Pacific Gas and Electric Company®

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April 22, 2005

Norman Shopay
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710

Subject: Confirmation Sampling Work Plan, Spill Event on April 10, 2005 at IM No. 2 Batch Plant
PG&E Topock Compressor Station, Needles, California

Dear Mr. Shopay:

This letter transmits the *Revised Confirmation Sampling Work Plan* to address the April 10, 2005 spill event at the Interim Measures No. 2 batch plant. This work plan describes the spill event and subsequent cleanup activities completed to date, and presents a soil sampling plan to confirm that the impacted area has been cleaned up to pre-existing conditions. This work plan incorporates comments received by Ms. Kate Burger/DTSC on April 22, 2005.

The samples described in this work plan were collected on Thursday April 21, 2005. Mr. Fred Zanoria/DTSC was present during the sample collection. PG&E expects to be able to receive analytical results from the laboratory on Tuesday April 26. If you have any questions, please do not hesitate to call me.

Sincerely,

Julie Eakins for Yvonne Meeks

cc: Kate Burger/DTSC

Confirmation Sampling Work Plan
Spill Event on April 10, 2005, at IM No. 2 Batch Plant
PG&E Topock Compressor Station, Needles, California

Pacific Gas and Electric Company (PG&E) is implementing Interim Measure (IM) No. 2 at the Topock Compressor Station near Needles, California, as described in the *Final Interim Measures Work Plan No. 2* (CH2M HILL 2004a), *Addenda to Interim Measures Work Plan No. 2* (CH2M HILL 2004b), *and Batch Treatment Work Plan* (CH2M HILL 2004c). IM No. 2 activities are being completed under authorization by the California Department of Toxic Substances Control (DTSC) and U.S. Bureau of Land Management (BLM) (BLM 2004a; 2004b).

The batch treatment of extracted groundwater is completed in three steps: (1) chromium reduction by reaction with ferrous chloride to reduce the hexavalent chromium to the less soluble trivalent form; (2) iron oxidation to precipitate out excess iron and reduced chromium; and (3) clarification to remove the precipitated solids from the water. Treated water from the clarifier is transferred to holding tanks for off-site disposal. Precipitated solids are also periodically pumped from the clarifier into a container (phase separator) for off-site disposal.

This work plan describes the spill event that occurred at the IM No. 2 batch treatment plant on April 10, 2005, and subsequent cleanup activities completed to date. This work plan also describes a soil sampling plan to confirm that the impacted area has been cleaned up to pre-existing conditions.

Summary of Spill Event

A spill of clarifier sludge occurred on Sunday, April 10, 2005, at the IM No. 2 batch treatment plant during transfer of the sludge from the clarifier to a phase separator. The sludge transfer operation is not automated, and is completed by on-site operators every few days by opening valves and starting pump(s) to remove solids that accumulate in the clarifier during the treatment process. The phase separator is used to containerize the solids for off-site transport. The phase separator is similar to a roll-off box, except it is also designed to separate excess liquid(s) that are transferred back into an excess liquid storage tank at the site.

At approximately 8:15 a.m., the phase separator was overfilled, spilling some 1,700 to 1,800 gallons of treated water and clarifier solids onto an underlying drip pad and the ground surface in the vicinity of the phase separator. The transfer of sludge from the clarifier to the phase separator was stopped after the operator observed the spillage. The extent of the spill area is shown on the attached facility map (Figure 1).

Spill Cleanup Activities

Spill cleanup activities were initiated immediately after the spill occurred. The following activities were immediately undertaken by the on-site operators:

- Approximately 300 gallons of liquid were pumped out of the phase separator into the excess liquid storage tank to lower the sludge level in the phase separator.
- Approximately 1,400 to 1,500 gallons of the spill were contained within the drip pad under the phase separator. This liquid was pumped back into the phase separator and transferred into the excess liquid storage tank.
- Approximately 300 gallons of liquid drained onto the ground. The liquid spread laterally to areas surrounding the phase separator, and a portion flowed into the valve vault excavation. The impacted area within the valve vault excavation was limited to the exposed soil between the concrete floor slab and the excavation sidewall along the east side of the excavation. Visual evidence confirmed that no material collected on the concrete floor slab or other areas of the valve vault excavation. This liquid was pumped back into the phase separator and transferred into the excess liquid storage tank.

The spill cleanup activities described above were completed within 1 hour after the spill. After the excess liquids were contained, stained and saturated soils were hand excavated and placed onto plastic sheeting on site. Hand excavation was also completed in the valve vault excavation. The extent of excavation at the surface was determined based on visual observation of saturated soil, and by the reddish characteristics of the material compared to the light tan native soils. The excavated soils were subsequently placed in a roll-off container that was delivered on Monday, April 11, 2005. Additional excavation of impacted soils was completed on Monday, April 12, 2005, using a Bobcat® skid-steer loader. Approximately 15 to 18 cubic yards of potentially impacted soils were removed and placed into the roll-off container. Up to 8 inches of surface soil were excavated in areas as a conservative measure to collect any residual sludge that may have infiltrated into the soil.

