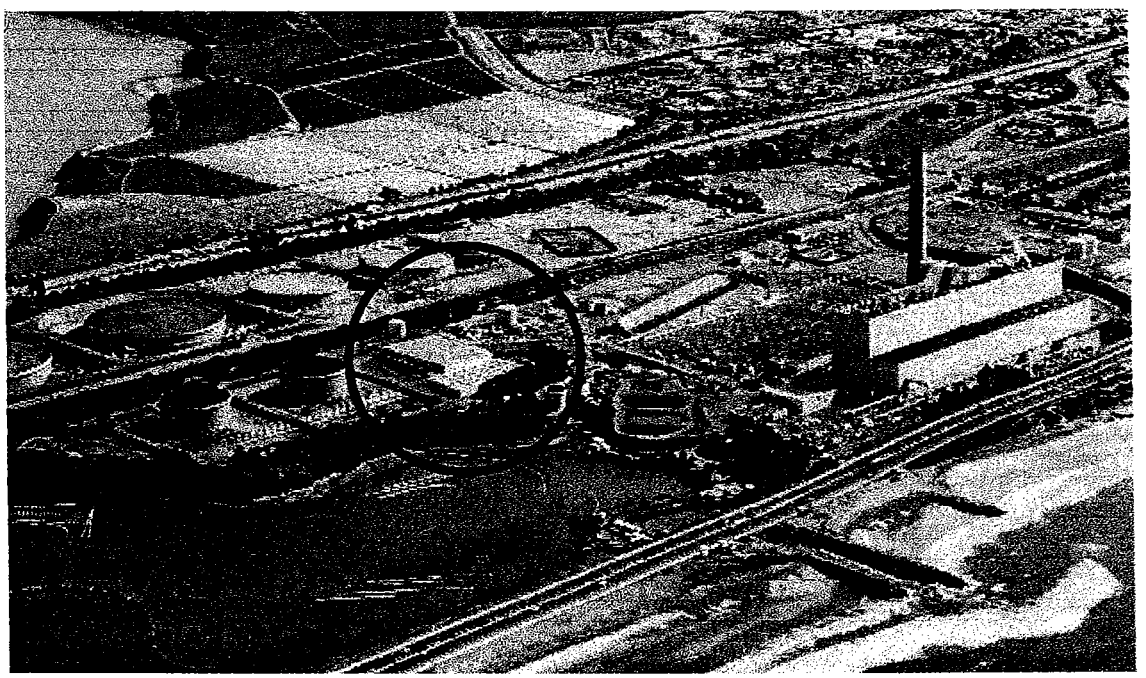
APPENDIX G

Geotechnical Studies

GEOTECHNICAL REPORT

PROPOSED CARLSBAD DESALINATION PLANT
ENCINA GENERATING STATION
CARLSBAD, CALIFORNIA



FEBRUARY 2004

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February 18, 2004
Project No. 2003-091

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GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION REPORT
PROPOSED CARLSBAD SEAWATER DESALINATION PROJECT
ENCINA GENERATING STATION
CARLSBAD, CALIFORNIA

In accordance with your request and authorization, GeoLogic Associates (**GLA**), has conducted a geotechnical and environmental investigation for the proposed Carlsbad Seawater Desalination Project at the Encina Generating Station in Carlsbad, California (Figure 1, Vicinity Map). The project will include construction of an intake pump station, a desalination building, piping, extension of an existing roadway, and new at-grade parking.

Based on the results of **GLA**'s study, it is our opinion that the proposed site improvements are feasible from a geotechnical perspective provided the recommendations presented herein are incorporated into the design and construction of the proposed project. The accompanying report provides planning-level geotechnical conclusions and recommendations relative to the proposed construction. In addition, this report summarizes the results of the environmental investigation as it relates to the proposed construction. We understand that additional geotechnical investigation may be performed, if necessary, when more detailed foundation design for the proposed structures has been accomplished.

We appreciate this opportunity to be of service to Poseidon Resources Corporation. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

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TABLE OF CONTENTS

TABLE OF CONTENTS (Cont'd)

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Purpose and Scope

This report presents the results of our geotechnical and environmental investigation at the proposed Carlsbad Seawater Desalination Project site located at the Encina Generating Station in Carlsbad, California (Figure 1, Vicinity Map). The project will include construction of an intake pump station (at the southwest corner of the power plant), a desalination facility (at the location of existing Tank No. 3), associated piping, extension of the existing roadway east of the desalination facility, and new at-grade parking.

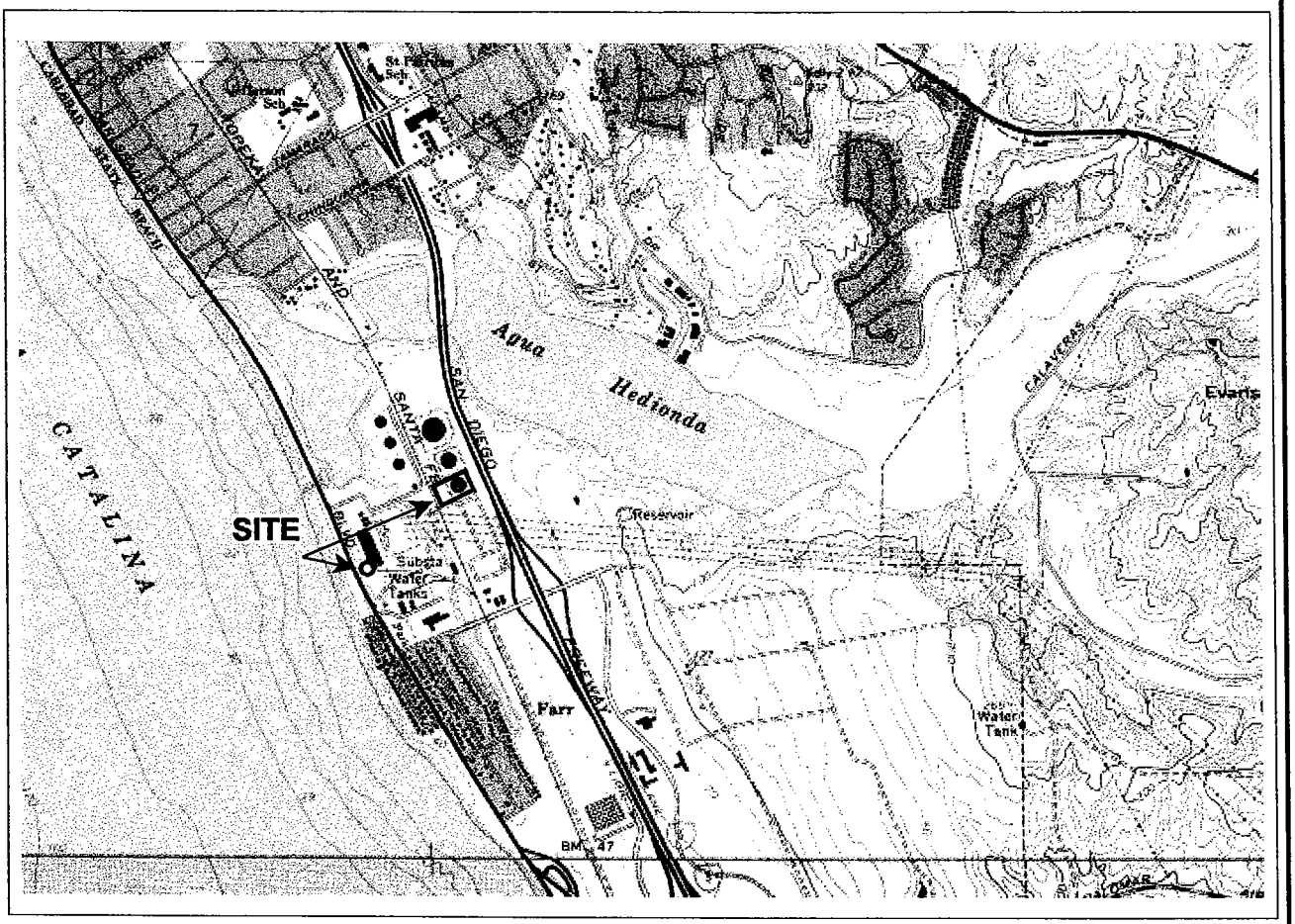
We anticipate the new wet well and intake pump station will be constructed near the southwestern corner of the Generating Station (Figure 2). The top of the wet well is proposed at an elevation of +10 feet and the base of the wet well is planned at approximately 25 feet below existing grade (or at an elevation of approximately –15 feet mean sea level (MSL) (PBS&J, 2003)).

The desalination structure is proposed to have two different lowest finish floor elevations. The Reverse Osmosis (RO) Building is proposed at a finish floor elevation of 36.5 feet MSL. The Pre-treatment Filters Building is proposed at a lowest finish floor elevation of 27.5 feet MSL. Minor filling and excavation on the order of 5 to 10 feet is anticipated for the RO Building and the Pre-Treatment Filters Building, respectively. The existing tank will be removed and the existing site piping will be re-routed as part of the construction. Investigation for the purpose of designing the pipelines associated with the proposed improvements was not part of this scope of work.

It was reported that the existing tank was constructed on a bed of heavy oil to reduce the potential for leaking. Accordingly, a limited environmental investigation was conducted to assess the extent of petroleum hydrocarbons-contaminated soil in the vicinity of Tank No. 3, and to screen for possible contaminants at the proposed wet well location adjacent to the Generating Station.

The purpose of this investigation was to evaluate the existing significant geotechnical and environmental conditions present at the site and develop conclusions and recommendations relative to the proposed development for use in the preparation of the project plans and specifications by Poseidon Resources. Our scope of services included:

- Review of available pertinent, published and unpublished geotechnical literature and maps.
- Field reconnaissance of the existing onsite geologic/geotechnical conditions.
- Coordination with Plant personnel to verify that the proposed boring locations would not



REFERENCE: U.S.G.S.,1967, 7.5 Minute Topographic Series, San Luis Rey Quadrangle

0 4,000 8,000 12,000 feet

Approximate Graphic Scale
1:48,000

N

FIGURE 1

CARLSBAD DESALINATION PROJECT
ENCINA GENERATING STATION
CARLSBAD, CALIFORNIA

Vicinity Map

GeoLogic Associates
Geologists, Hydrogeologists, and Engineers

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AIF	12/03	2003-091

interfere with existing site usage or utilities.

- Preparation of a Health and Safety Plan for the field investigation.

- Subsurface exploration consisting of drilling, logging and sampling of eight exploratory borings at the site. One deep (50.5 feet) boring was drilled at the proposed intake pump station location. Six borings were completed within the proposed desalination facility footprint to depths that ranged from approximately 30.7 to 50.7 feet below the existing grade. One shallow (4 feet) boring was completed in the northeast corner of the site in the area where the existing roadway will be extended.

- Geotechnical laboratory testing of representative soil samples obtained from the subsurface exploration. Geotechnical testing included moisture content and dry density determination, gradation/sieve analysis, Atterberg limits, direct shear, R-Value, expansion index testing, soluble sulfate, consolidation, and corrosivity assessments, including pH and minimum resistivity determinations.

- Environmental analyses of shallow (upper 15 feet) soil samples from two borings adjacent to the existing tank, and one boring for the wet well/pump station. Environmental testing included analyses for the U. S. Environmental Protection Agency (USEPA) Priority Pollutants, Total Petroleum Hydrocarbons, Total Sulfide, and Ignitability.

- Analysis of the geotechnical and environmental data obtained from the field sampling and laboratory testing.

- Preparation of this report presenting our findings, conclusions, and recommendations with respect to the proposed site improvements.

2.0 DATA ACQUISITION

2.1 Document Review

Available geologic and geotechnical literature pertaining to the project site and surrounding areas was reviewed. The materials included published topographic maps, geologic maps, and reports. Specific documents reviewed are referenced in Section 8.0.

2.2 Site Reconnaissance

A GLA geologist visited the site to observe and map geologic conditions. Surface conditions were noted, including the general geologic and topographic setting, surface soils, and related conditions. The exploratory boring locations were also selected.

2.3 Subsurface Exploration

2.3.1 Site Safety

A health and safety plan for the site was prepared by **GLA** and is on file at **GLA**'s San Diego office. The plan was kept on-site during the phases of field work supervised by **GLA**. **GLA** field personnel and subcontractors were required to read, sign, and comply with the plan. The plan is designed to identify hazards associated with the scope of work, including drilling, sample collection, chemicals of concern, and action levels. The plan also includes emergency information, hospital route, and contact numbers. Use of the plan is intended to protect on-site workers and the public.

2.3.2 Permitting

Before conducting the field investigation, **GLA** submitted a boring permit to Mr. Ernesto Profeta of the San Diego County Department of Environmental Health (DEH) for work on the site. The permit was approved on November 24, 2003. A copy of the permit is included in Appendix A.

2.3.3 Drilling and Soil Sampling

Subsurface exploration consisted of drilling and soil sampling of eight exploratory borings at the project site. The field exploration program was conducted at the site on December 1 and 2, 2003. Exploratory boring locations were selected within the proposed building areas to provide representative samples of the subsurface materials. One shallow boring (B-1, to a depth of 4 feet) was completed in the northeast corner of the site in the area of the proposed roadway extension. Six borings (B-2 through B-7) were located in the area of the proposed desalination plant at the existing Tank No. 3 site. These borings were advanced to approximate depths of 30.7 to 50.7 feet below the existing grade. One boring (B-8, 50.5 feet) was located at the proposed intake pump station location at the southwestern corner of the Generating Station. The location of the boring was placed approximately 100 feet southeast of the proposed pump station location due to subsurface utility conflicts. The approximate exploratory boring locations are shown on Figure 2, Site Plan. A cross section of the site through the borings is presented on Figure 3. The shallow borehole (B-1) was backfilled with onsite soils. The rest of the boreholes were grouted with bentonite and cold patched with asphalt, where applicable, prior to the **GLA** representative leaving the site.

Seven borings (B-2 to B-8) were drilled using hollow stem auger drilling equipment. Boring B-1 was completed with a portable hand auger. The drilling of exploratory boreholes was performed under the supervision of a **GLA** geologist who also logged the borings and obtained the samples for subsequent examination and laboratory testing. Both disturbed and relatively undisturbed samples were obtained from the borings for visual observation and testing in the laboratory.

Disturbed samples were collected from the drill cuttings (bulk samples) and during Standard Penetration Testing (SPT). Relatively undisturbed samples were obtained with a California sampler driven with a 140-pound automatic hammer falling from a 30-inch height.
Samples were logged and field screened for volatile organic compounds (VOCs) with a portable photoionization detector (PID) by a **GLA** geologist. Subsurface materials were visually classified in the field in accordance with standard geologic practices, and the Unified Soil Classification System (USCS) explained in Appendix A. Details of the subsurface investigation and boring logs are presented in Appendix A. PID readings are included on the boring logs in Appendix A.

Prior to drilling and environmental sampling, the drill rig rods and sampling equipment were decontaminated with brushes and a non-toxic, non-phosphate detergent and water solution and rinsed using a potable water rinse. This process was repeated between each sampling interval to reduce the likelihood of cross-contamination.

2.3.4 Soil Disposal

Soil generated from drilling activities in the paved area for the proposed intake pump station (boring B-8) was placed in two 55-gallon Department of Transportation (DOT) drums and stored at the Hazmat waste storage shed at the plant pending waste characterization based on analytical results. Soil cuttings generated from drilling activities in the unpaved areas at the proposed Desalination Plant were placed on visqueen sheets and covered with visqueen. The soils were left at the project site awaiting direction from the environmental plant personnel.

2.4 Laboratory Testing

2.4.1 Geotechnical Laboratory Testing

Laboratory tests were performed on representative soil samples from all borings to provide geotechnical parameters for engineering analyses. The testing program was designed to fit the specific needs of this project. Tests of selected samples retrieved from the borings included moisture content and dry density determination, gradation/sieve analysis, Atterberg limits, direct shear, R-Value, expansion index testing, consolidation, and corrosivity assessments (including soluble sulfate, pH, and minimum resistivity). Descriptions of the tests performed, and the results of the tests, are summarized in Appendix B. Moisture and density values are presented on the exploratory boring logs in Appendix A.

2.4.2 Environmental Analyses

Soil samples from borings B-3, B-5, and B-8 were selected for laboratory analysis based on field readings using the PID, groundwater occurrence, and obvious hydrocarbon staining. Undisturbed soil samples from boring B-8 were collected at the groundwater table and within the "smear"

zone. Undisturbed soil samples from borings B-3 and B-5 were collected at shallow depths (2 to 5 feet). In addition, disturbed composite samples were collected in the upper 10 to 15 feet in the other three borings. Undisturbed soil samples were collected in a brass sleeve covered with teflon, capped and sealed, and retained for possible chemical analysis. Disturbed (bulk) soil samples were collected into laboratory-provided glass sample containers. All samples were stored and transferred in a chilled cooler with ice, and submitted to the analytical laboratory following standard chain-of-custody procedures.

Six soil samples collected from borings B-3, B-5, and B-8 were analyzed for Extractable Fuel Hydrocarbons using EPA Modified 8015-California Department of Health Services (DOHS) method. One soil sample from each boring was analyzed for EPA Priority Pollutants, Total Sulfide, and Ignitability. Soil sample analyses included volatile organic compounds (VOCs) (including benzene, toluene, ethylbenzene, and xylenes [BTEX], methyl tertiary butyl ether [MTBE], and the oxygenates) by EPA Method 8260B, semi-VOCs (by EPA Method 8270C), chlorinated pesticides (by EPA Method 8081A), polychlorinated biphenyls (PCBs) (by EPA Method 8082), thirteen Priority Pollutant metals (by EPA Method 6010B/7471A), total cyanide (by EPA Method 9014), phenols (by EPA Modified Method 420.1), sulfide (by EPA Method 9034), 2,3,7,8-TCDD (dioxin) (by EPA Method 8280), and ignitability. Soil sample analyses were performed in DOHS-certified laboratories. Analytical data reports are presented in Appendix C.

3.0 SITE CONDITIONS

3.1 Site Location and Surface Conditions

The project site is located east of Carlsbad Boulevard and north of Cannon Road in the City of Carlsbad, San Diego, California (Figure 1). The proposed project is located adjacent to the Encina Generating Station facilities within the fenced power plant property (4600 Carlsbad Boulevard). The intake pump station will be constructed in the southwest corner of the existing power plant. The proposed desalination facility will be located at the existing Tank No. 3 site located northeast of the generating station. The proposed desalination facility will include a Reverse Osmosis (RO) building and Pre-Treatment/Media Filtration area. The RO building will consist of an RO Treatment area and will also house laboratory, offices, and administration space. Additional improvements at the desalination facility will include an extension of the existing roadway and construction of new at-grade parking adjacent to the RO building.

The proposed desalination facility site is presently occupied by a 140-foot diameter fuel tank (Tank No. 3) and associated piping. The site is surrounded by an approximately 10-foot high berm with a paved access road on top. The site is a part of the power plant tank farm. Surface elevations at Tank No. 3 range from approximately 31 to 35 feet MSL at the tank pad to about 41 feet MSL at the surrounding berm (based on the site plan prepared by PBS&J, May 2003).

Recent grading was accomplished (by others) in the western half of the Tank No. 3 site during GLA's scoping visit in November 2003. Excavation of up to 6 to 8 feet of contaminated soil was accomplished and clean soil was imported and placed in the excavation. Compaction of the fill was accomplished and reportedly documented by others. Accordingly, the current soil grade of the western portion of the site is only approximately as depicted on the site plan on Figure 2. Surface runoff generated onsite during rainy periods is likely to pond adjacent to the existing tank in the eastern portion of the site as well as in the center of the berm at the western portion of the site.

The existing ground surface elevation at the proposed wet well/intake pump station location is approximately +10 feet MSL (PBS&J, 2003). The area is currently surfaced with concrete and asphalt concrete.

3.2 Subsurface Conditions and Groundwater

The subject site is situated on the coastal plain of the Peninsular Ranges Geomorphic Province of California. The coastal plain area has undergone several episodes of marine inundation and subsequent marine regression throughout the last 54 million years, resulting in the deposition of a thick sequence of marine and non-marine sedimentary rocks on the uplifted and eroded high-relief basement terrain. Gradual emergence of the region from the sea occurred in Pleistocene time, and numerous wave-cut platforms, most of which were covered by relatively thin marine and non-marine terrace deposits, formed as the sea receded from the land. Accelerated fluvial erosion during periods of heavy rainfall, coupled with the lowering of the base sea level during Quaternary times, resulted in the rolling hills, mesas, and deeply incised canyons which characterize the landforms we see in the general site area today.

The general vicinity is underlain by Tertiary marine sediments capped by Quaternary marine and non-marine sediments deposited on wave-cut terraces. Each marine terrace was formed during a Pleistocene sea level high stand, and tectonically uplifted. Each subsequent sea-level rise would produce a new terrace, eventually forming a series of terraces along the modern shoreline, with the oldest terrace occupying the highest elevation. Based on our subsurface exploration, the majority of the project site is underlain by artificial fill and very light brown to green-brown silty sandstone interbedded with siltstone, mapped as the mid-Eocene Santiago Formation (Tan and Kennedy, 1996).

Artificial fill was encountered in all exploratory borings. It was observed at the ground surface in borings B-1 through B-7. At the intake structure in boring B-8, fill soil was encountered below the pavement section that consisted of 3 inches of asphalt concrete placed over 10 inches of aggregate base. Fill soils were encountered to approximately two to seven feet below ground surface (bgs). They consisted of damp to moist, fine to medium silty sand to fine sandy silt and silt. Expansion index testing of the fill soils generally indicates that the fill soils have a low

expansion potential (expansion index from 21 to 50 per UBC, 1997 based on ASTM D4829).

In the area of the roadway extension, fill soils were encountered to the total explored depth of four feet in boring B-1. In the area of the desalination facility, fill soils were underlain by silty sandstone of the Santiago Formation in borings B-2 to B-7, by residual soil resulted from weathering and erosion of the Santiago Formation in boring B-7, and by lagoonal deposits in boring B-8.

Residual soils were encountered in boring B-7 at 2 to 8 feet bgs, and consisted of greenish gray, loose to medium dense, fine to medium clayey sand with scattered fine gravel. These soils were underlain by the Santiago Formation.

Lagoonal deposits were encountered in boring B-8 below the fill soils at 4 to 8 feet bgs. They were comprised of gray, dense, fine to medium micaceous silty sand. These deposits were underlain by the Santiago Formation.

The Eocene-age sedimentary strata of the Santiago Formation were encountered in all deeper borings (B-2 to B-8) to the maximum depth of exploration (50.7 feet). They were represented by light brown and greenish brown, fine- to coarse-grained silty sandstone with sandy siltstone and siltstone layers and clayey siltstone lenses. The silty sandstone locally varied from soft to hard and contained scattered fine gravel, and calcite/caliche joint filling. Difficult drilling conditions were encountered in boring B-4 at 10 to 13 feet bgs, likely due to gravel, and the borehole was re-located and re-drilled.

Groundwater was encountered in exploratory borings B-2, B-4, and B-6 through B-8. Groundwater was observed in the formational deposits at depths ranging from 20.8 to 28.9 feet (elevation of 1.1 to 14.2 feet MSL) at the Desalination Facility site, and at 12.4 feet bgs (elevation –11.4 feet MSL) at the intake pump location. Although groundwater was encountered at an elevation of –11.4 feet MSL, the actual static groundwater level is likely to be near or above mean sea level. It should be noted that the depths to groundwater observed in the borings represent temporary groundwater levels prior to backfilling, and should not be considered as the static groundwater table. The groundwater levels in borings are anticipated to vary seasonally. The groundwater levels observed during the field investigation are also presented in the boring logs in Appendix A and on Figure 3, Cross Section A-A' (for borings B-2 through B-7).

A geologic cross section (section A-A') of the site conditions along with the finish floor elevations of the proposed construction is presented on Figure 3.

4.0 FAULTING AND SEISMICITY

4.1 Faulting

Our discussion of faults on the site is prefaced with a discussion of California legislation and policies concerning the classification and land-use criteria associated with faults. By definition of the California Geological Survey, an active fault is a fault that has had surface displacement within Holocene time (about the last 11,000 years). The state geologist has defined a potentially active fault as any fault considered to have been active during Quaternary time (last 1,600,000 years). This definition is used in delineating Earthquake Fault Zones as mandated by the Alquist-Priolo Geologic Hazards Zones Act of 1972 and as subsequently revised in 1975, 1985, 1990, 1992, and 1994. The intent of this act is to assure that unwise urban development and certain habitable structures do not occur across the traces of active faults. The subject site is not included within any Earthquake Fault Zones as created by the Alquist-Priolo Act. Our review of available geologic literature (Section 8.0) indicates that there are no known major or active faults on or in the immediate vicinity of the site. The nearest active regional faults are the Rose Canyon Fault Zone and the Newport-Inglewood Fault (offshore) located approximately 4.3 and 5.6 miles from the site, respectively.

4.2 Regional Seismicity

The site can be considered to lie within a seismically active region, as can all of Southern California. From a deterministic standpoint, Table 1 identifies potential seismic events that could be produced by the maximum (formerly referred to as maximum credible) earthquake event.

Table 1
Seismic Parameters for Active Faults

Fault Zone (Seismic Source)	Distance to Site (miles)	Maximum Earthquake Event		Design Earthquake*
		Moment Magnitude	Peak Horizontal Ground Acceleration (g)	Peak Horizontal Ground Acceleration (g)
Rose Canyon	4.3	6.9	0.31	0.28
Newport-Inglewood (Offshore)	5.6	6.9	0.27	
Coronado Bank	20.4	7.4	0.14	

Notes: * UBC (1997)

The maximum earthquake is defined by the State of California as the maximum earthquake that appears capable of occurring under the presently understood tectonic framework. Site-specific seismic parameters included in Table 1 are the distances to the causative faults, earthquake magnitudes (Mw), and expected ground accelerations, which were determined with EQFAULT and FRISKSP software (Blake, 2000a and Blake, 2000c).

As indicated in Table 1, the Rose Canyon Fault is the active fault considered to have the most significant effect at the site from a design standpoint. The maximum earthquake from the fault has a 6.9 moment magnitude, generating a peak horizontal ground acceleration of 0.31g at the project site. Secondary effects associated with severe ground shaking following a relatively large earthquake on a regional fault that may affect the site include ground lurching and shallow ground rupture, soil liquefaction and dynamic settlement, seiches and tsunamis. These secondary effects of seismic shaking are discussed in the following sections.

From a probabilistic standpoint, the design ground motion (per UBC, 1997) is defined as the ground motion having a 10 percent probability of being exceeded in 50 years (475-year return period). This ground motion is referred to as the design earthquake. The design earthquake ground motion at the site is predicted to be 0.28g.

The effect of seismic shaking may be mitigated by adhering to the Uniform Building Code and state-of-the-art seismic design parameters of the Structural Engineers Association of California. The site is located within Seismic Zone 4 (ICBO, 1997, Figure 16-2).

4.3 Historic Seismicity

The historic record of earthquakes in southern California for the past 200 years has been reasonably well established. More accurate instrumental measurements have been available since 1933. Based on recorded earthquake magnitudes and locations, the area may be vulnerable to moderate seismic ground shaking during the design life of the project. Review of historic earthquakes (Blake, 2000b) indicates that the most significant seismic event that impacted the site over the last 200 years was a Magnitude 6.5 earthquake event (south of the site on the Rose Canyon Fault) that occurred in 1800 approximately 9.8 miles from the site which was estimated to have caused a site acceleration of 0.19g at the site (Appendix D).

4.4 Seismic Lurching

Soil lurching refers to the rolling motion on the ground surface by the passage of seismic surface waves. Effects of this nature are likely to be significant where the thickness of soft sediments vary appreciably under structures. Damage to the proposed development should not be significant since a relatively large differential fill thickness does not exist below the site.

4.5 UBC Criteria

The soil parameters in accordance with UBC 1997, determined with UBCSEIS software (Blake, 2003), are as follows:

Seismic Zone = 4 (Figure 16-2, 1997 UBC)
Soil Profile Type = S_C (Table 16-J, 1997 UBC)
Slip Rate (Rose Canyon Fault), SR, (Table 16-U) = 1.5mm per year (CDMG, 1996)
Seismic Source Type (Table 16-U) = B
N_a = 1.0 (Table 16-S)
N_v = 1.1 (Table 16-T)
C_a = 0.40 (Table 16-Q)
C_v = 0.45 (Table 16-R)

4.6 Liquefaction and Dynamic Settlement

Liquefaction is a phenomenon in which soils lose shear strength for short periods of time during an earthquake, which may result in very large total and/or differential settlements for structures founded on liquefiable soils. In order for the potential effects of liquefaction to be manifested at the ground surface, the soils generally have to be granular, loose to medium dense, saturated relatively near the ground surface, and must be subjected to a sufficient magnitude and duration of shaking.

GLA has performed a liquefaction evaluation based on the SPT and California modified sampler blow counts (modified in accordance with the criteria of the NCEER workshop, 1997) observed during our drilling. Our calculations (Appendix D) indicate that the dynamic factor of safety under the design earthquake loading is above 1.3 (per CDMG, 1997) for the UBC, 1997 Design Earthquake event (475-year return period). The overall subsurface profile and the overlying thickness of non-saturated soils (non-liquefiable soils) indicates that the potential for large-scale liquefaction at the site during the life of the structure is very low. In addition, based on the age of the formational deposits (Tertiary materials of the Santiago Formation are on the order of 50 million years old), large-scale liquefaction effects at the ground surface are not considered likely. It is therefore our opinion that adverse liquefaction affects on the proposed structures due to the design earthquake event are unlikely.

It should be recognized, however, that many of the parameters used in liquefaction evaluation are subjective and open to interpretation. It should also be understood that much of Southern California is an area of moderate to high seismic risk and is not generally considered economically feasible to build structures totally resistant to earthquake related hazards. However, current standards in the Uniform Building Code for design and construction are intended to reduce the potential for major structural damage.

Calculated dynamic settlement of the ground at the site due to the design earthquake event is expected to produce a maximum differential settlement of approximately less than 1/3 inches in a horizontal distance of 100 feet, which is less than the estimated static settlement.

4.7 Ground Surface Rupture

Since no active faults are known to transect the site, ground surface rupture as a result of movement along known faults is considered unlikely.

4.8 Landslides

The site is located in a gently sloping area with slight topographic relief. Accordingly, the potential for landslides or other slope instability problems is considered to be low.

4.9 Tsunamis and Seiches

A tsunami is a sea wave generated by submarine earthquakes, landslides or volcanic activity, which displaces a relatively large volume of water in a very short period of time.

Several factors at the originating point such as earthquake magnitude, type of fault, depth of earthquake, focus, water depth, and the ocean bottom profile, all contribute to the size and momentum of a tsunami (Iida, 1969). In addition, factors such as the distance away from the originating point, coastline profile (including width of the continental shelf), and angle at which the tsunami approaches the coastline also affect the size and severity of a tsunami.

There have been over 500 tsunamis reported with recorded history, most of them generated at subduction-convergent plate boundaries along the margin of the Pacific Ocean. Large tsunamis have been occurring somewhere in the Pacific Basin at an average rate of roughly 1 every 12 years (Joy, 1968). Most complete reports along the California coast are available from San Diego and San Francisco where tide gauges were installed in 1854 (McCulloch, 1985).

Table 2 shows a number of great tsunamis that generated wave heights in excess of 0.2 m in San Diego representing each of the major generating zones within the Pacific Basin (based on information compiled in McCulloch, 1985).

Table 2
Major Tsunamis Recorded in San Diego County to 1975
(after McCulloch, 1985)

Event Location, Magnitude[3]	Date	San Diego		La Jolla	
		Arrival Time[1](hrs)	Wave Height[2] (m)	Arrival Time[1] (hrs)	Wave Height[2] (m)
Hawaii, Ms 7.1	11/29/75	?	0.12, (0.37 in Imperial Beach)	?	0.3
Prince William Sound, AK, M 9.2	3/27/64	+6.2	1.1	+5.8	0.7
Coast of central Chile, M 9.5	5/22/60	+14	1.5	+14	1.0
Rat Islands, M 9.1	3/9/57	+6.9	0.45	+6.6	0.6
Off east coast Kamchatka, M 9.0	11/5/52	+9.6	0.7	+9.6	0.24
Southern Alaska, M 7.4	4/1/46	?	0.37	+6.2	0.43
Off point Arguello, CA*, M 7.3	11/24/27	?	0.05[1]	+0.98	0.05[1]
Chile, Magnitude unknown Chile, Ms 8.5	8/13/1868 8/14/1868	?	0.8 0.3	?	?
San Diego Bay, San Diego, California	5/27/1862	The only locally generated tsunami that has affected San Diego; associated with an earthquake that caused the most intense shaking locally known; eyewitness account only.			

[1] Joy, 1968, [2] Agnew, 1979, Magoon, 1965
* This is the only well documented locally generated tsunami in California history.

Tsunami wave heights and runup elevations experienced along the San Diego coastline during the last 170 years (including the values presented in Table 2) have fallen within the normal range of tidal fluctuations (approximately 9 feet).

McCulloch (1985) predicts the average tsunami height in the San Diego region for an event with a 10% probability of being exceeded in 50 years is approximately 11.5 feet mean sea level, indicating a low potential for significant tsunami effects at the Desalination Plant site (site elevation is above 30 feet MSL). Southern California is oriented obliquely (i.e. not directly in line) with the major originating tsunami zones, it has a relatively wide (about 240 km) and rugged continental shelf (or borderland), which acts as a diffuser and reflector of remotely generated tsunami wave energy (Joy, 1968). These conditions, in addition to the geologic and seismic conditions (such as the strike-slip fault regime, and the scarcity of large submarine earthquakes) along the coastline also tend to minimize the likelihood of a large tsunami at the site. Based on these factors, there is low potential for catastrophic damage along the San Diego County coastline. However, minor problems such as flooding of low-lying coastal areas and damage to some waterfront structures might occasionally occur.

Seiches are defined as oscillations in a semi-confined body of water due to earthquake shaking. The site is located approximately 1,000 feet from the Agua Hedionda lagoon, however, the site elevation at 30 feet mean sea level significantly lessens the potential for seiches to affect the site.

4.2.7 Engineering Properties of the Onsite Soils

Samples of the near-surface fill soils were collected in borings B-2, B-4, and B-6. The test results indicate that the expansion potential of the fill soils is in the low range (expansion index from 21 to 50 per UBC, 1997 based on ASTM D4829). Samples of the formational materials were tested for their load-settlement characteristics by performing a consolidation test at representative intervals. The results of the consolidation tests indicate that the materials of the Santiago Formation perform well under the anticipated load of the proposed footings. Corrosion testing of the near-surface soils indicate that the soils have a negligible potential for sulfate attack on concrete and a severe potential for corrosion to buried, uncoated metal conduits. The test results are presented in Appendix B.

5.0 ENVIRONMENTAL TEST RESULTS

5.1 Results of Soil Sample Analyses

Field screening of soil samples obtained during drilling for VOCs was performed with a MiniRAE 2000 PID instrument. Results of field measurements indicated no VOC concentrations (in parts per million) measured above background values. The results of the laboratory analyses of soil samples from the environmental investigation are summarized in Table 3. Laboratory analytical reports are included in Appendix C.

TABLE 3 SUMMARY OF ENVIRONMENTAL TESTING

Sample ID/ Boring	Depth (feet bgs)	Date Sampled	EFH	ORGANOCHLORINE PESTICIDES		METALS						
				4,4-DDD	4,4-DDT	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
			mg/kg	µg/kg		mg/kg						
			8015M	8081A		6010B			7471B	6010B		
B-3	2-2.5	12/02/03	<5.0	--	--	--	--	--	--	--	--	--
	6-6.4	12/02/03	<5.0	140	410	8.4	5.6	<2.0	<0.020	2.5	<1.0	9.7
B-5	3-3.5	12/02/03	<5.0	--	--	--	--	--	--	--	--	--
	2-5.5	12/02/03	<5.0	<7.5	<7.5	8.1	9.4	<2.0	0.028	4.5	1.2	13
	5.6-6.1	12/02/03	<5.0	--	--	--	--	--	--	--	--	--
B-8	5-16.5	12/01/03	<5.0	<5.0	<5.0	8.8	4.6	2.0	<5.0	3.2	<1.0	18.0
	5.5-6.0	12/01/03	18	--	--	--	--	--	--	--	--	--
	15.5-16.0	12/01/03	<5.0	--	--	--	--	--	--	--	--	--

NOTES:

bgs = below ground surface

EFH = extractable fuel hydrocarbons (C8-C40) analyzed by EPA Modified 8015-DOHS method

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

-- = Denotes compounds not analyzed

The above table is a summary of the environmental soil testing that was performed and only presents values that were measured above the detection limits for the individual compound or metal being tested.

A low concentration of extractable fuel hydrocarbons (EFH) (18 mg/kg) was reported in the sample collected from boring B-8 (at 5.5-6.0 feet bgs). Concentrations of VOCs (including BTEX and MTBE) and semi-VOCs of concern were not measured above the laboratory detection limits in the soil samples analyzed.

DDT (4,4-DDT) and its biodegradation product DDD (4,4-DDD) were detected in the soil sample collected from boring B-3 (at 6-6.4 feet bgs) at concentrations of 410 µg/kg and 140 µg/kg, respectively. These concentrations are well below the California Code of Regulations Title 22, Section 66261.24 (State of California, 1996) Total Threshold Limit Concentrations (TTLC) of 1.0 mg/kg (1000 µg/kg). However, comparison with the TTLC is intended for use in deciding if the soil is hazardous for disposal purposes only. Comparison of the data with U. S. EPA risk-based Preliminary Remedial Goals (PRGs) of 1.7 and 2.4 mg/kg (1,700 and 2,400 µg/kg) (USEPA, 2003) for residential-use soils (residential-use goals are more stringent than industrial-use goals) indicates that these soils are believed to be present at sufficiently low concentrations that would not warrant remediation. However, PRGs are used for initial screening purposes only and should be viewed as guidelines and not clean-up standards. By comparing the soil concentration data to the PRGs for a residential area land use, the most conservative risk-based assumptions have been made herein. No other organochlorine pesticides or PCBs were measured above the laboratory detection limits.

Low concentrations of chromium (8.1 to 8.8 mg/kg), copper (4.6 to 9.4 mg/kg), nickel (2.5 to 4.5 mg/kg), and zinc (9.7 to 18.0 mg/kg) were measured in all three soil samples. Low concentrations of mercury (0.028 mg/kg) and silver (1.2 mg/kg) were detected in sample collected from boring B-5 (at 2.0-5.5 feet bgs). Lead was measured at the laboratory detection limit (2.0 mg/kg) in a composite soil sample from boring B-8 (at 5-16.5 feet bgs). These concentrations lie within the background values reported for natural soils in California (Dragun and Chiasson, 1991, Kearny Foundation, 1996) and are well below the currently established PRGs or TTLCs for these metals. No other metals were measured above the laboratory detection limits in any of the soil samples analyzed.

Concentrations of inorganic compounds, including total cyanide, phenols, dioxin, and sulfide were not reported above the laboratory detection limits in the soil samples analyzed. All three soil samples analyzed were found to be non-ignitable.

Accordingly, if the soils excavated from the site are similar to the soils sampled and tested from the site, additional remediation is not necessary. We note however, that the soils directly below the existing tank were not accessible and additional characterization of these soils is recommended during excavation at the time of site earthwork.

6.0 CONCLUSIONS

6.1 Geotechnical

Based on the results of our geotechnical review of the site, it is our opinion that the proposed development is feasible from a geotechnical standpoint, provided the following conclusions and recommendations are incorporated into the project plans and specifications, and sound engineering and construction practices are utilized during site development. The following is a summary of the geotechnical factors that may affect development of the site.

- It is anticipated that the proposed wet well/intake structure will be founded below the existing groundwater table into competent fill soils or sandstone of the Santiago Formation. It is also anticipated that shoring as well as groundwater withdrawal may be necessary to facilitate construction.

- The proposed lowest finish floor elevation of the RO Building is proposed to be on recompacted fill soils and the proposed Pre-Treatment Filters Building is currently planned to be founded across a fill-formational contact (see Figure 3). Accordingly, to provide a uniform bearing for the proposed facility, we recommend that the fill/residual soils be removed and recompacted and the cut-fill transition be eliminated by removing and recompacting the formational materials. As an alternative, all the footings may be deepened through the compacted fill soils and be founded into the formational materials of the Santiago Formation. The lowest finish floor of the RO Building and the Pre-Treatment Filters may be lowered to reduce the depth of the continuous/isolated spread (column) footings.

- The groundwater table at the Desalination Plant site was encountered during drilling at a depth of 20.8 to 28.9 feet below the existing ground surface (or at an approximate elevation of 1.1 to 14.2 feet mean sea level). At this depth, the proposed finish floor elevations of the RO and Pre-Treatment Filters Buildings are a minimum of 10 to 15 feet above the highest groundwater level measured at the time of drilling.

- Based on our subsurface exploration and laboratory testing, the pad grade fill soils are generally considered to have a low expansion potential (Appendix B).

- In general, the existing onsite soils appear to be suitable material for structural fill construction provided they are relatively free of organic material, debris, and rock fragments larger than 8 inches in maximum dimension.

- Laboratory test results indicate the site soils have a negligible potential for sulfate attack on concrete and a high to very high potential for corrosion to buried uncoated metal conduits.

- The site is not in an area of known active faults. The design earthquake, having a 10 percent probability of being exceeded in 50 years, is expected to produce a peak ground surface acceleration at the site of 0.28g. The potential for adverse liquefaction affects on the proposed structures due to the design earthquake event is very low.

6.2 Environmental

The following presents the significant environmental conclusions based on our investigation:

- Based on the results of this investigation, we did not encounter evidence of the presence of a heavy oil blanket around the perimeter of Tank No.3, or petroleum hydrocarbon-contaminated soils in the vicinity of Tank No. 3. However, as noted previously, the soils below the existing tank were not accessible at the time of our site investigation.

- Based of the results of the laboratory analyses of soil samples from the limited environmental investigation, a low concentration of extractable fuel hydrocarbons (EFH) (18 mg/kg) was reported in the sample collected in the vicinity of the proposed wet well. This concentration is less than a regulatory taste and odor threshold (100 mg/kg). In the absence of other VOCs or semi-VOCs measured above the laboratory detection limits, it does not appear that petroleum hydrocarbon contamination is an environmental concern at this time at that location. This should be evaluated further if dewatering is proposed to facilitate construction of the wet well for the intake structure/pump station.

- The low metal concentrations observed in soil samples collected from borings in the vicinity of Tank No. 3 and the proposed intake structure location do not indicate soil contamination, but lie within the background values reported for natural soils in California.

- Organochlorine pesticides (DDD and DDT) were found in one soil sample (B-3, at 6 feet bgs) in the vicinity of Tank No. 3 at concentrations well below the currently established California Code of Regulations Title 22 (State of CA, 1996) Total Threshold Limit Concentrations (TTLCs), and the USEPA Preliminary Remedial Goals (PRGs) for these compounds (USEPA, 2002).

- No VOCs, semi-VOCs, dioxin, PCBs, or inorganic compounds (total cyanide, phenols, and sulfide) were reported above the laboratory detection limits in the analyzed soil samples. Soil samples tested were reported to be non-ignitable.

- Based on the results of our testing, the soil cuttings are characterized as non-hazardous for disposal purposes. Local agency/solid waste facility regulations may require documentation prior to acceptance of this soil at a local landfill or other disposal site. To reduce the potential for DDT and DDD to enter exposure pathways, we recommend that the cuttings from Boring B-3 be placed below pavement or a minimum of 5 feet below proposed grade.

7.0 RECOMMENDATIONS

7.1 General Earthwork

Earthwork should be performed in accordance with the project specifications and the following recommendations.

7.1.1 Site Preparation

Prior to grading, the site should be cleared of existing surface and subsurface obstructions. Vegetation, oversize material, and debris should be disposed off site. Holes resulting from removal of buried obstructions such as foundations or below-grade structures that extend below finished site grades should be filled with properly compacted soil under the observation and testing of the geotechnical engineer.

7.1.2 Removals

In the area of the proposed Desalination Facility (for both the RO Building and the Pre-Treatment Filters Building), the fill and residual soils should be removed to expose competent materials of the Santiago Formation, moisture-conditioned, and recompacted to a minimum relative compaction of 95 percent (based on ASTM D1557). If the footings are not deepened through the existing fill soils to be founded into the Santiago Formation, overexcavation should be accomplished in the area of the Pre-Treatment Building so the proposed structure is not founded across a cut-fill transition, but founded on a uniform mat of compacted fill soils. Overexcavation should be accomplished to a minimum horizontal distance of 10 feet beyond the perimeter of the structure, where feasible.

Removals below the proposed roadway extension should be a minimum of 2 feet below the existing or the proposed pavement subgrade, whichever is lower in elevation. Removals should extend a minimum of 3 feet beyond the edge of the proposed pavement, where feasible. All excavation/removal bottoms should expose firm and competent fill or formational soils and all overexcavation bottoms should be proof-rolled and observed by a geotechnical engineer prior to fill placement.

7.1.3 Structural Fills

The onsite soils are generally suitable for use as compacted fill provided they are free of organic material and debris. Material greater than 8 inches in maximum size should not be placed within 5 feet of the pad grade. Asphalt concrete and concrete should not be placed in structural fills. The area to receive fill should be scarified to a minimum depth of 6 inches, brought to near optimum moisture content, and recompacted to at least 95 percent relative compaction (based on

Modified Proctor test method, ASTM D1557).

Fill soils should be placed at a minimum of 95 percent relative compaction (based on Modified Proctor, ASTM D1557) near optimum moisture content. The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in thickness.

Import soils if needed, should be tested by the geotechnical consultant prior to site delivery for conformance to the above recommendations. Fills placed within 5 feet of finish pad grade or floor slabs should consist of soils with an expansion potential less than 50 (based on UBC Standard 18-2) and with a maximum particle size less than 6 inches.

7.1.4 Trench Backfill

The onsite soils may generally be suitable as trench backfill provided they are screened of rocks and other material over 6 inches in diameter and organic matter. Trench backfill should be compacted in uniform lifts (not exceeding 8 inches in compacted thickness) by mechanical means to at least 90 percent relative compaction (ASTM D 1557), or 95 percent below and within 10 feet of the building footprint. Pipe bedding should conform to the recommendations of the Greenbook.

7.2 Foundation Design

Intake Structure/Wet Well: It is anticipated that the proposed wet well/intake structure will be founded below the existing groundwater table into competent fill soils or competent sandstone of the Santiago Formation. It is also anticipated that shoring as well as groundwater withdrawal may be necessary to facilitate construction. A net allowable bearing capacity of 2,000 pounds per square foot may be used for the base of the intake pump/wet well. This may be increased by one-third for transient conditions such as seismic forces. Lateral earth pressures and shoring design recommendations are presented in the following sections. Gravel may be placed at the base of the excavation to facilitate construction and create a dry working platform for placement of the intake structure.

Desalination Facility: The proposed lowest finish floor elevation of the Desalination Facility is currently planned to be founded across a fill-formational contact (see Figure 3). Accordingly, we recommend that the formational materials be removed and recompacted as fill to provide a uniform bearing for the proposed facility or that the footings be deepened to be founded through the fill soils into the formational materials of the Santiago Formation. Overexcavation should be accomplished so that a minimum of three feet of compacted fill soils underlie the bottom of the lowest footing and/or grade beam. The lowest finish floor of the RO building and the Pre-Treatment Filters Building may be lowered to reduce the depth that the continuous/isolated

spread footings have to deepened through the fill soils.

Based on these two options, the structural engineer/architect should decide which is more cost-effective for the facility. For planning purposes, we provide the following allowable bearing capacity based on footings founded in recompacted fills soils or founded a minimum of 12 inches into competent Santiago Formation as follows:

Table 4
Allowable Bearing Values for Footings

Depth Below Lowest Adjacent Soil Grade	Allowable Soil Bearing Capacity for Footings in Compacted Fill Soils	Allowable Soil Bearing Capacity for Footings into Competent Santiago Formation
24 inches	2,250 psf	4,000 psf
30 inches	2,500 psf	4,500 psf
36 inches	2,750 psf	5,000 psf

The above values are for dead plus live loads and may be increased by one-third for short-term wind or seismic loads. Footings may be reinforced in accordance with the structural engineer's requirement but should not be less than four No. 5 rebars, two near the top and two near the bottom of the footing. Continuous and isolated spread footings should have a minimum width of 18 and 24 inches, respectively. If founded near the top of slopes, footings, as well as retaining structures should have a minimum 10-foot setback (measured horizontally) from the base of the footing to daylight. Improvements constructed without this horizontal setback may be subjected to lateral creep and/or differential settlement.

Floor slabs (excluding those subject to truck loading) should have a minimum thickness of 5 inches. Reinforcement should consist of No. 4 bars at 18 inches on center (each way). Slabs should also be designed for the anticipated loading (forklifts, trucks, etc.) using a modulus of subgrade reaction of 150 pounds per square inch per inch. We emphasize that it is the responsibility of the contractor to ensure that the slab reinforcement is placed at slab mid-height. Slabs should be underlain by a 4-inch layer of sand or small, rounded aggregate (similar to ASTM D1241 Grade C or D) to aid in concrete curing and to act as a capillary break, which is underlain by a 6-mil (or heavier) moisture barrier. All penetrations through the moisture barrier and laps should be sealed. Our experience indicates that use of reinforcement in slabs and foundations can generally reduce the potential for drying and shrinkage cracking. However, some cracking should be expected as the concrete cures. Minor cracking is considered normal; however, it is often aggravated by a high water/cement ratio, high concrete temperature at the time of placement, small nominal aggregate size, and rapid moisture loss due to hot, dry, and/or windy weather conditions during placement and curing. Cracking due to temperature and

moisture fluctuations can also be expected. The use of low slump concrete (not exceeding 4 inches at the time of placement) can reduce the potential for shrinkage cracking. Moisture barriers can retard, but not eliminate vapor movement from the underlying soils up through the slab. We recommend that the floor-covering contractor test the moisture vapor flux rate prior to attempting application of moisture-sensitive flooring. 'Breathable' floor covering or special slab sealants should be considered if the vapor flux rates are high. Floor covering manufacturers should be consulted for specific recommendations. If tile or other crack or movement-sensitive flooring is planned, a slipsheet should be used. Flexible joint material should be used where crack-sensitive flooring overlies concrete joints.

7.3 Shoring Design

Cantilever walls/shoring typically allow a significant amount of movement prior to mobilizing full soil resistance. Shoring of excavations are typically performed by specialty contractors with knowledge of the specific area soil conditions. We recommend that the shoring contractor provide the excavation shoring design. However, lateral earth pressures for design of the shoring system are presented below:

- Cantilever Shoring System

  Active pressure = 35H (pcf), triangular distribution for non-sloping backfill
  Active pressure = 55H (pcf), triangular distribution for 2:1 sloping backfill
  Passive Pressure = 350H (psf)
  H = wall height (active case) or embedment (passive case)

- Tie-Back Shoring System

  At-Rest Pressure = Trapezoidal distribution of 28H going to 0 starting from 0.1H from the top and 0.2H from the bottom of the distribution for non-sloping backfill
  Passive Pressure = 350H (psf)
  H = wall height (at-rest case) or embedment (passive case)

- General

  All pressures are based on dewatered conditions, with the water table at least 3 feet below the base of the excavation and no slope seepage. All shoring systems should consider adjacent surcharging loads.

7.4 Settlement

The recommended allowable bearing capacity in the previous sections is generally based on a total static settlement of less than 1 inch. Differential (static) settlement is likely to be approximately one-half of the total settlement occurring shortly after application of the building

load. A discussion of dynamic settlement is presented in Section 4.6.

7.5 Lateral Earth Pressures and Resistance for Building Elements and Retaining Walls

Embedded structural walls should be designed for lateral earth pressures exerted on them. The magnitude of these pressures depends on the amount of deformation that the wall can withstand under load. If the wall can yield enough to mobilize the full shear strength of the soil, it can be designed for "active" pressure. If the wall cannot yield under the applied load, the shear strength of the soil cannot be mobilized and the earth pressure will be higher. Such walls should be designed for 'at rest' conditions. If a structure moves toward the soils, the resulting resistance developed by the soil is the 'passive' resistance.

For design purposes, the recommended equivalent fluid pressure in each case for walls founded above the static ground water table (with level or 2:1 sloping backfill) and backfilled with onsite or import soils of very low to low expansion potential (less than 50 per UBC Standard 18-2) is presented in the following table.

Equivalent Fluid Weight (pcf)		
Condition	Level	2:1 Slope
Active	35	55
At-Rest	55	65
Passive	350 (Maximum of 3 ksf)	-

The above values assume free-draining conditions. If conditions other than those covered herein are anticipated, the equivalent fluid pressure values should be provided on an individual case basis by the geotechnical engineer. A surcharge load for a restrained or unrestrained wall resulting from automobile traffic may be assumed to be equivalent to a uniform pressure of 75 psf which is in addition to the equivalent fluid pressures given above. All retaining wall structures should be provided with appropriate drainage and waterproofing. Wall backfill should be compacted by mechanical methods to at least 90 percent relative compaction (based on ASTM Test Method D1557) or 95 percent if used for structural purposes.

Wall footing design and setbacks should be performed in accordance with the previous foundation design recommendations and reinforced in accordance with structural considerations. Soil resistance developed against lateral structural movement can be obtained from the passive pressure value provided above. Further, for sliding resistance, a friction coefficient of 0.35 may be used at the concrete and soil interface. These values may be increased by one-third for loads of short duration including wind or seismic loads. The total resistance may be taken as the sum

of the frictional and passive resistance provided that the passive portion does not exceed two-thirds of the total resistance.

7.6 Preliminary Pavement Design

An R-value of 68 was obtained from the near-surface fill soils (derived from the nearby Terrace Deposit soils) in boring B-1 in the area of the extension of the roadway along the east side of the proposed Desalination Facility. An R-Value of 38 was obtained from the near-surface fill soils (derived from the Santiago Formation) in boring B-2 in the area of the proposed at-grade parking lot.

Based on the different R-Value test results obtained from the different soil materials, we propose two different pavement designs for each of the two different areas. Accordingly, using a design R-value of 60 for the roadway extension, an R-Value of 35 for the at-grade parking adjacent to the Desalination Facility, and assumed Traffic Indices (TIs) to represent various levels of expected passenger and truck traffic; alternate pavement sections were calculated using the Caltrans Topic 608.4 method of pavement design. The designer/civil engineer should determine the appropriate TI in accordance with the proposed traffic volumes.

Additional testing is recommended, as necessary, if different subgrade conditions are encountered during grading when finish grade has been established. The results of our pavement calculations are presented in Tables 5 and 6.

Table 5
Recommended Flexible Pavement Section vs. Traffic Index
Proposed Roadway Extension

Design Traffic Index (TI)	Design R-Value	Flexible Pavement Section	
		Asphalt Concrete Thickness	Aggregate Base Thickness
TI = 4.5	60	3.0 inches	4.0 inches
TI = 5.0	60	3.0 inches	4.0 inches
TI = 5.5	60	3.5 inches	4.0 inches
TI = 6.0	60	3.5 inches	4.0 inches
TI = 7.0	60	4.0 inches	4.0 inches
TI = 8.0	60	5.0 inches	4.0 inches

Table 6 Recommended Flexible Pavement Section vs. Traffic Index Proposed Parking Lot			
Design Traffic Index (TI)	**Design R-Value**	**Flexible Pavement Section**	
		Asphalt Concrete Thickness	**Aggregate Base Thickness**
TI = 4.5	35	3.0 inches	4.0 inches
TI = 5.0	35	3.0 inches	5.0 inches
TI = 5.5	35	3.5 inches	6.0 inches
TI = 6.0	35	3.5 inches	7.0 inches

A traffic index of 4.5 is typically used for parking areas for passenger vehicles with an average daily traffic index of less than 200 vehicles. A traffic index of 5.0 to 5.5 is similar to a cul-de-sac or local street with an average daily traffic of less than 500 to 1,200 passenger vehicles, respectively, with minor truck traffic. A traffic index of 6.0 is similar to a local collector street with an average daily traffic of up to 2,500 vehicles per day with moderate small truck traffic and minor heavy traffic. A traffic index of 7.0 to 8.0 is similar to a light industrial street or secondary arterial street with associated passenger and industrial traffic.

In areas of heavy truck traffic (such as 18 wheelers) or impact loading (such as loading docks or trash enclosures), we recommend a pavement section of 7 inches of Portland Cement Concrete (P.C.C.) on 6 inches of Class 2 aggregate base. The concrete should have appropriate steel reinforcement and crack-control joints as designed by the project structural or civil engineer. We recommend that sections be as nearly square as possible. A 3,500 psi mix (at 28 days) that provides a minimum 600 psi modulus of rupture should be utilized.

The upper 6 inches of subgrade soil below the pavement section should be compacted to at least 95 percent relative compaction at approximately 1 to 2 percent above optimum moisture content. The pavement subgrade should be firm and unyielding when the pavement section is placed. All pavement section materials should conform to and be placed in accordance with the latest revision of the Standard Specifications for Public Works Construction (Greenbook).

Paved areas should be properly sloped so that water does not pond and infiltrate into the pavement subgrade. Curbs adjacent to paved areas should be founded into the subgrade material, not the aggregate base course, to provide a cut-off to reduce water migration into the subgrade soils. Concrete swales should be designed in roadway or parking areas subject to concentrated surface runoff.

7.7 Soil Corrosivity

Corrosivity tests, including pH, minimum electrical resistivity, and soluble sulfate content, were performed on selected samples of the near-surface soils to evaluate the corrosion potential for ferrous metals and the potential for sulfate attack on concrete.

The total soluble sulfate content determined in accordance with California Test Method 417 from representative samples ranged from 100 to 337 parts per million (ppm). The sulfate exposure is considered negligible in accordance with criteria in UBC (1997) Table 19 A-4. Therefore, it is recommended that the recommendations of the UBC, Table 19-A-4 be used in design of the concrete for the pump station, wet wells, flatwork, and other structures.

The corrosivity of soil is directly related to soil resistivity and pH. Representative soil samples tested had a pH ranging from 9.0 to 10.0 (moderately alkaline). Soil minimum resistivity values ranging from 740 to 1350 Ω-cm were measured in general accordance with California Test Method 643. These resistivity values indicate that the on-site soils are severely corrosive to buried, uncoated, ferrous metals (U.S. Navy, 1969). The test results are provided in Appendix B.

For the appropriate evaluation and mitigation design for other substances with potential influence from corrosive soils, a corrosion engineer may be consulted. These other substances include (but are not necessarily limited to) buried copper tubing, aluminum elements in close vicinity of soils, or stucco finish that can be potentially influenced by induced galvanic currents and/or corrosive soils.

8.0 CONSTRUCTION OBSERVATION, LIMITATIONS, AND PLAN REVIEW

The conclusions and recommendations in this report are based in part upon data that were obtained from a limited number of observations, site visits, excavations, samples, and tests. The nature of many sites is such that differing geotechnical or geological conditions can occur within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. In addition, changes to applicable or appropriate environmental standards may occur, whether they result from legislation or broadening of knowledge. Accordingly, the findings of this report may be revised or invalidated wholly or partially by changes outside of our control.

We understand that this report is preliminary in nature, and that as the design progresses, additional geotechnical information may be necessary. Nevertheless, the findings, conclusions, and recommendations presented in this report can be relied upon only if **GLA** has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site. In addition, we recommend that this office have an opportunity to review the final grading and foundation plans in order to provide additional design-specific recommendations.

