



**Pacific Gas and
Electric Company**

Yvonne J. Meeks
Site Remediation – Portfolio Manager
Environmental Affairs

6588 Ontario Road
San Luis Obispo, CA 93405

Mailing Address
4325 South Higuera Street
San Luis Obispo, CA 93401

805.546.5243
Internal: 644.5243
Fax: 805.546.5232
Email: YJM1@pge.com

August 5, 2005

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

Cathy Wolff-White
U.S. Bureau of Land Management
2610 Sweetwater Avenue
Lake Havasu, AZ 86406

Subject: Spill Event and Cleanup Report, April 10, 2005 Spill Event at IM-2 Batch
Treatment Plant, Pacific Gas and Electric Company, Topock Compressor Station,
Needles, California

Dear Mr. Shopay and Ms. Wolff-White:

This letter transmits the cleanup report for the April 10, 2005 Spill Event at the Interim Measures (IM) No. 2 Batch Treatment Plant. Final cleanup activities were completed on July 18, 2005 after confirmation sample results for total chromium were reported below the spill cleanup goal of 31 mg/kg.

If you have any questions, please do not hesitate to call me.

Sincerely,

 for Yvonne Meeks

cc: Kate Burger/DTSC
Fred Zanoria/DTSC
Karen Baker/DTSC
Aaron Yue/DTSC

Spill Event and Cleanup Report

April 10, 2005 Spill Event at IM-2 Batch Treatment Plant

Pacific Gas and Electric Company

Topock Compressor Station, Needles, California

Pacific Gas and Electric Company (PG&E) is implementing an Interim Measure (IM) at the Topock Compressor Station near Needles, California. The IM consists of extraction, treatment, and management of treated groundwater to control chromium plume boundaries near the Colorado River. Until mid-July 2005, IM activities involved treatment of groundwater at a batch treatment plant located on the bench above and to the west of the river floodplain (commonly referred to as the MW20 bench), 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) and under authorization by the California Department of Toxic Substances Control (DTSC) and United States Bureau of Land Management (BLM 2004a, 2004b).

This report describes the spill event that occurred at the IM-2 batch treatment plant on April 10, 2005 and subsequent response activities. The objective of the response activities was cleanup of sludge released from the phase separator container and removal of potentially affected soils to restore the area to pre-existing conditions.

Summary of Spill Event

A spill of hazardous material occurred on Sunday, April 10, 2005, while transferring sludge from the clarifier to a phase separator container at the IM No. 2 batch treatment plant. The transfer operation is not automated, but rather completed by onsite operators by opening valves and starting pump(s) every few days to remove solids that accumulate in the clarifier during of the treatment process. The phase separator is used to contain the solids for offsite 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 am, the phase separator was overfilled, spilling approximately 1,700 to 1,800 gallons of treated water and potentially hazardous solids onto an underlying drip pad and 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**).

Immediate Response Activities

Initial Notifications

PG&E immediately notified the DTSC and BLM of the spill event. The notification procedures were consistent with the existing environmental compliance plan (ECP) for IM-2. As described below, notifications to other agencies were not required by regulation as the spill was contained within the facility.

Emergency reporting procedures, applicable to management of hazardous waste at the IM-2 site are described in the California Code of Regulations, Title 22, Division 4.5, Chapter 15, Article 4, Section 66265.56. In summary, whenever there is an imminent or actual emergency (e.g., spill of untreated groundwater, a hazardous waste), the emergency coordinator must identify the source, nature, amount and extent of released materials. The coordinator simultaneously assesses the threat to human health and the environment considering direct and indirect effects of the release. If the coordinator determines that the release will affect human health or the environment outside of the facility, he/she is required to notify the Governor's Office of Emergency Services (OES).

In addition, the California Health Safety Code, Chapter 6.95 requires a handler of hazardous materials (including hazardous waste) to immediately report to the administering agency (i.e., Certified Unified Program Agency, the San Bernardino County Fire Department) and the OES any release or threatened release of a hazardous material. An exception to this reporting requirement is found at 19CCR 2703(c), which provides that an immediate report is not required if there is a reasonable belief that the release or threatened release poses no significant present or potential hazard to human health and safety, property or the environment.

In this case, plant operators promptly contained and cleaned up the spill within the facility, including removal of affected soil. Because of these response actions and the containment within the facility, it was determined that there was no threat outside of the facility and no significant threat to the environment, and thus the OES and CUPA notifications were not required.

Immediate Cleanup Activities

The following spill cleanup activities were completed by the onsite operators from April 10 to 12, 2005 after the spill occurred. The volumes presented below are based on field estimates by onsite staff:

- Approximately 300 gallons of liquid were pumped out of the phase separator into the excess liquid storage tank to bring the sludge level down 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 affected 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 one hour after the spill. After the excess liquids were contained, stained and saturated soils were hand excavated and placed onto plastic sheeting onsite. 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 characteristic 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 affected soils was completed on April 12, 2005, using a Bobcat® skid-steer loader. Approximately 15 to 18 cubic yards (CY) of potentially affected 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 the soil.

