Appendix A
Interim Memorandums

Pavement Condition Memorandum

Current Pavement Condition at the AMCO Facility

TO: Bruni Davila - US EPA

COPIES: Ana Demorest – CH2M HILL

FROM: Bill Frohlich – CH2M HILL

DATE: December 3, 2004

The purpose of this memorandum is to document the concrete thickness throughout the site and evaluate of the condition of the concrete. The four main parcels considered include:

- 1414-3rd Street (the main facility)
- 1448-3rd Street (field office trailer location)
- 324 Center Street (small vacant lot)
- 328-348 Center Street (large vacant lot)

Figure 1 shows the type of ground cover (i.e., asphalt, concrete, or unpaved) and the surface cover thickness at coring locations. Note, an extensive photo log of all boring locations is available, but too large to include as part of this memo.

1414-3rd Street

Concrete Thickness: With the exception of a 2-foot edge on the western fence-line and a small area north of the warehouse (see Figure 1), this entire facility is covered with concrete. At this parcel concrete thickness varies from 4 to 40 inches. The median concrete thickness at the main facility is ~16 inches. All locations with concrete thicker than 12 inches are in the northern third of the facility.

At one location, RSB/G-16, refusal was encountered at four attempts at concrete coring within a 15 foot radius. At this location, surface cover consisted of alternating layers of 6 to 8 inches of concrete and 6 to 8 inches of debris, with a thickness of greater than 24 inches. The total thickness at this location could not be determined due to refusal during concrete coring.

Concrete Condition: In general, relatively smoothly finished concrete is present in the following locations: (1) along the eastern two thirds of the northern fence line, (2) just west of and adjacent to the warehouse, and (3) the southern third of the facility. In some areas this finished concrete shows wear, but is otherwise in relatively good condition. The surface in the central and most of the western portions of the site consist of poorly finished concrete with an irregular surface particularly where separate loads of concrete were placed at different times. In these areas with a more uneven finish, significant dirt accumulation and concrete "gravel" (from surficial damage to the uneven surface) obscure the slab.

At all concrete coring locations, the concrete was observed to be competent and uncracked. At RSB/G-16, despite alternating layers of 6 to 8 inches of concrete and debris the separate concrete slabs were intact. At locations with thicker concrete, observation of the core

showed layering, indicating numerous, separate concrete placement events. In spite of the layering observed in some concrete cores, the concrete was intact.

1448-3rd Street

Concrete Thickness: At the 5 coring locations at this site, the concrete is 4 to 6 inches thick.

Concrete Condition: A uniform, finished concrete slab is present throughout this site. No cracking or damage is apparent in the slab. In the central yard, the slab ends several inches from the warehouse, and two joints run the length of the slab. In the northern quarter of this lot, the original slab is covered with a more recent layer of concrete. This later layer is smoothly finished and grades evenly into the original slab.

324 Center Street

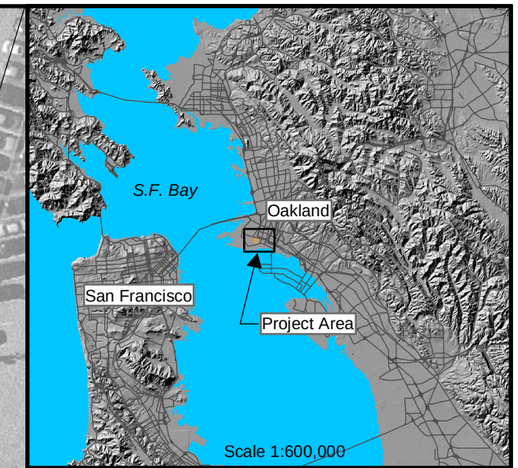
Concrete Thickness: At the 6 coring locations at this site, the concrete was 10 to 12 inches thick.

Concrete Condition: A uniform, finished concrete slab is present throughout this site. No cracking or damage is apparent in the slab. A joint is present in the middle of this lot that runs the width of the slab.

332-346 Center Street

Concrete Thickness: At the 17 coring locations at this site, the concrete was 6 to 14 inches thick, with an average thickness of ~11 inches.

Concrete Condition: Overall this lot has a uniform, finished concrete slab. A small portion of the southeast corner of this lot, adjacent to 1414-3rd Street, is somewhat more irregular and is contiguous with the thicker, uneven concrete present at main facility. No cracking or damage is apparent in the slab.



Legend

- Sampling Locations
- Former AMCO Chemical Facility Boundary
- Former Extraction Trench
- Asphalt
- Concrete
- Dirt

*At RSG-16, repeated layers of concrete and debris were encountered. Unable to concrete core beyond 24 inches.

0 60 120 Feet

Scale 1:720
CA State Plane (NAD83) Zone III

FIGURE 1
SURFACE COVER THICKNESS

REMEDIAL INVESTIGATION
AMCO CHEMICAL SUPERFUND SITE
OAKLAND, CALIFORNIA

CH2MHILL

RDD \\ZINFANDEL\GIS\PROJECTS\AMCO\ARCGIS\MXDFILES\2004\CONCRETE1.MXD CONCRETE.PDF 12/3/2004 15:50:25

EPA Response to Technical Assistance Grant

POOR LEGIBILITY

ONE OR MORE PAGES IN THIS DOCUMENT ARE DIFFICULT TO READ
DUE TO THE QUALITY OF THE ORIGINAL

SFUND RECORDS CTR
2085904

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 7, 2005

John W. Schweizer
Remediation Services, Inc.
1485 Bayshore Boulevard
Suite 352
San Francisco, CA 94124

Dear John:

This is in response to your request to sample in the Alameda formation at the AMCO Chemical Superfund site.

The available evidence strongly indicates that: 1) several yards separate the deepest extent of dense non-aqueous phase liquid (DNAPL) and the aquitard; 2) DNAPL is not present in proximity to the aquitard; and 3) the presence of a thick aquitard would preclude the vertical migration of contaminants to the lower aquifer.

Per our conversations, you have indicated that there are locations at the south bay sites where upper aquifers have been found to be "clean" while lower aquifers are contaminated. The heterogeneous geology of the south bay allows this phenomenon. The upper aquifer at a downgradient location is not contiguous with the upper aquifer in the source area, and the lower aquifer at the downgradient location is contiguous with the upper aquifer at the source area. However, the geology at the south bay sites differs very significantly from the geology at the AMCO site. The AMCO site differs in that the upper aquifer and lower aquifer are isolated from one another by a laterally continuous aquitard.

The available evidence also indicates that the deeper aquifer has not been impacted. Therefore, we believe that there is no need to install a well in the deeper aquifer. We will continue to assess data as they are collected.

mailed on 12/7/05
B.D.

If you have any questions, we can address them at our next monthly meeting, next Wednesday, December 14, 2005 at the Alliance for West Oakland Development (AWOD) office. You can also call me at 415-972-3162.

Sincerely,

Bruni Dávila
Remedial Project Manager
AMCO Chemical Superfund Site

Enclosures

EPA Response to TAG Question: Why is sampling in the Alameda formation not included in the SAP?

Hydrogeological Investigation; -50 Foot Oakland Harbor Navigation Improvement Project, Port of Oakland; Oakland and Alameda, California; Todd Engineers, February 1999.

Surficial Geology, Existing Conditions, Plate 21

Geologic Cross Section Locations, Plate 23

Hydrogeological Cross Sections A-A', B-B', Plate 24

A Comprehensive Groundwater Protection Evaluation for the South San Francisco Basin, SF-RWQCB, May 2003).

Figure 8a: Santa Clara Valley Groundwater Basin Cross Section A-A' Schematic (Source: Iwamura 1995)

cc: Viola Cooper w/o enclosures

Why is sampling in the Alameda formation not included in the SAP?
Figure 14 of the SAP shows a conceptual model of the geology beneath the site. The model shows groundwater (in an unconfined aquifer) in a formation called the Merritt Sand directly beneath the Site from about 3-10 feet below the ground surface to 45-55 feet down, then a clay layer (aquitard) that extends from about 50 feet below the ground surface to about 90 feet below the ground surface, then a second (confined) aquifer in the Alameda formation beneath the approximately 40-foot thick clay layer. The Alameda formation extends from below the clay layer to bedrock which is at greater than 250 feet below ground surface, and contains usable groundwater. In fact, until recently, this water was used by the Red Star Yeast factory that was located nearby the Site (see Phase I & II Environmental Site Assessment: Alameda County Assessor's Parcel Number 004-69-004; Remediation Services, Inc. (September 2004).
Spilled solvents such as TCE have been shown to sink through the upper aquifer because they are heavier than water. They then penetrate their way through clay layers and contaminate the lower, usable aquifers. This has been shown to occur in similar geology and with some of the same chemicals that were spilled at the Site. (Please refer to the RI/FS and Quarterly Reports for the Middlefield-Ellis-Whisman [MEW] Superfund site in Mountain View, CA; and similar documents for the IBM site in San Jose, CA; the South San Jose Superfund site in San Jose, CA; and the COE site in Palo Alto, CA.)
Data reported in the Preliminary Asessment/Site Investigation Report: AMCO Chemical Site; Ecology and Environment, Inc. (August 2001), which I reviewed in the West Oakland Branch Library, shows that groundwater in the upper aquifer (Merritt Sand) is sufficiently contaminated to suggest the presence of pure solvents, including TCE. The Sampling and Analysis Program (Section 6.0) of the SAP calls for discrete depth sampling of the upper aquifer and for sampling for DNAPL (Dense Non-aqueous Phase Liquid, i.e. pure heavier-than-water solvents) in the upper aquifer. These tests seem intended to establish whether these solvents could have penetrated the clay layer (aquitard) that separates the upper and lower aquifers. Please be aware that similar tests at the MEW site referenced above indicated that vertical variations in groundwater contamination were determined more by variations in soil properties than by the presence or absence of contaminants at depth. Also, samples with DNAPL were never found. However, direct tests of the lower aquifers indicated that substantial aquitards had in fact been penetrated by DNAPL. The conclusion drawn from these data at the MEW site was that DNAPL penetrates the soil column in very narrow preferential pathways that have a low probability of interception by soil borings. The experience of MEW and other similar sites suggests that the only way to be certain that the usable aquifer beneath the AMCO site has not been contaminated is to test it.

USEPA Response:
In expressing your concerns regarding the potential for contamination of the lower aquifer, you present three factors to support your call for investigation of the lower aquifer. These included: 1) the site geology is similar to the geology found in other locations where contamination of the lower aquifer has been encountered, 2) the concentrations of volatile organic compounds (VOCs) in the groundwater suggest the presence of dense non-aqueous phase liquid (DNAPL) at the site; and 3) based

on the information from the other sites cited, DNAPL may have penetrated the aquitard even if we do not encounter DNAPL in our samples.

Site Geology: **You accurately characterized the geology of the AMCO site as a relatively simple layer cake system with a thin layer of fill extending from 3 to 10 ft below ground surface (bgs), underlain by a sandy aquifer from 50 to 70 ft bgs (also referred to as the Merritt Sands), which in turn is underlain by an aquitard that is 40+ feet thick, which in turn is underlain by the lower aquifer (also referred to as the Alameda Formation) which extend to bedrock at roughly 250 ft bgs. Available reports indicate that the upper aquifer, aquitard, and the lower aquifer are ALL laterally contiguous over a very broad area (i.e., from the site, miles to the west and to the south). Please see enclosed figures from *Hydrogeologic Investigation: Oakland Harbor Navigation Improvement (-50 foot) Project, Port of Oakland; Oakland and Alameda, California; Todd Engineers 1999.***

However, the geology at the south bay sites differs very significantly from the geology at the AMCO site. Unlike the AMCO site where soils were deposited over broad areas, either by large bodies of water (with possibly some wind-blown sands [i.e., Merritt Sands]), soils at the south bay sites you reference were deposited by streams coming off the surrounding hills (in alluvial fans). Due to the depositional environment, these south bay soils form an interwoven web of laterally and vertically interconnected aquifers and discontinuous aquitards (see enclosed figures from *A Comprehensive Groundwater Protection Evaluation for the South San Francisco Basin, SF-RWQCB, May 2003*).

These major differences in local geology result in significantly different potentials for contaminants to migrate vertically. In the south bay, the presence of discontinuous aquitards results in vertical interconnectedness of aquifers, which significantly increases the likelihood of vertical migration of both dissolved and DNAPL contaminants. However, at the AMCO site where laterally contiguous, thick aquitards are present, the migration of dissolve-phase contaminants is largely prevented and the potential migration of any DNAPL is reduced.

DNAPL (i.e., Free-Phase Product): **Based on the elevated concentrations in shallow groundwater previously reported in the Ecology &Environment (E&E) document, you concluded that there is DNAPL in the subsurface. Per the field work we have conducted so far, we have confirmed the previous shallow groundwater data. We have also learned that below approximately 20 to 30 feet bgs, concentrations of compounds of concern (COCs) in groundwater diminish rapidly with depth to below screening levels. Furthermore, COCs in samples collected within 20 feet of the aquitard are not detected, almost without exception. On July 25, you and I met at the USEPA offices and talked about some of this preliminary data (September 2004 grab groundwater sampling and March 2005 groundwater sampling).**

Based on these preliminary results, it is likely that DNAPL is present in near-surface soils, but is trapped as a residual DNAPL in a "smear zone" in the upper 20 feet (in the central portion of the site). The absence of a smear zone below 20 feet

bgs (which is reflected in the low groundwater concentrations) indicate that it is highly unlikely that DNAPL ever migrated below that depth.

Vertical Migration of DNAPL: **DNAPLs migrate vertically in the subsurface because these materials' densities are significantly greater than water. We agree that, in general, significant quantities of DNAPL sitting directly on aquitards would migrate vertically through these low-permeability soils due to the pressure head. There is a large body of case studies to support this. We also agree that actually locating free-phase DNAPL in the subsurface is highly improbable, and not finding DNAPL does not by itself indicate that this DNAPL is not present. However, the presence of DNAPL at depth would be supported by high dissolved phase concentrations (hundreds of parts per million (ppm), thousands of ppm, or even higher) in the vicinity; at the AMCO site, there is no such indication, as described above.**

At the public meeting, you indicated that there are locations at the south bay sites where upper aquifers have been found to be "clean" while lower aquifers are contaminated. The heterogeneous geology of the south bay allows this phenomenon. The upper aquifer at a downgradient location is NOT contiguous with the upper aquifer in the source area, and the lower aquifer at the downgradient location IS contiguous with the upper aquifer at the source area. The AMCO site differs in that the upper aquifer and lower aquifer are isolated from one another by a laterally continuous aquitard.

Summary

The above evidence strongly indicates that: 1) several yards separate the deepest extent of DNAPL and the aquitard, 2) DNAPL is not present in proximity to the aquitard; and 3) the presence of a thick aquitard would preclude the vertical migration of contaminants to the lower aquifer.

The available evidence also indicates that the deeper aquifer has not been impacted. Therefore we believe that there is no need to install a well in the deeper aquifer. We will continue to assess data as they are collected.

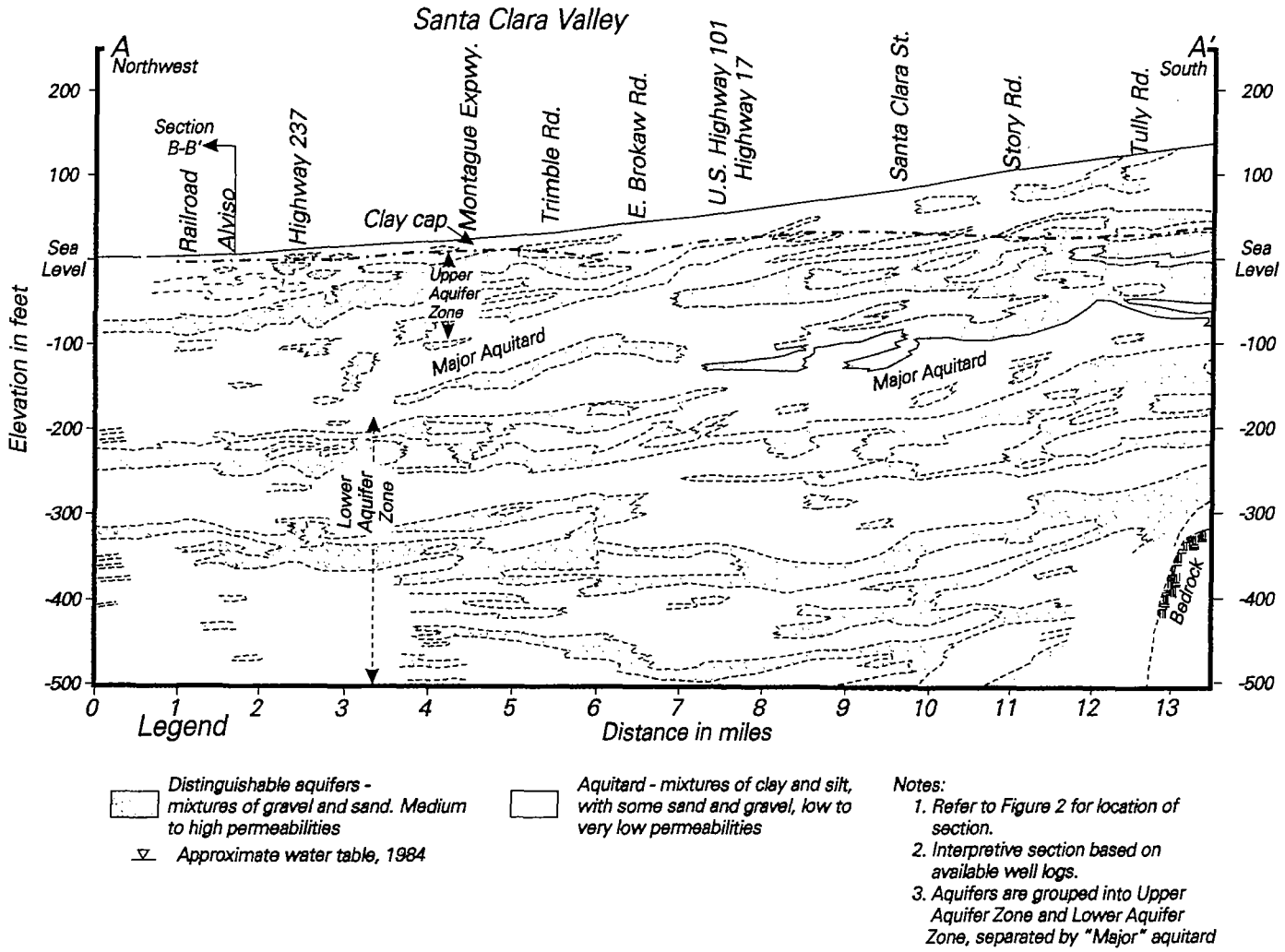
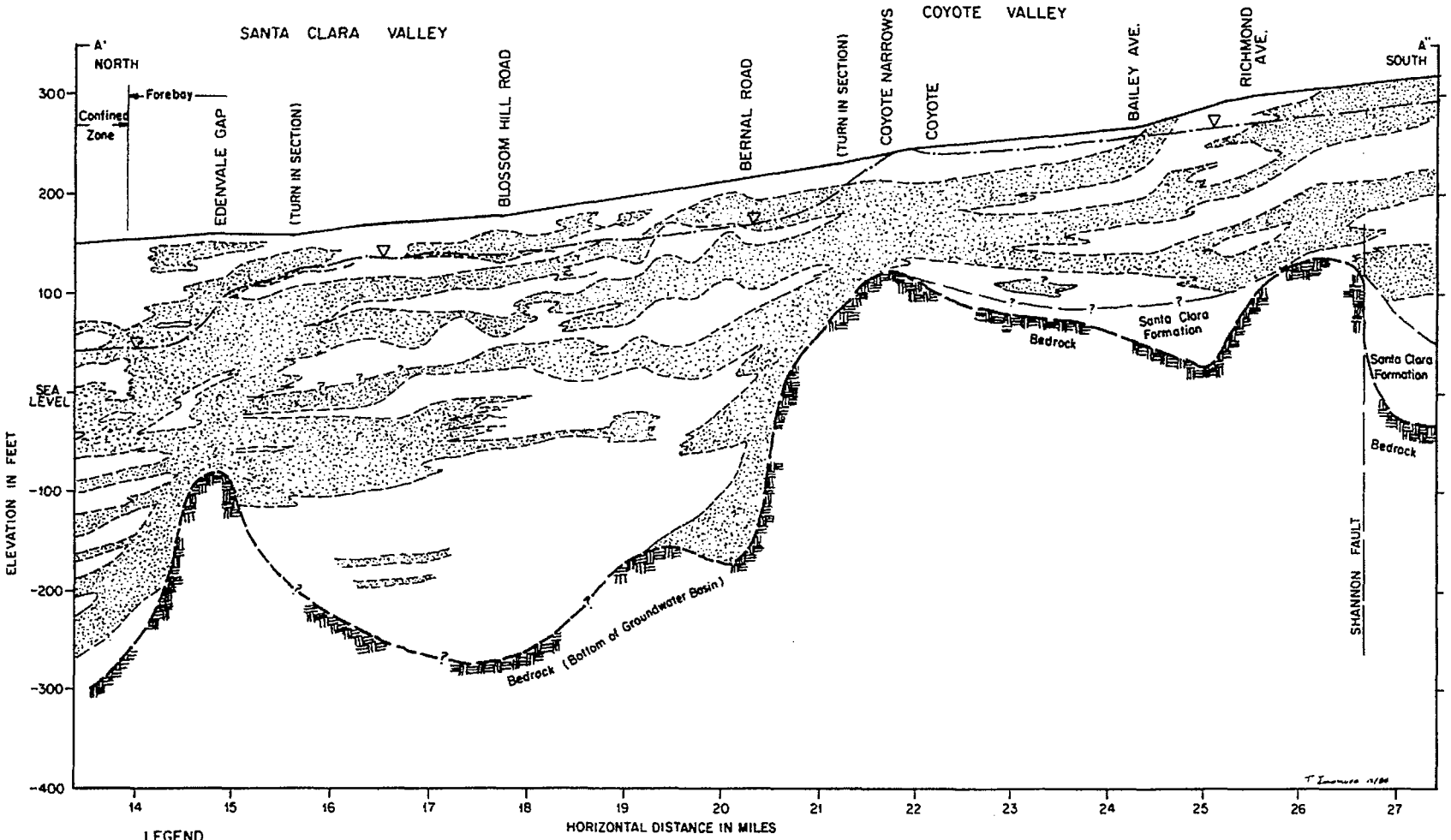


Figure 8a: Santa Clara Valley Groundwater Basin Cross-section Schematic *(Source: Iwamura 1995)*



LEGEND

DISTINGUISHABLE AQUIFERS—MIXTURES OF GRAVEL AND SAND, MEDIUM TO VERY HIGH PERMEABILITIES.

AQUITARD--MIXTURES OF CLAY AND SILT, WITH SOME SAND AND GRAVEL, LOW TO VERY LOW PERMEABILITIES

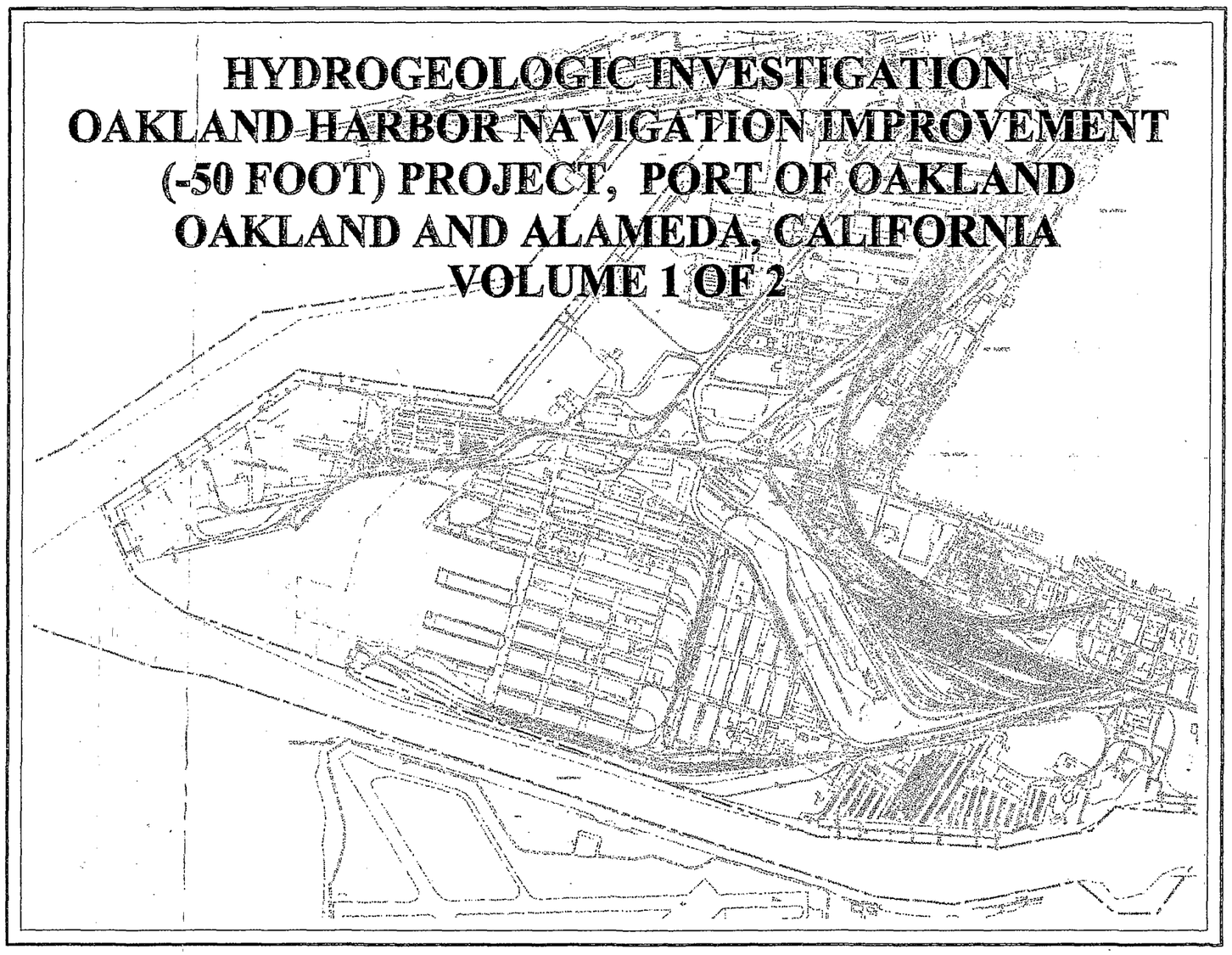
APPROXIMATE WATER TABLE, 1984

NOTES:

1. REFER TO FIGURE III3 FOR LOCATION OF SECTION.
2. INTERPRETIVE SECTION BASED UPON AVAILABLE WELL LOGS.
3. MOST OF SECTION A'-A'' IS FOREBAY ZONE, TO JUST PAST EDENVALE GAP.

FINAL REPORT

HYDROGEOLOGIC INVESTIGATION
OAKLAND HARBOR NAVIGATION IMPROVEMENT (-50 FOOT) PROJECT, PORT OF OAKLAND
OAKLAND AND ALAMEDA, CALIFORNIA
VOLUME 1 OF 2



Prepared for: PORT OF OAKLAND
530 WATER STREET OAKLAND, CALIFORNIA

Prepared by: SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers
Oakland, California

and

Todd Engineers
Emeryville, California

February 12, 1999

LEGEND:

285.MW4 SCI Monitoring Well

285.GB8 SCI Geotechnical Boring

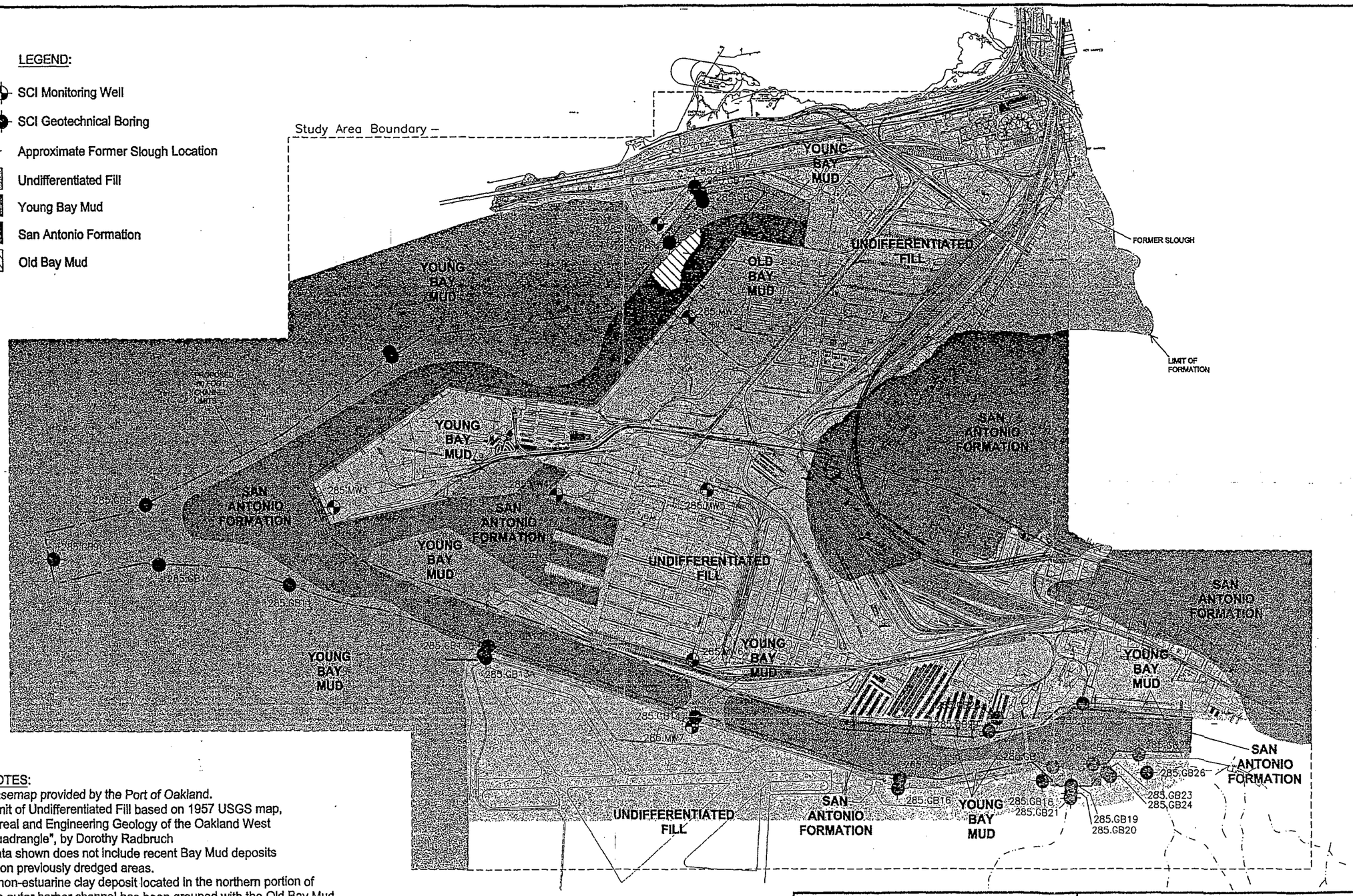
Approximate Former Slough Location

Undifferentiated Fill

Young Bay Mud

San Antonio Formation

Old Bay Mud



NOTES:

1. Basemap provided by the Port of Oakland.
2. Limit of Undifferentiated Fill based on 1957 USGS map, "Areal and Engineering Geology of the Oakland West Quadrangle", by Dorothy Radbruch
3. Data shown does not include recent Bay Mud deposits upon previously dredged areas.
4. A non-estuarine clay deposit located in the northern portion of the outer harbor channel has been grouped with the Old Bay Mud.