The excavation around the containment area was backfilled with sand (approximately 8 inches or less) to restore the original grade and provide a safe work area for the operators. As described above, the impacted area within the valve vault excavation was limited to soils between the concrete floor slab and sidewall along the east side of the excavation. No other materials in the vault (e.g., concrete floor, concrete forms) were impacted.

Confirmation Soil Sampling

A confirmation sampling program will be completed to confirm that the impacted area is restored to pre-existing conditions.

Soil Sample Locations

Proposed sampling locations are depicted on the attached sample location map (Figure 2). A total of 13 confirmation soil samples will be collected from the top 2 inches of the native surface soil. Any sand backfill or gravel fill (placed during construction) will be removed from the sample location before collecting the confirmation sample. This will provide a

sample density of more than one sample per 100 square feet and allow statistical comparisons to background data. Two samples will be collected from the valve vault excavation and eight will be collected around the phase separator area. Quality control samples will include a field duplicate, matrix spike (MS) and equipment blank.

Soil from each sample location will be homogenized in a stainless steel bowl and containerized in jars provided by the analytical laboratory. The sampling technician will document in a field log book the area sampled, soil characteristics, and date and time of sampling. The sample locations will be marked in the field in the event analytical testing indicates additional cleanup is required. Photographs will also be collected at each sample location to document the cleanup activities.

Other Sample Collection

One sample of the sludge will also be collected during the sampling event. Prior testing of the sludge for waste characterization and profiling was completed in July 2004 (see results in Attachment A). As noted in the toxicity characteristic leaching procedure (TCLP) results, the sludge is characterized as hazardous for total chromium and selenium. Total chromium and total iron concentrations are expected to be elevated in the sludge.

Analytical Testing

Based on the primary sludge characteristics, each confirmation soil sample will be tested for hexavalent chromium (method 7199), total chromium (method 6010B), total selenium (method 6010B), and total iron (method 6010B). In addition, three of the confirmation soil samples will be analyzed for Title 22 metals (method 6010B[1]). These constituents are the primary components of the sludge and serve as indicators if residual contamination is left on site. It is unlikely that other constituents would be present at elevated levels in the absence of elevated iron, selenium, or chromium.

The sludge sample will be analyzed for Title 22 metals and iron.

PG&E will request that the samples be tested on a rapid turnaround time (TAT), which is typically 2 to 3 days for soil samples.

Data Evaluation

Analytical results will be validated by a project chemist. The data will be compared as individual values to site-specific background threshold values (estimate of 95th percentile of background concentrations). The site-specific background threshold value for Cr(T) is calculated from a data set of 12 soil samples collected from the MW-20 bench during the RCRA Facility Investigation (RFI) prior to interim measures operations (subset of soil data from the MW-20 bench collected during the RFI). The site-specific background value for Cr(T) is 18.9 mg/kg based on the parametric best estimate of 95th percentile and assuming a normal distribution of the dataset (see Table 1).

[1] USEPA Method 6010B is used for all Title 22 metals, except mercury which is analyzed by method 7470.

TABLE 1
Background Concentrations of Cr(T) in Soil, MW-20 Bench

Distributional Assumption	No. of Background Samples	p-value for Normality	p-value for Lognormality	Upper Tolerance (95/95) Limit (mg/kg)	Upper 95% Prediction Limit (mg/kg)	Parametric Best Estimate of 95th Percentile (mg/kg)	Maximum Concentration (mg/kg)
Normal	12	0.206	0.859	22.8	19.7	18.9	21.8
Lognormal	12	0.206	0.859	25.8	20.5	19.4	21.8

The site-specific background threshold values for the remaining metals will be those values presented in the RFI Report (CH2M HILL 2005). A site-specific background concentration is not available for Cr(VI) because of the low detection frequency of Cr(VI) in the background soil samples.

Generally speaking, an exceedance of the background threshold value will be viewed as a trigger for further cleanup, although it is recognized that slight exceedances are possible even from a population equivalent to background, since the threshold value is an estimate of the 95th percentile of background. The following additional steps will be completed after screening the data against the background values:

- If the exceedances are localized to a select area, additional cleanup (e.g., excavation) may be required and the area re-sampled.
- Statistical evaluation will be completed for Cr(T) using data from the twelve soil samples collected from the MW-20 bench during the RFI. The Wilcoxon Rank Sum test will be performed on the pooled site and background data to add insight into the overall comparison of the validation data distribution to background.