The excavation around the containment area was backfilled with sand (approximately 8 inches deep or less) to restore the original grade and provide a safe work area for the operators.

Additional Response Activities and Confirmation Sampling

Following the immediate response activities, PG&E initiated a series of activities to assess the affects of the spill and define and implement additional response activities to confirm that the affected area was restored to pre-existing conditions. Additional response activities included:

- Characterization of clarifier sludge to determine constituents of potential concern for the confirmation sampling program;
- Assessment of background concentrations of constituents of potential concern to be used as cleanup goals for the spill;
- Collection of confirmation soil samples in areas affected by the spill;
- Excavation of additional soil in areas where confirmation samples were collected that indicated constituents of potential concern at concentrations greater than background.

Table 1 is a timeline to summary of the communications, subsequent cleanup, and confirmation sampling activities that were completed to address the spill.

A complete tabulation of confirmation sample results is provided in **Attachment 1**. The results include all data that were collected and used to assess the progress of the cleanup activities. Photographs of the spill area and cleanup activities are provided in **Attachment 2**.

TABLE 1
Summary of Cleanup Activities
Interim Measure No. 2 Spill Cleanup

| Date | Phase | Cleanup Action | Confirmation Sampling | Results |
|-------------------|---|---|---|--|
| April 10-12, 2005 | Spill event and initial response actions | Approximately 15 to 18 CY of visibly stained soils were excavated and placed in bins. Liquids were pumped back into phase separator container. | None. | |
| April 20-22, 2005 | Submit Confirmation Sampling Work Plan and collect confirmation samples (CH2M HILL 2005b) | Minor hand excavation in areas where stained soils still observed (e.g., around fence posts) | Collected 1 sludge sample and 13 confirmation samples (CS1-CS13) | Cleanup around extraction well TW-2S complete. Additional soil removal and re-sampling is required for other areas. |
| April 28-30, 2005 | Submit preliminary results of confirmation sampling from April 20-22 (CH2M HILL 2005c). | Excavated approximately 3 CY of soil from Valve Vault No. 1 excavation and approximately 30 CY of soil from phase separator container area | Collected confirmation samples from 11 locations (CS4 through CS8, CS10-CS-12, CS14-CS16) | Valve Vault No. 1 excavation complete. Additional cleanup appears to be needed around the phase separator container area where the spill originated. |
| May 25-26, 2005 | Submit Background Sampling and Depth Profiling Sampling Plan (CH2M HILL 2005d). | No additional cleanup during this time. Background sampling intended to better define the amount of additional soil removal required around phase separator container area. | Collected background samples from 10 locations across MW-20 bench. Collect depth profile samples from two locations (CS6 and CS8) to assess potential excavation. | |
| June 23, 2005 | Submit Background Sampling and Depth Profile Results and Plan for Additional Response Activities (CH2M HILL 2005e). | None. | None. | DTSC establishes a cleanup goal of 31 mg/kg for total chromium at the site. |
| July 5-13, 2005 | Perform final cleanup and confirmation sampling | Excavated approximately 70 CY of soil on July 5. Overexcavated approximately 10 CY in CS8/CS6 area on July 7. Excavated additional 3 CY of soil on July 13 in CS8 area. | Collected confirmation samples from 6 locations (CS6, CS7, CS8, CS10, CS15, and CS16) on July 5. Re-sampled CS8 and CS16 on July 8. Re-sampled CS8 on July 13. | Continued excavation and confirmation sampling until confirmation sample results less than 31 mg/kg for total chromium were achieved. |
| July 18, 2005 | Cleanup is complete. | Backfilled excavation. | None. | |

Sludge Characteristics

A sample of the sludge was collected from the phase separator container on April 20, 2005. The sludge sample was analyzed for Title 22 metals, hexavalent chromium, and total iron. The sample was also analyzed for toxicity characteristic leaching procedure (TCLP) for Resource Conservation and Recovery Act (RCRA) metals and soluble threshold limit concentration (STLC) Title 22 metals.

Table 2 is a summary of the sludge analytical results. The sludge had detectable concentrations of metals, several of which had total concentrations above available site background data as presented in the draft RCRA Facility Investigation (RFI) (CH2M HILL 2005a). Constituents of potential concern for the confirmation sampling program were determined to be metals found in the sludge sample at concentrations greater than site background data.

Assessment of Background Concentrations and Cleanup Goals

Confirmation sample data from April 2005 (initial two confirmation sampling events) were compared to the sludge characterization data as well as to a set of soil data collected from a set of 12 samples collected in 2002 as part of a pump test completed on the MW-20 bench and site background data from the draft RFI report (E&E 2002, CH2M HILL, 2005a). As described in **Table 1**, these comparisons were sufficient to make determinations that cleanup around extraction well TW-2S and within the Valve Vault No. 1 excavation were complete, and IM-3 construction work in the area could be completed without further delay. The confirmation sampling data from two events in April 2005 also confirmed that concentrations of all constituents of potential concern, with the exception of total chromium, were similar to or less than concentrations in the sludge characterization data and the site wide background data.

