and Highway 395 (USFS, 2001). Between Highway 395 and Mono Lake, Mill Creek is a losing stream with loss estimated at four cfs between Highway 395 and Mono Lake.

2.4 SURFACE WATER USE

2.4.1 In-Stream Requirements

The California Department of Fish and Game (DFG) requires sufficient flow be present in any given creek to sustain a trout fishery. As specified in the DFG Code section 5937, Article 2, Chapter 3, Part 1, Division 6, "the owner of a dam is required to allow sufficient water to pass downstream at all times in order to keep fish below in good condition." For purposes of Article 2, "dam" includes all artificial obstructions.

SCE is allowed to divert up to 65 cfs from Mill Creek into Wilson Creek. However, this right is a non-consumptive water right, meaning that all water used for hydroelectric generation must be returned to the creek system.

2.4.2 Present Development and Water Use

Surface water diverted from Mill, Wilson and Virginia Creeks is used almost entirely for agriculture and watering of grazing lands. Water diverted from Virginia and Wilson Creeks are used to supply water to the Conway Ranch. A small amount of water from Wilson Creek can also be used to water Dechambeau Ranch, although the property owner is reportedly not using her water right, instead choosing to use water from Dechambeau Creek.

Surface water diverted from Mill Creek is used for LADWP owned lands, which are leased for ranching and grazing activities.

Mono City is not using surface water from Mill or Wilson Creeks.

2.4.3 Existing Water Rights

All water rights from Mill Creek and Wilson Creek are dictated by a 1914 decree by the Mono County Superior Court, which established a water right priority system. This priority system has been updated over the years by land conveyances and location of available water. Although all rights were originally from Mill Creek, a large portion of the water is actually diverted from Wilson Creek after the hydroelectric diversion by SCE.

An updated table of the water rights priority system for Mill and Wilson Creeks, according to the current consensus of water rights, is summarized in Table 1. All rights owned by Mono County, the USFS and BLM currently are used for the Conway Ranch lands. The individual water rights according to the SWRCB Division of Water Rights database have also been summarized in Appendix B.

Conway Ranch is entitled to divert up to 6 cfs from Virginia Creek. However, the current conveyance system can reportedly only transfer approximately 2 cfs, so that is what is typically diverted from Virginia Creek to Conway Ranch during the agriculture season.

The SWRCB has designated both Wilson and Mill Creeks as "Fully Appropriated Stream Systems." According to the original individual water rights, the surface water from Mill Creek is significantly over-allocated, which reinforces the importance of the priority system.

2.5 FUTURE DEVELOPMENT AND SURFACE WATER USE

As the Mill and Wilson Creek stream systems in the study are fully allocated, no water from these streams is anticipated to be available for future development.

The only exception may be the Virginia Creek diversion allotment, which could be more fully utilized if the conveyance system was upgraded.

Multi-party negotiations are currently in process, which could result in what is known as the Federal Energy Regulatory Commission (FERC) settlement. One implication of this settlement may be the requirement of one cfs to be release from Lundy Lake into Mill Creek to sustain a year-round flow in the upper section of this creek. The details of this pending settlement were not within the scope of this study.

3.0 GROUNDWATER AVAILABILITY ASSESSMENT

As part of this groundwater availability assessment, TEAM has prepared subwatershed-specific groundwater recharge estimates based on a commonly used methodology. It should be noted that these are estimates and that conditions may vary. These should be considered upper-bound estimates of available groundwater, and that all of the estimated recharge may not be available for use. Further, this is an average annual recharge estimate, and conditions can vary significantly from year to year.

Assessments of groundwater availability commonly assume available groundwater being basically equivalent to either the subsurface outflow from a specific area, or a fixed, stable number that can be calculated or estimated in a variety of ways. This is the approach used by Applied Geotechnology for their study at Conway Ranch in July 1987 as reported (Inyo National Forest, 2001).

In that study, the safe yield was apparently assumed to equal the annual recharge. However, there can be inherent problems with that approach. By definition, safe yield is "*the amount of naturally occurring groundwater that can be economically and legally withdrawn from an aquifer on a sustained basis without impairing the native groundwater quality or creating an undesirable effect such as environmental damage*" (Fetter, 2001). Therefore, by simply equating the safe yield of an area to the amount of groundwater recharge (inflow) would ignore the impacts that could be caused to various aspects of groundwater outflow such as reductions in evapotranspiration (impacts to phreatophytic vegetation) or area-wide lowered water tables impacting nearby wells or springs.

For effective groundwater management, an assessment of available groundwater should be applicable to different areas along with the overall site-specific values and local and regional changes through time, and not as a single number. As an example, the following shows how the amount of available groundwater can be evaluated assuming a proposal for a specific project. The following text is based on that previously prepared by TEAM as part of a report for the Tri-Valley Groundwater Management District in eastern Mono County (MHA Environmental Consulting, 2001). Although this example was for another area in the county, it provides an excellent example of this approach to safe yield.

Assume that a new project production well is to be pumped at a rate of 500 gallons per minute (gpm). The proposed well could be located at two potential sites: one location is 100 feet from an existing domestic well, and the other is located 5,000 feet from the existing domestic well. For the purposes of this example, the amount of groundwater recharge that occurs is significantly in excess of 500 gpm, the depth of the domestic well is assumed to be 200 feet, the depth to water is assumed at 140 feet below ground surface, and the particular existing domestic well is assumed to be the only resource that may be affected by this project.

Drawdown analysis of the new project well in the first hypothetical location indicates that approximately 65 feet of drawdown will occur in the area of the existing domestic well due to the new project well if placed 100 feet from the domestic well. This magnitude of drawdown would cause the domestic well to go dry, which would be considered an infringement on the water rights of the well owner and a significant impact on beneficial uses. If on the other hand, the new project production well were located 5000 feet from the domestic well, and the expected drawdown at the domestic well in that circumstance was anticipated to be one foot, there would not be an infringement or significant impact.

Based on this example, it is not possible to say that the available groundwater of a specific amount exists and is available for the new project. If the project well is 5,000 feet from the domestic well, there is available water in excess of the 500 gpm anticipated to be used. If the new project well is 100 feet from the domestic well, that water is not available because operation of that magnitude would cause a significant impact. The simple, single-value basin approach to defining the amount of available water can not be supported, because the location of the facilities and timing of operation of new groundwater production can influence the significance of the potential impact and infringement as much as the total pumping rate for the entire area of interest.

Therefore, in the context of the Mono City area, the location of new wells must be considered in the context of the location of existing wells, wetlands, springs and phreatophytic vegetation. In addition, the time of operation must be considered. Groundwater management recommendations related to the discussion above for the Mono City area are provided in Section 5.0.

Two major environmental areas of concern exist related to future groundwater resource development in the Mono City area:

- Biological Resources including streams, wetlands, riparian areas and phreatophytic vegetation
- Agricultural and Land Use Resources including irrigated pasture and community development

For these reasons, future groundwater and surface water development is critically important to the Mono City area.

3.1 REGIONAL HYDROGEOLOGY

The Mono City area is at the eastern edge of the Sierra Nevada, along the boundary of the Sierra Nevada and Basin and Range geologic provinces. Generally, the Sierra Nevada is an uplifted and tilted block of Mesozoic-age igneous rocks with some older overlying sedimentary and metamorphic units. In the Mono City area, Tertiary and Quaternary-age volcanic rocks are also present and are associated with the Bodie Hills and Mono/Inyo Craters volcanic chain, respectively.

The Mono City area is within the Mono Valley Groundwater Basin, and within the South Lahontan Hydrologic Study Area (California Department of Water Resources, 1975). The Mono Valley is a 270-square mile basin with internal drainage.

3.2 HYDROGEOLOGIC UNITS

Earth materials present in the Mono City area include Recent-age soils; Quaternary-age colluvium, and alluvium; Quaternary-age glacial till; Quaternary and Tertiary-aged volcanic rocks associated with the Mono Craters volcanic chain and the Bodie Hills; and Paleozoic and Mesozoic-aged metamorphic and igneous rocks associated with the Sierra Nevada and Bodie Hills.

The Recent-age soils are present in the Mono City study area as surface deposits. Due to the size of the study area, a description of the soils throughout the Mono City area and areas extending upward into the mountains would result in a major discussion beyond the scope of this work. For the purposes of this report, the discussion of these soils is limited to the specific area of Mono City.

Soils present in the area are described as having a moderate to moderately rapid permeability (approximately 1 to 6 inches per hour). A typical soil profile description for these soils on the alluvial fan and lake terrace deposits would be from zero to seven inches – light brownish gray gravelly sandy loam, with soil pH of approximately 6.4. In the interdune areas on lake terraces, a typical soil profile would be from zero to four inches – white loamy sand; from four to 25 inches – pale brown and light grayish brown loamy sand; and from 25 inches to 5 feet – light gray loamy sand. These soils would have a soil pH of approximately 8.5 (U.S.D.A. Forest Service, 1995).

Underlying the Recent-age soils in the area are Quaternary-age unconsolidated deposits (glacial till, colluvium and alluvium) resulting from erosion and deposition of earth materials from the Sierra Nevada and Bodie Hills. The glacial till consists of poorly-sorted unconsolidated deposits deposited by glaciers, and are found in the project area at the base of the Sierra Nevada. Glacial till typically contains significant quantities of fine sediments and are not typically producers of large well yields. The colluvium consists of hillside-related deposits (such as talus slopes). The Quaternary-age alluvium consists of the remaining unconsolidated deposits that make up the basin fill. Generally, the alluvium comprises the most important aquifer material present in the area. The alluvium is interbedded with fine-grained lake sediments that increase in thickness and proportion toward Mono Lake (California Department of Water Resources, 2003).

Underlying the surficial deposits described above are the tertiary volcanic rocks and Paleozoic and Mesozoic-age metamorphic and igneous rocks, respectively. Groundwater flow in these rocks will be controlled by fractures within the rock. In areas of highly fractured rock, groundwater flow could be substantial. It is important to note that where faulted, zones of clayey fault gouge may be present along the fault trace. These zones of clayey fault gouge which will tend to inhibit groundwater flow across a fault. However, fractured rock parallel to a fault trace can be highly permeable. Generally, the fractured rock aquifer will yield considerably less water than the basin fill.

3.3 GEOLOGIC STRUCTURE

An understanding of the geologic structures present in the Mono City area is key to understanding the hydrogeology of the area. Sierra Nevada range-front faults run generally north-northwestward along the base of the Sierra Nevada. Principal among these is the Mono Lake Fault. This fault forms the range-front scarp of the Sierra Nevada in the study area, and also manifests itself by the linear drainage down which Virginia Creek runs southward from Conway Summit. Indeed, the presence of Conway Summit and Virginia Creek's canyon (erosional features along more easily eroded, fractured rock) are evidence of this fault's presence. As is typical with faults of this type, subordinate parallel faults are likely present along its trace, and extending into the Bodie Hills. These faults place the relatively impermeable bedrock units against the basin-fill deposits.

A second, important fault system extends generally east-northeast along the base of the Bodie Hills and an inferred fault trace extends in this direction beneath the northern portion of Mono Lake. The ability for the faults described above to inhibit groundwater flow is not known.

3.4 GROUNDWATER OCCURRENCE AND MOVEMENT

Water in the Mono City area is generally found within the unconsolidated alluvial and fluvial sediments comprising the valley fill. Groundwater in the area is interpreted to move from the areas of recharge (for instance the Sierra Nevada and Bodie Hills) to areas of discharge (Mono Lake). This results in a hydraulic gradient that generally follows the land surface slope. Therefore, groundwater is assumed to move generally to the east-southeast beneath the Mono City development area, and generally southward beneath the Conway Ranch area.

Groundwater is generally near the land surface adjacent to Mono Lake and can be as deep as 400 feet below ground surface on the alluvial fans. In the study area, groundwater levels will tend to remain above the level of Mono Lake given the lake's role as a sink in the basin.

The principal aquifer in the Mono City area is the confined aquifer ranging in depth from approximately 220 to 280 feet below ground surface as measured in the new Lundy Mutual Water Company well (Kamman Hydrology & Engineering, 2005). An additional significant water-bearing zone was encountered between 430 and 467 feet below ground surface. If groundwater levels were to be drawn down adjacent to the lake (for example due to high groundwater pumping rates) below the level of the lake, the intrusion of saline water from the lake could occur.

The shallow, unconfined aquifer(s) in the study area are generally of lesser significance with respect to potential groundwater availability than the deeper semi-confined and confined aquifers. However, it is likely that some degree of hydraulic communication exists between these units, particularly in the upper alluvial fans where interfingering and discontinuous deposits are the typical condition.

3.5 HYDRAULIC PROPERTIES

According to a Drinking Source Water Assessment Report (Mono County Health Department, 2002) conducted on the Lundy Mutual Water Company's principal production well, an aquifer test was reportedly run on the Lundy Mutual Water Company Well #1 after installation. Based on that report, the well was pumped at 307 gallons per minute with a resulting drawdown of four feet. The length of the pumping period is not specified, nor are drawdown measurements over time, so it is not known if the water level in the well had reached equilibrium. However, if the assumption is made that it is a stable pumping water level was reached, the specific capacity (gallons per minute per foot of drawdown) is 79 gpm/ft indicating sediments of high hydraulic conductivity.

The high hydraulic conductivity of the alluvium in the area was also illustrated by the high yield (520 to 630 gpm) of wells on the Conway Ranch property (Inyo National Forest, 2001).

3.6 GROUNDWATER INFLOW

The following sections provide estimates of various components of groundwater inflow to the alluvial aquifer. It is followed in Section 3.7 by a description of groundwater outflow parameters for the Mono City area. There are significant assumptions based on sometimes scant data, particularly with respect to aquifer parameters, variations in precipitation, etc. Due to these uncertainties, and the many potential water-related issues in the Mono City area, further investigation into some of these components are recommended later in this report.

3.6.1 Groundwater Recharge from Precipitation

In order to evaluate future groundwater requirements versus availability, TEAM developed estimates of groundwater recharge for the study area. Groundwater recharge was estimated on a subwatershed by subwatershed basis as presented in Mono County's GIS.

The recharge estimates were derived using the Maxey-Eakin method, which estimates groundwater recharge by using precipitation versus recharge relationships, and assuming method-specific groundwater recharge as a percent of precipitation. The Maxey-Eakin method is a widely used groundwater recharge estimation technique within the Basin and Range geologic province (the study area is on the edge of the Basin and Range) and has been used in the Eastern Sierra region in the Antelope Valley area of Mono County in a cooperative study by the Nevada Division of Water Resources and the U.S. Geological Survey (Glancy, 1971). The method has been used in as distant portions of the Basin and Range as the El Paso, Texas area (Hutchison, 2006). Additionally, the Maxey-Eakin method has been analyzed and evaluated to be a good predictor of recharge (Avon and Durbin, 1992 and 1994). The method computes recharge by:

- Estimating the volume of precipitation for several precipitation zones in the area of interest

- Reducing these volumes by a given percentage to account for evapotranspiration and surface water runoff that does not recharge groundwater
- Summing the resultant recharge volumes

The Maxey-Eakin Method was developed using a trial-and-error approach with regression techniques to evaluate the distribution and volume of precipitation that occurs in a groundwater basin, and balancing recharge with estimated groundwater discharge from the specific groundwater basin. The percentage of precipitation that recharges groundwater for each recharge zone (as described below) does not vary. The method was originally developed for groundwater basins in Nevada. As described in Avon and Durbin (1992), the Maxey-Eakin method is a direct relationship between precipitation and recharge, not elevation and recharge. Elevation is used only to estimate the volume of precipitation within each of the elevation zones. It follows that the method does not infer that groundwater recharge of a certain amount occurs geographically in each precipitation/elevation range. Rather, the recharge to groundwater will occur primarily in the valley fill from surface water runoff.