N

APPROXIMATE SCALE IN FEET

0 2,000 4,000

Todd Engineers
Emeryville, California

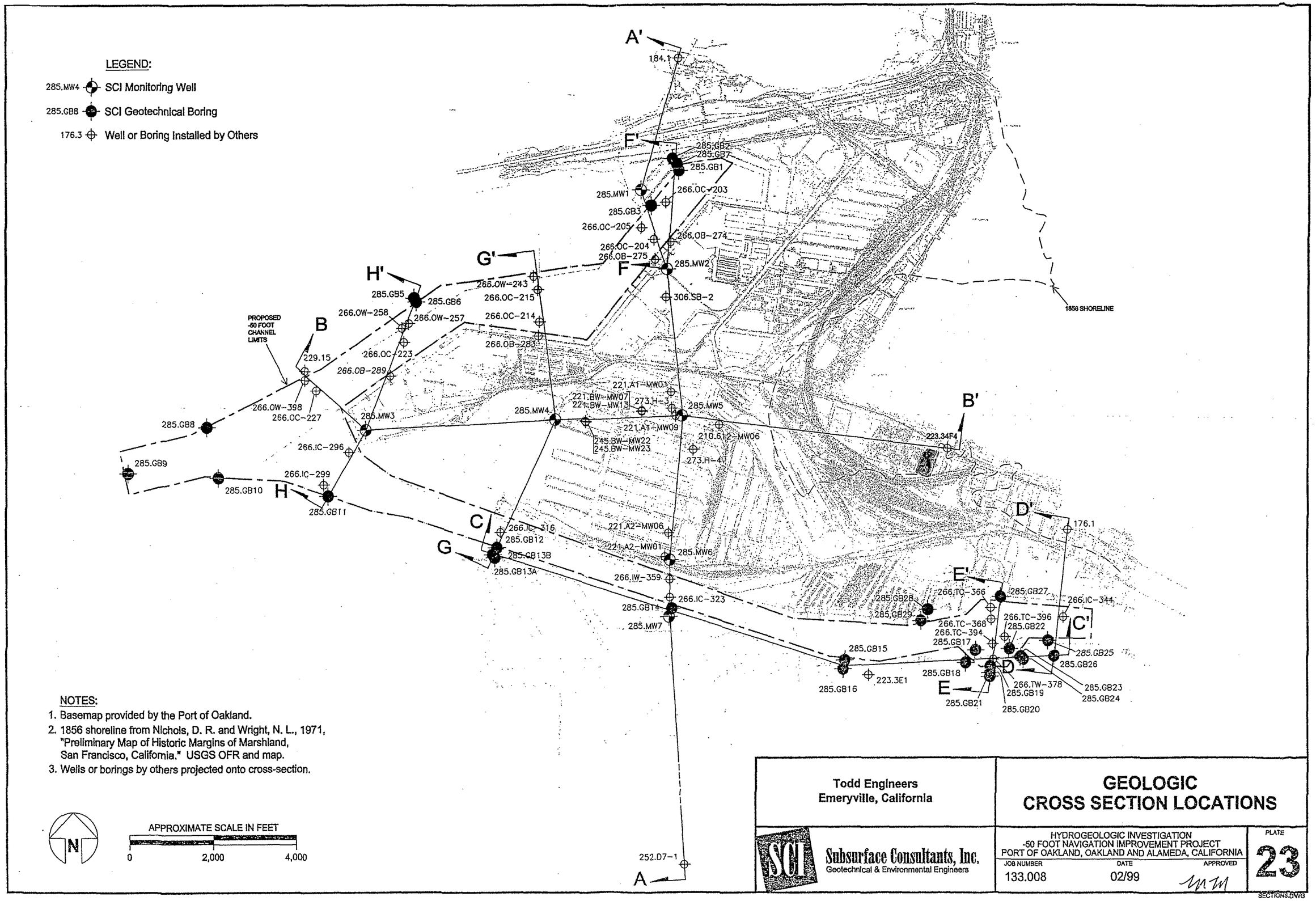
SURFICIAL GEOLOGY, EXISTING CONDITIONS

SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

HYDROGEOLOGIC INVESTIGATION
-50 FOOT NAVIGATION IMPROVEMENT PROJECT
PORT OF OAKLAND, OAKLAND AND ALAMEDA, CALIFORNIA

JOB NUMBER	DATE	APPROVED	PLATE
133.008	02/99		21

EXISTGEO.DWG



NOTES:

1. Basemap provided by the Port of Oakland.
2. 1856 shoreline from Nichols, D. R. and Wright, N. L., 1971, "Preliminary Map of Historic Margins of Marshland, San Francisco, California." USGS OFR and map.
3. Wells or borings by others projected onto cross-section.

Todd Engineers
Emeryville, California

GEOLOGIC CROSS SECTION LOCATIONS

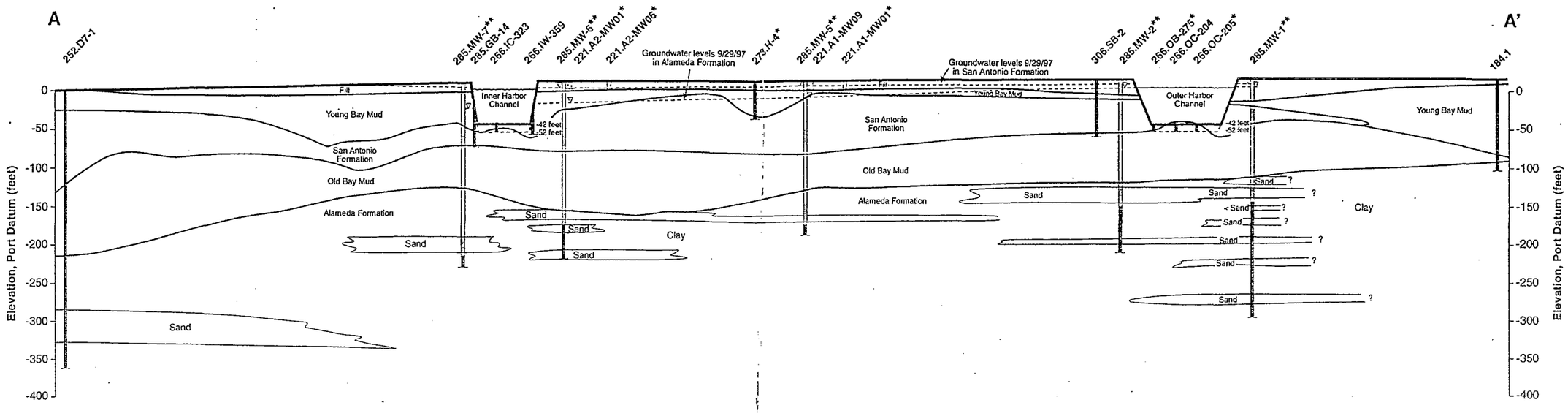
Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

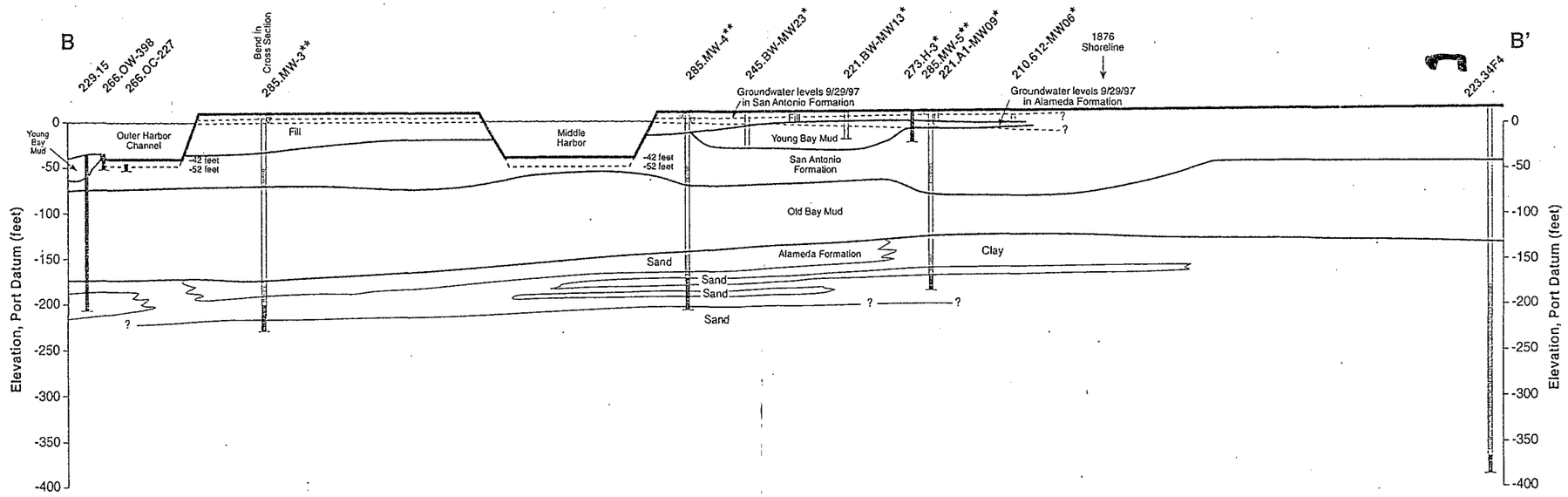
HYDROGEOLOGIC INVESTIGATION
-50 FOOT NAVIGATION IMPROVEMENT PROJECT
PORT OF OAKLAND, OAKLAND AND ALAMEDA, CALIFORNIA

JOB NUMBER	DATE	APPROVED
133.008	02/99	MM

PLATE 23

SECTIONS.DWG





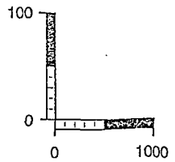
LEGEND

* Well/boring projected onto cross section (See Plate 23 for actual location)

** Screened intervals are actually separate B wells (shallower screen) and C wells (deeper screen)

Well with screened interval

Boring



Scale in Feet
Vertical Exaggeration x10

Todd Engineers Emeryville, California	HYDROGEOLOGIC CROSS SECTIONS A-A', B-B'
Subsurface Consultants, Inc. Geotechnical and Environmental Engineers	HYDROGEOLOGIC INVESTIGATION OAKLAND HARBOR NAVIGATION IMPROVEMENT (-50 FOOT) PROJECT PORT OF OAKLAND, OAKLAND AND ALAMEDA, CALIFORNIA JOB NUMBER 133.008 DATE 1/99 APPROVED
	PLATE 24

Stormwater Runoff Memorandum

Stormwater Runoff Observations and Photo Log AMCO Facility

TO: Bruni Davila

COPIES: Ana Demorest

FROM: Bill Frohlich

DATE: November 5, 2004

The purpose of the memo is to supplement the attached photograph log and briefly document observations of runoff at the AMCO facility during a rainfall event on October 19, 2004. Observations were made at the main facility (1414-3rd Street) and at our staging area where the field office trailer is located (1448-3rd Street). Most of the photographs were taken October 20, the day following the rainfall event. It should be noted that at the parcels described below there is no storm-drain system and all stormwater runoff discharges by overland flow.

Five general areas of runoff discharge were observed at the main facility (1414-3rd Street). Figure 1 shows a simplified diagram of flow and discharge. Runoff could not be observed throughout large portions of the facility due to material storage covering the ground and making some areas inaccessible. The observed points of discharge include:

(1) *Discharge #1: The main (eastern) gate on 3rd Street*. Runoff was observed to flow south along most of the main driveway, through the eastern gate on 3rd Street, over the sidewalk, and into 3rd Street [Photo 1 and 2]. There was no visible issues with water quality at this discharge point.

(2) *Discharge #2: Into north end of the backyards of 1428 and 1432-3rd Street*. At the center of the site, some runoff flowed west along an auxiliary driveway, and then near the western fence line changing direction south flowing under a short east-west section of fence into the yards of the north end of the backyards at 1428 and 1432-3rd Street [Photos 3, 4, 5, and 6]. Due to materials storage in the area, the full catchment of this discharge could not be determined. Some of the runoff flowing towards this discharge point was visibly turbid, however at the point of discharge runoff was observation was difficult due to high plant growth.

(3) *Discharge #3: Mandela Parkway gate*. From center of the northern driveway, runoff flowed east, across the sidewalk, and into Mandela Parkway [Photo 7]. There was no visible issues with water quality at this discharge point.

(4) *Discharge #4: Northwest corner of facility*. In the northwest corner of the site, runoff was observed discharging west under the fence to the large vacant lot on Center Street [Photo 8]. Although the presence of materials near this area made observation difficult, it appeared that at least in part the runoff originated from the large scrap heap

southwest of this discharge point. Runoff at this location was only slightly turbid, but was discolored, being light "coffee" colored.

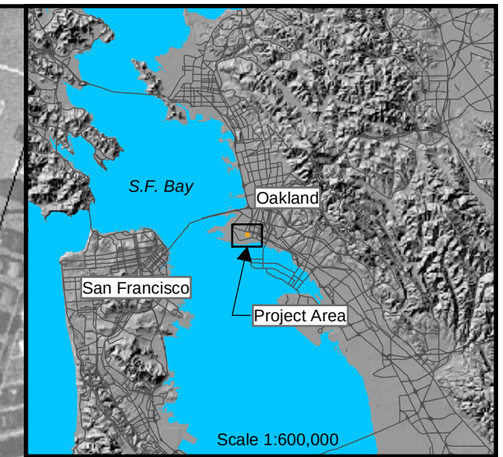
(5) *Discharge #5: The western gate on 3rd Street.* Along the secondary (western) driveway exiting to 3rd Street, runoff flow south along the driveway, over the sidewalk, and into 3rd Street [Photo 9 and 10]. Some oily sheen was observed in this stormwater discharge. Note, a leaking drum is located adjacent to this gate [Photo 11].

(6) *Discharge #6: Southern portion of western fence.* Near the southwest corner of the site, in the vicinity of permanent soil gas probe RSP-06, runoff from the immediate vicinity was observed flowing west directly to the residence at 1428-3rd Street [Photo 12]. Because of materials covering most of the surrounding area, the full extent of discharge along this fence-line or the catchment contributing to this runoff could not be determined. There was no visible issues with water quality at this discharge point.

The storm drain at 3rd Street and Mandela Parkway is shown in Photo 13. The hose visible discharging into the catchbasin is from the roof drain-spout of the facility office building. Other observations at the main facility were some larger depressions that resulted in ponding, and some areas with abundant puddles resulting from rough or uneven pavement.

At 1448-3rd Street facility, runoff collected in the center line of the paved yard and flowed south across the sidewalk to 3rd Street. There was no visible issues with water quality at this discharge point.

No observations were made at the lot at 324 Center Street [Photo 15] or the large lot between 326 and 356 Center Street [Photo 16]. However, at the large lot the topography is such that runoff must flow to two parallel lows and then drain across the sidewalk to Center Street.



Legend

- Gates
- Former AMCO Chemical Facility Boundary
- Former Extraction Trench
- Area with Small Puddles Present
- Standing Water
- Surface Water Runoff Direction
- No Flow
- * Flow Inferred from Topography
- ? Unable to Observe
- (7) Photograph Location with View Direction

N

0 50 100 Feet

Scale 1:600
CA State Plane (NAD83) Zone III

FIGURE 1
STORMWATER OBSERVATIONS
REMEDIAL INVESTIGATION
AMCO CHEMICAL SUPERFUND SITE
OAKLAND, CALIFORNIA

CH2MHILL

SFO \\ZINFANDEL\GIS\PROJECTS\AMCO\ARCGIS\MXDFILES\STORM_FLOW.MXD STORM_FLOW.PDF 11/05/2004 11:32:06

Photo 1. Looking south from the center of the yard towards 3rd Street. Ponding after rain. Water drains south to 3rd Street.

Photo 2. Looking from the north portion of the active yard south towards 3rd Street. Stormwater observations indicate that from the location of minor puddles in foreground, runoff drain to the west along "driveway". A short distance south of the puddles, runoff drains south to 3rd Street.

Photo 3. Looking west from the main driveway. Runoff was observed to flow west along this driveway and just short of the in the background fence, south (left) towards the 3rd Street residences. Note, orange spools in background are seen in Photos 4 and 5.

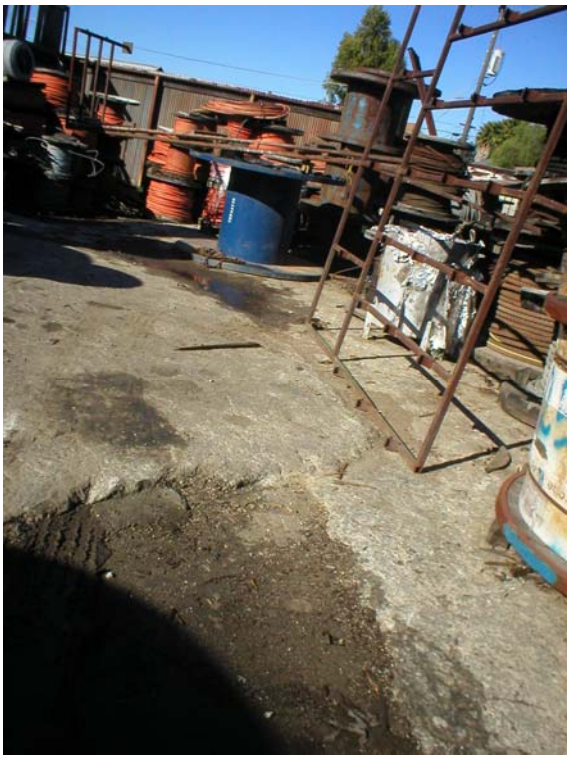


Photo 4. Looking west from the mid-point of the central auxiliary driveway. The stormwater flow path is along lows towards the western fence, and then heads south (left) towards 1428 and 1432-3rd Street residences. Note, orange cable spools seen in the background of Photo 3.

Photo 5. Looking southwest towards corner adjacent to Center Street and 3rd Street residences. Runoff observed to flow from the east to this area, and then due south to 3rd Street residences.

Photo 6. Looking east from corner adjacent to Center Street and 3rd Street residences. Runoff flows south directly to residences. Section of fence shown is adjacent to 1428 and 1432-3rd Street.

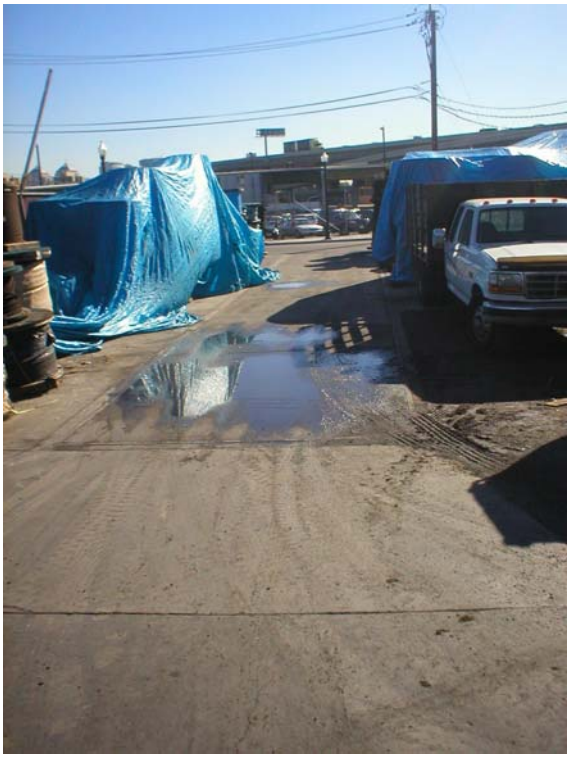


Photo 7. Looking from the north-central portion of the yard east towards Mandela Parkway. Runoff drains east to Mandela Parkway.

Photo 8. Looking west towards the northwest corner of the active facility. Stormwater was observed to drain under the fence west towards the large vacant lot on Center Street.

Photo 9. Looking west towards 1428-3rd Street. Pavement is uneven and runoff flows in various directions.

Photo 10. Looking north at the western gate on 3rd Street. Runoff flows out the gate, across the sidewalk, and to gutter on 3rd Street.

Photo 11. Looking at the west side of eastern gate on 3rd Street. Drums with a leaking drum in foreground.

Photo 12. Looking west towards RSP-06 along the western fence-line of the main site. Runoff observed flowing west towards 1428-3rd Street.

Photo 13. Storm drain on 3rd Street at the intersection of Mandela Parkway. The hose is from the roof drain of facility office.

Photo 14. Yard at 1448-3rd Street. Runoff observed to collect along center line of the yard, at the joint in concrete, and flows towards 3rd Street, across sidewalk, and into gutter.

Photo 15. 324 Center Street. Runoff not observed at this location.

Photo 16. Lot between 326 and 356 Center Street. RSP-01 in background. Runoff from northwest corner of the main facility flows under fence into this lot. Runoff from this yard flows along two shallow rills towards Center Street, across sidewalk and to gutter.

2009 Well Construction Memorandum

Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Contract/Work Assignment No.: 029.
CH2M HILL Project: EP-S9-08-04

PREPARED FOR: Rose Marie Caraway/United States Environmental Protection Agency

PREPARED BY: William Frohlich, PG, CHg, CEG/CH2M HILL

Ricardo Carmona/E2 Consulting Engineers

DATE: December 6, 2010

Introduction

This technical memorandum documents the remedial investigation and well construction activities performed under United States Environmental Protection Agency (USEPA) Contract No. EP-S9-08-04, Task Order No. 029, at the former AMCO chemical facility (site), located at and in the vicinity of the 1414 3rd Street in Oakland, California (Figure 1). The purpose of these activities was to construct monitoring wells as proposed in *Upper Aquifer Investigation/Well Installation, AMCO Superfund Site, Oakland, California* (CH2M HILL, 2009). These well construction activities also allow for the collection of soil samples at regular intervals during drilling. Except where specified otherwise, activities were conducted in accordance with field procedures outlined in the *Remedial Investigation Sampling and Analysis Plan, AMCO Chemical Superfund Site, Oakland, California* (CH2M HILL, 2004) and *Draft Report – Remedial Investigation, AMCO Chemical Superfund Site, Oakland, California* (CH2M HILL, 2008).

Well Construction

Underground Utility Location

At least 3 working days before groundbreaking activities, boring locations were marked with white paint, and Underground Service Alert of Northern California was notified of the proposed boring locations located in the public right of way. On various dates from October 6 through 15, 2009, Subtronic Corp. (Martinez, California) used standard geophysical methods to survey boring locations to locate the potential underground structures. Ground-penetrating radar was used at the RMW-15 locations where a former tank was known to exist, multiple concrete slabs were present, and indication of a possible underground structure was observed after cutting the first of two layers of concrete.

After concrete coring (if needed), all boring locations were cleared with an air knife vacuum rig or by hand augering to 5 feet below ground surface (bgs). Hand augering was used at locations that were inaccessible to the air knife rig.

No underground utilities or other structures were encountered during these well construction activities.

Pilot Boring and Sampling

During this activity, 12 monitoring wells were constructed at the site and associated parcels, including three wells in Prescott Park (Figure 2). Modifications to the proposed scope of work included (1) removal of seven monitoring wells proposed for the Amtrak property, (2) removal of the cone penetrometer testing/membrane interface probe (CPT/MIP) investigation, and (3) completion of the deep wells to the total depth of the aquifer rather than the proposed construction depth of 50 feet below ground surface (bgs). The removal of the additional monitoring wells from the scope of work was initially due to difficulty obtaining an access agreement with Amtrak. Ultimately, at direction of the USEPA, construction of the remaining monitoring wells and completion of the CPT/MIP investigation was transferred to USEPA's other prime contractor, Innovative Technical Solutions, Inc. (ITSI), due to anticipated period of performance and funding limitations. The decision to complete proposed wells to the full depth of the upper aquifer was made by jointly by CH2M HILL in consultation and with the approval of USEPA.

Drilling and well construction was performed by WDC Exploration (Richmond, California) under the supervision of a CH2M HILL geologist. Pilot borings were completed using a hollow-stem auger drill rig using nominal 8-inch-diameter augers. The rigs used were a CME 75 limited-access rig and at the RMW-15 series a standard-sized CME 85 rig. For wells completed in the upper- and middle-interval, the final construction depth was to the proposed depths of 15 or 35 feet bgs. For deep-interval wells, the pilot borings were terminated after penetrating a short distance into the underlying aquitard, with completion depths between 60 and 70 feet bgs.

At all but one location, samples were collected every 5 feet, or more frequently, using an 18-inch-long, 2-inch-diameter modified California split-spoon sampler lined with three 6-inch-long brass sleeves. At RMW-15-60, sampling below 25 feet bgs was completed using a standard core barrel in 5-foot runs due to heaving sands. Throughout drilling, significant difficulties were encountered at depths greater than 25 feet bgs due to the presence of unconsolidated, heaving sands. Difficulties due to heaving sands were overcome by filling the augers with clean, potable water and tying mop cords around auger joints.

All wells were logged using the United Soil Classification System. Boring logs are provided in Appendix A.

Well Installation

After pilot boring, all borings were reamed using 12-inch-diameter hollow-stem augers to the total depth for well construction. Wells in the Large Vacant Lot and Prescott Park were constructed with 6-inch-diameter, Schedule 40 CPVC casing (RMW-06, RMW-09, and RMW-17 series). Wells at the main site and in front of the residences (RMW-15 and RMW-16 series, respectively) were constructed with 316L-grade stainless steel. All screen intervals were 10 feet long with a 0.02-inch slot size.

All wells were constructed with a nominal 3-inch annular space. The filter pack consisted of #3 Lonestar sand and extended from the bottom of the screen interval to 1 to 2 feet above

the top of the screen interval. A 1- to 2-foot bentonite plug was placed on top of the filter pack. The annular space of mid and deep wells were sealed with neat Portland cement from the top of the bentonite plug to approximately 3 feet bgs. Monitoring wells RMW-09-70 and the RMW-15 series were completed with above-grade locking stove-pipe protective casing. All other wells were completed with a flush-mount well box.

All monitoring well specifications have been included in the well completion diagrams, provided in Appendix B. Well casing materials, screen depth intervals, and dates of completion are summarized in Table 1. Monitoring well locations are shown in Figure 2.

Well Development

After completion of the well construction, monitoring wells were developed by bailing, swabbing with a surge block, and pumping. A bailer was used in each well to remove all solids and sediments from the bottom of the well. The well was then surged with a close-fitting surge block. Finally, a submersible pump was used for pumping, while the groundwater parameters such as pH, temperature, electric conductivity, and turbidity were monitored. The well development data records are included in Appendix C.

Health and Safety

CH2M HILL staff and subcontractors performed work in accordance with federal, state, and local health and safety guidelines during planning and execution of the work to protect the health and safety of workers, the community neighborhood, and the environment.

Prior to drilling rig mobilization, the subcontractor and its staff prepared a job safety analysis detailing the sequence of work steps to be performed. This document also detailed the appropriate controls that were considered during implementation to better protect the safety and health of the workers and that were used to lead daily tailgate safety meetings.

In addition, potential release of volatile organic compounds to the air was regularly monitored during all activities and operations using an onsite photoionization detector, as required by the Health and Safety Plan. The Health and Safety Plan established that volatile organic compound (VOC) concentrations equal or greater than 1 parts per million for 10 minutes at the breathing zone would represent a limit for which a more protective action level would need to be implemented. During drilling or well development activities, at no time did VOC concentrations exceed those limits during the field investigation. Table 2 shows maximum concentrations detected at breathing zone and top of well casing records.

Sampling and Analytic Program

Ninety-six soil samples were collected from the 12 borings completed during the drilling operations between October 12 and November 3, 2009. Sample analysis included VOCs (using USEPA Method 8260), semi-volatile organic compounds (using USEPA Method 8270 SIM), total petroleum hydrocarbons as gasoline (carbon ranges: C_6-C_{10}) (using USEPA Method 8015-35), total petroleum hydrocarbons as diesel and oil (carbon ranges: C_{10}-C_{24}) (using USEPA Method 8015-35), organochlorine pesticides (using USEPA Method 8081),

metals (using USEPA Methods 6000/7000), and Aroclors (using USEPA Method 8082). A summary of the sampling program is provided in Table 3. The soil sample analytical results are summarized in Tables 4a to 4c and Appendix D.

Quality Control/Quality Assurance

Quality control samples were collected or prepared to assist in determining data reliability. These quality control samples include field duplicates, equipment blanks, trip blanks, and laboratory quality control samples. Quality control samples were collected from locations that were suspected to be of moderate contamination and were collected using the same procedures as the collection of the target sample.

The objective of this quality control sample evaluation is to review analytical results of ambient blanks, equipment blanks, trip blanks, field duplicate samples, and matrix spike/matrix spike duplicate samples and determine if these results affect the data quality of analytical results for AMCO/DC metals soil samples collected from October 2009 through November 2009. Quality control sample results were reviewed using electronic data files.

Field duplicates were collected to evaluate the overall sampling and analysis precision. The project goal for frequency of field duplicate collection is one duplicate per 10 field samples. The following field duplicate objective was achieved by collecting nine duplicates over a total of 96 field samples (9.7 percent). Results from eight field duplicate pairs were reviewed for relative percent difference between the parent and field duplicate reported analyte concentrations. In 14 instances (for specific compounds), the relative percent difference exceeded 40 percent between results in which at least one result was greater than the reporting limit. These results could be considered estimated because of lack of precision. The affected results are listed in Table 5.

To verify that decontamination was done properly and no contamination was introduced by equipment, equipment blanks were collected by pouring ultrapure water over or through decontaminated sampling equipment into the sample container at a minimum frequency of once per day. Seven equipment blanks were collected during this investigation.

Nine trip blanks were collected to verify that volatile contamination is not introduced to samples during transportation. Trip blanks were prepared with ultrapure water by the laboratory and were analyzed for VOCs only. Low-level contamination of ambient blanks, equipment blanks, and trip blanks was reported in the data. Based upon this contamination, 123 associated field soil sample detected results were determined to be possible false positives that could be considered as non-detected results. Based on these results, no cross contamination occurred during shipping to the laboratory. The affected results are listed in Table 6.