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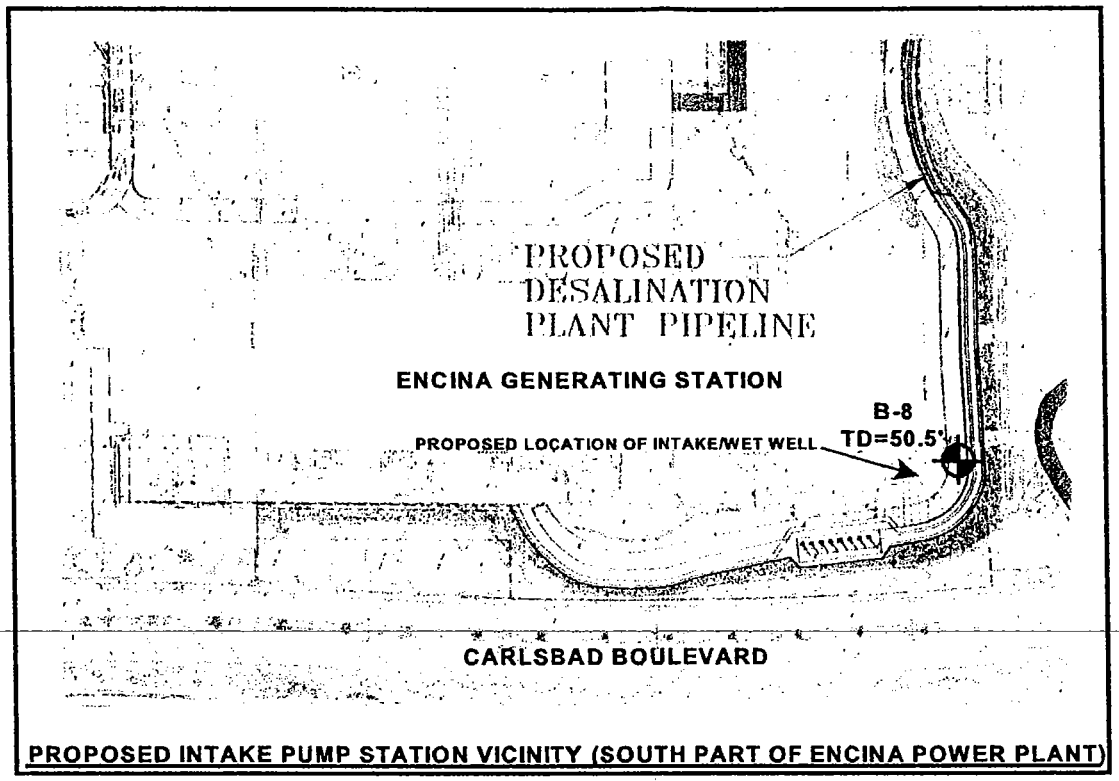


PROPOSED INTAKE PUMP STATION VICINITY (SOUTH PART OF ENCINA POWER PLANT)

LEGEND

B-8 TD=50.5' — Approximate Boring Location with Total Depth

A A' — Approximate Location of Geologic Cross-Section A-A' (see Figure 3 for cross-section)

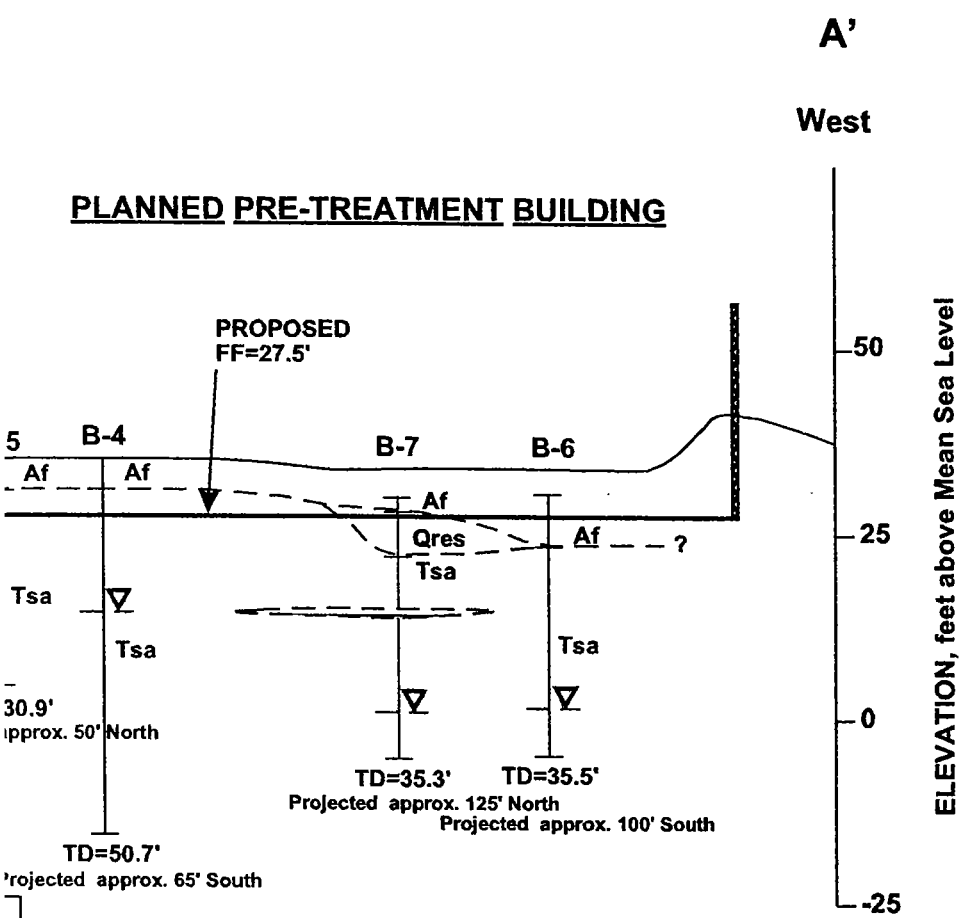
FIGURE 2

CARLSBAD DESALINATION PROJECT
ENCINA GENERATING STATION
CARLSBAD, CALIFORNIA

SITE PLAN

GeoLogic Associates
Geologists, Hydrogeologists, and Engineers

DRAFT	DATE	JOB NO.
AIF	12/2003	2003-091



0 feet 50 feet 100 feet

Approximate Horizontal Scale
1 inch = 50 feet

2x Vertical Exaggeration

FIGURE 3

CARLSBAD DESALINATION PROJECT
ENCINA GENERATING STATION
CARLSBAD, CALIFORNIA

GEOLOGIC CROSS-SECTION A-A'

GeoLogic Associates
Geologists, Hydrogeologists, and Engineers

DRAFT	DATE	JOB NO.
AIF	12/2003	2003-091

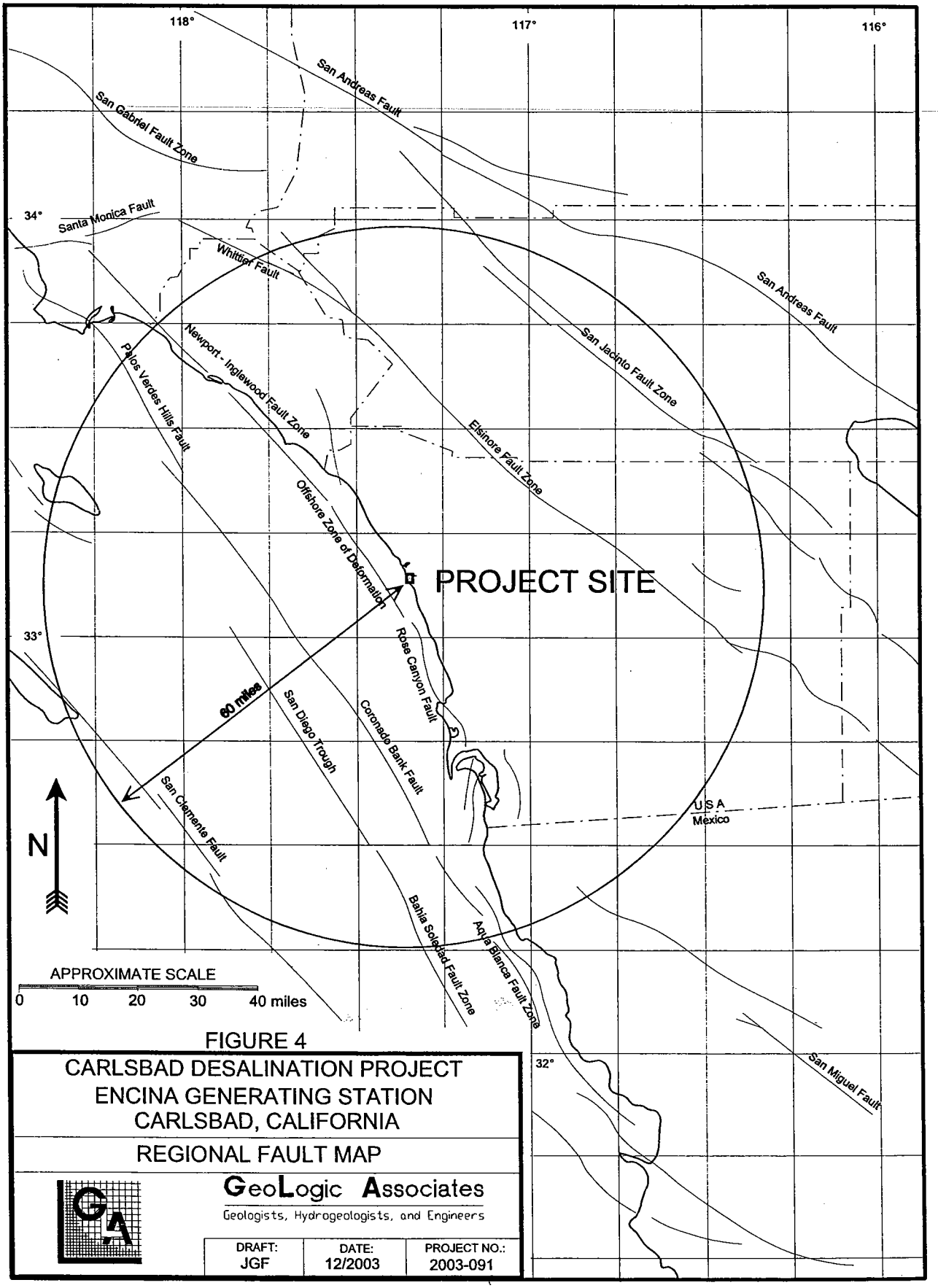


FIGURE 4

CARLSBAD DESALINATION PROJECT
ENCINA GENERATING STATION
CARLSBAD, CALIFORNIA

REGIONAL FAULT MAP

GeoLogic Associates
Geologists, Hydrogeologists, and Engineers

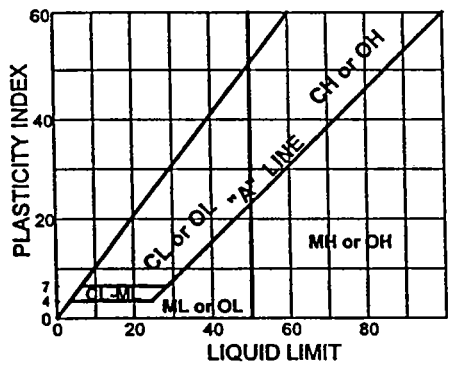
DRAFT:	DATE:	PROJECT NO.:
JGF	12/2003	2003-091

APPENDIX A

BORING LOGS AND BORING PERMIT

UNIFIED SOIL CLASSIFICATION

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly Organic Soils	Silts and Clays Liquid Limit >50%			Silts and Clays Liquid Limit <50%			Sands with Fines >12% Fines		Clean Sands <5% Fines		Gravels with Fines >12% Fines		Clean Gravels <5% Fines	
							Sands - more than 50% of coarse fraction is smaller than No. 4 sieve				Gravels - more than 50% of coarse fraction is larger than No. 4 sieve			
Fine Grained Soils (more than 50% is smaller than No. 200 sieve)							Coarse Grained Soils (more than 50% is larger than No. 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW: $Cu = D_{60}/D_{10}$ greater than 4 for GW, greater than 6 for SW
$Cc = D_{30}^2/D_{60} \times D_{10}$ between 1 and 3

GP and SP: Clean gravel or sand not meeting requirements for GW and SW

GM and SM: Atterberg Limits below "A" LINE and PI less than 4

GC and SC: Atterberg Limits above "A" LINE and PI greater than 7

Silt or Clay	Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Coarse Gravel	Cobble	Boulder
Sieve Size	200	40	10	4	3/4"	3"	12"

Classification of earth materials is based on field inspection and should not be construed to imply laboratory analysis unless so stated

MATERIAL SYMBOLS

Asphalt		Calcaerous Sandstone	
Concrete		Marl	
Conglomerate		Limestone	
Sandstone		Dolostone	
Silty Sandstone		Breccia	
Clayey Sandstone		Volcanic Ash/Tuff	
Siltstone		Metamorphic Rock	
Sandy Siltstone		Quartzite	
Clayey Siltstone /Silty Claystone		Extrusive Igneous Rock	
Claystone/Shale		Intrusive Igneous Rock	

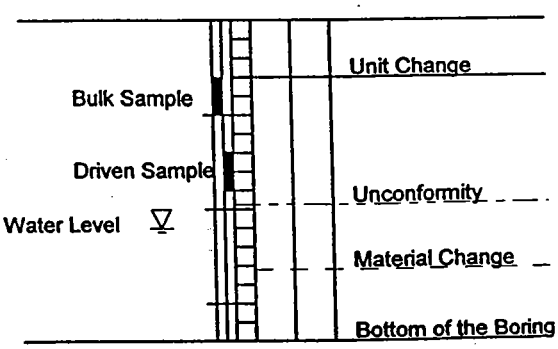
CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Blows / Foot*	Granular	Blows / Foot*	Cohesive
0 - 5	Very Loose	0 - 2	Very Soft
6 - 10	Loose	2 - 4	Soft
11 - 30	Medium Dense	4 - 8	Medium Stiff
31 - 50	Dense	8 - 15	Stiff
50	Very Dense	15 - 30	Very Stiff
		>30	Hard

* using 140-lb. hammer with 30" drop = 350 ft-lb/blow

LEGEND OF BORING



"NSR" indicates NO SAMPLE RECOVERY

GeoLogic Associates
Boring Log

BORING NO.: B-1

PAGE: 1 OF 1

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT
DRILLING METHOD: 2.5" ø HAND AUGER
CONTRACTOR: GEOLOGIC ASSOCIATES
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/02/03
DATE FINISHED: 12/02/03
ELEVATION: 34 FEET (PBS&J, 2003)

GW DEPTH: NOT ENCOUNTERED
CAVING DEPTH: NONE OBSERVED
TOTAL DEPTH: 4.0 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
	RV				BULK	1	0	0		SM	FILL: ORANGE-BROWN, MOIST, FINE TO MEDIUM SILTY SAND, TRACE OF FINE GRAVEL.
							5	1			
							10	2			
							15	3			
							20	4			
							25	5			
							30	6			
							35	7			
							40	8			
							45	9			
							50	10			
								11			
								12			
								13			
								14			
								15			
								16			

NOTES:

1. TOTAL DEPTH = 4.0 FEET.
2. BORING BACKFILLED WITH CUTTINGS ON 12/02/2003.

LABORATORY TESTING KEY:

A = ATTERBERG LIMITS
C = CONSOLIDATION
CH = CHLORIDE
E = EXPANSION INDEX
G = GRADATION/SIEVE ANALYSIS
R = MINIMUM RESISTIVITY AND pH
RV = R-VALUE
S = SOLUBLE SULFATE
SE = SAND EQUIVALENT
SH = DIRECT SHEAR

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-2

PAGE: 1 OF 1

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT, TANK #3
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/02/03
DATE FINISHED: 12/02/03
ELEVATION: 35 FEET (PBS&J, 2003)

GW DEPTH: 23 FEET
CAVING DEPTH: 23 FEET
TOTAL DEPTH: 31.4 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
	A, E, S, RV, R				BULK	1	0	0		ML	FILL: LIGHT GREENISH BROWN, DAMP SILT WITH SAND.
								1		SM	LIGHT GREENISH BROWN, MOIST, FINE TO MEDIUM SILTY SAND.
0.4	C			21	1.4	2	5	2			SANTIAGO FORMATION (Tsa): GREEN-BROWN, MOIST, FINE- TO MEDIUM-GRAINED SILTY SANDSTONE, WITH CALCITE IN FRACTURES. GRADING INTO
0.5	A	88.4	30.0	38	2.5	3	10	3			GREEN-BROWN, DAMP SILTSTONE TO SANDY SILTSTONE (WITH FINE TO MEDIUM SAND), WITH IRON OXIDE STAINING.
								4			LIGHT GREENISH BROWN, MOIST, FINE- TO MEDIUM-GRAINED SILTY SANDSTONE.
0.5				30	1.4	4	15	5			...FINE-GRAINED, WITH SCATTERED SMALL BROWN CLAYEY SILTSTONE LENSES, WITH MANGANESE OXIDE SPOTTING ON FRACTURE PLANES.
0.5		109.8	14.8	76/11"	2.5	5	20	6			...VERY LIGHT BROWN, FINE- TO MEDIUM-GRAINED.
							▼	7			
							25	8			
0.5			15.7	86/11"	1.4	6	30	9			...LIGHT GREENISH BROWN, FINE-GRAINED, SLIGHTLY MICACEOUS.
								10			
							35	11			
								12			
							40	13			
							45	14			
								15			
							50	16			

NOTES:

1. TOTAL DEPTH = 31.4 FEET.
2. SAMPLER DRIVEN BY A 140-POUND AUTOMATIC HAMMER WITH A 30-INCH DROP.
3. BORING GROUTED WITH BENTONITE (VOLCLAY) GROUT ON 12/02/2003.
4. BACKGROUND PID READING = 0.4 PPM.

LABORATORY TESTING KEY:

A = ATTERBERG LIMITS
C = CONSOLIDATION
CH = CHLORIDE
E = EXPANSION INDEX
G = GRADATION/SIEVE ANALYSIS
R = MINIMUM RESISTIVITY AND pH
RV = R-VALUE
S = SOLUBLE SULFATE
SE = SAND EQUIVALENT
SH = DIRECT SHEAR

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-3

PAGE: 1 OF 1

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT, TANK #3
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/02/03
DATE FINISHED: 12/02/03
ELEVATION: 35 FEET (PBS&J, 2003)

GW DEPTH: NOT ENCOUNTERED
CAVING DEPTH: NONE OBSERVED
TOTAL DEPTH: 30.7 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	USCS/GEOLOGIC FORMATION	DESCRIPTION
							SM	FILL: BROWN, MOIST, FINE TO MEDIUM SILTY SAND.
							ML	LIGHT BROWN, MOIST, FINE SANDY SILT.
0.4	ENV			57	2.5	1	SM	DARK GREEN-BROWN, MOIST, FINE TO MEDIUM SILTY SAND.
0.5	C	100.3	16.7	92/11"	2.5	2		SANTIAGO FORMATION (Tsa): GREEN-BROWN, MOIST, FINE- TO COARSE-GRAINED SILTY SANDSTONE, WITH IRON OXIDE STAIN AND CALCITE NODULES.
0.5		112.9	15.9	83	2.5	3		... LIGHT GREENISH BROWN, FINE- TO MEDIUM-GRAINED, WITH YELLOW IRON OXIDE STAINED ZONES.
								GRADING INTO
0.5				50/6"	1.4	4		VERY LIGHT BROWN, MOIST SANDY SILTSTONE TO SANDY SILTSTONE (FINE SAND).
0.5		105.9	21.5	72/10"	2.5	5		DARK GRAY AND BROWN, MOIST, FINE- TO COARSE-GRAINED SILTY SANDSTONE. ...VERY LIGHT BROWN, FINE- TO COARSE-GRAINED.
0.5				50/2.5"	1.4	6		

DEPTH IN FEET: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50
DEPTH IN METERS: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

NOTES:

1. TOTAL DEPTH = 30.7 FEET.
2. SAMPLER DRIVEN BY A 140-POUND AUTOMATIC HAMMER WITH A 30-INCH DROP.
3. BORING GROUTED WITH BENTONITE (VOLCLAY) GROUT ON 12/02/2003.
4. BACKGROUND PID READING = 0.5 PPM.

LABORATORY TESTING KEY:

A = ATTERBERG LIMITS
C = CONSOLIDATION
CH = CHLORIDE
E = EXPANSION INDEX
G = GRADATION/SIEVE ANALYSIS
R = MINIMUM RESISTIVITY AND pH
RV = R-VALUE
S = SOLUBLE SULFATE
SE = SAND EQUIVALENT
SH = DIRECT SHEAR
ENV = ENVIRONMENTAL TESTING

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-4

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT, TANK #3
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/01/03
DATE FINISHED: 12/01/03
ELEVATION: 35 FEET (PBS&J, 2003)

GW DEPTH: 20.8 FEET
CAVING DEPTH: 20.8 FEET
TOTAL DEPTH: 50.7 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
	G, E, S, R				BULK	1	0	0		SM	FILL: ORANGE-BROWN, DAMP, FINE TO MEDIUM SILTY SAND.
								1		ML	LIGHT BROWN, DRY SILT.
0.6	C	101.4	23.6	90	2.5	2	5	2			SANTIAGO FORMATION (Tsa): GREENISH BROWN, DAMP, FINE-GRAINED SILTY TO CLAYEY SANDSTONE, WITH CALCITE IN FRACTURES AND CLAYSTONE SEAMS. ...LIGHT BROWN, FINE- TO COARSE-GRAINED SILTY SANDSTONE.
0.6			10.0	50/4"	1.4	3	10	3			...WITH SCATTERED ROUNDED GRAVEL.
								4			
0.5		113.1	16.3	92/10"	2.5	4	15	5			...INTERBEDDED WITH FINE SANDY SILTSTONE, WITH CALCITE AND IRON OXIDE STAIN IN THIN (1/20") FRACTURES.
0.5			14.5	21	1.4	5	20	6			...FINE-GRAINED, SOFT, WITH IRON OXIDE IN FRACTURES.
								7			
0.4		108.1	13.3	50/5"	2.5	6	25	8			...HARD, MOIST TO VERY MOIST, WITH SCATTERED CALCITE NODULES UP TO 1/4" IN DIAMETER.
0.4			14.5	75	1.4	7	30	9			...WET, FINE- TO MEDIUM-GRAINED.
								10			
							35	11			
0.4			22.4	35	1.4	8	40	12			...FINE-GRAINED.
								13			
							45	14			
0.4			22.4	50/2"	1.4	9	50	15			
								16			SEE SHEET 2 OF 2.

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-4

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT, TANK #3
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/01/03
DATE FINISHED: 12/01/03
ELEVATION: 35 FEET (PBS&J, 2003)

GW DEPTH: 20.8 FEET
CAVING DEPTH: 20.8 FEET
TOTAL DEPTH: 50.7 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
							50	16			
							55	17			
							60	18			
								19			
							65	20			
								21			
							70	22			
							75	23			
								24			
							80	25			
							85	26			
								27			
							90	28			
							95	29			
								30			
							100	31			

NOTES:

1. TOTAL DEPTH = 50.7 FEET.
2. SAMPLER DRIVEN BY A 140-POUND AUTOMATIC HAMMER WITH A 30-INCH DROP.
3. DIFFICULT DRILLING FROM 10 TO 13 FEET BGS, MOVED THE HOLE APPROXIMATELY 2 FEET EAST.
4. BORING GROUTED WITH BENTONITE (VOLCLAY) GROUT ON 12/01/2003.
5. BACKGROUND PID READING = 0.2 PPM.

LABORATORY TESTING KEY:

A = ATTERBERG LIMITS
C = CONSOLIDATION
CH = CHLORIDE
E = EXPANSION INDEX
G = GRADATION/SIEVE ANALYSIS
R = MINIMUM RESISTIVITY AND pH
RV = R-VALUE
S = SOLUBLE SULFATE
SE = SAND EQUIVALENT
SH = DIRECT SHEAR

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-5

PAGE: 1 OF 1

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT, TANK #3
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/02/03
DATE FINISHED: 12/02/03
ELEVATION: 35 FEET (PBS&J, 2003)

GW DEPTH: NOT ENCOUNTERED
CAVING DEPTH: NONE OBSERVED
TOTAL DEPTH: 30.9 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
							0	0		SM	FILL: ORANGE-BROWN, MOIST, FINE TO MEDIUM SILTY SAND.
0.5	ENV			12	2.5	1		1			...TO BROWN, VERY MOIST. ...TO MEDIUM, WITH MANGANESE OXIDE SPOTTING.
0.5		106.0	11.9	82/8"	2.5	2	5				SANTIAGO FORMATION (Tsa): GREENISH BROWN, MOIST, FINE- TO MEDIUM-GRAINED SILTY SANDSTONE, WITH CALCITE IN FRACTURES AND IRON OXIDE STAIN.
	ENV				GLASS JAR	3		2			...VERY LIGHT GREENISH BROWN BELOW 6 FEET DEPTH.
0.5	SH, C	87.9	29.2	57	2.5	4	10	3			...BROWN, FINE- TO COARSE-GRAINED, WITH CLAYEY SILT AND WITH IRON AND MANGANESE OXIDE IN UP TO 1/12"-THICK FRACTURES.
								4			...LIGHT GREENISH BROWN, INTERBEDDED WITH GREENISH BROWN CLAYEY SILTSTONE, WITH MANGANESE AND IRON OXIDE STAINING.
0.5				75	1.4	5	15	5			...LIGHT BROWN, FINE-GRAINED.
0.5		115.0	10.6	50/6"	2.5	6	20	6			...FINE- TO MEDIUM-GRAINED.
								7			
							25	8			
0.5				50/4.5"	1.4	7	30	9			...FINE-GRAINED.
								10			NOTES: 1. TOTAL DEPTH = 30.9 FEET. 2. SAMPLER DRIVEN BY A 140-POUND AUTOMATIC HAMMER WITH A 30-INCH DROP. 3. BORING GROUTED WITH BENTONITE (VOLCLAY) GROUT ON 12/02/2003. 4. BACKGROUND PID READING = 0.5 PPM.
							35	11			
								12			
							40	13			LABORATORY TESTING KEY: A = ATTERBERG LIMITS C = CONSOLIDATION CH = CHLORIDE E = EXPANSION INDEX G = GRADATION/SIEVE ANALYSIS R = MINIMUM RESISTIVITY AND pH RV = R-VALUE S = SOLUBLE SULFATE SE = SAND EQUIVALENT SH = DIRECT SHEAR ENV = ENVIRONMENTAL TESTING
							45	14			
								15			
							50	16			

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-6

PAGE: 1 OF 1

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT, TANK #3
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/02/03
DATE FINISHED: 12/02/03
ELEVATION: 30 FEET (PBS&J, 2003)

GW DEPTH: 28.0 FEET
CAVING DEPTH: NONE OBSERVED
TOTAL DEPTH: 35.5 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
	G, E, S, R				BULK	1	0	0		SM	FILL: GREENISH BROWN, MOIST, FINE TO MEDIUM SILTY SAND. ...LIGHT BROWN, DECREASED SILT. ...GREENISH BROWN TO BROWN, INCREASED SILT, SCATTERED FINE GRAVEL UP TO 3/4" IN DIAMETER.
0.4				71	1.4	2	5	2			
0.4	SH, C	99.0	23.2	51	2.5	3	10	3			SANTIAGO FORMATION (Tsa): LIGHT GRAYISH BROWN, MOIST, FINE-GRAINED SILTY SANDSTONE, WITH LIGHT GREENISH GRAY FINE SANDY SILTSTONE/SILTY SANDSTONE LENSES, WITH IRON OXIDE STAINING ON FRACTURE SURFACES.
0.5				40	1.4	4	15	5			...FINE- TO MEDIUM-GRAINED, WITH THIN SILTSTONE LAMINATIONS.
0.5		97.8	18.3	70	2.5	5	20	6			...FINE-GRAINED, SLIGHTLY MICACEOUS.
								7			...SEEPAGE AT 23 FEET DEPTH.
0.6				50/6"	1.4	6	25	8			...FINE- TO COARSE-GRAINED.
								9			
							30	10			
0.5				50/6"	1.4	7	35	11			
							40	12			
								13			
							45	14			
								15			
							50	16			

NOTES:

1. TOTAL DEPTH = 35.5 FEET.
2. SAMPLER DRIVEN BY A 140-POUND AUTOMATIC HAMMER WITH A 30-INCH DROP.
3. BORING GROUTED WITH BENTONITE (VOLCLAY) GROUT ON 12/02/2003.
4. BACKGROUND PID READING = 0.4 PPM.

LABORATORY TESTING KEY:

C = CONSOLIDATION
CH = CHLORIDE
E = EXPANSION INDEX
G = GRADATION/SIEVE ANALYSIS
R = MINIMUM RESISTIVITY AND pH
RV = R-VALUE
S = SOLUBLE SULFATE
SH = DIRECT SHEAR

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-7

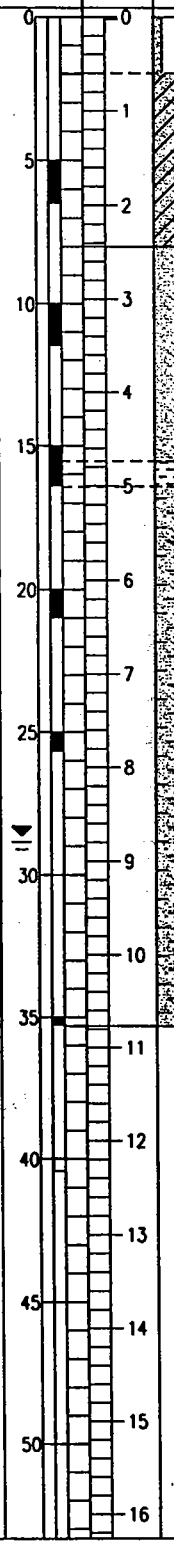
PAGE: 1 OF 1

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT, TANK #3
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/01/03
DATE FINISHED: 12/01/03
ELEVATION: 30 FEET (PBS&J, 2003)

GW DEPTH: 28.9 FEET
CAVING DEPTH: NONE OBSERVED
TOTAL DEPTH: 35.3 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	USCS/GEOLOGIC FORMATION	DESCRIPTION
							SM	FILL: BROWN, MOIST, FINE TO MEDIUM SILTY SAND.
0.2	S, R	109.4	17.6	12	2.5	1	SC	RESIDUAL SOIL: GREENISH GRAY, MOIST, LOOSE TO MEDIUM DENSE, FINE TO MEDIUM CLAYEY SAND, SCATTERED FINE (UP TO 3/4"-DIAMETER) GRAVEL, ROUNDED, WITH ABUNDANT FINE (1/12"-DIAMETER) ROOTS, WITH VERY LIGHT BROWN SILT IN FRACTURES, WITH IRON OXIDE STAIN AND MANGANESE OXIDE AROUND ROOTS.
0.2	C			60	1.4	2		SANTIAGO FORMATION (Tsa): VERY LIGHT BROWN, MOIST, FINE- TO MEDIUM-GRAINED SILTY SANDSTONE, TRACE OF COARSE SAND, MASSIVE.
0.2		111.5	17.9	88/10.5"	2.5	3		...GRAY, FINE-GRAINED, WITH VERY LIGHT BROWN SILTSTONE LENSES AND FRACTURE FILLINGS, CALCITE CEMENTED ZONES, AND IRON OXIDE STAINED ZONES. GRADING INTO GRAY, DAMP SANDY SILTSTONE (FINE MICACEOUS SAND), FISSILE, WITH CALCITE IN FRACTURES AND IRON OXIDE STAINING.
0.2				50/6"	1.4	4		VERY LIGHT GRAY, FINE- TO MEDIUM-GRAINED SILTY SAND.
0.2		99.5	13.5	90/8"	2.5	5		...LIGHT GRAYISH BROWN.
0.2				50/3"	1.4	6		



NOTES:

1. TOTAL DEPTH = 35.3 FEET.
2. SAMPLER DRIVEN BY A 140-POUND AUTOMATIC HAMMER WITH A 30-INCH DROP.
3. BORING GROUTED WITH BENTONITE (VOLCLAY) GROUT ON 12/01/2003.
4. BACKGROUND PID READING = 0.2 PPM.

LABORATORY TESTING KEY:

C = CONSOLIDATION
CH = CHLORIDE
E = EXPANSION INDEX
G = GRADATION/SIEVE ANALYSIS
R = MINIMUM RESISTIVITY AND pH
RV = R-VALUE
S = SOLUBLE SULFATE
SH = DIRECT SHEAR

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-8

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/01/03
DATE FINISHED: 12/01/03
ELEVATION: 1 FOOT (PBS&J, 2003)

GW DEPTH: 12.4 FEET
CAVING DEPTH: 33 FEET
TOTAL DEPTH: 50.5 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
							0	0			3" ASPHALT CONCRETE OVER 10" AGGREGATE BASE.
	S, R		10.9		BULK (1'-5')	1		1		SM	FILL: GREENISH BROWN, MOIST, FINE TO MEDIUM SILTY SAND. ...LIGHT GREENISH BROWN (AT 2') TO BROWN (AT 2.5')
0.3	ENV, SH	103.2	15.6	42	2.5	2	5	2		SM	...SCATTERED FINE GRAVEL UP TO 3/4" IN DIAMETER ...GRAY-BROWN BELOW 4'.
											FILL/LAGOONAL DEPOSITS: GRAY, MOIST, DENSE, FINE TO MEDIUM SILTY SAND, MICACEOUS, NO ODOR.
0.3			11.9	23	1.4	3	10	3			SANTIAGO FORMATION (Tsa): LIGHT BROWN, MOIST, FINE- TO MEDIUM-GRAINED SILTY SANDSTONE.
							▼	4			...WET.
0.4	ENV, SH ENV	108.8	18.9	55	2.5 BULK (5'-16')	4 5	15	5			
0.3			16.7	50/2"	1.4	6	20	6			...FINE-GRAINED, WITH SCATTERED FINE (TO 3/4" DIAMETER) GRAVEL.
								7			
0.3			20.9	50/5.5"	1.4	7	25	8			...FINE- TO COARSE-GRAINED, SCATTERED SMALL SANDY CLAYSTONE LENSES AND FINE GRAVEL.
0.4			19.9	50/5"	1.4	8	30	9			...FINE- TO MEDIUM-GRAINED.
								10			
							35	11			
0.2			15.3	50/6"	1.4	9	40	12			...FINE- TO COARSE-GRAINED, WITH ~0.4'-THICK LENSE OF FINE SANDY SILTSTONE/SILTY SANDSTONE, THINLY LAMINATED.
								13			
							45	14			
								15			
0.2			19.9	50/6"	1.4	10	50	16			...FINE-GRAINED, WITH TRACE OF COARSE SAND.
											SEE SHEET 2 OF 2.

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GeoLogic Associates
Boring Log

BORING NO.: B-8

JOB NO.: 2003-090
SITE LOCATION: ENCINA DESALINATION PROJECT
DRILLING METHOD: 8" ø HOLLOW STEM AUGER
CONTRACTOR: J.E.T. DRILLING
LOGGED BY: A. FYODOROVA

DATE STARTED: 12/01/03
DATE FINISHED: 12/01/03
ELEVATION: 1 FOOT (PBS&J, 2003)

GW DEPTH: 12.4 FEET
CAVING DEPTH: 33 FEET
TOTAL DEPTH: 50.5 FEET

PID READING (PPM)	LABORATORY TESTING (SEE KEY)	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	DEPTH IN METERS	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION
							50	16			
							55	17			
								18			
							60	19			
							65	20			
								21			
							70	22			
							75	23			
								24			
							80	25			
							85	26			
								27			
							90	28			
							95	29			
								30			
							100	31			

NOTES:

1. TOTAL DEPTH = 50.5 FEET.
2. SAMPLER DRIVEN BY A 140-POUND AUTOMATIC HAMMER WITH A 30-INCH DROP.
3. BORING GROUTED WITH BENTONITE (VOLCLAY) GROUT ON 12/01/2003.
4. BACKGROUND PID READING = 0.2 PPM.

LABORATORY TESTING KEY:

A = ATTERBERG LIMITS
C = CONSOLIDATION
CH = CHLORIDE
E = EXPANSION INDEX
G = GRADATION/SIEVE ANALYSIS
R = MINIMUM RESISTIVITY AND pH
RV = R-VALUE
S = SOLUBLE SULFATE
SE = SAND EQUIVALENT
SH = DIRECT SHEAR
ENV = ENVIRONMENTAL TESTING

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

PERMIT# LMON101815
A.P.N. # 210-010-39-00
EST # NONE

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
LAND AND WATER QUALITY DIVISION

MONITORING WELL AND BORING CONSTRUCTION AND DESTRUCTION PERMIT

SITE NAME: ENCINA GENERATING STATION

SITE ADDRESS: NORTH OF 4600 CARLSBAD BLVD., CARLSBAD, CA 92008

PERMIT FOR: **8 BORINGS**

PERMIT APPROVAL DATE: NOVEMBER 24, 2003

PERMIT EXPIRES ON: MARCH 23, 2004

PERMIT CONDITIONS:

1. All borings must be destroyed in accordance with Department of Water Resources Bulletin 74-81 and 74-90. Borings must be sealed from the bottom of the boring to ground surface with an approved sealing material. **Drill cuttings are not acceptable fill material.**

2. Placement of sealing material at a depth greater than 30 feet must be done using the tremie method.

3. All water and soil resulting from the activities covered by this permit must be managed, stored and disposed of as specified in the SAM Manual in Section 5, E- 4. (**http://www.sdcounty.ca.gov/deh/lwq/sam/manual_guidelines.html**). In addition, drill cuttings must be properly handled and disposed in compliance with the Stormwater Best Management Practices of the local jurisdiction.

4. Within 60 days of completing work, submit a well construction report, including all well and/or boring logs and laboratory data to the Well Permit Desk. This report must include all items required by the SAM Manual, Section 5, Pages 6 & 7.

5. This office must be given 48-hour notice of any drilling activity on this site and advanced notification of drilling cancellation. Please contact the Well Permit Desk at 338-2339.

APPROVED BY: _____ DATE: 11/24/2003
ERNESTO L. PROFETA

NOTIFIED: 11/24/03 OP

11/25 Faxed copy

DEH:SAM-9075 (4/03)

PERMIT APPLICATION GROUNDWATER AND VADOSE MONITORING WELLS AND EXPLORATORY OR TEST BORINGS

RECEIVED
2003 NOV 20 AM 11:26
D. E. H.
MAILROOM

OFFICE USE ONLY
PERMIT #: KMN W 101815
SAM CASE Y/N: H
DATE RECEIVED: _____
FEE PAID: _____

A. RESPONSIBLE PARTY NRG Energy, Inc/ Encina Power Station Phone 760-268-4019
Mailing Address 4600 Carlsbad Boulevard City Carlsbad State CA Zip 92008-4301
Contact Person Marc Kodis Phone 760-268-4019 (direct) ext. _____

B. SITE ASSESSMENT PROJECT IF APPLICABLE: NA

C. CONSULTING FIRM GeoLogic Associates (GLA)
Mailing Address 16885 W. Bernardo Drive, Suite 305 City San Diego State CA
Zip 92127
Registered Professional Anna Fyodorova Registration # 7376 (RG)
Contact Person Anna Fyodorova Phone (858) 688-8269 (cell) ext. _____

D. DRILLING COMPANY Jet Drilling Inc C57# 750885 Phone 562 988-2849
Mailing Address 2656 St. Louis Ave City Signal Hill State Ca Zip 90755

E. CONSTRUCTION INFORMATION

TYPE OF WELLS/ BORINGS TO BE CONSTRUCTED

	#
☐ Groundwater	
☐ Vadose	
☒ Boring	8
☐ Other	

NUMBER OF WELLS TO BE DESTROYED # ____

MATERIALS TO BE USED

CASING
Type
Gauge
Diameter
Well Screen Size
Filter Pack (Specify)

SEAL
☐ Neat Cement
☐ Cement & Bentonite
☐ Sand-Cement
☐ Bentonite
☐ Other

DRILLING METHOD
☒ Auger ☐ Air Rotor
☐ Mud Rotary
☐ Percussion ☐ Other: Direct Push

PROPOSED CONSTRUCTION
Estimated ground water depth 17-21 ft.

CEMENT SEAL
BENTONITE SEAL
FILTER PACK
PERFORATION

PROPOSED DRILLING DATE:
December 1 and 2, 2003

NOTE:
For wells with multiple completion Attach a well construction diagram

I agree to comply with the requirements of the current Site Assessment and Mitigation Division Manual, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well/boring construction and destruction.

Well B 1 C — 11-19-03
DRILLERS SIGNATURE — DATE

Within 30 days of completion, I will furnish the Site Assessment and Mitigation Division with a complete and accurate well/boring log. I will certify the design and construction/or destruction of the well/borings in accordance with the permit application.

Anna Fyodorova — 11-19-03
RG/CEG/RCE SIGNATURE — DATE

County of San Diego

GARY W. ERBECK
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
LAND AND WATER QUALITY DIVISION
1255 IMPERIAL AVE., SAN DIEGO, CA 92101-7493
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(619) 338-2222 FAX (619) 338-2377
1-800-253-9933

RICHARD HAAS
ASSISTANT DIRECTOR

PROPERTY OWNER RESPONSIBILITY AGREEMENT

Proposed Location of Well(s):
See attached pages (2).

Property Address: Encina Generating Station
4600 Carlsbad Blvd.
Carlsbad, CA

Dear Property Owner:

This letter is to inform you of the responsibilities for the proposed drilling activities on your property. The scope of work covered by this letter will expire one year from the date you sign this form. Any proposed drilling activities beyond this expiration date will require a new Property Owner Responsibility Agreement.

Please place a check mark next to the activity which applies to your property:

- [ ] Install one or more monitoring wells
- [ ] Destroy one or more monitoring wells
- [x] Drill one or more soil borings

The person who causes to have a monitoring well installed or an existing well destroyed on your property is defined as the "Responsible Party." Section 67.424 of San Diego County Code states that: "Monitoring wells shall be maintained to mee construction or destruction standards. If a monitoring well does not meet construction or destruction standards the Responsible Party must repair, reconstruct or destroy the monitoring well so it meets the standards. The property owner, if different than the Responsible Party, must take the necessary actions to repair, reconstruct or destroy the monitoring well so it meets the standards if the Responsible Party does not complete the necessary actions."

A soil boring is used specifically to sample soil and, because there are construction and destruction standards, is included in the definition of a monitoring well even though no maintenance is required. These standards are outlined in the County of San Diego SAM Manual and the State of California Well Standards Bulletin 74-90.

If you have any questions or would like additional information, please contact the Monitoring Well Program at (619) 338-2339.

I understand the maintenance and construction/destruction responsibilities for monitoring wells and borings under the San Die County Code.

CABRILLO POWER I LLC

Property Owner Signature: [signature] Date: 11-11-03

Print Name: STAN MARKS Title: Vice Pres.

Mailing Address: 4600 Carlsbad Blvd. Company: CABRILLO POWER I LLC
Carlsbad CA 92008

DEH-SAM-9503 (Rev. 7/00)

APPENDIX B

GEOTECHNICAL LABORATORY DATA ANALYSIS

APPENDIX B

GEOTECHNICAL LABORATORY TESTING PROCEDURES AND TEST RESULTS

Expansion Index Tests: The expansion potential of selected materials was evaluated by the Expansion Index Test, U.B.C. Standard No. 18-2 and ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch thick by 4-inch diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below:

Sample Location	Sample Description	Expansion Index	Expansion Potential*
B-2, 0-4'	Olive brown, sandy silt with clay	43	Low
B-4, 1'-7'	Brown, fine to medium clayey sand	21	Low
B-6, 1.5'-5'	Light brown, fine to coarse clayey sand	35	Low

*Based on the 1997 edition of the Uniform Building Code, prepared by the International Conference of Building Officials, (ICBO, 1997).

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with California Test Method 643. The results are presented in the table below:

Sample Location	pH	Minimum Resistivity (ohms-cm)	Corrosion Potential**
B-2, 0-5'	9.0	830	Severe
B-4, 1'-7'	9.0	1225	Severe
B-6, 1.5'-5'	9.8	1300	Severe
B-7, 5'-6.5'	9.6	740	Severe
B-8, 1'-5'	10.0	1350	Severe

** per U. S. Navy, 1969.

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by California Test Method 417. The test results are presented in the table below:

Sample Location	Soluble Sulfate Content (ppm)	Sulfate Exposure***
B-2, 0-5'	100	Negligible
B-4, 1'-7'	132	Negligible
B-6, 1.5'-5'	370	Negligible
B-7, 5'-6.5'	148	Negligible
B-8, 1'-5'	337	Negligible

*** Based on the 1997 edition of the Uniform Building Code, Table No. 19-A-4, prepared by the International Conference of Building Officials, (ICBO, 1997).

Consolidation Testing: Consolidation testing was performed in accordance with ASTM D 2435. The test results are presented on the following pages.

Atterberg Limit Testing: Atterberg Limit Testing (plasticity index) was performed in accordance with ASTM D4318. The results are presented in the following pages.

Grain Size Analysis: Grain-size distributions were performed on selected samples in accordance with ASTM D422. The results are presented in the following pages.

R-Value: Resistance "R" value was obtained for three samples. Testing was performed in accordance with California Test 301. The test results are presented below.

Sample Location	R-Value Test Result
B-1, 0-4'	68
B-2, 0-5'	38

Direct Shear Testing: Direct shear testing was performed in accordance with ASTM D3080. The results are presented on the following pages.

EXPANSION INDEX - UBC 18-2 & ASTM D 4829-88

PROJECT CDI A02-147 JOB NO. 2001-003

Sample	B-2/1	By	LD			Sample	B-4/1	By	LD		
Sta. No.						Sta. No.					
Soil Type	Olive Brown Mottled, F. Sandy Silt w. Clay					Soil Type	Brown Mottled, F.M. Clayey Sand				
Date	Time	Dial Reading	Wet+Tare	624		Date	Time	Dial Reading	Wet+Tare	650.7	
12/15/2003	10:15	0.3942	Tare	220		12/15/2003	10:15	0.4121	Tare	220.8	
		H2O	Net Weight	404				H2O	Net Weight	429.9	
12/16/2003	17:00	0.3514	% Water	12		12/16/2003	17:00	0.3915	% Water	6.9	
			Dry Dens.	109.3					Dry Dens.	121.9	
			% Max						% Max		
			Wet+Tare	643					Wet+Tare	680	
			Tare	220					Tare	220.8	
			Net Weight	423					Net Weight	459.2	
INDEX	43	4.3%	% Water	17.3		INDEX	21	2.1%	% Water	14.2	

Sample	B-6/1	By	LD			Sample		By	LD		
Sta. No.						Sta. No.					
Soil Type	L. Brown, F.C. Clayey Sand					Soil Type					
Date	Time	Dial Reading	Wet+Tare	630.1		Date	Time	Dial Reading	Wet+Tare		
12/15/2003	10:15	0.3039	Tare	220.6					Tare		
		H2O	Net Weight	409.5					Net Weight		
12/16/2003	17:00	0.2687	% Water	8.9					% Water		
			Dry Dens.	113.9					Dry Dens.		
			% Max						% Max		
			Wet+Tare	677.7					Wet+Tare		
			Tare	220.6					Tare		
			Net Weight	457.1					Net Weight		
INDEX	35	3.5%	% Water	21.6		INDEX			% Water		

GeoLogic Associates

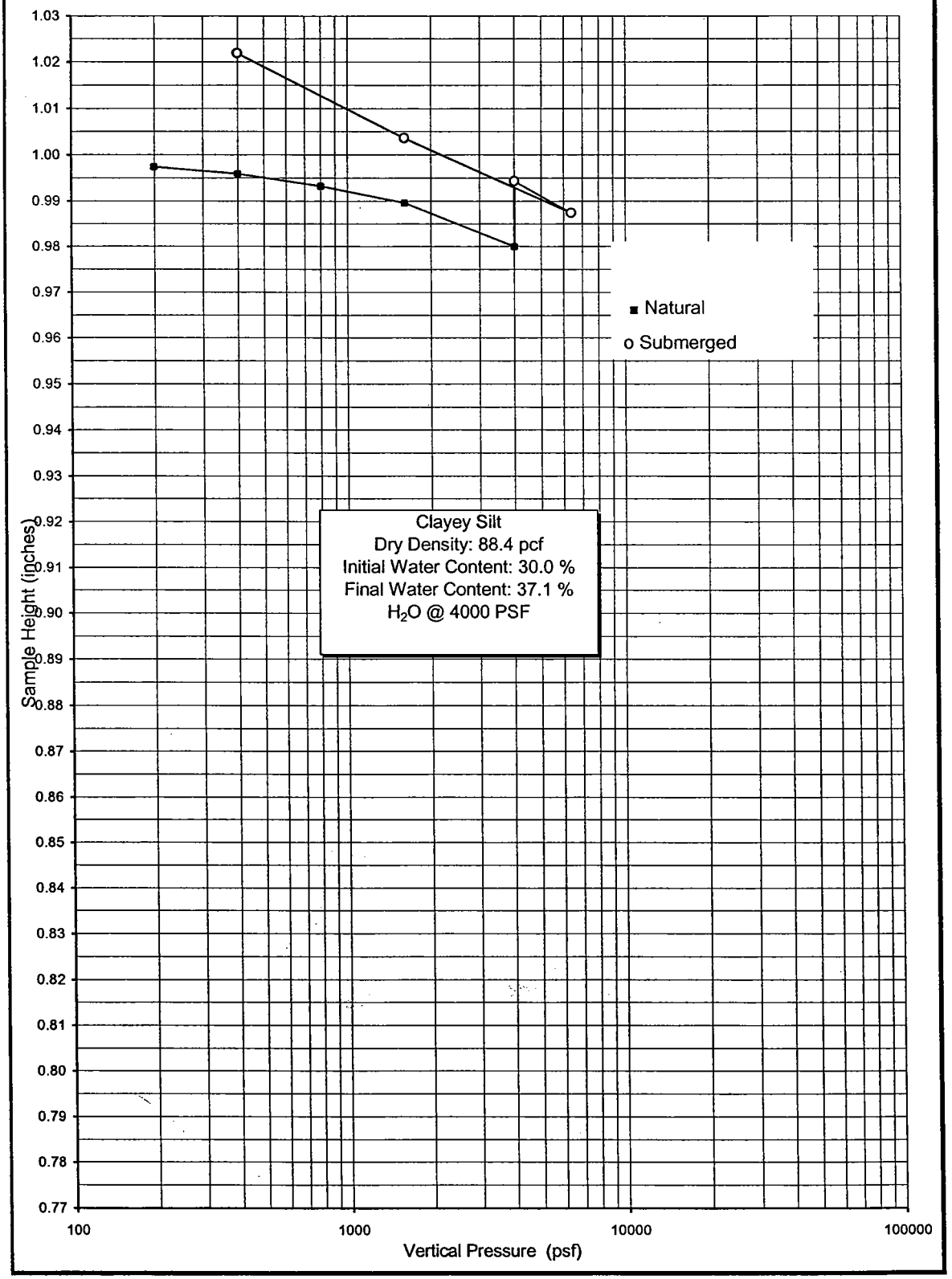
Poseidon / Desal

SOIL TEST RESULTS

Job No. 2003-091

SAMPLE NO.:	B-2/1	B-4/1	B-6/1	B-7/1	B-8/1
DESCRIPTION	Sandy Silt	Clayey Sand	Clayey Sand	Sandy Clay	Clayey Sand
DIRECT SHEAR TEST (type)					
Initial Moisture Content %					
Dry Density (pcf)					
Normal Stress (psf)					
Peak Shear Stress (psf)					
Ultimate Shear Stress (psf)					
Cohesion (psf)					
Internal Friction Angle (degrees)					
EXPANSION TEST UBC STD 18-2					
Initial Dry Density (pcf)					
Initial Moisture Content %					
Final Moisture Content %					
Pressure (psf)					
Expansion Index / Swell %					
CORROSIVITY TEST					
Resistivity (CTM643) (ohm-cm)	830	1225	1300	740	1350
pH (CTM643)	9.0	9.0	9.8	9.6	10.0
CHEMICAL TESTS					
Soluble Sulfate (CTM 417) (ppm)	100	132	370	148	337
Chloride Content (CTM 422) (ppm)					
Wash #200 Sieve (ASTM-1140) %					
Sand Equivalent (ASTM D2419)					

Boring / Sample No. B-2/3	Depth: 10' - 11.5'	Date 12-15-03



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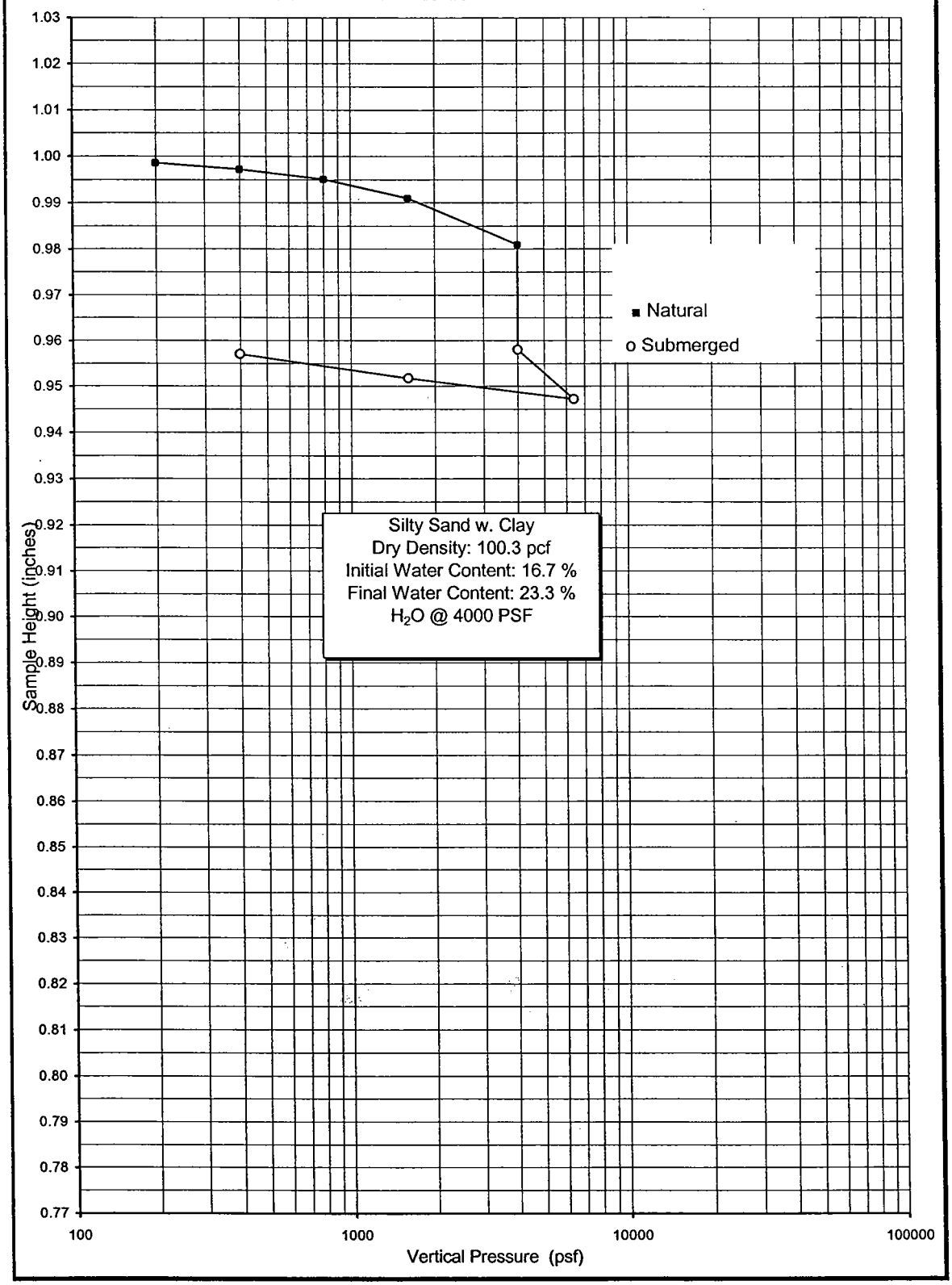
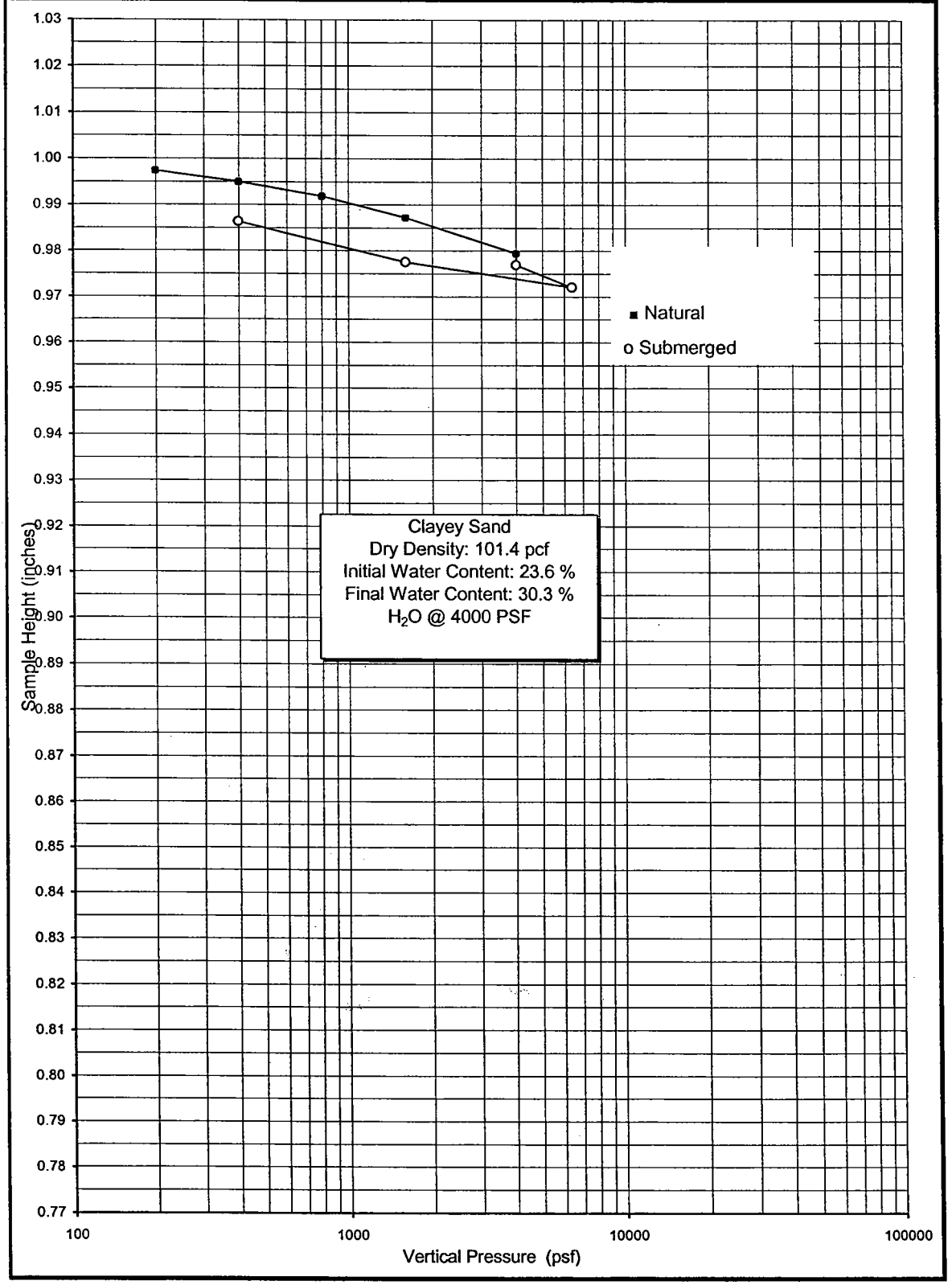
Boring / Sample No. B-3/2	Depth: 5' - 6.5'	Date 12-15-03



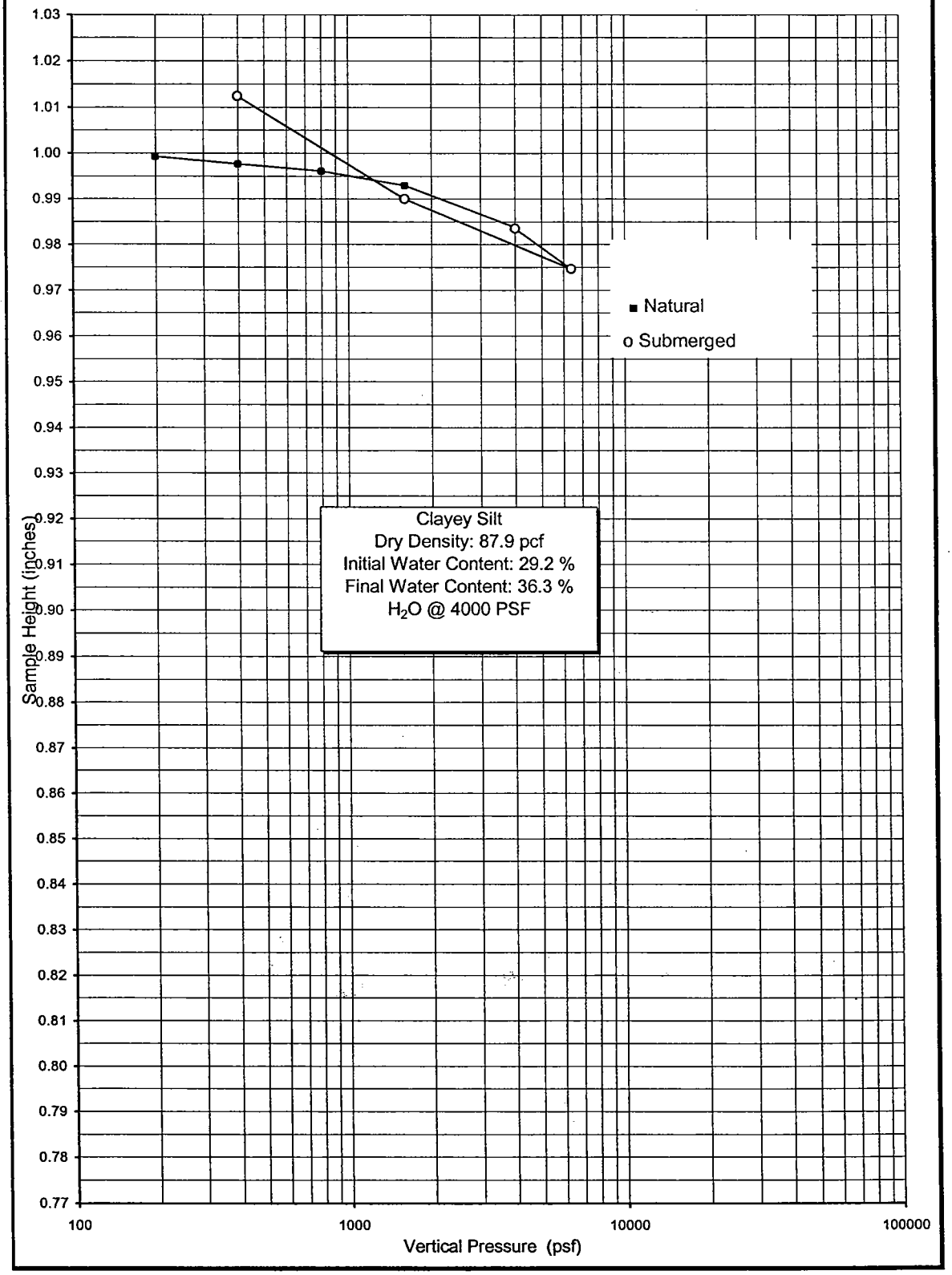
GeoLogic Associates

Boring / Sample No. B-4/2	Depth: 5' - 6.5'	Date 12-15-03



GeoLogic Associates

Boring / Sample No.	B-5-4	Depth:	10' - 11.5'	Date	12-15-03



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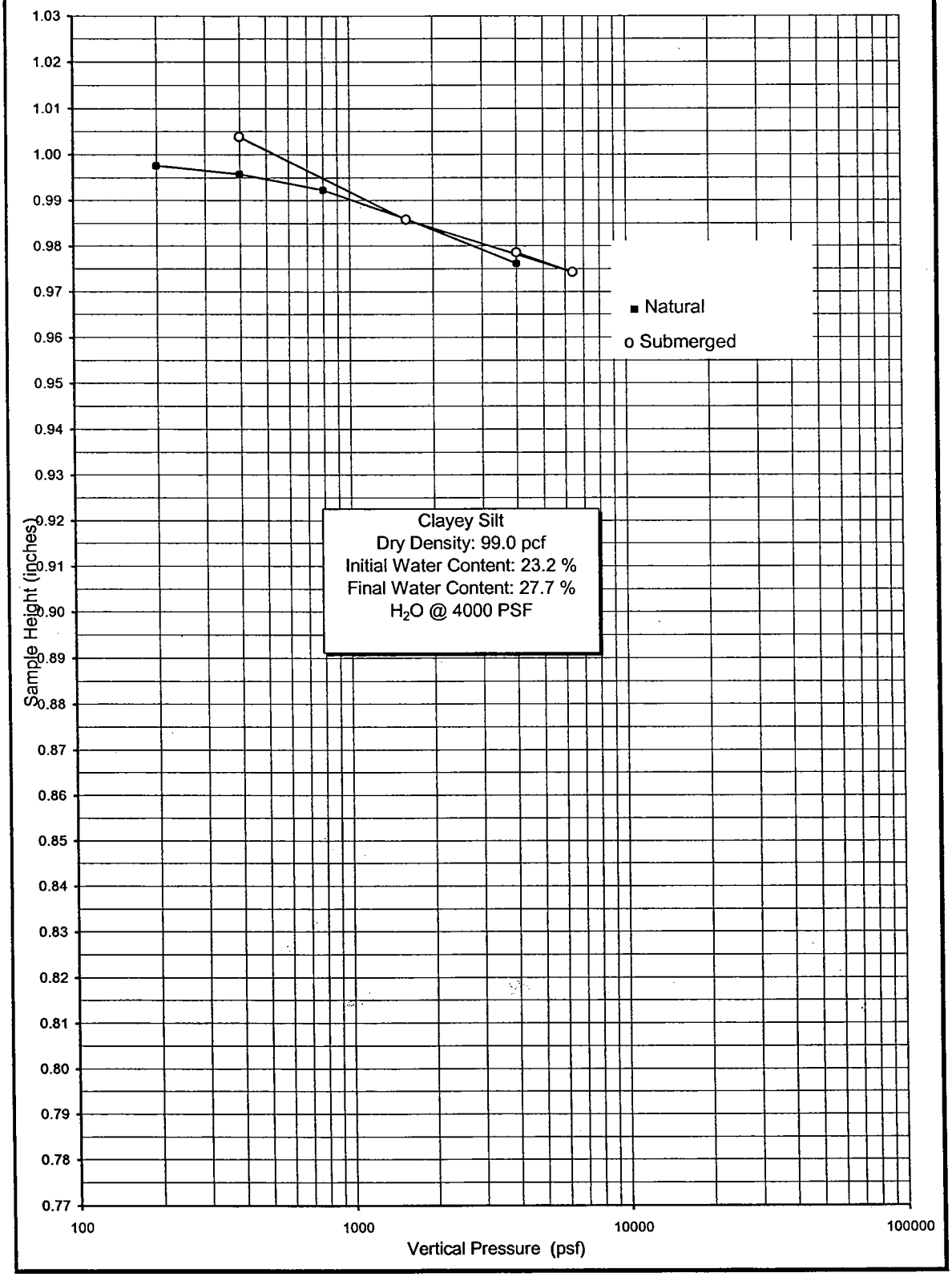
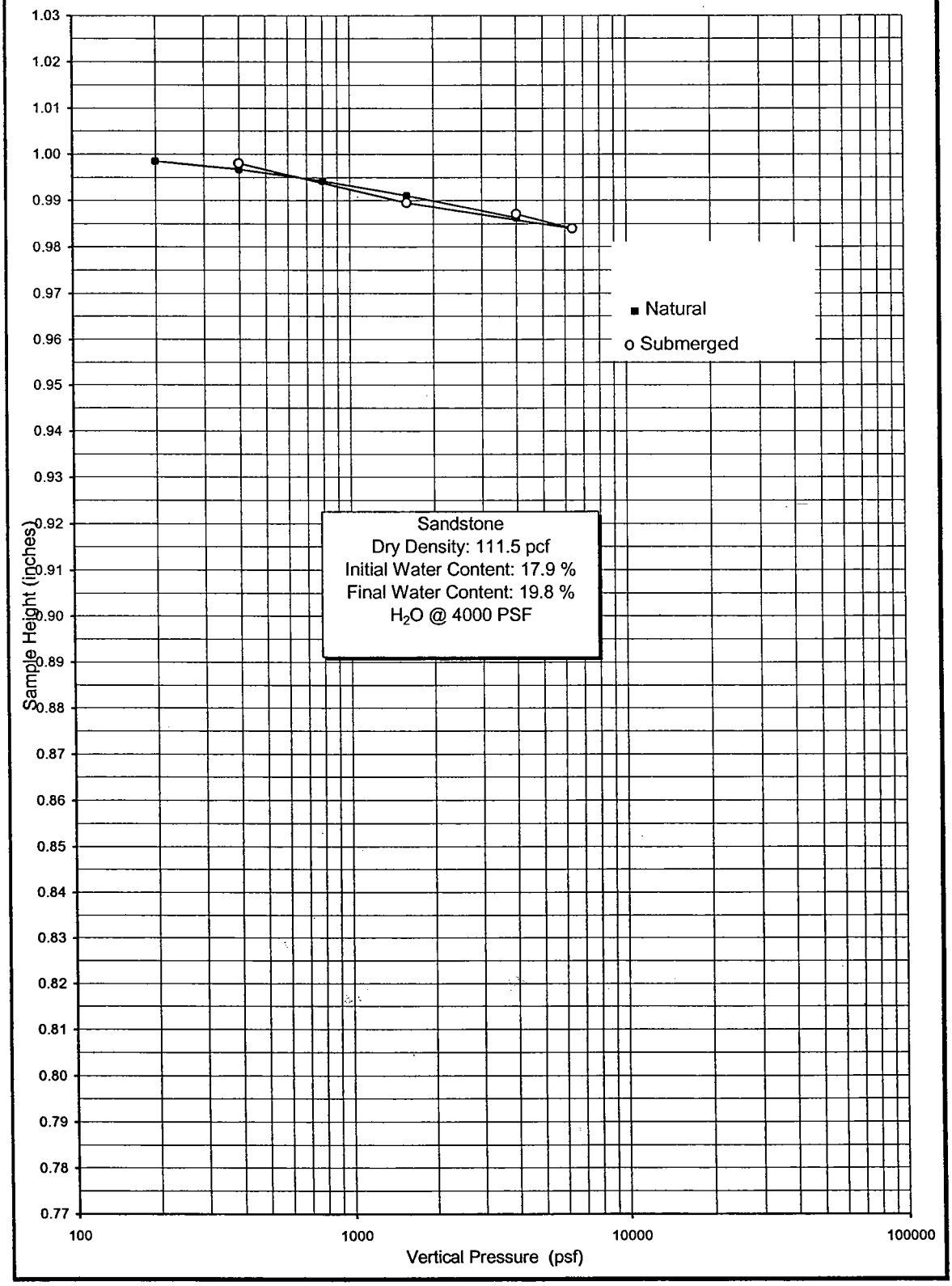
CONSOLIDATION TEST - ASTM D2435