In order to evaluate precipitation versus elevation relationship, data was gathered from several precipitation monitoring stations (Table 2). A best-fit trend line was established for the data (Figure 4).

TEAM used Mono County's GIS to establish recharge zones by subwatershed and to calculate associated recharge zone areas. Based on the precipitation versus elevation plots, three Maxey-Eakin recharge zones were identified:

- The area above 7,100 ft msl in which 25% of precipitation is recharged to groundwater
- The area between 6,600 ft msl and 7,100 ft msl in which 15% of precipitation is recharged to groundwater
- The area between 6,380 ft msl (Mono Lake level) and 6,600 ft msl in which 7% of precipitation is recharged to groundwater

The Maxey-Eakin Method resulted in a total groundwater recharge to the Mono City study area of approximately 12,500 acre-feet per year (afy). The estimates for the Upper and Lower Rancheria Gulch subwatersheds are likely underestimated (environmentally conservative) as the Maxey-Eakin Method has been noted to underestimate groundwater recharge in areas of low surface runoff (Davisson and Rose, 2000). Additionally, the estimate is conservative given that a large proportion of groundwater recharge (particularly in the Lundy Canyon area) occurs as a result of the winter snow pack (a more constant recharge source) than is present in the areas for which the Maxey-Eakin Method was originally developed. A summary of estimated recharge by subwatershed is presented in Table 5.

3.6.2 Seepage from Virginia Creek Diversion

Not included in the groundwater recharge estimate provided above are stream losses from the Virginia Creek diversion. Although the losses of this man-made stream have not been measured, typical losses in other streams in the area have resulted in loss rates in the order of 20% of the total stream flow that would infiltrate to groundwater including earth materials present, degree of fracturing where bedrock is present, and streamside vegetation. However, in comparison to the groundwater recharge estimated for the study area, the contribution of groundwater from this source is anticipated to be minor.

Reportedly, the volume of water diverted from Virginia Creek to Conway Ranch is approximately 1,000 afy (California Department of Water Resources, no date), although the capacity of the diversion is approximately 2 cfs (Almond, 2005). This despite the permitted water right that would allow up to 2,500 afy (Inyo National Forest, 2001). Therefore, for the purposes of this report, we assume an additional groundwater recharge from this diversion of up to approximately 200 afy.

3.6.3 Percolation From Septic Tanks

Wastewater derived from residences in the Mono City area is disposed of through the use of septic tanks. Therefore, a portion of that groundwater produced for domestic uses returns to the water table via septic system returns. For typical residential on-site systems, an assumption of 50 gallons per capita per day is typical (Ramlit Associates & Anatec Laboratories, 1982). Based on a Mono City population of approximately 100, the anticipated septic system return flows can be assumed to be six afy. For comparison, a previous estimate of 13 afy has been estimated (Inyo National Forest, 2001). In either case, percolation from septic tanks is a very minor source of groundwater recharge in the area. An increase in the number of individual septic systems could result in groundwater quality issues and reduced amounts of groundwater available for domestic use.

3.7 GROUNDWATER OUTFLOW

The following sections provide estimates of various components of groundwater outflow from the alluvial aquifer. As described above in Section 3.6, there are significant assumptions based on sometimes scant data, particularly with respect to aquifer parameters. Due to these uncertainties, further investigation into some of these components is recommended later in this report.

3.7.1 Groundwater Pumping

Domestic, municipal and irrigation wells in the Mono Basin generally range in depth from 110 to 600 feet below ground surface with yields ranging from 300 to 800 gpm (California Department of Water Resources, 2003).

Domestic use is the principal use of pumped groundwater in the study area. As of 2002, pumping from the Lundy Mutual Water Company wells was on average of approximately 160 AFY (Mono County Health Department, 2002). Additionally, there are numerous residences scattered throughout the study area (including those in the Conway Ranch subdivision) that likely account for a similar amount of pumping. Therefore, cumulatively for the present conditions, it is assumed that approximately 350 afy of groundwater is pumped from the Mono

City study area. It should be noted that the North Mono Basin Landscape Analysis (Inyo National Forest, 2001) indicates a usage of much less (27 afy).

3.7.2 Evapotranspiration

Evapotranspiration in the study area represents the combined groundwater discharge due to evaporation from bare ground and subsurface soil moisture, and evapotranspiration from vegetation. The areas of phreatophytes (groundwater-dependent vegetation) will be in areas of shallow groundwater, primarily where water is within approximately 15 feet of the ground surface. Within the study area, this is generally along the shoreline of Mono Lake, and in the immediate vicinity of streams and springs. Evapotranspiration from the meadow areas in the study area is 1,600 afy. Field reconnaissance studies will be needed to evaluate the evapotranspiration from phreatophytes along the Mono Lake shoreline. Recommendations for this work are provided in Section 5.0.

3.7.3 Seepage to Streams

The streams in the study area are generally "losing streams" in that water percolates from the stream channel to groundwater. Therefore, groundwater outflow to streams in the area (outside of the mountain areas) is anticipated to be negligible.

3.7.4 Springs

Springs in Rattlesnake Gulch result in minor groundwater outflow. Continuous flow has not been observed for more than one quarter-mile (Inyo National Forest, 2001). Likewise, other springs in the study area are ungaged.

3.7.5 Subsurface Outflow

Subsurface outflow of the Mono City study area will be as groundwater discharge to Mono Lake. Due to the lack of hydraulic characteristic data (normally developed from aquifer tests on wells), and given other lacking groundwater balance data, estimating subsurface outflow at to Mono Lake from this specific area is speculative.

3.8 GROUNDWATER IN STORAGE

The volume of groundwater in storage within the basin fill of the Mono City study area is a function of the area of basin fill deposits, a selected depth, and specific yield (ratio of the volume of water that the aquifer will yield due to gravity to the aquifer's volume) of the basin fill. For the purposes of this report, the selected depth is the saturated thickness measured within the Lundy Mutual Water Company Well No. 1 (200 ft). A typical specific yield of 0.1 is assumed. The area of basin fill is assumed to be the sum of the acreage of the Mono Lake and Lower Rancheria Gulch subwatersheds (11,755 acres). Based on the above assumption, there is approximately 230,000 acre-feet (af) in storage in the Mono City area.

The total groundwater in storage in the Mono Basin has been estimated at 3.4-million af (California Department of Water Resources, 2003). Therefore, the groundwater in storage in the Mono City study area accounts for approximately six to seven percent of the total storage in the basin.

3.9 GROUNDWATER LEVELS AND DISCUSSION OF INFLOW AND OUTFLOW COMPONENTS

A summary of groundwater inflow and outflow components are not provided due to the absence of associated data for key components of the groundwater balance. Providing such a summary would suggest more confidence in the status of the groundwater balance of the Mono City area than should be assumed. The groundwater in storage is an important aspect of the groundwater system. Changes in storage are identified in the field by changes in groundwater levels. A fundamental groundwater equation, and the basis for evaluations of groundwater budgets (inflow vs. outflow estimates) is:

Inflow – Outflow = Change in Storage

When outflow exceeds inflow, there is a negative change in groundwater storage and groundwater levels can be expected to decline. When inflow exceeds outflow, the reverse is true. When the system is in equilibrium, water levels will generally remain relatively constant despite short-term fluctuations. Long-term water level declines for example are a clear indication that outflow has been exceeding inflow. It should also be noted that in many arid areas, the recovery of water levels due to groundwater being removed from storage can take much longer than the period to remove it depending on the volume removed from storage, precipitation trends, and the geology of the basin.

Taking this one step further, under predevelopment conditions, a groundwater system is in equilibrium, a condition where inflow equals outflow. Groundwater pumping causes a disruption in this equilibrium, and recharge amounts and patterns can be changed. More often in arid environments, natural discharge amounts and patterns are impacted. This can include the loss of phreatophytic vegetation and in areas where streams or springs are present, reductions in stream and spring flow. All pumped water must be supplied from one or more of the following:

- Decreases in groundwater storage
- Increased or induced recharge
- Decreased discharge either in the form of reduced subsurface outflow or decreases in natural forms of discharge such as evapotranspiration, spring flow, or river base flow

Regardless of the amount of water pumped, the system will undergo some drawdown in groundwater levels in pumping wells to induce the flow of water to these wells, which means some water is initially removed from storage. For most groundwater systems, the change in storage in response to pumping is a transient phenomenon that occurs as the system readjusts to the pumping stress. The relative combinations of changes in storage, increases in recharge, and decreases in natural discharges evolve with time.

The initial response to pumping is a decrease in storage. If the system can come to a new equilibrium (i.e. a combination of increased recharge or decreased natural discharge), the storage decreases will stop, and inflow will again equal outflow. Increases in recharge can include inducing stream recharge, increased infiltration of surface water that historically did not infiltrate due to high groundwater levels, and increases in subsurface inflows due to increased gradients. Decreases in discharge can include reduction in phreatophytic vegetation cover, reduction in spring flow, reduction in base flow to surface water, and reduction in subsurface outflow due to gradient changes. The amount of water "available" is therefore dependent on what these long-term changes are, and how these changes affect the environmental resources of the area.

3.10 CHEMICAL QUALITY

Water quality of groundwater based on water samples collected from the Lundy Mutual Water Company system is generally excellent (Gehrman, 2005). Total dissolved solids concentrations as measured in the Lundy Mutual Water Company Well were 130 mg/L (Kamman Hydrology & Engineering, 2005). Past bacteriological issues with the groundwater resource have been in part attributed to waste disposal from campgrounds in the Mill Creek drainage affecting Mill Creek and the Lundy Mutual Water Company's Well #1 which was in close proximity to the stream (Gehrman, 2005). Other more recent coliform detections have been addressed through the installation of a chlorination system and water system repairs (Mono County Health Department, 2004).

3.10.1 Potential Impacts to Groundwater Quality

The most significant potential cause of human-induced impacts to groundwater quality in Mono City is septic tanks. A drinking water source assessment (Mono County Health Department, 2002) indicates in its discussion regarding the vulnerability of the drinking water source that, "There have been no contaminants detected in the water supply, however the source is still considered vulnerable to activities located near the drinking water source." Further, the source (Well #1) was considered most vulnerable to high density septic systems.

Sodium, total dissolved solids, and other constituent concentrations can become problematic with closer proximity to Mono Lake. An environmental database search for the Mono City area (Appendix C) did not identify any significant threats to groundwater quality in the Conway Ranch and Mono City area.

3.11 POTENTIAL FUTURE GROUNDWATER USE

The Mono Basin experienced significant population growth during and since the 1990's. As presented in the Mono County Master Environmental Assessment (Mono County, 2001), the region experienced a population increase of 23.9% during the period 1990 to 2000. Further, as described in the Mono County General Plan (Mono County Planning Department, 1993), there are concerns regarding the capacity of the existing Mono City water supply system to accommodate any future development beyond the existing level.

The Mono County General Plan indicates that build-out for the area would consist of a maximum of 1,111 potential dwelling units for the Mono Basin North area (including Mono City, Lundy and Cottonwood Canyon areas). The makeup of these potential dwelling units according to the land use designations in the General Plan area for 217 residential units; 120 resource management units; 68 agricultural related dwelling units; and 690 dwelling units as specified by the referenced Conway Ranch Specific Plan (Mono County, 2001). It should be noted that despite the potential land use specified in the Specific Plan, the agreement that Mono County entered into in acquiring the property forbids such development (Kattleman, 2006).

Assuming these maximum build-out estimates, a typical water use per dwelling unit of 1.5 afy per unit, and that all water used is from groundwater; results in an annual groundwater usage of approximately 1,700 afy.

Based on the groundwater recharge estimates for the Lundy Canyon area and measured stream losses along Mill Creek adjacent to the Mono City area, and given the uncertainties that exist in several of the groundwater balance components, from a groundwater recharge perspective, there appears to be sufficient groundwater available to support additional development in the Mono City area. This also appears to be the case for the Conway Ranch subdivision. Where issues may arise is in the event that additional wells are constructed, proper field planning will be needed to assure that well interference does not become a problem in the area. Additionally, consideration should be given to the potential for additional groundwater extraction affecting streamflow losses and/or reductions in evapotranspiration (impacts to vegetation). Further, any new wells should be placed strategically to minimize the potential effects of septic systems on the groundwater resource being tapped by water-supply wells. The recommendations section of this report provides several key tasks that should be completed before placing additional wells in either the Mono City or Conway Ranch areas.

4.0 CONCLUSIONS

The following are general conclusions regarding this surface water and groundwater availability assessment of the Mono City area;

- Surface water usage is managed and controlled based on existing water rights on Mill and Wilson Creeks.
- Groundwater usage in the Mono City area is managed by the Lundy Mutual Water Company
- The principal land uses are residential and agricultural
- Data were gathered from numerous county, state and federal sources

The following are general conclusions regarding surface water availability in the Mono City area:

- Surface water in the Mono City area originates primarily as precipitation and snowmelt from the adjacent Sierra Nevada and Bodie Hills.
- Existing surface water flow data are present for Mill Creek and Wilson Creek.
- SCE is allowed a maximum of 65 cfs of non-consumptive flow to be diverted out of Lundy Lake, through a power plant, and discharged into Wilson Creek.
- Mill Creek is a gaining stream between Lundy Lake and U.S. Highway 395, and a losing stream between U.S. Highway 395 and Mono Lake.
- Surface water diverted from Mill, Wilson and Virginia Creeks is used almost entirely for agriculture and watering of grazing lands.
- Mono City is not using surface water from Mill or Wilson Creeks.
- The SWRCB has designated both Wilson and Mill Creeks as fully appropriated stream systems. According to the original individual water rights, the surface water from Mill Creek is significantly over-allocated.
- As the Mill and Wilson Creek stream systems are fully allocated, no water from these streams is anticipated to be available for future development.
- The Virginia Creek diversion could be more fully utilized if the conveyance system is upgraded.

The following are general conclusions regarding groundwater availability in the Mono City area:

- When evaluating future projects using groundwater, the simple single-value approach to evaluating the amount of water available cannot be supported.
- Water supplies for future projects should be evaluated in the context of the location of the groundwater source in relation to locations of nearby wells, wetlands, springs and phreatophytic vegetation.
- The alluvial basin fill is the key geologic unit in the Mono City area in which the groundwater resource is derived.
- Hydraulic properties derived from aquifer tests conducted on wells screened in the alluvial basin fill are lacking.

- Inflow to the groundwater system is from precipitation, recharge from streamflow, and infiltration of irrigation water and septic system effluent.
- Outflow from the groundwater system is from groundwater pumping, evapotranspiration, spring flow, and subsurface outflow to Mono Lake.
- There is approximately 230,000 acre-feet of groundwater in storage in the Mono City area.
- The water quality in the area is generally of excellent quality.
- The most significant potential cause of impacts to groundwater quality in the Mono City area is septic systems.
- Although recharge estimates indicate sufficient groundwater for anticipated future development, groundwater availability should be based on the potential effects of groundwater development on surrounding wells, springs, streams, and phreatophytic vegetation.

4.0 RECOMMENDATIONS

5.1 KEY ISSUES TO BE EVALUATED

Future hydrogeologic investigations for new groundwater development and/or water management strategies should include evaluations of the following:

- Effects of future groundwater development on phreatophytic vegetation, etc.
- Potential well-interference issues
- Potential water-quality issues including the presence of natural and introduced contaminants.
- Placement of wells to avoid water quality issues resulting from septic systems.