In addition, two laboratory quality control samples were collected to verify the accuracy of each of the laboratories' analytical equipment. The evaluation of completeness through data review and validation has been completed by USEPA Region 9. Review of matrix spike/matrix spike duplicate sample results showed low recoveries of some spiked target analytes. These low recoveries indicate a sample matrix effect on the accuracy of reported

concentrations for these specific analytes, resulting in a low bias. Results for these analytes in the parent sample and samples from similar locations should be considered as estimated concentrations. The affected results are listed in Table 7. The quality assurance/quality control summary has been included in Appendix E.

Well Surveying

Well surveying was conducted on August 31, 2010 by F3 Land Surveying under subcontract to ITSI and not under the supervision of CH2M HILL. ITSI is contracted directly to the USEPA. Survey information is provided in Table 8. The survey report is provided as Appendix F.

References

CH2M HILL. 2004. *Remedial Investigation Sampling and Analysis Plan, AMCO Superfund Site, Oakland, California.* August.

_____. 2008. *Draft Report – Remedial Investigation Report, AMCO Superfund Site, Oakland, California.* February.

_____. 2009. *Upper Aquifer Investigation/Well Installation, AMCO Superfund Site, Oakland, California*. September 30.

List of Enclosures

Figure 1	Site Location Map
Figure 2	Well Construction Locations
Table 1	Drilling and Well Construction Information
Table 2	Field Soil Sampling Matrix
Table 3	Air Monitoring Maximum Detected Values
Table 4a	Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Table 4b	Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Table 4c	Well Installation Soil Analytical Results (September - October 2009) - Total Petroleum Hydrocarbons Only
Table 5	Field Blank Affects on Soil Sample Detected Results
Table 6	Field Duplicate Relative Percent Differences
Table 7	Matrix Spike Recoveries Outside Acceptance Limits
Table 8	Survey Data
Appendix A	Boring Logs
Appendix B	Well Completion Diagrams
Appendix C	Well Development Logs (Enclosed CD)
Appendix D	Laboratory reports (Enclosed CD)
Appendix E	Quality Assurance/Quality Control Data Validation Packages
Appendix F	Survey Report

Figures

LEGEND

- Former AMCO Chemical Facility Boundary
- Off-facility Properties

0 150 300 Feet

CA State Plane (NAD83) Zone III

FIGURE 1
LOCATION MAP
REMEDIAL INVESTIGATION
AMCO CHEMICAL SUPERFUND SITE
OAKLAND, CALIFORNIA

CH2MHILL

BAO \\ZINFANDEL\PROJ\US_ENVIRONMENTAL_PROTECTION_AGENCY\335389\GIS\AMCO\GIS\MXDS\2010\AMCO_VICINITY.MXD CARCHER 10/22/2010 11:22:37

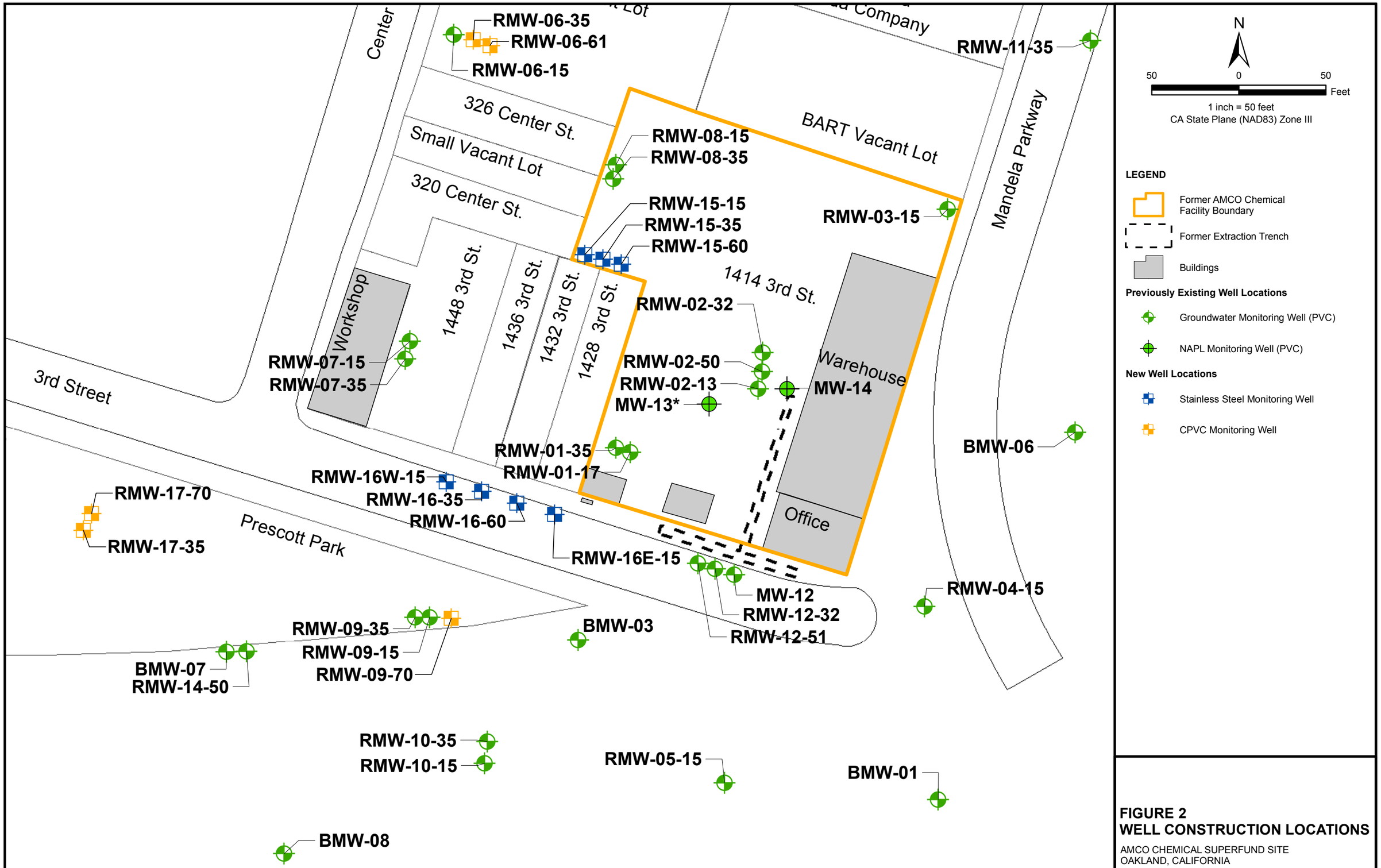


FIGURE 2
WELL CONSTRUCTION LOCATIONS

AMCO CHEMICAL SUPERFUND SITE
OAKLAND, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\US_ENVIRONMENTAL_PROTECTION_AGENCY\335389\GIS\AMCO\GIS\MXDS\2010\RMW_PROP_WELLSNOAERIAL.MXD JLAMANTI 7/27/2010 14:28:56

Tables

TABLE 1
Drilling and Well Construction Information
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Well Location	Coordinates NAD 83		Elevation NAVD 88 (feet)	Completion Date	Surface Completion	Boring/Well Diameter (inches)	Casing Material	Slot Size (inches)	Screen Interval (ft bgs)	Filter Pack
	Easting	Northing								
RMW-06-35	6042971.98	2119931.05	10.78	10/16/09	Flush to grade	12/6	CPVC Schedule 40	0.02	25-35	Sand #3
RMW-06-61	6042963.98	2119945.06	10.54	10/20/09	Flush to grade	12/6	CPVC Schedule 40	0.02	51-61	Sand #3
RMW-09-70	6042959.31	2119598.78	12.64	11/4/09	Monument	12/6	CPVC Schedule 40	0.02	60-70	Sand #3
RMW-15-15	6043039.59	2119806.05	13.98	10/20/09	Monument	12/6	Stainless Steel 316L	0.02	5-15	Sand #3
RMW-15-35	6043048.75	2119803.23	13.9	11/2/09	Monument	12/6	Stainless Steel 316L	0.02	25-35	Sand #3
RMW-15-60	6043058.61	2119800.29	13.92	10/22/09	Monument	12/6	Stainless Steel 316L	0.02	50-60	Sand #3
RMW-16E-15	6043014.67	2119661.01	9.26	10/30/09	Flush to grade	12/6	Stainless Steel 316L	0.02	5-15	Sand #3
RMW-16W-15	6042965.80	2119677.81	8.92	10/30/09	Flush to grade	12/6	Stainless Steel 316L	0.02	5-15	Sand #3
RMW-16-35	6042986.20	2119673.09	8.87	10/22/09	Flush to grade	12/6	Stainless Steel 316L	0.02	25-35	Sand #3
RMW-16-61	6042996.28	2119668.47	9.04	10/22/09	Flush to grade	12/6	Stainless Steel 316L	0.02	50-60	Sand #3
RMW-17-35	6042735.95	2119652.58	9.38	10/26/09	Flush to grade	12/6	CPVC Schedule 40	0.02	25-35	Sand #3
RMW-17-70	6042725.31	2119655.10	9.52	10/29/09	Flush to grade	12/6	CPVC Schedule 40	0.02	60-70	Sand #3

ft bgs: feet below ground surface.

NAD 83: North American Datum 1983.

NGVD 29: National Geodetic Vertical Datum 1929.

CPVC: chlorinated polyvinyl chloride.

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 2
Air Monitoring Maximum Detected Values
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location	Date	Top of hole max. detection (ppm)	Breathing zone max. detection (ppm)	Action Levels
RMW-06-35	10/16/09	0.0	0.0	*All Action Levels are based on **sustained breathing-zone** measurements above background **for 10 minutes**. <1 ppm: Level D >1 ppm: Collect colorimetric tubes, if Benzene or Vinyl Chloride **ARE NOT** detected, then: 1-5 ppm: Level D >5 ppm: Level C >25 ppm: Level B; Stop work; contact Health and Safety Manager for guidance
	11/18/09	0.0	0.0	
RMW-06-61	10/20/09	0.0	0.0	
	11/18/09	0.4	0.2	
RMW-09-70	11/3/09	0.0	0.3	
	11/4/09	0.2	0.3	
	11/13/09	N/A	0.3	
RMW-15-15	10/20/09	0.0	0.0	
	11/19/09	0.0	0.4*	
RMW-15-35	11/2/09	0.0	0.7*	
	11/19/09	0.0	N/A	
RMW-15-60	10/22/09	0.0	0.0	
	11/19/09	0.0	0.0	
RMW-15 area	11/4/09	N/A	0.5	
	11/5/09	N/A	0.2	
RMW-16E-15	10/30/09	0.3	0.3	
	11/5/09	N/A	0.3	
	11/30/09	0.0	0.0	
RMW-16W-15	10/30/09	0.0	0.0	
	11/5/09	N/A	0.2	
	11/30/09	0.0	0.0	
RMW-16-35	10/22/09	0.1	0.1	
	11/13/09	N/A	0.2	
	11/16/09	N/A	0.3	
RMW-16-60	10/22/09	0.1	0.0	
	11/16/09	N/A	0.2	
RMW-17-35	10/26/09	0.0	0.0	
	11/17/09	N/A	0.4	
RMW-17-70	10/28/09	0.7	0.0	
	10/29/09	0.2	0.2	
	11/17/09	N/A	0.3	

*Field book indicates influence of rig exhaust.

N/A: not analyzed.

ppm: parts per million.

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 3
Field Soil Sampling Matrix
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location ID[a]	Sample ID	Top Depth	Bottom Depth	Sample Date	Sample Time	Inorganic EPA ID	Organic EPA ID	Analyses					
		Feet (ft)						Metals	SVOCs	VOCs	OC Pest/ AROs	TPH-g	TPH-d
RMW-06-61	RMW-06D-02-1009	2	2	10/12/2009	1:00 PM	MY54Q0	Y54Q0	x	x	x	x	x	x
RMW-06-35	RMW-06M-02-1009	2	2	10/12/2009	12:15 PM	MY54Q1	Y54Q1	x	x	x	x	x	x
RMW-15-60	RMW-15D-01-1009	1	1	10/12/2009	3:30 PM	MY54Q4	Y54Q4	x	x	x	x	x	x
RMW-15-35	RMW-15M-01-1009	1	1	10/12/2009	3:40 PM	MY54Q3	Y54Q3	x	x	x	x	x	x
RMW-15-15	RMW-15S-01-1009	1	1	10/12/2009	3:12 PM	MY54Q2	Y54Q2	x	x	x	x	x	x
RMW-06-35	RMW-06M-06-1009	6	6	10/15/2009	10:15 AM	MY54R1	Y54R1	x	x	x	x	x	x
RMW-06-35	RMW-06M-11-1009	11	11	10/15/2009	11:50 AM	MY54Q5	Y54Q5	x	x	x	x	x	x
RMW-06-35	RMW-06M-16-1009	16	16	10/15/2009	12:10 PM	MY54Q6	Y54Q6					x	x
RMW-06-35	RMW-06M-21-1009	21	21	10/15/2009	12:35 PM	MY54Q7	Y54Q7					x	x
RMW-06-35	RMW-06M-26-1009	26	26	10/15/2009	1:00 PM	MY54Q8	Y54Q8					x	x
RMW-06-35	RMW-06M-31-1009	31	31	10/15/2009	2:00 PM	MY54Q9	Y54Q9					x	x
RMW-06-35	RMW-06M-36-1009	36	36	10/15/2009	2:20 PM	MY54R0	Y54R0					x	x
RMW-06-61	RMW-06D-06-1009	6	6	10/16/2009	12:20 PM	MY54R2	Y54R2	x	x	x	x	x	x
RMW-06-61	RMW-06D-11-1009	11	11	10/16/2009	12:35 PM	MY54R3	Y54R3	x	x	x	x	x	x
RMW-06-61	RMW-06D-16-1009	16	16	10/16/2009	12:50 PM	MY54R4	Y54R4					x	x
RMW-06-61	RMW-06D-21-1009	21	21	10/16/2009	1:35 PM	MY54R5	Y54R5					x	x
RMW-06-61	RMW-06D-26-1009	26	26	10/16/2009	1:50 PM	MY54R6	Y54R6					x	x
RMW-06-61	RMW-06D-31-1009	31	31	10/16/2009	2:30 PM	MY54R7	Y54R7					x	x
RMW-06-61	RMW-06D-36-1009	36	36	10/16/2009	3:00 PM	MY54R8	Y54R8					x	x

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 3
Field Soil Sampling Matrix
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location ID[a]	Sample ID	Top Depth	Bottom Depth	Sample Date	Sample Time	Inorganic EPA ID	Organic EPA ID	Analyses					
		Feet (ft)						Metals	SVOCs	VOCs	OC Pest/ AROs	TPH-g	TPH-d
RMW-06-61	RMW-06D-41-1009	41	41	10/16/2009	3:50 PM	MY54R9	Y54R9					x	x
RMW-06-61	RMW-06D-46-1009	46	46	10/16/2009	4:20 PM	MY54S0	Y54S0					x	x
RMW-06-61	RMW-06D-51-1009	51	51	10/16/2009	4:35 PM	MY54S1	Y54S1					x	x
RMW-06-61	RMW-06D-56-1009	56	56	10/16/2009	4:50 PM	MY54S2	Y54S2					x	x
RMW-06-61	RMW-06D-61-1010	61	61	10/19/2009	8:50 AM	MY54S3	Y54S3					x	x
RMW-15-15	RMW-15S-06-1009	6	6	10/20/2009	1:55 PM	MY54S9	Y54S9	x	x	x	x	x	x
RMW-15-15	RMW-15S-11-1009	11	11	10/20/2009	2:00 PM	MY54T0	Y54T0	x	x	x	x	x	x
RMW-15-15	RMW-15S-16-1009	16	16	10/20/2009	2:20 PM		Y54T1		x	x	x	x	x
RMW-16E-15	RMW-16ES-0-1009	0	0.5	10/20/2009	12:39 PM	MY54S5	Y54S5	x	x	x	x	x	x
RMW-16-35	RMW-16M-0-1009	0	0.5	10/20/2009	12:35 PM	MY54S4	Y54S4	x	x	x	x	x	x
RMW-16W-15	RMW-16WS-0-1009	0	0.5	10/20/2009	12:45 PM	MY54S6	Y54S6	x	x	x	x	x	x
RMW-15-60	RMW-15D-06-1009	6	6	10/21/2009	9:00 AM	MY54T2	Y54T2	x	x	x	x	x	x
RMW-15-60	RMW-15D-11-1009	11	11	10/21/2009	9:10 AM	MY54T3	Y54T3	x	x	x	x	x	x
RMW-15-60	RMW-15D-16-1009	15	15	10/21/2009	9:30 AM	MY54T4	Y54T4	x	x	x	x	x	x
RMW-15-60	RMW-15D-22-1009	22	22	10/21/2009	10:00 AM		Y54T7		x	x	x	x	x
RMW-15-60	RMW-15D-26-1009	26	26	10/21/2009	11:30 AM		Y54X3		x	x	x	x	x
RMW-15-60	RMW-15D-30-1009	30	30	10/21/2009	1:00 PM		Y54X4		x	x	x	x	x
RMW-15-60	RMW-15D-35-1009	35	35	10/21/2009	1:05 PM		Y54X5		x	x	x	x	x
RMW-15-60	RMW-15D-40-1009	40	40	10/21/2009	1:20 PM		Y54X6		x	x	x	x	x

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 3
Field Soil Sampling Matrix
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location ID[a]	Sample ID	Top Depth	Bottom Depth	Sample Date	Sample Time	Inorganic EPA ID	Organic EPA ID	Analyses					
		Feet (ft)						Metals	SVOCs	VOCs	OC Pest/ AROs	TPH-g	TPH-d
RMW-15-60	RMW-15D-45-1009	45	45	10/21/2009	1:40 PM		Y54X7		x	x	x	x	x
RMW-15-60	RMW-15D-50-1009	50	50	10/21/2009	3:30 PM		Y54X9		x	x	x	x	x
RMW-15-60	RMW-15D-55-1009	55	55	10/21/2009	4:10 PM		Y54Y0		x	x	x	x	x
RMW-15-60	RMW-15D-61-1009	61	61	10/21/2009	4:25 PM		Y54Y1		x	x	x	x	x
RMW-15-60	RMW-15D-65-1009	35	35	10/21/2009	2:05 PM		Y54X8		x	x	x	x	x
RMW-15-60	RMW-15D-78-1009	22	22	10/21/2009	11:00 AM		Y54T6		x	x	x	x	x
RMW-16-61	RMW-16D-05-1009	5	5	10/21/2009	9:30 AM	MY54T8	Y54T8	x	x	x	x	x	x
RMW-16-61	RMW-16D-10-1009	10	10	10/21/2009	9:45 AM	MY54T9	Y54T9	x	x	x	x	x	x
RMW-16-61	RMW-16D-15-1009	15	15	10/21/2009	10:00 AM	MY54W0	Y54W0	x	x	x	x	x	x
RMW-16-61	RMW-16D-20-1009	20	20	10/21/2009	11:00 AM		Y54W3		x	x	x	x	x
RMW-16-61	RMW-16D-25-1009	25	25	10/21/2009	11:20 AM		Y54W4		x	x	x	x	x
RMW-16-61	RMW-16D-30-1009	30	30	10/21/2009	11:35 AM		Y54W5		x	x	x	x	x
RMW-16-61	RMW-16D-35-1009	35	35	10/21/2009	12:05 PM		Y54W6		x	x	x	x	x
RMW-16-61	RMW-16D-40-1009	40	40	10/21/2009	12:25 PM		Y54W7		x	x	x	x	x
RMW-16-61	RMW-16D-45-1009	45	45	10/21/2009	12:45 PM		Y54W8		x	x	x	x	x
RMW-16-61	RMW-16D-50-1009	50	50	10/21/2009	12:55 PM		Y54X0		x	x	x	x	x
RMW-16-61	RMW-16D-55-1009	55	55	10/21/2009	1:10 PM		Y54X1		x	x	x	x	x
RMW-16-61	RMW-16D-60-1009	60	60	10/21/2009	1:25 PM		Y54X2		x	x	x	x	x
RMW-16-61	RMW-16D-80-1009	20	20	10/21/2009	12:00 PM		Y54W9		x	x	x	x	x

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 3
Field Soil Sampling Matrix
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location ID[a]	Sample ID	Top Depth	Bottom Depth	Sample Date	Sample Time	Inorganic EPA ID	Organic EPA ID	Analyses					
		Feet (ft)						Metals	SVOCs	VOCs	OC Pest/ AROs	TPH-g	TPH-d
RMW-16-61	RMW-16D-85-1009	15	15	10/21/2009	11:00 AM	MY54W1	Y54W1	x	x	x	x	x	x
RMW-16-61	RMW-16D-90-1009	10	10	10/21/2009	10:45 AM	MY54W2	Y54W2	x	x	x	x	x	x
RMW-16-35	RMW-16M-05-1009	5	5	10/22/2009	11:31 AM	MY54Y4	Y54Y4	x	x	x	x	x	x
RMW-16-35	RMW-16M-10-1009	10	10	10/22/2009	11:43 AM	MY54Y5	Y54Y5	x	x	x	x	x	x
RMW-16-35	RMW-16M-15-1009	15	15	10/22/2009	11:55 AM	MY54Y6	Y54Y6	x	x	x	x	x	x
RMW-16-35	RMW-16M-20-1009	20	20	10/22/2009	12:15 PM		Y54Y7		x	x	x	x	x
RMW-16-35	RMW-16M-25-1009	25	25	10/22/2009	12:40 PM		Y54Z0		x	x	x	x	x
RMW-16-35	RMW-16M-30-1009	30	30	10/22/2009	1:25 PM		Y54Z2		x	x	x	x	x
RMW-16-35	RMW-16M-35-1009	35	35	10/22/2009	1:42 PM		Y54Z1		x	x	x	x	x
RMW-16-35	RMW-16M-80-1009	20	20	10/22/2009	1:15 PM		Y54Y9		x	x	x	x	x
RMW-17-35	RMW-17M-06-1009	6	6	10/26/2009	11:55 AM	MY54Z4	Y54Z4	x	x	x	x	x	x
RMW-17-35	RMW-17M-11-1009	11	11	10/26/2009	11:59 AM	MY54Z6	Y54Z6	x	x	x	x	x	x
RMW-17-35	RMW-17M-21-1009	21	21	10/26/2009	12:08 PM	MY54Z7	Y54Z7	x	x	x	x	x	x
RMW-17-35	RMW-17M-31-1009	21	21	10/26/2009	12:11 PM	MY54Z8	Y54Z8	x	x	x	x	x	x
RMW-17-35	RMW-17M-36-1009	36	36	10/26/2009	12:20 PM	MY54Z9	Y54Z9	x	x	x	x	x	x
RMW-17-70	RMW-17D-06-1009	6	6	10/27/2009	11:05 AM	MY5503	Y5503	x	x	x	x	x	x
RMW-17-70	RMW-17D-11-1009	11	11	10/27/2009	11:15 AM	MY5504	Y5504	x	x	x	x	x	x
RMW-17-70	RMW-17D-21-1009	21	21	10/27/2009	11:30 AM		Y5505		x	x	x	x	x
RMW-17-70	RMW-17D-31-1009	31	31	10/27/2009	12:00 PM		Y5507		x	x	x	x	x

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 3
Field Soil Sampling Matrix
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location ID[a]	Sample ID	Top Depth	Bottom Depth	Sample Date	Sample Time	Inorganic EPA ID	Organic EPA ID	Analyses					
		Feet (ft)						Metals	SVOCs	VOCs	OC Pest/ AROs	TPH-g	TPH-d
RMW-17-70	RMW-17D-41-1009	41	41	10/27/2009	1:05 PM		Y5508		x	x	x	x	x
RMW-17-70	RMW-17D-51-1009	51	51	10/27/2009	1:45 PM		Y5509		x	x	x	x	x
RMW-17-70	RMW-17D-61-1009	61	61	10/27/2009	2:15 PM		Y5511		x	x	x	x	x
RMW-17-70	RMW-17D-71-1009	71	71	10/27/2009	3:00 PM		Y5512		x	x	x	x	x
RMW-17-70	RMW-17D-81-1009	81	81	10/27/2009	3:30 PM		Y5513		x	x	x	x	x
RMW-17-70	RMW-93D-21-1009	21	21	10/27/2009	2:30 PM		Y5506		x	x	x	x	x
RMW-16W-15	RMW-16WS-05-1009	5	5	10/29/2009	2:30 PM	MY5514	Y5514	x	x	x	x	x	x
RMW-16W-15	RMW-16WS-10-1009	10	10	10/29/2009	2:35 PM	MY5515	Y5515	x	x	x	x	x	x
RMW-16W-15	RMW-16WS-15-1009	15	15	10/29/2009	2:40 PM	MY5516	Y5516	x	x	x	x	x	x
RMW-16E-15	RMW-16ES-06-1009	6	6	10/30/2009	8:55 AM	MY5520	Y5520	x	x	x	x	x	x
RMW-16E-15	RMW-16ES-11-1009	11	11	10/30/2009	9:00 AM	MY5521	Y5521	x	x	x	x	x	x
RMW-16E-15	RMW-16ES-16-1009	16	16	10/30/2009	9:10 AM	MY5522	Y5522	x	x	x	x	x	x
RMW-15-35	RMW-15M-10-1009	10	10	11/2/2009	9:15 AM	MY5525	Y5525	x	x	x	x	x	x
RMW-15-35	RMW-15M-15-1009	15	15	11/2/2009	9:25 AM	MY5526	Y5526	x	x	x	x	x	x
RMW-15-35	RMW-15M-20-1009	20	20	11/2/2009	9:35 AM		Y5527		x	x	x	x	x
RMW-15-35	RMW-15M-25-1009	25	25	11/2/2009	9:45 AM		Y5528		x	x	x	x	x
RMW-15-35	RMW-15M-30-1009	30	20	11/2/2009	9:55 AM		Y5529		x	x	x	x	x
RMW-15-35	RMW-15M-35-1009	35	35	11/2/2009	10:55 AM		Y5531		x	x	x	x	x

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 3
Field Soil Sampling Matrix
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location ID[a]	Sample ID	Top Depth	Bottom Depth	Sample Date	Sample Time	Inorganic EPA ID	Organic EPA ID	Analyses					
		Feet (ft)						Metals	SVOCs	VOCs	OC Pest/ AROs	TPH-g	TPH-d
RMW-15-35	RMW-85M-35-1009	35	35	11/2/2009	1:55 PM		Y5530		x	x	x	x	x
RMW-09-70	RMW-91D-20-1009	20	20	11/3/2009	12:10 PM		Y5543		x	x	x	x	X

[a]Sample ID designation including S indicates 15-foot below ground surface (bgs) well, M indicates 35-foot bgs well, and D indicates 50-foot or greater bgs well.

Metals: CAM 17 metals.

SVOC: semivolatile organic compound.

VOC: volatile organic compound.

OC Pest/AROs: organochlorine pesticides and Aroclors.

TPH-g: total petroleum hydrocarbons as gasoline (C_6-C_{10}).

TP-d: total petroleum hydrocarbons as diesel and oil (C_{10}-C_{24}).