Boring / Sample No.	B-6/3	Depth:	10' - 11.5'	Date	12-15-03



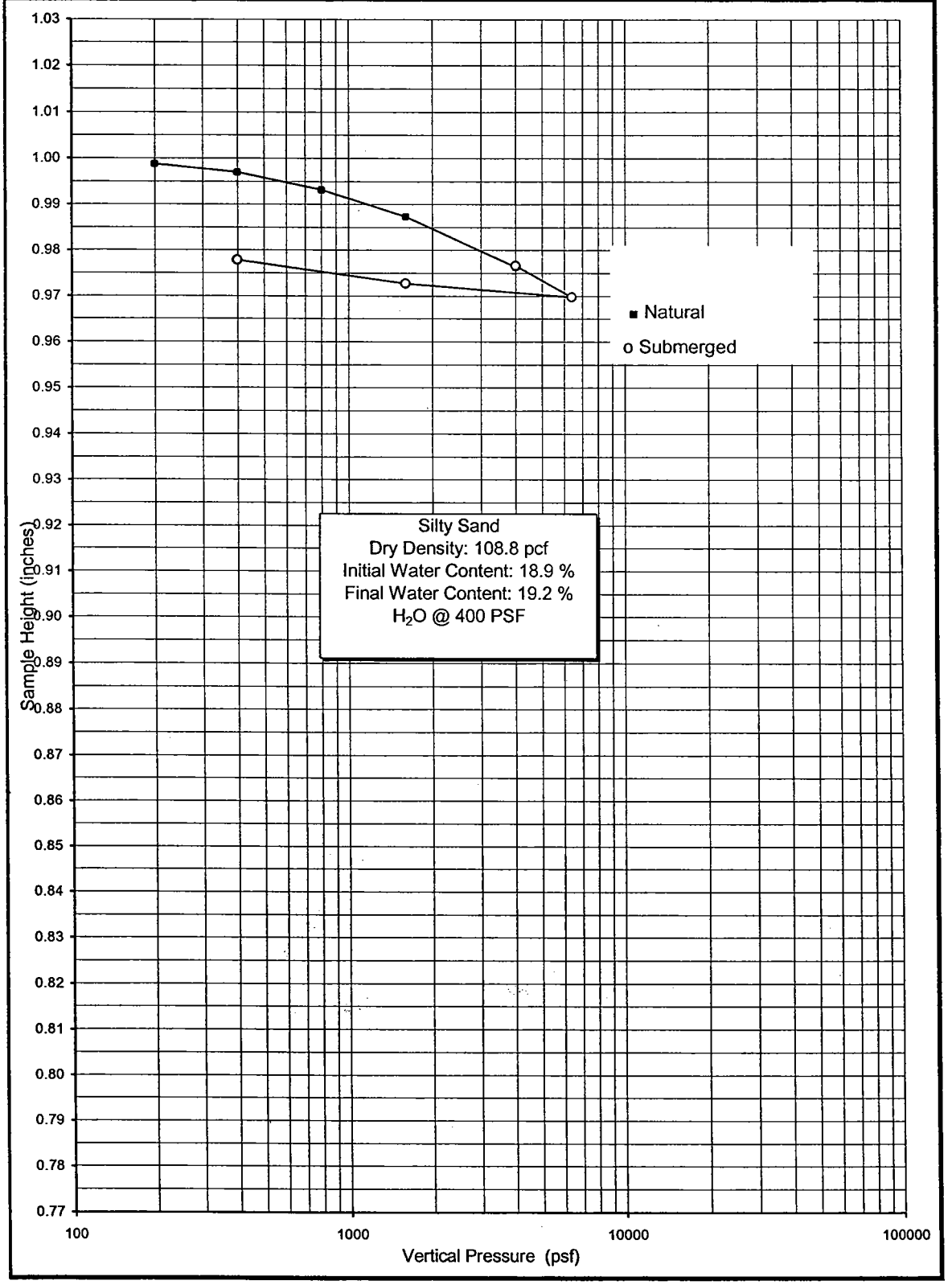
GeoLogic Associates

Boring / Sample No.	B-7/3	Depth:	15' - 16.5'	Date	12-15-03



GeoLogic Associates

Boring / Sample No.	B-8/4	Depth:	15' - 16.5'	Date	12-15-03



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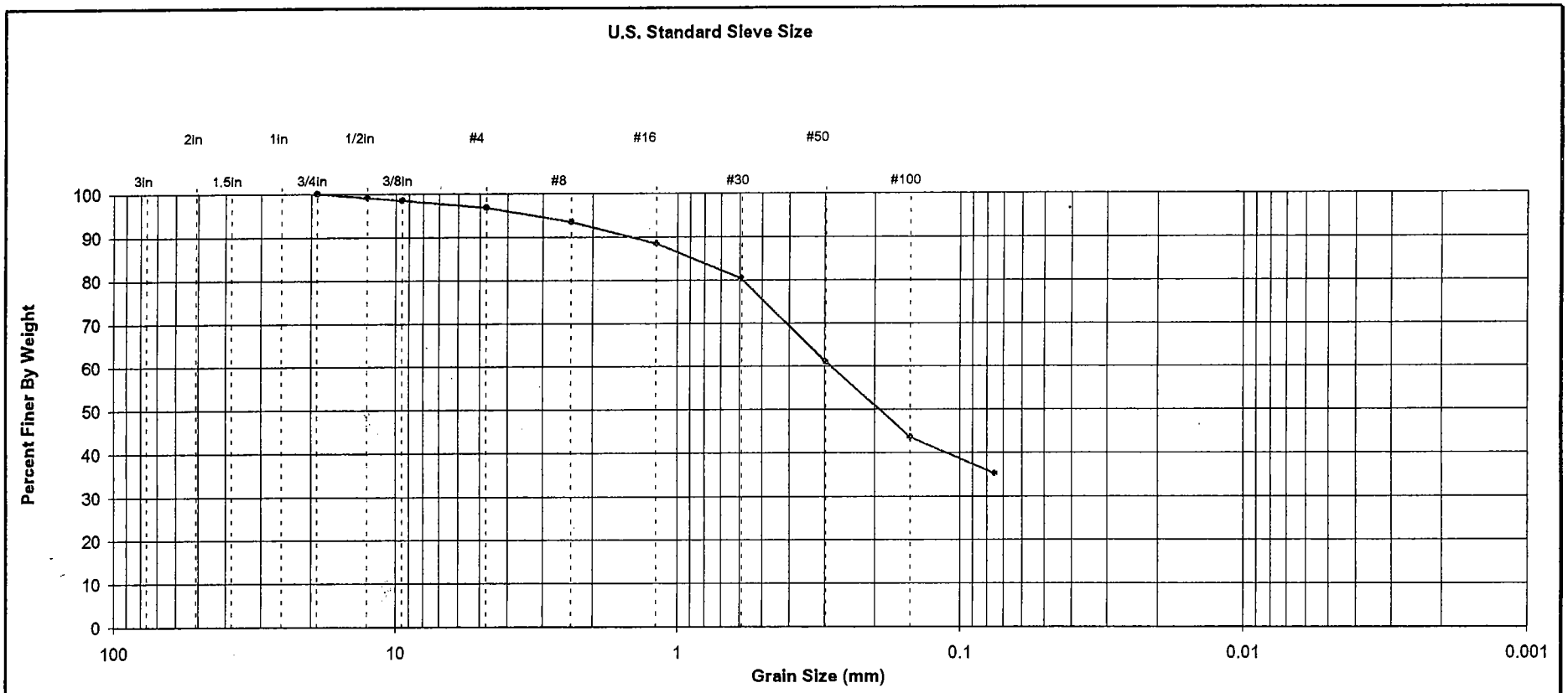
GRAIN SIZE ANALYSIS - ASTM D 422



Sample	Max. Dry Density (pcf)	Opt. Water Content (%)	Expansion Index	Test W.C.. (%)	Final W. C. (%)	Resistivity (ohm-cm)	pH	SO_4 (ppm)	Chloride Content (ppm)	Unified Soil Class.	Description
B-6/1.5'-5'										SC	CLAYEY SAND

'R' VALUE CA 301

Project Poseidon / Desal **Job No.** 2003-091

Sample B-1/1 **By:** LD

Soil Type Brown, F.M. Silty Sand w. trace Clay **Date** 12/11/2003

TEST SPECIMEN		A	B	C	Grain Size Distribution		
Compactor Air Pressure	psi	**350**	**100**	**200**	Sieve	As Rec'vd. (%Pass.)	As Tested (%Pass.)
Initial Moisture Content	%	**4.3**	**4.3**	**4.3**	3"		
Water Added	ml	**70**	**85**	**77**	21/2"		
Moisture at Compaction	%	10.4	11.7	11.0	2"		
Sample & Mold Weight	gms	**3150**	**3184**	**3176**	11/2"		
Mold Weight	gms	**2106**	**2106**	**2106**	1"		
Net Sample Weight	gms	1044	1078	1070	3/4"		
Sample Height	in.	**2.431**	**2.539**	**2.51**	1/2"		
Dry Density	pcf	117.9	115.2	116.4	3/8"		
Pressure	lbs	**9440**	**3190**	**4990**	#4		
Exudation Pressure	psi	752	254	397	#8		
Expansion Dial	x 0.0001	**0**	**0**	**0**	#16		
Expansion Pressure	psf	0	0	0	#30		
Ph at 1000lbs	psi	**12**	**21**	**16**	#50		
Ph at 2000lbs	psi	**21**	**39**	**28**	#100		
Displacement	turns	**3.94**	**4.38**	**4.11**	#200		
R' Value		81	64	74	**Sand Equivalent**		
Corrected 'R' Value		**80**	**64**	**74**	(CTM 217)		

FINAL 'R' VALUE	
By Exudation Pressure (@ 300 psi):	**68**
By Epansion Pressure :	
TI =	

GeoLogic Associates

'R' VALUE CA 301

Project Poseidon / Desal **Job No.** 2003-091

Sample B-2/1 **By:** LD

Soil Type Olive Brown, Clayey Silt **Date** 12/11/2003

TEST SPECIMEN		A	B	C	Grain Size Distribution		
Compactor Air Pressure	psi	**70**	**50**	**120**	Sieve	As Rec'vd. (%Pass.)	As Tested (%Pass.)
Initial Moisture Content	%	**9.1**	**9.1**	**9.1**	3"		
Water Added	ml	**60**	**70**	**50**	2 1/2"		
Moisture at Compaction	%	14.6	15.5	13.6	2"		
Sample & Mold Weight	gms	**3172**	**3119**	**3156**	1 1/2"		
Mold Weight	gms	**2108**	**2091**	**2106**	1"		
Net Sample Weight	gms	1064	1028	1050	3/4"		
Sample Height	in.	**2.55**	**2.48**	**2.48**	1/2"		
Dry Density	pcf	110.4	108.8	112.9	3/8"		
Pressure	lbs	**4225**	**3200**	**6580**	#4		
Exudation Pressure	psi	336	255	524	#8		
Expansion Dial	x 0.0001	**12**	**8**	**20**	#16		
Expansion Pressure	psf	52	35	87	#30		
Ph at 1000lbs	psi	**28**	**32**	**25**	#50		
Ph at 2000lbs	psi	**76**	**80**	**66**	#100		
Displacement	turns	**4.1**	**4.46**	**3.81**	#200		
R' Value		40	36	48	**Sand Equivalent**		
Corrected 'R' Value		**40**	**36**	**48**	(CTM 217)		

FINAL 'R' VALUE	
By Exudation Pressure (@ 300 psi):	**38**
By Epansion Pressure :	
TI =	

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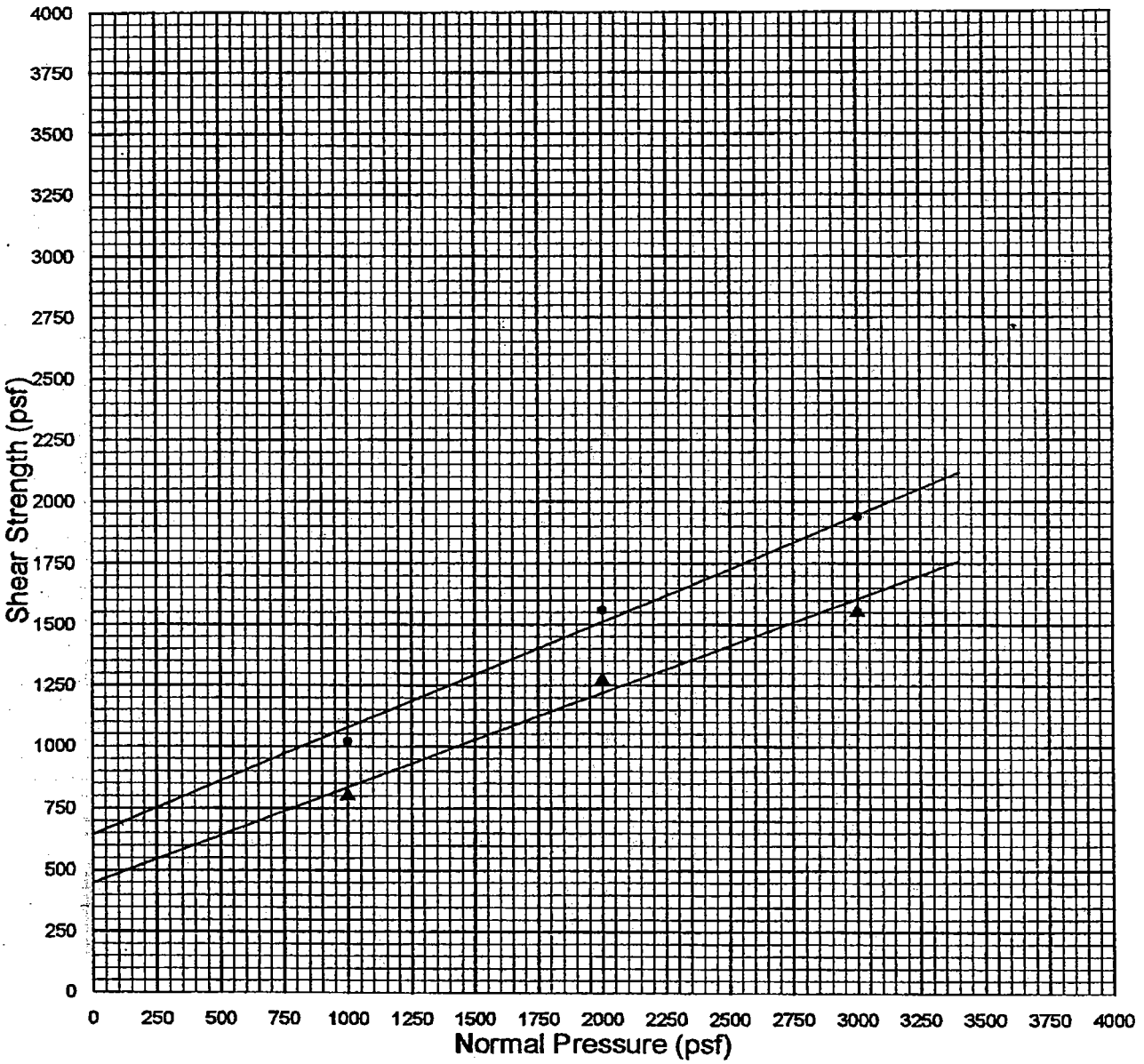
DIRECT SHEAR TEST - ASTM D-3080



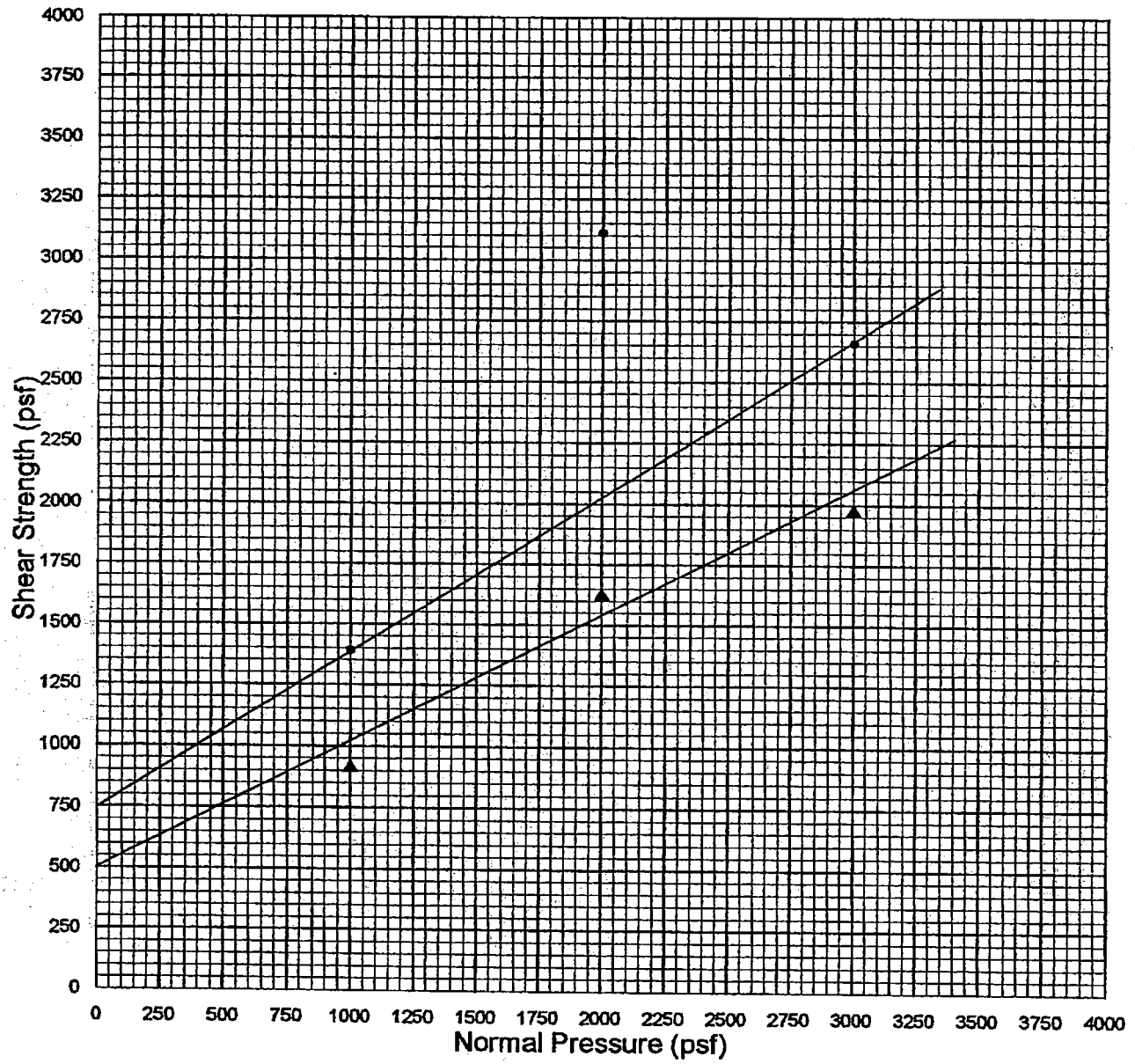
Strain Rate: 0.0042 in. / min.

Sample	Type	Description	Dry Density (pcf)	Water Content (%)
B-5-4	Undisturbed & Saturated	Clayey Silt	87.9	29.2

Normal Pressure (psf)	Peak Shear Strength (psf)	Ultimate Shear Strength (psf)
1000	1020 @ 0.0495"	800
2000	1560 @ 0.0735"	1270
3000	1940 @ 0.0870"	1550
	C = 650 psf	C = 450 psf
	ϕ = 23 deg.	ϕ = 21 deg.

GeoLogic Associates

DIRECT SHEAR TEST - ASTM D-3080



Strain Rate: 0.0042 in. / min.

Sample	Type	Description	Dry Density (pcf)	Water Content (%)
B-6/3	Undisturbed & Saturated	Clayey Silt	99.0	23.2

Normal Pressure (psf)	Peak Shear Strength (psf)	Ultimate Shear Strength (psf)
1000	1390 @ 0.0480"	910
2000	3110 @ 0.0730"	1620
3000	2660 @ 0.0530"	1970
	C = 750 psf	C = 500 psf
	ϕ = 32 deg.	ϕ = 27 deg.

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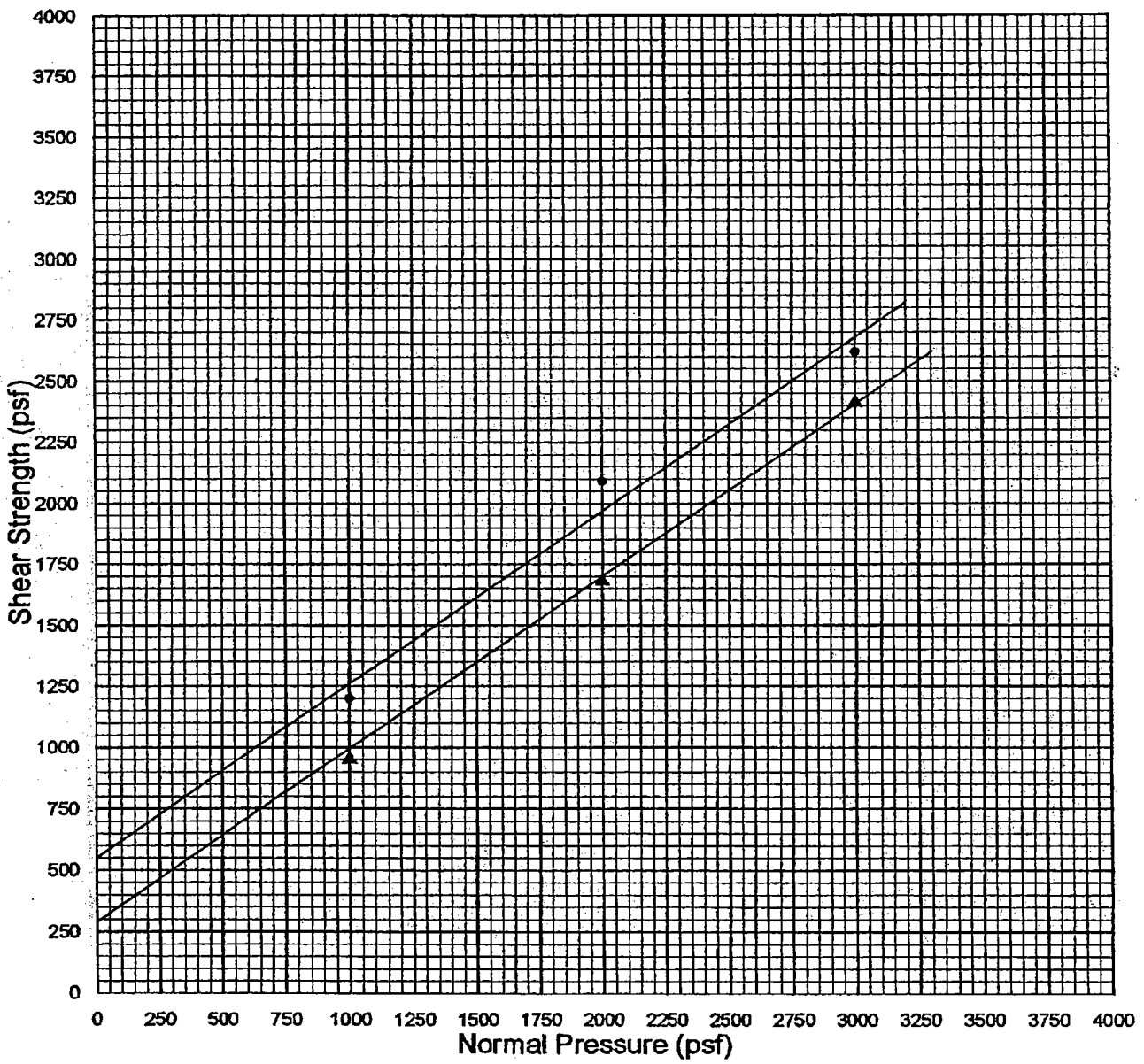

Strain Rate: 0.0042 in. / min.

Sample	Type	Description	Dry Density (pcf)	Water Content (%)
B-8/2	Undisturbed & Saturated	F Silty Sand	—	—

Normal Pressure (psf)	Peak Shear Strength (psf)	Ultimate Shear Strength (psf)
1000	1200 @ 0.1010"	950
2000	2090 @ 0.1015"	1680
3000	2620 @ 0.0995"	2410
	C = 550 psf	C = 300 psf
	ϕ = 35 deg.	ϕ = 35 deg.

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APPENDIX C

ENVIRONMENTAL ANALYTICAL DATA REPORTS

Del Mar Analytical

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LABORATORY REPORT

Prepared For: GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project: Poseidon/Encina Gen. Station
2003-091

Sampled: 12/02/03
Received: 12/02/03
Issued: 12/12/03

NELAP #01108CA CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID	CLIENT ID	MATRIX
IML0127-01	B3/1 @ 2-2.5'	Soil
IML0127-02	B3/2 @ 6-6.4'	Soil
IML0127-03	B5/1 @ 3-3.5'	Soil
IML0127-04	B5/2 @ 5.6-6.1'	Soil
IML0127-05	B5/3 @ 2-5.5'	Soil

Del Mar Analytical, Irvine
Chariya Heang
Project Manager

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GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-01 (B3/1 @ 2-2.5' - Soil)								
Reporting Units: mg/kg								
EFH (C8 - C40)	EPA 8015 MOD.	3L04063	5.0	ND	1	12/4/2003	12/6/2003	
Surrogate: n-Octacosane (50-125%)				*84 %*				
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: mg/kg								
EFH (C8 - C40)	EPA 8015 MOD.	3L04063	5.0	ND	1	12/4/2003	12/5/2003	
Surrogate: n-Octacosane (50-125%)				*71 %*				
Sample ID: IML0127-03 (B5/1 @ 3-3.5' - Soil)								
Reporting Units: mg/kg								
EFH (C8 - C40)	EPA 8015 MOD.	3L04063	5.0	ND	1	12/4/2003	12/6/2003	
Surrogate: n-Octacosane (50-125%)				*70 %*				
Sample ID: IML0127-04 (B5/2 @ 5.6-6.1' - Soil)								
Reporting Units: mg/kg								
EFH (C8 - C40)	EPA 8015 MOD.	3L04063	5.0	ND	1	12/4/2003	12/6/2003	
Surrogate: n-Octacosane (50-125%)				*64 %*				

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Bromobenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Bromochloromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Bromodichloromethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Bromoform	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Bromomethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
n-Butylbenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
sec-Butylbenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
tert-Butylbenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Carbon tetrachloride	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Chlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Chloroethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Chloroform	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Chloromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
2-Chlorotoluene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
4-Chlorotoluene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Dibromochloromethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dibromo-3-chloropropane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,2-Dibromoethane (EDB)	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Dibromomethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dichlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,3-Dichlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,4-Dichlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Dichlorodifluoromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,1-Dichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1-Dichloroethene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
cis-1,2-Dichloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
trans-1,2-Dichloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dichloropropane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,3-Dichloropropane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
2,2-Dichloropropane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1-Dichloropropene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
cis-1,3-Dichloropropene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
trans-1,3-Dichloropropene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Ethylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Hexachlorobutadiene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Isopropylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
p-Isopropyltoluene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Methylene chloride	EPA 8260B	3L04026	20	ND	1	12/4/2003	12/5/2003	

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil) - cont.								
Reporting Units: ug/kg								
Naphthalene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
n-Propylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Styrene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1,1,2-Tetrachloroethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,1,2,2-Tetrachloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Tetrachloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Toluene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2,3-Trichlorobenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,2,4-Trichlorobenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,1,1-Trichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1,2-Trichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Trichloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Trichlorofluoromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,2,3-Trichloropropane	EPA 8260B	3L04026	10	ND	1	12/4/2003	12/5/2003	
1,2,4-Trimethylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,3,5-Trimethylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Vinyl chloride	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
o-Xylene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
m,p-Xylenes	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Surrogate: Dibromofluoromethane (80-125%)				*115 %*				
Surrogate: Toluene-d8 (80-120%)				*105 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*113 %*				

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Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-04 (B5/2 @ 5.6-6.1' - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Bromobenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Bromochloromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Bromodichloromethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Bromoform	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Bromomethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
n-Butylbenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
sec-Butylbenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
tert-Butylbenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Carbon tetrachloride	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Chlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Chloroethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Chloroform	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Chloromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
2-Chlorotoluene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
4-Chlorotoluene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Dibromochloromethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dibromo-3-chloropropane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,2-Dibromoethane (EDB)	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Dibromomethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dichlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,3-Dichlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,4-Dichlorobenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Dichlorodifluoromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,1-Dichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1-Dichloroethene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
cis-1,2-Dichloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
trans-1,2-Dichloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2-Dichloropropane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,3-Dichloropropane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
2,2-Dichloropropane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1-Dichloropropene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
cis-1,3-Dichloropropene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
trans-1,3-Dichloropropene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Ethylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Hexachlorobutadiene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
Isopropylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
p-Isopropyltoluene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Methylene chloride	EPA 8260B	3L04026	20	ND	1	12/4/2003	12/5/2003	

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Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-04 (B5/2 @ 5.6-6.1' - Soil) - cont.								
Reporting Units: ug/kg								
Naphthalene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
n-Propylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Styrene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1,1,2-Tetrachloroethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,1,2,2-Tetrachloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Tetrachloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Toluene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,2,3-Trichlorobenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,2,4-Trichlorobenzene	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,1,1-Trichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,1,2-Trichloroethane	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Trichloroethene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Trichlorofluoromethane	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
1,2,3-Trichloropropane	EPA 8260B	3L04026	10	ND	1	12/4/2003	12/5/2003	
1,2,4-Trimethylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
1,3,5-Trimethylbenzene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Vinyl chloride	EPA 8260B	3L04026	5.0	ND	1	12/4/2003	12/5/2003	
o-Xylene	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
m,p-Xylenes	EPA 8260B	3L04026	2.0	ND	1	12/4/2003	12/5/2003	
Surrogate: Dibromofluoromethane (80-125%)				*116 %*				
Surrogate: Toluene-d8 (80-120%)				*103 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*108 %*				

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2003-091
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Received: 12/02/03

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Acenaphthylene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Aniline	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
Anthracene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzidine	EPA 8270C	3L03038	660	ND	1	12/3/2003	12/9/2003	
Benzoic acid	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Benzo(a)anthracene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzo(b)fluoranthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	L
Benzo(k)fluoranthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzo(g,h,i)perylene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzo(a)pyrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	L
Benzyl alcohol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Bis(2-chloroethoxy)methane	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Bis(2-chloroethyl)ether	EPA 8270C	3L03038	170	ND	1	12/3/2003	12/9/2003	
Bis(2-chloroisopropyl)ether	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	C
Bis(2-ethylhexyl)phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Bromophenyl phenyl ether	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Butyl benzyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Chloroaniline	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Chloronaphthalene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Chloro-3-methylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Chlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Chlorophenyl phenyl ether	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Chrysene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Dibenz(a,h)anthracene	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
Dibenzofuran	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Di-n-butyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,3-Dichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,4-Dichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,2-Dichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
3,3-Dichlorobenzidine	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
2,4-Dichlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Diethyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,4-Dimethylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Dimethyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4,6-Dinitro-2-methylphenol	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
2,4-Dinitrophenol	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
2,4-Dinitrotoluene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,6-Dinitrotoluene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Di-n-octyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	

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Project ID: Poseidon/Encina Gen. Station
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Report Number: IML0127

Sampled: 12/02/03
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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil) - cont.								
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Fluorene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Hexachlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Hexachlorobutadiene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Hexachlorocyclopentadiene	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Hexachloroethane	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Indeno(1,2,3-cd)pyrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Isophorone	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Methylnaphthalene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Methylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Methylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Naphthalene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Nitroaniline	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
3-Nitroaniline	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Nitroaniline	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Nitrobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Nitrophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Nitrophenol	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
n-Nitrosodiphenylamine	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
n-Nitroso-di-n-propylamine	EPA 8270C	3L03038	250	ND	1	12/3/2003	12/9/2003	
Pentachlorophenol	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Phenanthrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Phenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Pyrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,2,4-Trichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,4,5-Trichlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,4,6-Trichlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Surrogate: 2-Fluorophenol (25-120%)				*67 %*				
Surrogate: Phenol-d6 (30-120%)				*87 %*				
Surrogate: 2,4,6-Tribromophenol (35-120%)				*97 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*92 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*94 %*				
Surrogate: Terphenyl-d14 (35-155%)				*112 %*				

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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-04 (B5/2 @ 5.6-6.1' - Soil)								
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Acenaphthylene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Aniline	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
Anthracene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzidine	EPA 8270C	3L03038	660	ND	1	12/3/2003	12/9/2003	
Benzoic acid	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Benzo(a)anthracene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzo(b)fluoranthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	L
Benzo(k)fluoranthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzo(g,h,i)perylene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Benzo(a)pyrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	L
Benzyl alcohol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Bis(2-chloroethoxy)methane	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Bis(2-chloroethyl)ether	EPA 8270C	3L03038	170	ND	1	12/3/2003	12/9/2003	
Bis(2-chloroisopropyl)ether	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	C
Bis(2-ethylhexyl)phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Bromophenyl phenyl ether	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Butyl benzyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Chloroaniline	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Chloronaphthalene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Chloro-3-methylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Chlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Chlorophenyl phenyl ether	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Chrysene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Dibenz(a,h)anthracene	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
Dibenzofuran	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Di-n-butyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,3-Dichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,4-Dichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,2-Dichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
3,3-Dichlorobenzidine	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
2,4-Dichlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Diethyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,4-Dimethylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Dimethyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4,6-Dinitro-2-methylphenol	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
2,4-Dinitrophenol	EPA 8270C	3L03038	420	ND	1	12/3/2003	12/9/2003	
2,4-Dinitrotoluene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,6-Dinitrotoluene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Di-n-octyl phthalate	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-04 (B5/2 @ 5.6-6.1' - Soil) - cont.								
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Fluorene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Hexachlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Hexachlorobutadiene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Hexachlorocyclopentadiene	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Hexachloroethane	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Indeno(1,2,3-cd)pyrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Isophorone	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Methylnaphthalene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Methylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Methylphenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Naphthalene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Nitroaniline	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
3-Nitroaniline	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Nitroaniline	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Nitrobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2-Nitrophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
4-Nitrophenol	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
n-Nitrosodiphenylamine	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
n-Nitroso-di-n-propylamine	EPA 8270C	3L03038	250	ND	1	12/3/2003	12/9/2003	
Pentachlorophenol	EPA 8270C	3L03038	830	ND	1	12/3/2003	12/9/2003	
Phenanthrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Phenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Pyrene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,2,4-Trichlorobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,4,5-Trichlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
2,4,6-Trichlorophenol	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	3L03038	330	ND	1	12/3/2003	12/9/2003	
Surrogate: 2-Fluorophenol (25-120%)				*57 %*				
Surrogate: Phenol-d6 (30-120%)				*79 %*				
Surrogate: 2,4,6-Tribromophenol (35-120%)				*77 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*89 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*93 %*				
Surrogate: Terphenyl-d14 (35-155%)				*109 %*				

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2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: ug/kg								
Aldrin	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
alpha-BHC	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
beta-BHC	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
delta-BHC	EPA 3545/8081A	3L03065	200	ND	20	12/3/2003	12/5/2003	
gamma-BHC (Lindane)	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Chlordane	EPA 3545/8081A	3L03065	1000	ND	20	12/3/2003	12/5/2003	
4,4'-DDD	EPA 3545/8081A	3L03065	100	**140**	20	12/3/2003	12/5/2003	
4,4'-DDE	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
4,4'-DDT	EPA 3545/8081A	3L03065	100	**410**	20	12/3/2003	12/5/2003	
Dieldrin	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Endosulfan I	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Endosulfan II	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Endosulfan sulfate	EPA 3545/8081A	3L03065	200	ND	20	12/3/2003	12/5/2003	
Endrin	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Endrin aldehyde	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Endrin ketone	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Heptachlor	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Heptachlor epoxide	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Methoxychlor	EPA 3545/8081A	3L03065	100	ND	20	12/3/2003	12/5/2003	
Toxaphene	EPA 3545/8081A	3L03065	4000	ND	20	12/3/2003	12/5/2003	
Surrogate: Tetrachloro-m-xylene (35-115%)				*80 %*				*Z3*
Surrogate: Decachlorobiphenyl (45-125%)				*106 %*				*Z3*

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ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-05 (B5/3 @ 2-5.5' - Soil)								**RL-1**
Reporting Units: ug/kg								
Aldrin	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
alpha-BHC	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
beta-BHC	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
delta-BHC	EPA 3545/8081A	3L03065	15	ND	1.5	12/3/2003	12/5/2003	
gamma-BHC (Lindane)	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Chlordane	EPA 3545/8081A	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
4,4'-DDD	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	C1
4,4'-DDE	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
4,4'-DDT	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Dieldrin	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Endosulfan I	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Endosulfan II	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Endosulfan sulfate	EPA 3545/8081A	3L03065	15	ND	1.5	12/3/2003	12/5/2003	
Endrin	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Endrin aldehyde	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Endrin ketone	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Heptachlor	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Heptachlor epoxide	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Methoxychlor	EPA 3545/8081A	3L03065	7.5	ND	1.5	12/3/2003	12/5/2003	
Toxaphene	EPA 3545/8081A	3L03065	300	ND	1.5	12/3/2003	12/5/2003	
Surrogate: Tetrachloro-m-xylene (35-115%)				*50 %*				
Surrogate: Decachlorobiphenyl (45-125%)				*68 %*				

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2003-091
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Sampled: 12/02/03
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POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: ug/kg								
Aroclor 1016	EPA 3545/8082	3L03065	50	ND	1	12/3/2003	12/5/2003	
Aroclor 1221	EPA 3545/8082	3L03065	50	ND	1	12/3/2003	12/5/2003	
Aroclor 1232	EPA 3545/8082	3L03065	50	ND	1	12/3/2003	12/5/2003	
Aroclor 1242	EPA 3545/8082	3L03065	50	ND	1	12/3/2003	12/5/2003	
Aroclor 1248	EPA 3545/8082	3L03065	50	ND	1	12/3/2003	12/5/2003	
Aroclor 1254	EPA 3545/8082	3L03065	50	ND	1	12/3/2003	12/5/2003	
Aroclor 1260	EPA 3545/8082	3L03065	50	ND	1	12/3/2003	12/5/2003	
Surrogate: Decachlorobiphenyl (45-125%)				*81 %*				
Sample ID: IML0127-05 (B5/3 @ 2-5.5' - Soil)								
Reporting Units: ug/kg								
Aroclor 1016	EPA 3545/8082	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
Aroclor 1221	EPA 3545/8082	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
Aroclor 1232	EPA 3545/8082	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
Aroclor 1242	EPA 3545/8082	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
Aroclor 1248	EPA 3545/8082	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
Aroclor 1254	EPA 3545/8082	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
Aroclor 1260	EPA 3545/8082	3L03065	75	ND	1.5	12/3/2003	12/5/2003	
Surrogate: Decachlorobiphenyl (45-125%)				*71 %*				

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2003-091
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Sampled: 12/02/03
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METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: mg/kg								
Antimony	EPA 6010B	3L03085	10	ND	1	12/3/2003	12/3/2003	
Arsenic	EPA 6010B	3L03085	2.0	ND	1	12/3/2003	12/3/2003	
Beryllium	EPA 6010B	3L03085	0.50	ND	1	12/3/2003	12/3/2003	
Cadmium	EPA 6010B	3L03085	0.50	ND	1	12/3/2003	12/3/2003	
Chromium	EPA 6010B	3L03085	1.0	**8.4**	1	12/3/2003	12/3/2003	
Copper	EPA 6010B	3L03085	2.0	**5.6**	1	12/3/2003	12/3/2003	
Lead	EPA 6010B	3L03085	2.0	ND	1	12/3/2003	12/3/2003	
Mercury	EPA 7471A	3L04076	0.020	ND	1	12/4/2003	12/4/2003	
Nickel	EPA 6010B	3L03085	2.0	**2.5**	1	12/3/2003	12/3/2003	
Selenium	EPA 6010B	3L03085	2.0	ND	1	12/3/2003	12/3/2003	
Silver	EPA 6010B	3L03085	1.0	ND	1	12/3/2003	12/3/2003	
Thallium	EPA 6010B	3L03085	10	ND	1	12/3/2003	12/3/2003	
Zinc	EPA 6010B	3L03085	5.0	**9.7**	1	12/3/2003	12/3/2003	
Sample ID: IML0127-05 (B5/3 @ 2-5.5' - Soil)								
Reporting Units: mg/kg								
Antimony	EPA 6010B	3L03085	10	ND	1	12/3/2003	12/3/2003	
Arsenic	EPA 6010B	3L03085	2.0	ND	1	12/3/2003	12/3/2003	
Beryllium	EPA 6010B	3L03085	0.50	ND	1	12/3/2003	12/3/2003	
Cadmium	EPA 6010B	3L03085	0.50	ND	1	12/3/2003	12/3/2003	
Chromium	EPA 6010B	3L03085	1.0	**8.1**	1	12/3/2003	12/3/2003	
Copper	EPA 6010B	3L03085	2.0	**9.4**	1	12/3/2003	12/3/2003	
Lead	EPA 6010B	3L03085	2.0	ND	1	12/3/2003	12/3/2003	
Mercury	EPA 7471A	3L04076	0.020	**0.028**	1	12/4/2003	12/4/2003	
Nickel	EPA 6010B	3L03085	2.0	**4.5**	1	12/3/2003	12/3/2003	
Selenium	EPA 6010B	3L03085	2.0	ND	1	12/3/2003	12/3/2003	
Silver	EPA 6010B	3L03085	1.0	**1.2**	1	12/3/2003	12/3/2003	
Thallium	EPA 6010B	3L03085	10	ND	1	12/3/2003	12/3/2003	
Zinc	EPA 6010B	3L03085	5.0	**13**	1	12/3/2003	12/3/2003	

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INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: mg/kg								
Total Cyanide	EPA 9014	3L09088	0.50	ND	1	12/9/2003	12/9/2003	
Phenols	EPA 420.1 MOD	3L09074	1.0	ND	1	12/9/2003	12/10/2003	
Sulfide	EPA 9034	3L09060	10	ND	1	12/9/2003	12/9/2003	
Sample ID: IML0127-02 (B3/2 @ 6-6.4' - Soil)								
Reporting Units: N/A								
Ignitability	SW846 7.1.2	3L04064	NA	Not Ignitable	1	12/4/2003	12/4/2003	
Sample ID: IML0127-05 (B5/3 @ 2-5.5' - Soil)								
Reporting Units: mg/kg								
Total Cyanide	EPA 9014	3L09088	0.50	ND	1	12/9/2003	12/9/2003	
Phenols	EPA 420.1 MOD	3L09074	1.0	ND	1	12/9/2003	12/10/2003	
Sulfide	EPA 9034	3L09060	10	ND	1	12/9/2003	12/9/2003	
Sample ID: IML0127-05 (B5/3 @ 2-5.5' - Soil)								
Reporting Units: N/A								
Ignitability	SW846 7.1.2	3L04064	NA	Not Ignitable	1	12/4/2003	12/4/2003	

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METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04063 Extracted: 12/04/03										
Blank Analyzed: 12/05/03 (3L04063-BLK1)										
EFH (C8 - C40)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*5.61*		*mg/kg*	*6.67*		*84*	*50-125*			
LCS Analyzed: 12/05/03 (3L04063-BS1)										
EFH (C8 - C40)	27.0	5.0	mg/kg	33.3		81	45-115			
Surrogate: n-Octacosane	*5.90*		*mg/kg*	*6.67*		*88*	*50-125*			
Matrix Spike Analyzed: 12/05/03 (3L04063-MS1)					**Source: IML0233-06**					
EFH (C8 - C40)	27.4	5.0	mg/kg	33.3	4.6	68	35-115			
Surrogate: n-Octacosane	*5.68*		*mg/kg*	*6.67*		*85*	*50-125*			
Matrix Spike Dup Analyzed: 12/05/03 (3L04063-MSD1)					**Source: IML0233-06**					
EFH (C8 - C40)	19.9	5.0	mg/kg	33.3	4.6	46	35-115	32	30	*R-2*
Surrogate: n-Octacosane	*4.53*		*mg/kg*	*6.67*		*68*	*50-125*			

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GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
Blank Analyzed: 12/04/03 (3L04026-BLK1)										
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
Blank Analyzed: 12/04/03 (3L04026-BLK1)										
Ethylbenzene	ND	2.0	ug/kg							
Hexachlorobutadiene	ND	5.0	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
Surrogate: Dibromofluoromethane	*56.4*		*ug/kg*	*50.0*		*113*	*80-125*			
Surrogate: Toluene-d8	*51.3*		*ug/kg*	*50.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*54.2*		*ug/kg*	*50.0*		*108*	*80-120*			

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Attention: Ana Fyodorova

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Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
LCS Analyzed: 12/04/03 (3L04026-BS1)										
Benzene	47.3	2.0	ug/kg	50.0		95	70-120			
Bromobenzene	49.2	5.0	ug/kg	50.0		98	80-120			
Bromochloromethane	54.9	5.0	ug/kg	50.0		110	65-135			
Bromodichloromethane	53.0	2.0	ug/kg	50.0		106	70-140			
Bromoform	53.5	5.0	ug/kg	50.0		107	60-140			
Bromomethane	53.8	5.0	ug/kg	50.0		108	60-140			
n-Butylbenzene	50.6	5.0	ug/kg	50.0		101	75-130			
sec-Butylbenzene	49.3	5.0	ug/kg	50.0		99	75-125			
tert-Butylbenzene	49.9	5.0	ug/kg	50.0		100	80-125			
Carbon tetrachloride	58.1	5.0	ug/kg	50.0		116	70-140			
Chlorobenzene	50.0	2.0	ug/kg	50.0		100	80-125			
Chloroethane	54.6	5.0	ug/kg	50.0		109	55-145			
Chloroform	51.7	2.0	ug/kg	50.0		103	75-120			
Chloromethane	47.2	5.0	ug/kg	50.0		94	35-145			
2-Chlorotoluene	47.6	5.0	ug/kg	50.0		95	75-125			
4-Chlorotoluene	48.7	5.0	ug/kg	50.0		97	80-125			
Dibromochloromethane	55.3	2.0	ug/kg	50.0		111	65-145			
1,2-Dibromo-3-chloropropane	50.2	5.0	ug/kg	50.0		100	50-150			
1,2-Dibromoethane (EDB)	51.2	2.0	ug/kg	50.0		102	70-130			
Dibromomethane	52.1	2.0	ug/kg	50.0		104	70-130			
1,2-Dichlorobenzene	51.7	2.0	ug/kg	50.0		103	80-125			
1,3-Dichlorobenzene	50.8	2.0	ug/kg	50.0		102	80-120			
1,4-Dichlorobenzene	49.2	2.0	ug/kg	50.0		98	80-120			
Dichlorodifluoromethane	45.2	5.0	ug/kg	50.0		90	10-160			
1,1-Dichloroethane	50.2	2.0	ug/kg	50.0		100	70-135			
1,2-Dichloroethane	49.2	2.0	ug/kg	50.0		98	60-150			
1,1-Dichloroethene	56.6	5.0	ug/kg	50.0		113	75-130			
cis-1,2-Dichloroethene	52.5	2.0	ug/kg	50.0		105	70-125			
trans-1,2-Dichloroethene	54.0	2.0	ug/kg	50.0		108	70-130			
1,2-Dichloropropane	45.5	2.0	ug/kg	50.0		91	70-120			
1,3-Dichloropropane	48.0	2.0	ug/kg	50.0		96	70-130			
2,2-Dichloropropane	53.0	2.0	ug/kg	50.0		106	70-150			
1,1-Dichloropropene	49.0	2.0	ug/kg	50.0		98	75-130			
cis-1,3-Dichloropropene	49.2	2.0	ug/kg	50.0		98	75-130			
trans-1,3-Dichloropropene	51.5	2.0	ug/kg	50.0		103	70-135			

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Project ID: Poseidon/Encina Gen. Station 2003-091
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Sampled: 12/02/03
Received: 12/02/03

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
LCS Analyzed: 12/04/03 (3L04026-BS1)										
Ethylbenzene	48.6	2.0	ug/kg	50.0		97	75-125			
Hexachlorobutadiene	47.5	5.0	ug/kg	50.0		95	75-140			
Isopropylbenzene	48.1	2.0	ug/kg	50.0		96	75-125			
p-Isopropyltoluene	48.2	2.0	ug/kg	50.0		96	75-125			
Methylene chloride	54.2	20	ug/kg	50.0		108	60-135			
Naphthalene	55.2	5.0	ug/kg	50.0		110	50-145			
n-Propylbenzene	50.0	2.0	ug/kg	50.0		100	75-130			
Styrene	55.1	2.0	ug/kg	50.0		110	80-135			
1,1,1,2-Tetrachloroethane	52.9	5.0	ug/kg	50.0		106	70-145			
1,1,2,2-Tetrachloroethane	48.6	2.0	ug/kg	50.0		97	55-145			
Tetrachloroethene	49.3	2.0	ug/kg	50.0		99	80-125			
Toluene	47.7	2.0	ug/kg	50.0		95	75-120			
1,2,3-Trichlorobenzene	54.1	5.0	ug/kg	50.0		108	65-135			
1,2,4-Trichlorobenzene	55.0	5.0	ug/kg	50.0		110	70-140			
1,1,1-Trichloroethane	54.0	2.0	ug/kg	50.0		108	75-140			
1,1,2-Trichloroethane	48.3	2.0	ug/kg	50.0		97	65-130			
Trichloroethene	50.0	2.0	ug/kg	50.0		100	75-125			
Trichlorofluoromethane	54.3	5.0	ug/kg	50.0		109	50-145			
1,2,3-Trichloropropane	46.7	10	ug/kg	50.0		93	55-140			
1,2,4-Trimethylbenzene	49.1	2.0	ug/kg	50.0		98	75-125			
1,3,5-Trimethylbenzene	49.3	2.0	ug/kg	50.0		99	80-125			
Vinyl chloride	51.3	5.0	ug/kg	50.0		103	45-130			
o-Xylene	50.6	2.0	ug/kg	50.0		101	75-125			
m,p-Xylenes	99.4	2.0	ug/kg	100		99	75-125			
Surrogate: Dibromofluoromethane	*57.4*		*ug/kg*	*50.0*		*115*	*80-125*			
Surrogate: Toluene-d8	*51.2*		*ug/kg*	*50.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*55.5*		*ug/kg*	*50.0*		*111*	*80-120*			

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VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
Matrix Spike Analyzed: 12/04/03 (3L04026-MS1)					**Source: IML0117-07**					
Benzene	46.7	2.0	ug/kg	50.0	ND	93	65-130			
Bromobenzene	48.8	5.0	ug/kg	50.0	ND	98	70-130			
Bromochloromethane	52.4	5.0	ug/kg	50.0	ND	105	60-145			
Bromodichloromethane	51.9	2.0	ug/kg	50.0	ND	104	70-145			
Bromoform	51.2	5.0	ug/kg	50.0	ND	102	60-145			
Bromomethane	52.0	5.0	ug/kg	50.0	ND	104	50-150			
n-Butylbenzene	46.7	5.0	ug/kg	50.0	ND	93	60-140			
sec-Butylbenzene	47.3	5.0	ug/kg	50.0	ND	95	65-135			
tert-Butylbenzene	48.2	5.0	ug/kg	50.0	ND	96	70-130			
Carbon tetrachloride	57.2	5.0	ug/kg	50.0	ND	114	70-140			
Chlorobenzene	49.8	2.0	ug/kg	50.0	ND	100	80-130			
Chloroethane	52.2	5.0	ug/kg	50.0	ND	104	50-150			
Chloroform	49.9	2.0	ug/kg	50.0	ND	100	70-130			
Chloromethane	45.5	5.0	ug/kg	50.0	ND	91	30-150			
2-Chlorotoluene	47.2	5.0	ug/kg	50.0	ND	94	70-130			
4-Chlorotoluene	48.4	5.0	ug/kg	50.0	ND	97	65-135			
Dibromochloromethane	53.4	2.0	ug/kg	50.0	ND	107	65-145			
1,2-Dibromo-3-chloropropane	48.2	5.0	ug/kg	50.0	ND	96	50-150			
1,2-Dibromoethane (EDB)	49.2	2.0	ug/kg	50.0	ND	98	65-135			
Dibromomethane	49.8	2.0	ug/kg	50.0	ND	100	65-135			
1,2-Dichlorobenzene	50.3	2.0	ug/kg	50.0	ND	101	75-130			
1,3-Dichlorobenzene	49.5	2.0	ug/kg	50.0	ND	99	70-125			
1,4-Dichlorobenzene	47.9	2.0	ug/kg	50.0	ND	96	75-130			
Dichlorodifluoromethane	43.8	5.0	ug/kg	50.0	ND	88	10-200			
1,1-Dichloroethane	48.9	2.0	ug/kg	50.0	ND	98	70-135			
1,2-Dichloroethane	49.3	2.0	ug/kg	50.0	ND	99	60-150			
1,1-Dichloroethene	53.5	5.0	ug/kg	50.0	ND	107	75-140			
cis-1,2-Dichloroethene	50.1	2.0	ug/kg	50.0	ND	100	60-135			
trans-1,2-Dichloroethene	52.1	2.0	ug/kg	50.0	ND	104	65-135			
1,2-Dichloropropane	45.3	2.0	ug/kg	50.0	ND	91	65-125			
1,3-Dichloropropane	46.9	2.0	ug/kg	50.0	ND	94	65-135			
2,2-Dichloropropane	52.4	2.0	ug/kg	50.0	ND	105	60-150			
1,1-Dichloropropene	48.1	2.0	ug/kg	50.0	ND	96	60-140			
cis-1,3-Dichloropropene	48.7	2.0	ug/kg	50.0	ND	97	65-135			
trans-1,3-Dichloropropene	50.0	2.0	ug/kg	50.0	ND	100	65-140			

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VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
Matrix Spike Analyzed: 12/04/03 (3L04026-MS1)					**Source: IML0117-07**					
Ethylbenzene	48.0	2.0	ug/kg	50.0	ND	96	70-130			
Hexachlorobutadiene	34.4	5.0	ug/kg	50.0	ND	69	65-145			
Isopropylbenzene	47.9	2.0	ug/kg	50.0	ND	96	60-135			
p-Isopropyltoluene	46.1	2.0	ug/kg	50.0	ND	92	60-135			
Methylene chloride	53.9	20	ug/kg	50.0	ND	108	60-145			
Naphthalene	47.6	5.0	ug/kg	50.0	ND	95	40-160			
n-Propylbenzene	49.2	2.0	ug/kg	50.0	ND	98	60-140			
Styrene	54.0	2.0	ug/kg	50.0	ND	108	70-145			
1,1,1,2-Tetrachloroethane	52.1	5.0	ug/kg	50.0	ND	104	65-145			
1,1,2,2-Tetrachloroethane	44.2	2.0	ug/kg	50.0	ND	88	55-150			
Tetrachloroethene	49.3	2.0	ug/kg	50.0	ND	99	70-130			
Toluene	47.3	2.0	ug/kg	50.0	ND	95	70-125			
1,2,3-Trichlorobenzene	45.1	5.0	ug/kg	50.0	ND	90	60-135			
1,2,4-Trichlorobenzene	48.3	5.0	ug/kg	50.0	ND	97	65-140			
1,1,1-Trichloroethane	52.5	2.0	ug/kg	50.0	ND	105	65-140			
1,1,2-Trichloroethane	46.0	2.0	ug/kg	50.0	ND	92	60-140			
Trichloroethene	50.6	2.0	ug/kg	50.0	ND	101	70-140			
Trichlorofluoromethane	53.0	5.0	ug/kg	50.0	ND	106	40-160			
1,2,3-Trichloropropane	45.2	10	ug/kg	50.0	ND	90	55-140			
1,2,4-Trimethylbenzene	47.9	2.0	ug/kg	50.0	ND	96	65-130			
1,3,5-Trimethylbenzene	48.3	2.0	ug/kg	50.0	ND	97	70-130			
Vinyl chloride	51.1	5.0	ug/kg	50.0	ND	102	45-130			
o-Xylene	48.8	2.0	ug/kg	50.0	ND	98	70-125			
m,p-Xylenes	98.7	2.0	ug/kg	100	ND	99	70-125			
Surrogate: Dibromofluoromethane	*55.5*		*ug/kg*	*50.0*		*111*	*80-125*			
Surrogate: Toluene-d8	*51.8*		*ug/kg*	*50.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*54.5*		*ug/kg*	*50.0*		*109*	*80-120*			

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Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

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Received: 12/02/03

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L04026-MSD1)					**Source: IML0117-07**					
Benzene	44.5	2.0	ug/kg	50.0	ND	89	65-130	5	20	
Bromobenzene	46.4	5.0	ug/kg	50.0	ND	93	70-130	5	20	
Bromochloromethane	48.1	5.0	ug/kg	50.0	ND	96	60-145	9	25	
Bromodichloromethane	49.0	2.0	ug/kg	50.0	ND	98	70-145	6	20	
Bromoform	46.7	5.0	ug/kg	50.0	ND	93	60-145	9	25	
Bromomethane	50.5	5.0	ug/kg	50.0	ND	101	50-150	3	25	
n-Butylbenzene	45.7	5.0	ug/kg	50.0	ND	91	60-140	2	25	
sec-Butylbenzene	45.9	5.0	ug/kg	50.0	ND	92	65-135	3	20	
tert-Butylbenzene	46.6	5.0	ug/kg	50.0	ND	93	70-130	3	20	
Carbon tetrachloride	53.7	5.0	ug/kg	50.0	ND	107	70-140	6	20	
Chlorobenzene	47.5	2.0	ug/kg	50.0	ND	95	80-130	5	20	
Chloroethane	50.8	5.0	ug/kg	50.0	ND	102	50-150	3	30	
Chloroform	48.1	2.0	ug/kg	50.0	ND	96	70-130	4	20	
Chloromethane	43.0	5.0	ug/kg	50.0	ND	86	30-150	6	30	
2-Chlorotoluene	45.5	5.0	ug/kg	50.0	ND	91	70-130	4	20	
4-Chlorotoluene	46.7	5.0	ug/kg	50.0	ND	93	65-135	4	20	
Dibromochloromethane	49.2	2.0	ug/kg	50.0	ND	98	65-145	8	25	
1,2-Dibromo-3-chloropropane	42.5	5.0	ug/kg	50.0	ND	85	50-150	13	30	
1,2-Dibromoethane (EDB)	44.4	2.0	ug/kg	50.0	ND	89	65-135	10	20	
Dibromomethane	45.3	2.0	ug/kg	50.0	ND	91	65-135	9	20	
1,2-Dichlorobenzene	47.8	2.0	ug/kg	50.0	ND	96	75-130	5	20	
1,3-Dichlorobenzene	47.6	2.0	ug/kg	50.0	ND	95	70-125	4	20	
1,4-Dichlorobenzene	46.4	2.0	ug/kg	50.0	ND	93	75-130	3	20	
Dichlorodifluoromethane	43.1	5.0	ug/kg	50.0	ND	86	10-200	2	35	
1,1-Dichloroethane	46.7	2.0	ug/kg	50.0	ND	93	70-135	5	20	
1,2-Dichloroethane	45.2	2.0	ug/kg	50.0	ND	90	60-150	9	25	
1,1-Dichloroethene	51.1	5.0	ug/kg	50.0	ND	102	75-140	5	20	
cis-1,2-Dichloroethene	47.9	2.0	ug/kg	50.0	ND	96	60-135	4	20	
trans-1,2-Dichloroethene	49.4	2.0	ug/kg	50.0	ND	99	65-135	5	20	
1,2-Dichloropropane	43.2	2.0	ug/kg	50.0	ND	86	65-125	5	20	
1,3-Dichloropropane	42.4	2.0	ug/kg	50.0	ND	85	65-135	10	20	
2,2-Dichloropropane	50.5	2.0	ug/kg	50.0	ND	101	60-150	4	20	
1,1-Dichloropropene	45.8	2.0	ug/kg	50.0	ND	92	60-140	5	20	
cis-1,3-Dichloropropene	45.9	2.0	ug/kg	50.0	ND	92	65-135	6	20	
trans-1,3-Dichloropropene	46.4	2.0	ug/kg	50.0	ND	93	65-140	7	20	