To better define the amount of cleanup remaining, PG&E submitted a work plan to collect background surface soil samples from 10 locations on the MW-20 bench to establish a cleanup goal based on total chromium concentrations (CH2M HILL, 2005d). Background soil samples were collected on May 25, 2005, from 10 locations on the MW-20 bench (**Figure 2**). Sample locations were field located with the DTSC prior to sampling to be outside the footprint of the IM-2 facility and away from IM-3 construction.

Table 3 is a summary of the background soil sample results from the MW-20 bench. The results were submitted to DTSC on June 23, 2005 (CH2M HILL, 2005e). DTSC reviewed the results and established a cleanup goal of 31 milligrams per kilogram (mg/kg) for total chromium, corresponding to the maximum background soil concentration on the MW-20 bench (DTSC, 2005).

Soil Removal and Confirmation Sampling Results

As summarized in **Table 1**, approximately 130 CY of potentially affected soil was excavated because of the spill. **Table 4** is a summary of the final confirmation sample data for total chromium and hexavalent chromium and the depth of the excavation. The results indicate that total chromium levels were less than 31 mg/kg at all confirmation sample locations and

TABLE 2
Sludge Analytical Data¹
Interim Measure No. 2 Spill Cleanup

| Analyte | Method | Site Background ² (mg/kg) | TTL Concentration (mg/kg) | TCLP Concentration (mg/L) | STLC Concentration (mg/L) |
|---------------------|--------|---|------------------------------|------------------------------|------------------------------|
| Antimony | 6010B | ND | 11.6 | --- | 3.06 |
| Arsenic | 6010B | 4.81 | 10.7 | ND (0.125) | 0.719 |
| Barium | 6010B | 425 | 6.47 | 0.139 | 0.473 |
| Beryllium | 6010B | 3.26 | 7.97 | --- | 0.656 |
| Cadmium | 6010B | ND | ND (0.277) | ND (0.125) | ND (0.125) |
| Cobalt | 6010B | 9.38 | ND (0.454) | --- | ND (0.025) |
| Copper | 6010B | 19.2 | 3.88 | --- | ND (0.372) |
| Hexavalent Chromium | 7199 | NA | 230 J | --- | --- |
| Chromium (total) | 6010B | 32.4 | 3,810 | 0.174 | 277 |
| Lead | 6010B | 8.4 | 2.33 | ND (0.05) | ND (0.447) |
| Mercury | 6010B | ND | ND (0.04) | ND (0.001) | ND (0.001) |
| Molybdenum | 6010B | 0.542 | ND (0.908) | --- | ND (1) |
| Nickel | 6010B | 21.6 | ND (0.908) | --- | 0.081 |
| Selenium | 6010B | 0.927 | 50.4 | ND (0.125) | 5.99 |
| Silver | 6010B | NA | ND (0.454) | ND (0.025) | ND (0.025) |
| Thallium | 6010B | ND | ND (1.36) | --- | 0.119 |
| Vanadium | 6010B | 38.7 | 8.53 | --- | 0.47 |
| Zinc | 6010B | 55.2 | 24.4 | --- | ND (1.45) |
| Iron | 6010B | 23,900 | 27,600 | --- | 2,110 |

ft bgs: feet below ground surface

mg/kg: milligrams per kilogram

ND: Not detected at the reporting limit

¹Sludge sample was collected from phase separator container on April 20, 2005

²Site background concentration from 0 to 10 ft below ground surface from Draft RI report, Table 10-1 (CH2M HILL, 2005a)

TABLE 3
Background Soil Analytical Results from MW-20 Bench – May 2005
Interim Measure No. 2 Spill Cleanup

| Sample Location | Sample Date | Depth Interval (ft bgs) | Total Chromium (mg/kg) |
|------------------------|--------------------|--------------------------------|-------------------------------|
| BG1 | 5/25/2005 | 0 to 1 | 13.9 |
| BG2 | 5/25/2005 | 0 to 1 | 31.0 |
| BG3 | 5/25/2005 | 0 to 1 | 15.8 |
| BG4 | 5/25/2005 | 0 to 1 | 25.0 |
| BG5 | 5/25/2005 | 0 to 1 | 21.1 |
| BG6 | 5/25/2005 | 0 to 1 | 9.69 |
| BG7 | 5/25/2005 | 0 to 1 | 13.8 |
| BG8 | 5/25/2005 | 0 to 1 | 12.4 |
| BG9 | 5/25/2005 | 0 to 1 | 15.0 |
| BG10 | 5/25/2005 | 0 to 1 | 11.2 |