5.2 DATA COLLECTION

A key issue with respect to the water resources of the Mono City area and future development will be that future development will likely be primarily dependent on groundwater, which could lead to lowered groundwater levels. These potentially lowered groundwater levels could affect well performance, spring flow or phreatophytic vegetation.

Although at this time numerical modeling is not recommended, data collection in the form of regular groundwater level monitoring and discharge monitoring should be conducted to develop baseline water level trends over time prior to additional development.

Further, aquifer testing of existing production wells is recommended to evaluate hydraulic parameters. This work would not only serve future analysis of well interference and enhancing future well placement, but would also serve to assist in the estimation of subsurface outflow from the Mono City area. Subsurface outflow is a key component to the groundwater budget for the area.

5.3 EVALUATION OF EVAPOTRANSPIRATION

An analysis of evapotranspiration in the Mono City area should be conducted to enhance the understanding of the groundwater system with respect to this key component of the water balance. If quantitative estimations of reduced evapotranspiration are needed for future environmental analyses, numerical modeling may be required.

5.4 WELL-LOGGING

Descriptions of the earth materials present are among the most important data (along with well construction) on a well log. Further, in comparison to the cost of constructing a well, the cost for a trained geologist to log the drilling cuttings is relatively small. A licensed geologist should log all future community water supply wells and large-capacity wells.

5.5 AQUIFER TESTING FOR NEW WELLS

Future community water supply wells and other high-capacity wells should have an aquifer test required for the reasons described in Section 5.1.

5.6 WATER QUALITY ANALYSES

Hydrogeologic analyses for future development (residential subdivisions) should include analyses concerning nitrate loading in groundwater due to septic systems by the proposed project and in combination with existing development. Sampling for radionucleides should also be conducted.

5.7 PREPARATION OF A GROUNDWATER MANAGEMENT PLAN FOR THE MONO CITY AREA

A groundwater management plan should be developed for the Mono City area that provides the basis for groundwater management decisions in the area. As described in Groundwater Resources Association of California (Bachman, et. al., 2005), "A groundwater management plan is a document that provides the framework to implement a groundwater management strategy for the basin or a portion of a groundwater basin. It may be complicated or simple, long or short. As long as it is sound and reflects the goals and objectives of the people who live, work and hold interests in the basin, it will do the job."

Initially, the groundwater management plan should be relatively simple, but should contain the following elements:

- Political – describe the process by which the local community views groundwater management alternatives and priorities. The County and the Lundy Mutual Water Company will play key roles in this element of a groundwater management plan. The groundwater management plan should also identify stakeholders in Mono City area, and describe how the plan will address their interests and rights.

- Legal – this portion of the groundwater management plan will address water rights. Groundwater and surface water rights should be addressed.

- Institutional – this portion of the groundwater management plan will concern governance of water management

- Technical – this portion of the plan should identify and provide a means to implement monitoring and proposed studies to enhance the understanding of the Mono City groundwater system.

- Economic – this portion of the plan should develop estimates of the costs of implementing a groundwater management plan, and identify, or develop a process to identify, sources of funding for implementing the plan

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7.0 CONDITIONS AND LIMITATIONS

This report has been prepared according to generally accepted standards of hydrogeologic practice in California at the time this report was prepared. Findings, conclusions, and recommendations contained in this report represent our professional opinion and are based, in part, on information developed by other corporations, governmental agencies, and organizations. The opinions presented are based on currently available information and developed according to accepted standards of hydrogeologic practice in California. Other than this, no warranty is implied or intended.

TABLES

TABLE 1
MILL CREEK PRIORITY RIGHTS
Derived from 1914 Decree and Subsequent Conveyances
Diversion Rights from Mill and Wilson Creeks

Priority	Right Holder	Creek used	Quantity of Right	Cumulative Mill Creek	Cumulative Wilson Creek	Cumulative Total
			cfs	cfs	cfs	cfs
1st	LADWP	Mill Creek	1.0	1.0	0.0	1.0
2nd	Mono Co	Wilson Creek	2.0	1.0	2.0	3.0
3rd	BLM	Wilson Creek	2.0	1.0	4.0	5.0
4th	Mono Co	Wilson Creek	8.0	1.0	12.0	13.0
5th	LADWP	Mill Creek	9.2	10.2	12.0	22.2
6th	Simis	Mill Creek	1.8	12.0	12.0	24.0
7th	LADWP	Mill Creek	14.0	26.0	12.0	38.0
8th	Mono Co	Wilson Creek	5.0	26.0	17.0	43.0
9th	USFS	Wilson Creek	12.6	26.0	29.6	55.6
10th	LADWP	Mill Creek	18.0	44.0	29.6	73.6
11th	Mono Co	Wilson Creek	1.0	44.0	30.6	74.6

Source: E.Bulpit (Bishop Hydro Division), 1977; Perrault, 1992; and USDA Forest Service (North Mono Basin Watershed/Landscape Analysis), 2001. Updated based on "current consensus of water rights" by B. Almond (SCE/INF) in 2005.

Note: All rights are formally from Mill Creek, but due to diversion of water through Lundy powerplant into Wilson Creek, water is then allocated from either Wilson or Mill Creek as indicated.

TABLE 2
SUMMARY OF PRECIPITATION DATA
MONO CITY AREA
Mono County, California

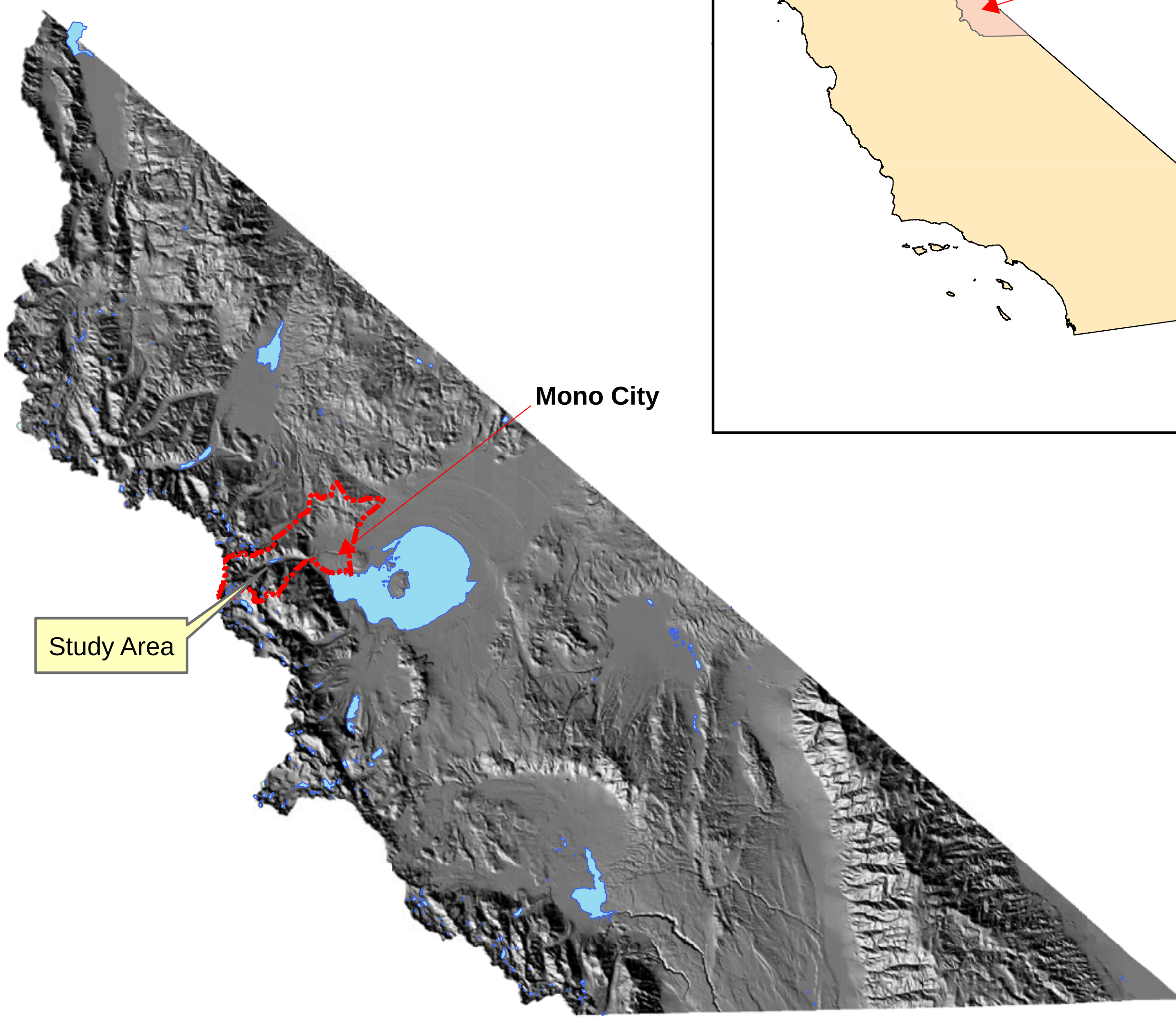
Station	Elevation (feet)	Period of Record	Complete Annual Records (Calender)	Average Annual Precipitation (inches)	Avg. Pct. Of Precipitation Occurring in May-Sept.
Bodie, Mono County, California	8370	1964-2005	1965-1977; 1983-1997;1999-2004	13.13	28
Bridgeport, Mono County, California	6470	1948-1950 1958-2005	1949; 1958-1981; 1983-1987; 1989-1998; 2000-2004	9.01	26
Daggett Pass, Douglas County, Nevada	7330	1948-2005	1992-1994;1996; 1999-2000	23.08	16
Hawthorne, Mineral County, Nevada	4330	1954-1955 1961-1965 1992-2005	1962-1964; 1993-1996; 1998-2000; 2002-2003	5.12	41
Hawthorne Airport, Mineral County, Nevada	4220	1948-1953 1957-1961 1966-1991	1949-1950; 1952-1953; 1958-1960; 1966-1972; 1975-1983; 1985-1990	4.85	39
Lee Vining, Mono County, California	6800	1988-2005	1989-1990; 1992; 1994-1996; 1998; 2000-2003	14.34	16
Mono Lake, Mono County, California	6450	1950-1988	1951-1987	14.08	18
Twin Lakes, Mono County, California	8000	1948-2000	1949-1963; 1965-1973; 1975-1996	49.6	12
Wellington R.S., Lyon County, Nevada	4840	1948-1973	1949-1951; 1953-1965; 1967-1972	9.29	31

TABLE 3
RECHARGE SUMMARY
MONO CITY AREA
Mono County, California

Subdrainage	Precipitation Range (inches)	Elevation Range (ft msl)	Acres	Pct. Recharge	Estimated Recharge (Acre-feet/Year)
Upper Rancheria Gulch	8 in - 12 in	5,500 to 6,200	0	3	0
	12 in - 15 in	6,200 to 6,600	0	7	0
	15 in -20 in	6,600 to 7,100	294	15	64
	20+ in (1)	7,100 and above	5069	25	2112
Lower Rancheria Gulch	8 in - 12 in	5,500 to 6,200	0	3	0
	12 in - 15 in	6,200 to 6,600	0	7	0
	15 in -20 in	6,600 to 7,100	1055	15	231
	20+ in (1)	7,100 and above	1871	25	780
Jordan Spring	8 in - 12 in	5,500 to 6,200	0	3	0
	12 in - 15 in	6,200 to 6,600	0	7	0
	15 in -20 in	6,600 to 7,100	494	15	108
	20+ in (1)	7,100 and above	4148	25	1728
Upper Lundy Canyon	8 in - 12 in	5,500 to 6,200	0	3	0
	12 in - 15 in	6,200 to 6,600	0	7	0
	15 in -20 in	6,600 to 7,100	0	15	0
	20+ in (1)	7,100 and above	9155	25	3814
Lower Lundy Canyon	8 in - 12 in	5,500 to 6,200	0	3	0
	12 in - 15 in	6,200 to 6,600	0	7	0
	15 in -20 in	6,600 to 7,100	0	15	0
	20+ in (1)	7,100 and above	4999	25	2083
Mono Lake (2)	8 in - 12 in	5,500 to 6,200	0	3	0
	12 in - 15 in	6,200 to 6,600	3203	7	252
	15 in -20 in	6,600 to 7,100	5235	15	1145
	20+ in	7,100 and above	349	25	145
Total Recharge			***35872***		***12462***

(1) Estimated precipitation for uppermost precipitation range estimated 20 inches based on methodology
(2) Only portion of Mono Lake subwatershed included in recharge estimate

FIGURES



Scale: 1:1,000,000

FIGURE 1
GENERAL AREA MAP
MONO CITY

Mono County
Ground & Surface Water Assessment

Date created: 12/1/05
Created by: GF
File: Generalarea.mxd

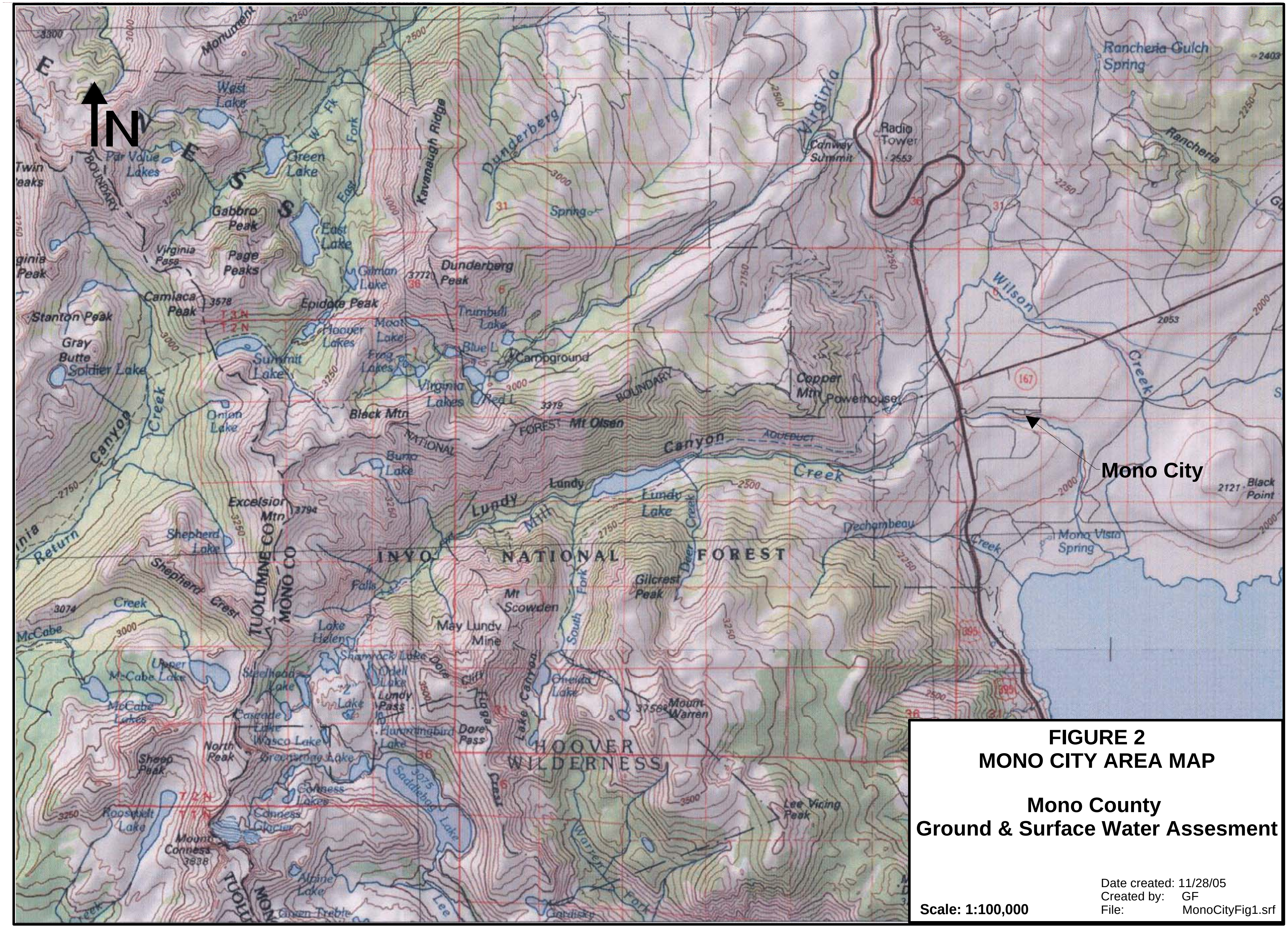


FIGURE 2
MONO CITY AREA MAP

Mono County
Ground & Surface Water Assesment

TEAM
ENGINEERING & MANAGEMENT, INC.