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04026 Extracted: 12/04/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L04026-MSD1)					**Source: IML0117-07**					
Ethylbenzene	46.3	2.0	ug/kg	50.0	ND	93	70-130	4	20	
Hexachlorobutadiene	35.8	5.0	ug/kg	50.0	ND	72	65-145	4	20	
Isopropylbenzene	46.0	2.0	ug/kg	50.0	ND	92	60-135	4	25	
p-Isopropyltoluene	44.9	2.0	ug/kg	50.0	ND	90	60-135	3	20	
Methylene chloride	50.0	20	ug/kg	50.0	ND	100	60-145	8	25	
Naphthalene	45.2	5.0	ug/kg	50.0	ND	90	40-160	5	25	
n-Propylbenzene	47.4	2.0	ug/kg	50.0	ND	95	60-140	4	25	
Styrene	51.0	2.0	ug/kg	50.0	ND	102	70-145	6	20	
1,1,1,2-Tetrachloroethane	49.1	5.0	ug/kg	50.0	ND	98	65-145	6	20	
1,1,2,2-Tetrachloroethane	38.7	2.0	ug/kg	50.0	ND	77	55-150	13	25	
Tetrachloroethene	46.8	2.0	ug/kg	50.0	ND	94	70-130	5	20	
Toluene	44.1	2.0	ug/kg	50.0	ND	88	70-125	7	20	
1,2,3-Trichlorobenzene	44.4	5.0	ug/kg	50.0	ND	89	60-135	2	20	
1,2,4-Trichlorobenzene	47.9	5.0	ug/kg	50.0	ND	96	65-140	1	25	
1,1,1-Trichloroethane	49.6	2.0	ug/kg	50.0	ND	99	65-140	6	20	
1,1,2-Trichloroethane	42.4	2.0	ug/kg	50.0	ND	85	60-140	8	20	
Trichloroethene	49.4	2.0	ug/kg	50.0	ND	99	70-140	2	20	
Trichlorofluoromethane	50.0	5.0	ug/kg	50.0	ND	100	40-160	6	30	
1,2,3-Trichloropropane	39.7	10	ug/kg	50.0	ND	79	55-140	13	25	
1,2,4-Trimethylbenzene	46.6	2.0	ug/kg	50.0	ND	93	65-130	3	20	
1,3,5-Trimethylbenzene	47.1	2.0	ug/kg	50.0	ND	94	70-130	3	20	
Vinyl chloride	49.7	5.0	ug/kg	50.0	ND	99	45-130	3	30	
o-Xylene	46.8	2.0	ug/kg	50.0	ND	94	70-125	4	20	
m,p-Xylenes	93.8	2.0	ug/kg	100	ND	94	70-125	5	20	
Surrogate: Dibromofluoromethane	*55.0*		*ug/kg*	*50.0*		*110*	*80-125*			
Surrogate: Toluene-d8	*51.3*		*ug/kg*	*50.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*53.8*		*ug/kg*	*50.0*		*108*	*80-120*			

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03038 Extracted: 12/03/03										
Blank Analyzed: 12/08/03 (3L03038-BLK1)										
Acenaphthene	ND	330	ug/kg							
Acenaphthylene	ND	330	ug/kg							
Aniline	ND	420	ug/kg							
Anthracene	ND	330	ug/kg							
Benzidine	ND	660	ug/kg							
Benzoic acid	ND	830	ug/kg							
Benzo(a)anthracene	ND	330	ug/kg							
Benzo(b)fluoranthene	ND	330	ug/kg							
Benzo(k)fluoranthene	ND	330	ug/kg							
Benzo(g,h,i)perylene	ND	330	ug/kg							
Benzo(a)pyrene	ND	330	ug/kg							
Benzyl alcohol	ND	330	ug/kg							
Bis(2-chloroethoxy)methane	ND	330	ug/kg							
Bis(2-chloroethyl)ether	ND	170	ug/kg							
Bis(2-chloroisopropyl)ether	ND	330	ug/kg							
Bis(2-ethylhexyl)phthalate	ND	330	ug/kg							
4-Bromophenyl phenyl ether	ND	330	ug/kg							
Butyl benzyl phthalate	ND	330	ug/kg							
4-Chloroaniline	ND	330	ug/kg							
2-Chloronaphthalene	ND	330	ug/kg							
4-Chloro-3-methylphenol	ND	330	ug/kg							
2-Chlorophenol	ND	330	ug/kg							
4-Chlorophenyl phenyl ether	ND	330	ug/kg							
Chrysene	ND	330	ug/kg							
Dibenz(a,h)anthracene	ND	420	ug/kg							
Dibenzofuran	ND	330	ug/kg							
Di-n-butyl phthalate	ND	330	ug/kg							
1,3-Dichlorobenzene	ND	330	ug/kg							
1,4-Dichlorobenzene	ND	330	ug/kg							
1,2-Dichlorobenzene	ND	330	ug/kg							
3,3-Dichlorobenzidine	ND	830	ug/kg							
2,4-Dichlorophenol	ND	330	ug/kg							
Diethyl phthalate	ND	330	ug/kg							
2,4-Dimethylphenol	ND	330	ug/kg							
Dimethyl phthalate	ND	330	ug/kg							

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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03038 Extracted: 12/03/03										
Blank Analyzed: 12/08/03 (3L03038-BLK1)										
4,6-Dinitro-2-methylphenol	ND	420	ug/kg							
2,4-Dinitrophenol	ND	420	ug/kg							
2,4-Dinitrotoluene	ND	330	ug/kg							
2,6-Dinitrotoluene	ND	330	ug/kg							
Di-n-octyl phthalate	ND	330	ug/kg							
Fluoranthene	ND	330	ug/kg							
Fluorene	ND	330	ug/kg							
Hexachlorobenzene	ND	330	ug/kg							
Hexachlorobutadiene	ND	330	ug/kg							
Hexachlorocyclopentadiene	ND	830	ug/kg							
Hexachloroethane	ND	330	ug/kg							
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg							
Isophorone	ND	330	ug/kg							
2-Methylnaphthalene	ND	330	ug/kg							
2-Methylphenol	ND	330	ug/kg							
4-Methylphenol	ND	330	ug/kg							
Naphthalene	ND	330	ug/kg							
2-Nitroaniline	ND	330	ug/kg							
3-Nitroaniline	ND	330	ug/kg							
4-Nitroaniline	ND	830	ug/kg							
Nitrobenzene	ND	330	ug/kg							
2-Nitrophenol	ND	330	ug/kg							
4-Nitrophenol	ND	830	ug/kg							
n-Nitrosodiphenylamine	ND	330	ug/kg							
n-Nitroso-di-n-propylamine	ND	250	ug/kg							
Pentachlorophenol	ND	830	ug/kg							
Phenanthrene	ND	330	ug/kg							
Phenol	ND	330	ug/kg							
Pyrene	ND	330	ug/kg							
1,2,4-Trichlorobenzene	ND	330	ug/kg							
2,4,5-Trichlorophenol	ND	330	ug/kg							
2,4,6-Trichlorophenol	ND	330	ug/kg							
1,2-Diphenylhydrazine/Azobenzene	ND	330	ug/kg							
Surrogate: 2-Fluorophenol	*4800*		*ug/kg*	*6670*		*72*	*25-120*			
Surrogate: Phenol-d6	*5500*		*ug/kg*	*6670*		*82*	*30-120*			

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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03038 Extracted: 12/03/03										
Blank Analyzed: 12/08/03 (3L03038-BLK1)										
Surrogate: 2,4,6-Tribromophenol	*5850*		*ug/kg*	*6670*		*88*	*35-120*			
Surrogate: Nitrobenzene-d5	*2840*		*ug/kg*	*3330*		*85*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*2900*		*ug/kg*	*3330*		*87*	*35-120*			
Surrogate: Terphenyl-d14	*3310*		*ug/kg*	*3330*		*99*	*35-155*			
LCS Analyzed: 12/08/03 (3L03038-BS1)										**M-NR**
Acenaphthene	3130	330	ug/kg	3330		94	55-120			
Acenaphthylene	3150	330	ug/kg	3330		95	55-120			
Aniline	1820	420	ug/kg	3330		55	30-120			
Anthracene	3300	330	ug/kg	3330		99	55-120			
Benzidine	1440	660	ug/kg	3330		43	10-180			
Benzoic acid	1860	830	ug/kg	3330		56	30-125			
Benzo(a)anthracene	3420	330	ug/kg	3330		103	65-120			
Benzo(b)fluoranthene	4400	330	ug/kg	3330		132	65-120			*L*
Benzo(k)fluoranthene	3990	330	ug/kg	3330		120	60-120			
Benzo(g,h,i)perylene	3790	330	ug/kg	3330		114	25-160			
Benzo(a)pyrene	4180	330	ug/kg	3330		126	60-120			*LI*
Benzyl alcohol	2770	330	ug/kg	3330		83	40-130			
Bis(2-chloroethoxy)methane	3130	330	ug/kg	3330		94	50-120			
Bis(2-chloroethyl)ether	2710	170	ug/kg	3330		81	40-120			
Bis(2-chloroisopropyl)ether	2890	330	ug/kg	3330		87	40-120			
Bis(2-ethylhexyl)phthalate	3300	330	ug/kg	3330		99	65-125			
4-Bromophenyl phenyl ether	3170	330	ug/kg	3330		95	50-125			
Butyl benzyl phthalate	3240	330	ug/kg	3330		97	65-120			
4-Chloroaniline	1260	330	ug/kg	3330		38	20-120			
2-Chloronaphthalene	3040	330	ug/kg	3330		91	50-120			
4-Chloro-3-methylphenol	3060	330	ug/kg	3330		92	50-120			
2-Chlorophenol	2680	330	ug/kg	3330		80	45-120			
4-Chlorophenyl phenyl ether	3000	330	ug/kg	3330		90	55-120			
Chrysene	3370	330	ug/kg	3330		101	60-120			
Dibenz(a,h)anthracene	4260	420	ug/kg	3330		128	25-160			
Dibenzofuran	3010	330	ug/kg	3330		90	55-120			
Di-n-butyl phthalate	3260	330	ug/kg	3330		98	60-120			
1,3-Dichlorobenzene	2390	330	ug/kg	3330		72	40-120			
1,4-Dichlorobenzene	2260	330	ug/kg	3330		68	40-120			

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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03038 Extracted: 12/03/03										
LCS Analyzed: 12/08/03 (3L03038-BS1)										**M-NR**
1,2-Dichlorobenzene	2430	330	ug/kg	3330		73	40-120			
3,3-Dichlorobenzidine	1930	830	ug/kg	3330		58	20-170			
2,4-Dichlorophenol	3100	330	ug/kg	3330		93	55-120			
Diethyl phthalate	2980	330	ug/kg	3330		89	55-120			
2,4-Dimethylphenol	2730	330	ug/kg	3330		82	45-120			
Dimethyl phthalate	3100	330	ug/kg	3330		93	60-120			
4,6-Dinitro-2-methylphenol	2760	420	ug/kg	3330		83	50-120			
2,4-Dinitrophenol	2170	420	ug/kg	3330		65	25-140			
2,4-Dinitrotoluene	3010	330	ug/kg	3330		90	60-140			
2,6-Dinitrotoluene	3080	330	ug/kg	3330		92	60-125			
Di-n-octyl phthalate	3510	330	ug/kg	3330		105	60-135			
Fluoranthene	3550	330	ug/kg	3330		107	55-130			
Fluorene	3120	330	ug/kg	3330		94	55-120			
Hexachlorobenzene	3170	330	ug/kg	3330		95	45-120			
Hexachlorobutadiene	2800	330	ug/kg	3330		84	40-120			
Hexachlorocyclopentadiene	2730	830	ug/kg	3330		82	45-130			
Hexachloroethane	2230	330	ug/kg	3330		67	40-120			
Indeno(1,2,3-cd)pyrene	4220	330	ug/kg	3330		127	25-150			
Isophorone	3020	330	ug/kg	3330		91	45-120			
2-Methylnaphthalene	2870	330	ug/kg	3330		86	50-120			
2-Methylphenol	2750	330	ug/kg	3330		83	50-120			
4-Methylphenol	2730	330	ug/kg	3330		82	50-120			
Naphthalene	2730	330	ug/kg	3330		82	45-120			
2-Nitroaniline	3450	330	ug/kg	3330		104	55-130			
3-Nitroaniline	2090	330	ug/kg	3330		63	40-140			
4-Nitroaniline	2780	830	ug/kg	3330		83	40-160			
Nitrobenzene	3020	330	ug/kg	3330		91	45-120			
2-Nitrophenol	2870	330	ug/kg	3330		86	50-120			
4-Nitrophenol	2730	830	ug/kg	3330		82	45-135			
n-Nitrosodiphenylamine	3460	330	ug/kg	3330		104	55-120			
n-Nitroso-di-n-propylamine	2790	250	ug/kg	3330		84	45-120			
Pentachlorophenol	3100	830	ug/kg	3330		93	50-120			
Phenanthrene	3250	330	ug/kg	3330		98	55-120			
Phenol	2600	330	ug/kg	3330		78	45-120			
Pyrene	3020	330	ug/kg	3330		91	50-120			

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Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03038 Extracted: 12/03/03										
LCS Analyzed: 12/08/03 (3L03038-BS1)										**M-NR**
1,2,4-Trichlorobenzene	2750	330	ug/kg	3330		83	45-120			
2,4,5-Trichlorophenol	3170	330	ug/kg	3330		95	55-120			
2,4,6-Trichlorophenol	3150	330	ug/kg	3330		95	55-120			
1,2-Diphenylhydrazine/Azobenzene	3260	330	ug/kg	3330		98	60-120			
Surrogate: 2-Fluorophenol	*5080*		*ug/kg*	*6670*		*76*	*25-120*			
Surrogate: Phenol-d6	*5800*		*ug/kg*	*6670*		*87*	*30-120*			
Surrogate: 2,4,6-Tribromophenol	*6360*		*ug/kg*	*6670*		*95*	*35-120*			
Surrogate: Nitrobenzene-d5	*2950*		*ug/kg*	*3330*		*89*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*3050*		*ug/kg*	*3330*		*92*	*35-120*			
Surrogate: Terphenyl-d14	*3190*		*ug/kg*	*3330*		*96*	*35-155*			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03065 Extracted: 12/03/03										
Blank Analyzed: 12/05/03 (3L03065-BLK1)										
Aldrin	ND	5.0	ug/kg							
alpha-BHC	ND	5.0	ug/kg							
beta-BHC	ND	5.0	ug/kg							
delta-BHC	ND	10	ug/kg							
gamma-BHC (Lindane)	ND	5.0	ug/kg							
Chlordane	ND	50	ug/kg							
4,4'-DDD	ND	5.0	ug/kg							
4,4'-DDE	ND	5.0	ug/kg							
4,4'-DDT	ND	5.0	ug/kg							
Dieldrin	ND	5.0	ug/kg							
Endosulfan I	ND	5.0	ug/kg							
Endosulfan II	ND	5.0	ug/kg							
Endosulfan sulfate	ND	10	ug/kg							
Endrin	ND	5.0	ug/kg							
Endrin aldehyde	ND	5.0	ug/kg							
Endrin ketone	ND	5.0	ug/kg							
Heptachlor	ND	5.0	ug/kg							
Heptachlor epoxide	ND	5.0	ug/kg							
Methoxychlor	ND	5.0	ug/kg							
Toxaphene	ND	200	ug/kg							
Surrogate: Tetrachloro-m-xylene	*21.4*		*ug/kg*	*33.3*		*64*	*35-115*			
Surrogate: Decachlorobiphenyl	*26.8*		*ug/kg*	*33.3*		*80*	*45-125*			
LCS Analyzed: 12/05/03 (3L03065-BS1)										
Aldrin	25.2	5.0	ug/kg	33.3		76	50-115			
alpha-BHC	25.5	5.0	ug/kg	33.3		77	55-115			
beta-BHC	26.6	5.0	ug/kg	33.3		80	55-115			
delta-BHC	27.8	10	ug/kg	33.3		83	60-115			
gamma-BHC (Lindane)	25.8	5.0	ug/kg	33.3		77	55-115			
4,4'-DDD	28.2	5.0	ug/kg	33.3		85	65-115			
4,4'-DDE	28.6	5.0	ug/kg	33.3		86	65-115			
4,4'-DDT	29.9	5.0	ug/kg	33.3		90	70-125			
Dieldrin	27.2	5.0	ug/kg	33.3		82	65-115			
Endosulfan I	25.7	5.0	ug/kg	33.3		77	60-115			
Endosulfan II	25.9	5.0	ug/kg	33.3		78	70-115			

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ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03065 Extracted: 12/03/03										
LCS Analyzed: 12/05/03 (3L03065-BS1)										
Endosulfan sulfate	27.7	10	ug/kg	33.3		83	65-115			
Endrin	27.9	5.0	ug/kg	33.3		84	70-115			
Endrin aldehyde	25.3	5.0	ug/kg	33.3		76	55-115			
Endrin ketone	28.0	5.0	ug/kg	33.3		84	65-115			
Heptachlor	26.0	5.0	ug/kg	33.3		78	50-115			
Heptachlor epoxide	23.9	5.0	ug/kg	33.3		72	60-115			
Methoxychlor	29.5	5.0	ug/kg	33.3		89	65-125			
Surrogate: Tetrachloro-m-xylene	*22.6*		*ug/kg*	*33.3*		*68*	*35-115*			
Surrogate: Decachlorobiphenyl	*29.5*		*ug/kg*	*33.3*		*89*	*45-125*			
Matrix Spike Analyzed: 12/05/03 (3L03065-MS1)					**Source: IML0092-06**					
Aldrin	26.4	5.0	ug/kg	33.3	ND	79	50-115			
alpha-BHC	26.2	5.0	ug/kg	33.3	ND	79	40-130			
beta-BHC	27.6	5.0	ug/kg	33.3	ND	83	35-125			
delta-BHC	29.5	10	ug/kg	33.3	ND	89	50-140			
gamma-BHC (Lindane)	26.8	5.0	ug/kg	33.3	ND	80	50-115			
4,4'-DDD	30.2	5.0	ug/kg	33.3	ND	91	40-140			
4,4'-DDE	30.5	5.0	ug/kg	33.3	ND	92	45-120			
4,4'-DDT	32.9	5.0	ug/kg	33.3	ND	99	55-125			
Dieldrin	28.0	5.0	ug/kg	33.3	ND	84	45-130			
Endosulfan I	26.2	5.0	ug/kg	33.3	ND	79	50-120			
Endosulfan II	27.2	5.0	ug/kg	33.3	ND	82	50-125			
Endosulfan sulfate	29.0	10	ug/kg	33.3	ND	87	40-140			
Endrin	29.4	5.0	ug/kg	33.3	ND	88	50-140			
Endrin aldehyde	26.6	5.0	ug/kg	33.3	ND	80	35-135			
Endrin ketone	29.2	5.0	ug/kg	33.3	ND	88	50-135			
Heptachlor	27.5	5.0	ug/kg	33.3	ND	83	45-120			
Heptachlor epoxide	24.9	5.0	ug/kg	33.3	ND	75	40-120			
Methoxychlor	30.7	5.0	ug/kg	33.3	ND	92	40-150			
Surrogate: Tetrachloro-m-xylene	*22.2*		*ug/kg*	*33.3*		*67*	*35-115*			
Surrogate: Decachlorobiphenyl	*30.5*		*ug/kg*	*33.3*		*92*	*45-125*			

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ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03065 Extracted: 12/03/03										
Matrix Spike Dup Analyzed: 12/05/03 (3L03065-MSD1)					**Source: IML0092-06**					
Aldrin	22.3	5.0	ug/kg	33.3	ND	67	50-115	17	25	
alpha-BHC	21.9	5.0	ug/kg	33.3	ND	66	40-130	18	25	
beta-BHC	23.5	5.0	ug/kg	33.3	ND	71	35-125	16	25	
delta-BHC	24.8	10	ug/kg	33.3	ND	74	50-140	17	20	
gamma-BHC (Lindane)	22.5	5.0	ug/kg	33.3	ND	68	50-115	17	25	
4,4'-DDD	27.0	5.0	ug/kg	33.3	ND	81	40-140	11	25	
4,4'-DDE	25.2	5.0	ug/kg	33.3	ND	76	45-120	19	20	
4,4'-DDT	28.1	5.0	ug/kg	33.3	ND	84	55-125	16	25	
Dieldrin	23.8	5.0	ug/kg	33.3	ND	71	45-130	16	25	
Endosulfan I	22.6	5.0	ug/kg	33.3	ND	68	50-120	15	25	
Endosulfan II	24.3	5.0	ug/kg	33.3	ND	73	50-125	11	25	
Endosulfan sulfate	24.6	10	ug/kg	33.3	ND	74	40-140	16	25	
Endrin	25.5	5.0	ug/kg	33.3	ND	77	50-140	14	25	
Endrin aldehyde	22.7	5.0	ug/kg	33.3	ND	68	35-135	16	20	
Endrin ketone	24.7	5.0	ug/kg	33.3	ND	74	50-135	17	25	
Heptachlor	23.9	5.0	ug/kg	33.3	ND	72	45-120	14	25	
Heptachlor epoxide	21.5	5.0	ug/kg	33.3	ND	65	40-120	15	25	
Methoxychlor	27.0	5.0	ug/kg	33.3	ND	81	40-150	13	25	
Surrogate: Tetrachloro-m-xylene	*19.6*		*ug/kg*	*33.3*		*59*	*35-115*			
Surrogate: Decachlorobiphenyl	*26.5*		*ug/kg*	*33.3*		*80*	*45-125*			

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METHOD BLANK/QC DATA

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03065 Extracted: 12/03/03										
Blank Analyzed: 12/05/03 (3L03065-BLK2)										
Aroclor 1016	ND	50	ug/kg							
Aroclor 1221	ND	50	ug/kg							
Aroclor 1232	ND	50	ug/kg							
Aroclor 1242	ND	50	ug/kg							
Aroclor 1248	ND	50	ug/kg							
Aroclor 1254	ND	50	ug/kg							
Aroclor 1260	ND	50	ug/kg							
Surrogate: Decachlorobiphenyl	*30.6*		*ug/kg*	*33.3*		*92*	*45-125*			
LCS Analyzed: 12/05/03 (3L03065-BS2)										
Aroclor 1016	238	50	ug/kg	267		89	70-115			
Aroclor 1260	232	50	ug/kg	267		87	65-115			
Surrogate: Decachlorobiphenyl	*29.6*		*ug/kg*	*33.3*		*89*	*45-125*			
Matrix Spike Analyzed: 12/05/03 (3L03065-MS2)					**Source: IML0098-02**					
Aroclor 1016	204	50	ug/kg	267	ND	76	65-120			
Aroclor 1260	209	50	ug/kg	267	ND	78	60-125			
Surrogate: Decachlorobiphenyl	*27.4*		*ug/kg*	*33.3*		*82*	*45-125*			
Matrix Spike Dup Analyzed: 12/05/03 (3L03065-MSD2)					**Source: IML0098-02**					
Aroclor 1016	201	50	ug/kg	267	ND	75	65-120	1	20	
Aroclor 1260	206	50	ug/kg	267	ND	77	60-125	1	25	
Surrogate: Decachlorobiphenyl	*26.3*		*ug/kg*	*33.3*		*79*	*45-125*			

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03085 Extracted: 12/03/03										
Blank Analyzed: 12/03/03 (3L03085-BLK1)										
Antimony	ND	10	mg/kg							
Arsenic	ND	2.0	mg/kg							
Beryllium	ND	0.50	mg/kg							
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Copper	ND	2.0	mg/kg							
Lead	ND	2.0	mg/kg							
Nickel	ND	2.0	mg/kg							
Selenium	ND	2.0	mg/kg							
Silver	ND	1.0	mg/kg							
Thallium	ND	10	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 12/03/03 (3L03085-BS1)										
Antimony	48.5	10	mg/kg	50.0		97	80-120			
Arsenic	49.3	2.0	mg/kg	50.0		99	80-120			
Beryllium	49.0	0.50	mg/kg	50.0		98	80-120			
Cadmium	48.7	0.50	mg/kg	50.0		97	80-120			
Chromium	50.3	1.0	mg/kg	50.0		101	80-120			
Copper	50.4	2.0	mg/kg	50.0		101	80-120			
Lead	49.5	2.0	mg/kg	50.0		99	80-120			
Nickel	50.4	2.0	mg/kg	50.0		101	80-120			
Selenium	45.8	2.0	mg/kg	50.0		92	80-120			
Silver	25.0	1.0	mg/kg	25.0		100	80-120			
Thallium	52.0	10	mg/kg	50.0		104	80-120			
Zinc	46.7	5.0	mg/kg	50.0		93	80-120			
Matrix Spike Analyzed: 12/03/03 (3L03085-MS1)					**Source: IML0114-07**					
Antimony	31.8	10	mg/kg	50.0	ND	64	75-125			*M2*
Arsenic	49.1	2.0	mg/kg	50.0	ND	98	75-125			
Beryllium	48.7	0.50	mg/kg	50.0	0.090	97	75-125			
Cadmium	47.2	0.50	mg/kg	50.0	0.41	94	75-125			
Chromium	76.9	1.0	mg/kg	50.0	28	98	75-125			
Copper	57.4	2.0	mg/kg	50.0	7.4	100	75-125			
Lead	48.7	2.0	mg/kg	50.0	1.5	94	75-125			
Nickel	50.4	2.0	mg/kg	50.0	3.4	94	75-125			

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03085 Extracted: 12/03/03										
Matrix Spike Analyzed: 12/03/03 (3L03085-MS1)					Source: IML0114-07					
Selenium	45.5	2.0	mg/kg	50.0	ND	91	75-125			
Silver	25.1	1.0	mg/kg	25.0	1.2	96	75-125			
Thallium	49.4	10	mg/kg	50.0	1.3	96	75-125			
Zinc	63.2	5.0	mg/kg	50.0	18	90	75-125			
Matrix Spike Dup Analyzed: 12/03/03 (3L03085-MSD1)					Source: IML0114-07					
Antimony	29.0	10	mg/kg	50.0	ND	58	75-125	9	20	*M2*
Arsenic	50.9	2.0	mg/kg	50.0	ND	102	75-125	4	20	
Beryllium	49.0	0.50	mg/kg	50.0	0.090	98	75-125	1	20	
Cadmium	47.7	0.50	mg/kg	50.0	0.41	95	75-125	1	20	
Chromium	77.2	1.0	mg/kg	50.0	28	98	75-125	0	20	
Copper	59.6	2.0	mg/kg	50.0	7.4	104	75-125	4	20	
Lead	49.0	2.0	mg/kg	50.0	1.5	95	75-125	1	20	
Nickel	50.8	2.0	mg/kg	50.0	3.4	95	75-125	1	20	
Selenium	47.1	2.0	mg/kg	50.0	ND	94	75-125	3	20	
Silver	25.5	1.0	mg/kg	25.0	1.2	97	75-125	2	20	
Thallium	49.8	10	mg/kg	50.0	1.3	97	75-125	1	20	
Zinc	65.2	5.0	mg/kg	50.0	18	94	75-125	3	20	
Batch: 3L04076 Extracted: 12/04/03										
Blank Analyzed: 12/04/03 (3L04076-BLK1)										
Mercury	ND	0.020	mg/kg							
LCS Analyzed: 12/04/03 (3L04076-BS1)										
Mercury	0.855	0.020	mg/kg	0.800		107	85-120			

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L04076 Extracted: 12/04/03										
Matrix Spike Analyzed: 12/04/03 (3L04076-MS1)					**Source: IML0114-07**					
Mercury	0.897	0.020	mg/kg	0.800	0.078	102	65-135			
Matrix Spike Dup Analyzed: 12/04/03 (3L04076-MSD1)					**Source: IML0114-07**					
Mercury	0.888	0.020	mg/kg	0.800	0.078	101	65-135	1	20	

Del Mar Analytical, Irvine
Chariya Heang
Project Manager

Del Mar Analytical

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GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L09060 Extracted: 12/09/03										
Blank Analyzed: 12/09/03 (3L09060-BLK1)										
Sulfide	ND	10	mg/kg							
LCS Analyzed: 12/09/03 (3L09060-BS1)										
Sulfide	96.0	10	mg/kg	112		86	80-120			
Matrix Spike Analyzed: 12/09/03 (3L09060-MS1)					**Source: IML0127-05**					
Sulfide	84.0	10	mg/kg	112	ND	75	70-130			
Matrix Spike Dup Analyzed: 12/09/03 (3L09060-MSD1)					**Source: IML0127-05**					
Sulfide	88.0	10	mg/kg	112	ND	79	70-130	5	30	
Batch: 3L09074 Extracted: 12/09/03										
Blank Analyzed: 12/10/03 (3L09074-BLK1)										
Phenols	ND	1.0	mg/kg							
LCS Analyzed: 12/10/03 (3L09074-BS1)										
Phenols	4.94	1.0	mg/kg	5.00		99	90-110			
Matrix Spike Analyzed: 12/10/03 (3L09074-MS1)					**Source: IML0127-02**					
Phenols	5.14	1.0	mg/kg	5.00	0.28	97	65-155			
Matrix Spike Dup Analyzed: 12/10/03 (3L09074-MSD1)					**Source: IML0127-02**					
Phenols	5.06	1.0	mg/kg	5.00	0.28	96	65-155	2	20	
Batch: 3L09088 Extracted: 12/09/03										
Blank Analyzed: 12/09/03 (3L09088-BLK1)										
Total Cyanide	ND	0.50	mg/kg							

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GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L09088 Extracted: 12/09/03										
LCS Analyzed: 12/09/03 (3L09088-BS1)										
Total Cyanide	9.03	0.50	mg/kg	10.0		90	90-110			
Matrix Spike Analyzed: 12/09/03 (3L09088-MS1)					**Source: IML0127-02**					
Total Cyanide	9.18	0.50	mg/kg	10.0	ND	92	70-115			
Matrix Spike Dup Analyzed: 12/09/03 (3L09088-MSD1)					**Source: IML0127-02**					
Total Cyanide	8.76	0.50	mg/kg	10.0	ND	88	70-115	5	15	

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GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

GC CALIBRATION CHECK CRITERIA

Per Method 8000B of SW-846, the percent recovery of the calibration checks for GC analyses must be within ± 15% from the true value for each individual compound or the average % recovery of all compounds in the calibration check solution must be within ± 15% recovery. Per Method 8000B, the end user is to be notified if the latter situation occurs.

The % recovery for the following individual compounds fell outside the ± 15% criteria, however the average % recovery of all compounds in the calibration check solution was within ± 15%, thus meeting the overall calibration check criteria.

Compound	Footnote	Calibration Check % Recovery	Lab Number	Batch
4,4'-DDD	1	118	IML0127-05	3L03065

Footnotes:

1 The calibration demonstrated a high bias for this compound. Samples were flagged to indicate a possible high bias in the result for this compound.

2 The calibration demonstrated a low bias for this compound. Samples were flagged to indicate a possible low bias in the result

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Chariya Heang
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GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

DATA QUALIFIERS AND DEFINITIONS

C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
C1	Calibration Verification recovery was above the method control limit for this analyte, however the average % difference for all analytes met method criteria. See Calibration Summary form.
L	Laboratory Control Sample recovery was above the method control limits. Analyte not detected, data not impacted.
L1	Laboratory Control Sample recovery was above method control limits.
M-NR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
R-2	The RPD exceeded the method control limit.
RL-1	Reporting limit raised due to sample matrix effects.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

Del Mar Analytical, Irvine
Chariya Heang
Project Manager

Del Mar Analytical

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GeoLogic Associates, San Diego
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San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0127

Sampled: 12/02/03
Received: 12/02/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 3545/8081A	Soil	X	X
EPA 3545/8082	Soil	X	X
EPA 420.1 MOD	Soil	N/A	N/A
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8270C	Soil	X	X
EPA 9014	Soil	X	X
EPA 9034	Soil		X
SW846 7.1.2	Solid		

NV and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

Subcontracted Laboratories

Triangle Laboratories *CA ELAP Cert #1922, AZ DHS Licence #AZ0423 and NV Cert #NC-140*

2445 South Alston Avenue - Durham, NC 27713-1301

Analysis Performed: 8280-Diox-TCDD only

Samples: IML0127-02, IML0127-05

Del Mar Analytical, Irvine
Chariya Heang
Project Manager

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CHAIN OF CUSTODY FORM

IMLO127

Client Name/Address:
GLA
16885 W BERNARDO DR. #305
SAN DIEGO, CA 92127

P.O. #: 2003-091
Project: Poseidon / Encina Power Station Desalination Project

Project Manager/Phone Number:
JOE FRANZONE

Phone Number:
858-451-1136

Sampler: ANNA FYODOROVA

Fax Number:
858-451-1087

Sample Description	Sample Matrix	Container Type	# of Containers	Sampling Date/Time	Preservation	ANALYSIS REQUIRED: 8015M TPH	8260B VOCs	8270C Semi VOCs	8081/8082 Pest/PCBs	6010B EPA PPA METALS	9010 Cyanide	420.1 Phenols	8280 DIOXIN	9050 Sulfide	1010 Ignitability	Special Instructions
B3/1 @ 2-2.5'	SOIL	6" BRASS	1	12/02/03 13:19	NONE	X										
B3/2 @ 6-6.4'	SOIL	6" BRASS	1	↓ 13:33	↓	X	X	X	X	X	X	X	X	X	X	
B5/1 @ 3-3.5'	SOIL	6" BRASS	1			X										
B5/2 @ 5.6-6.1'	SOIL	6" BRASS	1			X	X	X								
B5/3 @ 2-5.5' composite	SOIL	Glass jar	2						X	X	X	X	X	X	X	

Relinquished By	Date/Time:	Received By	Date/Time:
Anna Fyodorova	12/02/03 16:03	James S Vogt	12/02/03 16:03
James S Vogt	12/02/03 17:36	Tom Blevins DMAI	12/2/03 17:3
Tom Blevins	12/2/03 18:55	S. Jamvas DMAI	12.2.03 1855

Turnaround Time: (check)
Same Day _____ 72 Hours _____
24 Hours _____ 5 days _____
48 hours _____ normal X
Sample Integrity: (Check)
Intact _____ On Ice: X

Tita 1 2°

Del Mar Analytical

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January 8, 2003

GeoLogic Associates
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127

Attention: Ana Fyodorova

Project: Poseidon/ Encina Gen. Station 2003-091
Sampled: 12/02/03
Del Mar Analytical Number: IML0127

Dear Ms. Fyodorova:

Triangle Laboratories performed the 2,3,7,8-Tetrachlorinated Dibenzo-*p*-Dioxin by Method 8280A for the project referenced above. Please use the following cross-reference table when reviewing your results.

GeoLogic ID	Del Mar ID	Triangle ID
B3/2 @ 6-6.4'	IML0127-02	61637 / 368-27-1
B5/3 @ 2-5.5'	IML0127-05	61637 / 368-27-2

Attached is the original report from the subcontract laboratory. If you have any questions or require further assistance, please do not hesitate to contact me.

Sincerely yours,

DEL MAR ANALYTICAL

Chariya Heang
Project Manager

CASE NARRATIVE

Analysis of Samples for the Presence of

2,3,7,8-Tetrachlorinated Dibenzo-*p*-Dioxin by

High-Resolution Chromatography / Low-Resolution Mass Spectrometry

Method 8280A Rev. 1 (12/96)

Date:	December 16, 2003
Client ID:	Del Mar Analytical
P.O. Number:	IML0127
TLI Project Number:	61637

Rev. 12/20/00

Overview

The samples and any associated QC samples were extracted and analyzed according to procedures described in SW846 Method 8280A (12/96). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. This report contains results from only the 8280A dioxin/furan analysis of the soil samples.

Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the samples.

The quality control range for internal and clean-up standard percent recoveries is 25-150 percent. The ratio of signal to noise for all standards must be greater than ten to one.

Laboratory control spike (LCS) and laboratory control spike duplicate (LCSD) samples were extracted and analyzed along with the samples. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

Matrix spike (MS) and matrix spike duplicate (MSD) samples were created using sample IML0127-05B [GLAS]. The matrix spike samples were extracted and analyzed along with the samples. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

Quality Control Remarks

The release of this particular set of Del Mar Analytical analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample receipt: Two soil samples were received from Del Mar Analytical at 3.0 °C and in good condition on December 4, 2003. The samples were stored in a refrigerator at 4°C until the time of extraction.

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: The internal and cleanup standards for these samples are within the QC limits of 25-150 percent and meet ten to one signal to noise criteria in all cases.

Other Comments: No 2,3,7,8-substituted target analytes were detected in the TLI Blank above the target detection limit (TDL).

By our interpretation, the analytical data in this project are valid based on the guidelines of SW846 Method 8280A (12/96). Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should Del Mar Analytical have any questions or comments regarding this data package, please feel free to contact the Project Scientist, Bharat Chandramouli at (919) 544-5729 ext. 4006.

For Triangle Laboratories, Inc.,

Released by,

Penny A. Brock

Penny A. Brock
Report Preparation Chemist

The total number of pages in the data package is : 55 .

Sample Calculations:

Analyte Concentration The concentration or amount of any analyte is calculated using the following expression:

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RF_{(n)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the sum of the integrated current for the characteristic ions of the analyte,

A_β is the sum of the integrated current of the characteristic ions of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RF_{(n)}$ is the analyte relative response factor from the continuing calibration (ccal) and,

W is the sample weight or volume

Detection Limits The detection limit reported for a target analyte that is not detected or presents an analyte response that is less than 2.5 times the background level is calculated by using the following expression. The detection limits represent the maximum possible concentration of a target analyte that could be present without being detected.

$$DL_{(\sigma)} = \frac{2.5 * (H) * Q_\beta}{H_\beta * RF_{(n)} * W}$$

Where:

Q_β , $RF_{(n)}$, and W are defined above,

2.5 is the minimum response required for a GC signal,

H is the sum heights of noise of the characteristic ions,

H_β is the sum of the heights of the corresponding internal standards

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag is used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample.

An **'E'** flag is used to indicate a concentration based on an analyte to internal standard ratio that exceeds the range of the calibration curve. Values that are outside the calibration curve are estimates only.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'J'** flag is used to indicate a concentration based on an analyte to internal standard ratio that is below the calibration curve. Values that are outside the calibration curve are estimates only.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

A **'Q'** flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

An **'S'** flag indicates that the response of a specific PCDD/PCDF isomer has exceeded the normal dynamic range of the mass spectrometer detection system. The corresponding signal is saturated and the reported analyte concentration is a 'minimum estimate'. When the 'S' qualifier is used in the reporting of 'totals', there is saturation of one (not necessarily from a specific isomer) or more saturated signals for a given class of compounds. Results for saturated analytes are reported as greater than the upper calibration limit.

A **'U'** flag is used to indicate that a specific isomer cannot be resolved from a large, co-eluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A **'V'** flag is used to indicate that, although the percent recovery of a labeled standard may
be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

An **'X'** flag is used to indicate that a polychlorodibenzofuran (PCDF) peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is at least ten percent of the total PCDF peak intensity. Total PCDF values are flagged 'X' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are either reported as "estimated maximum possible concentration (EMPC) values without regard to the isotopic abundance ratio, or are included in the detection limit value depending on the analytical method.

Del Mar Analytical

TLI Project: **61637** Method 8280-A TCDD Analysis (b)
Client Sample: **IML0127-02 B [GLAS]** Analysis File: **YZ02372**

Client Project:	**IML0127**				
Sample Matrix:	**SOIL**	Date Received:	**12/04/2003**	Spike File:	**SP828A10**
TLI ID:	**368-27-1**	Date Extracted:	**12/10/2003**	ICal:	**Y85O21A**
		Date Analyzed:	**12/15/2003**	ConCal:	**YZ02370**
Sample Size:	**2.020 g**	Dilution Factor:	**n/a**	% Moisture:	**13.8**
Dry Weight:	**1.741 g**	Blank File:	**YZ02371**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**JSY**	% Solids:	**86.2**

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.008				___

Internal Standard	Conc. (ppb)	% Recovery		Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDD	4.4	76.8	25%-150%	0.78	25:12	___

Clean-Up Standard	Conc. (ppb)	% Recovery		RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	2.2	75.2	25%-150%	25:12	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	25:01	___

Data Reviewer: _____ 12/16/2003

828A_PSR v1.03, LARS 6.25.05

Triangle Laboratories, Inc.®
2445 S. Alston Ave. • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:22 12/16/2003

Del Mar Analytical

TLI Project: **61637** — Method 8280-A TCDD Analysis (b)

Client Sample: **IML0127-05 B [GLAS]** — Analysis File: **YZ02373**

Client Project:	**IML0127**				
Sample Matrix:	**SOIL**	Date Received:	**12/04/2003**	Spike File:	**SP828A10**
TLI ID:	**368-27-2**	Date Extracted:	**12/10/2003**	ICal:	**Y85O21A**
		Date Analyzed:	**12/15/2003**	ConCal:	**YZ02370**
Sample Size:	**2.010 g**	Dilution Factor:	**n/a**	% Moisture:	**12.7**
Dry Weight:	**1.755 g**	Blank File:	**YZ02371**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**JSY**	% Solids:	**87.3**

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.007				___

Internal Standard	Conc. (ppb)	% Recovery		Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDD	4.2	74.3	25%-150%	0.80	25:12	___

Clean-Up Standard	Conc. (ppb)	% Recovery		RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	2.2	77.1	25%-150%	25:13	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	25:01	___

Data Reviewer: KLL 12/16/2003

828A_PSR v1.03, LARS 6.25.05

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Printed: 19:22 12/16/2003

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CHAIN OF CUSTODY FORM

IML0127

Client Name/Address:	P.O. #: 1063-C91
GLA 16885 W BERNARDO DR. #305 SAN DIEGO, CA 92127	Project: Poseidon / Encina Power Station Desalination Project
Project Manager/Phone Number:	**Phone Number:**
JOE FRANZONE	858-451-1136
Sampler: ANNA FYODOROVA	**Fax Number:** 858-451-1087

Sample Description	Sample Matrix	Container Type	# of Containers	Sampling Date/Time	Preservation	ANALYSIS REQUIRED: 8015M TPH	8260B VOCs	8270C SemiVOCs	8081/8082 Pest./PCBs	6010B EPA PPA METALS	9010 Cyanide	420.1 Phenols	8280 DIOXIN	9030 Sulfide	1010 Ignitability	Special Instructions
B3/1 @ 2-2.5'	SOIL	6" BRASS	1	12/02/03 13:19	NONE	X										
B3/2 @ 6-6.4'	SOIL	6" BRASS	1	↓ 13:35	↓	X	X	X	X	X	X	X	X	X	X	
B5/1 @ 3-3.5'	SOIL	6" BRASS	1			X										
B5/2 @ 5.6-6.1'	SOIL	6" BRASS	1			X	X	X								
B5/3 & 2-5.5' composite	SOIL	Glass jar	2						X	X	X	X	X	X	X	

Relinquished By	Date/Time:	Received By	Date/Time:
Anna Fyodorova	12/02/03 16:03	James L Vogt	12/02/03 16:03
James L Vogt	12/02/03 17:36	Tom Blevins DMAI	12/2/03 17:36
Tom Blevins	12/2/03 18:55	S. Jamroz DMAI	12.2 05 1855

Intact 2°C

Turnaround Time: (check)
Same Day _____ 72 Hours _____
24 Hours _____ 5 days _____
48 hours _____ normal X

Sample Integrity: (Check)
Intact _____ On Ice: X

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LABORATORY REPORT

Prepared For: GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project: Poseidon/Encina Gen. Station
2003-091

Sampled: 12/01/03
Received: 12/01/03
Issued: 12/10/03

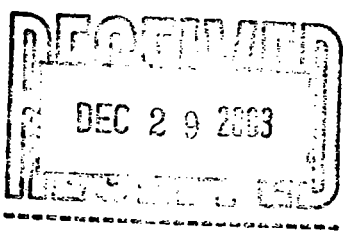
NELAP #01108CA CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID	CLIENT ID	MATRIX
IML0037-01	B8/2@5.5-6.0	Soil
IML0037-02	B8/4@15.5-16.0	Soil
IML0037-03	B8/5@5.0-16.5	Soil



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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-01 (B8/2@5.5-6.0 - Soil)								
Reporting Units: mg/kg								
EFH (C8 - C40)	EPA 8015 MOD.	3L02037	5.0	**18**	1	12/2/2003	12/3/2003	CR
Surrogate: n-Octacosane (50-125%)				*86 %*				
Sample ID: IML0037-02 (B8/4@15.5-16.0 - Soil)								
Reporting Units: mg/kg								
EFH (C8 - C40)	EPA 8015 MOD.	3L02037	5.0	ND	1	12/2/2003	12/3/2003	
Surrogate: n-Octacosane (50-125%)				*88 %*				

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2003-091
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Sampled: 12/01/03
Received: 12/01/03

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-02 (B8/4@15.5-16.0 - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Bromobenzene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Bromochloromethane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Bromodichloromethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Bromoform	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Bromomethane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
n-Butylbenzene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
sec-Butylbenzene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
tert-Butylbenzene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Carbon tetrachloride	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Chlorobenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Chloroethane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Chloroform	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Chloromethane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
2-Chlorotoluene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
4-Chlorotoluene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Dibromochloromethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,2-Dibromo-3-chloropropane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
1,2-Dibromoethane (EDB)	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Dibromomethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,2-Dichlorobenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,3-Dichlorobenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,4-Dichlorobenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Dichlorodifluoromethane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
1,1-Dichloroethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,2-Dichloroethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,1-Dichloroethene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
cis-1,2-Dichloroethene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
trans-1,2-Dichloroethene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,2-Dichloropropane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,3-Dichloropropane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
2,2-Dichloropropane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,1-Dichloropropene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
cis-1,3-Dichloropropene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
trans-1,3-Dichloropropene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Ethylbenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Hexachlorobutadiene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
Isopropylbenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
p-Isopropyltoluene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Methylene chloride	EPA 8260B	3L02015	20	ND	1	12/2/2003	12/2/2003	

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Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-02 (B8/4@15.5-16.0 - Soil) - cont.								
Reporting Units: ug/kg								
Naphthalene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
n-Propylbenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Styrene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,1,1,2-Tetrachloroethane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
1,1,2,2-Tetrachloroethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Tetrachloroethene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Toluene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,2,3-Trichlorobenzene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
1,2,4-Trichlorobenzene	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
1,1,1-Trichloroethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,1,2-Trichloroethane	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Trichloroethene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Trichlorofluoromethane	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
1,2,3-Trichloropropane	EPA 8260B	3L02015	10	ND	1	12/2/2003	12/2/2003	
1,2,4-Trimethylbenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
1,3,5-Trimethylbenzene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Vinyl chloride	EPA 8260B	3L02015	5.0	ND	1	12/2/2003	12/2/2003	
o-Xylene	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
m,p-Xylenes	EPA 8260B	3L02015	2.0	ND	1	12/2/2003	12/2/2003	
Surrogate: Dibromofluoromethane (80-125%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*89 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*97 %*				

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Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-02 (B8/4@15.5-16.0 - Soil)								
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Acenaphthylene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Aniline	EPA 8270C	3L02054	420	ND	1	12/2/2003	12/5/2003	
Anthracene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Benzidine	EPA 8270C	3L02054	660	ND	1	12/2/2003	12/5/2003	
Benzoic acid	EPA 8270C	3L02054	830	ND	1	12/2/2003	12/5/2003	
Benzo(a)anthracene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Benzo(b)fluoranthene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Benzo(k)fluoranthene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Benzo(g,h,i)perylene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Benzo(a)pyrene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Benzyl alcohol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Bis(2-chloroethoxy)methane	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Bis(2-chloroethyl)ether	EPA 8270C	3L02054	170	ND	1	12/2/2003	12/5/2003	
Bis(2-chloroisopropyl)ether	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Bis(2-ethylhexyl)phthalate	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4-Bromophenyl phenyl ether	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Butyl benzyl phthalate	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4-Chloroaniline	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2-Chloronaphthalene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4-Chloro-3-methylphenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2-Chlorophenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4-Chlorophenyl phenyl ether	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Chrysene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Dibenz(a,h)anthracene	EPA 8270C	3L02054	420	ND	1	12/2/2003	12/5/2003	
Dibenzofuran	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Di-n-butyl phthalate	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
1,3-Dichlorobenzene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
1,4-Dichlorobenzene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
1,2-Dichlorobenzene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
3,3-Dichlorobenzidine	EPA 8270C	3L02054	830	ND	1	12/2/2003	12/5/2003	
2,4-Dichlorophenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Diethyl phthalate	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2,4-Dimethylphenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Dimethyl phthalate	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4,6-Dinitro-2-methylphenol	EPA 8270C	3L02054	420	ND	1	12/2/2003	12/5/2003	
2,4-Dinitrophenol	EPA 8270C	3L02054	420	ND	1	12/2/2003	12/5/2003	
2,4-Dinitrotoluene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2,6-Dinitrotoluene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Di-n-octyl phthalate	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-02 (B8/4@15.5-16.0 - Soil) - cont.								
Reporting Units: ug/kg								
Fluoranthene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Fluorene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Hexachlorobenzene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Hexachlorobutadiene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Hexachlorocyclopentadiene	EPA 8270C	3L02054	830	ND	1	12/2/2003	12/5/2003	
Hexachloroethane	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Indeno(1,2,3-cd)pyrene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Isophorone	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2-Methylnaphthalene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2-Methylphenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4-Methylphenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Naphthalene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2-Nitroaniline	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
3-Nitroaniline	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4-Nitroaniline	EPA 8270C	3L02054	830	ND	1	12/2/2003	12/5/2003	
Nitrobenzene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2-Nitrophenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
4-Nitrophenol	EPA 8270C	3L02054	830	ND	1	12/2/2003	12/5/2003	
n-Nitrosodiphenylamine	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
n-Nitroso-di-n-propylamine	EPA 8270C	3L02054	250	ND	1	12/2/2003	12/5/2003	
Pentachlorophenol	EPA 8270C	3L02054	830	ND	1	12/2/2003	12/5/2003	
Phenanthrene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Phenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Pyrene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
1,2,4-Trichlorobenzene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2,4,5-Trichlorophenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
2,4,6-Trichlorophenol	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	3L02054	330	ND	1	12/2/2003	12/5/2003	
Surrogate: 2-Fluorophenol (25-120%)				*70 %*				
Surrogate: Phenol-d6 (30-120%)				*80 %*				
Surrogate: 2,4,6-Tribromophenol (35-120%)				*81 %*				
Surrogate: Nitrobenzene-d5 (30-120%)				*74 %*				
Surrogate: 2-Fluorobiphenyl (35-120%)				*70 %*				
Surrogate: Terphenyl-d14 (35-155%)				*65 %*				

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Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-03 (B8/5@5.0-16.5 - Soil)								
Reporting Units: ug/kg								
Aldrin	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
alpha-BHC	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
beta-BHC	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
delta-BHC	EPA 3545/8081A	3L02041	10	ND	1	12/2/2003	12/4/2003	
gamma-BHC (Lindane)	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Chlordane	EPA 3545/8081A	3L02041	50	ND	1	12/2/2003	12/4/2003	
4,4'-DDD	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
4,4'-DDE	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
4,4'-DDT	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Dieldrin	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Endosulfan I	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Endosulfan II	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Endosulfan sulfate	EPA 3545/8081A	3L02041	10	ND	1	12/2/2003	12/4/2003	
Endrin	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Endrin aldehyde	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Endrin ketone	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Heptachlor	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Heptachlor epoxide	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Methoxychlor	EPA 3545/8081A	3L02041	5.0	ND	1	12/2/2003	12/4/2003	
Toxaphene	EPA 3545/8081A	3L02041	200	ND	1	12/2/2003	12/4/2003	
Surrogate: Tetrachloro-m-xylene (35-115%)				*58 %*				
Surrogate: Decachlorobiphenyl (45-125%)				*73 %*				

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POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-03 (B8/5@5.0-16.5 - Soil)								
Reporting Units: ug/kg								
Aroclor 1016	EPA 3545/8082	3L02041	50	ND	1	12/2/2003	12/4/2003	
Aroclor 1221	EPA 3545/8082	3L02041	50	ND	1	12/2/2003	12/4/2003	
Aroclor 1232	EPA 3545/8082	3L02041	50	ND	1	12/2/2003	12/4/2003	
Aroclor 1242	EPA 3545/8082	3L02041	50	ND	1	12/2/2003	12/4/2003	
Aroclor 1248	EPA 3545/8082	3L02041	50	ND	1	12/2/2003	12/4/2003	
Aroclor 1254	EPA 3545/8082	3L02041	50	ND	1	12/2/2003	12/4/2003	
Aroclor 1260	EPA 3545/8082	3L02041	50	ND	1	12/2/2003	12/4/2003	
Surrogate: Decachlorobiphenyl (45-125%)				*92 %*				

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METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-03 (B8/5@5.0-16.5 - Soil)								
Reporting Units: mg/kg								
Antimony	EPA 6010B	3L01074	10	ND	1	12/1/2003	12/1/2003	
Arsenic	EPA 6010B	3L01074	2.0	ND	1	12/1/2003	12/1/2003	
Beryllium	EPA 6010B	3L01074	0.50	ND	1	12/1/2003	12/1/2003	
Cadmium	EPA 6010B	3L01074	0.50	ND	1	12/1/2003	12/1/2003	
Chromium	EPA 6010B	3L01074	1.0	**8.8**	1	12/1/2003	12/1/2003	
Copper	EPA 6010B	3L01074	2.0	**4.6**	1	12/1/2003	12/1/2003	
Lead	EPA 6010B	3L01074	2.0	**2.5**	1	12/1/2003	12/1/2003	
Mercury	EPA 7471A	3L02055	0.020	ND	1	12/2/2003	12/2/2003	
Nickel	EPA 6010B	3L01074	2.0	**3.2**	1	12/1/2003	12/1/2003	
Selenium	EPA 6010B	3L01074	2.0	ND	1	12/1/2003	12/1/2003	
Silver	EPA 6010B	3L01074	1.0	ND	1	12/1/2003	12/1/2003	
Thallium	EPA 6010B	3L01074	10	ND	1	12/1/2003	12/1/2003	
Zinc	EPA 6010B	3L01074	5.0	**18**	1	12/1/2003	12/1/2003	

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INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IML0037-03 (B8/5@5.0-16.5 - Soil)								
Reporting Units: mg/kg								
Total Cyanide	EPA 9014	3L02063	0.50	ND	1	12/2/2003	12/3/2003	
Phenols	EPA 420.1 MOD	3L02074	1.0	ND	1	12/2/2003	12/3/2003	
Sulfide	EPA 9034	3L03083	10	ND	1	12/3/2003	12/3/2003	
Sample ID: IML0037-03 (B8/5@5.0-16.5 - Soil)								
Reporting Units: N/A								
Ignitability	SW846 7.1.2	3L04064	NA	Not Ignitable	1	12/4/2003	12/4/2003	

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METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02037 Extracted: 12/02/03										
Blank Analyzed: 12/02/03 (3L02037-BLK1)										
EFH (C8 - C40)	ND	5.0	mg/kg							
Surrogate: n-Octacosane	*4.74*		*mg/kg*	*6.67*		*71*	*50-125*			
LCS Analyzed: 12/02/03 (3L02037-BS1)										
EFH (C8 - C40)	25.3	5.0	mg/kg	33.3		76	45-115			
Surrogate: n-Octacosane	*5.77*		*mg/kg*	*6.67*		*87*	*50-125*			
Matrix Spike Analyzed: 12/02/03 (3L02037-MS1)					**Source: IML0032-24**					
EFH (C8 - C40)	73.0	5.0	mg/kg	33.3	50	69	35-115			
Surrogate: n-Octacosane	*5.57*		*mg/kg*	*6.67*		*84*	*50-125*			
Matrix Spike Dup Analyzed: 12/02/03 (3L02037-MSD1)					**Source: IML0032-24**					
EFH (C8 - C40)	59.2	5.0	mg/kg	33.3	50	28	35-115	21	30	*M2*
Surrogate: n-Octacosane	*4.56*		*mg/kg*	*6.67*		*68*	*50-125*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
Blank Analyzed: 12/02/03 (3L02015-BLK1)										
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
Blank Analyzed: 12/02/03 (3L02015-BLK1)										
Ethylbenzene	ND	2.0	ug/kg							
Hexachlorobutadiene	ND	5.0	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
Surrogate: Dibromofluoromethane	*49.3*		*ug/kg*	*50.0*		*99*	*80-125*			
Surrogate: Toluene-d8	*44.6*		*ug/kg*	*50.0*		*89*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*48.4*		*ug/kg*	*50.0*		*97*	*80-120*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
LCS Analyzed: 12/02/03 (3L02015-BS1)										
Benzene	43.0	2.0	ug/kg	50.0		86	70-120			
Bromobenzene	46.6	5.0	ug/kg	50.0		93	80-120			
Bromochloromethane	49.7	5.0	ug/kg	50.0		99	65-135			
Bromodichloromethane	52.0	2.0	ug/kg	50.0		104	70-140			
Bromoform	50.5	5.0	ug/kg	50.0		101	60-140			
Bromomethane	50.8	5.0	ug/kg	50.0		102	60-140			
n-Butylbenzene	47.8	5.0	ug/kg	50.0		96	75-130			
sec-Butylbenzene	46.5	5.0	ug/kg	50.0		93	75-125			
tert-Butylbenzene	48.7	5.0	ug/kg	50.0		97	80-125			
Carbon tetrachloride	56.6	5.0	ug/kg	50.0		113	70-140			
Chlorobenzene	48.1	2.0	ug/kg	50.0		96	80-125			
Chloroethane	46.7	5.0	ug/kg	50.0		93	55-145			
Chloroform	48.6	2.0	ug/kg	50.0		97	75-120			
Chloromethane	39.4	5.0	ug/kg	50.0		79	35-145			
2-Chlorotoluene	46.5	5.0	ug/kg	50.0		93	75-125			
4-Chlorotoluene	47.3	5.0	ug/kg	50.0		95	80-125			
Dibromochloromethane	49.4	2.0	ug/kg	50.0		99	65-145			
1,2-Dibromo-3-chloropropane	64.5	5.0	ug/kg	50.0		129	50-150			
1,2-Dibromoethane (EDB)	50.9	2.0	ug/kg	50.0		102	70-130			
Dibromomethane	50.8	2.0	ug/kg	50.0		102	70-130			
1,2-Dichlorobenzene	48.9	2.0	ug/kg	50.0		98	80-125			
1,3-Dichlorobenzene	46.8	2.0	ug/kg	50.0		94	80-120			
1,4-Dichlorobenzene	48.2	2.0	ug/kg	50.0		96	80-120			
Dichlorodifluoromethane	46.4	5.0	ug/kg	50.0		93	10-160			
1,1-Dichloroethane	45.8	2.0	ug/kg	50.0		92	70-135			
1,2-Dichloroethane	53.8	2.0	ug/kg	50.0		108	60-150			
1,1-Dichloroethene	50.0	5.0	ug/kg	50.0		100	75-130			
cis-1,2-Dichloroethene	45.1	2.0	ug/kg	50.0		90	70-125			
trans-1,2-Dichloroethene	46.9	2.0	ug/kg	50.0		94	70-130			
1,2-Dichloropropane	44.2	2.0	ug/kg	50.0		88	70-120			
1,3-Dichloropropane	48.2	2.0	ug/kg	50.0		96	70-130			
2,2-Dichloropropane	48.9	2.0	ug/kg	50.0		98	70-150			
1,1-Dichloropropene	48.4	2.0	ug/kg	50.0		97	75-130			
cis-1,3-Dichloropropene	48.1	2.0	ug/kg	50.0		96	75-130			
trans-1,3-Dichloropropene	50.9	2.0	ug/kg	50.0		102	70-135			

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
LCS Analyzed: 12/02/03 (3L02015-BS1)										
Ethylbenzene	48.4	2.0	ug/kg	50.0		97	75-125			
Hexachlorobutadiene	47.3	5.0	ug/kg	50.0		95	75-140			
Isopropylbenzene	45.8	2.0	ug/kg	50.0		92	75-125			
p-Isopropyltoluene	47.0	2.0	ug/kg	50.0		94	75-125			
Methylene chloride	47.6	20	ug/kg	50.0		95	60-135			
Naphthalene	52.8	5.0	ug/kg	50.0		106	50-145			
n-Propylbenzene	46.3	2.0	ug/kg	50.0		93	75-130			
Styrene	51.2	2.0	ug/kg	50.0		102	80-135			
1,1,1,2-Tetrachloroethane	52.8	5.0	ug/kg	50.0		106	70-145			
1,1,2,2-Tetrachloroethane	50.6	2.0	ug/kg	50.0		101	55-145			
Tetrachloroethene	48.8	2.0	ug/kg	50.0		98	80-125			
Toluene	45.9	2.0	ug/kg	50.0		92	75-120			
1,2,3-Trichlorobenzene	50.4	5.0	ug/kg	50.0		101	65-135			
1,2,4-Trichlorobenzene	50.4	5.0	ug/kg	50.0		101	70-140			
1,1,1-Trichloroethane	52.1	2.0	ug/kg	50.0		104	75-140			
1,1,2-Trichloroethane	48.1	2.0	ug/kg	50.0		96	65-130			
Trichloroethene	48.0	2.0	ug/kg	50.0		96	75-125			
Trichlorofluoromethane	61.2	5.0	ug/kg	50.0		122	50-145			
1,2,3-Trichloropropane	47.9	10	ug/kg	50.0		96	55-140			
1,2,4-Trimethylbenzene	49.1	2.0	ug/kg	50.0		98	75-125			
1,3,5-Trimethylbenzene	47.7	2.0	ug/kg	50.0		95	80-125			
Vinyl chloride	46.3	5.0	ug/kg	50.0		93	45-130			
o-Xylene	48.2	2.0	ug/kg	50.0		96	75-125			
m,p-Xylenes	98.4	2.0	ug/kg	100		98	75-125			
Surrogate: Dibromofluoromethane	*50.4*		*ug/kg*	*50.0*		*101*	*80-125*			
Surrogate: Toluene-d8	*44.8*		*ug/kg*	*50.0*		*90*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*49.6*		*ug/kg*	*50.0*		*99*	*80-120*			