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-06-35	RMW-06-35	RMW-06-35	RMW-06-61	RMW-06-61	RMW-06-61	RMW-15-15	RMW-15-15	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35
		2 ft bgs	6 ft bgs	11 ft bgs	2 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	10 ft bgs	15 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs
Sample Date		10/12/2009	10/15/2009	10/15/2009	10/12/2009	10/16/2009	10/16/2009	10/12/2009	10/20/2009	10/20/2009	10/12/2009	11/2/2009	11/2/2009	10/12/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
1,1,1-Trichloroethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,1,2,2-Tetrachloroethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,1,2-Trichloroethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	9.9	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,1-Dichloroethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	13	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,1-Dichloroethene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	0.84 J	ND (4.6)	ND (4.8)	ND (5.3)
1,1-Dichloropropene	µg/kg	ND (2.2)	---	---	ND (2.2)	---	---	ND (2.8)	---	---	ND (2.2)	---	---	ND (3.1)	---	---	---	---
1,2,3-Trichlorobenzene	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6) J	ND (5.6)	---	ND (5.1) J	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,2,3-Trichloropropane	µg/kg	ND (2.2)	---	---	ND (2.2)	---	---	ND (2.8)	---	---	ND (2.2)	---	---	ND (3.1)	---	---	---	---
1,2,4-Trichlorobenzene	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6) J	ND (5.6)	---	ND (5.1) J	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,2,4-Trimethylbenzene	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6)	ND (5.6)	---	ND (5.1)	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,2-Dibromo-3-chloropropane	µg/kg	ND (8.8)	ND (4.9)	ND (4.9)	ND (8.9)	ND (4.8)	ND (5)	ND (11)	ND (5.6)	ND (5.6)	ND (8.7)	ND (5.1)	ND (5.1)	ND (13)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,2-Dibromoethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,2-Dichlorobenzene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6) J	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,2-Dichloroethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,2-Dichloropropane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,3,5-Trimethylbenzene	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6)	ND (5.6)	---	ND (5.1)	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,3-Dichlorobenzene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6) J	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,3-Dichloropropane	µg/kg	ND (2.2)	---	---	ND (2.2)	---	---	ND (2.8)	---	---	ND (2.2)	---	---	ND (3.1)	---	---	---	---
1,4-Dichlorobenzene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6) J	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1) J	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
1,4-Dioxane (p-dioxane)	µg/kg	---	ND (99) R	ND (97) R	---	ND (95) R	ND (100) R	---	ND (110) R	ND (110) R	---	ND (100) R	ND (100) R	---	ND (100) R	ND (92) R	ND (96) R	ND (110) R
2-Hexanone	µg/kg	ND (18)	ND (9.9)	ND (9.7)	ND (18)	ND (9.5)	ND (10)	ND (23)	ND (11)	ND (11)	ND (17)	ND (10)	ND (10)	ND (25)	ND (10)	ND (9.2)	ND (9.6)	ND (11)
Acetone	µg/kg	ND (18)	ND (9.9)	ND (9.7)	ND (18)	ND (9.5)	ND (10)	ND (23)	2 J	2.9 J	ND (17)	26	ND (10)	81	ND (10)	ND (9.2)	ND (9.6)	21
Benzene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Bromochloromethane	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6)	ND (5.6)	---	ND (5.1)	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Bromodichloromethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Bromoform	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Bromomethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Carbon disulfide	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Carbon tetrachloride	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Chlorobenzene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6) J	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	7.2	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Chloroethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Chloroform	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Chloromethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
cis-1,2-Dichloroethene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
cis-1,3-Dichloropropene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Cyclohexane	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6)	ND (5.6)	---	ND (5.1)	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Dibromochloromethane	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Ethyl tert-butyl ether	µg/kg	ND (8.8)	ND (9.9)	ND (9.7)	ND (8.9)	ND (9.5)	ND (10)	ND (11)	ND (11)	ND (11)	ND (8.7)	ND (10)	ND (10)	ND (13)	ND (10)	ND (9.2)	ND (9.6)	ND (11)
Ethylbenzene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	7.1	ND (5.1)	ND (4.6)	ND (4.8)	0.73 J
Freon 11	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Freon 12	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Freon 113	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	9.9	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Isopropylbenzene (cumene)	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6)	ND (5.6)	---	ND (5.1) J	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Methyl acetate	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6)	ND (5.6)	---	ND (5.1)	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	3.9 J
Methyl ethyl ketone	µg/kg	ND (18)	ND (9.9)	ND (9.7)	ND (18)	ND (9.5)	ND (10)	ND (23)	ND (11)	ND (11)	ND (17)	ND (10)	ND (10)	23 J	3.1 J	3.4 J	ND (9.6)	8 J
Methyl isobutyl ketone	µg/kg	ND (18)	ND (9.9)	ND (9.7)	ND (18)	ND (9.5)	ND (10)	ND (23)	ND (11)	ND (11)	ND (17)	ND (10)	ND (10)	ND (25)	ND (10)	ND (9.2)	ND (9.6)	ND (11)
Methyl tert-butyl ether	µg/kg	ND (8.8)	ND (4.9)	ND (4.9)	ND (8.9)	ND (4.8)	ND (5)	ND (11)	ND (5.6)	ND (5.6)	ND (8.7)	ND (5.1)	ND (5.1)	ND (13)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Methylcyclohexane	µg/kg	---	ND (4.9)	ND (4.9)	---	ND (4.8)	ND (5)	---	ND (5.6)	ND (5.6)	---	ND (5.1)	ND (5.1)	---	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Methylene chloride	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Naphthalene	µg/kg	ND (2.2)	---	---	ND (2.2)	---	---	ND (2.8)	---	---	ND (2.2)	---	---	74	---	---	---	---

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-06-35	RMW-06-35	RMW-06-35	RMW-06-61	RMW-06-61	RMW-06-61	RMW-15-15	RMW-15-15	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35
		2 ft bgs	6 ft bgs	11 ft bgs	2 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	10 ft bgs	15 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs
Sample Date		10/12/2009	10/15/2009	10/15/2009	10/12/2009	10/16/2009	10/16/2009	10/12/2009	10/20/2009	10/20/2009	10/12/2009	11/2/2009	11/2/2009	10/12/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
Styrene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
tert-Amyl methyl ether	µg/kg	---	ND (9.9)	ND (9.7)	---	ND (9.5)	ND (10)	---	ND (11)	ND (11)	---	ND (10)	ND (10)	---	ND (10)	ND (9.2)	ND (9.6)	ND (11)
tert-Butyl alcohol	µg/kg	---	ND (49)	ND (49)	---	ND (48)	ND (50)	---	ND (56)	ND (56)	---	ND (51)	ND (51)	---	ND (51)	ND (46)	ND (48)	ND (53)
Tetrachloroethene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	13	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Toluene	µg/kg	ND (2.2)	5	ND (4.9)	ND (2.2)	5.4	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	10	ND (5.1)	ND (4.6)	ND (4.8)	18
trans-1,2-Dichloroethene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
trans-1,3-Dichloropropene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1)	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Trichloroethene	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Vinyl chloride	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1) J	ND (3.1)	ND (5.1)	ND (4.6)	ND (4.8)	ND (5.3)
Xylenes, m & p	µg/kg	ND (4.4)	ND (4.9)	ND (4.9)	ND (4.5)	ND (4.8)	ND (5)	ND (5.6)	ND (5.6)	ND (5.6)	ND (4.3)	ND (5.1) J	ND (5.1)	12	ND (5.1)	ND (4.6)	ND (4.8)	2.2 J
Xylenes, o	µg/kg	ND (2.2)	ND (4.9)	ND (4.9)	ND (2.2)	ND (4.8)	ND (5)	ND (2.8)	ND (5.6)	ND (5.6)	ND (2.2)	ND (5.1) J	ND (5.1)	17	ND (5.1)	ND (4.6)	ND (4.8)	0.64 J
Semivolatile Organic Compounds																		
1,1'-Biphenyl	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	74 J	ND (210)	ND (200)	ND (190)	ND (190)
1,2,4,5-Tetrachlorobenzene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,2'-Oxybis(1-Chloropropane)	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,3,4,6-Tetrachlorophenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,4,5-Trichlorophenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,4,6-Trichlorophenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,4-Dichlorophenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,4-Dimethylphenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,4-Dinitrophenol	µg/kg	ND (360)	ND (380)	ND (390)	ND (360) R	ND (380)	ND (390)	ND (320)	ND (380)	ND (400)	ND (330) R	ND (400)	ND (400)	ND (350) R	ND (400)	ND (380)	ND (370)	ND (380)
2,4-Dinitrotoluene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2,6-Dinitrotoluene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2-Chloronaphthalene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2-Chlorophenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2-Methylnaphthalene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	4,400	ND (210)	ND (200)	ND (190)	ND (190)
2-Methylphenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
2-Nitroaniline	µg/kg	ND (360)	ND (380)	ND (390)	ND (360)	ND (380)	ND (390)	ND (320)	ND (380)	ND (400)	ND (330)	ND (400)	ND (400)	ND (350)	ND (400)	ND (380)	ND (370)	ND (380)
2-Nitrophenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
3,3'-Dichlorobenzidine	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	ND (190)
3-Nitroaniline	µg/kg	ND (360)	ND (380)	ND (390)	ND (360)	ND (380)	ND (390)	ND (320)	ND (380)	ND (400)	ND (330)	ND (400)	ND (400)	ND (350)	ND (400)	ND (380)	ND (370)	ND (380)
4,6-Dinitro-2-methylphenol	µg/kg	ND (360)	ND (380)	ND (390)	ND (360) R	ND (380)	ND (390)	ND (320)	ND (380)	ND (400)	ND (330) R	ND (400)	ND (400)	ND (350) R	ND (400)	ND (380)	ND (370)	ND (380)
4-Bromophenylphenyl ether	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
4-Chloro-3-methylphenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
4-Chloroaniline	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
4-Chlorophenylphenyl ether	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
4-Methylphenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
4-Nitroaniline	µg/kg	ND (360)	ND (380)	ND (390)	ND (360)	ND (380)	ND (390)	ND (320)	ND (380)	ND (400)	ND (330)	ND (400)	ND (400)	ND (350)	ND (400)	ND (380)	ND (370)	ND (380)
4-Nitrophenol	µg/kg	ND (360)	ND (380)	ND (390)	ND (360)	ND (380)	ND (390)	ND (320)	ND (380)	ND (400)	ND (330)	ND (400)	ND (400)	ND (350)	ND (400)	ND (380)	ND (370)	ND (380)
Acenaphthene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	26 J	ND (210)	ND (200)	ND (190)	ND (190)
Acenaphthylene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Acetophenone	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Anthracene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Atrazine	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Benzaldehyde	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Benzo(a)anthracene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	50 J
Benzo(a)pyrene	µg/kg	ND (190)	ND (190)	ND (200)	23 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) R	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	77 J
Benzo(b)fluoranthene	µg/kg	ND (190)	ND (190)	ND (200)	33 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) R	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	100 J
Benzo(g,h,i)perylene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180) J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) R	ND (210)	ND (200)	ND (180) R	ND (210) J	ND (200) J	ND (190) J	63 J
Benzo(k)fluoranthene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) R	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	30 J

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-06-35	RMW-06-35	RMW-06-35	RMW-06-61	RMW-06-61	RMW-06-61	RMW-15-15	RMW-15-15	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35
		2 ft bgs	6 ft bgs	11 ft bgs	2 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	10 ft bgs	15 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs
Sample Date		10/12/2009	10/15/2009	10/15/2009	10/12/2009	10/16/2009	10/16/2009	10/12/2009	10/20/2009	10/20/2009	10/12/2009	11/2/2009	11/2/2009	10/12/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009
Analyte	**Units**	**Analytical Results**																
Semivolatile Organic Compounds																		
Benzyl butyl phthalate	µg/kg	ND (190)	ND (190)	ND (200)	41 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) J	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	ND (190)
bis(2-Chloroethoxy)methane	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
bis(2-Chloroethyl)ether	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
bis(2-Ethylhexyl)phthalate	µg/kg	ND (190)	ND (190)	ND (200)	120 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	29 J	ND (210)	ND (200)	170 J	ND (210)	ND (200)	ND (190)	34 J
Caprolactam	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	61 J	260	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	87 J
Carbazole	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Chrysene	µg/kg	ND (190)	ND (190)	ND (200)	26 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	68 J
Dibenz(a,h)anthracene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180) J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) R	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	ND (190)
Dibenzofuran	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Diethylphthalate	µg/kg	ND (190)	1,800	25 J	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Dimethylphthalate	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Di-n-butyl phthalate	µg/kg	34 J	ND (190)	21 J	230	ND (200)	ND (200)	97 J	ND (190)	ND (200)	56 J	ND (210)	ND (200)	200	ND (210)	ND (200)	ND (190)	25 J
Di-n-octyl phthalate	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) R	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	ND (190)
Fluoranthene	µg/kg	ND (190)	ND (190)	ND (200)	34 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) J	ND (210)	ND (200)	56 J	ND (210)	ND (200)	ND (190)	94 J
Fluorene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Hexachlorobenzene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Hexachlorobutadiene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Hexachlorocyclopentadiene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180) J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) J	ND (210)	ND (200)	ND (180) J	ND (210)	ND (200)	ND (190)	ND (190)
Hexachloroethane	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Indeno(1,2,3-c,d)pyrene	µg/kg	ND (190)	ND (190)	ND (200)	34 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170) R	ND (210)	ND (200)	ND (180) R	ND (210)	ND (200)	ND (190)	61 J
Isophorone	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Naphthalene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	190	ND (210)	ND (200)	ND (190)	ND (190)
Nitrobenzene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
N-Nitrosodi-n-propylamine	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
N-Nitrosodiphenylamine	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Pentachlorophenol	µg/kg	ND (360) J	ND (380)	ND (390)	ND (360)	ND (380)	ND (390)	ND (320)	ND (380)	ND (400)	ND (330)	ND (400)	ND (400)	ND (350)	ND (400) J	ND (380) J	ND (370) J	ND (380)
Phenanthrene	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	44 J	ND (210)	ND (200)	ND (190)	46 J
Phenol	µg/kg	ND (190)	ND (190)	ND (200)	ND (180)	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	ND (180)	ND (210)	ND (200)	ND (190)	ND (190)
Pyrene	µg/kg	ND (190)	ND (190)	ND (200)	44 J	ND (200)	ND (200)	ND (170)	ND (190)	ND (200)	ND (170)	ND (210)	ND (200)	120 J	ND (210)	ND (200)	ND (190)	100 J
Total Petroleum Hydrocarbons																		
Diesel c10-c24	mg/kg	2.5 J	1.3 J	ND (0.32)	68 J	0.31 J	ND (0.25)	13 J	1.7 J	ND (0.31)	1,200 J	ND (0.54) J	ND (0.32) J	2,300 J	5 J	ND (0.31)	0.51 J	19 J
Gasoline c6-c10	mg/kg	ND (0.013) J	ND (0.015) J	ND (0.013) J	ND (0.018) J	ND (0.014) J	ND (0.02) J	ND (0.014) J	ND (0.013) J	ND (0.015) J	ND (0.018) J	ND (0.013) J	ND (0.016) J	0.19 J	ND (0.016) J	ND (0.022) J	ND (0.016) J	ND (0.019) J
Metals																		
Aluminum	mg/kg	8,210	4,080	15,300	9,270	4,500	6,760	5,510	5,230	11,700	7,600	11,300	7,410	6,060	4,900	11,600	7,780	8,190
Antimony	mg/kg	1.8 J	ND (7) J	ND (6.4) J	3 J	ND (6.9) J	ND (7) J	1.5 J	ND (6.6) J	ND (7) J	1.6 J	ND (5.4) J	ND (7) J	1.8 J	ND (7.1) J	ND (6.6) J	ND (6.1) J	3.3 J
Arsenic	mg/kg	31.4	1.6	3.3	46.9	1.5	2.6	39.9	1.9	2.6	31.9	2.9	3	56.3	2	3.1	2.2	5.6
Barium	mg/kg	130	71.5	115	206	53.6	57.1	50.6	65.4	69.1	119	66.7	52.8	77.6	59.4	56.3	54.8	256
Beryllium	mg/kg	0.53 J	0.24 J	0.51 J	0.85	0.23 J	0.31 J	0.35 J	0.25 J	0.36 J	0.47 J	0.36 J	0.3 J	0.45 J	0.26 J	0.41 J	0.26 J	0.49 J
Cadmium	mg/kg	ND (0.55)	ND (0.59)	ND (0.53)	ND (0.58)	ND (0.58)	ND (0.59)	ND (0.51)	ND (0.55)	ND (0.59)	11.9	ND (0.45)	ND (0.58)	ND (0.55)	ND (0.6)	ND (0.55)	ND (0.51)	ND (0.58)
Chromium	mg/kg	27.3	28.1	83.3	168	29.5	40	4.3	29.1	49	7.2	42.6	38.6	15.6	29.2	47.1	40.7	36.4
Cobalt	mg/kg	13.6	4.1 J	9	17.7	3.8 J	6.7	8	5.1 J	7.9	11.2	8	7.1	12.3	6.4	7.4	6.2	25.8
Copper	mg/kg	24.3 J	7.5 J	10.8 J	81.5 J	7.6 J	8.7 J	12.5 J	13.5 J	8.5 J	39.2 J	8.5	7.6	31.9 J	19.2 J	16.9 J	23.2 J	90.4 J
Cyanide	mg/kg	ND (2.6)	ND (3)	ND (2.9)	ND (2.9)	ND (2.8)	ND (2.9)	ND (2.8)	ND (2.9)	ND (2.9)	ND (2.7)	ND (2.8)	ND (2.9)	ND (2.8)	ND (2.9)	ND (3)	ND (3)	ND (2.9)
Lead	mg/kg	44.8 J	9.3 J	4.4 J	312 J	2.1 J	3 J	215 J	2.9 J	3.3 J	59.9 J	3.3 J	3.2 J	810 J	2.6 J	3.4 J	2.7 J	229 J
Manganese	mg/kg	916	124	221	518	111	147	506	136	200	1,140	220	134	594	154	191	128	241
Mercury	mg/kg	0.42	0.067 J	0.066 J	1.7	ND (0.12)	0.034 J	0.81	ND (0.12)	ND (0.12)	0.63	0.057 J	ND (0.11)	0.87	0.025 J	0.033 J	0.025 J	0.63
Nickel	mg/kg	17.4	15.6	54.1	46.7	17.2	34.7	4.3	18.7	41.7	7.5	39.2	33.1	7.1	18.8	40.6	33.6	30.2
Selenium	mg/kg	4	0.94 J	2.5 J	6.8	0.73 J	1 J	3.6	1.3 J	2 J	4.2	1.6 J	1.3 J	3.9	1.3 J	1.7 J	1.6 J	2.1 J
Silver	mg/kg	0.16 J+	ND (1.2)	ND (1.1)	0.22 J+	ND (1.2)	ND (1.2)	0.23 J+	ND (1.1)	ND (1.2)	0.21 J+	ND (0.9) R	ND (1.2) R	0.17 J+	ND (1.2)	ND (1.1)	ND (1)	0.42 J+
Thallium	mg/kg	0.92 J	ND (2.9)	ND (2.7)	ND (2.9)	ND (2.9)	ND (2.9)	0.48 J	ND (2.7)	ND (2.9)	0.39 J	ND (2.3)	ND (2.9)	1.2 J	ND (3)	ND (2.7)	ND (2.6)	ND (2.9)

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-06-35	RMW-06-35	RMW-06-35	RMW-06-61	RMW-06-61	RMW-06-61	RMW-15-15	RMW-15-15	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35
		2 ft bgs	6 ft bgs	11 ft bgs	2 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	1 ft bgs	10 ft bgs	15 ft bgs	1 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs
Sample Date		10/12/2009	10/15/2009	10/15/2009	10/12/2009	10/16/2009	10/16/2009	10/12/2009	10/20/2009	10/20/2009	10/12/2009	11/2/2009	11/2/2009	10/12/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009
Analyte	**Units**	**Analytical Results**																
Metals																		
Vanadium	mg/kg	41.4 J	21.9 J	50.2 J	45.2 J	21.6 J	30.3 J	21.1 J	22.6 J	33.1 J	27 J	35.6	34.5	28.1 J	21.1 J	34.5 J	29.3 J	32.4 J
Zinc	mg/kg	214 J	21.9 J	30.4 J	220 J	15.2 J	23.3 J	190 J	22.7 J	24.8 J	195 J	24.1	21.6	256 J	26.3 J	28.3 J	28.8 J	195 J
Calcium	mg/kg	3,930	2,340	2,100	4,750	1,570	1,560	2,380	2,440	1,560	4,400	1,880	1,700	2,340	2,060	1,610	1,620	10,600
Iron	mg/kg	34,600	8,070	20,400	66,100	8,310	13,200	28,000	9,140	15,300	31,700	15,900	14,200	30,900	8,990	15,900	12,900	15,100
Magnesium	mg/kg	4,200	1,390	3,750	3,510	1,540	2,860	1,450	1,500	3,110	2,110	2,770	2,690	1,600	1,410	3,070	2,550	2,410
Potassium	mg/kg	530 J+	ND (529) J	463 J+	747	ND (374) J	ND (456) J	314 J+	695 J+	481 J+	424 J+	860	ND (453) J	420 J+	637 J+	536 J+	468 J+	915 J+
Sodium	mg/kg	ND (444) J	180 J	ND (352) J	289 J	166 J	198 J	ND (247) J	ND (122) J	ND (180) J	ND (274) J	ND (140) J	ND (155) J	ND (209) J	ND (173) J	ND (170) J	ND (147) J	ND (371) J
Organochlorine Pesticides/PCBs																		
4,4'-DDD	µg/kg	41	0.055 J	0.13 J	39	0.066 J	ND (3.9)	2.8 J	0.48 J	ND (4.5)	55	0.35 J	0.15 J	8,600	32	ND (3.9) J	ND (3.9)	2.6 J
4,4'-DDE	µg/kg	23	0.07 J	0.18 J	140	0.2 J	ND (3.9)	84	0.38 J	ND (4.5)	110	ND (4)	0.045 J	1,800	7.3	ND (3.9) J	ND (3.9)	46
4,4'-DDT	µg/kg	23	ND (3.8)	0.071 J	130	0.14 J	ND (3.9)	55	0.64 J	ND (4.5)	400	0.34 J	0.12 J	27 J	3.7 J	ND (3.9) J	ND (3.9)	26
Aldrin	µg/kg	0.018 J	0.04 J	0.037 J	0.087 J	0.037 J	ND (2)	ND (1.8)	ND (2)	ND (2.3)	0.041 J	ND (2.1)	ND (2.1)	ND (370)	ND (2.1)	ND (2) J	ND (2)	ND (2)
alpha-BHC	µg/kg	ND (1.9)	ND (2)	ND (2.1)	ND (1.9)	ND (2)	ND (2)	ND (3.7)	ND (2)	ND (2.3)	ND (1.8)	ND (2.1)	ND (2.1)	ND (370)	ND (2.1)	ND (2) J	ND (2)	ND (2)
alpha-Chlordane	µg/kg	0.1 J	ND (2)	ND (2.1)	1.1 J	ND (2)	ND (2)	4	ND (2)	ND (2.3)	3.9 J	ND (2.1)	ND (2.1)	3.6 J	0.27 J	ND (2) J	ND (2)	0.77 J
Aroclor-1016	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
Aroclor-1221	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
Aroclor-1232	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
Aroclor-1242	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
Aroclor-1248	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
Aroclor-1254	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	92
Aroclor-1260	µg/kg	ND (36)	ND (38)	ND (39)	100	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
Aroclor-1262	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
Aroclor-1268	µg/kg	ND (36)	ND (38)	ND (39)	ND (37)	ND (38)	ND (39)	ND (35)	ND (38)	ND (39)	ND (35)	ND (40)	ND (39)	ND (36)	ND (41)	ND (39)	ND (39)	ND (35)
beta-BHC	µg/kg	ND (1.9)	ND (2)	ND (2.1)	ND (1.9)	ND (2)	ND (2)	ND (3.7)	ND (2)	ND (2.3)	ND (18)	ND (2.1)	0.037 J	ND (370)	ND (2.1)	ND (2) J	ND (2)	ND (2)
delta-BHC	µg/kg	ND (1.9)	ND (2)	ND (2.1)	ND (9.6)	ND (2)	ND (2)	ND (3.7)	ND (2)	ND (2.3)	ND (1.8)	ND (2.1)	0.017 J	ND (370)	ND (2.1)	ND (2) J	ND (2)	ND (2)
Dieldrin	µg/kg	0.15 J	ND (3.8)	0.028 J	3.1 J	ND (3.8)	ND (3.9)	18	ND (3.9)	ND (4.5)	9.6 J	ND (4)	ND (4)	13 J	ND (4.2)	ND (3.9) J	ND (3.9)	ND (3.8)
Endosulfan I	µg/kg	ND (1.9)	ND (2)	ND (2.1)	0.14 J	ND (2)	ND (2)	0.18 J	ND (2)	ND (2.3)	0.027 J	ND (2.1)	ND (2.1)	12 J	ND (2.1)	ND (2) J	ND (2)	ND (2)
Endosulfan II	µg/kg	0.13 J	ND (3.8)	ND (4)	1.6 J	ND (3.8)	ND (3.9)	0.16 J	ND (3.9)	ND (4.5)	1.6 J	ND (4)	ND (4)	ND (710)	ND (4.2)	ND (3.9) J	ND (3.9)	0.85 J
Endosulfan sulfate	µg/kg	0.11 J	ND (3.8)	ND (4)	1.2 J	ND (3.8)	ND (3.9)	0.11 J	ND (3.9)	ND (4.5)	0.49 J	ND (4)	ND (4)	1.1 J	ND (4.2)	ND (3.9) J	ND (3.9)	ND (3.8)
Endrin	µg/kg	0.057 J	ND (3.8)	ND (4)	0.15 J	ND (3.8)	ND (3.9)	0.69 J	ND (3.9)	ND (4.5)	0.36 J	ND (4)	ND (4)	6.9 J	0.29 J	ND (3.9) J	ND (3.9)	0.21 J
Endrin aldehyde	µg/kg	ND (3.6)	0.11 J	0.14 J	0.29 J	0.069 J	0.052 J	0.1 J	ND (3.9)	ND (4.5)	0.3 J	ND (4)	ND (4)	6.1 J	ND (4.2)	ND (3.9) J	ND (3.9)	0.26 J
Endrin ketone	µg/kg	0.065 J	ND (3.8)	ND (4)	0.96 J	ND (3.8)	ND (3.9)	0.24 J	ND (3.9)	ND (4.5)	0.94 J	ND (4)	ND (4)	1.5 J	ND (4.2)	ND (3.9) J	ND (3.9)	0.37 J
gamma-BHC	µg/kg	ND (1.9)	ND (2)	ND (2.1)	ND (1.9)	ND (2)	ND (2)	ND (1.8)	ND (2)	ND (2.3)	ND (18)	ND (2.1)	0.046 J	ND (370)	ND (2.1)	ND (2) J	ND (2)	ND (2)
gamma-Chlordane	µg/kg	ND (1.9)	ND (2)	ND (2.1)	ND (9.6)	ND (2)	ND (2)	4.3	ND (2)	ND (2.3)	ND (18)	ND (2.1)	ND (2.1)	ND (370)	0.24 J	ND (2) J	ND (2)	1.5 J
Heptachlor	µg/kg	ND (1.9)	ND (2)	ND (2.1)	ND (1.9)	ND (2)	ND (2)	ND (3.7)	ND (2)	ND (2.3)	ND (1.8)	ND (2.1)	0.046 J	ND (370)	ND (2.1)	ND (2) J	ND (2)	ND (2)
Heptachlor epoxide	µg/kg	0.043 J	ND (2)	ND (2.1)	ND (9.6)	ND (2)	ND (2)	0.087 J	ND (2)	ND (2.3)	ND (18)	ND (2.1)	ND (2.1)	4 J	ND (2.1)	ND (2) J	ND (2)	ND (2)
Methoxychlor	µg/kg	ND (19)	ND (20)	ND (21)	ND (96)	ND (20)	ND (20)	ND (18)	ND (20)	ND (23)	ND (18)	ND (21)	ND (21)	ND (370)	ND (21)	ND (20) J	ND (20)	ND (20)
Toxaphene	µg/kg	ND (190)	ND (200)	ND (210)	ND (960)	ND (200)	ND (200)	ND (370)	ND (200)	ND (230)	ND (180)	ND (210)	ND (210)	ND (37,000)	ND (210)	ND (200) J	ND (200)	ND (200)