Report of Findings

A confirmation sampling report will be compiled immediately after the soil sample data are available. PG&E will provide DTSC a data summary via email once the data have been validated to facilitate discussion and potentially allow PG&E to continue construction activities (e.g., complete the backfill of the valve vault excavation) that may be delayed due to the spill.

Schedule

Confirmation soil samples will be collected within 2 work days of DTSC approval of the confirmation sampling work plan. It is assumed that validated data will be available approximately 5 days following sample collection. A confirmation sampling report will be submitted within 1 week of receipt of validated data.

PG&E will request DTSC approval to backfill the north, west and south sides of the valve vault excavation by Monday, April 25, potentially before collecting any confirmation

samples. These areas were not impacted by the spill, and this will allow construction to proceed without delay. PG&E may ask for DTSC approval to backfill the east side of the excavation based on initial screening of sample results against comparison values. The current construction schedule indicates that this area needs to be backfilled by Friday, April 29 to continue construction without delay.

References

CH2M HILL. 2004a. *Interim Measures Work Plan Number 2, Topock Compressor Station, Needles, California*. March 3.

_____. 2004b. *Addenda to Interim Measures Work Plan Number 2, Topock Compressor Station, Needles, California*. March 3.

_____. 2004c. *Batch Treatment Work Plan, Topock Compressor Station, Needles, California*. April 30.

_____. 2005. *Draft RCRA Facility Investigation and Remedial Investigation Report, PG&E Topock Compressor Station, Needles, California*. February 28.

U.S. Bureau of Land Management (BLM). 2004a. *Time Critical Removal Action, Pacific Gas and Electric Topock Compressor Facility*. March 3.

_____. 2004b. *Time Critical Removal Action, Pacific Gas and Electric Topock Compressor Facility*. May 20.

Figures

OLD ROUTE 66

0 9 18 24
Approximate Scale in Feet

SPILL DRUM
PORTABLE CONTAINMENT
TRUCK LOADING AREA
TRUCK ROUTE (ENTRANCE)
SPILL DRUM
TRUCK FILL LINE
TRUCK FILL LINE
RECEIVING TANK FILL LINE
GATE VALVE
FLOW METER
DIGITAL FLOW METER
TW-2D
SPILL CABINET W/PPE
WASH STATION
STORAGE CONTAINER
POTABLE WATER
SECONDARY CONTAINMENT
TREATED WATER TRANSFER LINE
EXCESS LIQUID STORAGE TANK (FROM SLUDGE HANDLING CONTAINER)
Valve Vault No. 1 Excavation Area
LAB
CONTROL PANEL
MSDS
RESTROOM
CONTROL PANEL
OFFICE TRAILER
MSDS BEP
SECONDARY CONTAINMENT
GENERATOR W/CONTAINMENT DIESEL FUEL (INVENTORY ITEM NO.2)
BATCH TREATMENT TANK TRANSFER LINES
TRANSFER LINE TO CLARIFIER
CLARIFIER
Sludge Transfer Line
Phase Separator Area (2 Phase Separators, 1 in use and 1 stand-by)
BERM STORM/SPILL PUMP
SECURITY FENCE

Approximate extent of spill area. Impacted area estimated to be 20-ft by 40-ft around phase separator area plus drainage into the east side of the Valve Vault No. 1 excavation.

LEGEND

- ERE — Emergency Response Equipment
- FE — Fire Extinguisher
- Gate
- MSDS BEP — Material Safety Data Sheets and Business Emergency Plan
- Valve
- Fence
- 1 2 3 — Treated Water Storage Tank
- 4 — Batch Treatment Tank
- 5 — Batch Treatment Tank
- 6 — Receiving Tank
- Extracted groundwater potentially containing Chromium exceeding hazardous waste levels of 5mg/l
- Diesel
- Ferrous Chloride Solution Storage Area
- Sodium Hydroxide Solution Storage Area
- 55-Gallon Drum of Sulfuric Acid Solution Storage Area
- Treatment Tanks

NOTES
1. EQUIPMENT DIMENSIONS AND LOCATIONS ARE APPROXIMATE
2. THE TREATED WATER TRANSFER LINE ARE SUPPORTED ABOVE-GRADE WITH A SCAFFOLDING SYSTEM