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
Matrix Spike Analyzed: 12/02/03 (3L02015-MS1)					**Source: IML0028-01**					
Benzene	43.4	2.0	ug/kg	50.0	ND	87	65-130			
Bromobenzene	48.1	5.0	ug/kg	50.0	ND	96	70-130			
Bromochloromethane	50.5	5.0	ug/kg	50.0	ND	101	60-145			
Bromodichloromethane	52.2	2.0	ug/kg	50.0	ND	104	70-145			
Bromoform	52.7	5.0	ug/kg	50.0	ND	105	60-145			
Bromomethane	51.5	5.0	ug/kg	50.0	ND	103	50-150			
n-Butylbenzene	46.0	5.0	ug/kg	50.0	ND	92	60-140			
sec-Butylbenzene	46.0	5.0	ug/kg	50.0	ND	92	65-135			
tert-Butylbenzene	48.6	5.0	ug/kg	50.0	ND	97	70-130			
Carbon tetrachloride	56.4	5.0	ug/kg	50.0	ND	113	70-140			
Chlorobenzene	47.8	2.0	ug/kg	50.0	ND	96	80-130			
Chloroethane	47.1	5.0	ug/kg	50.0	ND	94	50-150			
Chloroform	48.7	2.0	ug/kg	50.0	ND	97	70-130			
Chloromethane	41.0	5.0	ug/kg	50.0	ND	82	30-150			
2-Chlorotoluene	47.5	5.0	ug/kg	50.0	ND	95	70-130			
4-Chlorotoluene	48.2	5.0	ug/kg	50.0	ND	96	65-135			
Dibromochloromethane	50.5	2.0	ug/kg	50.0	ND	101	65-145			
1,2-Dibromo-3-chloropropane	69.4	5.0	ug/kg	50.0	ND	139	50-150			
1,2-Dibromoethane (EDB)	53.6	2.0	ug/kg	50.0	ND	107	65-135			
Dibromomethane	52.6	2.0	ug/kg	50.0	ND	105	65-135			
1,2-Dichlorobenzene	48.2	2.0	ug/kg	50.0	ND	96	75-130			
1,3-Dichlorobenzene	46.3	2.0	ug/kg	50.0	ND	93	70-125			
1,4-Dichlorobenzene	47.5	2.0	ug/kg	50.0	ND	95	75-130			
Dichlorodifluoromethane	45.7	5.0	ug/kg	50.0	ND	91	10-200			
1,1-Dichloroethane	46.1	2.0	ug/kg	50.0	ND	92	70-135			
1,2-Dichloroethane	54.9	2.0	ug/kg	50.0	ND	110	60-150			
1,1-Dichloroethene	50.8	5.0	ug/kg	50.0	ND	102	75-140			
cis-1,2-Dichloroethene	45.2	2.0	ug/kg	50.0	ND	90	60-135			
trans-1,2-Dichloroethene	47.0	2.0	ug/kg	50.0	ND	94	65-135			
1,2-Dichloropropane	44.5	2.0	ug/kg	50.0	ND	89	65-125			
1,3-Dichloropropane	50.6	2.0	ug/kg	50.0	ND	101	65-135			
2,2-Dichloropropane	49.5	2.0	ug/kg	50.0	ND	99	60-150			
1,1-Dichloropropene	48.5	2.0	ug/kg	50.0	ND	97	60-140			
cis-1,3-Dichloropropene	48.8	2.0	ug/kg	50.0	ND	98	65-135			
trans-1,3-Dichloropropene	52.4	2.0	ug/kg	50.0	ND	105	65-140			

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Report Number: IML0037

Sampled: 12/01/03
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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
Matrix Spike Analyzed: 12/02/03 (3L02015-MS1)					**Source: IML0028-01**					
Ethylbenzene	48.6	2.0	ug/kg	50.0	ND	97	70-130			
Hexachlorobutadiene	41.9	5.0	ug/kg	50.0	ND	84	65-145			
Isopropylbenzene	47.3	2.0	ug/kg	50.0	ND	95	60-135			
p-Isopropyltoluene	45.7	2.0	ug/kg	50.0	ND	91	60-135			
Methylene chloride	49.8	20	ug/kg	50.0	ND	100	60-145			
Naphthalene	52.6	5.0	ug/kg	50.0	ND	105	40-160			
n-Propylbenzene	47.1	2.0	ug/kg	50.0	ND	94	60-140			
Styrene	51.1	2.0	ug/kg	50.0	ND	102	70-145			
1,1,1,2-Tetrachloroethane	52.8	5.0	ug/kg	50.0	ND	106	65-145			
1,1,2,2-Tetrachloroethane	55.8	2.0	ug/kg	50.0	ND	112	55-150			
Tetrachloroethene	48.5	2.0	ug/kg	50.0	ND	97	70-130			
Toluene	46.2	2.0	ug/kg	50.0	ND	92	70-125			
1,2,3-Trichlorobenzene	46.2	5.0	ug/kg	50.0	ND	92	60-135			
1,2,4-Trichlorobenzene	46.4	5.0	ug/kg	50.0	ND	93	65-140			
1,1,1-Trichloroethane	52.2	2.0	ug/kg	50.0	ND	104	65-140			
1,1,2-Trichloroethane	50.2	2.0	ug/kg	50.0	ND	100	60-140			
Trichloroethene	48.0	2.0	ug/kg	50.0	ND	96	70-140			
Trichlorofluoromethane	61.8	5.0	ug/kg	50.0	ND	124	40-160			
1,2,3-Trichloropropane	53.6	10	ug/kg	50.0	ND	107	55-140			
1,2,4-Trimethylbenzene	48.8	2.0	ug/kg	50.0	ND	98	65-130			
1,3,5-Trimethylbenzene	48.1	2.0	ug/kg	50.0	ND	96	70-130			
Vinyl chloride	48.5	5.0	ug/kg	50.0	ND	97	45-130			
o-Xylene	47.8	2.0	ug/kg	50.0	ND	96	70-125			
m,p-Xylenes	97.5	2.0	ug/kg	100	ND	98	70-125			
Surrogate: Dibromofluoromethane	*50.3*		*ug/kg*	*50.0*		*101*	*80-125*			
Surrogate: Toluene-d8	*45.0*		*ug/kg*	*50.0*		*90*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/kg*	*50.0*		*97*	*80-120*			

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2003-091
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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/02/03 (3L02015-MSD1)					**Source: IML0028-01**					
Benzene	41.7	2.0	ug/kg	50.0	ND	83	65-130	4	20	
Bromobenzene	45.4	5.0	ug/kg	50.0	ND	91	70-130	6	20	
Bromochloromethane	47.4	5.0	ug/kg	50.0	ND	95	60-145	6	25	
Bromodichloromethane	49.6	2.0	ug/kg	50.0	ND	99	70-145	5	20	
Bromoform	47.3	5.0	ug/kg	50.0	ND	95	60-145	11	25	
Bromomethane	47.7	5.0	ug/kg	50.0	ND	95	50-150	8	25	
n-Butylbenzene	44.6	5.0	ug/kg	50.0	ND	89	60-140	3	25	
sec-Butylbenzene	44.6	5.0	ug/kg	50.0	ND	89	65-135	3	20	
tert-Butylbenzene	46.7	5.0	ug/kg	50.0	ND	93	70-130	4	20	
Carbon tetrachloride	53.5	5.0	ug/kg	50.0	ND	107	70-140	5	20	
Chlorobenzene	46.0	2.0	ug/kg	50.0	ND	92	80-130	4	20	
Chloroethane	45.0	5.0	ug/kg	50.0	ND	90	50-150	5	30	
Chloroform	46.4	2.0	ug/kg	50.0	ND	93	70-130	5	20	
Chloromethane	39.1	5.0	ug/kg	50.0	ND	78	30-150	5	30	
2-Chlorotoluene	45.1	5.0	ug/kg	50.0	ND	90	70-130	5	20	
4-Chlorotoluene	45.9	5.0	ug/kg	50.0	ND	92	65-135	5	20	
Dibromochloromethane	46.7	2.0	ug/kg	50.0	ND	93	65-145	8	25	
1,2-Dibromo-3-chloropropane	62.6	5.0	ug/kg	50.0	ND	125	50-150	10	30	
1,2-Dibromoethane (EDB)	49.1	2.0	ug/kg	50.0	ND	98	65-135	9	20	
Dibromomethane	48.4	2.0	ug/kg	50.0	ND	97	65-135	8	20	
1,2-Dichlorobenzene	46.4	2.0	ug/kg	50.0	ND	93	75-130	4	20	
1,3-Dichlorobenzene	44.7	2.0	ug/kg	50.0	ND	89	70-125	4	20	
1,4-Dichlorobenzene	45.8	2.0	ug/kg	50.0	ND	92	75-130	4	20	
Dichlorodifluoromethane	42.8	5.0	ug/kg	50.0	ND	86	10-200	7	35	
1,1-Dichloroethane	43.9	2.0	ug/kg	50.0	ND	88	70-135	5	20	
1,2-Dichloroethane	50.7	2.0	ug/kg	50.0	ND	101	60-150	8	25	
1,1-Dichloroethene	48.2	5.0	ug/kg	50.0	ND	96	75-140	5	20	
cis-1,2-Dichloroethene	43.1	2.0	ug/kg	50.0	ND	86	60-135	5	20	
trans-1,2-Dichloroethene	44.8	2.0	ug/kg	50.0	ND	90	65-135	5	20	
1,2-Dichloropropane	42.9	2.0	ug/kg	50.0	ND	86	65-125	4	20	
1,3-Dichloropropane	46.8	2.0	ug/kg	50.0	ND	94	65-135	8	20	
2,2-Dichloropropane	45.7	2.0	ug/kg	50.0	ND	91	60-150	8	20	
1,1-Dichloropropene	46.6	2.0	ug/kg	50.0	ND	93	60-140	4	20	
cis-1,3-Dichloropropene	46.1	2.0	ug/kg	50.0	ND	92	65-135	6	20	
trans-1,3-Dichloropropene	48.2	2.0	ug/kg	50.0	ND	96	65-140	8	20	

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02015 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/02/03 (3L02015-MSD1)					**Source: IML0028-01**					
Ethylbenzene	46.5	2.0	ug/kg	50.0	ND	93	70-130	4	20	
Hexachlorobutadiene	39.8	5.0	ug/kg	50.0	ND	80	65-145	5	20	
Isopropylbenzene	44.8	2.0	ug/kg	50.0	ND	90	60-135	5	25	
p-Isopropyltoluene	44.5	2.0	ug/kg	50.0	ND	89	60-135	3	20	
Methylene chloride	46.4	20	ug/kg	50.0	ND	93	60-145	7	25	
Naphthalene	48.2	5.0	ug/kg	50.0	ND	96	40-160	9	25	
n-Propylbenzene	45.1	2.0	ug/kg	50.0	ND	90	60-140	4	25	
Styrene	48.4	2.0	ug/kg	50.0	ND	97	70-145	5	20	
1,1,1,2-Tetrachloroethane	50.3	5.0	ug/kg	50.0	ND	101	65-145	5	20	
1,1,2,2-Tetrachloroethane	49.4	2.0	ug/kg	50.0	ND	99	55-150	12	25	
Tetrachloroethene	46.7	2.0	ug/kg	50.0	ND	93	70-130	4	20	
Toluene	44.0	2.0	ug/kg	50.0	ND	88	70-125	5	20	
1,2,3-Trichlorobenzene	43.9	5.0	ug/kg	50.0	ND	88	60-135	5	20	
1,2,4-Trichlorobenzene	44.3	5.0	ug/kg	50.0	ND	89	65-140	5	25	
1,1,1-Trichloroethane	49.1	2.0	ug/kg	50.0	ND	98	65-140	6	20	
1,1,2-Trichloroethane	45.7	2.0	ug/kg	50.0	ND	91	60-140	9	20	
Trichloroethene	46.1	2.0	ug/kg	50.0	ND	92	70-140	4	20	
Trichlorofluoromethane	57.4	5.0	ug/kg	50.0	ND	115	40-160	7	30	
1,2,3-Trichloropropane	47.9	10	ug/kg	50.0	ND	96	55-140	11	25	
1,2,4-Trimethylbenzene	46.9	2.0	ug/kg	50.0	ND	94	65-130	4	20	
1,3,5-Trimethylbenzene	46.1	2.0	ug/kg	50.0	ND	92	70-130	4	20	
Vinyl chloride	46.3	5.0	ug/kg	50.0	ND	93	45-130	5	30	
o-Xylene	45.3	2.0	ug/kg	50.0	ND	91	70-125	5	20	
m,p-Xylenes	93.2	2.0	ug/kg	100	ND	93	70-125	5	20	
Surrogate: Dibromofluoromethane	*49.6*		*ug/kg*	*50.0*		*99*	*80-125*			
Surrogate: Toluene-d8	*44.9*		*ug/kg*	*50.0*		*90*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/kg*	*50.0*		*97*	*80-120*			

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Blank Analyzed: 12/04/03 (3L02054-BLK1)										
Acenaphthene	ND	330	ug/kg							
Acenaphthylene	ND	330	ug/kg							
Aniline	ND	420	ug/kg							
Anthracene	ND	330	ug/kg							
Benzidine	ND	660	ug/kg							
Benzoic acid	ND	830	ug/kg							
Benzo(a)anthracene	ND	330	ug/kg							
Benzo(b)fluoranthene	ND	330	ug/kg							
Benzo(k)fluoranthene	ND	330	ug/kg							
Benzo(g,h,i)perylene	ND	330	ug/kg							
Benzo(a)pyrene	ND	330	ug/kg							
Benzyl alcohol	ND	330	ug/kg							
Bis(2-chloroethoxy)methane	ND	330	ug/kg							
Bis(2-chloroethyl)ether	ND	170	ug/kg							
Bis(2-chloroisopropyl)ether	ND	330	ug/kg							
Bis(2-ethylhexyl)phthalate	ND	330	ug/kg							
4-Bromophenyl phenyl ether	ND	330	ug/kg							
Butyl benzyl phthalate	ND	330	ug/kg							
4-Chloroaniline	ND	330	ug/kg							
2-Chloronaphthalene	ND	330	ug/kg							
4-Chloro-3-methylphenol	ND	330	ug/kg							
2-Chlorophenol	ND	330	ug/kg							
4-Chlorophenyl phenyl ether	ND	330	ug/kg							
Chrysene	ND	330	ug/kg							
Dibenz(a,h)anthracene	ND	420	ug/kg							
Dibenzofuran	ND	330	ug/kg							
Di-n-butyl phthalate	ND	330	ug/kg							
1,3-Dichlorobenzene	ND	330	ug/kg							
1,4-Dichlorobenzene	ND	330	ug/kg							
1,2-Dichlorobenzene	ND	330	ug/kg							
3,3-Dichlorobenzidine	ND	830	ug/kg							
2,4-Dichlorophenol	ND	330	ug/kg							
Diethyl phthalate	ND	330	ug/kg							
2,4-Dimethylphenol	ND	330	ug/kg							
Dimethyl phthalate	ND	330	ug/kg							

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Blank Analyzed: 12/04/03 (3L02054-BLK1)										
4,6-Dinitro-2-methylphenol	ND	420	ug/kg							
2,4-Dinitrophenol	ND	420	ug/kg							
2,4-Dinitrotoluene	ND	330	ug/kg							
2,6-Dinitrotoluene	ND	330	ug/kg							
Di-n-octyl phthalate	ND	330	ug/kg							
Fluoranthene	ND	330	ug/kg							
Fluorene	ND	330	ug/kg							
Hexachlorobenzene	ND	330	ug/kg							
Hexachlorobutadiene	ND	330	ug/kg							
Hexachlorocyclopentadiene	ND	830	ug/kg							
Hexachloroethane	ND	330	ug/kg							
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg							
Isophorone	ND	330	ug/kg							
2-Methylnaphthalene	ND	330	ug/kg							
2-Methylphenol	ND	330	ug/kg							
4-Methylphenol	ND	330	ug/kg							
Naphthalene	ND	330	ug/kg							
2-Nitroaniline	ND	330	ug/kg							
3-Nitroaniline	ND	330	ug/kg							
4-Nitroaniline	ND	830	ug/kg							
Nitrobenzene	ND	330	ug/kg							
2-Nitrophenol	ND	330	ug/kg							
4-Nitrophenol	ND	830	ug/kg							
n-Nitrosodiphenylamine	ND	330	ug/kg							
n-Nitroso-di-n-propylamine	ND	250	ug/kg							
Pentachlorophenol	ND	830	ug/kg							
Phenanthrene	ND	330	ug/kg							
Phenol	ND	330	ug/kg							
Pyrene	ND	330	ug/kg							
1,2,4-Trichlorobenzene	ND	330	ug/kg							
2,4,5-Trichlorophenol	ND	330	ug/kg							
2,4,6-Trichlorophenol	ND	330	ug/kg							
1,2-Diphenylhydrazine/Azobenzene	ND	330	ug/kg							
Surrogate: 2-Fluorophenol	*4350*		*ug/kg*	*6670*		*65*	*25-120*			
Surrogate: Phenol-d6	*4980*		*ug/kg*	*6670*		*75*	*30-120*			

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Blank Analyzed: 12/04/03 (3L02054-BLK1)										
Surrogate: 2,4,6-Tribromophenol	*5010*		*ug/kg*	*6670*		*75*	*35-120*			
Surrogate: Nitrobenzene-d5	*2400*		*ug/kg*	*3330*		*72*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*2420*		*ug/kg*	*3330*		*73*	*35-120*			
Surrogate: Terphenyl-d14	*2780*		*ug/kg*	*3330*		*83*	*35-155*			
LCS Analyzed: 12/04/03 (3L02054-BS1)										
Acenaphthene	2720	330	ug/kg	3330		82	55-120			
Acenaphthylene	2730	330	ug/kg	3330		82	55-120			
Aniline	2290	420	ug/kg	3330		69	30-120			
Anthracene	2900	330	ug/kg	3330		87	55-120			
Benzidine	1970	660	ug/kg	3330		59	10-180			
Benzoic acid	2040	830	ug/kg	3330		61	30-125			
Benzo(a)anthracene	3090	330	ug/kg	3330		93	65-120			
Benzo(b)fluoranthene	2810	330	ug/kg	3330		84	65-120			
Benzo(k)fluoranthene	2520	330	ug/kg	3330		76	60-120			
Benzo(g,h,i)perylene	2190	330	ug/kg	3330		66	25-160			
Benzo(a)pyrene	2540	330	ug/kg	3330		76	60-120			
Benzyl alcohol	2920	330	ug/kg	3330		88	40-130			
Bis(2-chloroethoxy)methane	2980	330	ug/kg	3330		89	50-120			
Bis(2-chloroethyl)ether	2710	170	ug/kg	3330		81	40-120			
Bis(2-chloroisopropyl)ether	2950	330	ug/kg	3330		89	40-120			
Bis(2-ethylhexyl)phthalate	3390	330	ug/kg	3330		102	65-125			
4-Bromophenyl phenyl ether	2840	330	ug/kg	3330		85	50-125			
Butyl benzyl phthalate	3100	330	ug/kg	3330		93	65-120			
4-Chloroaniline	1320	330	ug/kg	3330		40	20-120			
2-Chloronaphthalene	2750	330	ug/kg	3330		83	50-120			
4-Chloro-3-methylphenol	3290	330	ug/kg	3330		99	50-120			
2-Chlorophenol	2790	330	ug/kg	3330		84	45-120			
4-Chlorophenyl phenyl ether	2680	330	ug/kg	3330		80	55-120			
Chrysene	3070	330	ug/kg	3330		92	60-120			
Dibenz(a,h)anthracene	2250	420	ug/kg	3330		68	25-160			
Dibenzofuran	2820	330	ug/kg	3330		85	55-120			
Di-n-butyl phthalate	3040	330	ug/kg	3330		91	60-120			
1,3-Dichlorobenzene	2440	330	ug/kg	3330		73	40-120			
1,4-Dichlorobenzene	2180	330	ug/kg	3330		65	40-120			

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
LCS Analyzed: 12/04/03 (3L02054-BS1)										
1,2-Dichlorobenzene	2250	330	ug/kg	3330		68	40-120			
3,3-Dichlorobenzidine	1770	830	ug/kg	3330		53	20-170			
2,4-Dichlorophenol	2980	330	ug/kg	3330		89	55-120			
Diethyl phthalate	2820	330	ug/kg	3330		85	55-120			
2,4-Dimethylphenol	2940	330	ug/kg	3330		88	45-120			
Dimethyl phthalate	2810	330	ug/kg	3330		84	60-120			
4,6-Dinitro-2-methylphenol	2720	420	ug/kg	3330		82	50-120			
2,4-Dinitrophenol	2450	420	ug/kg	3330		74	25-140			
2,4-Dinitrotoluene	2920	330	ug/kg	3330		88	60-140			
2,6-Dinitrotoluene	3010	330	ug/kg	3330		90	60-125			
Di-n-octyl phthalate	3490	330	ug/kg	3330		105	60-135			
Fluoranthene	2890	330	ug/kg	3330		87	55-130			
Fluorene	2760	330	ug/kg	3330		83	55-120			
Hexachlorobenzene	2890	330	ug/kg	3330		87	45-120			
Hexachlorobutadiene	2340	330	ug/kg	3330		70	40-120			
Hexachlorocyclopentadiene	2610	830	ug/kg	3330		78	45-130			
Hexachloroethane	2300	330	ug/kg	3330		69	40-120			
Indeno(1,2,3-cd)pyrene	2410	330	ug/kg	3330		72	25-150			
Isophorone	2830	330	ug/kg	3330		85	45-120			
2-Methylnaphthalene	2580	330	ug/kg	3330		77	50-120			
2-Methylphenol	2960	330	ug/kg	3330		89	50-120			
4-Methylphenol	2940	330	ug/kg	3330		88	50-120			
Naphthalene	2510	330	ug/kg	3330		75	45-120			
2-Nitroaniline	3370	330	ug/kg	3330		101	55-130			
3-Nitroaniline	2160	330	ug/kg	3330		65	40-140			
4-Nitroaniline	2860	830	ug/kg	3330		86	40-160			
Nitrobenzene	2740	330	ug/kg	3330		82	45-120			
2-Nitrophenol	2840	330	ug/kg	3330		85	50-120			
4-Nitrophenol	2800	830	ug/kg	3330		84	45-135			
n-Nitrosodiphenylamine	2970	330	ug/kg	3330		89	55-120			
n-Nitroso-di-n-propylamine	2880	250	ug/kg	3330		86	45-120			
Pentachlorophenol	2920	830	ug/kg	3330		88	50-120			
Phenanthrene	2920	330	ug/kg	3330		88	55-120			
Phenol	2780	330	ug/kg	3330		83	45-120			
Pyrene	2680	330	ug/kg	3330		80	50-120			

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Project ID: Poseidon/Encina Gen. Station 2003-091
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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
LCS Analyzed: 12/04/03 (3L02054-BS1)										
1,2,4-Trichlorobenzene	2410	330	ug/kg	3330		72	45-120			
2,4,5-Trichlorophenol	2900	330	ug/kg	3330		87	55-120			
2,4,6-Trichlorophenol	3070	330	ug/kg	3330		92	55-120			
1,2-Diphenylhydrazine/Azobenzene	3140	330	ug/kg	3330		94	60-120			
Surrogate: 2-Fluorophenol	*4960*		*ug/kg*	*6670*		*74*	*25-120*			
Surrogate: Phenol-d6	*5410*		*ug/kg*	*6670*		*81*	*30-120*			
Surrogate: 2,4,6-Tribromophenol	*5820*		*ug/kg*	*6670*		*87*	*35-120*			
Surrogate: Nitrobenzene-d5	*2560*		*ug/kg*	*3330*		*77*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*2530*		*ug/kg*	*3330*		*76*	*35-120*			
Surrogate: Terphenyl-d14	*2650*		*ug/kg*	*3330*		*80*	*35-155*			
Matrix Spike Analyzed: 12/04/03 (3L02054-MS1)					**Source: IML0032-01**					
Acenaphthene	2560	330	ug/kg	3330	ND	77	45-120			
Acenaphthylene	2480	330	ug/kg	3330	ND	74	45-120			
Aniline	509	420	ug/kg	3330	ND	15	30-120			*M2*
Anthracene	2530	330	ug/kg	3330	ND	76	55-120			
Benzidine	ND	660	ug/kg	3330	ND		10-180			*M2*
Benzoic acid	3250	830	ug/kg	3330	ND	98	20-125			
Benzo(a)anthracene	2610	330	ug/kg	3330	ND	78	55-120			
Benzo(b)fluoranthene	3160	330	ug/kg	3330	ND	95	65-120			
Benzo(k)fluoranthene	2830	330	ug/kg	3330	ND	85	55-120			
Benzo(g,h,i)perylene	2630	330	ug/kg	3330	ND	79	25-160			
Benzo(a)pyrene	2400	330	ug/kg	3330	ND	72	60-120			
Benzyl alcohol	2900	330	ug/kg	3330	ND	87	40-130			
Bis(2-chloroethoxy)methane	2720	330	ug/kg	3330	ND	82	45-120			
Bis(2-chloroethyl)ether	2770	170	ug/kg	3330	ND	83	40-120			
Bis(2-chloroisopropyl)ether	2800	330	ug/kg	3330	ND	84	40-120			
Bis(2-ethylhexyl)phthalate	3140	330	ug/kg	3330	ND	94	60-135			
4-Bromophenyl phenyl ether	2580	330	ug/kg	3330	ND	77	50-125			
Butyl benzyl phthalate	3700	330	ug/kg	3330	ND	111	55-150			
4-Chloroaniline	709	330	ug/kg	3330	ND	21	20-120			
2-Chloronaphthalene	2680	330	ug/kg	3330	ND	80	55-120			
4-Chloro-3-methylphenol	3080	330	ug/kg	3330	ND	92	45-125			
2-Chlorophenol	2730	330	ug/kg	3330	ND	82	40-120			
4-Chlorophenyl phenyl ether	2540	330	ug/kg	3330	ND	76	55-120			

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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Analyzed: 12/04/03 (3L02054-MS1)					**Source: IML0032-01**					
Chrysene	2830	330	ug/kg	3330	ND	85	60-120			
Dibenz(a,h)anthracene	2410	420	ug/kg	3330	ND	72	25-160			
Dibenzofuran	2690	330	ug/kg	3330	ND	81	55-120			
Di-n-butyl phthalate	2610	330	ug/kg	3330	ND	78	60-120			
1,3-Dichlorobenzene	2330	330	ug/kg	3330	ND	70	35-120			
1,4-Dichlorobenzene	2130	330	ug/kg	3330	ND	64	40-120			
1,2-Dichlorobenzene	2260	330	ug/kg	3330	ND	68	40-120			
3,3-Dichlorobenzidine	ND	830	ug/kg	3330	ND		20-170			*M2*
2,4-Dichlorophenol	2820	330	ug/kg	3330	ND	85	40-120			
Diethyl phthalate	2600	330	ug/kg	3330	ND	78	55-120			
2,4-Dimethylphenol	1980	330	ug/kg	3330	ND	59	35-120			
Dimethyl phthalate	2620	330	ug/kg	3330	ND	79	50-120			
4,6-Dinitro-2-methylphenol	1870	420	ug/kg	3330	ND	56	40-120			
2,4-Dinitrophenol	2170	420	ug/kg	3330	ND	65	20-140			
2,4-Dinitrotoluene	2610	330	ug/kg	3330	ND	78	55-140			
2,6-Dinitrotoluene	2850	330	ug/kg	3330	ND	86	55-125			
Di-n-octyl phthalate	2030	330	ug/kg	3330	ND	61	45-140			
Fluoranthene	2350	330	ug/kg	3330	ND	71	45-130			
Fluorene	2580	330	ug/kg	3330	ND	77	55-120			
Hexachlorobenzene	2620	330	ug/kg	3330	ND	79	35-120			
Hexachlorobutadiene	2090	330	ug/kg	3330	ND	63	40-120			
Hexachlorocyclopentadiene	2200	830	ug/kg	3330	ND	66	30-145			
Hexachloroethane	2160	330	ug/kg	3330	ND	65	40-120			
Indeno(1,2,3-cd)pyrene	2450	330	ug/kg	3330	ND	74	25-150			
Isophorone	2590	330	ug/kg	3330	ND	78	40-120			
2-Methylnaphthalene	2520	330	ug/kg	3330	ND	76	40-120			
2-Methylphenol	2550	330	ug/kg	3330	ND	77	40-120			
4-Methylphenol	2720	330	ug/kg	3330	ND	82	40-120			
Naphthalene	2460	330	ug/kg	3330	ND	74	40-120			
2-Nitroaniline	3150	330	ug/kg	3330	ND	95	55-130			
3-Nitroaniline	1190	330	ug/kg	3330	ND	36	40-140			*M2*
4-Nitroaniline	1460	830	ug/kg	3330	ND	44	40-160			
Nitrobenzene	2510	330	ug/kg	3330	ND	75	45-120			
2-Nitrophenol	2820	330	ug/kg	3330	ND	85	40-120			
4-Nitrophenol	2810	830	ug/kg	3330	ND	84	35-135			

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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Analyzed: 12/04/03 (3L02054-MS1)					**Source: IML0032-01**					
n-Nitrosodiphenylamine	2850	330	ug/kg	3330	ND	86	55-120			
n-Nitroso-di-n-propylamine	2740	250	ug/kg	3330	ND	82	40-120			
Pentachlorophenol	3020	830	ug/kg	3330	ND	91	40-120			
Phenanthrene	2750	330	ug/kg	3330	ND	83	55-120			
Phenol	2540	330	ug/kg	3330	ND	76	40-120			
Pyrene	4340	330	ug/kg	3330	ND	130	50-120			*M1*
1,2,4-Trichlorobenzene	2290	330	ug/kg	3330	ND	69	45-120			
2,4,5-Trichlorophenol	2960	330	ug/kg	3330	ND	89	55-120			
2,4,6-Trichlorophenol	2900	330	ug/kg	3330	ND	87	40-120			
1,2-Diphenylhydrazine/Azobenzene	2870	330	ug/kg	3330	ND	86	60-120			
Surrogate: 2-Fluorophenol	*4600*		*ug/kg*	*6670*		*69*	*25-120*			
Surrogate: Phenol-d6	*5220*		*ug/kg*	*6670*		*78*	*30-120*			
Surrogate: 2,4,6-Tribromophenol	*5650*		*ug/kg*	*6670*		*85*	*35-120*			
Surrogate: Nitrobenzene-d5	*2390*		*ug/kg*	*3330*		*72*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*2380*		*ug/kg*	*3330*		*71*	*35-120*			
Surrogate: Terphenyl-d14	*4160*		*ug/kg*	*3330*		*125*	*35-155*			
Matrix Spike Analyzed: 12/04/03 (3L02054-MS2)					**Source: IML0032-02**					
Acenaphthene	2450	330	ug/kg	3330	ND	74	45-120			
Acenaphthylene	2490	330	ug/kg	3330	ND	75	45-120			
Aniline	1760	420	ug/kg	3330	ND	53	30-120			
Anthracene	2650	330	ug/kg	3330	ND	80	55-120			
Benzidine	ND	660	ug/kg	3330	ND		10-180			*M2*
Benzoic acid	1770	830	ug/kg	3330	ND	53	20-125			
Benzo(a)anthracene	2760	330	ug/kg	3330	ND	83	55-120			
Benzo(b)fluoranthene	2680	330	ug/kg	3330	ND	80	65-120			
Benzo(k)fluoranthene	2620	330	ug/kg	3330	ND	79	55-120			
Benzo(g,h,i)perylene	1810	330	ug/kg	3330	ND	54	25-160			
Benzo(a)pyrene	2380	330	ug/kg	3330	ND	71	60-120			
Benzyl alcohol	2520	330	ug/kg	3330	ND	76	40-130			
Bis(2-chloroethoxy)methane	2560	330	ug/kg	3330	ND	77	45-120			
Bis(2-chloroethyl)ether	2460	170	ug/kg	3330	ND	74	40-120			
Bis(2-chloroisopropyl)ether	2620	330	ug/kg	3330	ND	79	40-120			
Bis(2-ethylhexyl)phthalate	3690	330	ug/kg	3330	ND	111	60-135			
4-Bromophenyl phenyl ether	2460	330	ug/kg	3330	ND	74	50-125			

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Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Analyzed: 12/04/03 (3L02054-MS2)					**Source: IML0032-02**					
Butyl benzyl phthalate	3510	330	ug/kg	3330	ND	105	55-150			
4-Chloroaniline	1160	330	ug/kg	3330	ND	35	20-120			
2-Chloronaphthalene	2560	330	ug/kg	3330	ND	77	55-120			
4-Chloro-3-methylphenol	2610	330	ug/kg	3330	ND	78	45-125			
2-Chlorophenol	2560	330	ug/kg	3330	ND	77	40-120			
4-Chlorophenyl phenyl ether	2320	330	ug/kg	3330	ND	70	55-120			
Chrysene	2690	330	ug/kg	3330	ND	81	60-120			
Dibenz(a,h)anthracene	1740	420	ug/kg	3330	ND	52	25-160			
Dibenzofuran	2510	330	ug/kg	3330	ND	75	55-120			
Di-n-butyl phthalate	2830	330	ug/kg	3330	ND	85	60-120			
1,3-Dichlorobenzene	2250	330	ug/kg	3330	ND	68	35-120			
1,4-Dichlorobenzene	2000	330	ug/kg	3330	ND	60	40-120			
1,2-Dichlorobenzene	2160	330	ug/kg	3330	ND	65	40-120			
3,3-Dichlorobenzidine	1200	830	ug/kg	3330	ND	36	20-170			
2,4-Dichlorophenol	2500	330	ug/kg	3330	ND	75	40-120			
Diethyl phthalate	2540	330	ug/kg	3330	ND	76	55-120			
2,4-Dimethylphenol	2330	330	ug/kg	3330	ND	70	35-120			
Dimethyl phthalate	2590	330	ug/kg	3330	ND	78	50-120			
4,6-Dinitro-2-methylphenol	1220	420	ug/kg	3330	ND	37	40-120			*M2*
2,4-Dinitrophenol	923	420	ug/kg	3330	ND	28	20-140			
2,4-Dinitrotoluene	2680	330	ug/kg	3330	ND	80	55-140			
2,6-Dinitrotoluene	2740	330	ug/kg	3330	ND	82	55-125			
Di-n-octyl phthalate	3270	330	ug/kg	3330	ND	98	45-140			
Fluoranthene	2620	330	ug/kg	3330	ND	79	45-130			
Fluorene	2550	330	ug/kg	3330	ND	77	55-120			
Hexachlorobenzene	2530	330	ug/kg	3330	ND	76	35-120			
Hexachlorobutadiene	1930	330	ug/kg	3330	ND	58	40-120			
Hexachlorocyclopentadiene	1800	830	ug/kg	3330	ND	54	30-145			
Hexachloroethane	2020	330	ug/kg	3330	ND	61	40-120			
Indeno(1,2,3-cd)pyrene	1790	330	ug/kg	3330	ND	54	25-150			
Isophorone	2440	330	ug/kg	3330	ND	73	40-120			
2-Methylnaphthalene	2270	330	ug/kg	3330	ND	68	40-120			
2-Methylphenol	2520	330	ug/kg	3330	ND	76	40-120			
4-Methylphenol	2560	330	ug/kg	3330	ND	77	40-120			
Naphthalene	2250	330	ug/kg	3330	ND	68	40-120			

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2003-091
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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Analyzed: 12/04/03 (3L02054-MS2)					**Source: IML0032-02**					
2-Nitroaniline	2980	330	ug/kg	3330	ND	89	55-130			
3-Nitroaniline	2040	330	ug/kg	3330	ND	61	40-140			
4-Nitroaniline	2610	830	ug/kg	3330	ND	78	40-160			
Nitrobenzene	2320	330	ug/kg	3330	ND	70	45-120			
2-Nitrophenol	2490	330	ug/kg	3330	ND	75	40-120			
4-Nitrophenol	1820	830	ug/kg	3330	ND	55	35-135			
n-Nitrosodiphenylamine	2680	330	ug/kg	3330	ND	80	55-120			
n-Nitroso-di-n-propylamine	2520	250	ug/kg	3330	ND	76	40-120			
Pentachlorophenol	1390	830	ug/kg	3330	ND	42	40-120			
Phenanthrene	2620	330	ug/kg	3330	ND	79	55-120			
Phenol	2270	330	ug/kg	3330	ND	68	40-120			
Pyrene	3240	330	ug/kg	3330	ND	97	50-120			
1,2,4-Trichlorobenzene	2070	330	ug/kg	3330	ND	62	45-120			
2,4,5-Trichlorophenol	2490	330	ug/kg	3330	ND	75	55-120			
2,4,6-Trichlorophenol	2620	330	ug/kg	3330	ND	79	40-120			
1,2-Diphenylhydrazine/Azobenzene	2740	330	ug/kg	3330	ND	82	60-120			
Surrogate: 2-Fluorophenol	*4290*		*ug/kg*	*6670*		*64*	*25-120*			
Surrogate: Phenol-d6	*4610*		*ug/kg*	*6670*		*69*	*30-120*			
Surrogate: 2,4,6-Tribromophenol	*4540*		*ug/kg*	*6670*		*68*	*35-120*			
Surrogate: Nitrobenzene-d5	*2160*		*ug/kg*	*3330*		*65*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*2250*		*ug/kg*	*3330*		*68*	*35-120*			
Surrogate: Terphenyl-d14	*3010*		*ug/kg*	*3330*		*90*	*35-155*			
Matrix Spike Dup Analyzed: 12/04/03 (3L02054-MSD1)					**Source: IML0032-01**					
Acenaphthene	2440	330	ug/kg	3330	ND	73	45-120	5	20	
Acenaphthylene	2370	330	ug/kg	3330	ND	71	45-120	5	20	
Aniline	709	420	ug/kg	3330	ND	21	30-120	33	25	*M2, R-2*
Anthracene	2550	330	ug/kg	3330	ND	77	55-120	1	20	
Benzidine	ND	660	ug/kg	3330	ND		10-180		25	*M2*
Benzoic acid	3130	830	ug/kg	3330	ND	94	20-125	4	25	
Benzo(a)anthracene	2650	330	ug/kg	3330	ND	80	55-120	2	20	
Benzo(b)fluoranthene	2850	330	ug/kg	3330	ND	86	65-120	10	20	
Benzo(k)fluoranthene	2940	330	ug/kg	3330	ND	88	55-120	4	20	
Benzo(g,h,i)perylene	2490	330	ug/kg	3330	ND	75	25-160	5	25	
Benzo(a)pyrene	2280	330	ug/kg	3330	ND	68	60-120	5	20	

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L02054-MSD1)					**Source: IML0032-01**					
Benzyl alcohol	2650	330	ug/kg	3330	ND	80	40-130	9	25	
Bis(2-chloroethoxy)methane	2590	330	ug/kg	3330	ND	78	45-120	5	20	
Bis(2-chloroethyl)ether	2490	170	ug/kg	3330	ND	75	40-120	11	25	
Bis(2-chloroisopropyl)ether	2620	330	ug/kg	3330	ND	79	40-120	7	25	
Bis(2-ethylhexyl)phthalate	3420	330	ug/kg	3330	ND	103	60-135	9	20	
4-Bromophenyl phenyl ether	2620	330	ug/kg	3330	ND	79	50-125	2	20	
Butyl benzyl phthalate	3950	330	ug/kg	3330	ND	119	55-150	7	20	
4-Chloroaniline	722	330	ug/kg	3330	ND	22	20-120	2	25	
2-Chloronaphthalene	2580	330	ug/kg	3330	ND	77	55-120	4	20	
4-Chloro-3-methylphenol	2860	330	ug/kg	3330	ND	86	45-125	7	20	
2-Chlorophenol	2510	330	ug/kg	3330	ND	75	40-120	8	20	
4-Chlorophenyl phenyl ether	2360	330	ug/kg	3330	ND	71	55-120	7	20	
Chrysene	2930	330	ug/kg	3330	ND	88	60-120	3	20	
Dibenz(a,h)anthracene	2490	420	ug/kg	3330	ND	75	25-160	3	25	
Dibenzofuran	2550	330	ug/kg	3330	ND	77	55-120	5	20	
Di-n-butyl phthalate	2640	330	ug/kg	3330	ND	79	60-120	1	20	
1,3-Dichlorobenzene	2230	330	ug/kg	3330	ND	67	35-120	4	25	
1,4-Dichlorobenzene	1960	330	ug/kg	3330	ND	59	40-120	8	25	
1,2-Dichlorobenzene	2100	330	ug/kg	3330	ND	63	40-120	7	20	
3,3-Dichlorobenzidine	ND	830	ug/kg	3330	ND		20-170		25	*M2*
2,4-Dichlorophenol	2670	330	ug/kg	3330	ND	80	40-120	5	20	
Diethyl phthalate	2510	330	ug/kg	3330	ND	75	55-120	4	20	
2,4-Dimethylphenol	1800	330	ug/kg	3330	ND	54	35-120	10	25	
Dimethyl phthalate	2570	330	ug/kg	3330	ND	77	50-120	2	20	
4,6-Dinitro-2-methylphenol	1460	420	ug/kg	3330	ND	44	40-120	25	20	*R*
2,4-Dinitrophenol	1370	420	ug/kg	3330	ND	41	20-140	45	25	*R*
2,4-Dinitrotoluene	2460	330	ug/kg	3330	ND	74	55-140	6	20	
2,6-Dinitrotoluene	2700	330	ug/kg	3330	ND	81	55-125	5	20	
Di-n-octyl phthalate	2240	330	ug/kg	3330	ND	67	45-140	10	20	
Fluoranthene	2300	330	ug/kg	3330	ND	69	45-130	2	20	
Fluorene	2480	330	ug/kg	3330	ND	74	55-120	4	20	
Hexachlorobenzene	2650	330	ug/kg	3330	ND	80	35-120	1	25	
Hexachlorobutadiene	2000	330	ug/kg	3330	ND	60	40-120	4	20	
Hexachlorocyclopentadiene	1930	830	ug/kg	3330	ND	58	30-145	13	30	
Hexachloroethane	2000	330	ug/kg	3330	ND	60	40-120	8	20	

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L02054-MSD1)					**Source: IML0032-01**					
Indeno(1,2,3-cd)pyrene	2440	330	ug/kg	3330	ND	73	25-150	0	25	
Isophorone	2400	330	ug/kg	3330	ND	72	40-120	8	20	
2-Methylnaphthalene	2350	330	ug/kg	3330	ND	71	40-120	7	20	
2-Methylphenol	2340	330	ug/kg	3330	ND	70	40-120	9	20	
4-Methylphenol	2460	330	ug/kg	3330	ND	74	40-120	10	20	
Naphthalene	2290	330	ug/kg	3330	ND	69	40-120	7	20	
2-Nitroaniline	3050	330	ug/kg	3330	ND	92	55-130	3	20	
3-Nitroaniline	1260	330	ug/kg	3330	ND	38	40-140	6	25	*M2*
4-Nitroaniline	1660	830	ug/kg	3330	ND	50	40-160	13	20	
Nitrobenzene	2320	330	ug/kg	3330	ND	70	45-120	8	20	
2-Nitrophenol	2540	330	ug/kg	3330	ND	76	40-120	10	20	
4-Nitrophenol	2570	830	ug/kg	3330	ND	77	35-135	9	25	
n-Nitrosodiphenylamine	2910	330	ug/kg	3330	ND	87	55-120	2	20	
n-Nitroso-di-n-propylamine	2470	250	ug/kg	3330	ND	74	40-120	10	20	
Pentachlorophenol	2920	830	ug/kg	3330	ND	88	40-120	3	20	
Phenanthrene	2770	330	ug/kg	3330	ND	83	55-120	1	20	
Phenol	2280	330	ug/kg	3330	ND	68	40-120	11	20	
Pyrene	4540	330	ug/kg	3330	ND	136	50-120	5	20	*M1*
1,2,4-Trichlorobenzene	2160	330	ug/kg	3330	ND	65	45-120	6	20	
2,4,5-Trichlorophenol	2770	330	ug/kg	3330	ND	83	55-120	7	20	
2,4,6-Trichlorophenol	2820	330	ug/kg	3330	ND	85	40-120	3	20	
1,2-Diphenylhydrazine/Azobenzene	2730	330	ug/kg	3330	ND	82	60-120	5	20	
Surrogate: 2-Fluorophenol	*4190*		*ug/kg*	*6670*		*63*	*25-120*			
Surrogate: Phenol-d6	*4700*		*ug/kg*	*6670*		*70*	*30-120*			
Surrogate: 2,4,6-Tribromophenol	*5610*		*ug/kg*	*6670*		*84*	*35-120*			
Surrogate: Nitrobenzene-d5	*2230*		*ug/kg*	*3330*		*67*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*2280*		*ug/kg*	*3330*		*68*	*35-120*			
Surrogate: Terphenyl-d14	*4380*		*ug/kg*	*3330*		*132*	*35-155*			

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SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L02054-MSD2)					**Source: IML0032-02**					
Acenaphthene	2280	330	ug/kg	3330	ND	68	45-120	7	20	
Acenaphthylene	2330	330	ug/kg	3330	ND	70	45-120	7	20	
Aniline	1500	420	ug/kg	3330	ND	45	30-120	16	25	
Anthracene	2690	330	ug/kg	3330	ND	81	55-120	1	20	
Benzidine	ND	660	ug/kg	3330	ND		10-180		25	*M2*
Benzoic acid	1620	830	ug/kg	3330	ND	49	20-125	9	25	
Benzo(a)anthracene	2930	330	ug/kg	3330	ND	88	55-120	6	20	
Benzo(b)fluoranthene	2700	330	ug/kg	3330	ND	81	65-120	1	20	
Benzo(k)fluoranthene	2760	330	ug/kg	3330	ND	83	55-120	5	20	
Benzo(g,h,i)perylene	1740	330	ug/kg	3330	ND	52	25-160	4	25	
Benzo(a)pyrene	2470	330	ug/kg	3330	ND	74	60-120	4	20	
Benzyl alcohol	2200	330	ug/kg	3330	ND	66	40-130	14	25	
Bis(2-chloroethoxy)methane	2290	330	ug/kg	3330	ND	69	45-120	11	20	
Bis(2-chloroethyl)ether	2170	170	ug/kg	3330	ND	65	40-120	13	25	
Bis(2-chloroisopropyl)ether	2360	330	ug/kg	3330	ND	71	40-120	10	25	
Bis(2-ethylhexyl)phthalate	4030	330	ug/kg	3330	ND	121	60-135	9	20	
4-Bromophenyl phenyl ether	2440	330	ug/kg	3330	ND	73	50-125	1	20	
Butyl benzyl phthalate	3760	330	ug/kg	3330	ND	113	55-150	7	20	
4-Chloroaniline	1050	330	ug/kg	3330	ND	32	20-120	10	25	
2-Chloronaphthalene	2390	330	ug/kg	3330	ND	72	55-120	7	20	
4-Chloro-3-methylphenol	2550	330	ug/kg	3330	ND	77	45-125	2	20	
2-Chlorophenol	2260	330	ug/kg	3330	ND	68	40-120	12	20	
4-Chlorophenyl phenyl ether	2230	330	ug/kg	3330	ND	67	55-120	4	20	
Chrysene	2890	330	ug/kg	3330	ND	87	60-120	7	20	
Dibenz(a,h)anthracene	1840	420	ug/kg	3330	ND	55	25-160	6	25	
Dibenzofuran	2350	330	ug/kg	3330	ND	71	55-120	7	20	
Di-n-butyl phthalate	2930	330	ug/kg	3330	ND	88	60-120	3	20	
1,3-Dichlorobenzene	1990	330	ug/kg	3330	ND	60	35-120	12	25	
1,4-Dichlorobenzene	1730	330	ug/kg	3330	ND	52	40-120	14	25	
1,2-Dichlorobenzene	1880	330	ug/kg	3330	ND	56	40-120	14	20	
3,3-Dichlorobenzidine	1120	830	ug/kg	3330	ND	34	20-170	7	25	
2,4-Dichlorophenol	2340	330	ug/kg	3330	ND	70	40-120	7	20	
Diethyl phthalate	2510	330	ug/kg	3330	ND	75	55-120	1	20	
2,4-Dimethylphenol	2180	330	ug/kg	3330	ND	65	35-120	7	25	
Dimethyl phthalate	2470	330	ug/kg	3330	ND	74	50-120	5	20	

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Project ID: Poseidon/Encina Gen. Station
2003-091
Report Number: IML0037

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L02054-MSD2)					**Source: IML0032-02**					
4,6-Dinitro-2-methylphenol	1260	420	ug/kg	3330	ND	38	40-120	3	20	*M2*
2,4-Dinitrophenol	854	420	ug/kg	3330	ND	26	20-140	8	25	
2,4-Dinitrotoluene	2680	330	ug/kg	3330	ND	80	55-140	0	20	
2,6-Dinitrotoluene	2670	330	ug/kg	3330	ND	80	55-125	3	20	
Di-n-octyl phthalate	3520	330	ug/kg	3330	ND	106	45-140	7	20	
Fluoranthene	2690	330	ug/kg	3330	ND	81	45-130	3	20	
Fluorene	2430	330	ug/kg	3330	ND	73	55-120	5	20	
Hexachlorobenzene	2470	330	ug/kg	3330	ND	74	35-120	2	25	
Hexachlorobutadiene	1660	330	ug/kg	3330	ND	50	40-120	15	20	
Hexachlorocyclopentadiene	1620	830	ug/kg	3330	ND	49	30-145	11	30	
Hexachloroethane	1750	330	ug/kg	3330	ND	53	40-120	14	20	
Indeno(1,2,3-cd)pyrene	2330	330	ug/kg	3330	ND	70	25-150	26	25	*R*
Isophorone	2190	330	ug/kg	3330	ND	66	40-120	11	20	
2-Methylnaphthalene	2050	330	ug/kg	3330	ND	62	40-120	10	20	
2-Methylphenol	2310	330	ug/kg	3330	ND	69	40-120	9	20	
4-Methylphenol	2410	330	ug/kg	3330	ND	72	40-120	6	20	
Naphthalene	1990	330	ug/kg	3330	ND	60	40-120	12	20	
2-Nitroaniline	2850	330	ug/kg	3330	ND	86	55-130	4	20	
3-Nitroaniline	1970	330	ug/kg	3330	ND	59	40-140	3	25	
4-Nitroaniline	2810	830	ug/kg	3330	ND	84	40-160	7	20	
Nitrobenzene	2100	330	ug/kg	3330	ND	63	45-120	10	20	
2-Nitrophenol	2160	330	ug/kg	3330	ND	65	40-120	14	20	
4-Nitrophenol	1650	830	ug/kg	3330	ND	50	35-135	10	25	
n-Nitrosodiphenylamine	2680	330	ug/kg	3330	ND	80	55-120	0	20	
n-Nitroso-di-n-propylamine	2220	250	ug/kg	3330	ND	67	40-120	13	20	
Pentachlorophenol	1300	830	ug/kg	3330	ND	39	40-120	7	20	*M2*
Phenanthrene	2680	330	ug/kg	3330	ND	80	55-120	2	20	
Phenol	2170	330	ug/kg	3330	ND	65	40-120	5	20	
Pyrene	3530	330	ug/kg	3330	ND	106	50-120	9	20	
1,2,4-Trichlorobenzene	1870	330	ug/kg	3330	ND	56	45-120	10	20	
2,4,5-Trichlorophenol	2460	330	ug/kg	3330	ND	74	55-120	1	20	
2,4,6-Trichlorophenol	2490	330	ug/kg	3330	ND	75	40-120	5	20	
1,2-Diphenylhydrazine/Azobenzene	2710	330	ug/kg	3330	ND	81	60-120	1	20	
Surrogate: 2-Fluorophenol	*3810*		*ug/kg*	*6670*		*57*	*25-120*			
Surrogate: Phenol-d6	*4260*		*ug/kg*	*6670*		*64*	*30-120*			

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METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02054 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L02054-MSD2)					**Source: IML0032-02**					
Surrogate: 2,4,6-Tribromophenol	*4570*		*ug/kg*	*6670*		*69*	*35-120*			
Surrogate: Nitrobenzene-d5	*1950*		*ug/kg*	*3330*		*59*	*30-120*			
Surrogate: 2-Fluorobiphenyl	*2110*		*ug/kg*	*3330*		*63*	*35-120*			
Surrogate: Terphenyl-d14	*3390*		*ug/kg*	*3330*		*102*	*35-155*			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02041 Extracted: 12/02/03										
Blank Analyzed: 12/04/03 (3L02041-BLK1)										
Aldrin	ND	5.0	ug/kg							
alpha-BHC	ND	5.0	ug/kg							
beta-BHC	ND	5.0	ug/kg							
delta-BHC	ND	10	ug/kg							
gamma-BHC (Lindane)	ND	5.0	ug/kg							
Chlordane	ND	50	ug/kg							
4,4'-DDD	ND	5.0	ug/kg							
4,4'-DDE	ND	5.0	ug/kg							
4,4'-DDT	ND	5.0	ug/kg							
Dieldrin	ND	5.0	ug/kg							
Endosulfan I	ND	5.0	ug/kg							
Endosulfan II	ND	5.0	ug/kg							
Endosulfan sulfate	ND	10	ug/kg							
Endrin	ND	5.0	ug/kg							
Endrin aldehyde	ND	5.0	ug/kg							
Endrin ketone	ND	5.0	ug/kg							
Heptachlor	ND	5.0	ug/kg							
Heptachlor epoxide	ND	5.0	ug/kg							
Methoxychlor	ND	5.0	ug/kg							
Toxaphene	ND	200	ug/kg							
Surrogate: Tetrachloro-m-xylene	*21.1*		*ug/kg*	*33.3*		*63*	*35-115*			
Surrogate: Decachlorobiphenyl	*26.4*		*ug/kg*	*33.3*		*79*	*45-125*			
LCS Analyzed: 12/04/03 (3L02041-BS1)										
Aldrin	25.5	5.0	ug/kg	33.3		77	50-115			
alpha-BHC	25.7	5.0	ug/kg	33.3		77	55-115			
beta-BHC	27.1	5.0	ug/kg	33.3		81	55-115			
delta-BHC	29.0	10	ug/kg	33.3		87	60-115			
gamma-BHC (Lindane)	26.2	5.0	ug/kg	33.3		79	55-115			
4,4'-DDD	29.5	5.0	ug/kg	33.3		89	65-115			
4,4'-DDE	28.2	5.0	ug/kg	33.3		85	65-115			
4,4'-DDT	29.4	5.0	ug/kg	33.3		88	70-125			
Dieldrin	27.1	5.0	ug/kg	33.3		81	65-115			
Endosulfan I	26.1	5.0	ug/kg	33.3		78	60-115			
Endosulfan II	26.6	5.0	ug/kg	33.3		80	70-115			

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ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02041 Extracted: 12/02/03										
LCS Analyzed: 12/04/03 (3L02041-BS1)										
Endosulfan sulfate	27.4	10	ug/kg	33.3		82	65-115			
Endrin	28.9	5.0	ug/kg	33.3		87	70-115			
Endrin aldehyde	26.6	5.0	ug/kg	33.3		80	55-115			
Endrin ketone	30.4	5.0	ug/kg	33.3		91	65-115			
Heptachlor	25.3	5.0	ug/kg	33.3		76	50-115			
Heptachlor epoxide	24.5	5.0	ug/kg	33.3		74	60-115			
Methoxychlor	27.2	5.0	ug/kg	33.3		82	65-125			
Surrogate: Tetrachloro-m-xylene	*22.1*		*ug/kg*	*33.3*		*66*	*35-115*			
Surrogate: Decachlorobiphenyl	*28.6*		*ug/kg*	*33.3*		*86*	*45-125*			
Matrix Spike Analyzed: 12/04/03 (3L02041-MS1)					**Source: IML0037-03**					
Aldrin	25.2	5.0	ug/kg	33.3	ND	76	50-115			
alpha-BHC	24.8	5.0	ug/kg	33.3	ND	74	40-130			
beta-BHC	25.8	5.0	ug/kg	33.3	ND	77	35-125			
delta-BHC	27.2	10	ug/kg	33.3	ND	82	50-140			
gamma-BHC (Lindane)	25.3	5.0	ug/kg	33.3	ND	76	50-115			
4,4'-DDD	27.8	5.0	ug/kg	33.3	ND	83	40-140			
4,4'-DDE	28.5	5.0	ug/kg	33.3	ND	86	45-120			
4,4'-DDT	27.6	5.0	ug/kg	33.3	ND	83	55-125			
Dieldrin	25.7	5.0	ug/kg	33.3	ND	77	45-130			
Endosulfan I	24.1	5.0	ug/kg	33.3	ND	72	50-120			
Endosulfan II	24.4	5.0	ug/kg	33.3	ND	73	50-125			
Endosulfan sulfate	26.0	10	ug/kg	33.3	ND	78	40-140			
Endrin	27.2	5.0	ug/kg	33.3	ND	82	50-140			
Endrin aldehyde	25.0	5.0	ug/kg	33.3	3.5	65	35-135			
Endrin ketone	27.4	5.0	ug/kg	33.3	ND	82	50-135			
Heptachlor	25.7	5.0	ug/kg	33.3	2.5	70	45-120			
Heptachlor epoxide	24.1	5.0	ug/kg	33.3	ND	72	40-120			
Methoxychlor	26.0	5.0	ug/kg	33.3	ND	78	40-150			
Surrogate: Tetrachloro-m-xylene	*21.9*		*ug/kg*	*33.3*		*66*	*35-115*			
Surrogate: Decachlorobiphenyl	*25.7*		*ug/kg*	*33.3*		*77*	*45-125*			

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ORGANOCHLORINE PESTICIDES (EPA 8081A)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02041 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L02041-MSD1)					**Source: IML0037-03**					
Aldrin	25.2	5.0	ug/kg	33.3	ND	76	50-115	0	25	
alpha-BHC	25.0	5.0	ug/kg	33.3	ND	75	40-130	1	25	
beta-BHC	25.5	5.0	ug/kg	33.3	ND	77	35-125	1	25	
delta-BHC	27.0	10	ug/kg	33.3	ND	81	50-140	1	20	
gamma-BHC (Lindane)	25.5	5.0	ug/kg	33.3	ND	77	50-115	1	25	
4,4'-DDD	26.2	5.0	ug/kg	33.3	ND	79	40-140	6	25	
4,4'-DDE	28.0	5.0	ug/kg	33.3	ND	84	45-120	2	20	
4,4'-DDT	26.6	5.0	ug/kg	33.3	ND	80	55-125	4	25	
Dieldrin	25.2	5.0	ug/kg	33.3	ND	76	45-130	2	25	
Endosulfan I	23.5	5.0	ug/kg	33.3	ND	71	50-120	3	25	
Endosulfan II	24.3	5.0	ug/kg	33.3	ND	73	50-125	0	25	
Endosulfan sulfate	25.2	10	ug/kg	33.3	ND	76	40-140	3	25	
Endrin	26.3	5.0	ug/kg	33.3	ND	79	50-140	3	25	
Endrin aldehyde	24.3	5.0	ug/kg	33.3	3.5	62	35-135	3	20	
Endrin ketone	27.9	5.0	ug/kg	33.3	ND	84	50-135	2	25	
Heptachlor	25.8	5.0	ug/kg	33.3	2.5	70	45-120	0	25	
Heptachlor epoxide	23.8	5.0	ug/kg	33.3	ND	71	40-120	1	25	
Methoxychlor	25.8	5.0	ug/kg	33.3	ND	77	40-150	1	25	
Surrogate: Tetrachloro-m-xylene	*21.9*		*ug/kg*	*33.3*		*66*	*35-115*			
Surrogate: Decachlorobiphenyl	*25.1*		*ug/kg*	*33.3*		*75*	*45-125*			

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METHOD BLANK/QC DATA

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02041 Extracted: 12/02/03										
Blank Analyzed: 12/04/03 (3L02041-BLK2)										
Aroclor 1016	ND	50	ug/kg							
Aroclor 1221	ND	50	ug/kg							
Aroclor 1232	ND	50	ug/kg							
Aroclor 1242	ND	50	ug/kg							
Aroclor 1248	ND	50	ug/kg							
Aroclor 1254	ND	50	ug/kg							
Aroclor 1260	ND	50	ug/kg							
Surrogate: Decachlorobiphenyl	*33.9*		*ug/kg*	*33.3*		*102*	*45-125*			
LCS Analyzed: 12/04/03 (3L02041-BS2)										
Aroclor 1016	212	50	ug/kg	267		79	70-115			
Aroclor 1260	242	50	ug/kg	267		91	65-115			
Surrogate: Decachlorobiphenyl	*32.5*		*ug/kg*	*33.3*		*98*	*45-125*			
Matrix Spike Analyzed: 12/04/03 (3L02041-MS2)					**Source: IML0032-24**					
Aroclor 1016	196	50	ug/kg	267	ND	73	65-120			
Aroclor 1260	224	50	ug/kg	267	ND	84	60-125			
Surrogate: Decachlorobiphenyl	*29.5*		*ug/kg*	*33.3*		*89*	*45-125*			
Matrix Spike Analyzed: 12/04/03 (3L02041-MS3)					**Source: IML0032-25**					
Aroclor 1016	235	50	ug/kg	267	ND	88	65-120			
Aroclor 1260	269	50	ug/kg	267	ND	101	60-125			
Surrogate: Decachlorobiphenyl	*35.3*		*ug/kg*	*33.3*		*106*	*45-125*			
Matrix Spike Analyzed: 12/04/03 (3L02041-MS4)					**Source: IML0032-26**					
Aroclor 1016	198	50	ug/kg	267	ND	74	65-120			
Aroclor 1260	259	50	ug/kg	267	ND	97	60-125			
Surrogate: Decachlorobiphenyl	*33.9*		*ug/kg*	*33.3*		*102*	*45-125*			

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METHOD BLANK/QC DATA

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02041 Extracted: 12/02/03										
Matrix Spike Dup Analyzed: 12/04/03 (3L02041-MSD2)					**Source: IML0032-24**					
Aroclor 1016	228	50	ug/kg	267	ND	85	65-120	15	20	
Aroclor 1260	259	50	ug/kg	267	ND	97	60-125	14	25	
Surrogate: Decachlorobiphenyl	*32.9*		*ug/kg*	*33.3*		*99*	*45-125*			
Matrix Spike Dup Analyzed: 12/04/03 (3L02041-MSD3)					**Source: IML0032-25**					
Aroclor 1016	223	50	ug/kg	267	ND	84	65-120	5	20	
Aroclor 1260	261	50	ug/kg	267	ND	98	60-125	3	25	
Surrogate: Decachlorobiphenyl	*33.7*		*ug/kg*	*33.3*		*101*	*45-125*			
Matrix Spike Dup Analyzed: 12/04/03 (3L02041-MSD4)					**Source: IML0032-26**					
Aroclor 1016	210	50	ug/kg	267	ND	79	65-120	6	20	
Aroclor 1260	240	50	ug/kg	267	ND	90	60-125	8	25	
Surrogate: Decachlorobiphenyl	*31.3*		*ug/kg*	*33.3*		*94*	*45-125*			

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Chariya Heang
Project Manager

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GeoLogic Associates, San Diego
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127
Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L01074 Extracted: 12/01/03										
Blank Analyzed: 12/01/03 (3L01074-BLK1)										
Antimony	ND	10	mg/kg							
Arsenic	ND	2.0	mg/kg							
Beryllium	ND	0.50	mg/kg							
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Copper	ND	2.0	mg/kg							
Lead	ND	2.0	mg/kg							
Nickel	ND	2.0	mg/kg							
Selenium	ND	2.0	mg/kg							
Silver	ND	1.0	mg/kg							
Thallium	ND	10	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 12/01/03 (3L01074-BS1)										
Antimony	48.0	10	mg/kg	50.0		96	80-120			
Arsenic	48.5	2.0	mg/kg	50.0		97	80-120			
Beryllium	48.2	0.50	mg/kg	50.0		96	80-120			
Cadmium	47.7	0.50	mg/kg	50.0		95	80-120			
Chromium	50.0	1.0	mg/kg	50.0		100	80-120			
Copper	49.1	2.0	mg/kg	50.0		98	80-120			
Lead	49.3	2.0	mg/kg	50.0		99	80-120			
Nickel	51.0	2.0	mg/kg	50.0		102	80-120			
Selenium	48.7	2.0	mg/kg	50.0		97	80-120			
Silver	24.5	1.0	mg/kg	25.0		98	80-120			
Thallium	49.4	10	mg/kg	50.0		99	80-120			
Zinc	47.1	5.0	mg/kg	50.0		94	80-120			
Matrix Spike Analyzed: 12/01/03 (3L01074-MS1)					**Source: IML0019-01**					
Antimony	17.1	10	mg/kg	50.0	ND	34	75-125			*M2*
Arsenic	51.2	2.0	mg/kg	50.0	2.3	98	75-125			
Beryllium	47.9	0.50	mg/kg	50.0	ND	96	75-125			
Cadmium	45.9	0.50	mg/kg	50.0	0.41	91	75-125			
Chromium	98.3	1.0	mg/kg	50.0	45	107	75-125			
Copper	70.6	2.0	mg/kg	50.0	21	99	75-125			
Lead	50.0	2.0	mg/kg	50.0	4.7	91	75-125			
Nickel	77.1	2.0	mg/kg	50.0	28	98	75-125			

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2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L01074 Extracted: 12/01/03										
Matrix Spike Analyzed: 12/01/03 (3L01074-MS1)					Source: IML0019-01					
Selenium	48.7	2.0	mg/kg	50.0	ND	97	75-125			
Silver	25.3	1.0	mg/kg	25.0	1.4	96	75-125			
Thallium	47.3	10	mg/kg	50.0	2.4	90	75-125			
Zinc	104	5.0	mg/kg	50.0	59	90	75-125			
Matrix Spike Dup Analyzed: 12/01/03 (3L01074-MSD1)					Source: IML0019-01					
Antimony	15.4	10	mg/kg	50.0	ND	31	75-125	10	20	*M2*
Arsenic	48.7	2.0	mg/kg	50.0	2.3	93	75-125	5	20	
Beryllium	45.9	0.50	mg/kg	50.0	ND	92	75-125	4	20	
Cadmium	44.1	0.50	mg/kg	50.0	0.41	87	75-125	4	20	
Chromium	94.4	1.0	mg/kg	50.0	45	99	75-125	4	20	
Copper	67.1	2.0	mg/kg	50.0	21	92	75-125	5	20	
Lead	48.0	2.0	mg/kg	50.0	4.7	87	75-125	4	20	
Nickel	75.6	2.0	mg/kg	50.0	28	95	75-125	2	20	
Selenium	48.0	2.0	mg/kg	50.0	ND	96	75-125	1	20	
Silver	24.5	1.0	mg/kg	25.0	1.4	92	75-125	3	20	
Thallium	46.5	10	mg/kg	50.0	2.4	88	75-125	2	20	
Zinc	101	5.0	mg/kg	50.0	59	84	75-125	3	20	
Batch: 3L02055 Extracted: 12/02/03										
Blank Analyzed: 12/02/03 (3L02055-BLK1)										
Mercury	ND	0.020	mg/kg							
LCS Analyzed: 12/02/03 (3L02055-BS1)										
Mercury	0.830	0.020	mg/kg	0.800		104	85-120			

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station 2003-091
Report Number: IML0037

Sampled: 12/01/03
Received: 12/01/03

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02055 Extracted: 12/02/03										
Matrix Spike Analyzed: 12/02/03 (3L02055-MS1)					**Source: IML0037-03**					
Mercury	0.845	0.020	mg/kg	0.800	ND	106	65-135			
Matrix Spike Dup Analyzed: 12/02/03 (3L02055-MSD1)					**Source: IML0037-03**					
Mercury	0.837	0.020	mg/kg	0.800	ND	105	65-135	1	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L02063 Extracted: 12/02/03										
Blank Analyzed: 12/03/03 (3L02063-BLK1)										
Total Cyanide	ND	0.50	mg/kg							
LCS Analyzed: 12/03/03 (3L02063-BS1)										
Total Cyanide	9.63	0.50	mg/kg	10.0		96	90-110			
Matrix Spike Analyzed: 12/03/03 (3L02063-MS1)					**Source: IML0037-03**					
Total Cyanide	9.48	0.50	mg/kg	10.0	ND	95	70-115			
Matrix Spike Dup Analyzed: 12/03/03 (3L02063-MSD1)					**Source: IML0037-03**					
Total Cyanide	9.89	0.50	mg/kg	10.0	ND	99	70-115	4	15	
Batch: 3L02074 Extracted: 12/02/03										
Blank Analyzed: 12/03/03 (3L02074-BLK1)										
Phenols	ND	1.0	mg/kg							
LCS Analyzed: 12/03/03 (3L02074-BS1)										
Phenols	4.80	1.0	mg/kg	5.00		96	90-110			
Matrix Spike Analyzed: 12/03/03 (3L02074-MS1)					**Source: IML0037-03**					
Phenols	4.77	1.0	mg/kg	5.00	ND	95	65-155			
Matrix Spike Dup Analyzed: 12/03/03 (3L02074-MSD1)					**Source: IML0037-03**					
Phenols	4.90	1.0	mg/kg	5.00	ND	98	65-155	3	20	
Batch: 3L03083 Extracted: 12/03/03										
Blank Analyzed: 12/03/03 (3L03083-BLK1)										
Sulfide	ND	10	mg/kg							

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Received: 12/01/03

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3L03083 Extracted: 12/03/03										
LCS Analyzed: 12/03/03 (3L03083-BS1)										
Sulfide	84.0	10	mg/kg	104		81	80-120			
Matrix Spike Analyzed: 12/03/03 (3L03083-MS1)					**Source: IML0037-03**					
Sulfide	84.0	10	mg/kg	104	ND	81	70-130			
Matrix Spike Dup Analyzed: 12/03/03 (3L03083-MSD1)					**Source: IML0037-03**					
Sulfide	80.0	10	mg/kg	104	ND	77	70-130	5	30	

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2003-091
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Sampled: 12/01/03
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DATA QUALIFIERS AND DEFINITIONS

CR	The carbon range of the fuel found in the sample = c8-c38
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
R	The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.
R-2	The RPD exceeded the method control limit.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

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Attention: Ana Fyodorova

Project ID: Poseidon/Encina Gen. Station
2003-091
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Sampled: 12/01/03
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Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 3545/8081A	Soil	X	X
EPA 3545/8082	Soil	X	X
EPA 420.1 MOD	Soil	N/A	N/A
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8270C	Soil	X	X
EPA 9014	Soil	X	X
EPA 9034	Soil		X
SW846 7.1.2	Solid		

NV and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

Subcontracted Laboratories

Triangle Laboratories *CA ELAP Cert #1922, AZ DHS Licence #AZ0423 and NV Cert #NC-140*

2445 South Alston Avenue - Durham, NC 27713-1301

Analysis Performed: 8280-Diox-TCDD only

Samples: IML0037-03

Del Mar Analytical, Irvine
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December 15, 2003

GeoLogic Associates
16885 West Bernardo Dr., Suite 305
San Diego, CA 92127

Attention: Joe Franzone

Project: Poseidon/ Encina Gen. Station 2003-091
Sampled: 12/01/03
Del Mar Analytical Number: IML0037

Dear Mr. Franzone:

Triangle Laboratories performed the 2,3,7,8-Tetrachlorinated Dibenzo-*p*-Dioxin by Method 8280A for the project referenced above. Please use the following cross-reference table when reviewing your results.