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-17-35
		5 ft bgs	10 ft bgs	15 ft bgs	5 ft bgs	10 ft bgs	10 ft bgs (FD)	15 ft bgs	15 ft bgs (FD)	0.5 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs	5 ft bgs	10 ft bgs	15 ft bgs	6 ft bgs
Sample Date		10/22/2009	10/22/2009	10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009	10/30/2009	10/30/2009	10/30/2009	10/20/2009	10/29/2009	10/29/2009	10/29/2009	10/26/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
1,1,1-Trichloroethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,1,2,2-Tetrachloroethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,1,2-Trichloroethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,1-Dichloroethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,1-Dichloroethene	µg/kg	ND (4.7)	0.7 J	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	0.57 J	ND (4.7)	ND (5.2)	ND (5)
1,1-Dichloropropene	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,3-Trichlorobenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7) R	ND (4.6)	ND (4.4)	ND (4.4)	ND (6) R	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,2,3-Trichloropropane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2,4-Trichlorobenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7) R	ND (4.6)	ND (4.4)	ND (4.4)	ND (6) R	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,2,4-Trimethylbenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	1.1 J	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,2-Dibromo-3-chloropropane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7) R	ND (4.6)	ND (4.4)	ND (4.4)	ND (6) R	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,2-Dibromoethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,2-Dichlorobenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7) R	ND (4.6)	ND (4.4)	ND (4.4)	ND (6) R	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,2-Dichloroethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,2-Dichloropropane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,3,5-Trimethylbenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,3-Dichlorobenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7) R	ND (4.6)	ND (4.4)	ND (4.4)	ND (6) R	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,3-Dichloropropane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7) R	ND (4.6)	ND (4.4)	ND (4.4)	ND (6) R	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
1,4-Dioxane (p-dioxane)	µg/kg	ND (94) R	ND (96) R	ND (92) R	ND (97) R	ND (93) R	ND (97) R	ND (96) R	ND (98) R	ND (170) R	ND (91) R	ND (88) R	ND (89) R	ND (120) R	ND (99) R	ND (93) R	ND (100) R	ND (100) R
2-Hexanone	µg/kg	ND (9.4)	ND (9.6)	ND (9.2)	ND (9.7)	ND (9.3)	ND (9.7)	ND (9.6)	ND (9.8)	ND (17)	ND (9.1)	ND (8.8)	ND (8.9)	ND (12)	ND (9.9)	ND (9.3)	ND (10)	ND (10)
Acetone	µg/kg	ND (9.4)	ND (9.6)	ND (9.2)	ND (9.7)	ND (9.3)	ND (9.7)	ND (9.6)	ND (9.8)	19	ND (9.1)	ND (8.8)	ND (8.9)	12	ND (9.9)	ND (9.3)	ND (10)	23
Benzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	1.6 J	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	0.73 J
Bromochloromethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Bromodichloromethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Bromoform	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7) R	ND (4.6)	ND (4.4)	ND (4.4)	ND (6) R	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Bromomethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Carbon disulfide	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	0.84 J	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Carbon tetrachloride	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Chlorobenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Chloroethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Chloroform	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Chloromethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
cis-1,2-Dichloroethene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
cis-1,3-Dichloropropene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Cyclohexane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Dibromochloromethane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Ethyl tert-butyl ether	µg/kg	ND (9.4)	ND (9.6)	ND (9.2)	ND (9.7)	ND (9.3)	ND (9.7)	ND (9.6)	ND (9.8)	ND (17)	ND (9.1)	ND (8.8)	ND (8.9)	ND (12)	ND (9.9)	ND (9.3)	ND (10)	ND (10)
Ethylbenzene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	4 J	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Freon 11	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Freon 12	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Freon 113	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Isopropylbenzene (cumene)	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Methyl acetate	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Methyl ethyl ketone	µg/kg	3.1 J	ND (9.6)	ND (9.2)	ND (9.7)	ND (9.3)	ND (9.7)	ND (9.6)	ND (9.8)	ND (17)	ND (9.1)	ND (8.8)	ND (8.9)	ND (12)	ND (9.9)	ND (9.3)	ND (10)	ND (10)
Methyl isobutyl ketone	µg/kg	ND (9.4)	ND (9.6)	ND (9.2)	ND (9.7)	ND (9.3)	ND (9.7)	ND (9.6)	ND (9.8)	ND (17)	ND (9.1)	ND (8.8)	ND (8.9)	ND (12)	ND (9.9)	ND (9.3)	ND (10)	ND (10)
Methyl tert-butyl ether	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Methylcyclohexane	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Methylene chloride	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	10	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Naphthalene	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-17-35
		5 ft bgs	10 ft bgs	15 ft bgs	5 ft bgs	10 ft bgs	10 ft bgs (FD)	15 ft bgs	15 ft bgs (FD)	0.5 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs	5 ft bgs	10 ft bgs	15 ft bgs	6 ft bgs
Sample Date		10/22/2009	10/22/2009	10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009	10/30/2009	10/30/2009	10/30/2009	10/20/2009	10/29/2009	10/29/2009	10/29/2009	10/26/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
Styrene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
tert-Amyl methyl ether	µg/kg	ND (9.4)	ND (9.6)	ND (9.2)	ND (9.7)	ND (9.3)	ND (9.7)	ND (9.6)	ND (9.8)	ND (17)	ND (9.1)	ND (8.8)	ND (8.9)	ND (12)	ND (9.9)	ND (9.3)	ND (10)	ND (10)
tert-Butyl alcohol	µg/kg	ND (47)	ND (48)	ND (46)	ND (48)	ND (46)	ND (49)	ND (48)	ND (49)	ND (87)	ND (46)	ND (44)	ND (44)	ND (60)	ND (49)	ND (47)	ND (52)	ND (50)
Tetrachloroethene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Toluene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	18	ND (4.6)	ND (4.4)	ND (4.4)	13	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
trans-1,2-Dichloroethene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
trans-1,3-Dichloropropene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Trichloroethene	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Vinyl chloride	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	ND (8.7)	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Xylenes, m & p	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	12 J	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Xylenes, o	µg/kg	ND (4.7)	ND (4.8)	ND (4.6)	ND (4.8)	ND (4.6)	ND (4.9)	ND (4.8)	ND (4.9)	2 J	ND (4.6)	ND (4.4)	ND (4.4)	ND (6)	ND (4.9)	ND (4.7)	ND (5.2)	ND (5)
Semivolatile Organic Compounds																		
1,1'-Biphenyl	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
1,2,4,5-Tetrachlorobenzene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,2'-Oxybis(1-Chloropropane)	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,3,4,6-Tetrachlorophenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,4,5-Trichlorophenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,4,6-Trichlorophenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,4-Dichlorophenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,4-Dimethylphenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	23 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,4-Dinitrophenol	µg/kg	ND (400)	ND (400)	ND (380)	ND (390)	ND (380)	ND (400)	ND (370)	ND (360)	ND (360)	ND (390)	ND (390)	ND (400)	ND (350)	ND (380)	ND (390)	ND (430)	ND (380)
2,4-Dinitrotoluene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2,6-Dinitrotoluene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2-Chloronaphthalene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2-Chlorophenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2-Methylnaphthalene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	26 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2-Methylphenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
2-Nitroaniline	µg/kg	ND (400)	ND (400)	ND (380)	ND (390)	ND (380)	ND (400)	ND (370)	ND (360)	ND (360)	ND (390)	ND (390)	ND (400)	ND (350)	ND (380)	ND (390)	ND (430)	ND (380)
2-Nitrophenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
3,3'-Dichlorobenzidine	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
3-Nitroaniline	µg/kg	ND (400)	ND (400)	ND (380)	ND (390)	ND (380)	ND (400)	ND (370)	ND (360)	ND (360)	ND (390)	ND (390)	ND (400)	ND (350)	ND (380)	ND (390)	ND (430)	ND (380)
4,6-Dinitro-2-methylphenol	µg/kg	ND (400)	ND (400)	ND (380)	ND (390)	ND (380)	ND (400)	ND (370)	ND (360)	ND (360)	ND (390)	ND (390)	ND (400)	ND (350)	ND (380)	ND (390)	ND (430)	ND (380)
4-Bromophenylphenyl ether	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
4-Chloro-3-methylphenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
4-Chloroaniline	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
4-Chlorophenylphenyl ether	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
4-Methylphenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
4-Nitroaniline	µg/kg	ND (400)	ND (400)	ND (380)	ND (390)	ND (380)	ND (400)	ND (370)	ND (360)	ND (360)	ND (390)	ND (390)	ND (400)	ND (350)	ND (380)	ND (390)	ND (430)	ND (380)
4-Nitrophenol	µg/kg	ND (400)	ND (400)	ND (380)	ND (390)	ND (380)	ND (400)	ND (370)	ND (360)	ND (360)	ND (390)	ND (390)	ND (400)	ND (350)	ND (380)	ND (390)	ND (430)	ND (380)
Acenaphthene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Acenaphthylene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Acetophenone	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Anthracene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	38 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Atrazine	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Benzaldehyde	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Benzo(a)anthracene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	110 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Benzo(a)pyrene	µg/kg	ND (200)	ND (200)	ND (200)	22 J	ND (200)	ND (210)	ND (190)	ND (190)	150 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Benzo(b)fluoranthene	µg/kg	ND (200)	ND (200)	ND (200)	30 J	ND (200)	ND (210)	ND (190)	ND (190)	180 J	ND (200)	ND (200)	ND (200)	19 J	ND (190)	ND (200)	ND (220)	ND (200)
Benzo(g,h,i)perylene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200) J	ND (210)	ND (190) J	ND (190) J	120 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Benzo(k)fluoranthene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	66 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-17-35
		5 ft bgs	10 ft bgs	15 ft bgs	5 ft bgs	10 ft bgs	10 ft bgs (FD)	15 ft bgs	15 ft bgs (FD)	0.5 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs	5 ft bgs	10 ft bgs	15 ft bgs	6 ft bgs
Sample Date		10/22/2009	10/22/2009	10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009	10/30/2009	10/30/2009	10/30/2009	10/20/2009	10/29/2009	10/29/2009	10/29/2009	10/26/2009
Analyte	**Units**	**Analytical Results**																
Semivolatile Organic Compounds																		
Benzyl butyl phthalate	µg/kg	ND (200)	ND (200)	ND (200)	34 J	ND (200)	ND (210)	ND (190)	ND (190)	360	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
bis(2-Chloroethoxy)methane	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
bis(2-Chloroethyl)ether	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
bis(2-Ethylhexyl)phthalate	µg/kg	37 J	ND (200)	ND (200)	240	ND (200)	29 J	ND (190)	ND (190)	870	480	38 J	ND (200)	35 J	28 J	ND (200)	ND (220)	ND (200)
Caprolactam	µg/kg	ND (200)	ND (200)	ND (200)	60 J	ND (200)	ND (210)	53 J	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	63 J	ND (190)	ND (200)	ND (220)	ND (200)
Carbazole	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	29 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Chrysene	µg/kg	ND (200)	ND (200)	ND (200)	25 J	ND (200)	ND (210)	ND (190)	ND (190)	140 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Dibenz(a,h)anthracene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Dibenzofuran	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Diethylphthalate	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Dimethylphthalate	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Di-n-butyl phthalate	µg/kg	ND (200)	ND (200)	ND (200)	62 J	ND (200)	ND (210)	ND (190)	ND (190)	350	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Di-n-octyl phthalate	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	27 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Fluoranthene	µg/kg	ND (200)	ND (200)	ND (200)	32 J	ND (200)	ND (210)	ND (190)	ND (190)	190	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Fluorene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Hexachlorobenzene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Hexachlorobutadiene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Hexachlorocyclopentadiene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Hexachloroethane	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Indeno(1,2,3-c,d)pyrene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	110 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Isophorone	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Naphthalene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Nitrobenzene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
N-Nitrosodi-n-propylamine	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
N-Nitrosodiphenylamine	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Pentachlorophenol	µg/kg	ND (400)	ND (400)	ND (380)	ND (390) J	ND (380) J	ND (400)	ND (370) J	ND (360) J	ND (360)	ND (390)	ND (390)	ND (400)	ND (350)	ND (380)	ND (390)	ND (430)	ND (380)
Phenanthrene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	98 J	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Phenol	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (210)	ND (190)	ND (190)	ND (190)	ND (200)	61 J	ND (200)	ND (180)	ND (190)	ND (200)	64 J	ND (200)
Pyrene	µg/kg	ND (200)	ND (200)	ND (200)	37 J	ND (200)	ND (210)	ND (190)	ND (190)	220	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (200)	ND (220)	ND (200)
Total Petroleum Hydrocarbons																		
Diesel c10-c24	mg/kg	ND (0.31)	ND (0.31)	0.42 J	3.7 J	1.8 J	ND (0.31) J	ND (0.4) J	ND (0.24) J	390 J	0.25 J	ND (0.18)	ND (0.18)	20 J	0.23 J	ND (0.19)	ND (0.18)	3.4 J
Gasoline c6-c10	mg/kg	ND (0.013) J	ND (0.016) J	ND (0.014) J	ND (0.014) J	ND (0.015) J	ND (0.014) J	ND (0.012) J	ND (0.016) J	ND (0.039) J	ND (0.02) J	ND (0.016) J	ND (0.016) J	ND (0.014) J	ND (0.014) J	ND (0.016) J	ND (0.016) J	ND (0.011) J
Metals																		
Aluminum	mg/kg	5,760	8,270	5,850	5,310	10,700	9,090	10,700	6,830	7,970	13,900	9,640	6,570	7,590	15,300	11,200	8,300	5,700
Antimony	mg/kg	ND (5.8)	ND (5.1)	ND (6.1)	ND (6.7) J	ND (6.5) J	ND (6.7) J	ND (6.8) J	ND (6.8) J	1.9 J	ND (5.7) J	ND (6.1) J	ND (6.2) J	6.7 J	ND (7.1) J	ND (6.7) J	ND (6.8) J	ND (7.4)
Arsenic	mg/kg	2.1	1	2.1	2.6	3.3	2.7	3.9	2.2	9.2	4.3	2.2	1.5	6.5	4.5	2.8	2.8	2.1
Barium	mg/kg	77.5	51.3	60.7	71.8	87.6	72.2	69.7	54.6	201	80.6	61.4	61	158	82.2	70.4	61.6	83.1
Beryllium	mg/kg	0.27 J	0.22 J	0.25 J	0.24 J	0.46 J	0.34 J	0.43 J	0.27 J	0.36 J	0.47 J	0.36 J	0.21 J	0.37 J	0.62	0.35 J	0.3 J	0.22 J
Cadmium	mg/kg	ND (0.48)	ND (0.43)	ND (0.51)	ND (0.56)	ND (0.54)	ND (0.56)	ND (0.56)	ND (0.57)	0.54 J	ND (0.48)	ND (0.51)	ND (0.51)	0.5 J	ND (0.59)	ND (0.56)	ND (0.57)	ND (0.61)
Chromium	mg/kg	30.8	44.8	35.2	32.7	44.9	39.9	45.4	40	52.4	39.4	43.2	38.9	42.9	43.6	42.4	47.7	30.6
Cobalt	mg/kg	7.2	5	5.7	5.8	9.5	7.8	8.3	6.4	8.1	12.7	6.6	5.9	6.4	14.2	8.6	6.9	5.5 J
Copper	mg/kg	7.3	6.3	7	13.5 J	12.3 J	8.8 J	10 J	7.9 J	97.6 J	11.4	9.2	6.5	126 J	12.9	9.8	9.2	8.8
Cyanide	mg/kg	ND (2.7)	ND (2.5)	ND (2.6)	ND (2.8)	ND (2.8)	ND (2.8)	ND (3)	ND (2.7)	0.19 J	ND (2.9)	ND (2.9)	ND (2.8)	0.26 J	ND (3)	ND (2.8)	ND (2.8)	ND (3.1)
Lead	mg/kg	2.5 J	2.7 J	2.3 J	23.6 J	12.6 J	2.8 J	4.1 J	2.4 J	335 J	4.9 J	2.9 J	2.3 J	347 J	4.6 J	3.6 J	3.1 J	3.7
Manganese	mg/kg	118	106	131	131	245	175	247	144	318	268	164	128	283	261	218	151	154
Mercury	mg/kg	0.035 J	0.027 J	0.029 J	0.16	0.081 J	0.029 J	ND (0.11)	ND (0.12)	0.2	0.074 J	ND (0.12)	0.045 J	0.55	0.048 J	ND (0.12)	0.049 J	0.065 J
Nickel	mg/kg	21.8	28.8	29.9	21.2	38.9	36.6	41.2	34.1	38.2	42.8	34.5	27.2	29.8	47.5	39.4	36.9	18.7
Selenium	mg/kg	1.5 J	1.4 J	1.7 J	1.5 J	2 J	1.6 J	2 J	1.5 J	2.7 J	2.1 J	2 J	0.93 J	1.9 J	2.6 J	2 J	1.5 J	1.4 J
Silver	mg/kg	ND (0.97) J	ND (0.86) J	ND (1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	0.34 J+	ND (0.95) R	ND (1) R	ND (1) R	0.28 J+	ND (1.2) R	ND (1.1) R	ND (1.1) R	ND (1.2)
Thallium	mg/kg	ND (2.4)	ND (2.1)	ND (2.6)	ND (2.8)	ND (2.7)	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.9)	ND (2.4)	ND (2.5)	ND (2.6)	ND (2.7)	ND (2.9)	ND (2.8)	ND (2.8)	ND (3.1)

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16E-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-16W-15	RMW-17-35
		5 ft bgs	10 ft bgs	15 ft bgs	5 ft bgs	10 ft bgs	10 ft bgs (FD)	15 ft bgs	15 ft bgs (FD)	0.5 ft bgs	6 ft bgs	11 ft bgs	16 ft bgs	0.5 ft bgs	5 ft bgs	10 ft bgs	15 ft bgs	6 ft bgs
Sample Date		10/22/2009	10/22/2009	10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/20/2009	10/30/2009	10/30/2009	10/30/2009	10/20/2009	10/29/2009	10/29/2009	10/29/2009	10/26/2009
Analyte	**Units**	**Analytical Results**																
Metals																		
Vanadium	mg/kg	23.9	19	26.9	22.7 J	36.5 J	31.2 J	36.7 J	28.6 J	33.2 J	39.2	32.3	22.8	31.8 J	42.1	35.1	33.8	23.2
Zinc	mg/kg	17.7	23.3	21.1	40.2 J	36.2 J	25.2 J	26.2 J	21.6 J	337 J	26.6	23.5	19.5	341 J	31.8	25.8	23.2	21.5
Calcium	mg/kg	1,310	1,450	1,410	1,930	1,810	1,720	1,680	1,560	5,240	1,980	1,840	1,630	3,070	2,210	1,980	1,810	3,260
Iron	mg/kg	9,760	9,420	11,600	9,290	16,500	14,200	17,300	12,100	18,100	19,800	14,500	9,650	14,400	22,700	15,900	14,100	8,650
Magnesium	mg/kg	1,740	2,500	2,210	1,480	2,990	3,120	3,050	2,470	3,310	3,540	2,950	2,330	2,250	4,100	3,420	2,720	1,660
Potassium	mg/kg	527 J+	419 J+	414 J	554 J+	902 J+	532 J+	819 J+	444 J+	831 J+	967	574	ND (421) J	770 J+	1,030	587	ND (546) J	944
Sodium	mg/kg	149 J	127 J	537 J	ND (160) J	ND (178) J	ND (227) J	ND (163) J	618	ND (234) J	ND (315) J	ND (407) J	ND (473) J	ND (242) J	ND (387) J	ND (300) J	917	393 J
Organochlorine Pesticides/PCBs																		
4,4'-DDD	µg/kg	3.1 J	ND (3.9)	0.65 J	5	ND (3.9)	ND (3.7)	0.91 J	ND (3.6)	310	ND (3.9)	0.1 J	0.24 J	1.5 J	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
4,4'-DDE	µg/kg	4.3	ND (3.9)	0.44 J	110	ND (3.9)	0.37 J	3.4 J	ND (3.6)	490	ND (3.9)	0.055 J	0.15 J	20	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
4,4'-DDT	µg/kg	10	0.28 J	0.9 J	250	0.29 J	0.94 J	8.4	0.33 J	1,100	ND (3.9)	0.08 J	0.25 J	38	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
Aldrin	µg/kg	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1.9)	ND (2)	ND (1.9)	0.96 J	ND (2)	ND (2)	ND (2)	ND (1.8)	ND (2)	ND (2)	ND (2.2)	ND (2)
alpha-BHC	µg/kg	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1.9)	ND (2)	ND (1.9)	ND (96)	ND (2)	ND (2)	ND (2)	ND (1.8)	ND (2)	ND (2)	ND (2.2)	ND (2)
alpha-Chlordane	µg/kg	0.33 J	ND (2)	ND (2)	4.9	ND (2)	ND (1.9)	0.19 J	ND (1.9)	16	ND (2)	ND (2)	ND (2)	2.1	ND (2)	ND (2)	ND (2.2)	ND (2)
Aroclor-1016	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1221	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1232	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1242	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1248	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1254	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	2,100	ND (39)	ND (39)	ND (39)	130	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1260	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1262	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
Aroclor-1268	µg/kg	ND (39)	ND (39)	ND (38)	ND (39)	ND (38)	ND (39)	ND (39)	ND (38)	ND (37)	ND (39)	ND (39)	ND (39)	ND (33)	ND (38)	ND (39)	ND (42)	ND (39)
beta-BHC	µg/kg	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1.9)	ND (2)	ND (1.9)	ND (96)	ND (2)	0.088 J	0.074 J	ND (1.8)	ND (2)	ND (2)	ND (2.2)	ND (2)
delta-BHC	µg/kg	ND (2)	ND (2)	ND (2)	ND (20)	ND (2)	ND (1.9)	ND (2)	ND (1.9)	ND (96)	ND (2)	0.013 J	0.017 J	ND (1.8)	ND (2)	ND (2)	ND (2.2)	ND (2)
Dieldrin	µg/kg	0.41 J	ND (3.9)	ND (3.9)	6.7	ND (3.9)	ND (3.7)	ND (3.8)	ND (3.6)	30 J	ND (3.9)	ND (3.9)	0.052 J	ND (3.5)	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
Endosulfan I	µg/kg	ND (2)	ND (2)	ND (2)	1.2 J	ND (2)	ND (1.9)	ND (2)	ND (1.9)	3.3 J	ND (2)	ND (2)	ND (2)	ND (1.8)	ND (2)	ND (2)	ND (2.2)	ND (2)
Endosulfan II	µg/kg	ND (3.9)	ND (3.9)	ND (3.9)	1.2 J	ND (3.9)	ND (3.7)	ND (3.8)	ND (3.6)	5.4 J	ND (3.9)	ND (3.9)	ND (3.9)	ND (3.5)	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
Endosulfan sulfate	µg/kg	ND (3.9)	ND (3.9)	ND (3.9)	ND (3.9)	ND (3.9)	ND (3.7)	ND (3.8)	ND (3.6)	23	ND (3.9)	ND (3.9)	ND (3.9)	ND (3.5)	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
Endrin	µg/kg	ND (3.9)	ND (3.9)	ND (3.9)	0.81 J	ND (3.9)	ND (3.7)	ND (3.8)	ND (3.6)	1.1 J	ND (3.9)	ND (3.9)	ND (3.9)	0.28 J	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
Endrin aldehyde	µg/kg	ND (3.9)	ND (3.9)	ND (3.9)	1.5 J	ND (3.9)	ND (3.7)	ND (3.8)	ND (3.6)	2.3 J	ND (3.9)	ND (3.9)	ND (3.9)	ND (3.5)	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
Endrin ketone	µg/kg	ND (3.9)	ND (3.9)	ND (3.9)	0.9 J	ND (3.9)	ND (3.7)	ND (3.8)	ND (3.6)	4.8 J	ND (3.9)	ND (3.9)	ND (3.9)	0.24 J	ND (3.8)	ND (3.9)	ND (4.3)	ND (3.9)
gamma-BHC	µg/kg	ND (2)	ND (2)	ND (2)	0.34 J	ND (2)	ND (1.9)	ND (2)	ND (1.9)	0.94 J	ND (2)	0.031 J	0.079 J	ND (1.8)	ND (2)	ND (2)	ND (2.2)	ND (2)
gamma-Chlordane	µg/kg	0.36 J	ND (2)	ND (2)	2.7	ND (2)	ND (1.9)	ND (2)	ND (1.9)	40 J	ND (2)	ND (2)	ND (2)	1.7 J	ND (2)	ND (2)	ND (2.2)	ND (2)
Heptachlor	µg/kg	ND (2)	ND (2)	ND (2)	0.36 J	ND (2)	ND (1.9)	ND (2)	ND (1.9)	3.6 J	ND (2)	0.058 J	0.02 J	ND (1.8)	ND (2)	ND (2)	ND (2.2)	ND (2)
Heptachlor epoxide	µg/kg	ND (2)	ND (2)	ND (2)	2 J	ND (2)	ND (1.9)	ND (2)	ND (1.9)	22 J	ND (2)	ND (2)	0.034 J	0.52 J	ND (2)	ND (2)	ND (2.2)	ND (2)
Methoxychlor	µg/kg	ND (20)	ND (20)	ND (20)	ND (200)	ND (20)	ND (19)	ND (20)	ND (19)	10 J	ND (20)	0.081 J	0.076 J	ND (18)	ND (20)	ND (20)	ND (22)	ND (20)
Toxaphene	µg/kg	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (190)	ND (960)	ND (200)	ND (200)	ND (200)	ND (180)	ND (200)	ND (200)	ND (220)	ND (200)

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

	Sample Location	RMW-17-35	RMW-17-70	RMW-17-70
		11 ft bgs	6 ft bgs	11 ft bgs
	Sample Date	10/26/2009	10/27/2009	10/27/2009
Analyte	Units	Analytical Results		
Volatile Organic Compounds				
1,1,1-Trichloroethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,1,2,2-Tetrachloroethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,1,2-Trichloroethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,1-Dichloroethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,1-Dichloroethene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,1-Dichloropropene	µg/kg	---	---	---
1,2,3-Trichlorobenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,2,3-Trichloropropane	µg/kg	---	---	---
1,2,4-Trichlorobenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,2,4-Trimethylbenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,2-Dibromo-3-chloropropane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,2-Dibromoethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,2-Dichlorobenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,2-Dichloroethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,2-Dichloropropane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,3,5-Trimethylbenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,3-Dichlorobenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,3-Dichloropropane	µg/kg	---	---	---
1,4-Dichlorobenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
1,4-Dioxane (p-dioxane)	µg/kg	ND (90) R	ND (94) R	ND (94) R
2-Hexanone	µg/kg	ND (9)	ND (9.4)	ND (9.4)
Acetone	µg/kg	ND (9)	21	ND (9.4)
Benzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Bromochloromethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Bromodichloromethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Bromoform	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Bromomethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Carbon disulfide	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Carbon tetrachloride	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Chlorobenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Chloroethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Chloroform	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Chloromethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
cis-1,2-Dichloroethene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
cis-1,3-Dichloropropene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Cyclohexane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Dibromochloromethane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Ethyl tert-butyl ether	µg/kg	ND (9)	ND (9.4)	ND (9.4)
Ethylbenzene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Freon 11	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Freon 12	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Freon 113	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Isopropylbenzene (cumene)	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Methyl acetate	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Methyl ethyl ketone	µg/kg	ND (9)	ND (9.4)	ND (9.4)
Methyl isobutyl ketone	µg/kg	ND (9)	ND (9.4)	ND (9.4)
Methyl tert-butyl ether	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Methylcyclohexane	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Methylene chloride	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Naphthalene	µg/kg	---	---	---

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-17-35	RMW-17-70	RMW-17-70
		11 ft bgs	6 ft bgs	11 ft bgs
Sample Date		10/26/2009	10/27/2009	10/27/2009
Analyte	**Units**	**Analytical Results**		
Volatile Organic Compounds				
Styrene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
tert-Amyl methyl ether	µg/kg	ND (9)	ND (9.4)	ND (9.4)
tert-Butyl alcohol	µg/kg	ND (45)	ND (47)	ND (47)
Tetrachloroethene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Toluene	µg/kg	ND (4.5)	ND (4.7)	ND (4.6)
trans-1,2-Dichloroethene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
trans-1,3-Dichloropropene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Trichloroethene	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Vinyl chloride	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Xylenes, m & p	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Xylenes, o	µg/kg	ND (4.5)	ND (4.7)	ND (4.7)
Semivolatile Organic Compounds				
1,1'-Biphenyl	µg/kg	ND (200)	ND (190)	ND (200)
1,2,4,5-Tetrachlorobenzene	µg/kg	ND (200)	ND (190)	ND (200)
2,2'-Oxybis(1-Chloropropane)	µg/kg	ND (200)	ND (190)	ND (200)
2,3,4,6-Tetrachlorophenol	µg/kg	ND (200)	ND (190)	ND (200)
2,4,5-Trichlorophenol	µg/kg	ND (200)	ND (190)	ND (200)
2,4,6-Trichlorophenol	µg/kg	ND (200)	ND (190)	ND (200)
2,4-Dichlorophenol	µg/kg	ND (200)	ND (190)	ND (200)
2,4-Dimethylphenol	µg/kg	ND (200)	ND (190)	ND (200)
2,4-Dinitrophenol	µg/kg	ND (390)	ND (370)	ND (390)
2,4-Dinitrotoluene	µg/kg	ND (200)	ND (190)	ND (200)
2,6-Dinitrotoluene	µg/kg	ND (200)	ND (190)	ND (200)
2-Chloronaphthalene	µg/kg	ND (200)	ND (190)	ND (200)
2-Chlorophenol	µg/kg	ND (200)	ND (190)	ND (200)
2-Methylnaphthalene	µg/kg	ND (200)	ND (190)	ND (200)
2-Methylphenol	µg/kg	ND (200)	ND (190)	ND (200)
2-Nitroaniline	µg/kg	ND (390)	ND (370)	ND (390)
2-Nitrophenol	µg/kg	ND (200)	ND (190)	ND (200)
3,3'-Dichlorobenzidine	µg/kg	ND (200)	ND (190)	ND (200)
3-Nitroaniline	µg/kg	ND (390)	ND (370)	ND (390)
4,6-Dinitro-2-methylphenol	µg/kg	ND (390)	ND (370)	ND (390)
4-Bromophenylphenyl ether	µg/kg	ND (200)	ND (190)	ND (200)
4-Chloro-3-methylphenol	µg/kg	ND (200)	ND (190)	ND (200)
4-Chloroaniline	µg/kg	ND (200)	ND (190)	ND (200)
4-Chlorophenylphenyl ether	µg/kg	ND (200)	ND (190)	ND (200)
4-Methylphenol	µg/kg	ND (200)	ND (190)	ND (200)
4-Nitroaniline	µg/kg	ND (390)	ND (370)	ND (390)
4-Nitrophenol	µg/kg	ND (390)	ND (370)	ND (390)
Acenaphthene	µg/kg	ND (200)	ND (190)	ND (200)
Acenaphthylene	µg/kg	ND (200)	ND (190)	ND (200)
Acetophenone	µg/kg	ND (200)	ND (190)	ND (200)
Anthracene	µg/kg	ND (200)	ND (190)	ND (200)
Atrazine	µg/kg	ND (200)	ND (190)	ND (200)
Benzaldehyde	µg/kg	ND (200)	ND (190)	ND (200)
Benzo(a)anthracene	µg/kg	ND (200)	ND (190)	ND (200)
Benzo(a)pyrene	µg/kg	ND (200)	ND (190)	ND (200)
Benzo(b)fluoranthene	µg/kg	ND (200)	ND (190)	ND (200)
Benzo(g,h,i)perylene	µg/kg	ND (200)	ND (190)	ND (200)
Benzo(k)fluoranthene	µg/kg	ND (200)	ND (190)	ND (200)

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

	Sample Location	RMW-17-35	RMW-17-70	RMW-17-70
		11 ft bgs	6 ft bgs	11 ft bgs
	Sample Date	10/26/2009	10/27/2009	10/27/2009
Analyte	Units	Analytical Results		
Semivolatile Organic Compounds				
Benzyl butyl phthalate	µg/kg	ND (200)	ND (190)	ND (200)
bis(2-Chloroethoxy)methane	µg/kg	ND (200)	ND (190)	ND (200)
bis(2-Chloroethyl)ether	µg/kg	ND (200)	ND (190)	ND (200)
bis(2-Ethylhexyl)phthalate	µg/kg	ND (200)	40 J	48 J
Caprolactam	µg/kg	ND (200)	ND (190)	ND (200)
Carbazole	µg/kg	ND (200)	ND (190)	ND (200)
Chrysene	µg/kg	ND (200)	ND (190)	ND (200)
Dibenz(a,h)anthracene	µg/kg	ND (200)	ND (190)	ND (200)
Dibenzofuran	µg/kg	ND (200)	ND (190)	ND (200)
Diethylphthalate	µg/kg	ND (200)	ND (190)	ND (200)
Dimethylphthalate	µg/kg	ND (200)	ND (190)	ND (200)
Di-n-butyl phthalate	µg/kg	ND (200)	ND (190)	ND (200)
Di-n-octyl phthalate	µg/kg	ND (200)	ND (190)	ND (200)
Fluoranthene	µg/kg	ND (200)	ND (190)	ND (200)
Fluorene	µg/kg	ND (200)	ND (190)	ND (200)
Hexachlorobenzene	µg/kg	ND (200)	ND (190)	ND (200)
Hexachlorobutadiene	µg/kg	ND (200)	ND (190)	ND (200)
Hexachlorocyclopentadiene	µg/kg	ND (200)	ND (190)	ND (200)
Hexachloroethane	µg/kg	ND (200)	ND (190)	ND (200)
Indeno(1,2,3-c,d)pyrene	µg/kg	ND (200)	ND (190)	ND (200)
Isophorone	µg/kg	ND (200)	ND (190)	ND (200)
Naphthalene	µg/kg	ND (200)	ND (190)	ND (200)
Nitrobenzene	µg/kg	ND (200)	ND (190)	ND (200)
N-Nitrosodi-n-propylamine	µg/kg	ND (200)	ND (190)	ND (200)
N-Nitrosodiphenylamine	µg/kg	ND (200)	ND (190)	ND (200)
Pentachlorophenol	µg/kg	ND (390)	ND (370)	ND (390)
Phenanthrene	µg/kg	ND (200)	ND (190)	ND (200)
Phenol	µg/kg	ND (200)	ND (190)	ND (200)
Pyrene	µg/kg	ND (200)	ND (190)	ND (200)
Total Petroleum Hydrocarbons				
Diesel c10-c24	mg/kg	ND (0.34) J	17 J	0.26 J
Gasoline c6-c10	mg/kg	ND (0.013) J	ND (0.012) J	ND (0.012) J
Metals				
Aluminum	mg/kg	14,800	5,050	11,100
Antimony	mg/kg	ND (7) J	ND (5.7) J	ND (6.2) J
Arsenic	mg/kg	3.3	1.7	3.2
Barium	mg/kg	45.9	69.9	63
Beryllium	mg/kg	0.44 J	0.23 J	0.42 J
Cadmium	mg/kg	ND (0.58)	ND (0.48)	ND (0.52)
Chromium	mg/kg	40.4	28.2	43.1
Cobalt	mg/kg	13.4	4.3 J	6.8
Copper	mg/kg	11.4	6.7	9.7
Cyanide	mg/kg	ND (2.9)	ND (2.8)	ND (2.9)
Lead	mg/kg	4.7 J	2.4 J	3.5 J
Manganese	mg/kg	1,370	146	123
Mercury	mg/kg	0.044 J	0.042 J	0.058 J
Nickel	mg/kg	46.4	16	39.3
Selenium	mg/kg	2.1 J	1.2 J	1.6 J
Silver	mg/kg	ND (1.2) R	ND (0.96) R	ND (1) R

TABLE 4a
Well Installation Soil Analytical Results (September - October 2009) - All Analyses
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

	Sample Location	RMW-17-35	RMW-17-70	RMW-17-70
		11 ft bgs	6 ft bgs	11 ft bgs
	Sample Date	10/26/2009	10/27/2009	10/27/2009
Analyte	Units	Analytical Results		
Metals				
Thallium	mg/kg	ND (2.9)	ND (2.4)	ND (2.6)
Vanadium	mg/kg	36.5	21.6	35.6
Zinc	mg/kg	29.3	14.5	25.2
Calcium	mg/kg	1,700	1,800	1,620
Iron	mg/kg	18,100	8,680	16,500
Magnesium	mg/kg	3,920	1,570	3,090
Potassium	mg/kg	1,190	753	ND (512) J
Sodium	mg/kg	ND (428) J	ND (270) J	675
Organochlorine Pesticides/PCBs				
4,4'-DDD	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
4,4'-DDE	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
4,4'-DDT	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
Aldrin	µg/kg	ND (2)	ND (2)	ND (2)
alpha-BHC	µg/kg	ND (2)	ND (2)	ND (2)
alpha-Chlordane	µg/kg	ND (2)	ND (2)	ND (2)
Aroclor-1016	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1221	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1232	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1242	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1248	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1254	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1260	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1262	µg/kg	ND (38)	ND (38)	ND (39)
Aroclor-1268	µg/kg	ND (38)	ND (38)	ND (39)
beta-BHC	µg/kg	ND (2)	ND (2)	ND (2)
delta-BHC	µg/kg	ND (2)	ND (2)	ND (2)
Dieldrin	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
Endosulfan I	µg/kg	ND (2)	ND (2)	ND (2)
Endosulfan II	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
Endosulfan sulfate	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
Endrin	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
Endrin aldehyde	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
Endrin ketone	µg/kg	ND (3.8)	ND (3.8)	ND (3.9)
gamma-BHC	µg/kg	ND (2)	ND (2)	ND (2)
gamma-Chlordane	µg/kg	ND (2)	ND (2)	ND (2)
Heptachlor	µg/kg	ND (2)	ND (2)	ND (2)
Heptachlor epoxide	µg/kg	ND (2)	ND (2)	ND (2)
Methoxychlor	µg/kg	ND (20)	ND (20)	ND (20)
Toxaphene	µg/kg	ND (200)	ND (200)	ND (200)