ft bgs: feet below ground surface
mg/kg: milligrams per kilogram

TABLE 4
Final Confirmation Sample Results
Interim Measure No. 2 Spill Cleanup

| Sample Location | Sample Date | Depth Interval ² (ft bgs) | Total Chromium (mg/kg) | Hexavalent Chromium (mg/kg) | Comment |
|---|-------------|---|---------------------------|--------------------------------|---|
| Confirmation Samples Collected from Perimeter of Spill Area | | | | | |
| CS1 | 4/21/2005 | 0 to 1 | 23 | ND (0.42) | Near TW-2S |
| CS3 | 4/21/2005 | 5 to 6 | 17 | ND (0.41) | In valve vault No. 1 excavation |
| CS9 | 4/21/2005 | 0 to 1 | 19 | ND (0.41) | East side of spill area |
| Confirmation Samples Collected from TW-2S Area | | | | | |
| CS2 | 4/21/2005 | 0 to 1 | 14 | ND (0.42) | Excavation backfilled concurrent with Valve Vault No. 1 excavation. |
| Confirmation Samples Collected from Valve Vault No. 1 Excavation | | | | | |
| CS4 | 4/28/2005 | 6 to 7 | 16 | ND (0.43) | Valve Vault No. excavation backfilled after DTSC reviewed confirmation sample results from April 28, 2005 to allow IM3 construction to proceed without delay. |
| CS13 | 4/21/2005 | 5 to 6 | 11 | ND (0.41) | |
| CS14 | 4/28/2005 | 6 to 7 | 20 | ND (0.42) | |
| Confirmation Sample Collected from Phase Separator Container Area | | | | | |
| CS5 | 4/30/2005 | 1 to 2 | 15 J | ND (0.41) | Excavation was backfilled on July 18, 2005 after confirmation sample from IM2-CS8 was less than 31 mg/kg. |
| CS6 | 7/5/2005 | 6 to 7 | 15 J | See Note 1 | |
| CS7 | 7/5/2005 | 6 to 7 | 19 | See Note 1 | |
| CS8 | 7/13/2005 | 9 to 10 | 23 J | See Note 1 | |
| CS10 | 7/5/2005 | 3 to 4 | 21 | See Note 1 | |
| CS11 | 4/30/2005 | 1 to 2 | 27 | ND (0.42) | |
| CS12 | 4/30/2005 | 1 to 2 | 22 | ND (0.41) | |
| CS15 | 7/5/2005 | 3 to 4 | 25 | See Note 1 | |
| CS16 | 7/8/2005 | 6 to 7 | 27 | See Note 1 | |

bgs: below ground surface

ft: feet

mg/kg: milligrams per kilogram

ND not detected at the reporting limit

¹Hexavalent chromium was not detected in previous confirmation samples on 4/30/2005.

²Depth intervals are approximate based on estimates to surrounding ground surface.

hexavalent chromium levels were less than analytical detection limits. A complete listing of confirmation sample data, including confirmation sample data that were not used to determine cleanup, is provided in **Attachment 1**.

The excavated soils were characterized as non-RCRA hazardous waste (California Regulated Hazardous Waste) and were transported to the Chemical Waste Management facility in Kettleman City, California, for disposal. The excavation was backfilled on July 18, 2005, with existing site soil stockpiled from IM-3 construction activities.

Biological and Cultural Resources Support

Biological and cultural resources support was provided during the cleanup effort. The spill occurred over a weekend, and the onsite biologist and cultural resources monitor were notified of the incident when they returned on Monday, April 11, to the project site. The spill area was previously disturbed and contained within a fully enclosed chain-link fence with shade cloth. A single creosote bush was located directly adjacent to the area. No other vegetation occurred in the immediate area.

Prior to removal of the contaminated soil, staff was provided with sensitivity training, a pre-survey was performed, and excavation activities were monitored by the onsite biologist and cultural resources monitor. Impacts to biological and cultural resources were not observed as a result of the spill and cleanup activities. Between laboratory analyses to determine the amount of soil to be removed, the final excavation was left open, creating a potential wildlife pitfall trap. To mitigate any potential impacts to wildlife, the northern bank of the excavation was sloped at an approximate 3 (horizontal) to 1 (vertical) ratio to facilitate the escape of any wildlife. Additionally, the biologist spot-checked the excavation for entrapped wildlife during normal work hours. The excavation was inspected outside normal work hours by onsite personnel. No wildlife was observed entrapped in the excavation. After laboratory results confirmed that the remaining soils met the cleanup goal, the excavation was backfilled with existing site soil stockpiled from IM-3 construction.