GeoLogic ID	Del Mar ID	Triangle ID
B8/5@5.0-16.5	IML0037-03	61621/368-11-1A

Attached is the original report from the subcontract laboratory. If you have any questions or require further assistance, please do not hesitate to contact me.

Sincerely yours,

DEL MAR ANALYTICAL

Chariya Heang
Project Manager

CASE NARRATIVE

Analysis of Samples for the Presence of

2,3,7,8-Tetrachlorinated Dibenzo-*p*-Dioxin by

High-Resolution Chromatography / Low-Resolution Mass Spectrometry

Method 8280A Rev. 1 (12/96)

Date:	December 12, 2003
Client ID:	Del Mar Analytical
P.O. Number:	IML0037
TLI Project Number:	61621

Rev. 12/20/00

Overview

The sample and any associated QC samples were extracted and analyzed according to procedures described in SW846 Method 8280A (12/96). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. This report contains results from only the 8280A dioxin/furan analysis of the one soil sample.

Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the sample.

The quality control range for internal and clean-up standard percent recoveries is 25-150 percent. The ratio of signal to noise for all standards must be greater than ten to one.

Laboratory control spike (LCS) and laboratory control spike duplicate (LCSD) samples were extracted and analyzed along with the samples. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

Matrix spike (MS) and matrix spike duplicate (MSD) samples were extracted and analyzed along with the samples using the sample IML0037-03 C [GLAS]. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

Quality Control Remarks

The release of this particular set of Del Mar Analytical analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample receipt: One soil sample was received from Del Mar Analytical at 4°C and in good condition on December 3, 2003. The samples were stored in a refrigerator at 4°C until the time of extraction.

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: The internal and cleanup standards for these samples are within the QC limits of 25-150 percent and meet ten to one signal to noise criteria in all cases.

Other Comments: No 2,3,7,8-substituted target analytes were detected in the TLI Blank above the target detection limit (TDL).

By our interpretation, the analytical data in this project are valid based on the guidelines of SW846 Method 8280A (12/96). Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should Del Mar Analytical have any questions or comments regarding this data package, please feel free to contact our scientist, Bharat Chandramouli at (919)544-5729 x4006.

For Triangle Laboratories, Inc.,

Released by,

Penny A. Brock

Penny A. Brock
Report Preparation Chemist

The total number of pages in the data package is : 52 .

Sample Calculations:

Analyte Concentration The concentration or amount of any analyte is calculated using the following expression:

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RF_{(n)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the sum of the integrated current for the characteristic ions of the analyte,

A_β is the sum of the integrated current of the characteristic ions of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RF_{(n)}$ is the analyte relative response factor from the continuing calibration (ccal) and,

W is the sample weight or volume

Detection Limits The detection limit reported for a target analyte that is not detected or presents an analyte response that is less than 2.5 times the background level is calculated by using the following expression. The detection limits represent the maximum possible concentration of a target analyte that could be present without being detected.

$$DL_{(\sigma)} = \frac{2.5 * (H) * Q_\beta}{H_\beta * RF_{(n)} * W}$$

Where:

Q_β , $RF_{(n)}$, and W are defined above,

2.5 is the minimum response required for a GC signal,

H is the sum heights of noise of the characteristic ions,

H_β is the sum of the heights of the corresponding internal standards

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag is used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample.

An **'E'** flag is used to indicate a concentration based on an analyte to internal standard ratio that exceeds the range of the calibration curve. Values that are outside the calibration curve are estimates only.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'J'** flag is used to indicate a concentration based on an analyte to internal standard ratio that is below the calibration curve. Values that are outside the calibration curve are estimates only.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

A **'Q'** flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

An **'S'** flag indicates that the response of a specific PCDD/PCDF isomer has exceeded the normal dynamic range of the mass spectrometer detection system. The corresponding signal is saturated and the reported analyte concentration is a 'minimum estimate'. When the 'S' qualifier is used in the reporting of 'totals', there is saturation of one (not necessarily from a specific isomer) or more saturated signals for a given class of compounds. Results for saturated analytes are reported as greater than the upper calibration limit.

A **'U'** flag is used to indicate that a specific isomer cannot be resolved from a large, co-eluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A **'V'** flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

An **'X'** flag is used to indicate that a polychlorodibenzofuran (PCDF) peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is at least ten percent of the total PCDF peak intensity. Total PCDF values are flagged 'X' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are either reported as "estimated maximum possible concentration (EMPC) values without regard to the isotopic abundance ratio, or are included in the detection limit value depending on the analytical method.

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SUBCONTRACT ORDER - PROJECT # IML0037

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Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Chariya Heang

RECEIVING LABORATORY:

Triangle Laboratories-SUB
2445 South Alston Avenue
Durham, NC 27713-1301
Phone :(919) 544-5729
Fax: (919) 544-5491

Standard TAT is requested unless specific due date is requested => Due Date: 12/4/03 **Initials:**_____

Analysis	Expiration	Comments
Sample ID: IML0037-03 Soil	**Sampled: 12/01/03 09:34**	**Composite of 2**
8280-Diox-TCDD only	12/15/03 09:34	

Containers Supplied:
2 oz jar (IML0037-03C)
2 oz jar (IML0037-03D)

SAMPLE INTEGRITY:

All containers intact: ☐ Yes ☑ No Sample labels/COC agree: ☑ Yes ☐ No Samples Received On Ice:: ☐ Yes ☐ No
Custody Seals Present: ☐ Yes ☐ No Samples Preserved Properly: ☐ Yes ☐ No Samples Received at (temp): 4°C

Released By	Date	Time	Received By	Date	Time
	12-02-03	16:00		12-3-03 @	10:30
Released By	Date	Time	Received By	Date	Time

SAMPLE DATA

2445 S. Alston Ave. • Durham, NC 27713 • (919) 544-5729 • FAX (919) 544-5491

Del Mar Analytical

TLI Project: **61621** — Method 8280-A TCDD Analysis (b)
Client Sample: **TLI Blank** — Analysis File: **YZ02311**

Client Project:	IML0037				
Sample Matrix:	SAND	Date Received:	/ /	Spike File:	SP828A10
TLI ID:	TLI Blank	Date Extracted:	12/04/2003	ICal:	Y85O21A
		Date Analyzed:	12/09/2003	ConCal:	YZ02303
Sample Size:	2.000 g	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	YZ02311	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JSY	% Solids:	n/a

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.02				___

Internal Standard	Conc. (ppb)	% Recovery		Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDD	3.4	67.4	25%-150%	0.81	25:13	___

Clean-Up Standard	Conc. (ppb)	% Recovery		RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.9	77.1	25%-150%	25:13	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.78	25:01	___

Data Reviewer: mc 12/11/2003

828A_PSR v1.03, LARS 6.25.05

Triangle Laboratories, Inc.®
2445 S. Alston Ave. • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 16:27 12/11/2003

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

IML0037

Client Name/Address:
GLA
16885 W BERNARDO DR. #305
SAN DIEGO, CA 92127

P.O. #: 2003-091
Project: Poseidon / Encina Gen. Station Desalination Project

Project Manager/Phone Number:
Joe Franzone

Phone Number:
858-451-1136

Sampler: Anna Fyodorova 858-688-8269(cell)

Fax Number: 858-451-1087

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Containers	Sampling Date/Time	Preservation	8015 M TPH (fuel oil)	8260 B VOCs	8270 C Semi VOCs	Chlorinated Pesticides & PCBs (8081/8082)	Priority Pollutant Metals (6010 B)	Total Cyanide (9010/9014)	Total Phenols (420.1)	Dioxin (8280)	Total Sulfide (9030)	1010 Ignitability	Special Instructions
B8/2 @ 5'-6'	Soil	6" Brass Tube	1	12/01/03 9:19am	NONE	X										
B8/4 @ 15'-16'	Soil	6" Brass	1	9:34am	↓	X	X	X								
B8/5 @ 5'-16' composite	Soil	Glass jar	2	9:34am	↓				X	X	X	X	X	X	X	

Relinquished By: Anna Fyodorova Date/Time: 12/01/03 1:35pm
Received By: [signature] Date/Time: 12-01-03 1335

Relinquished By: [signature] Date/Time: 12-01-03 1445
Received By: Tom Blevins DMAI Date/Time: 12/1/03 14:45

Relinquished By: Tom Blevins Date/Time: 12/1/03 17:25
Received By: S. Jamras Date/Time: 12-1-03 1725

Turnaround Time: (check)
Same Day _____ 72 Hours X
24 Hours _____ 5 days _____
48 hours _____ normal _____

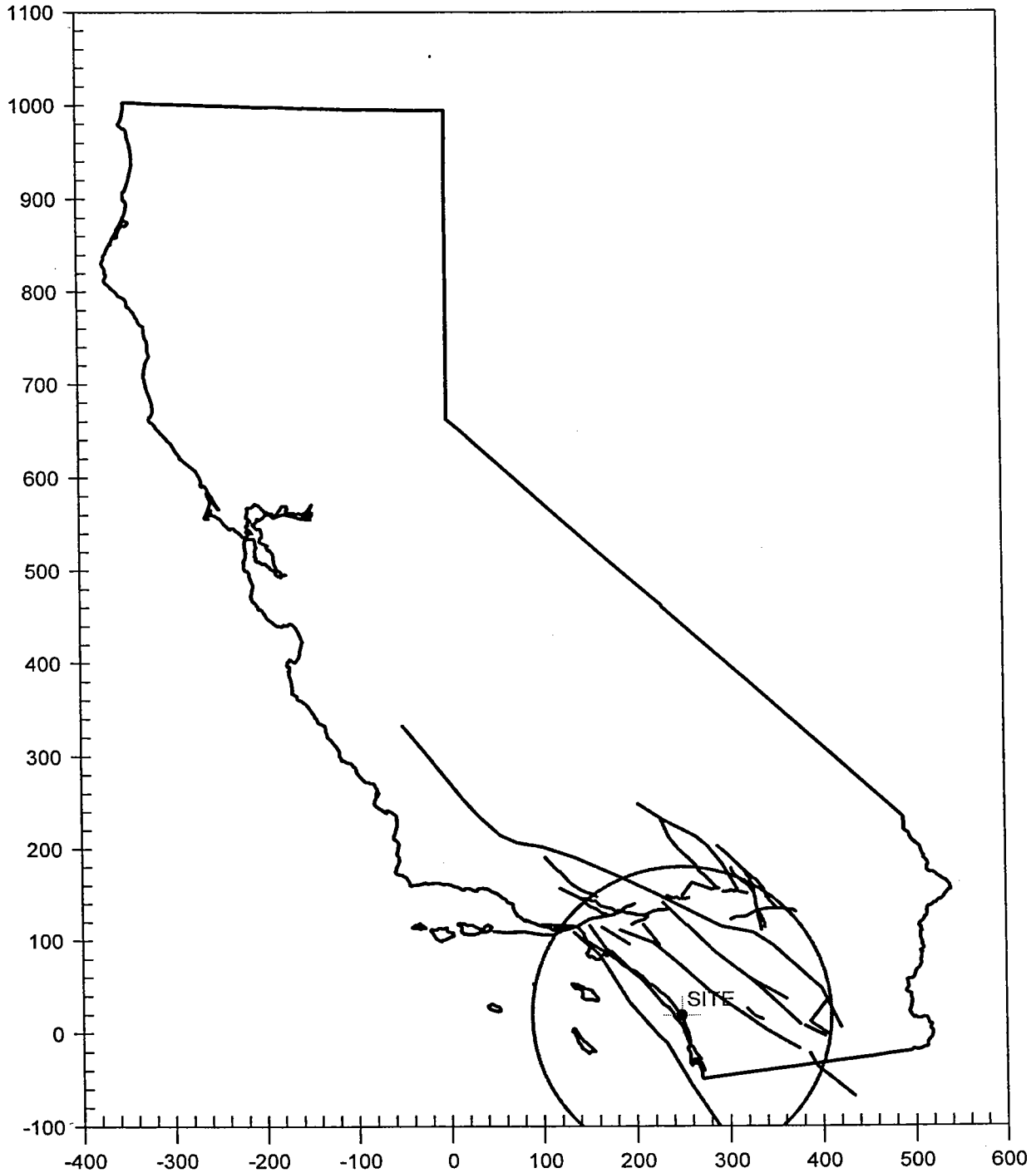
Sample Integrity: (Check)
Intact Y On Ice: X

APPENDIX D

SEISMIC ANALYSIS

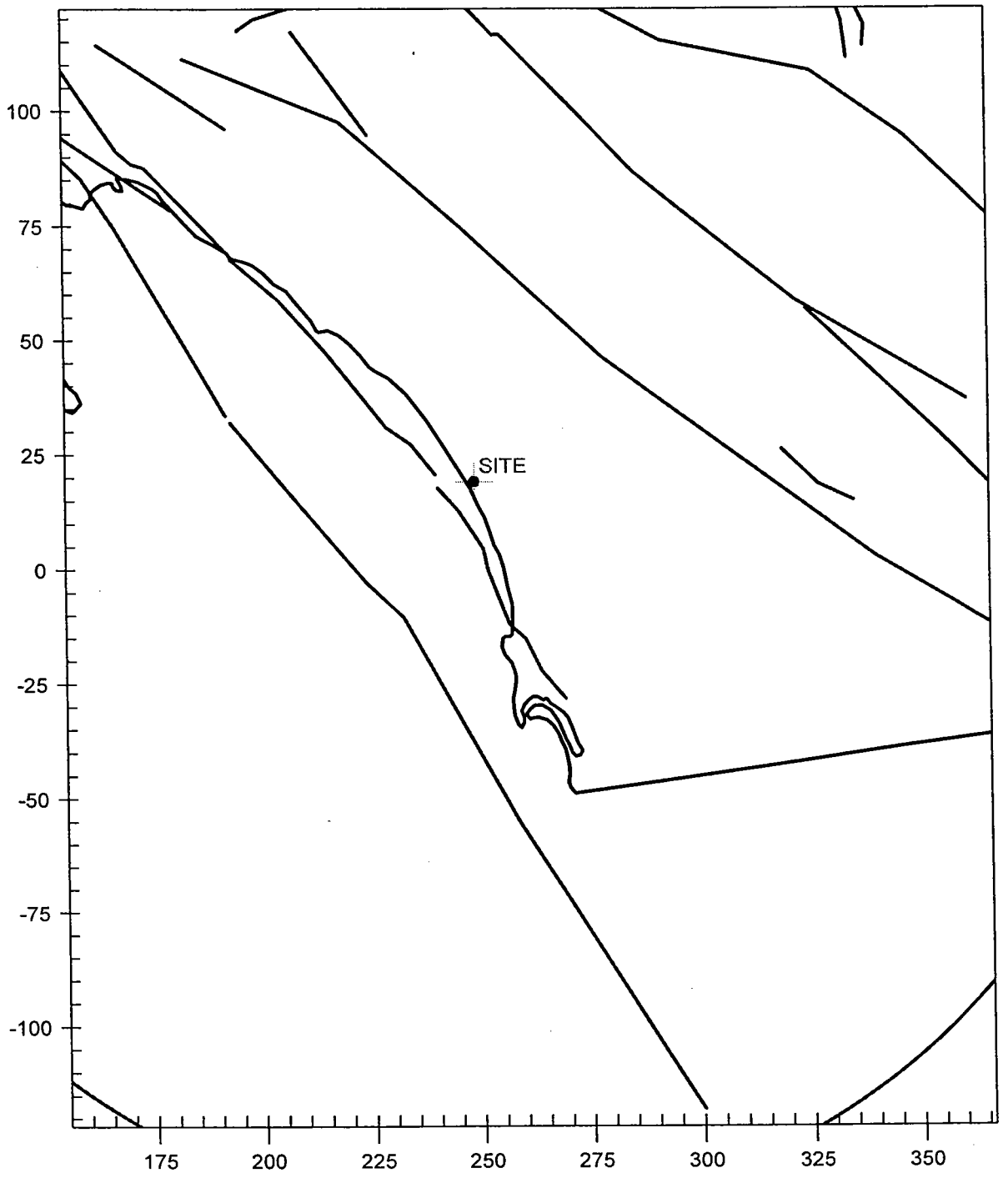
CALIFORNIA FAULT MAP

Poseidon Desalination Facility



CALIFORNIA FAULT MAP

Poseidon Desalination Facility



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DETERMINISTIC ESTIMATION OF
PEAK ACCELERATION FROM DIGITIZED FAULTS

JOB NUMBER: 2003-085

DATE: 12-16-2003

JOB NAME: Poseidon Desalination Facility

CALCULATION NAME: Test Run Analysis

FAULT-DATA-FILE NAME: CDMGFLTE.DAT

SITE COORDINATES:
SITE LATITUDE: 33.1393
SITE LONGITUDE: 117.3346

SEARCH RADIUS: 100 mi

ATTENUATION RELATION: 2) Boore et al. (1997) Horiz. - NEHRP C (520)
UNCERTAINTY (M=Median, S=Sigma): M Number of Sigmas: 0.0
DISTANCE MEASURE: cd_2drp
SCOND: 0
Basement Depth: 5.00 km Campbell SSR: Campbell SHR:
COMPUTE PEAK HORIZONTAL ACCELERATION

FAULT-DATA FILE USED: CDMGFLTE.DAT

MINIMUM DEPTH VALUE (km): 0.0

EQFAULT SUMMARY

DETERMINISTIC SITE PARAMETERS

Page 1

ABBREVIATED FAULT NAME	APPROXIMATE DISTANCE mi (km)	ESTIMATED MAX. EARTHQUAKE EVENT MAXIMUM EARTHQUAKE MAG.(Mw)	PEAK SITE ACCEL. g	EST. SITE INTENSITY MOD.MERC.
ROSE CANYON	4.3(6.9)	6.9	0.310	IX
NEWPORT-INGLEWOOD (Offshore)	5.6(9.0)	6.9	0.270	IX
CORONADO BANK	20.4(32.9)	7.4	0.144	VIII
ELSINORE-TEMECULA	24.7(39.8)	6.8	0.091	VII
ELSINORE-JULIAN	24.8(39.9)	7.1	0.106	VII
ELSINORE-GLEN IVY	34.8(56.0)	6.8	0.070	VI
PALOS VERDES	36.4(58.5)	7.1	0.079	VII
EARTHQUAKE VALLEY	43.7(70.3)	6.5	0.050	VI
NEWPORT-INGLEWOOD (L.A.Basin)	47.0(75.6)	6.9	0.058	VI
SAN JACINTO-ANZA	47.4(76.3)	7.2	0.068	VI
SAN JACINTO-SAN JACINTO VALLEY	48.0(77.3)	6.9	0.057	VI
CHINO-CENTRAL AVE. (Elsinore)	48.1(77.4)	6.7	0.063	VI
WHITTIER	52.4(84.3)	6.8	0.051	VI
SAN JACINTO-COYOTE CREEK	52.6(84.7)	6.8	0.051	VI
COMPTON THRUST	56.6(91.1)	6.8	0.058	VI
ELSINORE-COYOTE MOUNTAIN	57.5(92.6)	6.8	0.047	VI
ELYSIAN PARK THRUST	59.4(95.6)	6.7	0.053	VI
SAN JACINTO-SAN BERNARDINO	60.8(97.9)	6.7	0.043	VI
SAN ANDREAS - San Bernardino	65.7(105.8)	7.3	0.056	VI
SAN ANDREAS - Southern	65.7(105.8)	7.4	0.059	VI
SAN JACINTO - BORREGO	66.1(106.4)	6.6	0.038	V
SAN JOSE	69.2(111.4)	6.5	0.043	VI
CUCAMONGA	71.8(115.6)	7.0	0.054	VI
SIERRA MADRE	71.9(115.7)	7.0	0.054	VI
PINTO MOUNTAIN	72.7(117.0)	7.0	0.044	VI
SAN ANDREAS - Coachella	73.7(118.6)	7.1	0.046	VI
NORTH FRONTAL FAULT ZONE (West)	76.4(123.0)	7.0	0.051	VI
BURNT MTN.	78.5(126.4)	6.4	0.030	V
CLEGHORN	78.5(126.4)	6.5	0.032	V
NORTH FRONTAL FAULT ZONE (East)	80.8(130.0)	6.7	0.042	VI
RAYMOND	80.9(130.2)	6.5	0.038	V
CLAMSHELL-SAWPIT	81.3(130.8)	6.5	0.038	V
EUREKA PEAK	81.3(130.9)	6.4	0.029	V
SAN ANDREAS - 1857 Rupture	81.7(131.5)	7.8	0.061	VI
SAN ANDREAS - Mojave	81.7(131.5)	7.1	0.042	VI
SUPERSTITION MTN. (San Jacinto)	82.3(132.5)	6.6	0.032	V
VERDUGO	83.3(134.1)	6.7	0.041	V
HOLLYWOOD	85.3(137.2)	6.4	0.034	V
ELMORE RANCH	86.0(138.4)	6.6	0.031	V
SUPERSTITION HILLS (San Jacinto)	87.1(140.1)	6.6	0.031	V

DETERMINISTIC SITE PARAMETERS

ABBREVIATED FAULT NAME	APPROXIMATE DISTANCE mi (km)	ESTIMATED MAX. EARTHQUAKE EVENT: MAXIMUM EARTHQUAKE MAG.(Mw)	ESTIMATED MAX. EARTHQUAKE EVENT: PEAK SITE ACCEL. g	ESTIMATED MAX. EARTHQUAKE EVENT: EST. SITE INTENSITY MOD.MERC.
LANDERS	88.5(142.4)	7.3	0.044	VI
LAGUNA SALADA	88.8(142.9)	7.0	0.038	V
HELENDALE - S. LOCKHARDT	89.2(143.6)	7.1	0.039	V
SANTA MONICA	90.0(144.8)	6.6	0.037	V
MALIBU COAST	92.7(149.2)	6.7	0.038	V
LENWOOD-LOCKHART-OLD WOMAN SPRGS	93.1(149.9)	7.3	0.042	VI
BRAWLEY SEISMIC ZONE	95.3(153.3)	6.4	0.026	V
JOHNSON VALLEY (Northern)	96.3(154.9)	6.7	0.030	V
SIERRA MADRE (San Fernando)	96.3(155.0)	6.7	0.037	V
NORTHRIDGE (E. Oak Ridge)	96.5(155.3)	6.9	0.041	V
EMERSON So. - COPPER MTN.	96.6(155.5)	6.9	0.033	V
ANACAPA-DUME	98.0(157.7)	7.3	0.050	VI
SAN GABRIEL	98.1(157.9)	7.0	0.035	V

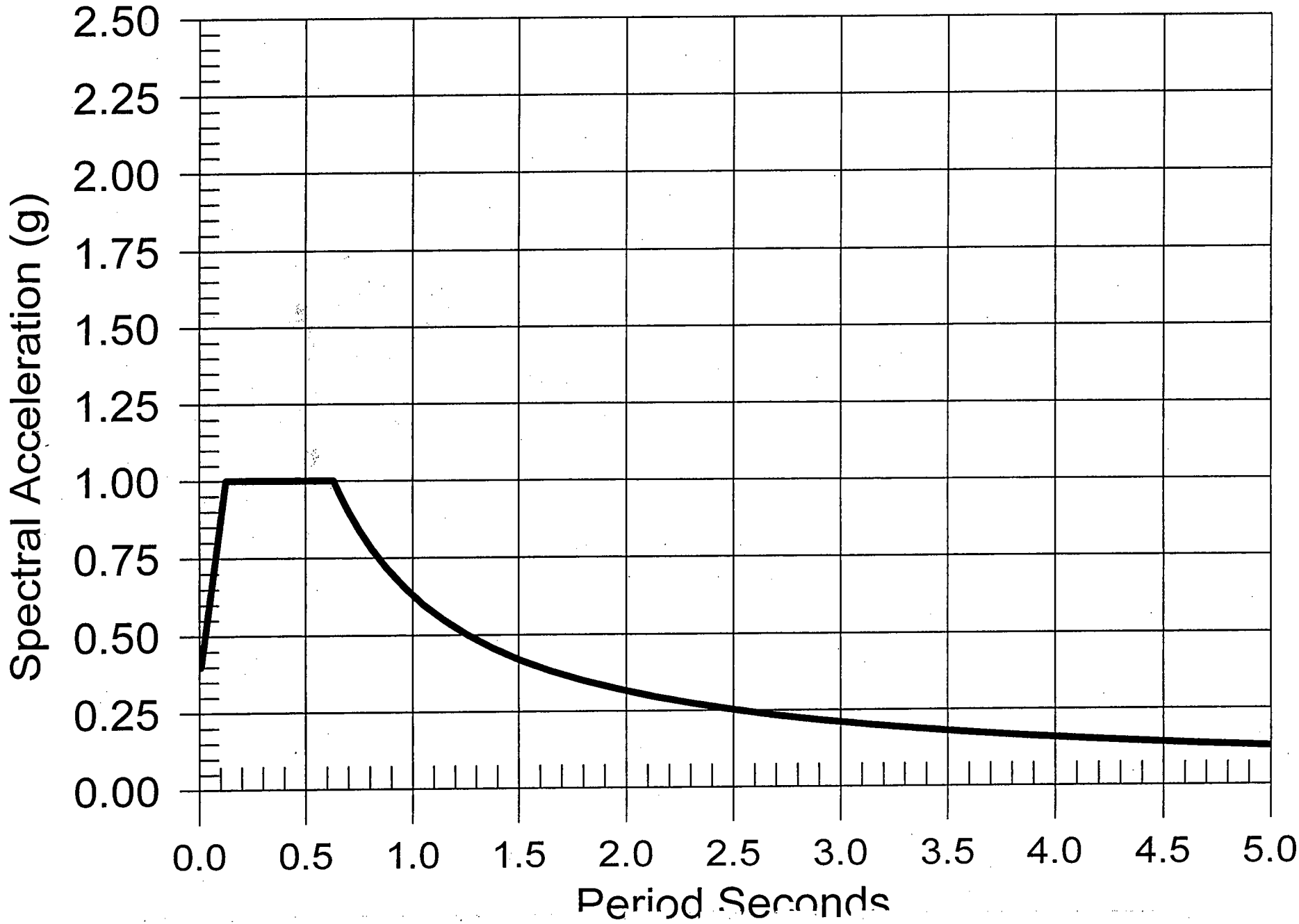
-END OF SEARCH- 53 FAULTS FOUND WITHIN THE SPECIFIED SEARCH RADIUS.

THE ROSE CANYON FAULT IS CLOSEST TO THE SITE.
IT IS ABOUT 4.3 MILES (6.9 km) AWAY.

LARGEST MAXIMUM-EARTHQUAKE SITE ACCELERATION: 0.3103 g

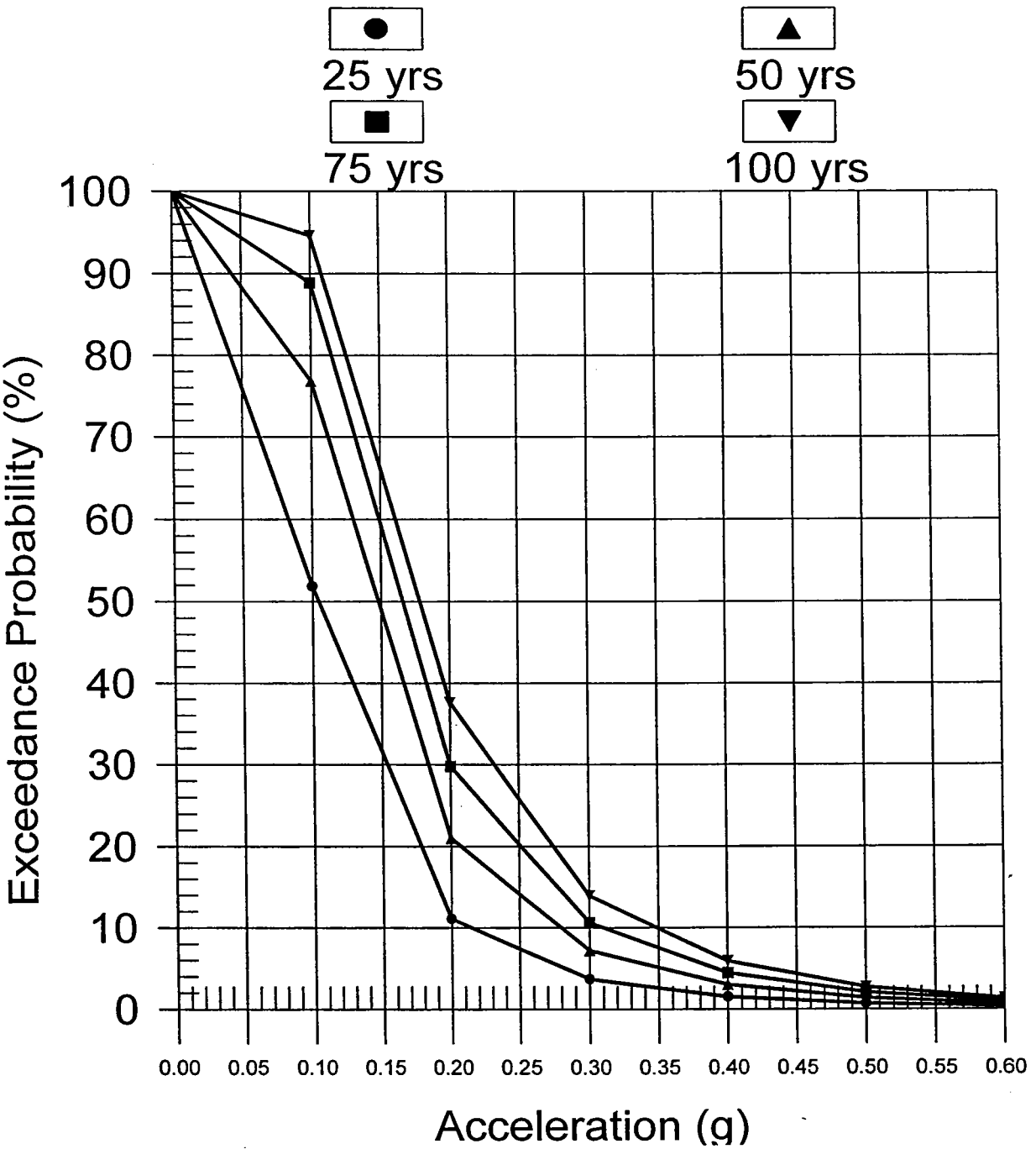
DESIGN RESPONSE SPECTRUM

Seismic Zone: 0.4 Soil Profile: SC



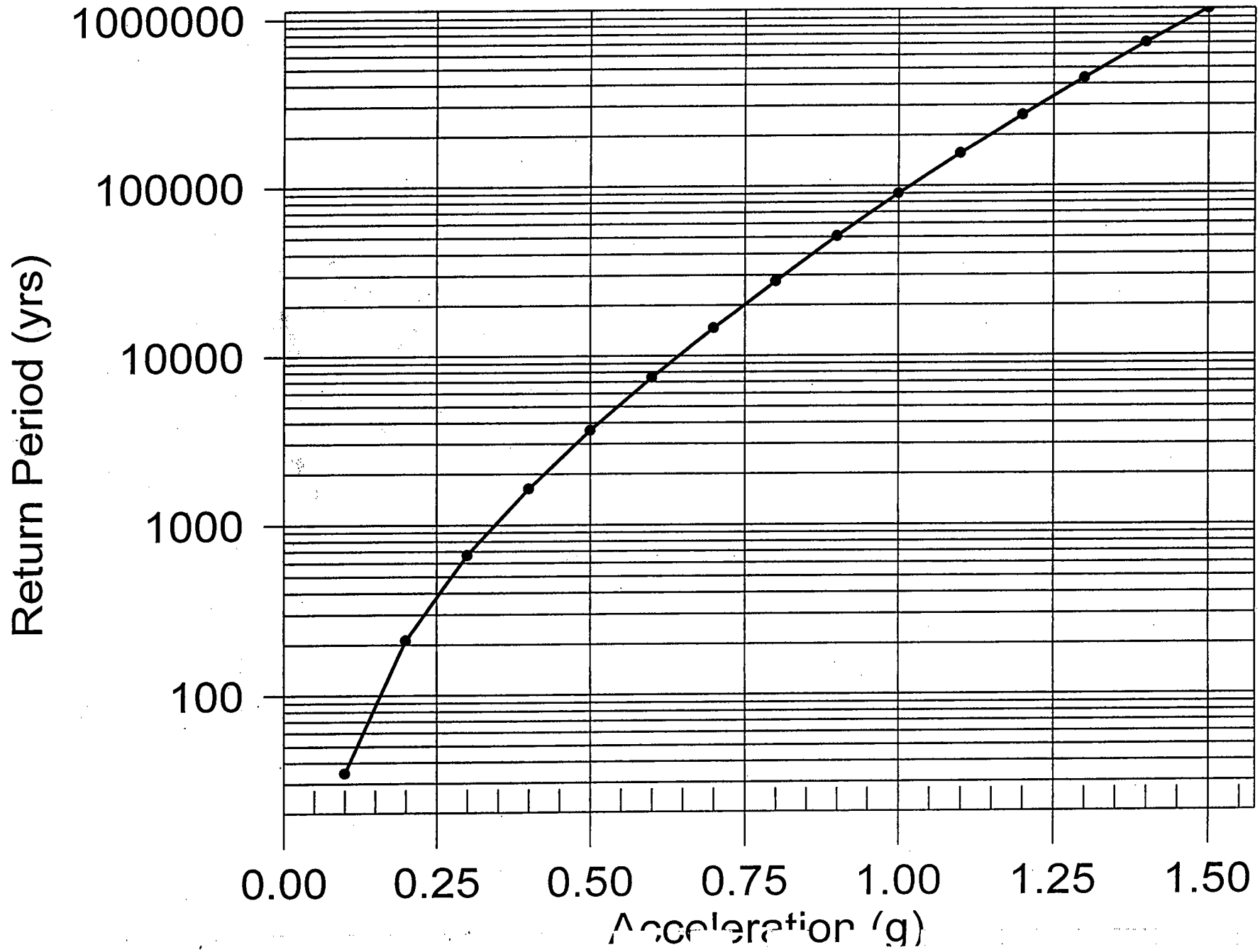
PROBABILITY OF EXCEEDANCE

BOORE ET AL(1997) NEHRP C (520)1



RETURN PERIOD vs. ACCELERATION

BOORE ET AL(1997) NEHRP C (520)1



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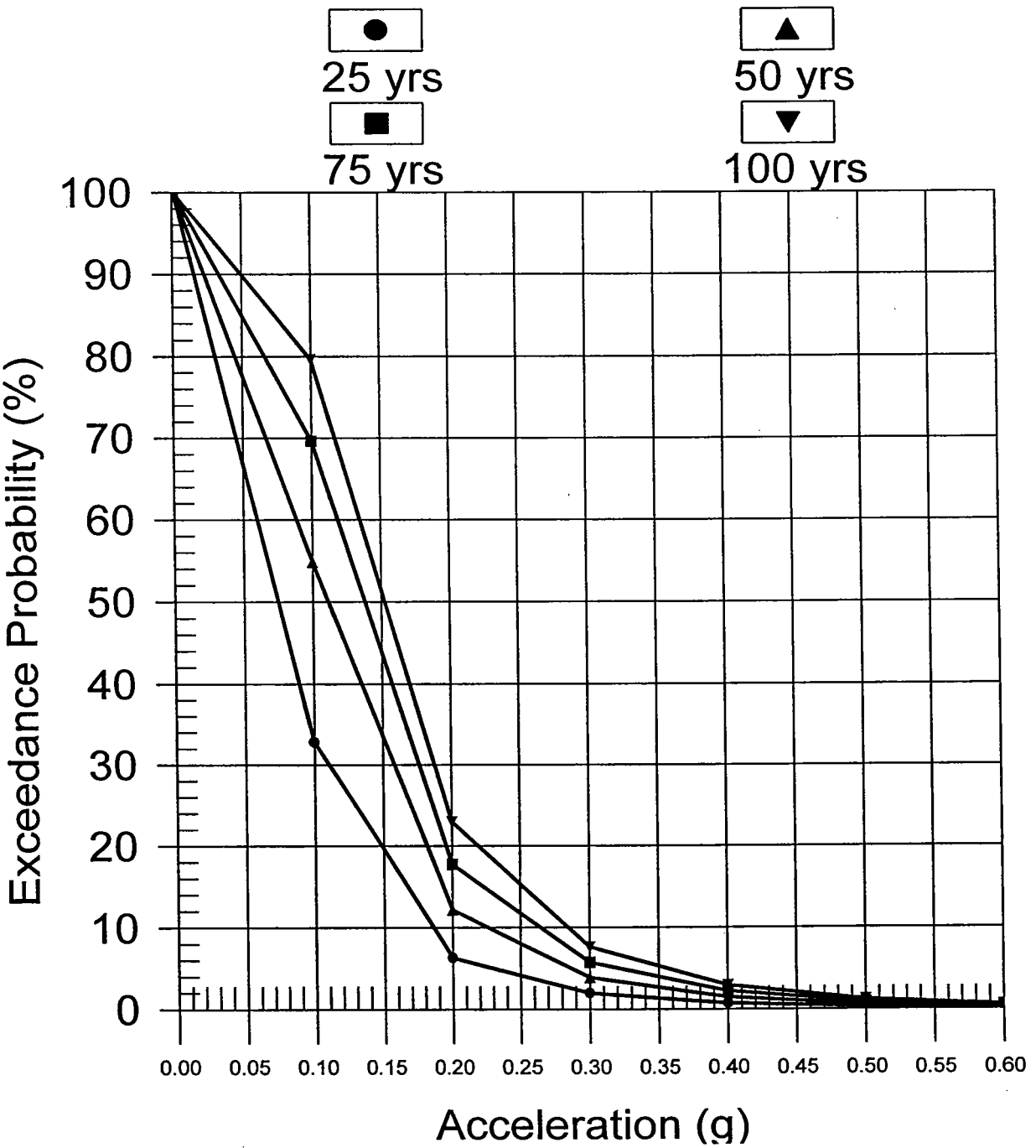

RETURN PERIOD vs. ACCELERATION

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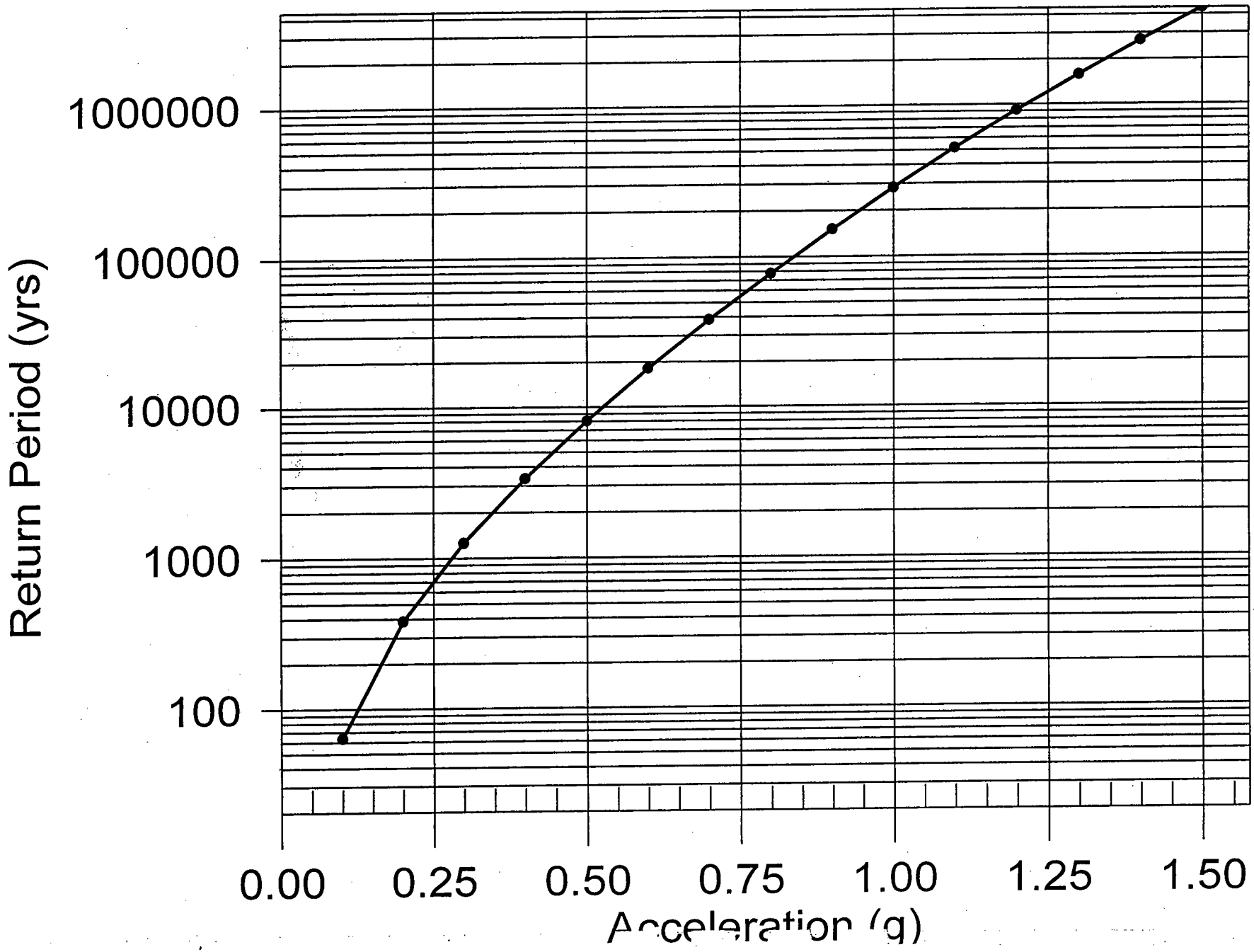
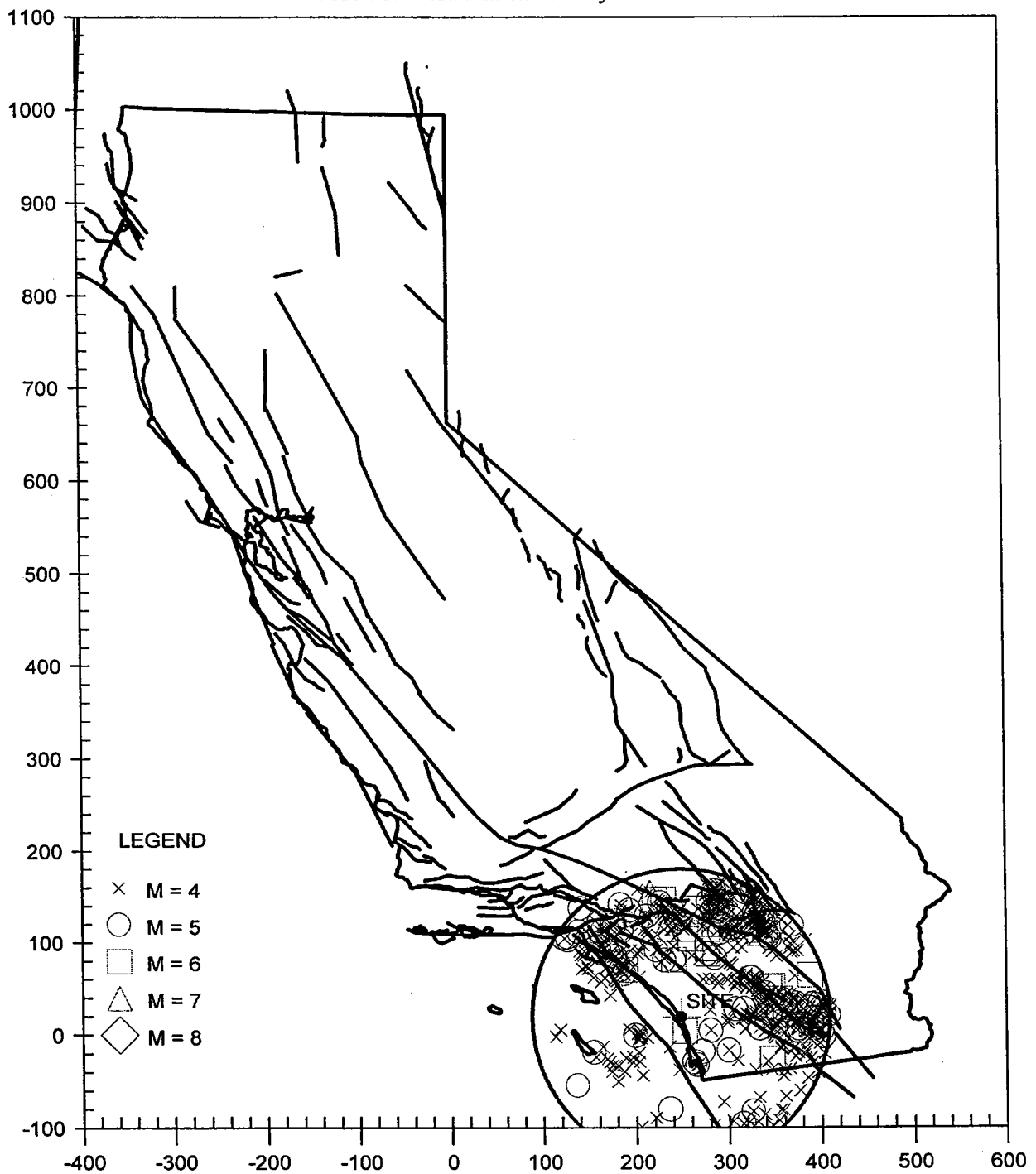


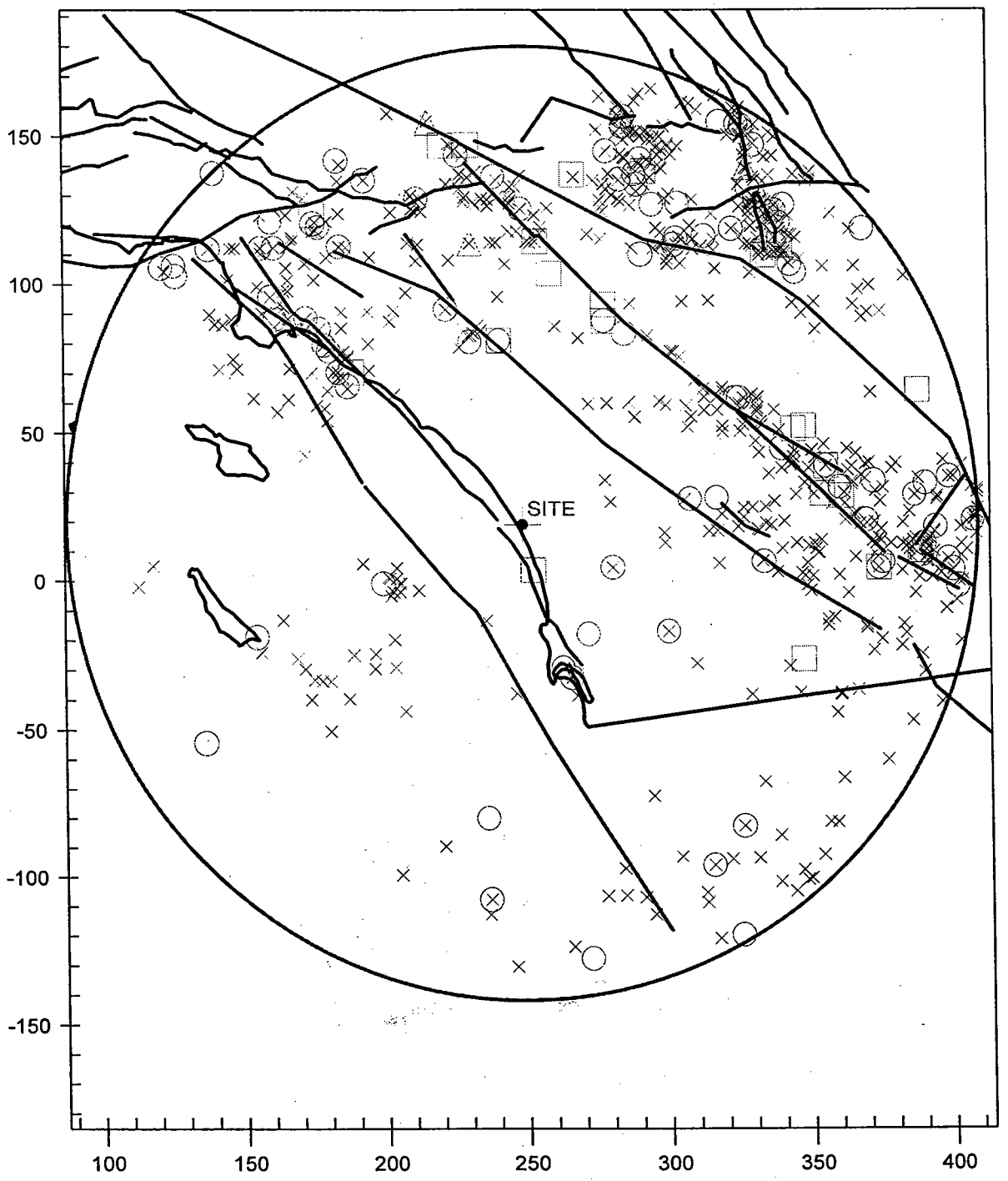
EARTHQUAKE EPICENTER MAP

Poseidon Desalination Facility



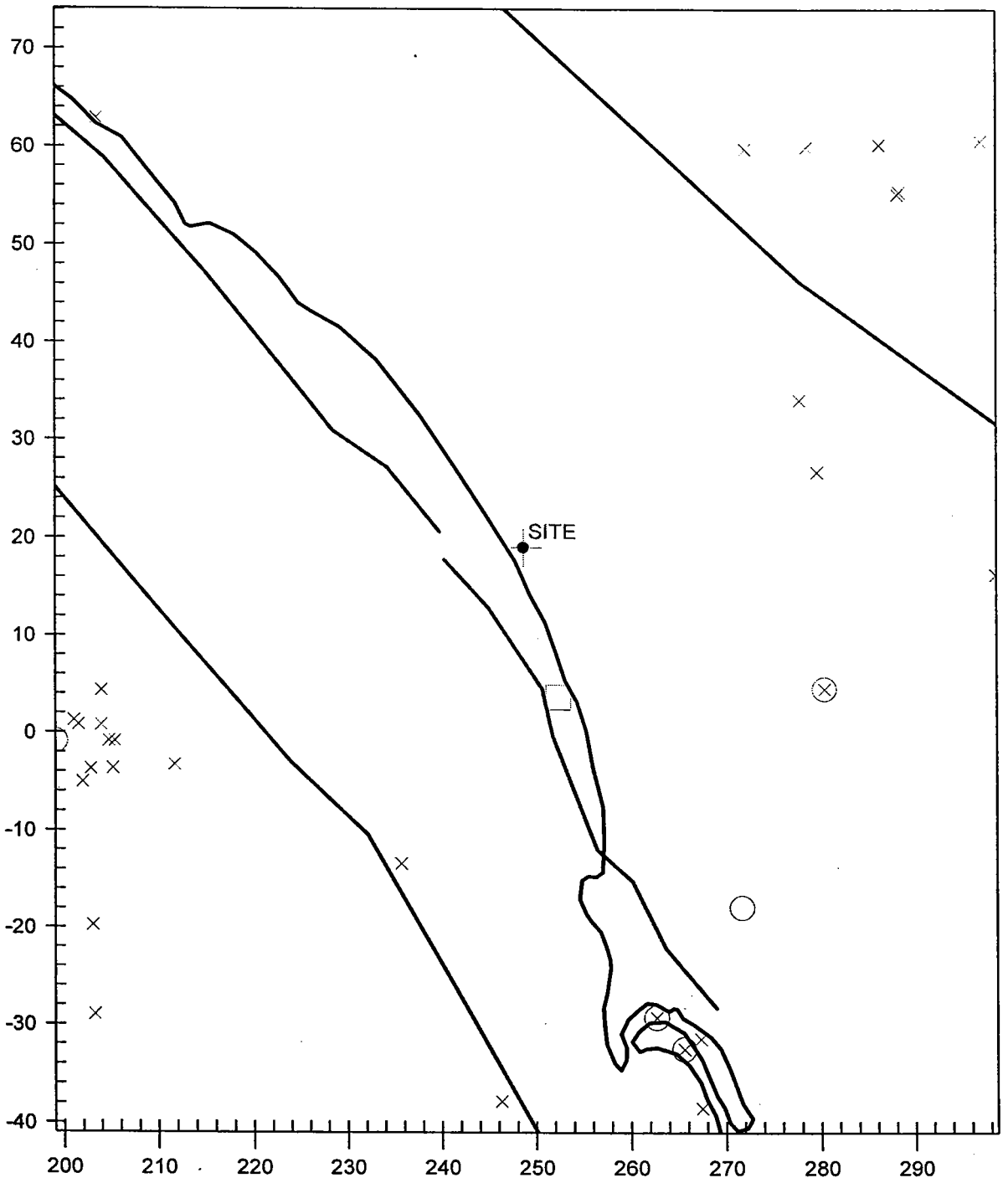
EARTHQUAKE EPICENTER MAP

Poseidon Desalination Facility



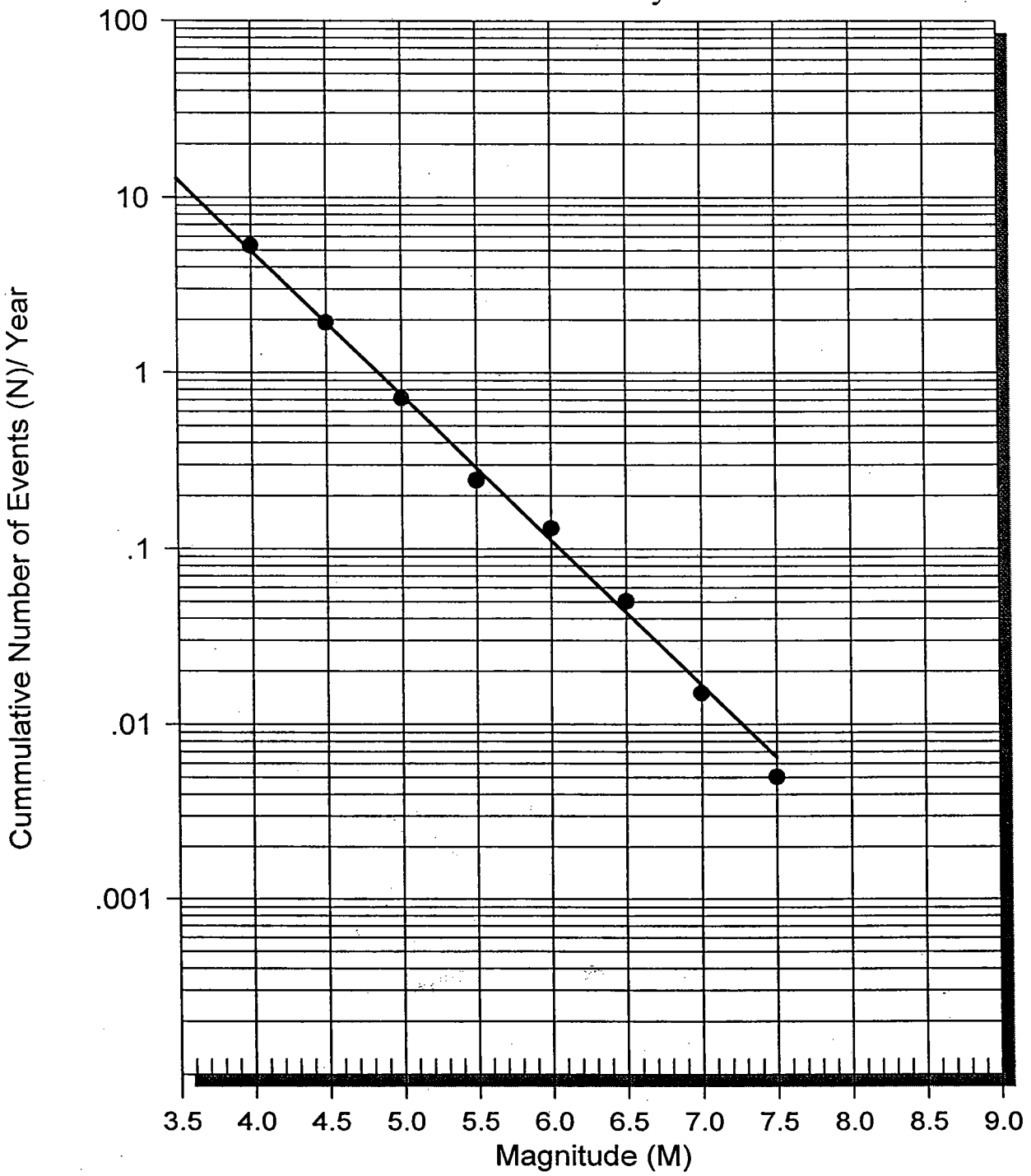
EARTHQUAKE EPICENTER MAP

Poseidon Desalination Facility



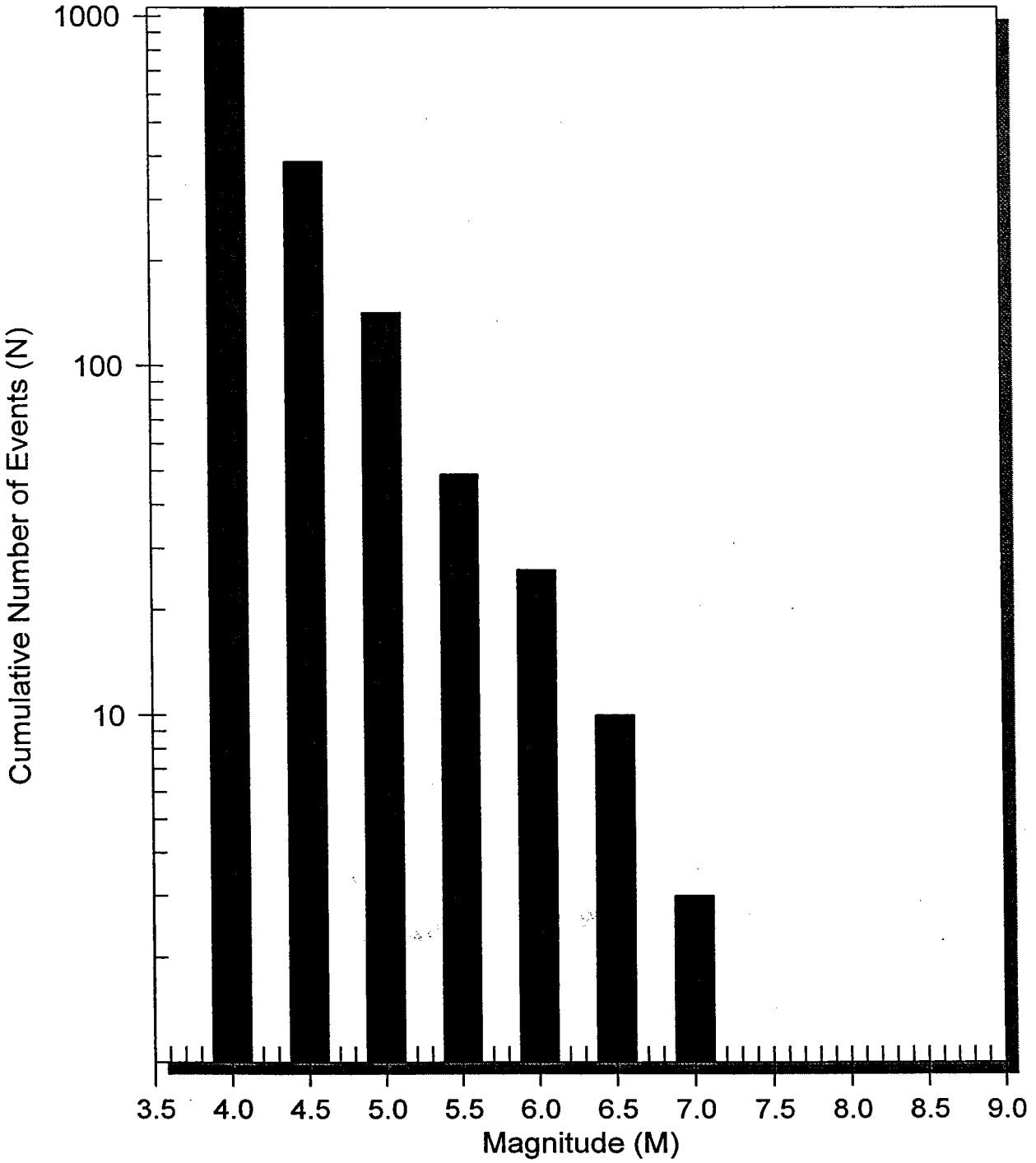
EARTHQUAKE RECURRENCE CURVE

Poseidon Desalination Facility



Number of Earthquakes (N) Above Magnitude (M)