Notes:
Detected Results are bolded.
Units are presented as reported by the laboratory.

ft bgs	feet below ground surface
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
--	not analyzed
ND	not detected above the laboratory's reporting limit shown in parentheses
J	estimated value
J+	estimated value, possible high bias
R	rejected for failure to meet quality control requirements

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35
		0.5 ft bgs	0.5 ft bgs (FD)	5 ft bgs	10 ft bgs	15 ft bgs	20 ft bgs	20 ft bgs (FD)	30 ft bgs	40 ft bgs	50 ft bgs	60 ft bgs	70 ft bgs	77 ft bgs	16 ft bgs	20 ft bgs	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	10/20/2009	11/2/2009	11/2/2009	11/2/2009
Analyte	Units	Analytical Results																
Volatile Organic Compounds																		
1,1,1-Trichloroethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,1,2,2-Tetrachloroethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,1,2-Trichloroethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,1-Dichloroethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,1-Dichloroethene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2,3-Trichlorobenzene	µg/kg	ND (5.3) R	ND (5.3) J	ND (5.9) J	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2,4-Trichlorobenzene	µg/kg	ND (5.3) R	ND (5.3) J	ND (5.9) J	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2,4-Trimethylbenzene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2-Dibromo-3-chloropropane	µg/kg	ND (5.3) R	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2-Dibromoethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2-Dichlorobenzene	µg/kg	ND (5.3) R	ND (5.3) J	ND (5.9) J	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2-Dichloroethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,2-Dichloropropane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,3,5-Trimethylbenzene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,3-Dichlorobenzene	µg/kg	ND (5.3) R	ND (5.3) J	ND (5.9) J	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
1,4-Dichlorobenzene	µg/kg	ND (5.3) R	ND (5.3) J	ND (5.9) J	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6) J	ND (5.2) J	ND (5.2) J
1,4-Dioxane (p-dioxane)	µg/kg	ND (110) R	ND (110) R	ND (120) R	ND (110) R	ND (98) R	ND (91) R	ND (97) R	ND (99) R	ND (110) R	ND (110) R	ND (100) R	ND (100) R	ND (110) R	ND (97) R	ND (92) R	ND (100) R	ND (100) R
2-Hexanone	µg/kg	ND (11)	ND (11)	ND (12)	ND (11)	ND (9.8)	ND (9.1)	ND (9.7)	ND (9.9)	ND (11)	ND (11)	ND (10)	ND (10)	ND (11)	ND (9.7)	ND (9.2)	ND (10)	ND (10)
Acetone	µg/kg	ND (11)	ND (11)	45	130	35	ND (9.1)	ND (9.7)	ND (9.9)	ND (11)	ND (11)	ND (10)	ND (10)	ND (11)	2.8 J	ND (9.2)	ND (10)	ND (10)
Benzene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Bromochloromethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Bromodichloromethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Bromoform	µg/kg	ND (5.3) R	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Bromomethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Carbon disulfide	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	0.82 J	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Carbon tetrachloride	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Chlorobenzene	µg/kg	ND (5.3) J	ND (5.3) J	ND (5.9) J	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Chloroethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Chloroform	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Chloromethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
cis-1,2-Dichloroethene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
cis-1,3-Dichloropropene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Cyclohexane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Dibromochloromethane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Ethyl tert-butyl ether	µg/kg	ND (11)	ND (11) J	ND (12) J	ND (11)	ND (9.8) J	ND (9.1) J	ND (9.7) J	ND (9.9) J	ND (11) J	ND (11) J	ND (10) J	ND (10) J	ND (11) J	ND (9.7)	ND (9.2)	ND (10)	ND (10)
Ethylbenzene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Freon 11	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Freon 12	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Freon 113	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Isopropylbenzene (cumene)	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Methyl acetate	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	5.6	ND (5.2)	ND (5.2)
Methyl ethyl ketone	µg/kg	ND (11)	ND (11)	ND (12)	13	ND (9.8)	ND (9.1)	ND (9.7)	ND (9.9)	ND (11)	ND (11)	ND (10)	ND (10)	ND (11)	ND (9.7)	ND (9.2)	ND (10)	ND (10)
Methyl isobutyl ketone	µg/kg	ND (11)	ND (11)	ND (12)	ND (11)	ND (9.8)	ND (9.1)	ND (9.7)	ND (9.9)	ND (11)	ND (11)	ND (10)	ND (10)	ND (11)	ND (9.7)	ND (9.2)	ND (10)	ND (10)
Methyl tert-butyl ether	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	9.6	34	21
Methylcyclohexane	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Methylene chloride	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Styrene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
tert-Amyl methyl ether	µg/kg	ND (11)	ND (11) J	ND (12) J	ND (11)	ND (9.8) J	ND (9.1) J	ND (9.7) J	ND (9.9) J	ND (11) J	ND (11) J	ND (10) J	ND (10) J	ND (11) J	ND (9.7)	ND (9.2)	ND (10)	ND (10)
tert-Butyl alcohol	µg/kg	ND (53)	ND (53)	ND (59)	ND (53)	ND (49)	ND (46)	ND (49)	ND (50)	ND (53)	ND (56)	ND (52)	ND (51)	ND (54)	ND (49)	ND (46)	ND (52)	ND (52)
Tetrachloroethene	µg/kg	ND (5.3)	ND (5.3)	0.61 J	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35
		0.5 ft bgs	0.5 ft bgs (FD)	5 ft bgs	10 ft bgs	15 ft bgs	20 ft bgs	20 ft bgs (FD)	30 ft bgs	40 ft bgs	50 ft bgs	60 ft bgs	70 ft bgs	77 ft bgs	16 ft bgs	20 ft bgs	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	10/20/2009	11/2/2009	11/2/2009	11/2/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
Toluene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
trans-1,2-Dichloroethene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
trans-1,3-Dichloropropene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Trichloroethene	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Vinyl chloride	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1)	ND (5.4)	ND (4.9)	ND (4.6) J	ND (5.2) J	ND (5.2) J
Xylenes, m & p	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Xylenes, o	µg/kg	ND (5.3)	ND (5.3)	ND (5.9)	ND (5.3)	ND (4.9)	ND (4.6)	ND (4.9)	ND (5)	ND (5.3)	ND (5.6)	ND (5.2)	ND (5.1) J	ND (5.4) J	ND (4.9)	ND (4.6)	ND (5.2)	ND (5.2)
Semivolatile Organic Compounds																		
1,1'-Biphenyl	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
1,2,4,5-Tetrachlorobenzene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,2'-Oxybis(1-Chloropropane)	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,3,4,6-Tetrachlorophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,4,5-Trichlorophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,4,6-Trichlorophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,4-Dichlorophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,4-Dimethylphenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,4-Dinitrophenol	µg/kg	ND (380)	ND (390)	ND (410)	ND (390)	ND (390)	ND (380)	ND (400)	ND (390)	ND (400)	ND (380)	ND (400)	ND (390)	ND (390)	ND (370)	ND (380)	ND (410)	ND (410)
2,4-Dinitrotoluene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2,6-Dinitrotoluene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2-Chloronaphthalene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2-Chlorophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2-Methylnaphthalene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2-Methylphenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
2-Nitroaniline	µg/kg	ND (380)	ND (390)	ND (410)	ND (390)	ND (390)	ND (380)	ND (400)	ND (390)	ND (400)	ND (380)	ND (400)	ND (390)	ND (390)	ND (370)	ND (380)	ND (410)	ND (410)
2-Nitrophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
3,3'-Dichlorobenzidine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
3-Nitroaniline	µg/kg	ND (380)	ND (390)	ND (410)	ND (390)	ND (390)	ND (380)	ND (400)	ND (390)	ND (400)	ND (380)	ND (400)	ND (390)	ND (390)	ND (370)	ND (380)	ND (410)	ND (410)
4,6-Dinitro-2-methylphenol	µg/kg	ND (380)	ND (390)	ND (410)	ND (390)	ND (390)	ND (380)	ND (400)	ND (390)	ND (400)	ND (380)	ND (400)	ND (390)	ND (390)	ND (370)	ND (380)	ND (410)	ND (410)
4-Bromophenylphenyl ether	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
4-Chloro-3-methylphenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
4-Chloroaniline	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
4-Chlorophenylphenyl ether	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
4-Methylphenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
4-Nitroaniline	µg/kg	ND (380)	ND (390)	ND (410)	ND (390)	ND (390)	ND (380)	ND (400)	ND (390)	ND (400)	ND (380)	ND (400)	ND (390)	ND (390)	ND (370)	ND (380)	ND (410)	ND (410)
4-Nitrophenol	µg/kg	ND (380)	ND (390)	ND (410)	ND (390)	ND (390)	ND (380)	ND (400)	ND (390)	ND (400)	ND (380)	ND (400)	ND (390)	ND (390)	ND (370)	ND (380)	ND (410)	ND (410)
Acenaphthene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Acenaphthylene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Acetophenone	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Anthracene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Atrazine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Benzaldehyde	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Benzo(a)anthracene	µg/kg	ND (200)	ND (200) J	41 J	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Benzo(a)pyrene	µg/kg	ND (200)	ND (200)	59 J	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Benzo(b)fluoranthene	µg/kg	ND (200)	ND (200)	73 J	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Benzo(g,h,i)perylene	µg/kg	ND (200)	ND (200)	60 J	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Benzo(k)fluoranthene	µg/kg	ND (200)	ND (200)	30 J	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Benzyl butyl phthalate	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
bis(2-Chloroethoxy)methane	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
bis(2-Chloroethyl)ether	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
bis(2-Ethylhexyl)phthalate	µg/kg	21 J	37 J	130 J	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	24 J	ND (200)	ND (210)	ND (210)

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35
		0.5 ft bgs	0.5 ft bgs (FD)	5 ft bgs	10 ft bgs	15 ft bgs	20 ft bgs	20 ft bgs (FD)	30 ft bgs	40 ft bgs	50 ft bgs	60 ft bgs	70 ft bgs	77 ft bgs	16 ft bgs	20 ft bgs	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	10/20/2009	11/2/2009	11/2/2009	11/2/2009
Analyte	**Units**	**Analytical Results**																
Semivolatile Organic Compounds																		
Caprolactam	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	280	ND (200)	ND (210)	ND (210)
Carbazole	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Chrysene	µg/kg	ND (200)	ND (200) J	53 J	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Dibenz(a,h)anthracene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Dibenzofuran	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Diethylphthalate	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Dimethylphthalate	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Di-n-butyl phthalate	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Di-n-octyl phthalate	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Fluoranthene	µg/kg	ND (200)	ND (200) J	70 J	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Fluorene	µg/kg	ND (200)	ND (200) J	ND (210)	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Hexachlorobenzene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Hexachlorobutadiene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200) J	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Hexachlorocyclopentadiene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Hexachloroethane	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Indeno(1,2,3-c,d)pyrene	µg/kg	ND (200)	ND (200)	44 J	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Isophorone	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Naphthalene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Nitrobenzene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
N-Nitrosodi-n-propylamine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
N-Nitrosodiphenylamine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Pentachlorophenol	µg/kg	ND (380)	ND (390)	ND (410)	ND (390)	ND (390)	ND (380)	ND (400)	ND (390)	ND (400)	ND (380)	ND (400) J	ND (390)	ND (390)	ND (370)	ND (380)	ND (410)	ND (410)
Phenanthrene	µg/kg	ND (200)	ND (200)	35 J	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Phenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (210)	ND (200)	200 J	ND (200)	ND (200)	210	300	ND (190)	ND (200)	ND (210)	ND (210)
Pyrene	µg/kg	ND (200)	ND (200) J	91 J	ND (200) J	ND (200)	ND (200)	ND (210)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (200)	ND (190)	ND (200)	ND (210)	ND (210)
Total Petroleum Hydrocarbons																		
Diesel c10-c24	mg/kg	13 J	12 J	56 J	ND (0.8) J	2.3 J	ND (0.3) J	ND (0.4) J	ND (0.39) J	ND (0.38) J	ND (0.46) J	ND (0.15)	ND (0.44) J	ND (0.38) J	ND (0.3)	ND (1.8) J	ND (0.62) J	ND (0.77) J
Gasoline c6-c10	mg/kg	ND (0.016) J	ND (0.011)	0.021 J	0.022 J	0.039 J	0.01 J	0.012 J	0.013 J	0.0088 J	0.017 J	0.0076 J	0.0093 J	0.011 J	ND (0.014) J	ND (0.012) J	ND (0.015) J	ND (0.016) J
Organochlorine Pesticides/PCBs																		
4,4'-DDD	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
4,4'-DDE	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
4,4'-DDT	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
Aldrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
alpha-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
alpha-Chlordane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
Aroclor-1016	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1221	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1232	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1242	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1248	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1254	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1260	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1262	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
Aroclor-1268	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (41)	---	---	---
beta-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
delta-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
Dieldrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
Endosulfan I	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
Endosulfan II	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
Endosulfan sulfate	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-09-70	RMW-15-15	RMW-15-35	RMW-15-35	RMW-15-35
		0.5 ft bgs	0.5 ft bgs (FD)	5 ft bgs	10 ft bgs	15 ft bgs	20 ft bgs	20 ft bgs (FD)	30 ft bgs	40 ft bgs	50 ft bgs	60 ft bgs	70 ft bgs	77 ft bgs	16 ft bgs	20 ft bgs	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	11/3/2009	10/20/2009	11/2/2009	11/2/2009	11/2/2009
Analyte	**Units**	**Analytical Results**																
Organochlorine Pesticides/PCBs																		
Endrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
Endrin aldehyde	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
Endrin ketone	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (4.1)	---	---	---
gamma-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
gamma-Chlordane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
Heptachlor	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
Heptachlor epoxide	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (2.1)	---	---	---
Methoxychlor	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (21)	---	---	---
Toxaphene	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (210)	---	---	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-35
		35 ft bgs	35 ft bgs (FD)	22 ft bgs	22 ft bgs (FD)	26 ft bgs	30 ft bgs	35 ft bgs	35 ft bgs (FD)	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	61 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/22/2009	10/22/2009	10/22/2009	10/22/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
1,1,1-Trichloroethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,1,2,2-Tetrachloroethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,1,2-Trichloroethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,1-Dichloroethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	0.73 J	1 J
1,1-Dichloroethene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,2,3-Trichlorobenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,2,4-Trichlorobenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,2,4-Trimethylbenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,2-Dibromo-3-chloropropane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,2-Dibromoethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,2-Dichlorobenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	1.3 J	0.81 J
1,2-Dichloroethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,2-Dichloropropane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,3,5-Trimethylbenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,3-Dichlorobenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
1,4-Dichlorobenzene	µg/kg	ND (5.5) J	ND (5.8) J	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	0.9 J	0.64 J
1,4-Dioxane (p-dioxane)	µg/kg	ND (110) R	ND (120) R	ND (97) R	ND (96) R	ND (110) R	ND (98) R	ND (100) R	ND (100) R	ND (96) R	---	ND (97) R	ND (97) R	ND (100) R	ND (95) R	ND (97) R	ND (110) R	ND (110) R
2-Hexanone	µg/kg	ND (11)	ND (12)	ND (9.7)	ND (9.6)	ND (11)	ND (9.8)	ND (10)	ND (10)	ND (9.6)	---	ND (9.7)	ND (9.7)	ND (10)	ND (9.5)	ND (9.7)	ND (11)	ND (11)
Acetone	µg/kg	ND (11)	ND (12)	ND (9.7)	ND (9.6)	ND (11)	ND (9.8)	ND (10)	ND (10)	ND (9.6)	---	ND (9.7)	ND (9.7)	ND (10)	ND (9.5)	ND (9.7)	ND (11)	ND (11)
Benzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Bromochloromethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Bromodichloromethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Bromoform	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7) J	ND (4.9) J	ND (5) J	ND (5.1) J	ND (4.8) J	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Bromomethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Carbon disulfide	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	0.66 J	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Carbon tetrachloride	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Chlorobenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Chloroethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Chloroform	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Chloromethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
cis-1,2-Dichloroethene	µg/kg	3.4 J	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	2.1 J	1.2 J
cis-1,3-Dichloropropene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Cyclohexane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Dibromochloromethane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Ethyl tert-butyl ether	µg/kg	ND (11)	ND (12)	ND (9.7)	ND (9.6)	ND (11)	ND (9.8)	ND (10)	ND (10)	ND (9.6)	---	ND (9.7)	ND (9.7)	ND (10)	ND (9.5)	ND (9.7)	ND (11)	ND (11)
Ethylbenzene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Freon 11	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Freon 12	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Freon 113	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Isopropylbenzene (cumene)	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Methyl acetate	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Methyl ethyl ketone	µg/kg	ND (11)	ND (12)	ND (9.7)	ND (9.6)	ND (11)	ND (9.8)	ND (10)	ND (10)	ND (9.6)	---	ND (9.7)	3.3 J	2.7 J	ND (9.5)	ND (9.7)	ND (11)	ND (11)
Methyl isobutyl ketone	µg/kg	1.1 J	ND (12)	ND (9.7)	ND (9.6)	ND (11)	ND (9.8)	ND (10)	ND (10)	ND (9.6)	---	ND (9.7)	ND (9.7)	ND (10)	ND (9.5)	ND (9.7)	ND (11)	ND (11)
Methyl tert-butyl ether	µg/kg	12	ND (5.8)	18	9.6	18	16	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	3.5 J	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Methylcyclohexane	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Methylene chloride	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Styrene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
tert-Amyl methyl ether	µg/kg	ND (11)	ND (12)	ND (9.7)	ND (9.6)	ND (11)	ND (9.8)	ND (10)	ND (10)	ND (9.6)	---	ND (9.7)	ND (9.7)	ND (10)	ND (9.5)	ND (9.7)	ND (11)	ND (11)
tert-Butyl alcohol	µg/kg	ND (55)	ND (58)	ND (48)	ND (48)	ND (57)	ND (49)	ND (50)	ND (51)	ND (48)	---	ND (49)	ND (49)	ND (50)	ND (47)	ND (49)	ND (53)	ND (54)
Tetrachloroethene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	0.77 J	ND (5.4)

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-35
		35 ft bgs	35 ft bgs (FD)	22 ft bgs	22 ft bgs (FD)	26 ft bgs	30 ft bgs	35 ft bgs	35 ft bgs (FD)	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	61 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/22/2009	10/22/2009	10/22/2009	10/22/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
Toluene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
trans-1,2-Dichloroethene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
trans-1,3-Dichloropropene	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Trichloroethene	µg/kg	1.2 J	0.77 J	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	0.86 J	0.56 J
Vinyl chloride	µg/kg	ND (5.5) J	ND (5.8) J	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Xylenes, m & p	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Xylenes, o	µg/kg	ND (5.5)	ND (5.8)	ND (4.8)	ND (4.8)	ND (5.7)	ND (4.9)	ND (5)	ND (5.1)	ND (4.8)	---	ND (4.9)	ND (4.9)	ND (5)	ND (4.7)	ND (4.9)	ND (5.3)	ND (5.4)
Semivolatile Organic Compounds																		
1,1'-Biphenyl	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
1,2,4,5-Tetrachlorobenzene	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,2'-Oxybis(1-Chloropropane)	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,3,4,6-Tetrachlorophenol	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,4,5-Trichlorophenol	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,4,6-Trichlorophenol	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,4-Dichlorophenol	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,4-Dimethylphenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,4-Dinitrophenol	µg/kg	ND (390)	ND (390)	ND (420)	ND (390)	ND (460)	ND (370)	ND (400)	ND (400)	ND (360)	ND (390)	ND (380)	ND (390)	ND (380)	ND (380)	ND (400)	ND (380)	ND (400)
2,4-Dinitrotoluene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2,6-Dinitrotoluene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2-Chloronaphthalene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2-Chlorophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2-Methylnaphthalene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2-Methylphenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
2-Nitroaniline	µg/kg	ND (390)	ND (390)	ND (420)	ND (390)	ND (460)	ND (370)	ND (400)	ND (400)	ND (360)	ND (390)	ND (380)	ND (390)	ND (380)	ND (380)	ND (400)	ND (380)	ND (400)
2-Nitrophenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
3,3'-Dichlorobenzidine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
3-Nitroaniline	µg/kg	ND (390)	ND (390)	ND (420)	ND (390)	ND (460)	ND (370)	ND (400)	ND (400)	ND (360)	ND (390)	ND (380)	ND (390)	ND (380)	ND (380)	ND (400)	ND (380)	ND (400)
4,6-Dinitro-2-methylphenol	µg/kg	ND (390)	ND (390)	ND (420)	ND (390)	ND (460)	ND (370)	ND (400)	ND (400)	ND (360)	ND (390)	ND (380)	ND (390)	ND (380)	ND (380)	ND (400)	ND (380)	ND (400)
4-Bromophenylphenyl ether	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
4-Chloro-3-methylphenol	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
4-Chloroaniline	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
4-Chlorophenylphenyl ether	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
4-Methylphenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
4-Nitroaniline	µg/kg	ND (390)	ND (390)	ND (420)	ND (390)	ND (460)	ND (370)	ND (400)	ND (400)	ND (360)	ND (390)	ND (380)	ND (390)	ND (380)	ND (380)	ND (400)	ND (380)	ND (400)
4-Nitrophenol	µg/kg	ND (390)	ND (390)	ND (420)	ND (390)	ND (460)	ND (370)	ND (400)	ND (400)	ND (360)	ND (390)	ND (380)	ND (390)	ND (380)	ND (380)	ND (400)	ND (380)	ND (400)
Acenaphthene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Acenaphthylene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Acetophenone	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Anthracene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Atrazine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Benzaldehyde	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Benzo(a)anthracene	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Benzo(a)pyrene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Benzo(b)fluoranthene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Benzo(g,h,i)perylene	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200) J	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Benzo(k)fluoranthene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Benzyl butyl phthalate	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
bis(2-Chloroethoxy)methane	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
bis(2-Chloroethyl)ether	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
bis(2-Ethylhexyl)phthalate	µg/kg	ND (200) J	25 J	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	55 J	ND (200)	ND (190)	28 J	ND (200)	ND (210)

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-35
		35 ft bgs	35 ft bgs (FD)	22 ft bgs	22 ft bgs (FD)	26 ft bgs	30 ft bgs	35 ft bgs	35 ft bgs (FD)	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	61 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/22/2009	10/22/2009	10/22/2009	10/22/2009
Analyte	**Units**	**Analytical Results**																
Semivolatile Organic Compounds																		
Caprolactam	µg/kg	ND (200) J	ND (200)	55 J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Carbazole	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Chrysene	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Dibenz(a,h)anthracene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Dibenzofuran	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Diethylphthalate	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Dimethylphthalate	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Di-n-butyl phthalate	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Di-n-octyl phthalate	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Fluoranthene	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Fluorene	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Hexachlorobenzene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Hexachlorobutadiene	µg/kg	ND (200)	ND (200)	ND (210) J	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Hexachlorocyclopentadiene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Hexachloroethane	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Indeno(1,2,3-c,d)pyrene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Isophorone	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Naphthalene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Nitrobenzene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
N-Nitrosodi-n-propylamine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
N-Nitrosodiphenylamine	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Pentachlorophenol	µg/kg	ND (390)	ND (390)	ND (420) J	ND (390) J	ND (460)	ND (370)	ND (400)	ND (400)	ND (360)	ND (390)	ND (380)	ND (390)	ND (380)	ND (380)	ND (400)	ND (380)	ND (400)
Phenanthrene	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Phenol	µg/kg	ND (200)	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	310	850	690	860	1,300	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Pyrene	µg/kg	ND (200) J	ND (200)	ND (210)	ND (200)	ND (240)	ND (190)	ND (210)	ND (200)	ND (180)	ND (200)	ND (190)	ND (200)	ND (200)	ND (190)	ND (200)	ND (200)	ND (210)
Total Petroleum Hydrocarbons																		
Diesel c10-c24	mg/kg	ND (0.19) J	ND (0.34) J	0.36 J	ND (1.2) J	0.53 J	0.63 J	0.63 J	0.66 J	ND (0.32)	0.31 J	0.53 J	0.96 J	0.49 J	ND (0.3)	ND (0.33)	ND (0.31)	ND (0.32)
Gasoline c6-c10	mg/kg	ND (0.011)	ND (0.019) J	ND (0.013) J	ND (0.015) J	ND (0.019) J	ND (0.015) J	ND (0.015) J	ND (0.015) J	ND (0.016) J	ND (0.014) J	ND (0.013) J	ND (0.015) J	ND (0.016) J	ND (0.011) J	ND (0.015) J	ND (0.017) J	ND (0.011) J
Organochlorine Pesticides/PCBs																		
4,4'-DDD	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,4'-DDE	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,4'-DDT	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aldrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
alpha-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
alpha-Chlordane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1016	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1221	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1232	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1242	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1248	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1254	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1262	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
beta-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
delta-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dieldrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endosulfan I	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endosulfan II	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endosulfan sulfate	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-15-35	RMW-15-35	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-15-60	RMW-16-35	RMW-16-35	RMW-16-35	RMW-16-35
		35 ft bgs	35 ft bgs (FD)	22 ft bgs	22 ft bgs (FD)	26 ft bgs	30 ft bgs	35 ft bgs	35 ft bgs (FD)	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	61 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs
Sample Date		11/2/2009	11/2/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/22/2009	10/22/2009	10/22/2009	10/22/2009
Analyte	**Units**	**Analytical Results**																
Organochlorine Pesticides/PCBs																		
Endrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endrin aldehyde	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endrin ketone	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
gamma-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
gamma-Chlordane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlor	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlor epoxide	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methoxychlor	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toxaphene	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

	Sample Location	RMW-16-35	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-17-35	RMW-17-35	RMW-17-35	RMW-17-70	RMW-17-70	RMW-17-70
		35 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs	35 ft bgs	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	60 ft bgs	21 ft bgs	31 ft bgs	36 ft bgs	21 ft bgs	21 ft bgs (FD)	31 ft bgs
	Sample Date	10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/26/2009	10/26/2009	10/26/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
1,1,1-Trichloroethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,1,2,2-Tetrachloroethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,1,2-Trichloroethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,1-Dichloroethane	µg/kg	1.6 J	ND (5.3)	2.4 J	ND (4.9)	---	4.8 J	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,1-Dichloroethene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	0.87 J	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	0.74 J	ND (5.7)	0.81 J	ND (5)	ND (5)	ND (5.1)
1,2,3-Trichlorobenzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,2,4-Trichlorobenzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,2,4-Trimethylbenzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,2-Dibromo-3-chloropropane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,2-Dibromoethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,2-Dichlorobenzene	µg/kg	1.1 J	7.2	12	6.9	---	3.4 J	3 J	1.2 J	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,2-Dichloroethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,2-Dichloropropane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,3,5-Trimethylbenzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,3-Dichlorobenzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,4-Dichlorobenzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
1,4-Dioxane (p-dioxane)	µg/kg	ND (100) J	ND (110) R	ND (110) R	ND (98) R	---	ND (100) R	ND (100) R	ND (100) R	ND (110) R	ND (100) R	ND (130) R	ND (98) R	ND (110) R	ND (110) R	ND (100) R	ND (99) R	ND (100) R
2-Hexanone	µg/kg	ND (10)	ND (11)	ND (11)	ND (9.8)	---	ND (10)	ND (10)	ND (10)	ND (11)	ND (10)	ND (13)	ND (9.8)	ND (11)	ND (11)	ND (10)	ND (9.9)	ND (10)
Acetone	µg/kg	ND (10)	ND (11)	ND (11)	ND (9.8)	---	ND (10)	ND (10)	23	ND (11)	ND (10)	ND (13)	ND (9.8)	ND (11)	ND (11)	ND (10)	ND (9.9)	ND (10)
Benzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Bromochloromethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Bromodichloromethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Bromoform	µg/kg	ND (5.2)	ND (5.3)	ND (5.6) J	ND (4.9)	---	ND (5) J	ND (5.1) J	ND (5) J	ND (5.4) J	ND (5.1) J	ND (6.4) J	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Bromomethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Carbon disulfide	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Carbon tetrachloride	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Chlorobenzene	µg/kg	0.73 J	ND (5.3)	ND (5.6)	ND (4.9)	---	4.8 J	3.8 J	1.6 J	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Chloroethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Chloroform	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4) J	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Chloromethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
cis-1,2-Dichloroethene	µg/kg	2 J	1.7 J	2.3 J	1.8 J	---	3.2 J	1.2 J	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
cis-1,3-Dichloropropene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Cyclohexane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Dibromochloromethane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Ethyl tert-butyl ether	µg/kg	ND (10)	ND (11)	ND (11)	ND (9.8)	---	ND (10)	ND (10)	ND (10)	ND (11)	ND (10)	ND (13)	ND (9.8)	ND (11)	ND (11)	ND (10)	ND (9.9)	ND (10)
Ethylbenzene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Freon 11	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Freon 12	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Freon 113	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Isopropylbenzene (cumene)	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Methyl acetate	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Methyl ethyl ketone	µg/kg	ND (10)	ND (11)	ND (11)	ND (9.8)	---	ND (10)	ND (10)	ND (10)	ND (11)	ND (10)	ND (13)	ND (9.8)	ND (11)	ND (11)	ND (10)	ND (9.9)	ND (10)
Methyl isobutyl ketone	µg/kg	ND (10)	ND (11)	ND (11)	ND (9.8)	---	ND (10)	ND (10)	ND (10)	ND (11)	ND (10)	ND (13)	ND (9.8)	ND (11)	ND (11)	ND (10)	ND (9.9)	ND (10)
Methyl tert-butyl ether	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Methylcyclohexane	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Methylene chloride	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Styrene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
tert-Amyl methyl ether	µg/kg	ND (10)	ND (11)	ND (11)	ND (9.8)	---	ND (10)	ND (10)	ND (10)	ND (11)	ND (10)	ND (13)	ND (9.8)	ND (11)	ND (11)	ND (10)	ND (9.9)	ND (10)
tert-Butyl alcohol	µg/kg	ND (52)	ND (53)	ND (56)	ND (49)	---	ND (50)	ND (51)	ND (50)	ND (54)	ND (51)	ND (64)	ND (49)	ND (57)	ND (53)	ND (50)	ND (50)	ND (51)
Tetrachloroethene	µg/kg	0.69 J	ND (5.3)	ND (5.6)	ND (4.9)	---	0.61 J	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-16-35	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-17-35	RMW-17-35	RMW-17-35	RMW-17-70	RMW-17-70	RMW-17-70
		35 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs	35 ft bgs	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	60 ft bgs	21 ft bgs	31 ft bgs	36 ft bgs	21 ft bgs	21 ft bgs (FD)	31 ft bgs
Sample Date		10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/26/2009	10/26/2009	10/26/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	**Units**	**Analytical Results**																
Volatile Organic Compounds																		
Toluene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4) J	ND (5.1)	ND (6.4)	ND (4.6)	ND (5.7)	ND (5.3)	ND (5) J	ND (5)	6.7
trans-1,2-Dichloroethene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
trans-1,3-Dichloropropene	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Trichloroethene	µg/kg	0.6 J	ND (5.3)	ND (5.6)	ND (4.9)	---	0.6 J	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Vinyl chloride	µg/kg	0.84 J	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Xylenes, m & p	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Xylenes, o	µg/kg	ND (5.2)	ND (5.3)	ND (5.6)	ND (4.9)	---	ND (5)	ND (5.1)	ND (5)	ND (5.4)	ND (5.1)	ND (6.4)	ND (4.9)	ND (5.7)	ND (5.3)	ND (5)	ND (5)	ND (5.1)
Semivolatile Organic Compounds																		
1,1'-Biphenyl	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
1,2,4,5-Tetrachlorobenzene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,2'-Oxybis(1-Chloropropane)	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,3,4,6-Tetrachlorophenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,4,5-Trichlorophenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,4,6-Trichlorophenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,4-Dichlorophenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,4-Dimethylphenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,4-Dinitrophenol	µg/kg	ND (390)	ND (350)	ND (390)	ND (380)	ND (390)	ND (360)	ND (360)	ND (340)	ND (330)	ND (370)	ND (390)	ND (390)	ND (420)	ND (400)	ND (400)	ND (390)	ND (410)
2,4-Dinitrotoluene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2,6-Dinitrotoluene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2-Chloronaphthalene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2-Chlorophenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2-Methylnaphthalene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2-Methylphenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
2-Nitroaniline	µg/kg	ND (390)	ND (350)	ND (390)	ND (380)	ND (390)	ND (360)	ND (360)	ND (340)	ND (330)	ND (370)	ND (390)	ND (390)	ND (420)	ND (400)	ND (400)	ND (390)	ND (410)
2-Nitrophenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
3,3'-Dichlorobenzidine	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
3-Nitroaniline	µg/kg	ND (390)	ND (350)	ND (390)	ND (380)	ND (390)	ND (360)	ND (360)	ND (340)	ND (330)	ND (370)	ND (390)	ND (390)	ND (420)	ND (400)	ND (400)	ND (390)	ND (410)
4,6-Dinitro-2-methylphenol	µg/kg	ND (390)	ND (350)	ND (390)	ND (380)	ND (390)	ND (360)	ND (360)	ND (340)	ND (330)	ND (370)	ND (390)	ND (390)	ND (420)	ND (400)	ND (400)	ND (390)	ND (410)
4-Bromophenylphenyl ether	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
4-Chloro-3-methylphenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
4-Chloroaniline	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
4-Chlorophenylphenyl ether	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
4-Methylphenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
4-Nitroaniline	µg/kg	ND (390)	ND (350)	ND (390)	ND (380)	ND (390)	ND (360)	ND (360)	ND (340)	ND (330)	ND (370)	ND (390)	ND (390)	ND (420)	ND (400)	ND (400)	ND (390)	ND (410)
4-Nitrophenol	µg/kg	ND (390)	ND (350)	ND (390)	ND (380)	ND (390)	ND (360)	ND (360)	ND (340)	ND (330)	ND (370)	ND (390)	ND (390)	ND (420)	ND (400)	ND (400)	ND (390)	ND (410)
Acenaphthene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Acenaphthylene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Acetophenone	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Anthracene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Atrazine	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Benzaldehyde	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Benzo(a)anthracene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Benzo(a)pyrene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Benzo(b)fluoranthene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Benzo(g,h,i)perylene	µg/kg	ND (200)	ND (180) J	ND (200)	ND (200) J	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Benzo(k)fluoranthene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Benzyl butyl phthalate	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
bis(2-Chloroethoxy)methane	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
bis(2-Chloroethyl)ether	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
bis(2-Ethylhexyl)phthalate	µg/kg	29 J	ND (180)	ND (200)	27 J	22 J	25 J	30 J	93 J	37 J	30 J	61 J	ND (200)	ND (210)	ND (210)	53 J	ND (200)	47 J