References

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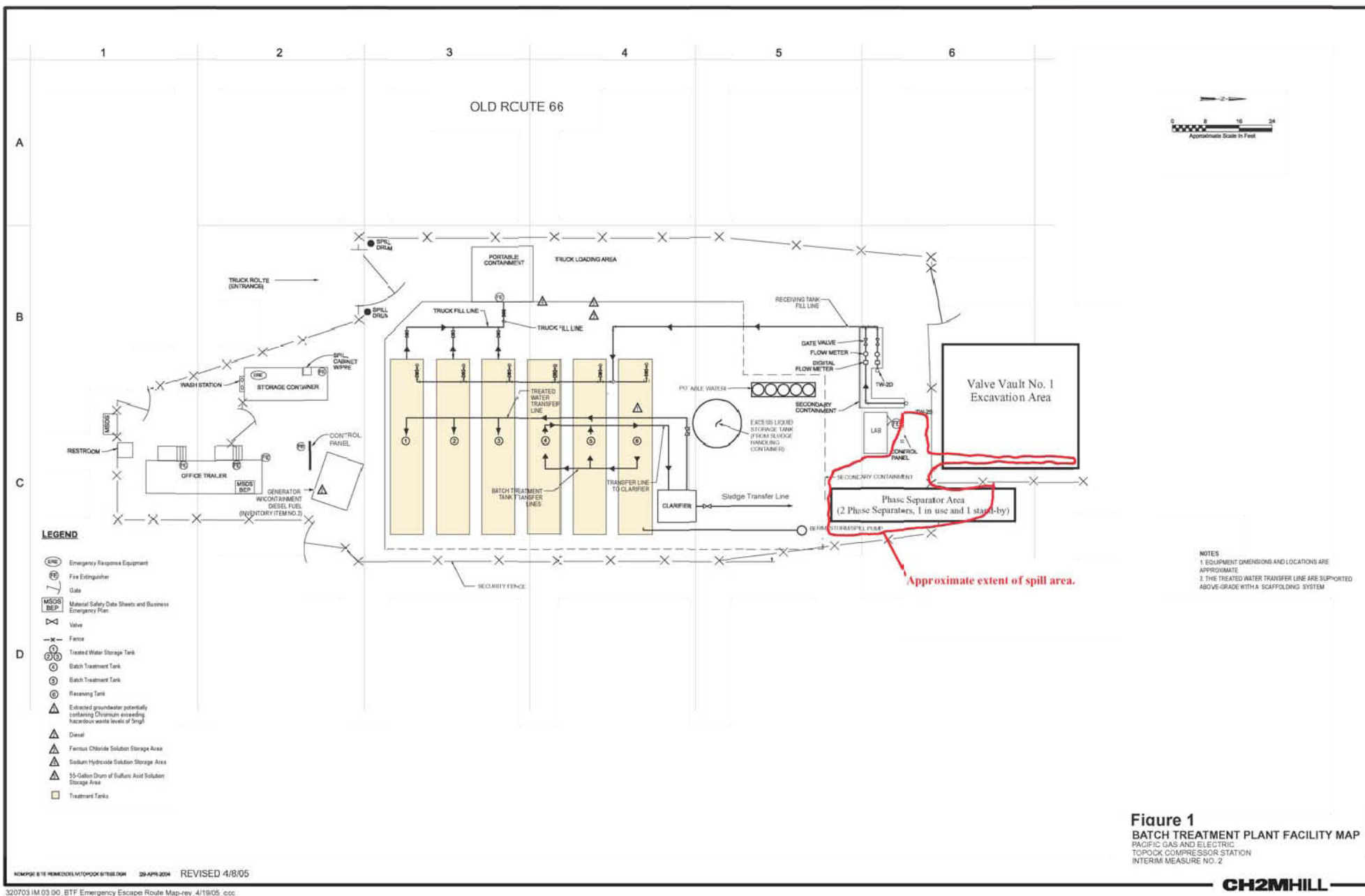
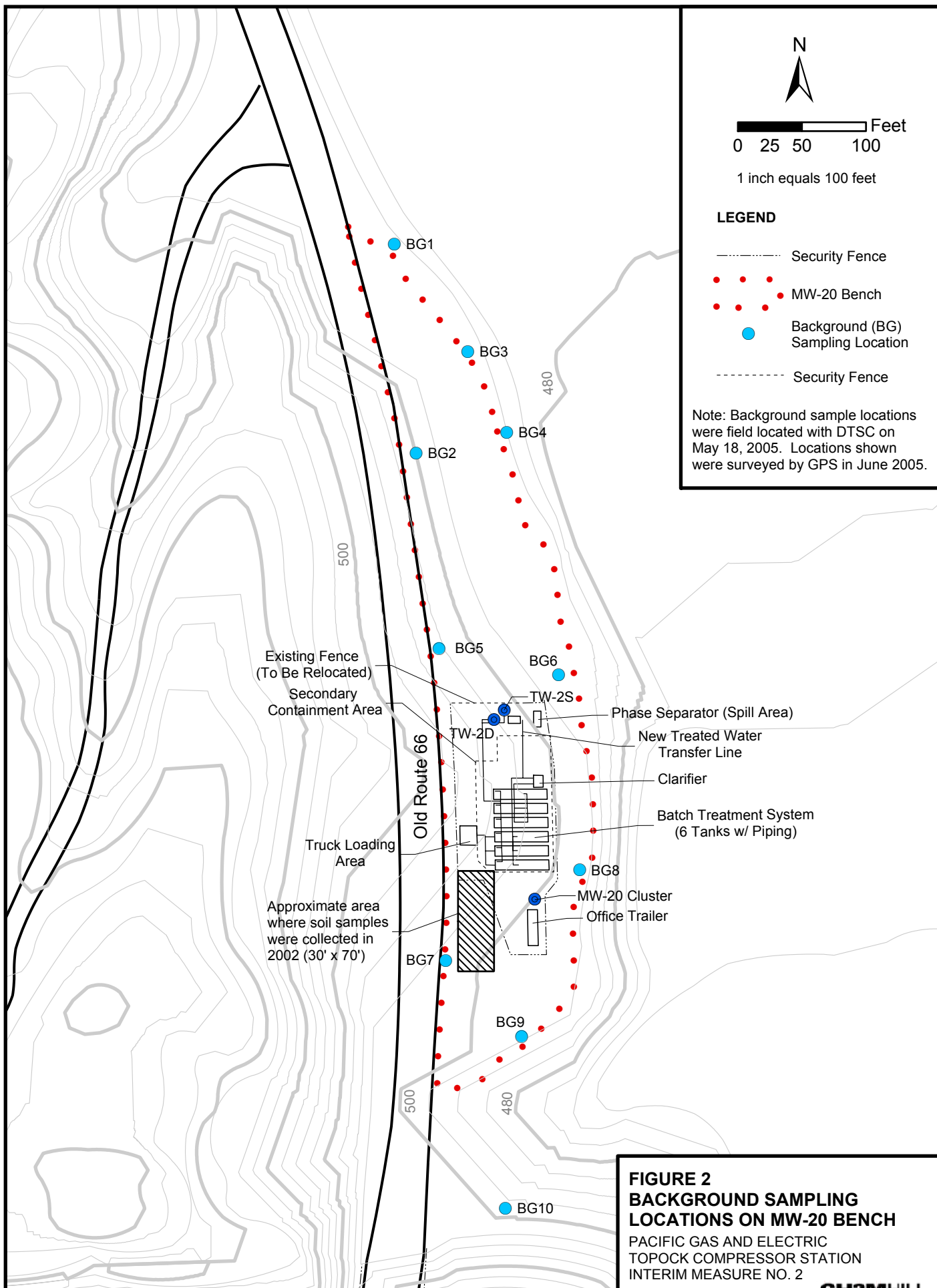