Figure 1
BATCH TREATMENT PLANT FACILITY MAP
PACIFIC GAS AND ELECTRIC
TOPOCK COMPRESSOR STATION
INTERIM MEASURE NO. 2

NOM FOR SITE REMEDIES IN TOPOCK SITE2.DGN 29-APR-2004 REVISED 4/8/05

CH2MHILL

320703.IM.03.00_BTF Emergency Escape Route Map-rev_4/19/05_ccc

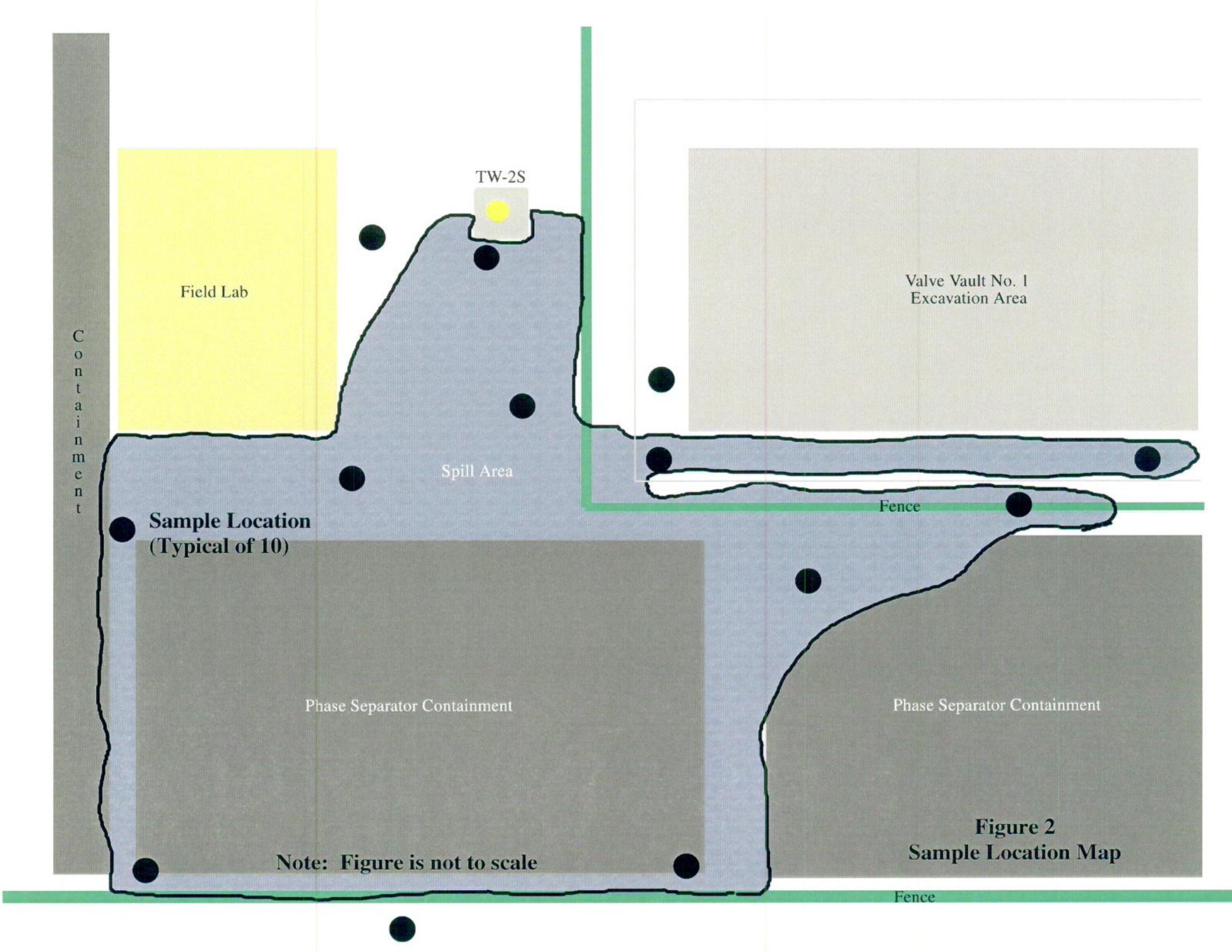

Figure 2
Sample Location Map

Attachment A
Waste Profile Data

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Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Terry DeBiase

Laboratory No.: 933519
Date Received: July 30, 2004

Project Name: PG&E Topock Project
Project No.: 30599.PS.06.05
P.O. No.: 903161

Analytical Results Summary

Lab I.D.	Sample I.D.	Units	6010B Chromium STLC	6010B Chromium TCLP	6010B Arsenic TCLP	6010B Barium TCLP	6010B Cadmium TCLP	6010B Lead TCLP	6010B Selenium TCLP	6010B Silver TCLP	SW 7470A Mercury TCLP
933519	073004-901-Sludge	mg/L	107	65.2	0.220	0.243	ND	0.0918	13.3	ND	ND

Lab I.D.	Sample I.D.	Units	6010B * Chromium Total	6010B * Iron Total
933519	073004-901-Sludge	mg/L	2540	40400

*: Additional analyses requested on 8/23/04.
ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Results above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.