Poseidon Desalination Facility



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*  Version 3.00  *
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ESTIMATION OF
PEAK ACCELERATION FROM
CALIFORNIA EARTHQUAKE CATALOGS

JOB NUMBER: 2003-085

DATE: 12-16-2003

JOB NAME: Poseidon Desalination Facility

EARTHQUAKE-CATALOG-FILE NAME: ALLQUAKE.DAT

SITE COORDINATES:
SITE LATITUDE: 33.1393
SITE LONGITUDE: 117.3346

SEARCH DATES:
START DATE: 1800
END DATE: 1999

SEARCH RADIUS:
100.0 mi
160.9 km

ATTENUATION RELATION: 2) Boore et al. (1997) Horiz. - NEHRP C (520)
UNCERTAINTY (M=Median, S=Sigma): M Number of Sigmas: 0.0
ASSUMED SOURCE TYPE: DS [SS=Strike-slip, DS=Reverse-slip, BT=Blind-thrust]
SCOND: 0 Depth Source: A
Basement Depth: 5.00 km Campbell SSR: Campbell SHR:
COMPUTE PEAK HORIZONTAL ACCELERATION

MINIMUM DEPTH VALUE (km): 0.0

EARTHQUAKE SEARCH RESULTS

Page 1

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.0000	117.3000	11/22/1800	2130 0.0	0.0	6.50	0.186	VIII	9.8(15.8)
MGI	33.2000	117.0000	07/20/1923	7 0 0.0	0.0	4.00	0.030	V	19.8(31.8)
DMG	33.2670	117.0170	06/07/1935	1633 0.0	0.0	4.00	0.029	V	20.4(32.8)
MGI	33.0000	117.0000	09/21/1856	730 0.0	0.0	5.00	0.047	VI	21.6(34.8)
DMG	33.0000	117.0000	03/03/1906	2025 0.0	0.0	4.50	0.036	V	21.6(34.8)
MGI	33.0000	117.0000	12/29/1914	10 0 0.0	0.0	4.00	0.028	V	21.6(34.8)
DMG	32.8500	117.4830	02/23/1943	92112.0	0.0	4.00	0.028	V	21.7(35.0)
PAS	32.9470	117.7360	01/15/1989	153955.2	6.0	4.20	0.026	V	26.8(43.1)
MGI	32.8000	117.1000	05/25/1803	0 0 0.0	0.0	5.00	0.040	V	27.1(43.6)
USG	33.0170	117.8170	07/14/1986	11112.6	10.0	4.12	0.024	IV	29.2(46.9)
USG	33.0170	117.8170	07/16/1986	1247 3.7	10.0	4.11	0.024	IV	29.2(46.9)
T-A	33.5000	117.0700	12/29/1880	7 0 0.0	0.0	4.30	0.026	V	29.2(47.0)
PAS	32.9700	117.8030	07/14/1986	03246.2	10.0	4.00	0.022	IV	29.5(47.5)
GSP	32.9700	117.8100	04/04/1990	085439.3	6.0	4.00	0.022	IV	29.9(48.1)
GSP	32.9850	117.8180	06/21/1995	211736.2	6.0	4.30	0.026	V	29.9(48.2)
PAS	32.9450	117.8060	09/07/1984	11 313.4	6.0	4.30	0.025	V	30.4(48.9)
MGI	33.1000	116.8000	06/22/1918	557 0.0	0.0	4.00	0.021	IV	31.0(49.9)
GSP	33.0700	116.8000	12/04/1991	071057.5	15.0	4.20	0.023	IV	31.3(50.3)
MGI	32.7000	117.2000	09/08/1915	742 0.0	0.0	4.00	0.021	IV	31.3(50.4)
DMG	32.7000	117.2000	05/27/1862	20 0 0.0	0.0	5.90	0.057	VI	31.3(50.4)
MGI	32.7000	117.2000	05/20/1920	1330 0.0	0.0	4.00	0.021	IV	31.3(50.4)
MGI	32.7000	117.2000	04/19/1906	028 0.0	0.0	4.30	0.025	V	31.3(50.4)
PAS	32.9860	117.8440	10/01/1986	201218.6	6.0	4.00	0.021	IV	31.3(50.4)
PAS	32.9900	117.8490	07/13/1986	14 133.0	12.0	4.60	0.029	V	31.5(50.7)
DMG	33.5000	117.0000	08/08/1925	1013 0.0	0.0	4.50	0.027	V	31.5(50.7)
PAS	32.9450	117.8310	07/29/1986	81741.8	10.0	4.10	0.022	IV	31.7(51.0)
PAS	32.9330	117.8410	07/29/1986	81741.6	10.0	4.30	0.024	V	32.6(52.4)
PAS	32.9710	117.8700	07/13/1986	1347 8.2	6.0	5.30	0.040	V	33.1(53.2)
DMG	33.4540	116.8980	07/29/1936	142252.8	10.0	4.00	0.020	IV	33.3(53.5)
DMG	33.4560	116.8960	06/16/1938	55916.9	10.0	4.00	0.020	IV	33.4(53.8)
PAS	32.6790	117.1510	06/18/1985	32228.7	5.7	4.00	0.020	IV	33.5(53.9)
T-A	32.6700	117.1700	12/00/1856	0 0 0.0	0.0	5.00	0.034	V	33.8(54.4)
T-A	32.6700	117.1700	04/15/1865	840 0.0	0.0	4.30	0.023	IV	33.8(54.4)
T-A	32.6700	117.1700	01/25/1863	1020 0.0	0.0	4.30	0.023	IV	33.8(54.4)
T-A	32.6700	117.1700	05/24/1865	0 0 0.0	0.0	5.00	0.034	V	33.8(54.4)
T-A	32.6700	117.1700	10/21/1862	0 0 0.0	0.0	5.00	0.034	V	33.8(54.4)
DMG	33.5000	116.9170	11/04/1935	355 0.0	0.0	4.50	0.025	V	34.6(55.8)
PAS	32.6270	117.3770	06/29/1983	8 836.4	5.0	4.60	0.026	V	35.5(57.1)
DMG	33.2000	116.7200	05/12/1930	172548.5	0.0	4.20	0.021	IV	35.8(57.6)
PAS	33.0330	117.9440	02/22/1983	21830.4	10.0	4.30	0.022	IV	36.0(57.9)
DMG	33.2000	116.7000	01/01/1920	235 0.0	0.0	5.00	0.031	V	36.9(59.4)
DMG	32.8000	117.8330	01/24/1942	214148.0	0.0	4.00	0.018	IV	37.2(59.8)
PAS	32.6150	117.1520	10/29/1986	23815.3	14.6	4.10	0.019	IV	37.7(60.7)
MGI	32.8000	116.8000	08/14/1927	1448 0.0	0.0	4.60	0.025	V	38.8(62.5)
DMG	32.8000	116.8000	10/23/1894	23 3 0.0	0.0	5.70	0.044	VI	38.8(62.5)
DMG	33.7000	117.4000	05/15/1910	1547 0.0	0.0	6.00	0.051	VI	38.9(62.6)
DMG	33.7000	117.4000	05/13/1910	620 0.0	0.0	5.00	0.030	V	38.9(62.6)
DMG	33.7000	117.4000	04/11/1910	757 0.0	0.0	5.00	0.030	V	38.9(62.6)
DMG	33.5450	117.8070	10/27/1969	1316 2.3	6.5	4.50	0.023	IV	39.1(62.9)
DMG	33.6820	117.5530	07/05/1938	18 655.7	10.0	4.50	0.023	IV	39.5(63.6)
MGI	33.5000	116.8000	03/30/1918	16 5 0.0	0.0	4.60	0.024	V	39.6(63.8)
MGI	33.5000	116.8000	11/26/1916	17 5 0.0	0.0	4.00	0.018	IV	39.6(63.8)
MGI	33.5000	116.8000	06/02/1917	435 0.0	0.0	4.00	0.018	IV	39.6(63.8)

EARTHQUAKE SEARCH RESULTS

Page 2

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
MGI	33.5000	116.8000	05/31/1917	435 0.0	0.0	4.00	0.018	IV	39.6(63.8)
DMG	33.6990	117.5110	05/31/1938	83455.4	10.0	5.50	0.039	V	40.0(64.3)
DMG	33.4880	116.7770	06/12/1959	11 313.0	5.7	4.00	0.017	IV	40.2(64.7)
DMG	33.1000	116.6330	02/08/1952	174028.0	0.0	4.00	0.017	IV	40.7(65.4)
DMG	33.7000	117.1000	06/11/1902	245 0.0	0.0	4.50	0.022	IV	41.0(66.0)
DMG	32.7170	117.8330	11/06/1950	205546.0	0.0	4.40	0.021	IV	41.0(66.0)
DMG	33.7170	117.5070	08/06/1938	22 056.0	10.0	4.00	0.017	IV	41.1(66.1)
DMG	33.7170	117.5170	06/19/1935	1117 0.0	0.0	4.00	0.017	IV	41.2(66.4)
DMG	33.7250	117.4980	01/03/1956	02548.9	13.7	4.70	0.025	V	41.5(66.8)
PAS	33.4200	116.6980	06/05/1978	16 3 3.9	11.9	4.40	0.021	IV	41.5(66.8)
DMG	33.7330	117.4670	10/26/1954	162226.0	0.0	4.10	0.018	IV	41.7(67.1)
DMG	33.7380	117.1870	04/27/1962	91232.1	5.7	4.10	0.018	IV	42.2(67.9)
PAS	32.7590	117.9060	10/18/1976	172753.1	13.8	4.20	0.019	IV	42.3(68.0)
MGI	33.1000	116.6000	02/09/1920	220 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	02/05/1922	1915 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	08/19/1917	710 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	05/11/1915	1145 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	05/28/1917	1017 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	08/10/1921	2151 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	02/16/1915	1330 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	03/04/1915	1250 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.1000	116.6000	08/10/1921	19 6 0.0	0.0	4.00	0.017	IV	42.6(68.5)
MGI	33.2000	116.6000	10/12/1920	1748 0.0	0.0	5.30	0.033	V	42.7(68.6)
DMG	33.7480	117.4790	06/22/1971	104119.0	8.0	4.20	0.018	IV	42.8(68.9)
DMG	33.4500	116.6830	04/25/1955	25515.0	0.0	4.00	0.016	IV	43.3(69.7)
DMG	33.1500	116.5830	12/02/1935	319 0.0	0.0	4.00	0.016	IV	43.5(69.9)
MGI	33.0000	116.6000	06/11/1917	354 0.0	0.0	4.00	0.016	IV	43.6(70.1)
DMG	33.4830	116.7000	12/28/1948	125341.0	0.0	4.00	0.016	IV	43.6(70.2)
PAS	32.7140	117.9100	10/18/1976	172652.6	15.1	4.20	0.018	IV	44.4(71.5)
DMG	33.7100	116.9250	09/23/1963	144152.6	16.5	5.00	0.027	V	45.9(73.9)
PAS	32.7560	117.9880	01/12/1975	212214.8	15.3	4.80	0.024	IV	46.2(74.3)
DMG	33.7500	117.0000	06/06/1918	2232 0.0	0.0	5.00	0.026	V	46.4(74.6)
DMG	33.7500	117.0000	04/21/1918	223225.0	0.0	6.80	0.068	VI	46.4(74.6)
DMG	33.4670	116.6330	02/20/1934	1035 0.0	0.0	4.00	0.016	IV	46.4(74.6)
GSP	33.6200	117.9000	04/07/1989	200730.2	13.0	4.50	0.020	IV	46.5(74.9)
DMG	32.5830	117.8000	04/19/1939	741 0.0	0.0	4.50	0.020	IV	46.9(75.5)
DMG	33.1100	116.5230	01/24/1957	205449.9	3.9	4.60	0.021	IV	47.0(75.6)
DMG	33.5670	117.9830	04/17/1934	1833 0.0	0.0	4.00	0.015	IV	47.6(76.7)
DMG	33.5670	117.9830	07/07/1937	1112 0.0	0.0	4.00	0.015	IV	47.6(76.7)
MGI	32.7000	116.7000	03/21/1918	2325 0.0	0.0	4.00	0.015	IV	47.7(76.7)
PAS	33.4710	118.0610	02/27/1984	101815.0	6.0	4.00	0.015	IV	47.8(76.9)
DMG	33.4000	116.5670	02/04/1953	43616.0	0.0	4.30	0.018	IV	47.8(77.0)
DMG	33.5080	116.6310	08/11/1967	05711.4	10.7	4.10	0.016	IV	47.9(77.1)
DMG	33.5750	117.9830	03/11/1933	518 4.0	0.0	5.20	0.029	V	48.0(77.2)
DMG	33.8330	117.4000	06/05/1940	82727.0	0.0	4.00	0.015	IV	48.0(77.3)
MGI	33.8000	117.6000	04/22/1918	2115 0.0	0.0	5.00	0.026	V	48.1(77.4)
DMG	33.8000	117.6000	09/16/1903	1210 0.0	0.0	4.00	0.015	IV	48.1(77.4)
PAS	33.5580	116.6670	06/15/1982	234921.3	12.2	4.80	0.023	IV	48.1(77.5)
PAS	33.1380	116.5010	10/10/1984	212258.9	11.6	4.50	0.020	IV	48.2(77.6)
PAS	33.7010	116.8370	08/22/1979	2 136.3	5.0	4.10	0.016	IV	48.2(77.6)
DMG	33.4170	116.5670	12/22/1950	2 536.0	0.0	4.00	0.015	IV	48.3(77.7)
DMG	33.1670	116.5000	06/23/1932	23037.1	0.0	4.00	0.015	IV	48.3(77.7)
DMG	33.1670	116.5000	06/23/1932	22552.7	0.0	4.00	0.015	IV	48.3(77.7)

EARTHQUAKE SEARCH RESULTS

Page 3

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.5330	116.6330	09/21/1942	7 754.0	0.0	4.00	0.015	IV	48.7(78.4)
DMG	33.6500	116.7500	09/05/1950	191956.0	0.0	4.80	0.023	IV	48.8(78.5)
DMG	33.4670	116.5830	03/27/1937	742 0.0	0.0	4.50	0.019	IV	48.9(78.7)
DMG	33.4670	116.5830	03/26/1937	2124 0.0	0.0	4.00	0.015	IV	48.9(78.7)
DMG	33.4670	116.5830	01/04/1938	029 0.0	0.0	4.50	0.019	IV	48.9(78.7)
DMG	33.4670	116.5830	03/27/1937	528 0.0	0.0	4.00	0.015	IV	48.9(78.7)
PDP	33.6320	116.7190	07/19/1999	220927.5	14.0	4.20	0.017	IV	49.2(79.1)
DMG	33.6170	117.9670	03/11/1933	154 7.8	0.0	6.30	0.050	VI	49.2(79.1)
GSP	33.6500	116.7400	12/02/1989	231647.8	14.0	4.20	0.017	IV	49.2(79.1)
DMG	33.8000	117.0000	12/25/1899	1225 0.0	0.0	6.40	0.052	VI	49.5(79.7)
PAS	33.5080	118.0710	11/20/1988	53928.7	6.0	4.50	0.019	IV	49.5(79.7)
DMG	33.3670	118.1500	04/16/1942	72833.0	0.0	4.00	0.015	IV	49.6(79.9)
DMG	33.6000	118.0000	03/11/1933	231 0.0	0.0	4.40	0.018	IV	49.8(80.2)
DMG	33.6000	118.0000	03/11/1933	217 0.0	0.0	4.50	0.019	IV	49.8(80.2)
DMG	33.5060	116.5850	05/21/1967	144234.4	19.4	4.70	0.021	IV	50.1(80.6)
DMG	33.1670	116.4670	08/01/1960	193930.0	0.0	4.20	0.016	IV	50.2(80.8)
DMG	33.6000	118.0170	12/25/1935	1715 0.0	0.0	4.50	0.019	IV	50.6(81.4)
MGI	33.7000	117.9000	07/08/1902	945 0.0	0.0	4.00	0.015	IV	50.6(81.4)
DMG	33.5610	118.0580	01/15/1937	183547.0	10.0	4.00	0.015	IV	50.9(81.9)
DMG	33.1000	116.4500	11/23/1953	1339 7.0	0.0	4.30	0.017	IV	51.2(82.4)
DMG	33.5170	118.1000	03/22/1941	82240.0	0.0	4.00	0.014	IV	51.3(82.5)
DMG	33.6170	118.0170	10/02/1933	1326 1.0	0.0	4.00	0.014	IV	51.3(82.6)
DMG	33.6170	118.0170	03/15/1933	111332.0	0.0	4.90	0.023	IV	51.3(82.6)
DMG	33.6170	118.0170	03/14/1933	19 150.0	0.0	5.10	0.026	V	51.3(82.6)
DMG	33.4000	116.5000	10/11/1918	4 0 0.0	0.0	4.00	0.014	IV	51.4(82.8)
DMG	33.7670	117.8170	08/22/1936	521 0.0	0.0	4.00	0.014	IV	51.5(82.8)
DMG	33.0970	116.4440	08/18/1959	215221.3	17.3	4.30	0.017	IV	51.6(83.0)
DMG	33.6590	117.9810	10/20/1961	20 714.5	6.1	4.00	0.014	IV	51.7(83.2)
DMG	33.6650	117.9790	10/20/1961	214240.7	7.2	4.00	0.014	IV	51.9(83.6)
PAS	33.5200	116.5580	08/02/1975	014 7.7	13.4	4.70	0.021	IV	51.9(83.6)
MGI	33.8000	116.9000	04/29/1918	2 0 0.0	0.0	4.00	0.014	IV	52.0(83.7)
MGI	33.8000	116.9000	04/23/1918	1415 0.0	0.0	4.00	0.014	IV	52.0(83.7)
MGI	33.8000	116.9000	12/18/1920	1726 0.0	0.0	4.00	0.014	IV	52.0(83.7)
MGI	33.8000	116.9000	06/14/1918	1024 0.0	0.0	4.00	0.014	IV	52.0(83.7)
DMG	33.6540	117.9940	10/20/1961	194950.5	4.6	4.30	0.017	IV	52.0(83.7)
DMG	33.6170	118.0330	05/21/1938	944 0.0	0.0	4.00	0.014	IV	52.0(83.8)

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.5340	116.5610	09/23/1956	112441.9	12.2	4.30	0.017	IV	52.3(84.1)
DMG	33.4200	116.4900	03/29/1937	17 316.8	10.0	4.00	0.014	IV	52.5(84.4)
PAS	32.6250	118.0090	07/11/1981	215029.4	5.0	4.30	0.016	IV	52.8(85.0)
DMG	33.0020	116.4360	07/02/1957	65638.5	12.8	4.10	0.015	IV	52.8(85.0)
MGI	33.8000	117.8000	05/19/1917	719 0.0	0.0	4.00	0.014	IV	52.9(85.1)
MGI	33.8000	117.8000	05/20/1917	945 0.0	0.0	4.00	0.014	IV	52.9(85.1)
MGI	33.8000	117.8000	11/09/1926	1535 0.0	0.0	4.60	0.019	IV	52.9(85.1)
MGI	33.8000	117.8000	11/10/1926	1723 0.0	0.0	4.60	0.019	IV	52.9(85.1)
MGI	33.8000	117.8000	05/19/1917	635 0.0	0.0	4.00	0.014	IV	52.9(85.1)
MGI	33.8000	117.8000	11/07/1926	1948 0.0	0.0	4.60	0.019	IV	52.9(85.1)
MGI	33.8000	117.8000	11/04/1926	2238 0.0	0.0	4.60	0.019	IV	52.9(85.1)
PAS	33.4840	116.5130	08/11/1976	152455.5	15.4	4.30	0.016	IV	53.0(85.4)
DMG	33.0000	116.4330	06/04/1940	1035 8.3	0.0	5.10	0.025	V	53.0(85.4)
DMG	33.1670	116.4170	10/14/1935	1550 0.0	0.0	4.00	0.014	IV	53.1(85.4)
DMG	33.1670	116.4170	12/05/1939	173352.0	0.0	4.00	0.014	IV	53.1(85.4)
DMG	33.1670	116.4170	07/10/1938	18 6 0.0	0.0	4.00	0.014	IV	53.1(85.4)
DMG	33.1170	116.4170	06/04/1940	103656.0	0.0	4.00	0.014	IV	53.1(85.4)

EARTHQUAKE SEARCH RESULTS

Page 4

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.1170	116.4170	10/21/1940	64933.0	0.0	4.50	0.018	IV	53.1(85.4)
DMG	33.9000	117.2000	12/19/1880	0 0 0.0	0.0	6.00	0.040	V	53.1(85.4)
DMG	33.6800	117.9930	11/20/1961	85334.7	4.4	4.00	0.014	IV	53.2(85.7)
DMG	32.6800	118.0770	10/28/1973	22 0 2.7	8.0	4.50	0.018	IV	53.5(86.0)
PAS	33.5010	116.5130	02/25/1980	104738.5	13.6	5.50	0.031	V	53.6(86.2)
DMG	33.6710	118.0120	10/20/1961	223534.2	5.6	4.10	0.015	IV	53.6(86.2)
DMG	33.4830	116.5000	02/15/1951	104759.0	0.0	4.80	0.021	IV	53.7(86.4)
DMG	33.4830	116.5000	02/15/1951	104957.0	0.0	4.80	0.021	IV	53.7(86.4)
DMG	33.3330	116.4330	02/12/1954	94428.0	0.0	4.50	0.018	IV	53.8(86.5)
DMG	33.3680	116.4440	03/25/1937	232026.7	10.0	4.00	0.014	IV	53.8(86.6)
GSP	33.1100	116.4000	04/01/1984	071702.3	11.0	4.00	0.014	IV	54.1(87.0)
DMG	33.5000	116.5000	09/30/1916	211 0.0	0.0	5.00	0.023	IV	54.2(87.2)
DMG	33.2670	116.4000	06/06/1940	2321 4.0	0.0	4.00	0.014	III	54.7(88.0)
DMG	33.9330	117.3670	10/24/1943	02921.0	0.0	4.00	0.014	III	54.8(88.2)
DMG	33.8540	117.7520	10/04/1961	22131.6	4.3	4.10	0.014	IV	54.9(88.3)
GSP	32.6810	118.1090	06/20/1997	043540.5	6.0	4.70	0.020	IV	54.9(88.4)
DMG	33.5000	116.4830	02/23/1941	183614.0	0.0	4.50	0.018	IV	55.1(88.6)
DMG	33.1830	116.3830	10/14/1949	02925.0	0.0	4.10	0.014	IV	55.1(88.6)
DMG	33.6830	118.0500	03/11/1933	1250 0.0	0.0	4.40	0.017	IV	55.8(89.7)
DMG	33.6830	118.0500	03/11/1933	658 3.0	0.0	5.50	0.030	V	55.8(89.7)
DMG	33.6170	118.1170	01/20/1934	2117 0.0	0.0	4.50	0.018	IV	55.9(89.9)
MGI	33.8000	117.9000	05/22/1902	740 0.0	0.0	4.30	0.016	IV	56.0(90.2)
GSP	32.6850	118.1380	06/20/1997	053855.0	6.0	4.20	0.015	IV	56.1(90.3)
DMG	32.8670	118.2500	02/13/1952	151337.0	0.0	4.70	0.019	IV	56.2(90.5)
DMG	33.4260	116.4210	03/25/1937	20 4 8.3	10.0	4.00	0.013	III	56.3(90.6)
DMG	33.4170	116.4170	01/02/1943	141118.0	0.0	4.50	0.017	IV	56.3(90.6)
DMG	32.9670	116.3830	10/31/1942	15 758.0	0.0	4.00	0.013	III	56.3(90.7)
PAS	33.4580	116.4340	02/12/1979	44842.3	3.9	4.20	0.015	IV	56.4(90.8)
DMG	32.7180	118.1720	04/28/1938	6 728.0	10.0	4.50	0.017	IV	56.6(91.0)
DMG	33.4670	116.4330	05/12/1939	1925 2.2	0.0	4.50	0.017	IV	56.7(91.3)
DMG	33.0380	116.3610	02/26/1957	211652.2	0.0	4.10	0.014	IV	56.7(91.3)
DMG	32.7500	118.2000	06/25/1939	149 0.0	0.0	4.50	0.017	IV	56.9(91.5)
PAS	33.4830	116.4380	07/02/1988	02658.2	12.6	4.00	0.013	III	56.9(91.6)
DMG	33.7500	118.0000	11/16/1934	2126 0.0	0.0	4.00	0.013	III	57.0(91.7)
DMG	33.1210	116.3490	05/25/1971	10 252.9	8.0	4.10	0.014	IV	57.0(91.7)
GSP	33.5100	116.4500	02/18/1990	155259.9	9.0	4.10	0.014	IV	57.1(91.9)
DMG	33.7000	118.0670	07/20/1940	4 113.0	0.0	4.00	0.013	III	57.3(92.2)
DMG	33.7000	118.0670	02/08/1940	165617.0	0.0	4.00	0.013	III	57.3(92.2)
DMG	33.7000	118.0670	03/11/1933	85457.0	0.0	5.10	0.024	IV	57.3(92.2)
DMG	33.7000	118.0670	03/11/1933	51022.0	0.0	5.10	0.024	IV	57.3(92.2)
PAS	33.5380	116.2070	05/25/1982	134430.3	13.7	4.10	0.014	IV	57.4(92.3)
DMG	33.2830	116.3500	04/13/1949	75336.0	0.0	4.10	0.014	IV	57.7(92.9)
DMG	33.9500	117.5830	04/11/1941	12024.0	0.0	4.00	0.013	III	57.8(93.0)
DMG	33.5010	116.4290	02/23/1971	0 739.2	8.0	4.20	0.015	IV	57.9(93.2)
DMG	33.5000	118.2500	06/18/1920	10 8 0.0	0.0	4.50	0.017	IV	58.4(94.0)
DMG	33.8000	116.7000	08/11/1911	1820 0.0	0.0	4.00	0.013	III	58.5(94.1)
DMG	33.8000	116.7000	08/11/1911	2340 0.0	0.0	4.50	0.017	IV	58.5(94.1)
DMG	33.3430	116.3460	04/28/1969	232042.9	20.0	5.80	0.033	V	58.8(94.6)
GSP	32.6260	118.1510	06/20/1997	080413.6	6.0	4.60	0.018	IV	59.1(95.2)
DMG	33.9960	117.2700	02/17/1952	123658.3	16.0	4.50	0.017	IV	59.3(95.4)
GSP	33.3990	116.3540	07/26/1997	031456.0	11.0	4.80	0.020	IV	59.4(95.6)
DMG	34.0000	117.2830	11/07/1939	1852 8.4	0.0	4.70	0.019	IV	59.5(95.7)
MGI	34.0000	117.4000	05/22/1907	652 0.0	0.0	4.60	0.018	IV	59.5(95.8)

EARTHQUAKE SEARCH RESULTS

Page 5

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.8000	118.0000	10/21/1913	938 0.0	0.0	4.00	0.013	III	59.6(95.9)
DMG	34.0000	117.2500	07/23/1923	73026.0	0.0	6.25	0.042	VI	59.6(95.9)
DMG	34.0000	117.2500	11/01/1932	445 0.0	0.0	4.00	0.013	III	59.6(95.9)
T-A	34.0000	117.4200	09/10/1920	1415 0.0	0.0	4.30	0.015	IV	59.6(96.0)
T-A	34.0000	117.4200	04/12/1888	1315 0.0	0.0	4.30	0.015	IV	59.6(96.0)
DMG	33.2910	116.3170	03/19/1966	142156.0	10.9	4.00	0.013	III	59.7(96.1)
DMG	33.0530	116.3060	04/02/1967	201538.6	1.0	4.30	0.015	IV	59.8(96.2)
PAS	33.4600	116.3700	09/07/1984	175730.3	15.2	4.10	0.013	III	59.9(96.4)
DMG	33.2000	116.3000	05/12/1930	414 0.0	0.0	4.00	0.013	III	59.9(96.5)
GSP	33.9510	117.7090	01/05/1998	181406.5	11.0	4.30	0.015	IV	60.0(96.6)
MGI	34.0000	117.5000	12/16/1858	10 0 0.0	0.0	7.00	0.062	VI	60.2(96.8)
DMG	34.0000	117.5000	07/03/1908	1255 0.0	0.0	4.00	0.013	III	60.2(96.8)
DMG	33.7330	118.1000	03/11/1933	15 9 0.0	0.0	4.40	0.016	IV	60.2(96.9)
DMG	33.7330	118.1000	03/11/1933	1350 0.0	0.0	4.40	0.016	IV	60.2(96.9)
DMG	33.7330	118.1000	03/11/1933	1447 0.0	0.0	4.40	0.016	IV	60.2(96.9)
DMG	33.7500	118.0830	03/31/1933	1049 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	15 2 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	910 0.0	0.0	5.10	0.023	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	257 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	258 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/30/1933	1225 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	2 9 0.0	0.0	5.00	0.022	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	11 0 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	311 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1129 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/14/1933	1219 0.0	0.0	4.50	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	2232 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	911 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	2128 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	323 0.0	0.0	5.00	0.022	IV	60.3(97.0)
DMG	33.7500	118.0830	03/25/1933	1346 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1956 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	837 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	6 1 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	616 0.0	0.0	4.60	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	740 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	04/01/1933	642 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	04/02/1933	8 0 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/16/1933	1456 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	04/02/1933	1536 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/16/1933	1529 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	611 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	2 5 0.0	0.0	4.30	0.015	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	336 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/13/1933	1532 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/23/1933	1831 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	832 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	230 0.0	0.0	5.10	0.023	IV	60.3(97.0)
DMG	33.7500	118.0830	03/13/1933	1929 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/14/1933	036 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	513 0.0	0.0	4.70	0.018	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	448 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	252 0.0	0.0	4.00	0.013	III	60.3(97.0)

EARTHQUAKE SEARCH RESULTS

Page 6

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.7500	118.0830	03/11/1933	1653 0.0	0.0	4.80	0.019	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1944 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/15/1933	432 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1045 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	3 9 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	555 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/16/1933	1530 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	339 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	439 0.0	0.0	4.90	0.020	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	436 0.0	0.0	4.60	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	227 0.0	0.0	4.60	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/23/1933	840 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1357 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	546 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	034 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	222 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	835 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1025 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	1651 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	553 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	3 5 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	1825 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	2 4 0.0	0.0	4.90	0.020	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1138 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1147 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	347 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/13/1933	131828.0	0.0	5.30	0.025	V	60.3(97.0)
DMG	33.7500	118.0830	03/13/1933	617 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/21/1933	326 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	440 0.0	0.0	4.70	0.018	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	027 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	216 0.0	0.0	4.80	0.019	IV	60.3(97.0)
DMG	33.7500	118.0830	03/13/1933	432 0.0	0.0	4.70	0.018	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	524 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/15/1933	540 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/15/1933	2 8 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/14/1933	2242 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	1738 0.0	0.0	4.50	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	259 0.0	0.0	4.60	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	22 0 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/12/1933	2354 0.0	0.0	4.50	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/13/1933	343 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/19/1933	2123 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	751 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/20/1933	1358 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	8 8 0.0	0.0	4.50	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	635 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	2231 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	618 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	926 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1547 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	521 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	23 5 0.0	0.0	4.20	0.014	IV	60.3(97.0)

EARTHQUAKE SEARCH RESULTS

Page 7

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.7500	118.0830	03/11/1933	759 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	1141 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	211 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/18/1933	2052 0.0	0.0	4.20	0.014	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	210 0.0	0.0	4.60	0.017	IV	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	515 0.0	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.7500	118.0830	03/11/1933	2240 0.0	0.0	4.40	0.016	IV	60.3(97.0)
DMG	33.7500	118.0830	03/17/1933	1651 0.0	0.0	4.10	0.013	III	60.3(97.0)
DMG	33.6300	118.2000	09/13/1929	132338.2	0.0	4.00	0.013	III	60.3(97.0)
DMG	33.6330	118.2000	11/01/1940	20 046.0	0.0	4.00	0.013	III	60.4(97.2)
DMG	32.5290	118.0820	05/26/1973	234633.3	8.0	4.30	0.015	IV	60.5(97.3)
DMG	33.3150	116.3050	04/09/1968	1831 3.8	12.6	4.70	0.018	IV	60.7(97.7)
DMG	33.3000	116.3000	01/04/1940	8 711.0	0.0	4.00	0.013	III	60.8(97.8)
MGI	32.6000	116.5000	05/03/1918	425 0.0	0.0	4.00	0.013	III	61.1(98.3)
DMG	33.3330	116.3000	08/05/1933	2331 0.0	0.0	4.40	0.016	IV	61.2(98.5)
DMG	33.3330	116.3000	08/06/1933	332 0.0	0.0	4.70	0.018	IV	61.2(98.5)
PAS	34.0230	117.2450	10/02/1985	234412.4	15.2	4.80	0.019	IV	61.2(98.5)
GSP	34.0240	117.2300	03/11/1998	121851.8	14.0	4.50	0.016	IV	61.4(98.8)
DMG	32.9610	116.2900	08/25/1971	23 033.0	8.0	4.00	0.012	III	61.7(99.3)
DMG	34.0330	117.3500	04/18/1940	184343.9	0.0	4.40	0.015	IV	61.7(99.3)
DMG	34.0330	117.3170	09/03/1935	647 0.0	0.0	4.50	0.016	IV	61.7(99.3)
DMG	33.2350	116.2660	04/09/1968	93833.0	5.2	4.00	0.012	III	62.1(99.9)
T-A	32.2500	117.5000	01/13/1877	20 0 0.0	0.0	5.00	0.021	IV	62.1(100.0)
DMG	33.8000	116.6000	09/10/1931	436 0.0	0.0	4.00	0.012	III	62.2(100.1)
DMG	33.4000	116.3000	02/09/1890	12 6 0.0	0.0	6.30	0.042	VI	62.4(100.4)
DMG	33.7500	118.1330	03/11/1933	11 4 0.0	0.0	4.60	0.017	IV	62.4(100.4)
DMG	32.9520	116.2790	09/13/1973	173039.8	8.0	4.80	0.019	IV	62.4(100.5)
DMG	34.0000	117.0000	06/30/1923	022 0.0	0.0	4.50	0.016	IV	62.5(100.5)
DMG	33.0430	116.2600	08/22/1961	231933.6	12.1	4.40	0.015	IV	62.5(100.6)
DMG	33.7670	118.1170	11/04/1939	2141 0.0	0.0	4.00	0.012	III	62.5(100.6)
DMG	33.9500	116.8500	09/28/1946	719 9.0	0.0	5.00	0.021	IV	62.5(100.6)
DMG	32.9900	116.2680	11/08/1958	132044.1	2.4	4.10	0.013	III	62.6(100.7)
DMG	34.0430	117.2280	04/03/1939	25044.7	10.0	4.00	0.012	III	62.7(100.9)
DMG	34.0170	117.0500	02/19/1940	12 655.7	0.0	4.60	0.017	IV	62.8(101.0)
DMG	33.9680	116.8820	06/27/1959	162211.1	13.8	4.00	0.012	III	62.9(101.2)
DMG	32.8170	118.3500	12/26/1951	04654.0	0.0	5.90	0.033	V	62.9(101.2)
MGI	34.0000	117.7000	12/03/1929	9 5 0.0	0.0	4.00	0.012	III	63.0(101.4)
USG	32.7700	118.3340	06/16/1985	1027 0.7	5.0	4.14	0.013	III	63.3(101.8)
DMG	32.9230	116.2720	10/14/1969	131842.7	10.0	4.50	0.016	IV	63.3(101.9)
DMG	33.9170	116.7500	01/25/1933	1444 0.0	0.0	4.00	0.012	III	63.4(102.0)
DMG	33.2790	116.2490	01/07/1966	191023.0	-1.7	4.00	0.012	III	63.4(102.1)
PAS	32.3020	116.8810	08/19/1978	931 5.7	19.8	4.10	0.013	III	63.5(102.2)
DMG	33.0500	116.2380	08/23/1961	1 047.8	11.9	4.70	0.018	IV	63.7(102.6)
DMG	33.2000	116.2330	04/05/1942	92039.0	0.0	4.00	0.012	III	63.8(102.7)
DMG	33.7500	118.1670	05/16/1933	205855.0	0.0	4.00	0.012	III	63.9(102.8)
DMG	33.7830	118.1330	11/20/1933	1032 0.0	0.0	4.00	0.012	III	64.0(102.9)
DMG	33.7830	118.1330	10/02/1933	91017.6	0.0	5.40	0.025	V	64.0(102.9)
DMG	33.7830	118.1330	01/13/1940	749 7.0	0.0	4.00	0.012	III	64.0(102.9)
DMG	32.9500	116.2500	11/14/1951	2355 3.0	0.0	4.10	0.013	III	64.1(103.2)
DMG	33.0330	116.2330	09/20/1961	5 410.0	0.0	4.00	0.012	III	64.1(103.2)
PAS	34.0060	117.7390	02/18/1989	717 4.8	3.3	4.30	0.014	IV	64.2(103.3)
PAS	32.9050	116.2610	12/25/1975	71852.3	3.6	4.00	0.012	III	64.2(103.3)
DMG	33.9330	116.7500	10/28/1944	183016.0	0.0	4.40	0.015	IV	64.3(103.5)

EARTHQUAKE SEARCH RESULTS

Page 8

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.9330	116.7500	08/06/1938	228 0.0	0.0	4.00	0.012	III	64.3(103.5)
DMG	33.5430	118.3400	09/14/1963	35116.2	2.2	4.20	0.013	III	64.3(103.5)
DMG	33.7500	118.1830	08/04/1933	41748.0	0.0	4.00	0.012	III	64.5(103.9)
DMG	33.4080	116.2610	03/25/1937	1649 1.8	10.0	6.00	0.035	V	64.7(104.1)
DMG	33.0190	116.2250	08/20/1969	152957.2	0.6	4.00	0.012	III	64.7(104.2)
DMG	33.0210	116.2230	01/13/1963	23938.9	13.0	4.20	0.013	III	64.8(104.3)
DMG	33.3330	116.2360	10/05/1962	1529 2.6	13.9	4.10	0.013	III	64.8(104.3)
DMG	33.9670	116.8000	09/07/1945	153424.0	0.0	4.30	0.014	IV	64.9(104.4)
DMG	33.9170	116.7000	11/17/1943	112841.0	0.0	4.50	0.016	IV	64.9(104.5)
DMG	33.3330	116.2330	06/09/1942	5 633.0	0.0	4.00	0.012	III	65.0(104.6)
DMG	32.6800	116.3540	01/21/1970	1124 0.4	8.0	4.10	0.013	III	65.1(104.7)
T-A	34.0800	117.2500	10/07/1869	0 0 0.0	0.0	4.30	0.014	IV	65.1(104.8)
DMG	33.3100	116.2240	05/22/1968	132655.4	7.5	4.40	0.015	IV	65.2(104.9)
PAS	33.0580	116.2110	03/22/1982	85328.6	4.6	4.50	0.016	IV	65.2(105.0)
PAS	33.9650	117.8860	01/01/1976	172012.9	6.2	4.20	0.013	III	65.2(105.0)
DMG	33.2000	116.2000	05/28/1892	1115 0.0	0.0	6.30	0.040	V	65.7(105.7)
DMG	33.9500	116.7330	04/26/1942	151023.0	0.0	4.00	0.012	III	65.8(105.9)
DMG	33.9730	116.7690	06/10/1944	111531.9	10.0	4.00	0.012	III	66.1(106.4)
DMG	33.9760	116.7750	10/17/1965	94519.0	17.0	4.90	0.019	IV	66.1(106.4)
MGI	34.1000	117.3000	12/27/1901	11 0 0.0	0.0	4.60	0.016	IV	66.4(106.8)
DMG	34.1000	117.3000	02/16/1931	1327 0.0	0.0	4.00	0.012	III	66.4(106.8)
MGI	34.1000	117.3000	07/15/1905	2041 0.0	0.0	5.30	0.023	IV	66.4(106.8)
MGI	34.1000	117.3000	11/22/1911	257 0.0	0.0	4.00	0.012	III	66.4(106.8)
DMG	33.2370	116.1900	04/14/1968	125558.7	10.8	4.30	0.014	IV	66.5(107.0)
MGI	34.1000	117.2000	04/23/1923	2113 0.0	0.0	4.00	0.012	III	66.8(107.5)
DMG	33.7830	118.2000	12/27/1939	192849.0	0.0	4.70	0.017	IV	66.8(107.5)
DMG	32.7000	116.3000	02/24/1892	720 0.0	0.0	6.70	0.048	VI	67.2(108.1)
DMG	33.2830	116.1830	03/19/1954	95748.0	0.0	4.00	0.012	III	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	95429.0	0.0	6.20	0.037	V	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	143750.0	0.0	4.00	0.012	III	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	957 7.0	0.0	4.60	0.016	IV	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	14 057.0	0.0	4.10	0.012	III	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	102610.0	0.0	4.00	0.012	III	67.3(108.2)
DMG	33.2830	116.1830	03/20/1954	6 353.0	0.0	4.30	0.014	III	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	102117.0	0.0	5.50	0.026	V	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	13 8 4.0	0.0	4.30	0.014	III	67.3(108.2)
DMG	33.2830	116.1830	03/23/1954	41450.0	0.0	5.10	0.021	IV	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	95556.0	0.0	5.00	0.020	IV	67.3(108.2)
DMG	33.2830	116.1830	10/26/1944	225410.0	0.0	4.20	0.013	III	67.3(108.2)
DMG	33.2830	116.1830	04/04/1954	42920.0	0.0	4.10	0.012	III	67.3(108.2)
DMG	33.2830	116.1830	03/20/1954	41919.0	0.0	4.90	0.019	IV	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	101957.0	0.0	4.50	0.015	IV	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	10 139.0	0.0	4.20	0.013	III	67.3(108.2)
DMG	33.2830	116.1830	03/19/1954	101522.0	0.0	4.50	0.015	IV	67.3(108.2)
DMG	34.1120	117.4260	03/19/1937	12338.4	10.0	4.00	0.012	III	67.4(108.4)
DMG	33.1670	116.1670	11/16/1937	1057 0.0	0.0	4.00	0.012	III	67.5(108.7)
DMG	34.1180	117.3410	09/22/1951	82239.1	11.9	4.30	0.014	III	67.6(108.7)
DMG	33.9760	116.7210	06/12/1944	104534.7	10.0	5.10	0.021	IV	67.7(108.9)
DMG	33.3490	116.1880	05/19/1969	144033.0	8.6	4.50	0.015	IV	67.8(109.1)
DMG	34.1160	117.4750	06/28/1960	20 048.0	12.0	4.10	0.012	III	67.9(109.3)
PAS	33.9760	116.7130	08/06/1984	81436.6	14.2	4.30	0.014	III	67.9(109.3)
DMG	33.7590	118.2530	08/31/1938	31814.2	10.0	4.50	0.015	IV	68.0(109.5)
DMG	34.1270	117.3380	02/23/1936	222042.7	10.0	4.50	0.015	IV	68.2(109.7)

EARTHQUAKE SEARCH RESULTS

Page 9

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
GSP	34.0850	116.9890	06/30/1992	214900.3	3.0	4.40	0.014	IV	68.2(109.8)
DMG	33.8980	116.5690	11/17/1964	145228.2	10.3	4.00	0.012	III	68.5(110.2)
DMG	34.1240	117.4800	05/15/1955	17 326.0	7.6	4.00	0.012	III	68.5(110.2)
DMG	34.0140	116.7710	06/10/1944	111150.5	10.0	4.50	0.015	IV	68.5(110.3)
DMG	33.9000	118.1000	07/08/1929	1646 6.7	13.0	4.70	0.017	IV	68.6(110.3)
DMG	33.9810	116.7020	06/12/1944	222119.5	10.0	4.20	0.013	III	68.6(110.3)
DMG	34.1320	117.4260	04/15/1965	20 833.3	5.5	4.50	0.015	IV	68.7(110.6)
DMG	33.9590	116.6510	09/23/1949	214440.1	12.2	4.00	0.011	III	68.9(110.9)
GSP	34.0970	116.9960	12/05/1997	170438.9	4.0	4.10	0.012	III	68.9(110.9)
DMG	33.7830	118.2500	11/14/1941	84136.3	0.0	5.40	0.024	V	69.0(111.0)
DMG	33.9940	116.7120	06/12/1944	111636.0	10.0	5.30	0.023	IV	69.0(111.1)
DMG	34.1270	117.5210	12/27/1938	10 928.6	10.0	4.00	0.011	III	69.0(111.1)
DMG	34.0290	116.7870	04/30/1954	03623.9	11.1	4.20	0.013	III	69.0(111.1)
PAS	34.1350	117.4480	01/08/1983	71930.4	4.6	4.10	0.012	III	69.1(111.1)
DMG	33.8170	118.2170	10/22/1941	65718.5	0.0	4.90	0.018	IV	69.1(111.2)
USG	34.1390	117.3860	02/21/1987	231530.1	2.6	4.07	0.012	III	69.1(111.2)
DMG	34.1400	117.3390	02/26/1936	93327.6	10.0	4.00	0.011	III	69.1(111.2)
PAS	33.9790	116.6810	12/16/1988	553 5.0	8.1	4.80	0.017	IV	69.1(111.2)
DMG	34.1000	117.6830	01/18/1934	214 0.0	0.0	4.00	0.011	III	69.3(111.5)
DMG	34.1000	117.6830	01/09/1934	1410 0.0	0.0	4.50	0.015	IV	69.3(111.5)
DMG	32.8170	116.2000	11/22/1953	81138.0	0.0	4.10	0.012	III	69.4(111.6)
DMG	33.2170	116.1330	08/15/1945	175624.0	0.0	5.70	0.028	V	69.6(112.1)
DMG	33.9960	117.9750	06/15/1967	458 5.5	10.0	4.10	0.012	III	69.7(112.1)
DMG	34.0000	116.7000	08/25/1944	73025.0	0.0	4.20	0.013	III	69.7(112.2)
DMG	33.1900	116.1290	04/09/1968	22859.1	11.1	6.40	0.040	V	69.8(112.3)
MGI	32.8000	116.2000	07/23/1929	1155 0.0	0.0	4.30	0.013	III	69.8(112.3)
DMG	32.6000	116.3170	06/15/1946	194653.0	0.0	4.80	0.017	IV	69.8(112.3)
DMG	32.9500	116.1500	10/25/1942	185939.0	0.0	4.00	0.011	III	69.8(112.3)
DMG	32.1670	117.6670	10/29/1935	1017 0.0	0.0	4.50	0.015	IV	69.9(112.4)
DMG	34.1400	117.5150	01/01/1965	8 418.0	5.9	4.40	0.014	IV	69.9(112.4)
DMG	33.6330	118.4000	10/17/1934	938 0.0	0.0	4.00	0.011	III	70.2(113.0)
DMG	33.1670	116.1170	04/09/1968	23930.0	0.0	4.40	0.014	IV	70.4(113.3)
DMG	33.1670	116.1170	04/09/1968	233 9.0	0.0	4.30	0.013	III	70.4(113.3)
DMG	33.1170	116.1170	06/18/1943	161546.0	0.0	4.50	0.015	IV	70.4(113.3)
GSP	34.1200	116.9980	06/29/1992	144126.0	4.0	4.40	0.014	IV	70.4(113.3)
DMG	33.9670	118.0500	01/30/1941	13446.9	0.0	4.10	0.012	III	70.4(113.3)
DMG	33.2000	116.1170	12/28/1950	52211.0	0.0	4.20	0.013	III	70.5(113.4)
PAS	33.9670	116.6170	07/08/1986	155526.2	6.0	4.00	0.011	III	70.5(113.5)
PAS	33.9670	116.6170	07/08/1986	102240.6	6.0	4.40	0.014	IV	70.5(113.5)
GSP	34.1100	117.7200	04/17/1990	223227.2	4.0	4.60	0.015	IV	70.6(113.6)
GSP	32.8220	116.1750	05/24/1992	122225.8	12.0	4.10	0.012	III	70.6(113.7)
MGI	34.0000	118.0000	05/05/1929	735 0.0	0.0	4.00	0.011	III	70.7(113.8)
MGI	34.0000	118.0000	12/25/1903	1745 0.0	0.0	5.00	0.019	IV	70.7(113.8)
MGI	34.0000	118.0000	05/05/1929	1 7 0.0	0.0	4.60	0.015	IV	70.7(113.8)
PAS	33.9890	116.6490	07/17/1986	203515.0	6.2	4.00	0.011	III	70.7(113.8)
DMG	33.8670	118.2000	11/13/1933	2128 0.0	0.0	4.00	0.011	III	70.8(113.9)
PAS	33.9910	116.6490	07/17/1986	215445.2	7.4	4.40	0.014	IV	70.8(113.9)
GSP	34.1680	117.3370	06/28/1997	214525.1	9.0	4.20	0.012	III	71.0(114.3)
T-A	34.1700	117.3200	12/02/1859	2210 0.0	0.0	4.30	0.013	III	71.2(114.5)
DMG	34.1000	116.8830	10/24/1935	1451 0.0	0.0	4.50	0.015	IV	71.2(114.6)
DMG	34.1000	116.8830	10/24/1935	1527 0.0	0.0	4.00	0.011	III	71.2(114.6)
DMG	34.1000	116.8830	10/24/1935	1452 0.0	0.0	4.50	0.015	IV	71.2(114.6)
GSP	34.1120	116.9200	10/01/1998	181816.0	4.0	4.70	0.016	IV	71.3(114.7)

EARTHQUAKE SEARCH RESULTS

Page 10

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
PAS	33.9530	116.5720	10/15/1986	22847.8	8.7	4.70	0.016	IV	71.3(114.7)
DMG	33.8670	118.2170	06/19/1944	3 6 7.0	0.0	4.40	0.014	IV	71.4(115.0)
DMG	33.8670	118.2170	06/19/1944	0 333.0	0.0	4.50	0.015	IV	71.4(115.0)
DMG	34.1000	117.8000	03/31/1931	2033 0.0	0.0	4.00	0.011	III	71.5(115.1)
GSP	34.1300	117.7000	03/01/1990	003457.1	4.0	4.00	0.011	III	71.6(115.1)
GSP	34.1210	116.9280	08/16/1998	133440.2	6.0	4.70	0.016	IV	71.7(115.4)
DMG	34.1670	117.5330	03/01/1948	81213.0	0.0	4.70	0.016	IV	71.9(115.6)
DMG	33.2670	116.1000	01/04/1954	233152.0	0.0	4.20	0.012	III	71.9(115.6)
DMG	33.6630	118.4130	01/08/1967	738 5.3	17.7	4.00	0.011	III	71.9(115.7)
DMG	33.8000	118.3000	11/03/1931	16 5 0.0	0.0	4.00	0.011	III	71.9(115.7)
MGI	33.8000	118.3000	12/31/1928	1045 0.0	0.0	4.00	0.011	III	71.9(115.7)
GSP	34.1400	117.6900	03/02/1990	172625.4	6.0	4.60	0.015	IV	72.0(115.9)
DMG	34.1330	116.9500	06/10/1938	1440 0.0	0.0	4.00	0.011	III	72.1(116.0)
PAS	34.1360	117.7090	06/26/1988	15 458.5	7.9	4.60	0.015	IV	72.1(116.0)
GSP	34.1400	117.7000	02/28/1990	234336.6	5.0	5.20	0.021	IV	72.2(116.2)
GSP	33.2240	116.0880	07/10/1998	212913.8	12.0	4.10	0.012	III	72.3(116.3)

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.1330	116.0830	05/07/1936	1147 0.0	0.0	4.50	0.014	IV	72.4(116.4)
DMG	33.1330	116.0830	02/28/1940	1728 7.0	0.0	4.50	0.014	IV	72.4(116.4)
DMG	33.1330	116.0830	10/06/1940	181953.0	0.0	4.00	0.011	III	72.4(116.4)
DMG	33.1330	116.0830	10/16/1940	175213.0	0.0	4.00	0.011	III	72.4(116.4)
DMG	32.8940	116.1190	09/16/1961	194939.4	18.5	4.40	0.014	III	72.4(116.5)
MGI	33.9000	118.2000	10/08/1927	1914 0.0	0.0	4.60	0.015	IV	72.4(116.5)
DMG	33.9500	118.1330	10/25/1933	7 046.0	0.0	4.30	0.013	III	72.4(116.5)
DMG	33.2330	116.0860	08/26/1965	133814.0	-2.0	4.50	0.014	IV	72.4(116.6)
DMG	33.3330	116.1000	06/12/1943	192141.0	0.0	4.00	0.011	III	72.5(116.7)
PAS	33.9980	116.6060	07/08/1986	92044.5	11.7	5.60	0.026	V	72.6(116.8)
GSP	34.1900	117.3900	12/28/1989	094108.1	15.0	4.50	0.014	IV	72.6(116.9)
DMG	33.8800	116.4370	04/17/1959	1619 0.2	22.2	4.20	0.012	III	72.7(117.0)
DMG	33.8500	118.2670	03/11/1933	1425 0.0	0.0	5.00	0.019	IV	72.7(117.0)
DMG	33.8500	118.2670	03/11/1933	629 0.0	0.0	4.40	0.014	III	72.7(117.0)
DMG	33.2780	116.0850	08/26/1965	125351.0	1.0	4.20	0.012	III	72.8(117.2)
PAS	34.0310	116.6570	07/08/1986	92412.8	6.0	4.40	0.014	III	72.9(117.3)
PAS	34.1510	116.9720	11/20/1978	655 9.5	6.1	4.30	0.013	III	72.9(117.3)
DMG	33.0020	116.0850	11/21/1964	172559.7	4.1	4.20	0.012	III	72.9(117.3)
PAS	33.1360	116.0710	02/29/1984	2 731.7	6.6	4.30	0.013	III	73.1(117.6)
DMG	34.1830	117.5480	09/01/1937	163533.5	10.0	4.50	0.014	IV	73.1(117.6)
DMG	34.1000	116.8000	10/24/1935	1448 7.6	0.0	5.10	0.020	IV	73.1(117.6)
GSP	34.1500	117.7200	03/01/1990	032303.0	11.0	4.70	0.016	IV	73.2(117.8)
PAS	33.9870	116.5690	07/09/1986	01232.1	6.0	4.40	0.013	III	73.2(117.9)
MGI	34.2000	117.3000	04/13/1913	1045 0.0	0.0	4.00	0.011	III	73.3(117.9)
DMG	34.2000	117.4000	07/22/1899	046 0.0	0.0	5.50	0.024	V	73.3(118.0)
DMG	34.1830	117.5830	10/03/1948	24628.0	0.0	4.00	0.011	III	73.5(118.2)
DMG	33.6320	118.4670	01/08/1967	73730.4	11.4	4.00	0.011	III	73.6(118.5)
DMG	33.1030	116.0610	04/09/1968	111754.5	4.8	4.00	0.011	III	73.7(118.6)
DMG	34.1670	116.9830	10/16/1951	1241 5.0	0.0	4.00	0.011	III	73.8(118.7)
DMG	34.2000	117.5000	06/14/1892	1325 0.0	0.0	4.90	0.017	IV	73.8(118.8)
GSP	34.1920	117.0950	04/06/1994	190104.1	7.0	4.80	0.017	IV	74.0(119.0)
GSP	34.1800	117.0200	12/04/1991	081703.5	11.0	4.00	0.011	III	74.1(119.2)
DMG	33.3170	116.0670	09/04/1944	125528.0	0.0	4.10	0.011	III	74.2(119.5)
GSP	34.1410	116.8570	09/19/1997	223714.5	10.0	4.10	0.011	III	74.4(119.7)
DMG	34.2000	117.1000	09/20/1907	154 0.0	0.0	6.00	0.031	V	74.5(119.8)
DMG	33.9390	118.2050	01/11/1950	214135.0	0.4	4.10	0.011	III	74.5(120.0)
GSP	33.2500	116.0500	08/31/1990	033800.0	8.0	4.20	0.012	III	74.6(120.1)

EARTHQUAKE SEARCH RESULTS

Page 11

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	34.2170	117.4670	03/25/1941	234341.0	0.0	4.00	0.011	III	74.8(120.4)
PAS	34.2110	117.5300	10/19/1979	122237.8	4.9	4.10	0.011	III	74.8(120.4)
DMG	34.2110	117.5300	09/01/1937	1348 8.2	10.0	4.50	0.014	IV	74.8(120.4)
DMG	33.1130	116.0370	04/09/1968	3 353.5	5.0	5.20	0.020	IV	75.0(120.8)
DMG	32.3330	116.4670	01/13/1935	224 0.0	0.0	4.00	0.011	III	75.1(120.8)
DMG	33.7830	116.2830	03/04/1937	16 4 0.0	0.0	4.00	0.011	III	75.1(120.9)
DMG	33.1040	116.0360	04/09/1968	34810.3	4.8	4.70	0.015	IV	75.1(120.9)
DMG	33.2400	116.0360	04/28/1961	63021.2	-1.2	4.20	0.012	III	75.4(121.3)
MGI	33.7500	116.2500	11/19/1917	1730 0.0	0.0	4.00	0.011	III	75.4(121.3)
DMG	34.1170	116.7500	08/22/1942	125913.0	0.0	4.00	0.011	III	75.4(121.3)
DMG	32.0830	117.0000	05/10/1948	34925.0	0.0	4.00	0.011	III	75.5(121.5)
GSP	34.1780	116.9220	06/28/1992	170131.9	13.0	4.70	0.015	IV	75.5(121.6)
DMG	34.1800	116.9200	01/16/1930	02433.9	0.0	5.20	0.020	IV	75.7(121.8)
DMG	34.1800	116.9200	01/16/1930	034 3.6	0.0	5.10	0.019	IV	75.7(121.8)
DMG	34.1000	116.7000	02/07/1889	520 0.0	0.0	5.30	0.021	IV	75.7(121.8)
DMG	33.2830	116.0330	03/16/1949	18 027.0	0.0	4.00	0.011	III	75.8(122.0)
DMG	33.2830	116.0330	03/29/1951	233929.0	0.0	4.40	0.013	III	75.8(122.0)
GSP	34.1630	116.8550	06/28/1992	144321.0	6.0	5.30	0.021	IV	75.9(122.1)
MGI	33.7000	116.2000	08/12/1917	11 0 0.0	0.0	4.00	0.011	III	76.0(122.3)
PAS	34.1980	116.9590	04/01/1978	105227.4	8.0	4.00	0.011	III	76.2(122.6)
PAS	34.0500	118.0870	10/01/1987	155953.5	10.4	4.00	0.011	III	76.3(122.8)
DMG	33.8830	118.3170	03/11/1933	1457 0.0	0.0	4.90	0.017	IV	76.4(122.9)
DMG	33.0500	116.0170	08/26/1955	52322.0	0.0	4.30	0.012	III	76.5(123.0)
GSP	34.1630	116.8270	06/28/1992	150451.5	12.0	4.40	0.013	III	76.5(123.0)
DMG	33.9670	116.4500	12/11/1948	161220.0	0.0	4.50	0.014	III	76.5(123.1)
PAS	34.0520	118.0900	10/01/1987	151231.8	10.8	4.70	0.015	IV	76.5(123.2)
DMG	33.7830	118.4170	10/12/1940	024 0.0	0.0	4.00	0.011	III	76.6(123.2)
DMG	33.7830	118.4170	11/02/1940	25826.0	0.0	4.00	0.011	III	76.6(123.2)
DMG	33.7830	118.4170	11/01/1940	725 3.0	0.0	4.00	0.011	III	76.6(123.2)
DMG	33.7830	118.4170	10/14/1940	205111.0	0.0	4.00	0.011	III	76.6(123.2)
MGI	34.1000	118.0000	01/27/1930	2026 0.0	0.0	4.60	0.014	IV	76.6(123.2)
PAS	34.0770	118.0470	02/11/1988	152555.7	12.5	4.70	0.015	IV	76.6(123.3)
GSP	34.1300	116.7340	06/30/1992	212254.4	12.0	4.80	0.016	IV	76.6(123.3)
PAS	34.0610	118.0790	10/01/1987	144220.0	9.5	5.90	0.029	V	76.7(123.4)
PAS	34.0490	118.1010	10/01/1987	144541.5	13.6	4.70	0.015	IV	76.7(123.5)
DMG	33.2880	116.0180	07/27/1965	14 441.4	0.6	4.30	0.012	III	76.7(123.5)
DMG	33.9330	116.4000	12/10/1948	204257.0	0.0	4.40	0.013	III	76.8(123.6)
DMG	33.1070	116.0070	04/09/1968	8 038.5	4.0	4.00	0.011	III	76.8(123.6)
DMG	33.2310	116.0040	05/26/1957	155933.6	15.1	5.00	0.018	IV	77.1(124.1)
DMG	33.9670	116.4330	12/05/1948	04235.0	0.0	4.60	0.014	IV	77.2(124.2)
DMG	33.0400	116.0050	05/11/1968	810 4.0	8.8	4.20	0.012	III	77.2(124.3)
DMG	33.2000	116.0000	08/15/1951	1227 9.0	0.0	4.00	0.010	III	77.2(124.3)
DMG	33.9630	116.4250	01/13/1950	5 719.4	5.9	4.10	0.011	III	77.3(124.4)
DMG	34.0170	116.5000	07/25/1947	04631.0	0.0	5.00	0.018	IV	77.3(124.4)
DMG	34.0170	116.5000	07/25/1947	61949.0	0.0	5.20	0.020	IV	77.3(124.4)
DMG	34.0170	116.5000	07/24/1947	225426.0	0.0	4.90	0.017	IV	77.3(124.4)
DMG	34.0170	116.5000	07/25/1947	15647.0	0.0	4.60	0.014	IV	77.3(124.4)
DMG	34.0170	116.5000	07/24/1947	221046.0	0.0	5.50	0.023	IV	77.3(124.4)
DMG	34.0170	116.5000	07/26/1947	23 425.0	0.0	4.50	0.014	III	77.3(124.4)
DMG	34.0170	116.5000	07/30/1947	52217.0	0.0	4.20	0.012	III	77.3(124.4)
DMG	34.0170	116.5000	07/25/1947	51752.0	0.0	4.30	0.012	III	77.3(124.4)
DMG	34.0170	116.5000	07/26/1947	231351.0	0.0	4.10	0.011	III	77.3(124.4)
DMG	34.0170	116.5000	08/01/1947	17 137.0	0.0	4.10	0.011	III	77.3(124.4)