Figure 1
BATCH TREATMENT PLANT FACILITY MAP
 PACIFIC GAS AND ELECTRIC
 TOPOCK COMPRESSOR STATION
 INTERIM MEASURE NO. 2





Batch Plant
Containment

| Depth | Cr (T) |
|--------|--------|
| 0 to 1 | 23 |

CS1

Batch Plant
Field Lab

TW-2S

CS2

| Depth | Cr (T) |
|--------|--------|
| 0 to 1 | 14 |

| Depth | Cr (T) |
|--------|--------|
| 1 to 2 | 15 J |

CS5

| Depth | Cr (T) |
|--------|--------|
| 6 to 7 | 19 |

CS7

Spill Area

CS6

| Depth | Cr (T) |
|--------|--------|
| 6 to 7 | 15 J |

Phase Separator Containment

CS16

| Depth | Cr (T) |
|--------|--------|
| 6 to 7 | 27 |

CS8

| Depth | Cr (T) |
|---------|--------|
| 9 to 10 | 23 J |

| Depth | Cr (T) |
|--------|--------|
| 0 to 1 | 19 |

CS9

Fence

Perimeter of Excavation for Valve Vault No.1

Valve Vault No. 1

CS3

| Depth | Cr (T) |
|--------|--------|
| 3 to 6 | 17 |

| Depth | Cr (T) |
|--------|--------|
| 7 to 8 | 16 |

CS4

| Depth | Cr (T) |
|--------|--------|
| 6 to 7 | 20 |

CS14

| Depth | Cr (T) |
|--------|--------|
| 5 to 6 | 11 |

CS13

CS12

| Depth | Cr (T) |
|--------|--------|
| 1 to 2 | 22 |

CS11

| Depth | Cr (T) |
|--------|--------|
| 1 to 2 | 27 |

Phase Separator Containment

CS15

| Depth | Cr (T) |
|--------|--------|
| 3 to 4 | 25 |

CS10

| Depth | Cr (T) |
|--------|--------|
| 3 to 4 | 21 |

Fence

Legend

● Confirmation Sample

| Depth | Cr (T) |
|--------|--------|
| Ft bgs | mg/kg |

Figure 3

Final Total Chromium Concentrations
Pacific Gas and Electric
Topock Compressor Station
Interim Measure No.2
Cleanup of Spill of April 10, 2005