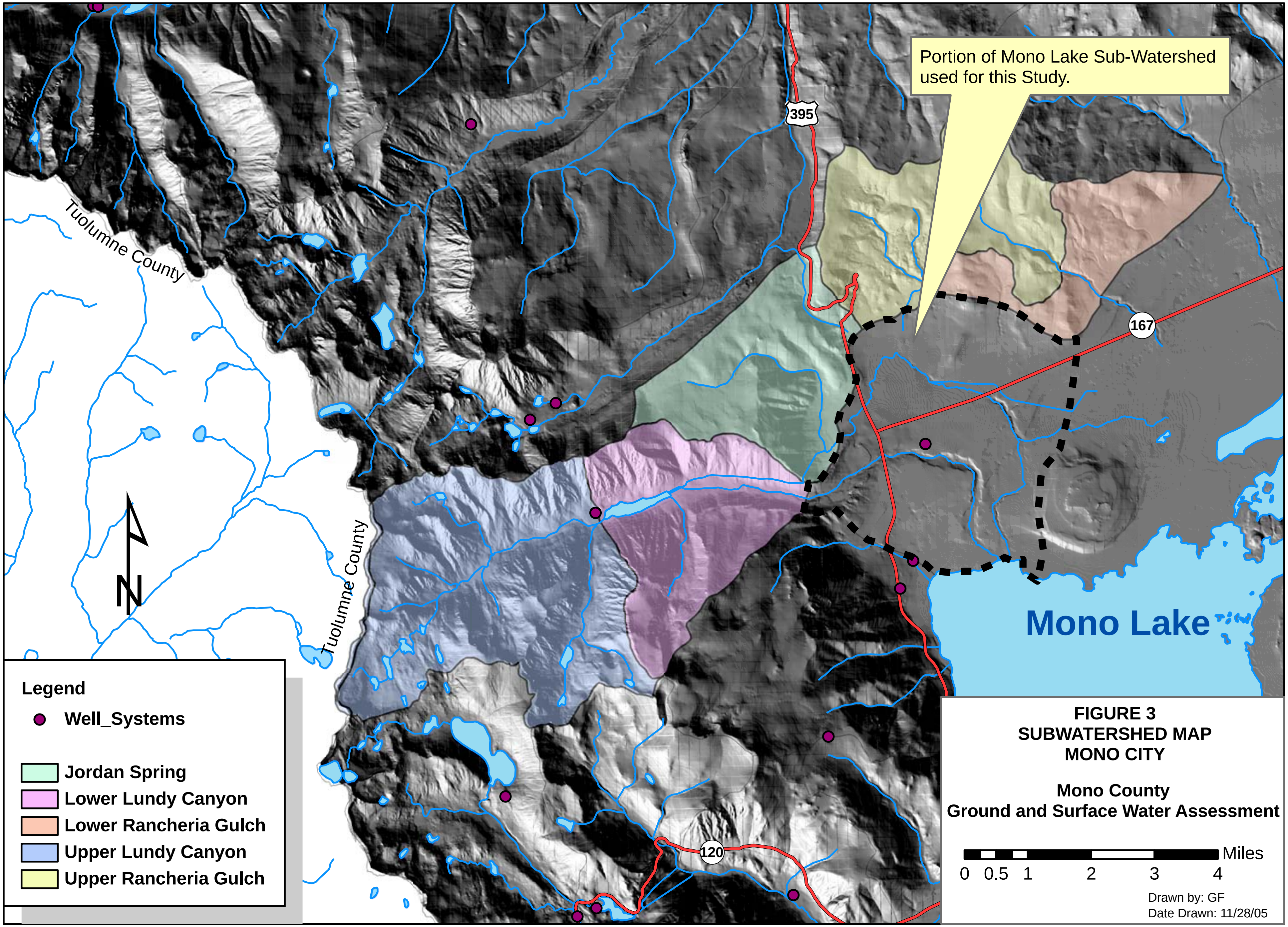


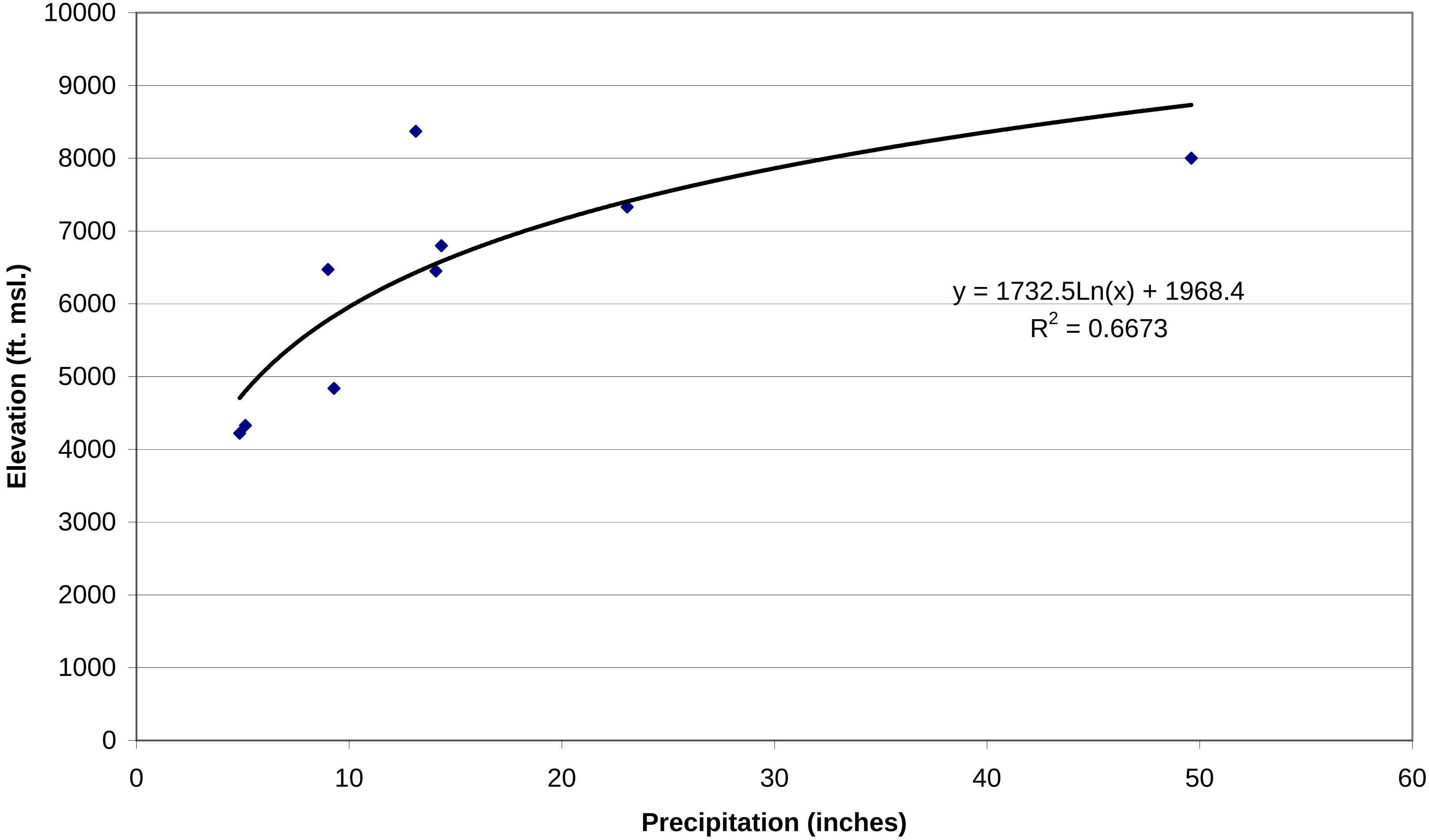
FIGURE 3
SUBWATERSHED MAP
MONO CITY

Mono County
Ground and Surface Water Assessment

Drawn by: GF
Date Drawn: 11/28/05

TEAM
ENGINEERING & MANAGEMENT, INC.

FIGURE 4
PRECIPITATION VS. ELEVATION
MONO CITY AREA
Mono County, California



TEAM Engineering and Management, Inc.

APPENDIX A

STREAMFLOW DATA FOR MILL AND WILSON CREEKS

MONTHLY AND ANNUAL
MEAN STREAMFLOW DATA
Mill Creek Below Lundy Lake
USGS Stations #10287069, #10287070, #10287071

USGS 10287069 MILL C BL LUNDY LK NR LEE VINING CA

10287069	**1988**										0	0	0	
10287069	**1989**	0	0	0	0	0	2.56	3.55	3.58	0.93	0	0	0	**0.89**
10287069	**1990**	0	0	0	0	0	0.3	3.13	2.71	1.88	0	0	0	**0.68**
10287069	**1991**	0	0	0	0	0	1.53	2.94	2.24	1.74	0.33	0	0	**0.74**
10287069	**1992**	0	0	0	0.001	0.003	1.77	2	2	2.18	1.58	0.01	0.001	**0.8**
10287069	**1993**	0	0	0	0	0.004	0.61	15.6	7.31	4.24	2.53	1.38	0.6	**2.73**
10287069	**1994**	0.11	0	0.001	0.044	0.052	1.89	1.72	0.17	0	0	0	0	**0.33**
10287069	**1995**	0	0	0	0	0.001	31.8	98.2	31.4	5.74	3.48	2.66	2.17	**14.8**
10287069	**1996**	1.7	1.61	0.7	0	0.69	22.9	29.2	4.95	5.29	2.68	1.93	1.45	**6.1**
10287069	**1997**	8.57	1.79	0.052	0.001	1.23	35.8	14.9	5.54	2.76	1.84	2.56	0.74	**6.31**
10287069	**1998**	0.64	0.56	0.43	0.03	0	0.94	76.1	11.1	3.13	1.97	0.85	0.49	**8.16**
10287069	**1999**	0.33	0.53	0	0	0.005	2.43	12	2.25	3.09	5.04	4.4	0.28	**2.55**
10287069	**2000**	0	0	0	0	0	1.48	4.09	3.31	2.02	1.79	1.45	0.56	**1.23**
10287069	**2001**	0.14	0.009	0	0	0.39	3.69	3.16	1.34	0.2	0	0	0.009	**0.75**
10287069	**2002**	0.042	0.07	2.61	0	0	1.44	4.06	2.92	1.78	1.1	0.29	0.008	**1.21**
10287069	**2003**	0	0	0	0.48	0.008	5.65	5.24	3.54	1.79	0.78			
		Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual average**
	Average:	**1**	**0**	**0**	**0**	**0**	**8**	**18**	**6**	**2**	**1**	**1**	**0**	**3**

MONTHLY AND ANNUAL
MEAN STREAMFLOW DATA
Mill Creek Below Lundy Lake
USGS Stations #10287069, #10287070, #10287071

USGS 10287070 MILL C BL LUNDY LK NR MONO LK(ACTUAL) CA

10287070	**1969**										16.5	15.1	9.9	
10287070	**1970**	11.5	15.1	11.1	15.7	36.9	75.5	77	24.1	25.1	9.77	8.7	8.91	**26.7**
10287070	**1971**	10.5	12.8	11.5	12.3	33	65	85.5	48	23.4	16.8	10.3	8.2	**28.2**
10287070	**1972**	8.2	8.2	13.2	9.47	32.3	67.3	33.1	17.4	13	10.8	7.17	7.89	**19**
10287070	**1973**	8.58	9.03	9.06	18.2	53.1	90.5	81.9	33.5	15.9	11.8	9.29	14.4	**29.7**
10287070	**1974**	13.5	13.8	10.9	15	54	81.6	87.2	66.9	26.2	1.85	5.08	6.4	**32**
10287070	**1975**	7.55	8.19	8.7	15.2	40.5	75.3	78.9	45.8	13.7	13.7	13	9.91	**27.7**
10287070	**1976**	7.03	6.17	6.72	7.23	15.5	28.6	18	15.6	12.2	9.48	6.24	5.38	**11.5**
10287070	**1977**	5.21	4.67	5.1	8.28	12.2	47.5	19.6	9.59	4.72	5.35	4.98	5.57	**11.1**
10287070	**1978**	8.16	9.55	11.9	19.5	47.8	92.2	94.2	87.8	52.1	20.1	13.3	12.2	**39.3**
10287070	**1979**	13.2	12.6	12.7	15.6	54.8	83	75.7	41.6	12.3	10.2	10.9	9.77	**29.5**
10287070	**1980**	16.9	13	13.1	29.7	55.8	72.7	141	92.9	43	16.4	14.1	10.9	**43.5**
10287070	**1981**	8.98	9.53	10.5	20	47.9	66.8	46.8	16.6	11.8	9.55	13	12.5	**22.9**
10287070	**1982**	15.7	12.8	24.6	25.6	57.4	101	119	89.4	74.6	60	28.1	23	**52.8**
10287070	**1983**	12.7	17.9	19.9	16.3	43.2	169	115	117	74.1	2.27	0.33	0.69	**49.1**
10287070	**1984**	0.26	0	0	0	0.47	14.3	31.2	11.1	0.09	0	0	0	**4.82**
10287070	**1985**	0	0	0.019	0.037	0	0.91	3.03	2.24	4.96	16.3	13.3	14	**4.61**
10287070	**1986**	14	12.6	29.6	38.3	56.9	136	97.5	60.9	28.3	18.4	17.4	14.4	**43.8**
10287070	**1987**	7.69	7.67	7.18	7.96	32	30.8	22.2	20.1	8.67	7.91	6.35	6.85	**13.8**
10287070	**1988**	6.71	7.32	17	5.64	12.3	25.8	33.2	24.5	16.8	7.27	6.87	5.83	**14.2**
10287070	**1989**	5.4	5.44	20	23.3	42.7	55.6	40.9	18.4	9.81	9.01	8.32	7.35	**20.6**
10287070	**1990**	6.42	6.4	11	21.6	24.5	26.2	21.2	13.9	8.56				
		Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual average**
	Average:	**9**	**9**	**12**	**15**	**36**	**67**	**63**	**41**	**23**	**13**	**10**	**9**	**26**

USGS 10287071 MILL C BL LUNDY LK NR MONO LK NATURAL FLOW CA

USGS Station	**YEAR**	**Monthly Mean Streamflow (cfs)**												**Annual Mean Streamflow (cfs)**
		Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	
10287071	**1969**										19.2	13.7	10.6	
10287071	**1970**	14.1	11.8	11.8	15.1	42.1	90.8	71.7	24	15	10.6	9.99	10.8	
10287071	**1971**	10.2	11.1	10.4	14.4	34.1	91.5	81.5	37.4	19.5	20.4	16.1	11.1	**29.9**
10287071	**1972**	14.5	15.2	12.3	16.9	43.5	96.9	79.6	26	26.2				
		Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual average**
	Average:	**13**	**13**	**12**	**15**	**40**	**93**	**78**	**29**	**20**	**17**	**13**	**11**	**30**

Note:
1) Gray cells indicate data not available.
2) Final monthly and annual averages are a simple average of means and not statistically validated.