EARTHQUAKE SEARCH RESULTS

Page 12

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	34.0170	116.5000	08/08/1947	64745.0	0.0	4.00	0.010	III	77.3(124.4)
DMG	34.0170	116.5000	07/24/1947	225341.0	0.0	4.30	0.012	III	77.3(124.4)
DMG	34.0170	116.5000	07/26/1947	24941.0	0.0	5.10	0.019	IV	77.3(124.4)
DMG	34.0170	116.5000	07/29/1947	163615.0	0.0	4.20	0.012	III	77.3(124.4)
DMG	34.0170	116.5000	07/25/1947	161453.0	0.0	4.50	0.014	III	77.3(124.4)
DMG	34.0170	116.5000	07/26/1947	12415.0	0.0	4.20	0.012	III	77.3(124.4)
DMG	34.0170	116.5000	07/25/1947	75730.0	0.0	4.20	0.012	III	77.3(124.4)
PAS	34.0600	118.1000	10/01/1987	1449 5.9	11.7	4.70	0.015	IV	77.3(124.4)
MGI	34.2000	116.9000	10/10/1915	5 6 0.0	0.0	4.00	0.010	III	77.4(124.5)
GSP	33.9450	116.3990	07/05/1992	054938.2	3.0	4.00	0.010	III	77.4(124.6)
DMG	34.0650	116.5740	08/26/1959	53250.2	16.7	4.30	0.012	III	77.4(124.6)
DMG	33.9330	116.3830	12/04/1948	234317.0	0.0	6.50	0.039	V	77.5(124.7)
DMG	33.7670	118.4500	10/11/1940	55712.3	0.0	4.70	0.015	IV	77.5(124.7)
MGI	34.0000	118.2000	06/26/1917	2130 0.0	0.0	4.60	0.014	IV	77.5(124.8)
MGI	34.0000	118.2000	06/26/1917	2120 0.0	0.0	4.60	0.014	IV	77.5(124.8)
MGI	34.0000	118.2000	02/13/1917	13 5 0.0	0.0	4.60	0.014	IV	77.5(124.8)
MGI	34.0000	118.2000	06/26/1917	2115 0.0	0.0	4.60	0.014	IV	77.5(124.8)
MGI	34.0000	118.2000	06/26/1917	424 0.0	0.0	4.00	0.010	III	77.5(124.8)
DMG	34.0000	116.4670	12/06/1948	246 8.0	0.0	4.30	0.012	III	77.6(124.9)
DMG	34.0000	116.4670	12/05/1948	05057.0	0.0	4.40	0.013	III	77.6(124.9)
GSP	32.5920	116.1650	02/19/1999	030832.2	3.0	4.20	0.012	III	77.6(124.9)
GSP	32.5880	116.1670	03/13/1999	133120.4	6.0	4.30	0.012	III	77.7(125.0)
GSP	32.5930	116.1630	04/07/1999	062640.1	8.0	4.00	0.010	III	77.7(125.1)
DMG	32.1130	116.7850	04/23/1968	131825.4	10.0	4.20	0.012	III	77.7(125.1)
GSP	34.1950	116.8620	08/17/1992	204152.1	11.0	5.30	0.021	IV	77.8(125.2)
DMG	33.0560	115.9930	04/09/1968	35836.0	7.9	4.30	0.012	III	77.8(125.2)
DMG	33.0000	116.0000	05/18/1920	625 0.0	0.0	4.50	0.014	III	77.8(125.2)
DMG	32.7960	116.0550	11/30/1965	84325.1	16.4	4.00	0.010	III	77.8(125.2)
GSP	34.0200	118.1800	06/12/1989	172225.5	16.0	4.10	0.011	III	77.9(125.3)
GSP	34.1110	116.6460	06/28/1992	140928.8	7.0	4.10	0.011	III	77.9(125.4)
PAS	34.0760	118.0900	10/01/1987	1448 3.1	11.7	4.10	0.011	III	77.9(125.4)
GSP	32.5870	116.1630	04/18/1999	155301.1	7.0	4.20	0.012	III	77.9(125.4)
GSP	34.1980	116.8620	08/18/1992	094640.7	12.0	4.20	0.012	III	78.0(125.5)
PAS	34.0730	118.0980	10/04/1987	105938.2	8.2	5.30	0.021	IV	78.0(125.5)
DMG	32.7860	116.0550	07/04/1938	215945.3	10.0	4.00	0.010	III	78.0(125.6)
DMG	33.9330	116.3670	12/05/1948	0 721.0	0.0	4.90	0.017	IV	78.1(125.7)
DMG	32.9670	116.0000	10/21/1942	191028.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	10/26/1942	434 4.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	04/07/1943	34614.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	04/30/1943	155256.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/21/1942	1638 6.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	11/02/1943	165716.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	01/08/1943	024 3.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	11/02/1943	164759.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	04/27/1943	32833.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	02/24/1943	15831.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	08/17/1943	155058.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/29/1942	1556 0.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	11/02/1943	18 134.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	03/26/1943	62957.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	11/02/1943	175041.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	08/20/1944	113310.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	11/03/1942	5 629.0	0.0	4.50	0.014	III	78.1(125.8)

EARTHQUAKE SEARCH RESULTS

Page 13

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	32.9670	116.0000	11/03/1942	101834.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/21/1942	163439.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	11/07/1942	439 6.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/22/1942	125553.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/21/1942	162654.0	0.0	5.00	0.018	IV	78.1(125.8)
DMG	32.9670	116.0000	11/02/1943	1753 5.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/22/1942	181326.0	0.0	5.00	0.018	IV	78.1(125.8)
DMG	32.9670	116.0000	10/29/1942	173552.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/21/1942	214928.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	10/21/1942	162519.0	0.0	5.00	0.018	IV	78.1(125.8)
DMG	32.9670	116.0000	10/21/1942	162213.0	0.0	6.50	0.039	V	78.1(125.8)
DMG	32.9670	116.0000	11/12/1942	0 737.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/29/1942	162157.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	10/30/1942	53545.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	11/02/1942	125942.0	0.0	4.50	0.014	III	78.1(125.8)
DMG	32.9670	116.0000	10/22/1942	113951.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	11/22/1942	63951.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	03/07/1943	205631.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	11/16/1943	18 9 9.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	32.9670	116.0000	10/21/1942	225031.0	0.0	4.00	0.010	III	78.1(125.8)
DMG	33.1670	115.9830	07/21/1940	836 3.0	0.0	4.40	0.013	III	78.1(125.8)
DMG	33.0480	115.9860	04/16/1968	33029.9	8.3	4.80	0.016	IV	78.3(125.9)
DMG	33.0830	115.9830	03/02/1934	2130 0.0	0.0	4.50	0.014	III	78.3(125.9)
DMG	33.0830	115.9830	12/15/1937	958 0.0	0.0	4.00	0.010	III	78.3(125.9)
DMG	33.0830	115.9830	07/14/1940	0 144.0	0.0	4.00	0.010	III	78.3(125.9)
DMG	33.0830	115.9830	07/13/1940	163923.0	0.0	4.00	0.010	III	78.3(125.9)
DMG	33.0830	115.9830	12/10/1938	312 0.0	0.0	4.00	0.010	III	78.3(125.9)
GSP	33.9460	116.3790	04/24/1992	123605.7	10.0	4.10	0.011	III	78.3(126.0)
GSP	34.1830	116.8020	06/28/1992	192637.6	1.0	4.00	0.010	III	78.3(126.0)
GSP	34.0300	118.1800	06/12/1989	165718.4	16.0	4.40	0.013	III	78.4(126.2)
DMG	32.0830	117.8330	09/13/1940	144548.0	0.0	4.50	0.013	III	78.5(126.3)
DMG	34.2670	117.5180	09/12/1970	141011.2	8.0	4.10	0.011	III	78.6(126.4)
DMG	33.9330	116.3500	12/05/1948	04032.0	0.0	4.40	0.013	III	78.8(126.9)
DMG	32.5330	116.1830	11/12/1939	1849 0.0	0.0	4.00	0.010	III	78.8(126.9)
DMG	32.5330	116.1830	02/22/1939	1030 0.0	0.0	4.00	0.010	III	78.8(126.9)
DMG	32.9830	115.9830	05/23/1942	154729.0	0.0	5.00	0.017	IV	78.9(127.0)

DMG	34.2700	117.5400	09/12/1970	143053.0	8.0	5.40	0.022	IV	79.0(127.1)
GSP	33.2100	115.9700	07/19/1991	024136.8	3.0	4.00	0.010	III	79.0(127.1)
GSN	34.2030	116.8270	06/28/1992	150530.7	5.0	6.70	0.043	VI	79.0(127.2)
DMG	33.7830	116.2000	10/31/1943	131210.0	0.0	4.50	0.013	III	79.0(127.2)
DMG	33.7700	118.4800	04/24/1931	182754.8	0.0	4.40	0.013	III	79.1(127.2)
DMG	32.0000	117.5000	06/25/1939	1 9 0.0	0.0	4.00	0.010	III	79.2(127.5)
DMG	32.0000	117.5000	05/03/1939	2358 0.0	0.0	4.50	0.013	III	79.2(127.5)
DMG	32.0000	117.5000	05/01/1939	2357 0.0	0.0	4.50	0.013	III	79.2(127.5)
DMG	32.0000	117.5000	06/24/1939	1627 0.0	0.0	5.00	0.017	IV	79.2(127.5)
DMG	32.0000	117.5000	05/01/1939	2353 0.0	0.0	5.00	0.017	IV	79.2(127.5)
DMG	32.0000	117.5000	05/03/1939	828 0.0	0.0	4.00	0.010	III	79.2(127.5)
DMG	32.2000	116.5500	11/05/1949	20 2 7.0	0.0	4.00	0.010	III	79.3(127.6)
DMG	32.2000	116.5500	11/04/1949	204238.0	0.0	5.70	0.025	V	79.3(127.6)
DMG	32.2000	116.5500	11/06/1949	23 510.0	0.0	4.00	0.010	III	79.3(127.6)
DMG	32.2000	116.5500	11/11/1949	1354 0.0	0.0	4.20	0.011	III	79.3(127.6)
DMG	32.2000	116.5500	11/05/1949	43524.0	0.0	5.10	0.018	IV	79.3(127.6)
PAS	33.9850	116.4020	02/15/1985	232626.6	2.3	4.00	0.010	III	79.3(127.6)

EARTHQUAKE SEARCH RESULTS

Page 14

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
T-A	34.0000	118.2500	09/23/1827	0 0 0.0	0.0	5.00	0.017	IV	79.4(127.8)
T-A	34.0000	118.2500	05/02/1856	810 0.0	0.0	4.30	0.012	III	79.4(127.8)
T-A	34.0000	118.2500	03/26/1860	0 0 0.0	0.0	5.00	0.017	IV	79.4(127.8)
T-A	34.0000	118.2500	01/17/1857	1 0 0.0	0.0	4.30	0.012	III	79.4(127.8)
T-A	34.0000	118.2500	05/04/1857	6 0 0.0	0.0	4.30	0.012	III	79.4(127.8)
T-A	34.0000	118.2500	01/10/1856	0 0 0.0	0.0	5.00	0.017	IV	79.4(127.8)
T-A	34.0000	118.2500	03/21/1880	1425 0.0	0.0	4.30	0.012	III	79.4(127.8)
GSP	33.9400	116.3410	05/04/1992	011602.6	6.0	4.00	0.010	III	79.5(128.0)
MGI	34.1000	118.1000	07/11/1855	415 0.0	0.0	6.30	0.034	V	79.6(128.1)
GSP	33.8760	116.2670	06/29/1992	160142.8	1.0	5.20	0.019	IV	79.8(128.4)
DMG	34.2810	117.5520	09/13/1970	44748.6	8.0	4.40	0.013	III	79.8(128.4)
GSP	34.2250	116.8440	07/09/1992	023435.0	0.0	4.10	0.011	III	80.1(128.9)
DMG	34.2000	117.9000	07/13/1935	105416.5	0.0	4.70	0.015	IV	80.1(128.9)
DMG	34.2000	117.9000	08/28/1889	215 0.0	0.0	5.50	0.022	IV	80.1(128.9)
GSP	33.9050	116.2880	05/07/1995	110333.0	10.0	4.80	0.016	IV	80.1(129.0)
GSP	33.9510	116.3380	05/18/1992	154418.0	7.0	4.90	0.016	IV	80.2(129.0)
GSP	33.9020	116.2840	07/24/1992	181436.2	9.0	5.00	0.017	IV	80.2(129.0)
DMG	32.0000	117.0670	06/23/1939	2048 0.0	0.0	4.50	0.013	III	80.2(129.0)
DMG	33.9580	116.3460	01/08/1952	63427.4	11.4	4.40	0.013	III	80.2(129.1)
PAS	34.2430	116.8960	06/30/1979	03411.6	5.8	4.90	0.016	IV	80.3(129.2)
PAS	34.0220	116.4260	08/14/1975	8 849.8	10.9	4.00	0.010	III	80.3(129.2)
GSP	33.9470	116.3300	09/09/1992	125045.1	5.0	4.30	0.012	III	80.3(129.3)
GSG	33.9430	116.3250	04/23/1992	052316.2	5.0	4.00	0.010	III	80.3(129.3)
PAS	34.2460	116.9010	06/29/1979	55320.5	5.7	4.60	0.014	IV	80.4(129.3)
DMG	33.0390	115.9490	05/06/1968	173147.6	6.7	4.00	0.010	III	80.4(129.5)
DMG	33.9830	118.3000	02/11/1940	192410.0	0.0	4.00	0.010	III	80.5(129.5)
GSP	34.2320	116.8460	07/10/1992	012940.0	0.0	4.20	0.011	III	80.5(129.5)
PAS	34.2490	116.9000	06/30/1979	7 353.0	5.6	4.50	0.013	III	80.6(129.7)
DMG	34.2670	116.9670	08/29/1943	35754.0	0.0	4.00	0.010	III	80.7(129.8)
DMG	34.2670	116.9670	08/29/1943	34513.0	0.0	5.50	0.022	IV	80.7(129.8)
DMG	34.2670	116.9670	08/29/1943	51630.0	0.0	4.00	0.010	III	80.7(129.8)
DMG	32.6000	116.1000	12/24/1941	73012.0	0.0	4.50	0.013	III	80.7(129.9)
DMG	34.3000	117.5000	07/22/1899	2032 0.0	0.0	6.50	0.038	V	80.7(129.9)
GSP	33.9430	116.3150	05/06/1992	023843.3	7.0	4.50	0.013	III	80.8(130.0)
DMG	34.0000	116.3830	05/05/1944	134715.0	0.0	4.00	0.010	III	80.8(130.0)
GSP	34.2560	116.9120	06/28/1992	170557.5	8.0	4.60	0.014	IV	80.8(130.1)
GSP	33.9330	116.3020	04/27/1992	031119.3	0.0	4.20	0.011	III	80.8(130.1)
GSP	34.2070	116.7570	06/28/1992	161719.2	3.0	4.20	0.011	III	80.8(130.1)
PDP	33.9370	116.3060	07/25/1992	043160.0	5.0	4.90	0.016	IV	80.9(130.1)
DMG	32.7170	116.0330	06/01/1959	163536.0	0.0	4.60	0.014	IV	80.9(130.1)
MGI	33.5000	116.0000	09/30/1916	425 0.0	0.0	4.00	0.010	III	80.9(130.2)
GSP	34.2110	116.7600	06/28/1992	152429.3	6.0	4.50	0.013	III	81.0(130.4)
DMG	32.0000	117.0000	02/11/1949	95725.0	0.0	4.00	0.010	III	81.0(130.4)
DMG	32.0000	117.0000	04/27/1942	112754.0	0.0	4.00	0.010	III	81.0(130.4)
GSP	34.2390	116.8370	07/09/1992	014357.6	0.0	5.30	0.020	IV	81.1(130.6)
MGI	33.8000	118.5000	06/18/1915	15 5 0.0	0.0	4.00	0.010	III	81.2(130.6)
GSP	33.9420	116.3040	05/04/1992	161949.7	12.0	4.80	0.015	IV	81.2(130.6)
DMG	33.0380	118.7340	09/13/1937	221439.5	10.0	4.00	0.010	III	81.2(130.8)
GSP	33.9530	116.3140	11/27/1996	014243.8	6.0	4.10	0.011	III	81.3(130.8)
GSP	34.2190	116.7710	07/21/1992	211029.0	1.0	4.10	0.011	III	81.3(130.8)
GSP	33.9510	116.3110	04/26/1992	062608.0	0.0	4.20	0.011	III	81.3(130.8)
MGI	34.0000	118.3000	09/03/1905	540 0.0	0.0	5.30	0.020	IV	81.3(130.9)
MGI	34.0000	118.3000	06/22/1920	2035 0.0	0.0	4.00	0.010	III	81.3(130.9)

EARTHQUAKE SEARCH RESULTS

Page 15

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
MGI	34.0000	118.3000	06/30/1920	350 0.0	0.0	4.00	0.010	III	81.3(130.9)
GSP	33.9570	116.3170	04/23/1992	022529.9	11.0	4.60	0.014	IV	81.3(130.9)
DMG	34.2290	116.7950	05/11/1956	163050.5	13.3	4.70	0.015	IV	81.4(130.9)
DMG	33.2670	115.9330	12/30/1960	214025.0	0.0	4.00	0.010	III	81.4(131.1)
GSP	33.9610	116.3180	04/23/1992	045023.0	12.0	6.10	0.030	V	81.5(131.1)
DMG	34.0500	116.4330	02/08/1938	739 0.0	0.0	4.00	0.010	III	81.5(131.2)
GSP	34.2370	116.8110	06/28/1992	125730.8	10.0	4.00	0.010	III	81.5(131.2)
DMG	34.3040	117.5700	05/05/1969	16 2 9.6	8.8	4.40	0.012	III	81.5(131.2)
DMG	34.3000	117.6000	07/30/1894	512 0.0	0.0	6.00	0.029	V	81.6(131.3)
DMG	33.9850	116.3400	02/01/1957	75215.4	11.0	4.60	0.014	IV	81.8(131.6)
GSP	34.0040	116.3610	06/30/1992	143811.6	0.0	4.80	0.015	IV	81.9(131.7)
DMG	32.7500	116.0000	02/19/1919	458 0.0	0.0	4.50	0.013	III	81.9(131.7)
DMG	34.0830	116.4670	01/26/1934	1844 0.0	0.0	4.00	0.010	III	82.1(132.1)
DMG	34.0830	116.4670	03/01/1942	104631.0	0.0	4.00	0.010	III	82.1(132.1)
DMG	33.9030	118.4310	11/29/1938	192115.8	10.0	4.00	0.010	III	82.2(132.3)
DMG	34.0170	116.3670	06/06/1940	235637.2	0.0	4.40	0.012	III	82.3(132.4)
DMG	33.9170	116.2500	08/15/1946	19 1 8.0	0.0	4.00	0.010	III	82.3(132.5)
DMG	34.0670	116.4320	12/04/1957	25144.0	3.7	4.30	0.012	III	82.4(132.7)
DMG	31.9540	117.5060	09/29/1972	141341.2	8.0	4.30	0.012	III	82.4(132.7)
GSP	34.0300	116.3790	06/28/1992	160115.2	1.0	4.10	0.011	III	82.5(132.7)
DMG	33.2830	115.9170	03/28/1952	11622.0	0.0	4.20	0.011	III	82.5(132.7)
MGI	34.2000	118.0000	01/09/1921	530 0.0	0.0	4.60	0.014	III	82.6(132.9)
DMG	32.0830	116.6670	09/27/1934	2140 0.0	0.0	4.00	0.010	III	82.6(133.0)
DMG	32.0830	116.6670	11/25/1934	818 0.0	0.0	5.00	0.017	IV	82.6(133.0)
DMG	32.0830	116.6670	10/12/1938	1231 0.0	0.0	4.00	0.010	III	82.6(133.0)
DMG	31.9920	116.9270	04/10/1968	104237.8	10.0	4.50	0.013	III	82.7(133.1)
MGI	34.1000	118.2000	04/21/1921	1538 0.0	0.0	4.00	0.010	III	82.9(133.4)
MGI	34.1000	118.2000	01/27/1860	830 0.0	0.0	4.30	0.012	III	82.9(133.4)
MGI	34.1000	118.2000	05/02/1916	1432 0.0	0.0	4.00	0.010	III	82.9(133.4)
DMG	33.1000	115.9000	04/25/1957	22 5 0.0	0.0	4.20	0.011	III	83.0(133.6)
DMG	33.1000	115.9000	04/25/1957	2249 0.0	0.0	4.20	0.011	III	83.0(133.6)
DMG	33.1000	115.9000	04/25/1957	2248 0.0	0.0	4.10	0.010	III	83.0(133.6)
DMG	33.0360	115.9030	10/05/1964	121 9.5	-2.0	4.10	0.010	III	83.1(133.8)
DMG	32.5000	118.5500	02/24/1948	81510.0	0.0	5.30	0.020	IV	83.2(133.9)
DMG	34.2500	116.7700	03/16/1956	203344.3	0.8	4.00	0.010	III	83.3(134.0)
DMG	32.9550	115.9110	04/10/1967	04717.3	4.4	4.00	0.010	III	83.4(134.2)
GSP	34.0340	116.3600	05/14/1999	105235.2	1.0	4.20	0.011	III	83.4(134.2)
DMG	34.0000	116.3170	06/06/1940	222115.1	0.0	4.30	0.012	III	83.4(134.2)
DMG	32.1000	116.6000	01/07/1950	93735.0	0.0	4.00	0.010	III	83.5(134.4)
PAS	34.1490	118.1350	12/03/1988	113826.4	13.3	4.90	0.016	IV	83.5(134.4)
GSG	34.0120	116.3250	04/23/1992	051009.4	3.0	4.60	0.014	III	83.7(134.7)
GSP	34.0890	116.4260	06/28/1992	143906.9	0.0	4.30	0.012	III	83.8(134.9)
GSP	34.0120	116.3190	11/20/1994	043143.5	6.0	4.20	0.011	III	83.9(135.1)
MGI	34.3000	116.9000	12/01/1915	14 5 0.0	0.0	4.00	0.010	III	83.9(135.1)
MGI	34.0800	118.2600	07/16/1920	18 8 0.0	0.0	5.00	0.017	IV	84.0(135.1)
PAS	33.0290	115.8880	11/26/1987	1739 2.0	1.8	4.30	0.012	III	84.0(135.2)
GSP	34.0950	116.4270	06/28/1992	211316.5	3.0	4.60	0.013	III	84.1(135.4)
GSP	33.9900	116.2870	05/02/1992	124641.4	4.0	4.10	0.010	III	84.2(135.4)
GSP	34.0570	116.3710	06/28/1992	160953.9	3.0	4.10	0.010	III	84.2(135.5)
GSP	34.0610	116.3740	08/11/1992	061117.3	0.0	4.30	0.011	III	84.3(135.6)
DMG	33.0330	115.8830	08/27/1945	112520.0	0.0	4.00	0.010	III	84.3(135.6)
GSP	33.9910	116.2840	04/23/1992	185603.0	3.0	4.40	0.012	III	84.3(135.7)
GSP	34.0690	116.3820	07/07/1992	082103.1	3.0	4.00	0.010	III	84.4(135.8)

EARTHQUAKE SEARCH RESULTS

Page 16

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
GSP	34.0920	116.4140	12/21/1992	114402.9	3.0	4.00	0.010	III	84.4(135.9)
GSP	34.2500	116.7190	06/29/1992	164141.9	1.0	4.90	0.016	IV	84.4(135.9)
DMG	34.2640	116.7550	03/16/1956	203613.6	3.3	4.00	0.010	III	84.5(136.0)
PAS	33.1330	115.8730	11/24/1987	133355.8	0.0	4.00	0.010	III	84.5(136.0)
PAS	33.0170	115.8810	11/24/1987	185040.3	0.0	4.30	0.011	III	84.5(136.0)
GSP	34.0960	116.4170	07/18/1992	000611.2	2.0	4.00	0.010	III	84.5(136.0)
GSP	34.0620	116.3660	05/14/1999	075403.2	1.0	4.90	0.016	IV	84.6(136.2)
DMG	34.3330	117.0000	02/27/1942	1 853.0	0.0	4.00	0.010	III	84.6(136.2)
GSP	34.2730	116.7740	08/24/1992	135146.0	1.0	4.30	0.011	III	84.6(136.2)
GSP	34.0880	116.4020	08/15/1992	082414.7	0.0	4.80	0.015	IV	84.6(136.2)
GSP	34.0290	116.3210	08/21/1993	014638.4	9.0	5.00	0.017	IV	84.7(136.3)
GSP	33.9920	116.2740	08/07/1994	151026.0	7.0	4.00	0.010	III	84.8(136.4)
GSP	34.0580	116.3550	06/28/1992	221312.0	7.0	4.00	0.010	III	84.8(136.5)
DMG	34.3200	116.9250	04/18/1968	174213.4	4.7	4.00	0.010	III	84.8(136.5)
GSG	33.9820	116.2600	05/12/1992	023111.0	6.0	4.00	0.010	III	84.9(136.6)
GSP	34.0640	116.3610	09/15/1992	084711.3	9.0	5.20	0.018	IV	84.9(136.6)
GSP	32.9750	118.7910	03/04/1992	190627.0	6.0	4.20	0.011	III	85.0(136.8)
DMG	34.0330	116.3170	06/11/1940	195118.1	0.0	4.40	0.012	III	85.0(136.9)
DMG	34.3120	116.8790	01/31/1972	155 4.2	8.0	4.00	0.010	III	85.1(136.9)
GSP	33.8900	116.1600	10/12/1991	143932.0	3.0	4.00	0.010	III	85.2(137.1)
GSP	34.0500	116.3350	04/26/1992	172138.0	0.0	4.30	0.011	III	85.2(137.1)
GSP	34.0820	116.3780	07/06/1992	194137.9	3.0	4.40	0.012	III	85.2(137.1)
PAS	32.9930	115.8720	11/24/1987	133259.9	0.0	4.20	0.011	III	85.2(137.2)
MGI	34.0000	118.4000	02/07/1927	429 0.0	0.0	4.60	0.013	III	85.4(137.4)
MGI	34.0000	118.4000	10/01/1930	040 0.0	0.0	4.60	0.013	III	85.4(137.4)
MGI	34.0000	118.4000	01/29/1927	2324 0.0	0.0	4.00	0.010	III	85.4(137.4)
MGI	34.0000	118.4000	02/22/1920	1610 0.0	0.0	4.60	0.013	III	85.4(137.4)
DMG	33.0450	115.8630	12/17/1968	225351.2	8.0	4.70	0.014	IV	85.4(137.4)
GSP	34.2500	117.9900	06/28/1991	170055.5	9.0	4.30	0.011	III	85.4(137.5)
GSP	34.1120	116.4150	07/28/1992	182703.9	0.0	4.60	0.013	III	85.5(137.5)
DMG	34.3070	116.8350	08/28/1950	194526.4	11.7	4.20	0.011	III	85.6(137.7)
GSP	34.1110	116.4100	06/28/1992	135045.7	0.0	4.90	0.016	IV	85.6(137.7)
GSP	34.2980	116.8040	07/05/1992	200303.1	3.0	4.00	0.010	III	85.6(137.8)
GSP	34.1060	116.4020	06/29/1992	140837.7	11.0	4.90	0.016	IV	85.6(137.8)
GSP	34.1080	116.4040	06/29/1992	141338.8	9.0	5.40	0.020	IV	85.6(137.8)
DMG	32.7920	115.9140	10/12/1936	135631.8	10.0	4.00	0.010	III	85.7(137.9)
DMG	32.1670	116.4170	09/17/1950	194330.0	0.0	4.50	0.013	III	85.7(138.0)
GSP	34.2750	116.7300	07/01/1992	204617.8	1.0	4.20	0.011	III	85.8(138.0)
DMG	34.3240	116.8850	12/01/1962	03548.8	9.6	4.30	0.011	III	85.8(138.0)
DMG	33.0530	115.8550	10/05/1964	12455.5	0.0	4.40	0.012	III	85.8(138.1)
T-A	34.1700	118.1700	03/07/1888	1554 0.0	0.0	4.30	0.011	III	85.8(138.1)
GSP	34.1520	116.4680	06/28/1992	224822.9	11.0	4.10	0.010	III	85.8(138.1)
GSP	34.0970	116.3820	07/01/1992	070149.2	0.0	4.30	0.011	III	85.9(138.2)
DMG	33.1830	115.8500	04/25/1957	222148.0	0.0	4.20	0.011	III	85.9(138.2)
DMG	33.1830	115.8500	04/25/1957	222412.0	0.0	5.10	0.017	IV	85.9(138.2)
DMG	33.7710	116.0500	09/02/1956	24637.0	14.1	4.20	0.011	III	85.9(138.2)
DMG	34.3250	116.8750	12/02/1962	04138.4	6.7	4.40	0.012	III	86.0(138.4)
GSP	33.7300	116.0200	12/18/1989	062704.5	10.0	4.20	0.011	III	86.0(138.4)
DMG	34.0000	118.4170	12/07/1938	338 0.0	0.0	4.00	0.010	III	86.1(138.5)
GSP	34.0920	116.3690	07/06/1992	120059.2	1.0	4.50	0.013	III	86.1(138.5)
DMG	34.2990	116.7840	03/18/1956	24217.3	6.3	4.40	0.012	III	86.1(138.5)
GSP	34.1020	116.3830	08/04/1992	190612.3	0.0	4.00	0.010	III	86.1(138.5)
GSP	34.2810	116.7310	07/01/1992	205356.8	1.0	4.00	0.010	III	86.1(138.6)

EARTHQUAKE SEARCH RESULTS

Page 17

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
GSP	34.3200	116.8500	10/27/1998	154017.1	4.0	4.10	0.010	III	86.1(138.6)
DMG	34.0670	116.3330	05/18/1940	72132.7	0.0	5.00	0.016	IV	86.1(138.6)
DMG	34.0670	116.3330	05/18/1940	55120.2	0.0	5.20	0.018	IV	86.1(138.6)
DMG	34.3250	116.8650	10/29/1962	24253.9	8.6	4.80	0.015	IV	86.2(138.7)
DMG	34.3370	116.9090	11/30/1962	2351 5.5	7.0	4.30	0.011	III	86.2(138.8)
PDP	34.3220	116.8460	09/20/1999	070249.2	2.0	4.20	0.011	III	86.3(138.9)
GSP	34.1390	116.4310	06/28/1992	123640.6	10.0	5.10	0.017	IV	86.4(139.0)
DMG	34.3330	116.8830	10/14/1943	142844.0	0.0	4.50	0.013	III	86.4(139.0)
GSP	34.3230	116.8440	10/27/1998	010840.7	5.0	4.90	0.015	IV	86.4(139.1)
GSP	32.7270	115.9260	01/13/1999	132056.0	2.0	4.40	0.012	III	86.4(139.1)
GSP	34.2620	118.0020	06/28/1991	144354.5	11.0	5.40	0.020	IV	86.5(139.2)
MGI	34.1000	118.3000	07/26/1920	1215 0.0	0.0	4.00	0.010	III	86.5(139.2)
MGI	34.1000	118.3000	07/16/1920	2127 0.0	0.0	4.60	0.013	III	86.5(139.2)
MGI	34.1000	118.3000	07/16/1920	2130 0.0	0.0	4.60	0.013	III	86.5(139.2)
MGI	34.1000	118.3000	07/16/1920	2022 0.0	0.0	4.60	0.013	III	86.5(139.2)
GSP	34.3400	116.9000	11/27/1992	160057.5	1.0	5.30	0.019	IV	86.6(139.3)
GSP	34.2740	116.6920	07/01/1992	170715.1	4.0	4.20	0.011	III	86.6(139.4)
DMG	32.7640	115.9080	10/12/1936	17 750.1	10.0	4.00	0.010	III	86.6(139.4)
DMG	32.1000	116.5000	01/08/1937	1246 0.0	0.0	4.00	0.010	III	86.6(139.4)
DMG	34.0670	116.3170	05/18/1940	6 430.6	0.0	4.60	0.013	III	86.8(139.6)
DMG	31.9390	116.8930	04/10/1968	1055 3.2	10.0	4.30	0.011	III	86.8(139.6)
DMG	32.8850	115.8650	10/27/1963	145822.4	-2.0	4.40	0.012	III	86.9(139.8)
DMG	34.3700	117.6500	12/08/1812	15 0 0.0	0.0	7.00	0.047	VI	86.9(139.8)
DMG	32.0000	116.7000	12/02/1929	1124 0.0	0.0	4.50	0.012	III	86.9(139.8)
DMG	34.3170	116.8000	08/12/1950	21717.0	0.0	4.30	0.011	III	86.9(139.9)
GSP	34.1270	116.3970	06/30/1992	000608.5	2.0	4.30	0.011	III	86.9(139.9)
PAS	34.3220	116.8150	08/29/1985	759 8.7	6.1	4.10	0.010	III	86.9(139.9)
DMG	34.0830	116.3330	06/01/1940	527 1.2	0.0	4.70	0.014	IV	87.0(139.9)
DMG	34.0830	116.3330	06/02/1940	61310.2	0.0	4.50	0.012	III	87.0(139.9)
PAS	33.0130	115.8390	11/24/1987	131556.5	2.4	6.00	0.027	V	87.0(139.9)
DMG	33.2330	115.8330	06/14/1942	222549.0	0.0	4.00	0.010	III	87.0(140.0)
DMG	33.2330	115.8330	06/24/1942	235240.0	0.0	4.00	0.010	III	87.0(140.0)
DMG	33.2330	115.8330	06/14/1942	213623.0	0.0	4.00	0.010	III	87.0(140.0)
DMG	34.3060	116.7590	03/16/1956	202933.6	1.3	4.80	0.015	IV	87.1(140.1)
GSP	34.3740	117.6490	08/20/1998	234958.4	9.0	4.40	0.012	III	87.1(140.2)
DMG	34.0500	116.2830	06/24/1940	163936.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	05/19/1940	193941.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	06/14/1940	215850.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	06/08/1940	171032.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	05/19/1940	226 2.0	0.0	4.50	0.012	III	87.2(140.4)
DMG	34.0500	116.2830	08/01/1940	193140.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	06/06/1940	234849.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	05/19/1940	22730.0	0.0	4.50	0.012	III	87.2(140.4)
DMG	34.0500	116.2830	05/18/1940	134719.0	0.0	4.50	0.012	III	87.2(140.4)
DMG	34.0500	116.2830	05/22/1940	1410 5.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	05/19/1940	35145.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	06/01/1940	55646.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	08/04/1940	181520.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	05/27/1940	32727.0	0.0	4.00	0.010	III	87.2(140.4)
DMG	34.0500	116.2830	05/22/1940	63137.0	0.0	4.00	0.010	III	87.2(140.4)
PAS	32.9320	115.8470	09/05/1982	52126.6	4.2	4.40	0.012	III	87.3(140.5)
DMG	33.0000	115.8330	01/08/1946	185418.0	0.0	5.40	0.020	IV	87.4(140.7)
DMG	32.3340	116.1700	08/24/1963	204749.5	4.8	4.10	0.010	III	87.6(140.9)

EARTHQUAKE SEARCH RESULTS

Page 18

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
GSP	34.3620	116.9230	12/07/1992	033331.5	1.0	4.00	0.010	III	87.7(141.1)
DMG	33.7450	115.9970	09/01/1956	55752.8	15.1	4.00	0.010	III	87.7(141.1)
GSP	34.3610	116.9130	12/04/1992	125942.1	0.0	4.20	0.011	III	87.8(141.2)
DMG	34.3500	116.8670	10/15/1943	1650 1.0	0.0	4.50	0.012	III	87.8(141.3)
DMG	34.1000	116.3330	06/01/1940	65428.0	0.0	4.30	0.011	III	87.8(141.4)
DMG	33.0330	115.8210	09/30/1971	224611.3	8.0	5.10	0.017	IV	87.9(141.4)
PAS	33.0360	115.8200	11/24/1987	21435.5	4.7	4.50	0.012	III	87.9(141.5)
GSP	34.3640	116.9040	11/27/1992	183225.0	1.0	4.10	0.010	III	88.1(141.8)
DMG	34.0830	116.3000	05/18/1940	S 358.5	0.0	5.40	0.020	IV	88.2(142.0)
PAS	33.0330	115.8140	11/24/1987	22159.6	4.5	4.00	0.009	III	88.3(142.0)
PAS	33.0140	115.8150	11/24/1987	131848.9	6.0	4.10	0.010	III	88.3(142.2)
PAS	33.0400	115.8120	11/24/1987	253 0.7	3.5	4.70	0.014	III	88.3(142.2)
DMG	33.2160	115.8080	04/25/1957	215738.7	-0.3	5.20	0.018	IV	88.4(142.2)
PAS	32.9960	115.8160	11/27/1987	11010.5	6.0	4.70	0.014	III	88.4(142.3)
DMG	33.8140	116.0280	05/28/1961	125946.7	18.5	4.40	0.012	III	88.5(142.4)
PAS	33.0470	115.8080	11/24/1987	143629.9	0.0	4.00	0.009	III	88.5(142.5)
GSP	34.3690	116.8970	12/04/1992	020857.5	3.0	5.30	0.019	IV	88.5(142.5)
GSP	34.1620	116.4050	06/28/1992	132605.1	6.0	4.90	0.015	IV	88.5(142.5)
PAS	32.9790	115.8160	11/25/1987	135410.0	0.6	4.20	0.010	III	88.6(142.5)
PAS	32.9950	115.8130	12/02/1987	4 3 6.2	1.7	4.00	0.009	III	88.6(142.6)
PAS	33.0220	115.8080	11/24/1987	62323.1	3.4	4.00	0.009	III	88.7(142.7)
GSP	34.3770	116.9180	12/04/1992	052511.2	2.0	4.80	0.014	IV	88.7(142.8)
DMG	31.9700	116.6980	04/23/1968	132234.8	10.0	4.00	0.009	III	88.8(142.9)
GSP	34.3700	116.8800	11/29/1992	142120.5	3.0	4.00	0.009	III	88.9(143.0)
GSP	34.1710	116.4090	06/30/1992	151905.0	0.0	4.00	0.009	III	88.9(143.1)
PAS	32.9800	115.8090	11/28/1987	03910.9	0.8	4.20	0.010	III	89.0(143.2)
PAS	33.0500	115.8000	11/24/1987	21647.2	6.0	4.00	0.009	III	89.0(143.2)
PAS	33.0480	115.7980	11/24/1987	21523.2	5.0	4.80	0.014	IV	89.1(143.4)
DMG	34.3360	116.7420	03/16/1956	233456.4	1.7	4.40	0.012	III	89.4(143.8)
GSG	34.1570	116.3730	06/29/1992	103657.8	5.0	4.00	0.009	III	89.4(143.9)
GSG	31.8490	117.1980	01/29/1995	160231.5	12.0	4.40	0.012	III	89.4(143.9)
GSP	34.1990	116.4390	09/05/1995	202718.4	0.0	4.40	0.012	III	89.4(143.9)
DMG	34.0000	118.5000	06/22/1920	248 0.0	0.0	4.90	0.015	IV	89.6(144.2)
MGI	34.0000	118.5000	11/19/1918	2018 0.0	0.0	5.00	0.016	IV	89.6(144.2)
MGI	34.0000	118.5000	03/08/1918	1230 0.0	0.0	4.00	0.009	III	89.6(144.2)
MGI	34.0000	118.5000	06/23/1920	1220 0.0	0.0	4.00	0.009	III	89.6(144.2)
DMG	34.0000	118.5000	03/06/1918	1820 0.0	0.0	4.00	0.009	III	89.6(144.2)
DMG	34.0000	118.5000	08/04/1927	1224 0.0	0.0	5.00	0.016	IV	89.6(144.2)
DMG	34.0000	118.5000	11/08/1914	1140 0.0	0.0	4.50	0.012	III	89.6(144.2)
GSP	34.1980	116.4320	07/20/1992	040822.6	0.0	4.10	0.010	III	89.6(144.2)
GSN	34.2010	116.4360	06/28/1992	115734.1	1.0	7.60	0.062	VI	89.7(144.3)
PAS	33.0720	115.7820	11/24/1987	153 3.2	4.2	4.00	0.009	III	89.9(144.7)
PAS	33.0670	115.7810	11/24/1987	13248.1	4.0	4.20	0.010	III	90.0(144.8)
PAS	33.0080	115.7860	11/24/1987	1321 0.2	6.0	4.10	0.010	III	90.1(144.9)
DMG	32.9310	115.7980	01/12/1972	1231 9.6	0.0	4.00	0.009	III	90.1(145.0)
DMG	33.7450	115.9480	04/02/1957	42247.4	4.5	4.10	0.010	III	90.2(145.1)
PAS	33.0820	115.7750	11/24/1987	15414.5	4.9	5.80	0.024	V	90.3(145.3)
DMG	34.4000	116.9170	02/01/1942	151828.0	0.0	4.50	0.012	III	90.3(145.3)
DMG	34.4000	116.9170	02/01/1942	16 334.0	0.0	4.50	0.012	III	90.3(145.3)
DMG	34.4000	116.9170	01/25/1942	215133.0	0.0	4.00	0.009	III	90.3(145.3)
DMG	34.4000	116.9170	02/01/1942	151555.0	0.0	4.00	0.009	III	90.3(145.3)
DMG	33.1670	115.7670	05/10/1955	43840.0	0.0	4.30	0.011	III	90.6(145.9)
DMG	33.8870	116.0400	01/23/1969	23 1 1.0	17.7	4.80	0.014	IV	90.7(145.9)

EARTHQUAKE SEARCH RESULTS

Page 19

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	33.1750	115.7640	10/28/1963	81417.1	0.9	4.00	0.009	III	90.8(146.1)
T-A	33.5000	115.8200	05/00/1868	0 0 0.0	0.0	6.30	0.031	V	90.9(146.2)
DMG	33.8260	115.9850	01/25/1969	3 0 4.0	13.6	4.10	0.010	III	91.0(146.5)
DMG	34.4000	117.8000	02/24/1946	6 752.0	0.0	4.10	0.010	III	91.0(146.5)
GSP	34.1750	116.3500	06/11/1992	002419.2	0.0	4.30	0.011	III	91.2(146.7)
PAS	32.2020	116.2290	12/12/1979	213741.0	5.5	4.00	0.009	III	91.2(146.8)
DMG	32.7000	115.8500	11/01/1941	142434.0	0.0	4.00	0.009	III	91.2(146.8)
DMG	34.4330	116.9830	04/18/1945	458 2.0	0.0	4.30	0.011	III	91.6(147.4)
GSP	34.2390	116.4430	06/29/1992	030156.4	7.0	4.40	0.011	III	91.6(147.4)
PAS	33.9190	118.6270	01/19/1989	65328.8	11.9	5.00	0.016	IV	91.8(147.8)
PAS	32.9420	115.7630	11/24/1987	133439.9	14.0	4.80	0.014	IV	92.0(148.0)
GSP	34.2450	116.4290	07/08/1993	225744.9	2.0	4.00	0.009	III	92.4(148.7)
DMG	31.8110	117.1310	12/22/1964	205433.2	2.3	5.60	0.021	IV	92.5(148.8)
DMG	32.2000	116.2000	03/03/1957	11 6 3.0	0.0	4.40	0.011	III	92.5(148.8)
DMG	34.4170	116.8500	02/11/1932	231120.0	0.0	4.00	0.009	III	92.5(148.8)
PAS	34.2570	116.4350	07/13/1979	226 3.5	5.0	4.00	0.009	III	92.9(149.5)
USG	32.6450	115.8440	02/28/1988	5 259.5	7.1	4.21	0.010	III	92.9(149.5)
DMG	33.2840	115.7350	10/27/1963	145023.4	-2.0	4.00	0.009	III	92.9(149.6)
PAS	31.7940	117.4100	03/31/1979	213656.7	5.0	4.70	0.013	III	93.0(149.6)
DMG	32.9830	115.7330	01/24/1951	733 7.0	0.0	4.00	0.009	III	93.3(150.1)
DMG	32.9830	115.7330	01/24/1951	717 2.6	0.0	5.60	0.021	IV	93.3(150.1)
DMG	33.9500	118.6320	08/31/1930	04036.0	0.0	5.20	0.017	IV	93.3(150.2)
DMG	32.0250	116.4240	08/20/1961	42843.0	12.6	4.60	0.012	III	93.4(150.3)
DMG	32.3830	116.0000	01/03/1956	1424 1.0	0.0	4.70	0.013	III	93.4(150.4)
PAS	34.3020	116.4990	03/31/1979	016 8.6	0.1	4.20	0.010	III	93.5(150.5)
DMG	33.2330	115.7170	10/22/1942	15038.0	0.0	5.50	0.020	IV	93.7(150.8)
DMG	33.2330	115.7170	10/26/1942	3 215.0	0.0	4.50	0.012	III	93.7(150.8)
DMG	33.2330	115.7170	10/26/1942	34316.0	0.0	4.00	0.009	III	93.7(150.8)
DMG	33.2330	115.7170	10/26/1942	615 4.0	0.0	4.50	0.012	III	93.7(150.8)
PAS	34.2300	116.3630	03/18/1979	2253 2.7	3.4	4.20	0.010	III	93.7(150.8)
DMG	34.4360	116.8340	07/14/1973	8 020.1	8.0	4.80	0.014	III	94.0(151.3)
DMG	34.0520	116.1210	03/28/1968	212133.4	10.2	4.00	0.009	III	94.0(151.3)
DMG	32.8330	115.7500	02/24/1933	1933 0.0	0.0	4.50	0.012	III	94.2(151.6)
DMG	32.5000	115.9000	06/25/1941	1715 0.0	0.0	4.00	0.009	III	94.2(151.6)
PAS	33.9330	118.6690	10/17/1979	205237.3	5.5	4.20	0.010	III	94.3(151.8)
GSP	34.2940	116.4530	06/28/1992	173121.5	6.0	4.10	0.009	III	94.4(152.0)
DMG	32.9500	115.7170	06/14/1953	42958.0	0.0	4.80	0.014	III	94.5(152.1)
DMG	32.9500	115.7170	06/14/1953	41729.9	0.0	5.50	0.020	IV	94.5(152.1)
DMG	34.1740	116.2570	02/15/1938	74539.8	10.0	4.50	0.012	III	94.5(152.1)
PAS	32.0580	116.3370	01/29/1980	1949 3.3	5.0	4.40	0.011	III	94.6(152.2)
GSP	34.2680	116.4020	06/16/1994	162427.5	3.0	5.00	0.015	IV	94.6(152.2)
DMG	33.2330	115.7000	08/30/1946	111645.0	0.0	4.60	0.012	III	94.7(152.3)
GSP	34.2720	116.4030	12/11/1992	013834.2	2.0	4.10	0.009	III	94.8(152.5)
DMG	34.0000	116.0500	12/27/1948	1119 4.0	0.0	4.00	0.009	III	94.8(152.6)
GSP	34.3010	116.4520	09/28/1997	155723.0	7.0	4.40	0.011	III	94.9(152.7)
DMG	34.2330	116.3330	05/11/1947	5 620.0	0.0	4.90	0.014	IV	94.9(152.8)
GSP	34.3410	116.5290	06/28/1992	124053.5	6.0	5.20	0.017	IV	95.0(152.9)
DMG	32.1020	116.2580	05/07/1966	32657.4	12.7	4.50	0.012	III	95.1(153.1)
PAS	34.3820	116.6130	06/11/1984	222110.4	1.8	4.00	0.009	III	95.3(153.3)
DMG	34.1540	116.2100	07/30/1963	63457.3	12.9	4.70	0.013	III	95.3(153.4)
PAS	33.9440	118.6810	01/01/1979	231438.9	11.3	5.00	0.015	IV	95.3(153.4)
DMG	34.4050	116.6670	07/02/1955	162938.5	10.0	4.20	0.010	III	95.4(153.6)
PAS	34.3090	116.4400	03/15/1979	201749.9	2.0	4.90	0.014	IV	95.7(154.0)

EARTHQUAKE SEARCH RESULTS

Page 20

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
PAS	34.4010	116.6410	02/10/1975	125117.6	8.0	4.40	0.011	III	95.8(154.1)
PAS	33.0790	115.6800	04/26/1981	124043.4	6.0	4.20	0.010	III	95.8(154.1)
GSP	34.3130	116.4440	07/02/1992	001622.4	6.0	4.00	0.009	III	95.8(154.2)
DMG	34.4500	116.7830	05/22/1942	151829.0	0.0	4.00	0.009	III	95.9(154.3)
DMG	34.3000	116.4170	08/07/1942	12358.0	0.0	4.00	0.009	III	95.9(154.3)
DMG	34.3000	116.4170	08/07/1942	15314.0	0.0	4.00	0.009	III	95.9(154.3)
DMG	34.3000	116.4170	08/07/1942	11533.0	0.0	4.50	0.012	III	95.9(154.3)
DMG	33.0270	115.6810	05/23/1963	1553 1.8	0.4	4.80	0.014	III	96.0(154.4)
DMG	32.9150	115.6970	05/23/1963	63635.7	1.2	4.30	0.010	III	96.1(154.6)
DMG	32.9000	115.7000	10/02/1928	19 1 0.0	0.0	5.00	0.015	IV	96.1(154.6)
DMG	32.8560	115.7100	09/18/1936	144032.1	10.0	4.50	0.012	III	96.1(154.6)
DMG	34.1570	116.1940	08/22/1963	43355.9	5.8	4.40	0.011	III	96.1(154.6)
DMG	32.9900	115.6820	11/29/1964	142526.4	13.8	4.20	0.010	III	96.2(154.8)
GSP	34.3320	116.4620	07/01/1992	074029.9	9.0	5.40	0.018	IV	96.4(155.1)
PAS	34.3270	116.4450	03/15/1979	21 716.5	2.5	5.20	0.017	IV	96.6(155.5)
DMG	32.0280	116.3230	09/20/1961	1036 2.6	11.4	4.20	0.010	III	96.7(155.6)
DMG	33.2670	115.6670	08/10/1951	1130 8.0	0.0	4.40	0.011	III	96.7(155.7)
DMG	31.8590	116.6570	11/15/1972	205117.4	8.0	4.00	0.009	III	96.8(155.8)
PAS	32.9140	115.6840	01/28/1988	254 2.4	5.9	4.70	0.013	III	96.8(155.8)
GSP	34.3420	116.4670	07/07/1992	220928.3	2.0	4.40	0.011	III	96.8(155.8)

PAS	34.3300	116.4430	03/15/1979	23 758.2	2.8	4.80	0.013	III	96.8(155.8)
DMG	31.9940	116.3700	08/20/1961	125245.9	8.2	4.00	0.009	III	97.0(156.0)
DMG	32.0320	116.3090	08/27/1963	121 1.8	14.6	4.00	0.009	III	97.0(156.1)
DMG	34.0000	116.0000	04/03/1926	20 8 0.0	0.0	5.50	0.019	IV	97.1(156.2)
DMG	34.0000	116.0000	09/05/1928	1442 0.0	0.0	5.00	0.015	IV	97.1(156.2)
PAS	33.0940	115.6550	06/13/1979	194645.9	6.0	4.10	0.009	III	97.2(156.4)
DMG	33.0080	115.6600	06/17/1965	74013.5	8.8	4.10	0.009	III	97.3(156.6)
DMG	34.1800	116.1910	12/12/1957	8 0 7.2	16.0	4.40	0.011	III	97.4(156.7)
PAS	34.3480	116.4530	03/15/1979	213425.6	1.5	4.50	0.011	III	97.6(157.1)
PAS	34.3290	116.3980	03/16/1979	173659.1	5.0	4.00	0.009	III	98.2(158.0)
DMG	33.2000	115.6330	10/27/1963	145245.2	-2.0	4.10	0.009	III	98.4(158.4)
DMG	31.8670	116.5710	02/27/1937	12918.4	10.0	5.00	0.015	IV	98.5(158.4)
PAS	34.2900	116.3220	12/14/1975	181620.1	1.8	4.70	0.013	III	98.5(158.4)
PAS	33.0980	115.6320	04/26/1981	12 928.4	3.8	5.70	0.021	IV	98.5(158.5)
DMG	33.8500	115.8500	10/13/1949	42040.0	0.0	4.00	0.009	III	98.6(158.6)
PAS	34.3040	116.3410	11/15/1975	61327.6	5.8	4.60	0.012	III	98.6(158.7)
PAS	33.0990	115.6300	04/26/1981	12 557.4	4.2	4.00	0.009	III	98.6(158.7)
DMG	32.5510	115.7850	01/23/1971	22 736.0	8.0	4.10	0.009	III	98.6(158.7)
PAS	33.1100	115.6270	04/25/1981	21155.3	4.8	4.10	0.009	III	98.8(158.9)
DMG	32.7330	115.7000	04/21/1960	233920.0	0.0	4.20	0.010	III	98.8(159.0)
DMG	34.3810	116.4740	01/06/1964	234712.8	12.3	4.50	0.011	III	98.9(159.2)
PAS	33.1030	115.6220	11/04/1976	133127.7	3.7	4.20	0.010	III	99.1(159.4)
PAS	33.1030	115.6210	11/04/1976	1139 8.4	0.9	4.10	0.009	III	99.1(159.5)
GSP	34.3770	116.4580	08/08/1992	153743.3	2.0	4.40	0.011	III	99.2(159.6)
PAS	33.1090	115.6190	11/04/1976	114940.4	2.2	4.10	0.009	III	99.2(159.7)
DMG	33.0560	115.6200	06/16/1965	242 6.1	-0.5	4.40	0.011	III	99.3(159.9)
PAS	33.1170	115.6150	04/26/1976	64637.5	14.8	4.00	0.009	III	99.4(160.0)
PAS	34.4220	116.5420	07/18/1985	14 525.8	6.0	4.20	0.010	III	99.6(160.2)
DMG	33.1310	115.6110	10/27/1963	181250.7	7.8	4.20	0.010	III	99.7(160.4)
PAS	33.1810	115.6110	03/07/1989	02458.2	2.8	4.10	0.009	III	99.7(160.4)
GSP	34.3830	116.4520	07/02/1992	051632.2	0.0	4.00	0.009	III	99.7(160.4)
GSP	33.1920	115.6080	12/31/1997	122245.1	10.0	4.10	0.009	III	99.9(160.7)
GSP	34.2310	118.4750	03/20/1994	212012.3	13.0	5.30	0.017	IV	99.9(160.7)

EARTHQUAKE SEARCH RESULTS

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (UTC) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]

****

-END OF SEARCH- 1060 EARTHQUAKES FOUND WITHIN THE SPECIFIED SEARCH AREA.

TIME PERIOD OF SEARCH: 1800 TO 1999

LENGTH OF SEARCH TIME: 200 years

THE EARTHQUAKE CLOSEST TO THE SITE IS ABOUT 9.8 MILES (15.8 km) AWAY.

LARGEST EARTHQUAKE MAGNITUDE FOUND IN THE SEARCH RADIUS: 7.6

LARGEST EARTHQUAKE SITE ACCELERATION FROM THIS SEARCH: 0.186 g

COEFFICIENTS FOR GUTENBERG & RICHTER RECURRENCE RELATION:
a-value= 3.990
b-value= 0.823
beta-value= 1.896

TABLE OF MAGNITUDES AND EXCEEDANCES:

Earthquake Magnitude	Number of Times Exceeded	Cumulative No. / Year
4.0	1060	5.32663
4.5	386	1.93970
5.0	142	0.71357
5.5	49	0.24623
6.0	26	0.13065
6.5	10	0.05025
7.0	3	0.01508
7.5	1	0.00503

LIQUEFACTION EVALUATION SPREADSHEET

Based on *Proceeding of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils*, Technical Report NCEER-97-0022, December 31, 1997
and *Evaluation of Settlments in Sand due to Earthquake Shaking*, Tokimatsu and Seed, 1987

Project: Poseidon Desalination Facility
Job No.: 2003-091

Maximum Credible Earthquake	6.9	
Design Ground Motion	0.28	g
Total Unit Weight, γ_{total}	120	ft^3
Bouyant Unit Weight, γ_{eff}	57.6	ft^3
Depth to Groundwater	20	ft

Rose Canyon Fault at 4.3 miles from the site
(IBC Design Earthquake Ground Motion using NEHRP (520)

Data from Boring B-2, 3, 4, 5, 6,& 7

using average minimim SPT values

Resistance Evaluation

Boring Data			Effective	Sampling Corrections							Corrected	Resistance to Liquefaction						Induced Stress		
Depth	Blow Counts		Stress	Sampler	SPT	Energy	Borehole	Rod	Liner	Overburden	SPT	Fines	Confining	SPT Clean	Cyclical	Magnitude	Cyclical	Elastic	Cyclical	Factor
(ft)	SPT	Mod. Cal	(tsf)	Diameter	N_m	C_E	C_B	C_R	C_L	C_N	$(N_1)_{60}$	Content %	Correction K_σ	Sands $(N_1)_{60cs}$	Resistance $CRR_{M7.5}$	Scaling Factor	Resistance CRR_M	Reduction r_d	Stress CSR	of Safety
5	20		0.30	1	20	1	1.15	0.75	1.1	1.83	35		1	35	NL	1.24	NL	0.990	0.045	NL
10	20		0.60	1	20	1	1.15	0.75	1.1	1.29	24		1	24	0.275	1.24	0.340	0.979	0.089	NL
15	20		0.90	1	20	1	1.15	0.85	1.1	1.05	23	25	1	30	0.405	1.24	0.501	0.969	0.132	NL
20	30		1.20	1	30	1	1.15	0.95	1.1	0.91	33	25	0.96	41	NL	1.24	NL	0.957	0.174	NL
25	30		1.34	1	30	1	1.15	0.95	1.1	0.86	31	25	0.92	39	NL	1.24	NL	0.942	0.191	NL
30	32		1.49	1	32	1	1.15	0.95	1.1	0.82	32	25	0.88	39	NL	1.24	NL	0.921	0.203	NL
35	33		1.63	1	33	1	1.15	1	1.1	0.78	33	25	0.85	41	NL	1.24	NL	0.891	0.209	NL
40	35		1.78	1	35	1	1.15	1	1.1	0.75	33	25	0.83	41	NL	1.24	NL	0.851	0.209	NL
45	37		1.92	1	37	1	1.15	1	1.1	0.72	34	25	0.82	42	NL	1.24	NL	0.804	0.206	NL
50	40		2.06	1	40	1	1.15	1	1.1	0.70	35	25	0.82	44	NL	1.24	NL	0.753	0.199	NL
55	42		2.21	1	42	1	1.15	1	1.1	0.67	36	25	0.82	44	NL	1.24	NL	0.703	0.191	NL
60	44		2.35	1	44	1	1.15	1	1.1	0.65	36	25	0.82	45	NL	1.24	NL	0.659	0.184	NL

Settlement Evaluation

Depth to Top of Layer (ft)	Depth to Bottom of Layer (ft)	Layer Thickness (ft)	Midpoint Depth (ft)	Total Stress (psf)	Effective Stress (psf)	Elastic Reduction r_d	Induced Cyclical Stress Ratio CSR_M	Magnitude Weighting Factor	Equivalent Cyclical Stress Ratio $CSR_{M7.5}$	$(N_1)_{60}$	Fines Correction	SPT Clean Sands $(N_1)_{60cs}$	Cyclical Resistance $CRR_{M7.5}$	Normalized Cyclical Stress Ratio (CSR/CRR)	Volumetric Strain (%)	Layer Settlement (in)
20	25	5	22.5	2700	2400	0.950	0.195	0.91	0.177	30	2	32	0.413	0.43	0.2%	0.12
25	30	5	27.5	3300	2688	0.932	0.208	0.91	0.189	30	2	32	0.413	0.46	0.2%	0.12
30	35	5	32.5	3900	2976	0.907	0.216	0.91	0.197	32	2	34	0.509	0.39	0.1%	0.06
35	50	15	42.5	5100	3264	0.828	0.235	0.91	0.214	34	2	36	1.000	0.21	0.0%	0
															Total Post-Liquefaction Settlement of Saturated Sands =	0.30

NL=Non-liquefiable

Note:
For $(N_1)_{60cs}$ > 30, CRR is reported as NL (non-liquefiable)
Above ground water table, factor of safety is reported as NL

Factor	Equipment Variable	Term	Correction
Overburden Pressure		C_N	$(P_a/\sigma'_{vo})^{0.5}$ $0.4<C_N<=2$
Energy Ratio	Donut Hammer Safety Hammer Automatic-Trip Donut-Type Hammer	C_E	0.5 to 1.0 0.7 to 1.2 0.8 to 1.3
Borehole Diameter	2.5 inch to 4.5 inch 6 inch 8 inch	C_B	1.0 1.05 1.15
Rod length	10 feet to 13 feet 13 feet to 19.8 feet 19.8 feet to 33 feet 33 feet to 98 feet > 98 feet	C_R	0.75 0.85 0.95 1.00 <1.0
Sampling Method	Standard Sampler Sampler without liners	C_L	1.00 1.1 to 1.3

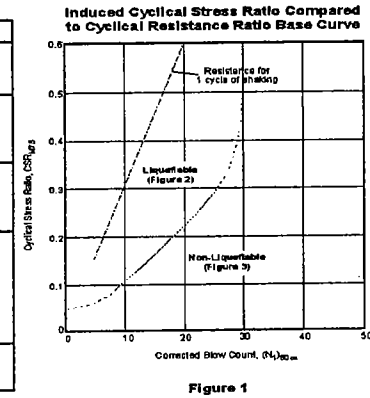

Figure 1

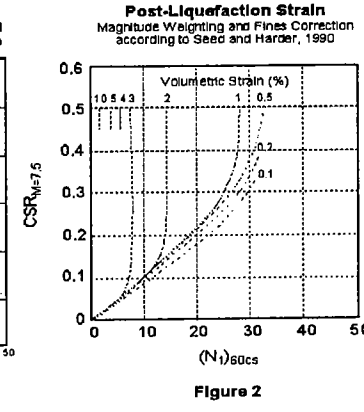

Figure 2

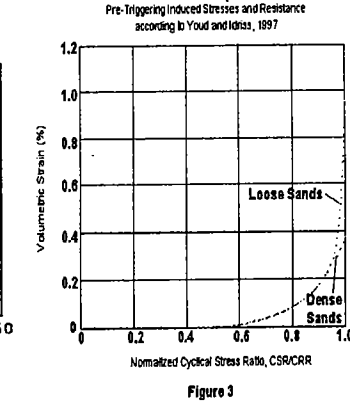

Figure 3