ATTACHMENT 1

Confirmation Sample Results

| Location ID | Sample Date | Depth, ft bgs | Antimony | Arsenic | Barium | Beryllium | Cadmium | Cobalt | Copper | Hexavalent Chromium | Total Chromium | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc | Iron | |
|----------------------------|-------------|---------------|------------|----------|--------|-----------|-----------|-----------|----------|---------------------|----------------|------|----------|------------|----------|-----------|--------|----------|----------|------|-------|------|
| Final Confirmation Samples | | | | | | | | | | | | | | | | | | | | | | |
| CS01 | 4/21/2005 | 0 - 1 | --- | --- | --- | --- | --- | --- | --- | ND (0.42) | 23 | --- | --- | --- | --- | 0.82 | --- | --- | --- | --- | 13000 | |
| CS02 | 4/21/2005 | 0 - 1 | --- | --- | --- | --- | --- | --- | --- | ND (0.42) | 14 | --- | --- | --- | --- | 0.96 | --- | --- | --- | --- | 12000 | |
| CS03 | 4/21/2005 | 5 - 6 | --- | --- | --- | --- | --- | --- | --- | ND (0.41) | 17 | --- | --- | --- | --- | 0.67 | --- | --- | --- | --- | 13000 | |
| CS04 | 4/28/2005 | 7 - 8 | ND (6.4) | 6.2 | 290 | ND (0.53) | --- | --- | 8.8 | ND (0.43) | 16 | 3.9 | --- | --- | --- | ND (0.53) | --- | --- | 27 | 22 | --- | |
| CS05 | 4/30/2005 | 1 - 2 | ND (6.2) J | 6.4 | 81 | ND (0.52) | --- | --- | 10 | ND (0.41) | 15 J | 7.4 | --- | --- | --- | 1.3 | --- | --- | 32 J | 23 | --- | |
| CS06 | 7/5/2005 | 6 - 7 | FD | --- | --- | --- | --- | --- | --- | --- | 15 J | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 7/5/2005 | 6 - 7 | | --- | --- | --- | --- | --- | --- | --- | 20 J | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| CS07 | 7/5/2005 | 6 - 7 | | --- | --- | --- | --- | --- | --- | --- | --- | 19 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CS08 | 7/13/2005 | 9 - 10 | | --- | --- | --- | --- | --- | --- | --- | --- | 23 J | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CS09 | 4/21/2005 | 0 - 1 | --- | --- | --- | --- | --- | --- | --- | ND (0.41) | 19 | --- | --- | --- | --- | 0.79 | --- | --- | --- | --- | 12000 | |
| CS10 | 7/5/2005 | 3 - 4 | --- | --- | --- | --- | --- | --- | --- | --- | 21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| CS11 | 4/30/2005 | 1 - 2 | ND (6.2) | 6.1 | 170 | ND (0.52) | --- | --- | 8.5 | ND (0.42) | 27 | 6.1 | --- | --- | --- | 0.69 | --- | --- | 31 | 24 | --- | |
| CS12 | 4/30/2005 | 1 - 2 | ND (6.2) | 6.2 | 110 | ND (0.52) | --- | --- | 9.9 | ND (0.41) | 22 | 8.5 | --- | --- | --- | 0.98 | --- | --- | 31 | 26 | --- | |
| CS13 | 4/21/2005 | 5 - 6 | --- | --- | --- | --- | --- | --- | --- | ND (0.41) | 11 | --- | --- | --- | --- | 0.78 | --- | --- | --- | --- | 7200 | |
| CS14 | 4/28/2005 | 6 - 7 | ND (6.3) J | 5.9 | 47 | ND (0.52) | --- | --- | 11 | ND (0.42) | 20 | 3 | --- | --- | --- | 0.54 | --- | --- | 26 | 22 | --- | |
| CS15 | 7/5/2005 | 3 - 4 | --- | --- | --- | --- | --- | --- | --- | --- | 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| CS16 | 7/8/2005 | 6 - 7 | --- | --- | --- | --- | --- | --- | --- | --- | 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| Removed During Cleanup | | | | | | | | | | | | | | | | | | | | | | |
| CS04 | 4/21/2005 | 6 - 7 | --- | --- | --- | --- | --- | --- | --- | 0.47 | 42 | --- | --- | --- | --- | 0.78 | --- | --- | --- | --- | 10000 | |
| CS05 | 4/21/2005 | 0 - 1 | ND (6.2) J | 7.1 | 140 | ND (0.52) | ND (0.52) | ND (5.2) | 9 | ND (0.42) | 21 | 8.6 | ND (0.1) | ND (4.2) | 7.7 | 0.9 | ND (1) | ND (1) | 33 | 26 | 11000 | |
| CS06 | 4/21/2005 | 0 - 1 | ND (6.3) | 6.9 | 990 | ND (0.52) | ND (0.52) | 5.3 | 10 | ND (0.42) | 46 | 8.4 | ND (0.1) | ND (4.2) | 10 | 1.7 | ND (1) | ND (1) | 28 | 79 | 14000 | |
| | 4/30/2005 | 1 - 2 | ND (6.3) | 9.9 | 340 | ND (0.53) | --- | --- | 11 | ND (0.42) | 54 | 4.3 | --- | --- | --- | 1.5 | --- | --- | 42 | 30 | --- | |