MONTHLY AND ANNUAL
MEAN STREAMFLOW DATA
Wilson Creek Below Lundy Powerplant
USGS Stations #10287145, #10287195

USGS 10287145 UP CONWAY D NR LEE VINING CA

USGS Station	YEAR	Monthly Mean Streamflow (cfs)												Annual Mean Streamflow (cfs)
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
10287145	1986										0	0	0	
10287145	1987	0	0	0	0	6.9	8.1	3.79	4.76	0	0	0	0	**1.98**
10287145	1988	0	0	0	0	1.06	9.8	8.03	0	0	0	0	0	**1.57**
10287145	1989	0	0	0	0	6.98	7.68	8.55	3.85	0	0	0	0	**2.28**
10287145	1990	0	0	0	0	0	2.69	5.6	4.2	1.26	0	0	0	**1.16**
10287145	1991	0	0	0	0	0	9.77	11.9	12	4.23	0	0.001	0	**3.18**
10287145	1992	0	0	0	0	1.18	6.66	7.97	6.75	1.08	0	0	0	**1.98**
10287145	1993	0	0	0	0	0.83	6.48	8.86	7.4	2.25	0	0	0	**2.17**
10287145	1994	0	0	0	0	0	1.97	5.75	2.6	0	0	0	0	**0.87**
10287145	1995	0	0	0	0	0	6.03	8.71	10.1	0	0	0	0	**2.09**
10287145	1996	0	0	0	0	3.56	9.03	9.41	3.39	0	0	0	0	**2.13**
10287145	1997	0	0	0	0	0	1.78	8.12	8.03	0.053	0	0	0	**1.52**
10287145	1998	0	0	0	0	0	0.088	3.95	6.61	0.093	0	0	0	**0.91**
10287145	1999	0	0	0	0	3.49	6.98	12	4.65	0	0	0	0	**2.29**
10287145	2000	0	0	0	0	5.03	5.66	4.71	0	0	0	0	0	**1.29**
10287145	2001	0	0	0	1.88	2.94	7.51	1.69	0	0	0	0	0	**1.17**
10287145	2002	0	0	0	0	0.42	9.89	3.04	0	0	0	0	0	**1.11**
10287145	2003	0	0	0	0	5.06	7.9	4.55	0	0	0	0	0	**1.47**
10287145	2004	0	0	0	0	3.15	11.7	3.7	0	0				
		Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual average**
	Average:	**0**	**0**	**0**	**0**	**2**	**7**	**7**	**4**	**0**	**0**	**0**	**0**	**2**

USGS 10287195 LUNDY PP TAILRACE NR LEE VINING CA

USGS Station	YEAR	Monthly Mean Streamflow (cfs)												Annual Mean Streamflow (cfs)
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
10287195	1986										16.9	16.6	14.4	
10287195	1987	7.69	7.67	7.18	7.96	24.6	21.8	17	15	8.67	7.91	6.35	6.85	**11.6**
10287195	1988	6.71	7.32	17	5.64	11.3	13.6	19.1	21.8	16.5	7.27	6.87	5.83	**11.6**
10287195	1989	5.4	5.44	20	23.3	35.7	45.3	28.6	10.9	8.88	9.01	8.32	7.35	**17.4**
10287195	1990	6.42	6.4	11	21.6	24.5	23.2	12.6	7.04	5.5	5.45	5.33	5.36	**11.2**
10287195	1991	5.5	5.33	5	7.12	20.5	42.2	20.1	6	8.26	5.88	5.78	7.36	**11.6**
10287195	1992	9.87	10.4	13.1	15.2	45.7	32.6	10.7	4.87	5.16	5.15	7.82	5.3	**13.8**
10287195	1993	7.23	11.1	11.1	24.8	47	50.9	55	37.8	16.1	10.9	9.81	9.9	**24.4**
10287195	1994	9.8	4.67	4.77	10.4	33.2	32.5	24.4	14.7	9.84	6.35	6.3	6.29	**13.7**
10287195	1995	6.3	7.58	29.5	25.1	46.7	60.4	58.5	57.6	47.5	17.2	10	9.93	**31.5**
10287195	1996	9.75	15.7	37.3	21.2	53.9	57.5	58.5	41.5	13.2	9.4	12	15.8	**28.9**
10287195	1997	42.9	39.4	29.3	27.4	62.3	65	59.1	50.5	22.3	14.4	10.1	8.15	**35.9**
10287195	1998	8.85	9.25	16.2	34.7	35.6	56.2	62.1	60	32.7	21.6	15.4	10.5	**30.4**
10287195	1999	9.73	27.2	10.3	10	38.9	59.1	56.8	28.9	10.1	5.58	5.93	11.5	**22.8**
10287195	2000	6.45	6.8	11.7	20.3	54.9	58.4	37.4	19.1	11.4	7.45	8.64	9.98	**21.1**
10287195	2001	6.66	7.83	11.4	30.9	28.7	38.9	22.5	19.5	14.6	6.11	5.34	5.5	**16.5**
10287195	2002	5.86	16.2	19.9	6.41	33.5	45.3	28.6	14.9	10	10.6	11	10.6	**17.7**
10287195	2003	10.8	6.04	27.4	8.9	16.8	56	37	21.2	16.3	13.5	9.71	9.66	**19.5**
10287195	2004	9.37	9.75	15.7	28.5	45	50.3	29	15.6	11				
		Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual average**
	Average:	**10**	**11**	**17**	**18**	**37**	**45**	**35**	**25**	**15**	**10**	**9**	**9**	**20**

APPENDIX B

WATER RIGHTS DATABASE SUMMARY

APPENDIX B
Mono City Water Rights
Mono County Surface Water Assesment

Source	Tributary 1	Tributary 2	Application #	Owner	Direct Diversion Rate	Storage	Usage1	Usage2	Usage 3
Mill Creek	Mono Lake		S001649	LADWP	15 cfs	0	Domestic 5/1-9/30	Stockwatering 5/1-9/30	
Mill Creek	Mono Lake		S001651	LADWP	25 cfs	0	Irrigation 5/1-10/31		
Mill Creek	Mono Lake		S001650	LADWP	24 cfs	0	Irrigation 5/1-10/31		
Mill Creek	Mono Lake		S007763	SCE	65 cfs	3820 ac-f	Industrial 1/1-12/31	Domestic 1/1-12/31	
Wilson Creek			A030565			0	Wildlife Protection 12/1 -3/14		
UNSP (near Mill Creek)	UNST	Wilson Creek	S011246	BLM	0.75 cfs	0	Stockwatering 1/1-12/30	Wildlife Protection 1/1 - 12/31	
UNSP	UNST	Wilson Creek	S011562	BLM	0.139 cfs	0	Stockwatering 1/1 - 12/31	Wildlife Protection 0/0 - 0/0	
UNSP	UNST	Wilson Creek	S011563	BLM	0.028 cfs	0	Stockwatering 0/0 - 0/0	Wildlife Protection 0/0 - 0/0	
UNSP	UNST	Wilson Creek	S011564	BLM	0.113 cfs	0	Stockwatering 0/0 - 0/0	Wildlife Protection 0/0 - 0/0	
UNSP	Rattlesnake Gulch	Wilson Creek	S011569	BLM	3240 gal/day	0	Stockwatering 0/0 - 0/0	Wildlife Protection 0/0 - 0/0	
UNSP	Rattlesnake Gulch	Wilson Creek	S011571	BLM	0.208 cfs	0	Wildlife Protection 0/0 - 0/0		
UNSP	Bacon Gulch	Wilson Creek	S011568	BLM	0.079 cfs	0	Wildlife Protection 0/0 - 0/0		
UNSP	UNST	Rattlesnake Gulch	S012816	BLM	1000 gal/day	0	Stockwatering 1/1 -12/31	Wildlife Protection 1/1 -12/31	
UNSP	UNST	Rattlesnake Gulch	S012635	BLM	1450 gal/day	0	Stockwatering 1/1 -12/31	Wildlife Protection 1/1 -12/31	
UNSP	UNST	Rancheria Gulch	S011247	BLM	720 gal/day	0	Stockwatering 1/1 -12/31	Wildlife 1/1 - 12/31	
UNSP	Bacon Gulch	Mono Lake	S012636	BLM	3900 gal/day	0	Wildlife Protection 1/1 - 12/31	Stockwater 1/1 - 12/31	
UNSP	Rancheria Gulch	Mono Lake	S012638	BLM	750 gal/day	0	Stockwatering 1/1 -12/31	Wildlife 1/1 -12/31	
UNSP	Rancheria Gulch	Mono Lake	S011567	BLM	8000 gal/day	0	Stockwatering	Wildlife 0/0 - 0/0	
UNSP	UNST	Mono Lake	A030620	T. Hansen	0.069 cfs	0	Industrial 5/1-11/30	Domestic 1/1-12/31	
UNSP	Rattlesnake Gulch		S012818	BLM	1200 gal/day	0	Stockwatering 1/1 -12/31	Wildlife Protection 1/1 -12/31	
UNSP	Rattlesnake Gulch		S012817	BLM	1750 gal/day	0	Stockwatering 1/1 -12/31	Wildlife Protection 1/1 -12/31	

(1) All data collected from Water Rights Information Management System State Water Resources Control Board Division Of Water Rights Website. The data in this database is only current to Jan 1,2000
Water right actions subsequent to that date are not reflected in the database.

APPENDIX C

ENVIRONMENTAL DATABASE SEARCH

ENVIRONMENTAL RECORD SEARCH

for the site

MONO CITY, CA

performed for

TEAM ENGINEERING & MANAGEMENT

09-02-2005

444 S CEDROS AVE, SUITE 200 SOLANA BEACH CA 92075 858 793-0641 www.bblenv.com

BBL ENVIRONMENTAL INFORMATION

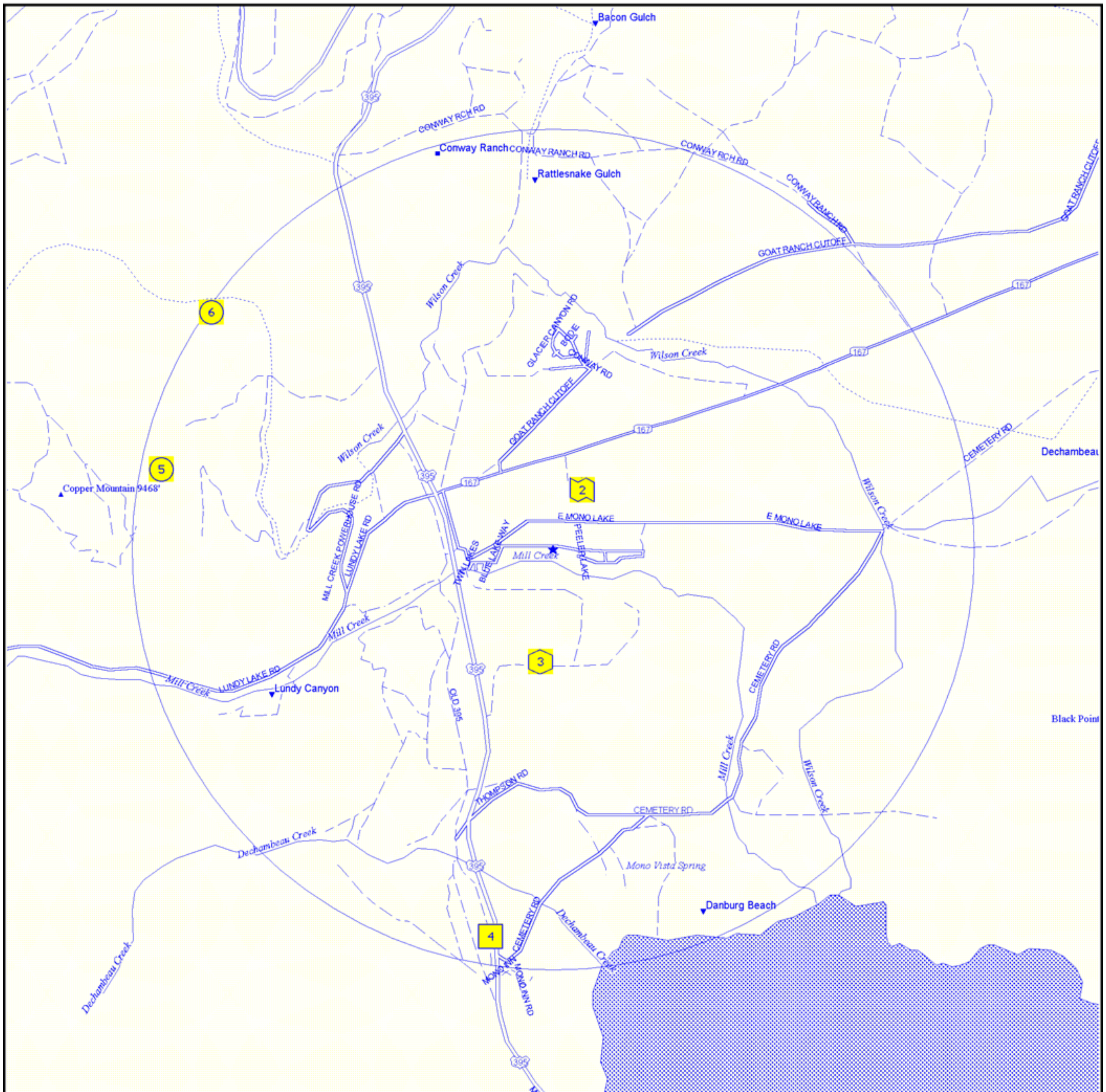
INTRODUCTION

This document, prepared on the request of TEAM ENGINEERING & MANAGEMENT, reports the findings of BBL's investigation of environmental concerns in the vicinity of Mono City, CA. It is divided in the following segments:

- **Map** - showing the location of the identified sites relative to the subject site.
- **Topographic** Map - showing the surrounding area of the subject site.
- **Summary** - listing the identified sites by street names.
- **Final Report** - describing the sources investigated and the resulting findings:

Environmental Concerns	**Page**	**Search Dist**	**Site**	**< 1/8**	**1/8-1/4**	**1/4-1/2**	**1/2-1/1**	**area**	**un kwn**	**total**
National Priority List	1	1 mile								
CERCLIS	1	1 mile								
NFRAP	1	1 mile								
Federal Facilities	2	1 mile								
Emergency Response Notification System	2	1 mile								
Hazardous Material Incident Report System	2	1 mile								
Site Enforcement Tracking System	2	1 mile								
Enforcement Docket (DOCKET/CDETS)	3	1 mile								
C-Docket	3	1 mile								
RCRA Violators List	3	1 mile								
RCRA - TSD Facilities	3	1 mile								
Federal Enforcement Dockets	3	1 mile								
Annual Work Plan	4	1 mile								
CALSITES	4	1 mile								
Voluntary Cleanup Program	5	1 mile								
Properties Needing Further Evaluation	5	1 mile								
Referred Unconfirmed Properties	5	1 mile					1			1
CALSITES - No Further Action	6	1 mile								
Cortese	6	1 mile								
Leaking Underground Storage Tanks	6	1 mile								
Solid Waste Information System	6	1 mile					1			1
Well Investigation Program	7	1 mile								
Drinking Water Program	7	1 mile				1				1
School Property Evaluation Program	8	1 mile								
Toxic Releases	8	1 mile								
Toxic Pits	9	1 mile								
Solid Waste Assessment Test - Regional	9	1 mile								
Environmental Concern References						1	2			3
Environmental Concern Sites						1	3			4
Operating Permits										
RCRA Generators	9	1 mile							2	2
SARA Title III,section 313 (TRIS)	10	1 mile								
MILS Mineral Industry Location System	10	1 mile					1			1
Nuclear Regulatory Commission Licensees	11	1 mile								
PCB Waste Handlers Database	11	1 mile								
Permit Compliance System (PCS)	11	1 mile								
AIRS Facility System (AFS)	11	1 mile								
Section Seven Tracking System	11	1 mile								
FIFRA/TSCA tracking system	12	1 mile								
Federal Facilities Information System (FFIS)	12	1 mile								
Chemicals in Commerce Information System	12	1 mile								
FINDS EPA Facility Index System	12	1 mile							2	2
Hazardous Waste Information System	12	1 mile					1		1	2
Underground Storage Tanks	13	1 mile							3	3
Operating Permits References							2		8	10
Operating Permits Sites							1		7	8
Total References						**1**	**4**		**8**	**13**
Total Sites						**1**	**4**		**7**	**12**

* The classification by distance takes into consideration physical property sizes by assuming a standard size.