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-16-35	RMW-16-6	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-17-35	RMW-17-35	RMW-17-35	RMW-17-70	RMW-17-70	RMW-17-70
		35 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs	35 ft bgs	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	60 ft bgs	21 ft bgs	31 ft bgs	36 ft bgs	21 ft bgs	21 ft bgs (FD)	31 ft bgs
Sample Date		10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/26/2009	10/26/2009	10/26/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	**Units**	**Analytical Results**																
Semivolatile Organic Compounds																		
Caprolactam	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	62 J	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Carbazole	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Chrysene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Dibenz(a,h)anthracene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Dibenzofuran	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Diethylphthalate	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Dimethylphthalate	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Di-n-butyl phthalate	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	19 J	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Di-n-octyl phthalate	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Fluoranthene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Fluorene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Hexachlorobenzene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Hexachlorobutadiene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Hexachlorocyclopentadiene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Hexachloroethane	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Indeno(1,2,3-c,d)pyrene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Isophorone	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Naphthalene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Nitrobenzene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
N-Nitrosodi-n-propylamine	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
N-Nitrosodiphenylamine	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Pentachlorophenol	µg/kg	ND (390)	ND (350) J	ND (390)	ND (380) J	ND (390)	ND (360)	ND (360)	ND (340)	ND (330)	ND (370)	ND (390)	ND (390)	ND (420)	ND (400)	ND (400)	ND (390)	ND (410) J
Phenanthrene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Phenol	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Pyrene	µg/kg	ND (200)	ND (180)	ND (200)	ND (200)	ND (200)	ND (180)	ND (190)	ND (180)	ND (170)	ND (190)	ND (200)	ND (200)	ND (210)	ND (210)	ND (200)	ND (200)	ND (210)
Total Petroleum Hydrocarbons																		
Diesel c10-c24	mg/kg	ND (0.32)	ND (0.43) J	ND (0.31) J	ND (0.42) J	ND (0.43) J	ND (0.45) J	ND (0.28) J	ND (0.5) J	ND (0.47) J	ND (0.48) J	ND (0.43) J	ND (0.25)	4.9 J	ND (1.6) J	0.24 J	ND (0.23)	7.2 J
Gasoline c6-c10	mg/kg	ND (0.015) J	ND (0.015) J	ND (0.016) J	ND (0.017) J	ND (0.022) J	ND (0.021) J	ND (0.028) J	ND (0.02) J	ND (0.018) J	ND (0.013) J	ND (0.019) J	ND (0.011) J	ND (0.014) J	ND (0.014) J	ND (0.017) J	ND (0.017) J	ND (0.015) J
Organochlorine Pesticides/PCBs																		
4,4'-DDD	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,4'-DDE	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,4'-DDT	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aldrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
alpha-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
alpha-Chlordane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1016	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1221	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1232	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1242	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1248	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1254	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1260	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1262	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aroclor-1268	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
beta-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
delta-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dieldrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endosulfan I	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endosulfan II	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

	Sample Location	RMW-16-35	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-16-61	RMW-17-35	RMW-17-35	RMW-17-35	RMW-17-70	RMW-17-70	RMW-17-70
		35 ft bgs	20 ft bgs	20 ft bgs (FD)	25 ft bgs	30 ft bgs	35 ft bgs	40 ft bgs	45 ft bgs	50 ft bgs	55 ft bgs	60 ft bgs	21 ft bgs	31 ft bgs	36 ft bgs	21 ft bgs	21 ft bgs (FD)	31 ft bgs
	Sample Date	10/22/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/21/2009	10/26/2009	10/26/2009	10/26/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	**Units**	**Analytical Results**																
Organochlorine Pesticides/PCBs																		
Endosulfan sulfate	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endrin	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endrin aldehyde	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Endrin ketone	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
gamma-BHC	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
gamma-Chlordane	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlor	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Heptachlor epoxide	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Methoxychlor	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Toxaphene	µg/kg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70
		41 ft bgs	51 ft bgs	61 ft bgs	71 ft bgs	81 ft bgs
Sample Date		10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	Units	Analytical Results				
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,1,2,2-Tetrachloroethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,1,2-Trichloroethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,1-Dichloroethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,1-Dichloroethene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2,3-Trichlorobenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2,4-Trichlorobenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2,4-Trimethylbenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2-Dibromo-3-chloropropane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2-Dibromoethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2-Dichlorobenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2-Dichloroethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,2-Dichloropropane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,3,5-Trimethylbenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,3-Dichlorobenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,4-Dichlorobenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
1,4-Dioxane (p-dioxane)	µg/kg	ND (110) R	ND (90) R	ND (100) R	ND (100) R	ND (92) R
2-Hexanone	µg/kg	ND (11)	ND (9)	ND (10)	ND (10)	ND (9.2)
Acetone	µg/kg	ND (11)	ND (9)	ND (10)	ND (10)	ND (9.2)
Benzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Bromochloromethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Bromodichloromethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Bromoform	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Bromomethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Carbon disulfide	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Carbon tetrachloride	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Chlorobenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Chloroethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Chloroform	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Chloromethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
cis-1,2-Dichloroethene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	0.53 J	ND (4.6)
cis-1,3-Dichloropropene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Cyclohexane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Dibromochloromethane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Ethyl tert-butyl ether	µg/kg	ND (11)	ND (9)	ND (10)	ND (10)	ND (9.2)
Ethylbenzene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Freon 11	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Freon 12	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Freon 113	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Isopropylbenzene (cumene)	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Methyl acetate	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Methyl ethyl ketone	µg/kg	ND (11)	ND (9)	ND (10)	ND (10)	ND (9.2)
Methyl isobutyl ketone	µg/kg	ND (11)	ND (9)	ND (10)	ND (10)	ND (9.2)
Methyl tert-butyl ether	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Methylcyclohexane	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Methylene chloride	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Styrene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
tert-Amyl methyl ether	µg/kg	ND (11)	ND (9)	ND (10)	ND (10)	ND (9.2)
tert-Butyl alcohol	µg/kg	ND (53)	ND (45)	ND (52)	ND (51)	ND (46)
Tetrachloroethene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70
		41 ft bgs	51 ft bgs	61 ft bgs	71 ft bgs	81 ft bgs
Sample Date		10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	**Units**	**Analytical Results**				
Volatile Organic Compounds						
Toluene	µg/kg	5.9	ND (4.5)	5.9 J	ND (5.1)	4.9
trans-1,2-Dichloroethene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
trans-1,3-Dichloropropene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Trichloroethene	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Vinyl chloride	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Xylenes, m & p	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Xylenes, o	µg/kg	ND (5.3)	ND (4.5)	ND (5.2)	ND (5.1)	ND (4.6)
Semivolatile Organic Compounds						
1,1'-Biphenyl	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
1,2,4,5-Tetrachlorobenzene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,2'-Oxybis(1-Chloropropane)	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,3,4,6-Tetrachlorophenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,4,5-Trichlorophenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,4,6-Trichlorophenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,4-Dichlorophenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,4-Dimethylphenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,4-Dinitrophenol	µg/kg	ND (380)	ND (380)	ND (350)	ND (350)	---
2,4-Dinitrotoluene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2,6-Dinitrotoluene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2-Chloronaphthalene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2-Chlorophenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2-Methylnaphthalene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2-Methylphenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
2-Nitroaniline	µg/kg	ND (380)	ND (380)	ND (350)	ND (350)	---
2-Nitrophenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
3,3'-Dichlorobenzidine	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
3-Nitroaniline	µg/kg	ND (380)	ND (380)	ND (350)	ND (350)	---
4,6-Dinitro-2-methylphenol	µg/kg	ND (380)	ND (380)	ND (350)	ND (350)	---
4-Bromophenylphenyl ether	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
4-Chloro-3-methylphenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
4-Chloroaniline	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
4-Chlorophenylphenyl ether	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
4-Methylphenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
4-Nitroaniline	µg/kg	ND (380)	ND (380)	ND (350)	ND (350)	---
4-Nitrophenol	µg/kg	ND (380)	ND (380)	ND (350)	ND (350)	---
Acenaphthene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Acenaphthylene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Acetophenone	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Anthracene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Atrazine	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Benzaldehyde	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Benzo(a)anthracene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Benzo(a)pyrene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Benzo(b)fluoranthene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Benzo(g,h,i)perylene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Benzo(k)fluoranthene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Benzyl butyl phthalate	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
bis(2-Chloroethoxy)methane	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
bis(2-Chloroethyl)ether	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
bis(2-Ethylhexyl)phthalate	µg/kg	36 J	55 J	58 J	26 J	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

Sample Location		RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70
		41 ft bgs	51 ft bgs	61 ft bgs	71 ft bgs	81 ft bgs
Sample Date		10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	Units	Analytical Results				
Semivolatile Organic Compounds						
Caprolactam	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Carbazole	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Chrysene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Dibenz(a,h)anthracene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Dibenzofuran	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Diethylphthalate	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Dimethylphthalate	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Di-n-butyl phthalate	µg/kg	ND (200)	41 J	ND (180)	34 J	---
Di-n-octyl phthalate	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Fluoranthene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Fluorene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Hexachlorobenzene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Hexachlorobutadiene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Hexachlorocyclopentadiene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Hexachloroethane	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Indeno(1,2,3-c,d)pyrene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Isophorone	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Naphthalene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Nitrobenzene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
N-Nitrosodi-n-propylamine	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
N-Nitrosodiphenylamine	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Pentachlorophenol	µg/kg	ND (380) J	ND (380) J	ND (350) J	ND (350) J	---
Phenanthrene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Phenol	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Pyrene	µg/kg	ND (200)	ND (190)	ND (180)	ND (180)	---
Total Petroleum Hydrocarbons						
Diesel c10-c24	mg/kg	1.2 J	0.46 J	0.35 J	0.39 J	0.28 J
Gasoline c6-c10	mg/kg	ND (0.018) J	ND (0.017) J	ND (0.019) J	ND (0.022) J	ND (0.023) J
Organochlorine Pesticides/PCBs						
4,4'-DDD	µg/kg	---	---	---	---	---
4,4'-DDE	µg/kg	---	---	---	---	---
4,4'-DDT	µg/kg	---	---	---	---	---
Aldrin	µg/kg	---	---	---	---	---
alpha-BHC	µg/kg	---	---	---	---	---
alpha-Chlordane	µg/kg	---	---	---	---	---
Aroclor-1016	µg/kg	---	---	---	---	---
Aroclor-1221	µg/kg	---	---	---	---	---
Aroclor-1232	µg/kg	---	---	---	---	---
Aroclor-1242	µg/kg	---	---	---	---	---
Aroclor-1248	µg/kg	---	---	---	---	---
Aroclor-1254	µg/kg	---	---	---	---	---
Aroclor-1260	µg/kg	---	---	---	---	---
Aroclor-1262	µg/kg	---	---	---	---	---
Aroclor-1268	µg/kg	---	---	---	---	---
beta-BHC	µg/kg	---	---	---	---	---
delta-BHC	µg/kg	---	---	---	---	---
Dieldrin	µg/kg	---	---	---	---	---
Endosulfan I	µg/kg	---	---	---	---	---
Endosulfan II	µg/kg	---	---	---	---	---

TABLE 4b
Well Installation Soil Analytical Results (September - October 2009) - Organics Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

	Sample Location	RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70	RMW-17-70
		41 ft bgs	51 ft bgs	61 ft bgs	71 ft bgs	81 ft bgs
	Sample Date	10/27/2009	10/27/2009	10/27/2009	10/27/2009	10/27/2009
Analyte	Units	Analytical Results				
Organochlorine Pesticides/PCBs						
Endosulfan sulfate	µg/kg	---	---	---	---	---
Endrin	µg/kg	---	---	---	---	---
Endrin aldehyde	µg/kg	---	---	---	---	---
Endrin ketone	µg/kg	---	---	---	---	---
gamma-BHC	µg/kg	---	---	---	---	---
gamma-Chlordane	µg/kg	---	---	---	---	---
Heptachlor	µg/kg	---	---	---	---	---
Heptachlor epoxide	µg/kg	---	---	---	---	---
Methoxychlor	µg/kg	---	---	---	---	---
Toxaphene	µg/kg	---	---	---	---	---

Notes:
Detected Results are bolded.
Units are presented as reported by the laboratory.

ft bgs	feet below ground surface
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
--	not analyzed
ND	not detected above the laboratory's reporting limit shown in parentheses
J	estimated value
R	rejected for failure to meet quality control requirements

TABLE 4c
Well Installation Soil Analytical Results (September - October 2009) - Total Petroleum Hydrocarbons Only
Remedial Investigation and Well Construction Activities
AMCO Chemical Superfund Site, Oakland, California

	Sample Location	**RMW-06-35**	**RMW-06-35**	**RMW-06-35**	**RMW-06-35**	**RMW-06-35**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**	**RMW-06-61**
		16 ft bgs	**21 ft bgs**	**26 ft bgs**	**31 ft bgs**	**36 ft bgs**	**16 ft bgs**	**21 ft bgs**	**26 ft bgs**	**31 ft bgs**	**36 ft bgs**	**41 ft bgs**	**46 ft bgs**	**51 ft bgs**	**56 ft bgs**	**61 ft bgs**
	Sample Date	**10/15/2009**	**10/15/2009**	**10/15/2009**	**10/15/2009**	**10/15/2009**	**10/16/2009**	**10/16/2009**	**10/16/2009**	**10/16/2009**	**10/16/2009**	**10/16/2009**	**10/16/2009**	**10/16/2009**	**10/16/2009**	**10/19/2009**
Analyte	**Units**	**Analytical Results**														
Total Petroleum Hydrocarbons																
Diesel c10-c24	mg/kg	2.5 J	0.36 J	ND (0.31)	ND (0.33)	0.62 J	ND (0.25)	ND (0.25)	ND (0.28)	ND (0.26)	0.28 J	0.27 J	0.29 J	ND (0.26)	0.5 J	0.5 J
Gasoline c6-c10	mg/kg	ND (0.013) J	ND (0.011) J	ND (0.014) J	ND (0.013) J	ND (0.015) J	ND (0.013) J	ND (0.011) J	ND (0.012) J	ND (0.017) J	ND (0.016) J	ND (0.013) J	ND (0.032) J	ND (0.013) J	ND (0.016) J	0.016 J

Notes:
Detected Results are bolded.
Units are presented as reported by the laboratory.
ft bgs feet below ground surface
mg/kg milligrams per kilogram
ND not detected above the laboratory's reporting limit shown in parentheses
J estimated value

TABLE 5
Field Duplicate Relative Percent Differences
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

FD Sample ID	Sample Date	Analyte Name	Result	Final Qualifier Code	Parent Sample ID	Sample Date	Analyte Name	Result	Final Qualifier Code	RPD	FD Flag
RMW-15D-65-1009	21-Oct-09	Phenol	850		RMW-15D-35-1009	21-Oct-09	Phenol	310		93.10	J
RMW-16D-85-1009	21-Oct-09	Aluminum	6830		RMW-16D-15-1009	21-Oct-09	Aluminum	10700		-44.15	J
RMW-16D-85-1009	21-Oct-09	Arsenic	2.2		RMW-16D-15-1009	21-Oct-09	Arsenic	3.9		-55.74	J
RMW-16D-85-1009	21-Oct-09	Potassium	444	J+	RMW-16D-15-1009	21-Oct-09	Potassium	819	J+	-59.38	J
RMW-16D-85-1009	21-Oct-09	Manganese	144		RMW-16D-15-1009	21-Oct-09	Manganese	247		-52.69	J
RMW-16D-85-1009	21-Oct-09	Sodium	618		RMW-16D-15-1009	21-Oct-09	Sodium	163	UJ	116.52	J
RMW-16D-85-1009	21-Oct-09	Lead	2.4	J	RMW-16D-15-1009	21-Oct-09	Lead	4.1	J	-52.31	J
RMW-16D-85-1009	21-Oct-09	4,4'-DDT	0.33	J	RMW-16D-15-1009	21-Oct-09	4,4'-DDT	8.4		-184.88	J
RMW-16D-90-1009	21-Oct-09	Diesel c10-c24	0.31	UJ	RMW-16D-10-1009	21-Oct-09	Diesel c10-c24	1.8	J	-141.23	J
RMW-16D-90-1009	21-Oct-09	Potassium	532	J+	RMW-16D-10-1009	21-Oct-09	Potassium	902	J+	-51.60	J
RMW-16D-90-1009	21-Oct-09	Lead	2.8	J	RMW-16D-10-1009	21-Oct-09	Lead	12.6	J	-127.27	J
RMW-85M-35-1009	02-Nov-09	Methyl tert-butyl ether	5.8	U	RMW-15M-35-1009	02-Nov-09	Methyl tert-butyl ether	12		-69.66	UJ/J
RMW-91D-20-1009	03-Nov-09	Diesel c10-c24	0.4	UJ	RMW-09D-15-1009	03-Nov-09	Diesel c10-c24	2.3		-140.74	J
RMW-91D-20-1009	03-Nov-09	Acetone	9.7	U	RMW-09D-15-1009	03-Nov-09	Acetone	35		-113.20	UJ/J

RPD: relative percent difference.
FD: field duplicate.
J: The reported result should be considered an estimated value.
J+: The reported result should be considered an estimated value with a high bias.
U: not detected.

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 6
Field Blank Affects on Soil Sample Detected Results
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Sample ID	Sample Date	Analyte Name	Result	Units Code	Lab Qualifier	Final Qualifier Code	FB affect - U flag
RMW-15M-10-1009	02-Nov-09	Acetone	26	µg/kg	B		tb
RMW-15S-06-1009	20-Oct-09	Acetone	2	µg/kg	J	J	tb ab
RMW-15S-11-1009	20-Oct-09	Acetone	2.9	µg/kg	J	J	tb ab
RMW-15S-16-1009	20-Oct-09	Acetone	2.8	µg/kg	J	J	tb ab
RMW-16ES-0-1009	20-Oct-09	Acetone	19	µg/kg			tb ab
RMW-16M-0-1009	20-Oct-09	Acetone	21	µg/kg			tb ab
RMW-16WS-0-1009	20-Oct-09	Acetone	5	µg/kg	J	J	tb ab
RMW-16WS-0-1009	20-Oct-09	Acetone	12	µg/kg			tb ab
RMW-17D-06-1009	27-Oct-09	Acetone	13	µg/kg			tb eb
RMW-17D-06-1009	27-Oct-09	Acetone	21	µg/kg			tb eb
RMW-17M-06-1009	26-Oct-09	Acetone	10	µg/kg	J	J	tb eb
RMW-17M-06-1009	26-Oct-09	Acetone	23	µg/kg			tb eb
RMW-91D-20-1009	03-Nov-09	Acetone	9.7	µg/kg		U	tb
RMW-17M-06-1009	26-Oct-09	Benzene	0.73	µg/kg	J	J	eb
RMW-16M-0-1009	20-Oct-09	Ethylbenzene	0.73	µg/kg	J	J	eb
RMW-09D-00-1009	02-Nov-09	Toluene	5.2	µg/kg	J	UJ	tb eb
RMW-09D-00-1009	02-Nov-09	Toluene	5.3	µg/kg	J	U	tb eb
RMW-16ES-0-1009	20-Oct-09	Toluene	18	µg/kg		J	eb
RMW-16ES-0-1009	20-Oct-09	Toluene	18	µg/kg			eb
RMW-16M-0-1009	20-Oct-09	Toluene	18	µg/kg			eb
RMW-16WS-0-1009	20-Oct-09	Toluene	13	µg/kg			eb
RMW-17D-31-1009	27-Oct-09	Toluene	6.7	µg/kg			eb tb
RMW-17D-41-1009	27-Oct-09	Toluene	5.9	µg/kg			eb tb
RMW-17D-61-1009	27-Oct-09	Toluene	5.9	µg/kg		J	eb tb
RMW-17D-76-1009	27-Oct-09	Toluene	4.9	µg/kg			eb tb
RMW-16ES-0-1009	20-Oct-09	Xylenes, m & p	5.2	µg/kg	J	J	tb
RMW-16WS-05-1009	29-Oct-09	Bis (2-Ethylhexyl) phthalate	28	µg/kg	J	J	eb
RMW-15M-15-1009	02-Nov-09	delta-BHC	0.017	µg/kg	JP	J	eb

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 6
Field Blank Affects on Soil Sample Detected Results
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Sample ID	Sample Date	Analyte Name	Result	Units Code	Lab Qualifier	Final Qualifier Code	FB affect - U flag
RMW-16ES-11-1009	30-Oct-09	delta-BHC	0.013	µg/kg	JP	J	eb
RMW-16ES-16-1009	30-Oct-09	delta-BHC	0.017	µg/kg	JP	J	eb
RMW-16ES-06-1009	30-Oct-09	Diesel c10-c24	0.25	mg/kg	J	J	eb
RMW-16M-15-1009	22-Oct-09	Diesel c10-c24	0.42	mg/kg	J	J	eb
RMW-17M-36-1009	26-Oct-09	Diesel c10-c24	1.6	mg/kg	Y	UJ	eb
RMW-09D-05-1009	03-Nov-09	Gasoline c6-c10	0.021	mg/kg	J	J	tb eb
RMW-09D-10-1009	03-Nov-09	Gasoline c6-c10	0.022	mg/kg	J	J	tb eb
RMW-09D-15-1009	03-Nov-09	Gasoline c6-c10	0.039	mg/kg	J	J	tb eb
RMW-09D-20-1009	03-Nov-09	Gasoline c6-c10	0.01	mg/kg	J	J	tb eb
RMW-09D-30-1009	03-Nov-09	Gasoline c6-c10	0.013	mg/kg	J	J	tb eb
RMW-09D-40-1009	03-Nov-09	Gasoline c6-c10	0.009	mg/kg	J	J	tb eb
RMW-09D-50-1009	03-Nov-09	Gasoline c6-c10	0.017	mg/kg	J	J	tb eb
RMW-09D-60-1009	03-Nov-09	Gasoline c6-c10	0.008	mg/kg	J	J	tb eb
RMW-09D-70-1009	03-Nov-09	Gasoline c6-c10	0.009	mg/kg	J	J	tb eb
RMW-09D-77-1009	03-Nov-09	Gasoline c6-c10	0.011	mg/kg	J	J	tb eb
RMW-15D-06-1009	21-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-15D-11-1009	21-Oct-09	Gasoline c6-c10	0.022	mg/kg	J	UJ	tb eb
RMW-15D-16-1009	21-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-15D-22-1009	21-Oct-09	Gasoline c6-c10	0.013	mg/kg	J	UJ	tb eb
RMW-15D-26-1009	21-Oct-09	Gasoline c6-c10	0.019	mg/kg	J	UJ	tb eb
RMW-15D-30-1009	21-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-15D-35-1009	21-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-15D-40-1009	21-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-15D-45-1009	21-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-15D-50-1009	21-Oct-09	Gasoline c6-c10	0.013	mg/kg	J	UJ	tb eb
RMW-15D-55-1009	21-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-15D-61-1009	21-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-15D-65-1009	21-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-15D-78-1009	21-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 6
Field Blank Affects on Soil Sample Detected Results
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Sample ID	Sample Date	Analyte Name	Result	Units Code	Lab Qualifier	Final Qualifier Code	FB affect - U flag
RMW-15M-01-1009	12-Oct-09	Gasoline c6-c10	0.018	mg/kg	J	UJ	tb eb
RMW-15M-10-1009	02-Nov-09	Gasoline c6-c10	0.013	mg/kg	J	UJ	tb eb
RMW-15M-15-1009	02-Nov-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-15M-20-1009	02-Nov-09	Gasoline c6-c10	0.012	mg/kg	J	UJ	tb eb
RMW-15M-25-1009	02-Nov-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-15M-30-1009	02-Nov-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-15S-01-1009	12-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-15S-06-1009	20-Oct-09	Gasoline c6-c10	0.013	mg/kg	J	UJ	tb eb
RMW-15S-11-1009	20-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-15S-16-1009	20-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-16D-05-1009	21-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-16D-10-1009	21-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-16D-15-1009	21-Oct-09	Gasoline c6-c10	0.012	mg/kg	J	UJ	tb eb
RMW-16D-20-1009	21-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-16D-25-1009	21-Oct-09	Gasoline c6-c10	0.017	mg/kg	J	UJ	tb eb
RMW-16D-30-1009	21-Oct-09	Gasoline c6-c10	0.022	mg/kg	J	UJ	tb eb
RMW-16D-35-1009	21-Oct-09	Gasoline c6-c10	0.021	mg/kg	J	UJ	tb eb
RMW-16D-40-1009	21-Oct-09	Gasoline c6-c10	0.028	mg/kg	J	UJ	tb eb
RMW-16D-45-1009	21-Oct-09	Gasoline c6-c10	0.02	mg/kg	J	UJ	tb eb
RMW-16D-50-1009	21-Oct-09	Gasoline c6-c10	0.018	mg/kg	J	UJ	tb eb
RMW-16D-55-1009	21-Oct-09	Gasoline c6-c10	0.013	mg/kg	J	UJ	tb eb
RMW-16D-60-1009	21-Oct-09	Gasoline c6-c10	0.019	mg/kg	J	UJ	tb eb
RMW-16D-80-1009	21-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-16D-85-1009	21-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-16D-90-1009	21-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-16ES-0-1009	20-Oct-09	Gasoline c6-c10	0.039	mg/kg	J	UJ	tb eb
RMW-16ES-06-1009	30-Oct-09	Gasoline c6-c10	0.02	mg/kg	J	UJ	tb eb
RMW-16ES-11-1009	30-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-16ES-16-1009	30-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 6
Field Blank Affects on Soil Sample Detected Results
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Sample ID	Sample Date	Analyte Name	Result	Units Code	Lab Qualifier	Final Qualifier Code	FB affect - U flag
RMW-16M-0-1009	20-Oct-09	Gasoline c6-c10	0.019	mg/kg	J	UJ	tb eb
RMW-16M-05-1009	22-Oct-09	Gasoline c6-c10	0.013	mg/kg	J	UJ	tb eb
RMW-16M-10-1009	22-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-16M-15-1009	22-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-16M-20-1009	22-Oct-09	Gasoline c6-c10	0.011	mg/kg	J	UJ	tb eb
RMW-16M-25-1009	22-Oct-09	Gasoline c6-c10	0.017	mg/kg	J	UJ	tb eb
RMW-16M-30-1009	22-Oct-09	Gasoline c6-c10	0.011	mg/kg	J	UJ	tb eb
RMW-16M-35-1009	22-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-16M-80-1009	22-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-16WS-0-1009	20-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-16WS-05-1009	29-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-16WS-10-1009	29-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-16WS-15-1009	29-Oct-09	Gasoline c6-c10	0.016	mg/kg	J	UJ	tb eb
RMW-17D-06-1009	27-Oct-09	Gasoline c6-c10	0.012	mg/kg	J	UJ	tb eb
RMW-17D-11-1009	27-Oct-09	Gasoline c6-c10	0.012	mg/kg	J	UJ	tb eb
RMW-17D-21-1009	27-Oct-09	Gasoline c6-c10	0.017	mg/kg	J	UJ	tb eb
RMW-17D-31-1009	27-Oct-09	Gasoline c6-c10	0.015	mg/kg	J	UJ	tb eb
RMW-17D-41-1009	27-Oct-09	Gasoline c6-c10	0.018	mg/kg	J	UJ	tb eb
RMW-17D-51-1009	27-Oct-09	Gasoline c6-c10	0.017	mg/kg	J	UJ	tb eb
RMW-17D-61-1009	27-Oct-09	Gasoline c6-c10	0.019	mg/kg	J	UJ	tb eb
RMW-17D-71-1009	27-Oct-09	Gasoline c6-c10	0.022	mg/kg	J	UJ	tb eb
RMW-17D-76-1009	27-Oct-09	Gasoline c6-c10	0.023	mg/kg	J	UJ	tb eb
RMW-17M-06-1009	26-Oct-09	Gasoline c6-c10	0.011	mg/kg	J	UJ	tb eb
RMW-17M-11-1009	26-Oct-09	Gasoline c6-c10	0.013	mg/kg	J	UJ	tb eb
RMW-17M-21-1009	26-Oct-09	Gasoline c6-c10	0.011	mg/kg	J	UJ	tb eb
RMW-17M-31-1009	26-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-17M-36-1009	26-Oct-09	Gasoline c6-c10	0.014	mg/kg	J	UJ	tb eb
RMW-85M-35-1009	02-Nov-09	Gasoline c6-c10	0.019	mg/kg	J	UJ	tb eb
RMW-91D-20-1009	03-Nov-09	Gasoline c6-c10	0.012	mg/kg	J	J	tb eb

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 6
Field Blank Affects on Soil Sample Detected Results
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Sample ID	Sample Date	Analyte Name	Result	Units Code	Lab Qualifier	Final Qualifier Code	FB affect - U flag
RMW-93D-21-1009	27-Oct-09	Gasoline c6-c10	0.017	mg/kg	J	UJ	tb eb
RMW-16M-05-1009	22-Oct-09	Sodium	149	mg/kg	J	J	eb
RMW-16M-10-1009	22-Oct-09	Sodium	127	mg/kg	J	J	eb

ab: ambient blank.

eb: equipment blank.

tb: trip blank.