| | 5/11/2005 | 2 - 3 | --- | --- | --- | --- | --- | --- | --- | --- | 39.8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 5/11/2005 | 3 - 4 | --- | --- | --- | --- | --- | --- | --- | --- | 41.4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 5/25/2005 | 4 - 5 | --- | --- | --- | --- | --- | --- | --- | --- | 34.1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 5/25/2005 | 5 - 6 | --- | --- | --- | --- | --- | --- | --- | --- | 35.2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| CS07 | 4/21/2005 | 0 - 1 | --- | --- | --- | --- | --- | --- | --- | ND (0.42) | 30 | --- | --- | --- | --- | 1.1 | --- | --- | --- | --- | 13000 | |
| | 4/30/2005 | 1 - 2 | ND (6.4) | 6.6 | 270 | ND (0.53) | --- | --- | 7.1 | ND (0.43) | 31 | 3.4 | --- | --- | --- | 0.94 | --- | --- | 27 | 21 | --- | |
| CS08 | 4/21/2005 | 0 - 1 | --- | --- | --- | --- | --- | --- | --- | ND (0.41) | 28 | --- | --- | --- | --- | 0.67 | --- | --- | --- | --- | 12000 | |
| | 4/30/2005 | 1 - 2 | ND (6.3) | 8.4 | 270 | ND (0.52) | --- | --- | 10 | ND (0.42) | 39 | 3.9 | --- | --- | --- | 1.1 | --- | --- | 32 | 26 | --- | |
| | 5/25/2005 | 2 - 3 | --- | --- | --- | --- | --- | --- | --- | --- | 26.1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 5/25/2005 | 3 - 4 | --- | --- | --- | --- | --- | --- | --- | --- | 36.8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 7/5/2005 | 4 - 5 | --- | --- | --- | --- | --- | --- | --- | --- | 37 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 7/8/2005 | 6 - 7 | --- | --- | --- | --- | --- | --- | --- | --- | 34 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| CS10 | 4/21/2005 | 0 - 1 | --- | --- | --- | --- | --- | --- | --- | ND (0.41) | 49 | --- | --- | --- | --- | 1.1 | --- | --- | --- | --- | 11000 | |
| | 4/30/2005 | 1 - 2 | ND (6.2) | 6.4 | 190 | ND (0.52) | --- | --- | 11 | ND (0.41) | 32 | 4.5 | --- | --- | --- | ND (0.52) | --- | --- | 32 | 21 | --- | |
| CS11 | 4/21/2005 | 0 - 1 | ND (6.3) | 5.5 | 120 | ND (0.52) | ND (0.52) | ND (5.2) | 11 | 0.45 | 34 | 20 | ND (0.1) | ND (4.2) | 10 | 1.2 | ND (1) | ND (1) | 25 | 32 | 12000 | |
| CS12 | 4/21/2005 | 0 - 1 | --- | --- | --- | --- | --- | --- | --- | ND (0.41) | 29 | --- | --- | --- | --- | ND (0.52) | --- | --- | --- | --- | 12000 | |
| CS13 | 4/21/2005 | 5 - 6 | FD | ND (6.3) | 4.4 | 130 | ND (0.52) | ND (0.52) | ND (5.2) | 8.4 | ND (0.42) | 29 | 16 | ND (0.1) | ND (4.2) | 8.1 | 0.97 | ND (1) | ND (1) | 22 | 27 | 9900 |
| CS15 | 4/30/2005 | 1 - 2 | --- | ND (6.2) | 6.7 | 110 | ND (0.52) | --- | --- | 6.4 | ND (0.42) | 34 | 4 | --- | --- | --- | 0.99 | --- | --- | 28 | 18 | --- |
| CS16 | 4/30/2005 | 1 - 2 | FD | ND (6.3) | 8.4 | 220 | ND (0.53) | --- | --- | 9.7 | ND (0.42) | 53 J | 4.3 | --- | --- | --- | 1.6 | --- | --- | 34 | 28 | --- |
| | 4/30/2005 | 1 - 2 | | ND (6.3) | 8.8 | 220 | ND (0.53) | --- | --- | 9.7 | ND (0.42) | 42 J | 4.4 | --- | --- | --- | 1 | --- | --- | 32 | 29 | --- |
| | 7/5/2005 | 5 - 6 | | --- | --- | --- | --- | --- | --- | --- | 44 J | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 7/5/2005 | 5 - 6 | | --- | --- | --- | --- | --- | --- | --- | 30 J | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

Notes:
FD field duplicate
ft bgs feet below ground surface
ND parameter not detected at the listed reporting limit
J estimated value

ATTACHMENT 2

Photographs

Site Photographs



Spill area looking east towards TW-2S and phase separator container that was overfilled



Spill area looking south towards batch plant with phase separators removed



Soil removal in Valve Vault No. 1 excavation on April 28, 2005



Soil removal in phase separator container area on April 30, 2005



Soil removal in phase separator container area on July 5, 2005



Final excavation at location CS8 on July 13, 2005

Site Photographs



Backfilled excavation looking west towards
TW-2S in new vault - July 2005



Backfilled excavation looking north along
former phase separator container area. New
IM3 brine tanks in background – July 2005



Backfilled excavation looking west towards
TW-2S in new vault and IM3 Brine Tanks
July 2005



IM-2 batch plant configuration
July 2005