.6 inches to 1/2 mile (the circles do not include any buffer zone)

- ENVIRONMENTAL CONCERNS - HIGH PRIORITY
- ENVIRONMENTAL CONCERNS
- ENVIRONMENTAL CONCERNS - WITH A 'NO FURTHER ACTION' STATUS'
- OPERATING PERMITS ONLY
- WATER WELLS

APPROXIMATE LOCATION OF IDENTIFIED SITES IN THE VICINITY OF SUBJECT SITE
AT MONO CITY,

2.	LUNDY MWC/		WELL 02
3.	U.S.F.S - VIRGINIA LAKES		VIRGINIA LAKES ROAD, CONWAY SUMMIT
4.	CONSTRUCTION SPECIALTY		HWY 395 & CEMETERY RD
5.	GOLETA MINE		02N/25E-11, HWY 395 - 167
6.	LAKE VIEW COPPER		2N/25E-02 M,

UNKNOWN LOCATIONS

CONTEL CONWAY SUMMIT M/W	10	MI N/W OF LEE VINING
CONSTRUCTION SPECIALTY		MONO LAKE DR
C. MEREDITH		PO BOX 220
LEE VINING CHEVRON MINI MARKET		PO BOX 290
SITE ID 060510007		SIMUS RES-HIWY 167, MONO LAKE
SITE ID 060510005		SMS-HWY 395, LEE VINING
SOUTHERN CALIFORNIA EDISON		STAR RTE 3 HWY 395

ENVIRONMENTAL RECORD SEARCH

SUMMARY

; ADDRESS	CITY	LOCATION	SOU-RCE	STA-TUS	PA GE	MAP LOC	DIR
KNOWN ENVIRONMENTAL CONCERNS, WITHIN 1/4 - 1/2 MILE OF THE SUBJECT SITE							
WELL 02	02N/26E-07K01 M	LUNDY MWC/	WQ	AR	7	**2**	NE
KNOWN ENVIRONMENTAL CONCERNS, WITHIN 1/2 - 3/4 MILE OF THE SUBJECT SITE							
VIRGINIA LAKES ROAD, CONWAY SU	MONO CITY	U.S.F.S - VIRGINIA LAKES	SWIS		7	**3**	S
SITES WITH UNKNOWN OR NON-SPECIFIC LOCATION							
02N/25E-11, HWY 395 - 167	LEE VINING	GOLETA MINE	RF	REFOA	5	**5**	W
2N/25E-02 M,	MONO	LAKE VIEW COPPER	MI		10	**6**	NW

;	ADDRESS	CITY	LOCATION	SOU-RCE	STA-TUS	PA GE	MAP LOC	DIR

;

SITES WITH UNKNOWN OR NON-SPECIFIC LOCATION

	ADDRESS	CITY	LOCATION	SOURCE	STATUS	PAGE	MAP LOC	DIR
	HWY 395 & CEMETERY RD	LEE VINING	CONSTRUCTION SPECIALTY	HWIS		13	**4**	S
10	MI N/W OF LEE VINING	LEE VINING	CONTEL CONWAY SUMMIT M/W	HWIS		13		
			CONTEL CONWAY SUMMIT M/W	RCRA		10		
	MONO LAKE DR	LEE VINING	CONSTRUCTION SPECIALTY	UST	2005	14		
			CONSTRUCTION SPECIALTY	UST		13		
	PO BOX 220	LEE VINING	C. MEREDITH	UST	8798A	14		
	PO BOX 290	LEE VINING	LEE VINING CHEVRON MINI MARKET	UST	2005	14		
			LEE VINING CHEVRON MINI MARKET	UST		14		
			LEE VINING CHEVRON MINI MARKET	UST	99	14		
	SIMUS RES-HIWY 167, MONO LAKE	MONO LAKE	SITE ID 060510007	FN		12		
	SMS-HWY 395, LEE VINING	LEE VINING	SITE ID 060510005	FN		12		
	STAR RTE 3 HWY 395	LEE VINING	SOUTHERN CALIFORNIA EDISON	RCRA	N	10		

–

REFERENCED SOURCES

Date: 09-02-2005

Job: TEAM3316

NPL	NATIONAL PRIORITY LIST (09/15/04)					
CERCLA	CERCLIS (09/15/04)					
NFRAP	NFRAP (09/15/04)					
FedFac	FEDERAL FACILITIES (09/15/04)					
ERNS	EMERGENCY RESPONSE NOTIFICATION SYSTEM					
HM	HAZARDOUS MATERIAL INCIDENT REPORT SYSTEM (2003)					
SETS	SITE ENFORCEMENT TRACKING SYSTEM (10/12/03)					
CDETS	ENFORCEMENT DOCKET (DOCKET/CDETS) (09/04)					
CD	C-DOCKET (09/04)					
RV	RCRA VIOLATORS LIST (09/04)					
TSD	RCRA - TSD FACILITIES (09/04)					
	I Incinerator	D	Land Disposal	T	Storage/Treatment	
FD	FEDERAL ENFORCEMENT DOCKETS					
AnnWrk	ANNUAL WORK PLAN (10/27/03)					
	BKLG Backlog	DLST	Delisted from the AWP	AWP	Active AWP site	
	REFRW Referred to the RWQB	COM	Certified, maint mode	REFRC	Referred to RCRA	
	CERT Certified after remediation					
CalSite	CALSITES (10/27/03)					
VC	VOLUNTARY CLEANUP PROGRAM (10/27/03)					
FE	PROPERTIES NEEDING FURTHER EVALUATION (10/27/03)					
RF	REFERRED UNCONFIRMED PROPERTIES (10/27/03)					
CS-nfa	CALSITES - NO FURTHER ACTION (10/27/03)					
CS	CORTESE (10/03)					
LUST	LEAKING UNDERGROUND STORAGE TANKS (11/03)					
	0 No action	3B	Prel site assmnt underway	7	Remedial action underway	
	1 Leak being confirmed	5C	Pollution characterization	8	Post remedial action monitoring	
	3A Site workplan submitted	5R	Remediation plan	9	Case closed	
SWIS	SOLID WASTE INFORMATION SYSTEM (11/03)					
WIP	WELL INVESTIGATION PROGRAM					
WQ	DRINKING WATER PROGRAM					
SC	SCHOOL PROPERTY EVALUATION PROGRAM (10/27/03)					
NT	TOXIC RELEASES					
TP	TOXIC PITS (01/03)					
SR	SOLID WASTE ASSESSMENT TEST - REGIONAL (01/03)					
RCRA	RCRA GENERATORS (09/04)					
	L Large Generator	T	Transporter	S	Small Generator	
SARA	SARA TITLE III,SECTION 313 (TRIS) (2003)					
MI	MILS MINERAL INDUSTRY LOCATION SYSTEM					
Nucl	NUCLEAR REGULATORY COMMISSION LICENSEES (09/04)					
PCB	PCB WASTE HANDLERS DATABASE (09/04)					
PCS	PERMIT COMPLIANCE SYSTEM (PCS) (09/04)					
AFS	AIRS FACILITY SYSTEM (AFS) (09/04)					
PE	SECTION SEVEN TRACKING SYSTEM (09/04)					
FIFRA	FIFRA/TSCA TRACKING SYSTEM (09/04)					
FIFS	FEDERAL FACILITIES INFORMATION SYSTEM (FFIS) (09/04)					
CICIS	CHEMICALS IN COMMERCE INFORMATION SYSTEM (09/04)					
FN	FINDS EPA FACILITY INDEX SYSTEM (09/04)					
HWIS	HAZARDOUS WASTE INFORMATION SYSTEM (1984-2003)					
UST	UNDERGROUND STORAGE TANKS					

INTRODUCTION

BBL has used its best effort but makes no claims as to the completeness or accuracy of the referenced government sources or the completeness of the search. Our records are frequently updated but only as current as their publishing date and may not represent the entire field of known or potential hazardous waste or contaminated sites. To ensure complete coverage of the subject property and surrounding area, sites may be included in the list if there is any doubt as to the location because of discrepancies in map location, zip code, address, or other information in our sources. For additional information call 858 793-0641.

In accordance with ASTM E-1527-00, the following government sources have been searched for sites at the street address, unless otherwise stated, of the subject location.

FEDERAL SOURCES

NPL National Priority List

EPA has prioritized sites with significant risk to human health and the environment. These sites receive remedial funding under the Comprehensive Environmental Response Conservation and Liability Act (CERCLA).

No listings within 2 mile radius of the subject site.

CERCLIS Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS is a database used by the EPA to track activities conducted under the Comprehensive Environmental Response and Liability Act CERCLA (1980) and the amendment the Superfund Amendments and Reauthorization Act SARA (1986).

Sites to be included are identified primarily by the reporting requirements of hazardous substances Treatment, Storage and Disposal (TSD) facilities and releases larger than specific Reportable Quantities (RQ), established by EPA.

Using the National Oil and hazardous Substance Pollution Contingency Plan(National Contingency Plan) the EPA set priorities for cleanup.

The EPA rates National Contingency Plan sites according to a quantitative Hazard Ranking System (HRS) based on the potential health risk via any one or more pathways: groundwater, surface water, air, direct contact, and fire/explosion.

The EPA and state agencies seek to identify potentially responsible parties(PRP) and ultimately Responsible Parties (RP) who can be required to finance cleanup activities, either directly or through reimbursement of federal Superfund expenditures.

No listings within 2 mile radius of the subject site.

NFRAP No Further Remedial Action Planned sites (CERCLIS)

As of February 1995, CERCLIS sites designated 'No Further Remedial Action Planned' NFRAP have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

EPA has removed these NFRAP sites from CERCLIS to lift unintended barriers to the redevelopment of these properties. This policy change is part of EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens promote economic redevelopment of unproductive urban sites.

No listings within 2 mile radius of the subject site.

FEDFAC Federal Facilities

As part of the CERCLA program, federal facilities with known or suspected environmental problems, the Federal Facilities Hazardous Waste Compliance Docket is tracked separately to comply with a Federal Court order.

No listings within 2 mile radius of the subject site.

ERNS Emergency Response Notification System

The ERNS is a national computer database used to store information on unauthorized releases of oil and hazardous substances. The program is a cooperative effort of the Environmental Protection Agency, the Department of Transportation Research and Special Program Administration's John Volpe National Transportation System Center and the National Response Center.

There are primarily five Federal statutes that require release reporting the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 103; the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304; the Clean Water Act of 1972(CWA) section 311(b)(3); and the Hazardous Material Transportation Act of 1974(HMTA section 1808(b).

No listings within 2 mile radius of the subject site.

HMIRS Hazardous Material Incident Report System

The Hazardous Material Report Incident Report Subsystem HMIRS of the Research and Special Programs Administration (RSPA) Hazardous Material Information System was established in 1971 to fulfill the requirements of the Federal hazardous material transportation law. Part 171 of Title 49, Code of Federal Regulations (49 CFR) contains the incident reporting requirements of carriers of hazardous materials. An unintentional release of hazardous materials meeting the criteria set forth in Section 171.16, 49 CFR, must be reported on DOT Form 5800.1. The data from the reports received are subsequently entered in the HAZMAT database.

No listings within 2 mile radius of the subject site.

SETS Site Enforcement Tracking System (SETS)

When expanding Superfund monies at a CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) Site, EPA must conduct a search to identify parties with potential financial responsibility for remediation of uncontrolled hazardous waste sites. EPA regional Superfund Waste Management Staff issue a notice letter to the potentially responsible party (PRP). The status field contains the EPA ID number and name of the site where the actual pollution occurred.

No listings within 2 mile radius of the subject site.

DO Enforcement Docket System (DOCKET)/Consent Decree Tracking System (CDETS)

DOCKET tracks civil judicial cases against environmental polluters, while CDETS processes court settlements, called consent decrees.

No listings within 2 mile radius of the subject site.

CD Criminal Docket System (C-DOCKET)

The Criminal Docket System is a comprehensive automated system for tracking criminal enforcement actions. C-Docket handles data for all environmental statues and tracks enforcement actions from the initial stages of investigations through conclusion.

No listings within 2 mile radius of the subject site.

RCRA RCRA Violators List (CORRACTS)

The Resource Conservation and Recovery Act of 1976 provides for "cradle to grave" regulation of hazardous wastes. RCRA requires regulation of hazardous waste generators, transporters, and storage/treatment/disposal sites. Evaluation to potential violations, ranging from manifest requirements to hazardous waste discharges, is typically conducted by the US EPA. This database is also known as Corrective Action Report (CORRACTS)

If enforcement is required, it is typically delegated to a state agency.

No listings within 2 mile radius of the subject site.

RCRA-D Resource Conservation and Recovery Information System - Treatment, Storage & Disposal

The Environmental Protection Agency regulates the treatment, storage and disposal of hazardous material through the Resource Conservation and Recovery Act (RCRA). All hazardous waste TSD facilities are required to notify EPA of their existence by submitting the Federal Notification of Regulated Waste Activity Form (EPA Form 8700-12) or a state equivalent form as well as part A (EPA form 8700-23) and Part B of their Hazardous Waste Permit Application.

Status Codes:	I	Incinerator
	T	Storage/Treatment facility other than Incinerator
	D	Land Disposal Facility

No listings within 2 mile radius of the subject site.

FD Federal Enforcement Dockets

The US EPA, Office of Enforcement, maintains a list of sites under enforcement by the US EPA.

No listings within 2 mile radius of the subject site.

CALIFORNIA STATE SOURCES

AW Annual Work Plan (previously known as Bond Expenditure Plan)

The California Health and Safety code, as amended by AB 129, requires the California Environmental Protection Agency to develop a site-specific expenditure plan as the basis for an appropriation of California Hazardous Substance Cleanup Bond Act of 1984 funds.

The Agency is also required to update the report annually and report any significant adjustments to the Legislature on an ongoing basis. The plan identifies California hazardous waste sites targeted for cleanup by responsible parties, the California and the Federal Environmental Protection Agency over the next five years.

Status Codes:	BKLG	Backlog, Potential Annual Work Plan Site
	AWP	Active Annual Work Plan site
	COM	Certified, but still in Operation & Maintenance mode
	CERT	Certified after remediation
	DLST	Delisted from the AWP
	REFRC	Former AWP site referred to RCRA
	REFRW	Former AWP site referred to the Regional Water Quality Board

No listings within 2 mile radius of the subject site.

CALS CALSITES

The Historical Abandoned Site Survey Program identified certain potential hazardous waste sites. The identification of these sites were generally not made via sampling and site characterization, they were made as a result of file searches and windshield surveys. Some of the sites may have had a site inspection with sampling.

The information has been compiled into this database by the California Environmental Protection Agency, Department of Toxic Substance Control (DTSC) in accordance with Section 25359.6 of the California Health and Safety Code.

This database was previously known as The Abandoned Sites Program Information System ASPIS.

Status Codes:	PEARL	Preliminary Endangerment Assessment Required,Low priority
	PEARM	Preliminary Endangerment Assessment Required,Medium priority
	PEARH	Preliminary Endangerment Assessment Required,High priortiy
	SSR	Site Screening Required
	HRR	Hazard Ranking Required
	PRPR	Potential Responsible Party Search Required
	EPA	EPA is the lead agency
	RCRA	Mitigated under the RCRA permitting program
	RWQCB	Mitigated under the lead of the Regional Water Quality Boar
	CNTY	County lead
	OAL	Other Agency lead

No listings within 2 mile radius of the subject site.

VCP Voluntary Cleanup Program

This category contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have requested that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Status Codes:	VCP	Property with either confirmed or unconfirmed releases and project proponents have requested that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSCs costs.
	VCOMP - The scope of work in the VCP Agreement has been completed.	
	PEAP	Preliminary Endangerment Assessment in Progress.
	NFA	No Further Action Required
	VTERM	VCP agreement Terminated was terminated prior to the completion of the scope of work in the agreement.
	BZHW	Border Zone/Hazardous Waste Properties chapter 6.5 of the Health and Safety Code, commencing with section 25220.
	COM	Certified, but still in Operation & Maintenance mode
	CERT	Certified after remediation
	HWDLU	Hazardous Waste Disposal Land Use with a voluntary deed restrictions.
	NA	CalMortgage Properties. DTSC is conducting a Phase I Assessment

No listings within 2 mile radius of the subject site.

FE Properties Needing Further Evaluation

This category of The Site Mitigation and Brownfields Reuse Program Database (SMBRPD), contains properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the PEA process.

Status Codes:	PEAP	Preliminary Endangerment Assessment (PEA) in Progress
	PEAR	Preliminary Endangerment Assessment (PEA) is Required
	RR	Removal Action Required

No listings within 2 mile radius of the subject site.

REF Referred Unconfirmed Properties

This category of The Site Mitigation and Brownfields Reuse Program Database (SMBRPD), contains properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.

Status Codes:	REFRW	Referred to Regional Water Quality Control Board
	REFRC	Referred to DTSC's Hazardous Waste Program (RCRA).
	REFOA	Referred to other agencies.

This list has been researched within 2 mile radius of the subject site.

Site:	GOLETA MINE
Address:	02N/25E-11, HWY 395 - 167
City:	LEE VINING
Map Loc:	5 - about 2.11 mile W of the subject
Status:	REFOA - Referred to other agency

26100015 101195 METAL MINING

CALS CALSITES - No Further Action

This section includes the sites on the Calsite list, which have been flagged for no further action by the California Environmental Protection Agency, Department of Toxic Substance Control (DTSC) in accordance with Section 25359.6 of the California Health and Safety Code.

Status Codes:	NFA	No Further Action for DTSC
	RED	Closed Case marked for removal from list

No listings within 2 mile radius of the subject site.

CORTESE State of California Office of Planning and Research

This database is a consolidation of information from various sources. It is maintained by the State Office of Planning and Research and lists potential and confirmed hazardous waste or substances sites.

Facilities that have been reported elsewhere in this report will not be included in the listing below.

Status Codes:	WRCBT	Tank leaks. Compiled by Water Resource Control Board
	DHS1	Abandoned hazardous waste site. Compiled by Toxic Substance Control Div. of DHS
	DHS2	Contaminated public water drinking wells serving less than 200 connections. Compiled by Env. Health Div. of DHS
	DHS3	Contaminated public water drinking wells serving more than 200 connections
	DHS5	Sites pursuant to section 25356 of the Health and Safety Code (see BEP)
	CWMB	Solid waste disposal sites with known migration of hazardous waste

No listings within 2 mile radius of the subject site.

LUST Leaking Underground Storage Tanks - California State

The Leaking Underground Storage Tanks Information System is maintained by the State Water Resource Board pursuant to Section 25295 of the Health and Safety Code.

Status Codes:	0	No action
	1	Leak being confirmed
	3A	Prel site assessment workplan submitted
	3B	Prel site assessment underway
	5C	Pollution characterization
	5R	Remediation plan
	7	Remedial action underway
	8	Post remedial action monitoring
	9	Case closed
	P	Case purged from agency list

No listings within 2 mile radius of the subject site.

SWIS Solid Waste Information System

As legislated under the Solid Waste Management and Resource Recovery Act of 1972, the California Waste Management Board maintains lists of certain facilities, i.e. Active solid waste disposal sites, Inactive or Closed solid waste disposal sites and Transfer facilities.

This list has been researched within 2 mile radius of the subject site.

Site: U.S.F.S - VIRGINIA LAKES
Address: VIRGINIA LAKES ROAD, CONWAY SUMMIT
City: MONO CITY
Map Loc: 3 - about .5600000000000001 mile S of the subject
Status:

id: 26-CR-0014

Unit:	01
Activity:	SOLID WASTE DISPOSAL SITE
Status:	CLOSED (Operational) TO BE DETERMINED(Regulatory)
Inspection:	QUARTERLY
Owner:	US FOREST SVC-INYO

-

WIP Well Investigation Program

The Well Investigation Program (AB1803) identifies groundwater that is already contaminated and empowers the California Department of Health Services and local health officers to order ongoing monitoring programs. The focus of this program is to monitor and protect drinking water.

No listings within 2 mile radius of the subject site.

WQ Drinking Water Program

The California Health and Safety Code section 116275-116300 stipulates that it is the intent of the Legislature to improve laws governing drinking water quality to improve upon the minimum requirements of the federal Safe Drinking Water Act Amendments of 1986, to establish primary drinking water standards that are at least as stringent as those established under the federal Safe Drinking Water Act, and to establish a program under this chapter that is more protective of public health than the minimum federal requirements.

In order to provide for the orderly and efficient delivery of safe drinking water the State Department of Health Services collect information on the quality of public drinking water wells under the California Drinking Program.

Below, the latest and maximum analysis of contaminants are reported (only positive reading are included). MCL is the Maximum Contaminant Level or enforceable drinking water standard. RPHL is the Recommended Public Health Level. Additional information is available upon request.

This list has been researched within 2 mile radius of the subject site.

Owner: LUNDY MWC/
Well: WELL 02
WellNo: 02N/26E-07K01 M
Map Loc: 2 - about .35 mile NE of the subject
Status: AR - Active Raw (sampled before treatment)

WATER QUALITY:

		units	latest		maximum	MCL/RPHL
SOURCE TEMPERATURE C	C	13	3/6/95	13	3/6/95	
ODOR THRESHOLD @ 60 C	TON	1	3/6/95	1	3/6/95	3/-
SPECIFIC CONDUCTANCE	US	198	3/6/95	198	3/6/95	2200/-
PH, LABORATORY		8	3/6/95	8	3/6/95	
ALKALINITY (TOTAL) AS CACO3	MG/L	85.7	3/6/95	85.7	3/6/95	
BICARBONATE ALKALINITY	MG/L	105	3/6/95	105	3/6/95	
NITRATE NITROGEN (NO3-N)	UG/L	200	3/6/95	200	3/6/95	
HARDNESS (TOTAL) AS CACO3	MG/L	77	3/6/95	77	3/6/95	
CALCIUM	MG/L	30.2	3/6/95	30.2	3/6/95	
MAGNESIUM	MG/L	1.2	3/6/95	1.2	3/6/95	
SODIUM	MG/L	9.6	3/6/95	9.6	3/6/95	
POTASSIUM	MG/L	1	3/6/95	1	3/6/95	
CHLORIDE	MG/L	.4	3/6/95	.4	3/6/95	600/-
SULFATE	MG/L	13.1	3/6/95	13.1	3/6/95	600/-
ARSENIC	UG/L	6	3/6/95	6	3/6/95	50/-
CADMIUM	UG/L	1	3/6/95	1	3/6/95	5/-
ZINC	UG/L	594	3/6/95	594	3/6/95	
GROSS ALPHA	PCI/L	2.1	12/27/95	2.1	12/27/95	15/-
GROSS ALPHA COUNTING ERROR	PCI/L	1.1	12/27/95	1.1	12/27/95	
TOTAL DISSOLVED SOLIDS	MG/L	120	3/6/95	120	3/6/95	1500/-
LANGELIER INDEX @ 60 C		.6	3/6/95	.6	3/6/95	
LANGELIER INDEX AT SOURCE TEMP.			.1	3/6/95	.1	3/6/95
NITRATE (AS NO3)	MG/L	.9	3/6/95	.9	3/6/95	45/-
AGGRSSIVE INDEX (CORROSIVITY)		11.8	3/6/95	11.8	3/6/95	
NITRATE + NITRITE (AS N)	UG/L	200	3/6/95	200	3/6/95	

SCH School Property Evaluation Program Properties

This category of The Site Mitigation and Brownfields Reuse Program Database (SMBRPD) contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Status Codes:		
	VCP	Active school property where DTSC has entered into a VCP Agreement.
	PEAR	Preliminary Endangerment Assessment (PEA) required.
	PEAP	Preliminary Endangerment Assessment (PEA) in Progress
	VCOMP	The scope of work in the VCP Agreement has been completed.
	NA	No Action - potential school property where a Phase I has been completed.
	NFA	The property does not pose a problem to the public health or the environment.
	CERT	The potential school property was previously identified as a confirmed release site and it has been subsequently certified by DTSC as having been remediated satisfactorily under DTSC oversight.

No listings within 2 mile radius of the subject site.

REGIONAL SOURCES

NT Toxic Releases

The California Regional Water Quality Control Boards or local Department of Health Services keeps track of toxic releases to the environment. These lists are known as Unauthorized Releases, Spill, Leaks, Investigations and Cleanups (SLIC), Non-Tank Releases, Toxics List or similar, depending on the local agency.

No listings within 2 mile radius of the subject site.

TPC Toxic Pits

The Toxic Pits Clean-Up Act (Katz Bill) places strict limitations on the discharge of liquid hazardous wastes into surface impoundment, toxic ponds, pits and lagoons. Regional Water Quality Control Boards are required to inspect all surface impoundment annually, in addition, every facility was required to file a Hydrogeological Assessment Report. Recent legislation allows the Department of Health Services to exempt facilities that closed on or before December 31, 1985, if a showing is made that no significant environmental risk remains (AB1046).

Special exemption provisions have been created for surface impoundment that receive mining wastes.

No listings within 2 mile radius of the subject site.

SWAT(R) Solid Waste Assessment Test - Regional

This program, provided for under the Calderon legislation (Section 13273 of the Water Code), requires that disposal sites with more than 50,000 cubic yards of waste provide sufficient information to the regional water quality control board to determine whether or not the site has discharged hazardous substances which will impact the environment.

Site operators are required to file Solid Waste Assessment Test reports on a staggered basis. Operators of the 150 highest ranking (Rank 1) sites were required to submit Solid Waste Assessment Tests by July 1, 1987, Rank 2 in 1988 and so on.

Operators submit water quality tests to the Regional Water Quality Control Board, describing surface and groundwater quality and supply; and the geology within 1 mile of the site. Air quality tests are submitted to the local Air Quality Management District or Air Pollution Control District.

This program is currently not funded and thus not updated.

Status Codes: Facilities or sites are ranked within each region on a scale 1-15 according to priority.

No listings within 2 mile radius of the subject site.

OPERATING PERMITS

Various agencies issue operating permits or regulate the handling, movements, storage and disposal of hazardous materials and require mandatory reporting. The inclusion in this section does not imply that an environmental problem exists presently or has in the past.

RCRA-G Resource Conservation and Recovery Information System - Generators

The Environmental Protection Agency regulates generators of hazardous material through the Resource Conservation and Recovery Act (RCRA). All hazardous waste generators are required to notify EPA of their existence by submitting the Federal Notification of Regulated Waste Activity Form (EPA Form 8700-12) or a state equivalent form. The notification form provides basic identification information and specific waste activities.

Status Codes: L - Generators who generate at least 1000 kg/mo of non-acutely hazardous waste (or 1 kg/mo of acutely hazardous waste).
S - Generators who generate 100 kg/mo but less than 1000 kg/mo of non-acutely haz waste.
T - Transporter.

This list has been researched within 2 mile radius of the subject site.

Site: CONTEL CONWAY SUMMIT M/W
Address: 10 MI N/W OF LEE VINING
City: LEE VINING
Status:
Permit id#: CAD981436934

Site: SOUTHERN CALIFORNIA EDISON
Address: STAR RTE 3 HWY 395
City: LEE VINING
Status: N

Permit id#: CAD981682933

Activities at this facility include:
Electric Power Generation, Transmission and Distributi

SARA SARA Title III,section 313 (TRIS)

Title III of the Superfund Amendments and Reauthorization Act,Section 313, also known as Emergency Planning and Community Right-to-Know Act of 1986 requires owners or operators of facilities with more than 10 employees and are listed under Standard Industrial Classification(SIC) Codes 20 through 39 to report the manufacturing, processing or use of more than a threshold of certain chemical or chemical categories listed under section 313. This data base is also known as Toxic Release Information System (TRIS).

Below summary information for the last five year period is reported grouping the releases into air, water, underground injection, land, public offsite treatment (potw) and transportation offsite.

No listings within 2 mile radius of the subject site.

MILS Mineral Industry Location System

The U.S. Bureau of Mines maintains the Minerals Availability System/Mineral Industry Location System (MAS/MILS) database.

The MILS part covers more over 200,000 mineral occurrences, deposits, mines and processing plants in the United States. The information is used to support government agencies which have land-use planning responsibilities. These agencies look to the Bureau of Mines both for mineral resource assessments and for help identifying and remediating inactive and abandoned mine hazards.

This list has been researched within 2 mile radius of the subject site.

Site: LAKE VIEW COPPER
Address: 2N/25E-02 M,
City: MONO

Map Loc: 6 - about 2.16 mile NW of the subject
Status:
id: 0060510129

UNKNOWN OPERATION (exp prospect).
Commodities include COPPER SILVER GOLD LEAD ZINC.

NC Nuclear Regulatory Commission Licensees

The Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards has been mandated (10 CFR Ch 1.42) to protect the public health and safety, the common defense and security, and the environment by licensing, inspection, and environmental impact assessment for all nuclear facilities and activities, and for the import and export of special nuclear material.

No listings within 2 mile radius of the subject site.

PCB PCB Waste Handlers Database

The U.S. Environmental Protection Agency tracks generators, transporters, commercial stores and/or brokers and disposers of PCB's in accordance with the Toxic Substance Control Act.

No listings within 2 mile radius of the subject site.

PCS Permit Compliance System

PCS is a database which contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS was developed by The U.S. Environmental Protection Agency to meet the information needs of the NPDES program under the Clean Water Act. PCS tracks permit, compliance, and enforcement states of NPDES facilities.

No listings within 2 mile radius of the subject site.

AFS AIRS Facility System

AFS contains emissions and compliance data on air pollution point sources tracked by the U.S. EPA and state and local environmental regulatory agencies. There are seven "criteria pollutants" for which data must be reported to EPA and stored in AIRS: PM10 (particulate matters less than 10 microns in size), carbon monoxide, sulfur dioxide, nitrogen dioxide, lead, reactive volatile organic compounds (VOC), and ozone.

AFS replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aeromatic Data (SAROAD).

No listings within 2 mile radius of the subject site.

PE Section Seven Tracking System (SSTS)

SSTS evolved from the FIFRA and TSCA Enforcement System (FATES). SSTS tracks the registration of all pesticide producing establishments and tracks annually the types and amounts of pesticides, active ingredients, and devices that are produced, sold or distributed each year.

No listings within 2 mile radius of the subject site.

FIFRA FIFRA/TSCA Tracking System/ National Compliance Database (FTTS/NCDB)

NCDB supports implementation of the Federal Insecticide, Fungicide and Rodenticide Control Act (FIFRA) and the Toxic Substance Control Act (TSCA).

No listings within 2 mile radius of the subject site.

FFIS Federal Facilities Information System (FFIS)

Federal Facilities Information System (FFIS) contains a list of all Treatment Storage and Disposal Facilities (TSDs) owned and operated by federal agencies.

No listings within 2 mile radius of the subject site.

CICIS Chemicals in Commerce Information System (CICIS)

Chemicals in Commerce Information System contains an inventory of chemicals manufactured in commerce or imported for Toxic Substances Control Act regulated commercial purposes. CICIS allows EPA to maintain a comprehensive listing of over 70,000 chemical substances that are manufactured or imported and are regulated under TSCA.

No listings within 2 mile radius of the subject site.

FINDS FINDS EPA Facility Index System

The U.S. Environmental Protection Agency maintains an index system of all facilities which are regulated or have been assigned an identification number for other purposes.

Facilities that have been reported elsewhere in this report will not be included in the listing below.

This list has been researched within 2 mile radius of the subject site.

Site: SITE ID 060510007
Address: SIMUS RES-HIWY 167, MONO LAKE
City: MONO LAKE
Status:
Permit id#: 000012187638

Site: SITE ID 060510005
Address: SMS-HWY 395, LEE VINING
City: LEE VINING
Status:
Permit id#: 000012187618

HWIS Hazardous Waste Information System

The Department of Toxic Substance Control, California Environmental Protection Agency, maintains a a data base keeping track of the movement and disposal of hazardous waste. The data is used to support the Tanner legislation, AB 2948.

Status Codes: EPA Facility Permit Number

- CAL - State permanent number
- CAC - State provisional or emergency number
- CAH - State prov or perm number for household hazardous waste collections
- CAI - State permanent number for exotic pest detection
- CAS - State permanent number issued by county for emergency response
- CAE - State prov number for hazardous waste removal caused by natural disasters
- CAX - State permanent or provisional number issued prior to 1987. No longer used.
- CLU - State permanent number issued by county for clandestine lab cleanup
- CAR - Federal permanent number
- CA - Federal permanent number
- CAD - Federal permanent or provisional number. State provisional before 1988.
- CAT - Federal permanent number
- CAP - Federal provisional or emergency number

This list has been researched within 2 mile radius of the subject site.

Site: CONSTRUCTION SPECIALTY
Address: HWY 395 & CEMETERY RD
City: LEE VINING
Map Loc: 4 - about 1.96 mile S of the subject
Status: EPA ID#: CAX000093328

Site: CONTEL CONWAY SUMMIT M/W
Address: 10 MI N/W OF LEE VINING
City: LEE VINING
Status: EPA ID#: CAD981436934

UST Permitted Underground Storage Tanks - State Water Quality Control Board

The Corteses Bill (AB2013), enacted in 1983, required registration of all underground storage tanks (UST) with the State Water Quality Control Board by July 1, 1984. About 176,000 tanks and surface impounds were registered between 1984 and 1987. An amendment (AB 1413) was passed in 1987, effectively removing the State Board from the registration process starting January 1, 1988. The data reflects the information collected by the state between 1984 and 1987 as well as recent time and includes all tanks and surface impounds in use or closed after 1974.

Home and farm heating fuel tanks with capacities of 1,100 gallons or less and "structures such as sumps, separators, storm drains, catch basins, oil field gathering lines, refinery pipelines, lagoons, evaporation ponds, well cellars, separation sumps, lined and unlined pits, sumps and lagoons" except those defined as UST under HSWA or may be regulated to protect water quality under the Porter-Cologne Water Quality Control Act are excluded.

This list has been researched within 2 mile radius of the subject site.

Site: CONSTRUCTION SPECIALTY
Address: MONO LAKE DR
City: LEE VINING
Status: FA0000827 (19)

Site: CONSTRUCTION SPECIALTY
Address: MONO LAKE DR
City: LEE VINING
Status: 26000000827 (192005)

Site: C. MEREDITH
Address: PO BOX 220
City: LEE VINING
Status: 00000057960 (198798A)

Activity: FARM
550 gallon, single-walled, carbon steel tank (regular), installed in 1981

Site: LEE VINING CHEVRON MINI MARKET
Address: PO BOX 290
City: LEE VINING
Status: 26000000111 (192005)

Site: LEE VINING CHEVRON MINI MARKET
Address: PO BOX 290
City: LEE VINING
Status: FA0000111 (19)

Site: LEE VINING CHEVRON MINI MARKET
Address: PO BOX 290
City: LEE VINING
Status: 3 (1999)

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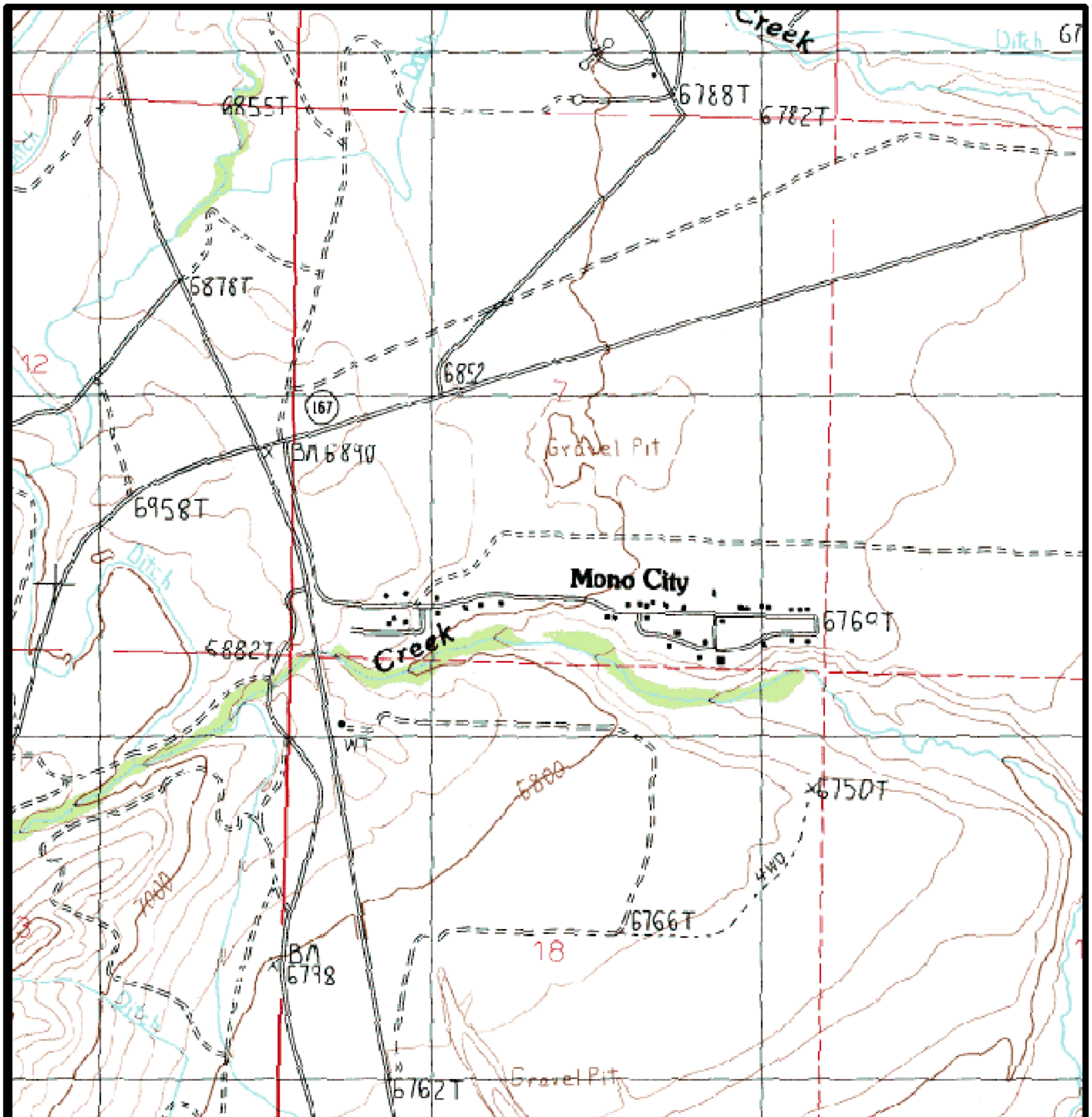


Longitude: -119° 8' 55.5"
Latitude: 38° 2' 28.6"

UTM Easting: 311435 meters
UTM Northing: 4212370 meters
UTM Zone: NAD 11

County: MONO

AREA RADON ESTIMATES
MONO County (2 sites tested)

<2	pCi/L	50.0%
2-4	pCi/L	50.0 %
4-8	pCi/L	0.0 %
8-20	pCi/L	0.0 %
20 >	pCi/L	0.0%

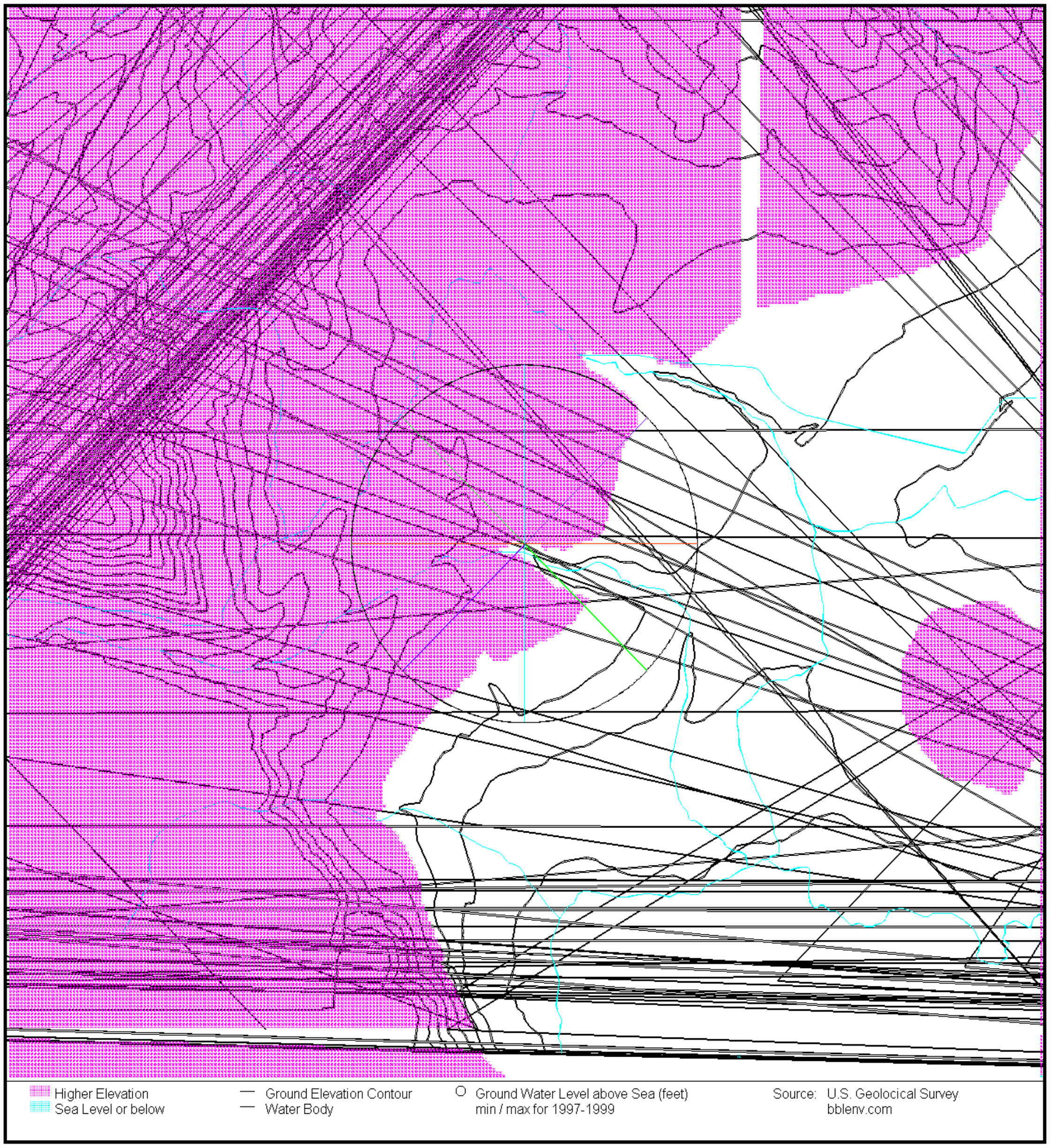
Scale: 1.6 inches to 1/2 mile

UTM North is straight up

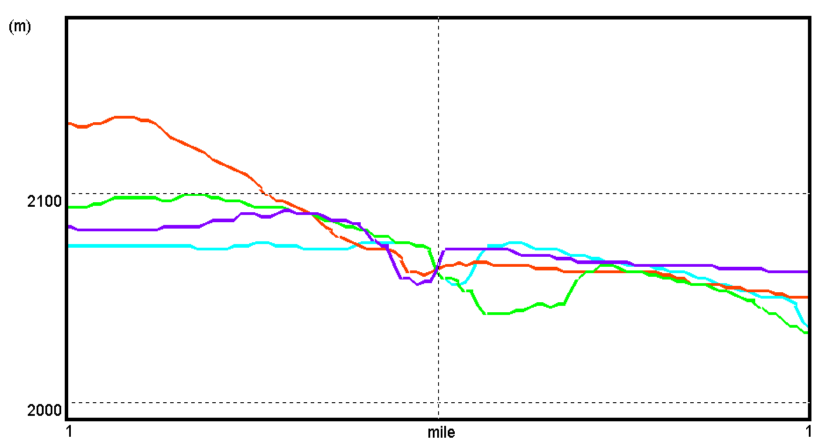
Source: U.S. Dept of Interior, Geological Survey

LUNDY [CA] 1994

TOPOGRAPHIC MAP OF THE VICINITY OF THE SUBJECT SITE LOCATED AT MONO CITY,



Elevation Contour overview map (6*6 mile)



Elevation Profiles (±1 mile)

CONTOUR DATA IN THE VICINITY OF THE SUBJECT SITE LOCATED AT MONO CITY,

Scale: 1 inch to 528 feet

UTM North is straight up

Longitude: -119° 8' 55.5"
Latitude: 38° 2' 28.6"

UTM Easting: 311435 meters
UTM Northing: 4212370 meters
UTM Zone: NAD 11

County: MONO

Project:
Quadrangle:
Date: 8/3/1999
Film Type: Black & White

Source: U.S. Dept of Interior, Geological Survey

AERIAL PHOTOGRAPH OF THE VICINITY OF THE SUBJECT SITE LOCATED AT MONO CITY,