µg/kg: micrograms per kilogram.

mg/kg: milligrams per kilogram.

B: Analyte found in the associated blank sample.

J: The reported result should be considered an estimated value.

U: not detected.

Y: Sample exhibits chromatographic pattern that does not resemble standard.

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 7
Matrix Spike Recoveries Outside Acceptance Limits
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Field ID	Native ID	QA/QC Type	Analyte	Result	Expected Value	Units	Recovery	Lower Control Limit	Upper Control Limit	MS/MSD Flag
RMW-16D-10-1009MS	RMW-16D-10-1009	MS	Diesel C10-C24	43.78	62.27	mg/kg	69	70	130	J
RMW-09D-00-1009MS	RMW-09D-00-1009	MS	Gasoline C6-C10	1.131	1.720	mg/kg	65	70	130	J
Y54Q0MS	RMW-06D-02-1009	MS	o-Xylene	15.4	22.6	µg/kg	68	70	130	UJ
Y54Q0MS	RMW-06D-02-1009	MS	Styrene	13.7	22.6	µg/kg	61	70	130	UJ
Y54Q0MS	RMW-06D-02-1009	MS	trans-1,3-Dichloropropene	13.8	22.6	µg/kg	61	70	130	UJ
Y54Q0MS	RMW-06D-02-1009	MS	1,1,2,2-Tetrachloroethane	15.3	22.6	µg/kg	68	70	130	UJ
Y54Q0MS	RMW-06D-02-1009	MS	1,2-Dibromo-3-chloropropane	57.8	90.4	µg/kg	64	70	130	UJ
Y54Q0MS	RMW-06D-02-1009	MS	1,2-Dichlorobenzene	10.8	22.6	µg/kg	48	70	130	UJ
Y54Q0MS	RMW-06D-02-1009	MS	1,3-Dichlorobenzene	11.5	22.6	µg/kg	51	70	130	UJ
Y54Q0MS	RMW-06D-02-1009	MS	1,4-Dichlorobenzene	11	22.6	µg/kg	49	70	130	UJ
Y54Q0SD	RMW-06D-02-1009	SD	Chloromethane	14.3	21.7	µg/kg	66	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Carbon tetrachloride	13.9	20.1	µg/kg	69	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Chlorobenzene	12.1	20.1	µg/kg	60	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Chloromethane	12.2	20.1	µg/kg	61	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	cis-1,3-Dichloropropene	12.6	20.1	µg/kg	63	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Dichlorodifluoromethane	10.3	20.1	µg/kg	51	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Ethylbenzene	10.8	20.1	µg/kg	54	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Styrene	11.3	20.1	µg/kg	56	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Tetrachloroethene	10.1	20.1	µg/kg	50	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Toluene	11.7	20.1	µg/kg	58	70	130	UJ

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 7
Matrix Spike Recoveries Outside Acceptance Limits
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Field ID	Native ID	QA/QC Type	Analyte	Result	Expected Value	Units	Recovery	Lower Control Limit	Upper Control Limit	MS/MSD Flag
Y54Q2MS	RMW-15S-01-1009	MS	trans-1,3-Dichloropropene	12.8	20.1	µg/kg	63	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Trichloroethene	13	20.1	µg/kg	65	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,1,1-Trichloroethane	13.8	20.1	µg/kg	68	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,2-Dibromo-3-chloropropane	54.9	80.5	µg/kg	68	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,1,2,2-Tetrachloroethane	12.8	20.1	µg/kg	64	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	m&p-Xylene	22.1	40.2	µg/kg	55	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,1,2-Trichloroethane	13.7	20.1	µg/kg	68	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,1,2-Trichloro-1,2,2-trifluoroethane	10.1	20.1	µg/kg	50	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,2-Dichlorobenzene	10.2	20.1	µg/kg	51	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	4-Methyl-2-pentanone (MIBK)	105	161	µg/kg	65	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	Benzene	13.5	20.1	µg/kg	67	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,1-Dichloropropene	11.7	20.1	µg/kg	58	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	2-Hexanone	106	161	µg/kg	66	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,4-Dichlorobenzene	10.3	20.1	µg/kg	51	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,3-Dichloropropane	13.7	20.1	µg/kg	68	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,3-Dichlorobenzene	9.93	20.1	µg/kg	49	70	130	UJ
Y54Q2MS	RMW-15S-01-1009	MS	1,2-Dichloropropane	13.6	20.1	µg/kg	67	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	Chlorobenzene	12.2	19.4	µg/kg	63	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	Dichlorodifluoromethane	9.64	19.4	µg/kg	50	70	130	UJ

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 7
Matrix Spike Recoveries Outside Acceptance Limits
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Field ID	Native ID	QA/QC Type	Analyte	Result	Expected Value	Units	Recovery	Lower Control Limit	Upper Control Limit	MS/MSD Flag
Y54Q2SD	RMW-15S-01-1009	MSD	Carbon tetrachloride	10.9	19.4	µg/kg	56	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	Ethylbenzene	8.62	19.4	µg/kg	44	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	m&p-Xylene	17.3	38.8	µg/kg	44	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	o-Xylene	8.81	19.4	µg/kg	45	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	Styrene	10.4	19.4	µg/kg	53	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	Tetrachloroethene	7.28	19.4	µg/kg	37	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	Toluene	12.3	19.4	µg/kg	64	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	Trichloroethene	12.8	19.4	µg/kg	66	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	1,1,1-Trichloroethane	13.3	19.4	µg/kg	69	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	1,1,2-Trichloro-1,2,2-trifluoroethane	12.3	19.4	µg/kg	63	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	1,1-Dichloropropene	11.3	19.4	µg/kg	58	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	1,3-Dichlorobenzene	6.75	19.4	µg/kg	35	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	1,4-Dichlorobenzene	7.47	19.4	µg/kg	38	70	130	UJ
Y54Q2SD	RMW-15S-01-1009	MSD	1,2-Dichlorobenzene	7.39	19.4	µg/kg	38	70	130	UJ

J: The reported result should be considered an estimated value.
J+: The reported result should be considered an estimated value with a high bias.
U: not detected.
QA/QC: quality assurance/quality control .
MS: matrix spike.
MSD: matrix spike duplicate.
µg/kg: micrograms per kilogram.

COPYRIGHT 2010 BY CH2M HILL, INC.

COPYRIGHT 2010 BY CH2M HILL, INC.

TABLE 8
Monitoring Well Survey Report
Remedial Investigation and Well Construction Activities, AMCO Chemical Superfund Site, Oakland, California

Location	Shot Location	Northing	Easting	Elevation feet msl
RMW-06-61	INK MARK	2119945.06	6042963.98	10.54
RMW-06-35	INK MARK	2119931.05	6042971.98	10.78
RMW-15-60	INK MARK	2119800.29	6043058.61	13.92
RMW-15-35	INK MARK	2119803.23	6043048.75	13.90
RMW15-15	INK MARK	2119806.05	6043039.59	13.98
RMW-16-35	INK MARK	2119673.09	6042986.20	8.87
RMW-17-70	INK MARK	2119655.10	6042725.31	9.52
RMW-17-35	INK MARK	2119652.58	6042735.95	9.38
RMW-09-70	INK MARK	2119598.78	6042959.31	12.64
RMW-16W-15	INK MARK	2119677.81	6042965.80	8.92
RMW-16E-15	INK MARK	2119661.01	6043014.67	9.26
RMW-15-60	SMALL HOLE HIGH SIDE	2119800.11	6043058.69	14.07
RMW-15-35	SMALL HOLE HIGH SIDE	2119803.02	6043048.85	14.01
RMW15-15	SMALL HOLE HIGH SIDE	2119805.82	6043039.52	14.12
RMW-16E-15	SMALL HOLE HIGH SIDE	2119660.84	6043014.70	9.44
RMW-16-61	SMALL HOLE HIGH SIDE	2119668.26	6042996.36	9.19
RMW-16-35	SMALL HOLE HIGH SIDE	2119672.87	6042986.15	9.16
RMW-16W-15	SMALL HOLE HIGH SIDE	2119677.64	6042965.75	9.14
RMW-17-70	SMALL HOLE HIGH SIDE	2119654.92	6042725.24	9.64
RMW-17-35	SMALL HOLE HIGH SIDE	2119652.38	6042735.87	9.50
RMW-09-70	SMALL HOLE HIGH SIDE	2119598.62	6042959.42	12.77
RMW-16-61	TOP CASE	2119668.47	6042996.28	9.04

msl: mean sea level.

Note: Northing and Easting in North American Datum 1983.

Vertical data in National American Geodetic Datum 1988.

COPYRIGHT 2010 BY CH2M HILL, INC.

Appendix A
Boring Logs

SHEET 1 of 1	PROJECT NUMBER: 385686.FI.01	BORING NUMBER: *RMW-06-35*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 36.5	**DRILLING CONTRACTOR:** WDC Exploration	
SURFACE ELEVATION: 10.8 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,931.05	**EASTING (CCS NAD 83 Z 3):** 6,042,971.98	**DATE STARTED:** 10/15/2009 09:55	**DATE COMPLETED:** 10/15/2009 14:20
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75		**WATER LEVEL:** ft bgs on
LOCATION: Large Vacant Lot, Oakland, CA		**LOGGED BY:** Enrique Benede	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp	

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							9" concrete	
						SP	Airknifed FILL- Gravelly sand with silt (SP), Dark gray (10YR 4/1), wet, medium dense with gravel, sand, silt, rock fragments, brick fragments, glass	
				3.0				
5		1.4	13,21,23					
				2.4		SM	SILTY SAND (SM), yellowish brown (10YR 5/4), wet, medium dense, 75% fine sand, 25% silt, fine oxidation, no odor	
10		0	13,23,35					Grout
		1.4	24,42,50R	1.6			Color changed to 10YR 5/6	
15		1.4	21,23,34				85% sand, 15% silt	
		0.2	29, 50-5	1.7			70% sand, 30% silt, dense to very dense	
		0.6	21,41,48					
20		1.4	15,20,38	2.5				
		1.4	10, 50-5					Seal
		1.4	43, 50-3					
25		1.4	40, 50-4	3.7		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/6), wet, 90% fine sand, 10% silt, medium dense to dense, rounded, no odor	
		1.4	40, 50-2					Pack
30		1.4	40, 50-2	3.9				
		1.4	10,35, 50-5					
35		1.2	31, 50R	3.7				
							Total Depth = 36.5 ft bgs	

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-06-61*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 61.2	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 10.5 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,945.06	**EASTING (CCS NAD 83 Z 3):** 6,042,963.98	**DATE STARTED:** 10/16/2009 12:20 / **DATE COMPLETED:** 10/19/2009 09:00
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: Large Vacant Lot, Oakland, CA		**LOGGED BY:** Enrique Benede	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							9" concrete	
5						SP	Airknifed FILL- Gravelly sand with silt (SP), Dark gray (10YR 4/1), wet, medium dense with gravel, sand, silt, rock fragments, brick fragments, glass	
		1.2	4,6,6	3.6		SM	SILTY SAND (SM), yellowish brown (10YR 5/4), wet, medium dense, 75% fine sand, 25% silt, fine oxidation, no odor	
10								
		1.4	5,11,19	2.4				
15								
		1.4	8,12,20	3.0			Color changed to 10YR 5/6, 85% sand, 15% silt	
20								
		1.4	5,11,13	2.6			70% sand, 30% silt	Grout
25								
		1.4	13,32,49	1.7		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/6), wet, 90% fine sand, 10% silt, medium dense to dense, rounded, no odor	
30								
		1.4	7,22,37	2.3				
35								
		1.2	34,50R	9.0				
40								

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-06-61*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 61.2	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 10.5 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,945.06	**EASTING (CCS NAD 83 Z 3):** 6,042,963.98	**DATE STARTED:** 10/16/2009 12:20 / **DATE COMPLETED:** 10/19/2009 09:00
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: Large Vacant Lot, Oakland, CA		**LOGGED BY:** Enrique Benede	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
		1.3	8,27,31	10.2		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/6), wet, 90% fine sand, 10% silt, medium dense to dense, rounded, no odor	Grout
45		1.1	21, 50-2	2.2				Seal
50		1.4	10,13,28	8.7				Pack
55		1.3	13,50	6.0				
		1.4	8,17,19					
60		1.4	31, 50-4	5.8		CH	FAT CLAY (CH), dark greenish gray (GLEY 1 4/1), Moist, Hard, Medium Plasticity, Massive, Few silt (20%) with fibrous Root Fragments, thin roots, no odor	

Total Depth = 61.2 ft bgs

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-09-70*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 77.0	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 12.6 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,598.78	**EASTING (CCS NAD 83 Z 3):** 6,042,959.31	**DATE STARTED:** 11/3/2009 07:30 / **DATE COMPLETED:** 11/4/2009 09:20
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: Prescott Park, Oakland, CA		**LOGGED BY:** Susannah Goldston	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE: INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
		1.0		0.0		ML	SANDY SILT (ML), dark grayish brown (10YR 4/2), moist, soft, 60% silt, 39% fine sand, 1%(trace) gravel, w/organic material such as grass, roots, worms. Loamy, no odor.	Grout
5		0.5	25,16,16				same as above, no odor, clay pipe gravel sized chunks	
10		0.9	13,50,R	1.6		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR5/6), wet, 90% fine sand, 10% silt, no odor same as above, light yellowish brown (10YR 6/4), contamination odor: diesel?	
15		0.9	23,45,50/4	0.6		SC	CLAYEY SAND (SC), yellowish brown (10YR 5/6), mottled with light gray (10YR 7/1) with oxidized nodules of dark yellowish brown (10YR 3/4), 1/4" thick. moist, very dense, 70% fine sand, 30% medium plasticity clay, no odor	
20		1.2	18,25,28	0.4		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR5/6), and pale brown (10YR 6/3) mottled, medium dense, wet, 90% fine sand, 10% silt, no odor	
25		0.9	8,8,27	1.0		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/6), wet, medium dense, 94% fine sand, 6% silt, no odor	
30		0.8	13,14,35	1.0		SP	POORLY GRADED SAND (SP), brown (10YR 5/3), wet, dense, 95% fine sand, <5% silt, no odor	
35		0.8	8,28,41	0.1				
40		0.9	5,19,35					

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-09-70*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 77.0	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 12.6 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,598.78	**EASTING (CCS NAD 83 Z 3):** 6,042,959.31	**DATE STARTED:** 11/3/2009 07:30 / **DATE COMPLETED:** 11/4/2009 09:20
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: Prescott Park, Oakland, CA		**LOGGED BY:** Susannah Goldston	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
				2.1		SP	POORLY GRADED SAND (SP), brown (10YR 5/3), wet, dense, 95% fine sand, <5% silt, no odor	Grout
45		0.8	9,20,45	1.0				
50		0.9	14,16,36	2.7				
55		0.9	13,35,50	3.4				Seal
60		0.5	8,18,43	2.7		SP	SAND (SP), same as above with thin band (1/8") of light brownish gray (10YR 6/2) clay (CL), low plasticity	Pack
65		0.9	36,50/3	2.4		SP	POORLY GRADED SAND (SP), gray (25Y 5/1), wet, very dense, 95% fine sand, 5% silt, no odor	
70		0.5		0.4		SC	CLAYEY SAND (SC), moist, greenish gray (GLEY 1 5/1), very dense, 60% fine sand, 40% clay, medium plasticity, no odor	
75		0.5	50-R	1.8		CL	LEAN CLAY (CL), moist, greenish gray (GLEY1 6/1), hard, 95% low to medium plasticity clay, 5% fine sand, no odor	
			35-50/5	1.6				

Total Depth = 77 ft bgs

CH2MHILL

PROJECT NUMBER: 385686.FI.03

BORING NUMBER: *RMW-15-15*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 15.0	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 14.0 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,806.05	**EASTING (CCS NAD 83 Z 3):** 6,043,039.59	**DATE STARTED:** 10/20/2009 14:40 / **DATE COMPLETED:** 10/20/2009 15:30
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 85	**WATER LEVEL:** ft bgs on
LOCATION: Cable Moore Yard, Oakland, CA		**LOGGED BY:** Enrique Benede	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							19" Concrete	Grout
							Hand auger to 5 ft bgs	Seal
5								
		1.3	3,4,3	2.7		SP-SM	POORLY GRADED SAND with SILT (SP-SM), dark yellowish brown (10YR 4/4), wet, medium dense, 90% fine sand, 10% silt, no odor.	
		1.2	4,4,6					
		1.3	5,6,7			SM	SILTY SAND (SM), brownish yellow (10YR 6/8), wet, medium dense, 85% fine sand, 15% silt, no odor	Pack
10		1.4	9,8,11	7.9				
		1.4	10,14,11			SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/6), wet, dense, 90% fine sand, 10% silt, no odor	
		1.3	11,13,12					
15		1.0	12,14,13	7.2				

Total Depth = 15 ft bgs

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-15-35*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 35.0	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 13.9 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,803.23	**EASTING (CCS NAD 83 Z 3):** 6,043,048.75	**DATE STARTED:** 11/2/2009 09:00 / **DATE COMPLETED:** 11/2/2009 14:00
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 85	**WATER LEVEL:** ft bgs on
LOCATION: Cable Moore Yard, Oakland, CA		**LOGGED BY:** Susannah Goldston	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE: INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							Concrete	
							Hand auger to 5 ft bgs	
5								
10		1.2	20,26,45	2.4		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/4), and light brownish gray (10YR 6/2), wet, dense, 90% fine sand and 10% silt, no odor	Grout
15		0.8	22,50,R	2.1		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/4), wet, very dense, 92% fine sand and 8% silt, no odor	
20		0.6	30, 50/4	0.5		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown, (10YR 5/4) and light brownish gray (10YR 6/2), wet, very dense, 90% fine sand and 10% silt, no odor	Seal
25		1.0	50,R	0.0		SP-SM	POORLY GRADED SAND with SILT (SP-SM), same as above, slight chemical odor and some dark yellowish brown (10YR 4/6) staining	Pack
30		0.8	38, 50/5	0.0		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10 YR 5/4), wet, very dense, 92% fine sand and 8% silt, no odor	
35			41, 50/3	0.0				
							Total Depth = 35 ft bgs	

CH2MHILL

PROJECT NUMBER: 385686.FI.02

BORING NUMBER: *RMW-15-60*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund	**DRILLED DEPTH (ft):** 61.5	**DRILLING CONTRACTOR:** WDC Exploration	
SURFACE ELEVATION: 13.9 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,800.29	**EASTING (CCS NAD 83 Z 3):** 6,043,058.61	**DATE STARTED:** 10/21/2009 08:50	**DATE COMPLETED:** 10/21/2009 16:45
DRILLING METHOD: Hollow Stem Auger	**DRILLING EQUIPMENT:** CME 85	**WATER LEVEL:** ft bgs on	
LOCATION: Cable Moore Yard, Oakland, CA	**LOGGED BY:** Enrique Benede	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp	

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							Concrete	
							Hand auger to 5 ft bgs	
5								
		1.1	2,2,2	1.0		SP-SM	POORLY GRADED SAND with SILT (SP-SM), greenish gray (GLEY1 5/10Y), wet, loose, 85% fine sands, 15% silt. Strong hydrocarbon odor. Gray color may indicate hydrocarb impact.	
		1.3	6,6,8					
		1.4	6,8,8	1.5				
10		1.1	9,8,11					
		1.4	10,11,15	2.0		SM	SILTY SAND (SM), greenish gray (GLEY1 5/10Y), moist, medium dense, 80% fine sands, 20% silt color changes to yellowish brown (10YR 5/8) at 12 ft.	
		1.4	10,12,13					
15		1.4	10,10,12	1.0		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/8), wet, medium dense, 90% fine sand, 10% silt, no odor	
		1.3	4,12,12					
		1.4	18,20,35			SP SP	POORLY GRADED SAND (SP), yellowish brown (10YR 5/8), wet, dense, 95% fine sand, 5% silt in thin layers, beds of silt interbedded in sand	Grout
20		1.1	20,22,17					
		1.4	10,11,10	2.2				
		1.2	28,30,34					
		0.9	39,42,41				Thin vertical layers of gray-colored very fine sand, dense	
25		1.1	30,36,31	6.2				
30		1.1	CB					
		1.3	CB	2.7			slight chemical odor (hydrocarbon)	
35								
		0.5	CB	3.4			no odor	
40								

CH2MHILL

PROJECT NUMBER:	BORING NUMBER:
385686.FI.02	*RMW-15-60*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 61.5	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 13.9 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,800.29	**EASTING (CCS NAD 83 Z 3):** 6,043,058.61	**DATE STARTED:** 10/21/2009 08:50 / **DATE COMPLETED:** 10/21/2009 16:45
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 85	**WATER LEVEL:** ft bgs on
LOCATION: Cable Moore Yard, Oakland, CA		**LOGGED BY:** Enrique Benede	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE: INTERVAL	SAMPLE: RECOVERY (ft)	SAMPLE: SPT RESULTS	SAMPLE: PID (PPM)	SAMPLE: SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
45		1.1	CB	2.4			stringers of black soil in 1/16" thin layers, oxidation, no odor, between 40 and 45 feet	Grout
50		1.1	CB	3.0				Seal
55			CB	1.5		SM	SILTY SAND (SM), yellowish brown (10YR 5/4), wet, dense, 80% fine sand, 20% silt, no odor	Pack
60		1.0	CB	1.5				
		1.1		1.0		CL	CLAY (CL)	

Total Depth = 61.5 ft bgs

CH2MHILL

PROJECT NUMBER: 385686.FI.02

BORING NUMBER: *RMW-16-35*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 37.0	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 8.9 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,673.09	**EASTING (CCS NAD 83 Z 3):** 6,042,986.20	**DATE STARTED:** 10/22/2009 15:15 / **DATE COMPLETED:** 10/22/2009 18:00
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: In front of 1432 3rd St., Oakland, CA		**LOGGED BY:** Ricardo Carmona	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							Concrete	
							Air knife to 5 ft bgs	
5								
		1.2	6,6,8	2.6		SP-SM	POORLY GRADED SAND with SILT (SP-SM), greyish brown, moist to wet, loose, fine grain size	
10								
		1.0	13,50,R	2.2				Grout
15								
		1.5	13,50,R	3.1		SP	POORLY GRADED SAND (SP), brownish yellow, moist, loose, fine sand	
20								
		1.5	20,30,46	3.0				Seal
25								
		1.2	33,50,50	2.8				Pack
30								
		0.4	50,R	2.6				
35								
		0.6	21,50,R	1.9				

Total Depth = 37 ft bgs

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-16-61*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 61.5	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 9.0 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,668.47	**EASTING (CCS NAD 83 Z 3):** 6,042,996.28	**DATE STARTED:** 10/21/2009 08:30 / **DATE COMPLETED:** 10/21/2009 16:30
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: In front of 1432 3rd St., Oakland, CA		**LOGGED BY:** Ricardo Carmona	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE: INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							Air knife to 5 ft bgs	
5								
		1.0	5,6,8	3.3		SM	SAND with SILT (SM), dark brown, wet, loose	
10		1.4	7,36,50	6.9		SM	color change, light brown to yellow	
15		1.3	6,18,35	5.6		SP	POORLY GRADED SAND (SP), light brown to yellow, wet, loose, fine to medium grained	
20		1.4	25,47,50	6.7		SP	POORLY GRADED SAND with SILT (SP), light brown, yellow, wet, fine to medium grained	Grout
25		1.4	50, R	5.8		SP	POORLY GRADED SAND (SP), light brown to yellow, wet, loose, fine to medium grained	
30		1.4	10,48,50	5.0		SP		
35		1.0	34,50,R	4.9		SP		
40								

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-16-61*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 61.5	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 9.0 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,668.47	**EASTING (CCS NAD 83 Z 3):** 6,042,996.28	**DATE STARTED:** 10/21/2009 08:30 / **DATE COMPLETED:** 10/21/2009 16:30
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: In front of 1432 3rd St., Oakland, CA		**LOGGED BY:** Ricardo Carmona	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION (SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY)	WELL CONSTRUCTION DIAGRAM
		0.8	17,50,R	3.5		SP	POORLY GRADED SAND (SP), light brown to yellow, wet, loose, fine to medium grained	Grout
45		0.9	46,50,50	3.5				Seal
50		1.1	10,50,R	2.9		SP	POORLY GRADED SAND (SP), yellowish brown, wet, loose, fine to medium grained,	Pack
55		1.2	13,50,R	2.5				
60		0.5		1.4		CL	CLAY (CL), dark grayish green, moist, medium density, stiff	
		1.0						

Total Depth = 61.5 ft bgs

CH2MHILL

SHEET 1 of 1	PROJECT NUMBER: 385686.FI.01	BORING NUMBER: *RMW-16E-15*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 15.0	**DRILLING CONTRACTOR:** WDC Exploration	
SURFACE ELEVATION: 9.3 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,661.01	**EASTING (CCS NAD 83 Z 3):** 6,043,014.67	**DATE STARTED:** 10/30/2009 08:45	**DATE COMPLETED:** 10/30/2009 10:30
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75		**WATER LEVEL:** ft bgs on
LOCATION: In front of 1428 3rd St., Oakland, CA		**LOGGED BY:** Susannah Goldston	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp	

DEPTH BGS (feet)	SAMPLE: INTERVAL	SAMPLE: RECOVERY (ft)	SAMPLE: SPT RESULTS	SAMPLE: PID (PPM)	SAMPLE: SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							Concrete	Grout
							Air knife to 5 ft bgs	Seal
5		0.9	3,4,4	1.9		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/4), wet, loose, 90% fine sand, 10% silt , with vertical 1/8" thick zone of light brownish gray (10YR 6/2) sand with silt, no odor	Pack
10		1.1	5,9,21	2.2		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/4), wet,medium dense, 90% fine sand, 10% silt, no odor	
15		1.0	27,35,50	2.6		SP-SM	POORLY GRADED SAND with SILT (SP-SM), brown (10YR 5/3), wet, 95% fine sand, 5% silt, no odor	

Total Depth = 15 ft bgs

CH2MHILL

SHEET 1 of 1	PROJECT NUMBER: 385686.FI.03	BORING NUMBER: *RMW-16W-15*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 16.5	**DRILLING CONTRACTOR:** WDC Exploration	
SURFACE ELEVATION: 8.9 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,677.81	**EASTING (CCS NAD 83 Z 3):** 6,042,965.80	**DATE STARTED:** 10/29/2009 15:20	**DATE COMPLETED:** 10/30/2009
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75		**WATER LEVEL:** ft bgs on
LOCATION: In front of 1436 3rd St., Oakland, CA		**LOGGED BY:** Susannah Goldston	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp	

DEPTH BGS (feet)	SAMPLE INTERVAL	SAMPLE RECOVERY (ft)	SAMPLE SPT RESULTS	SAMPLE PID (PPM)	SAMPLE SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION (SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY)	WELL CONSTRUCTION DIAGRAM
							Concrete	Grout
							Air knife to 5 ft bgs	Seal
5								
		0.6	3,2,4	2.9		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/4), wet, loose, 90% fine sand, 10% silt, no odor	Pack
10								
		1.1	5,9,14	4.0		SM	SILTY SAND (SM), yellowish brown, (10YR 5/4), and light brownish gray (10YR 6/2), wet, medium dense, 85% fine sand, 15% silt, no odor	
15								
			25,50,R	5.4		SP	POORLY GRADED SAND (SP), dark yellowish brown (10YR 4/6), wet, very dense, 95% fine sand, 5% silt, no odor	

Total Depth = 16.5 ft bgs

CH2MHILL

SHEET 1 of 1	PROJECT NUMBER: 385686.FI.01	BORING NUMBER: *RMW-17-35*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund	**DRILLED DEPTH (ft):** 35.0	**DRILLING CONTRACTOR:** WDC Exploration	
SURFACE ELEVATION: 9.4 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,652.58	**EASTING (CCS NAD 83 Z 3):** 6,042,735.95	**DATE STARTED:** 10/26/2009 11:50	**DATE COMPLETED:** 10/26/2009 16:00
DRILLING METHOD: Hollow Stem Auger	**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on	
LOCATION: Prescott Park, Oakland, CA	**LOGGED BY:** Goldston/ Benede	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp	

DEPTH BGS (feet)	SAMPLE INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							Concrete	
5						SP	Airknifed- POORLY GRADED SAND (SP), fine sand w/ trace of silt, very dark gray (25Y 3/1), wet, loose to medium dense, 95% fine grained sand, 5% silt, no odor	
10		1.5	3-6-12	2.8		SP	POORLY GRADED SAND (SP), fine sand w/ trace of silt, very dark gray (25Y 3/1), wet, loose to medium dense, 95% fine grained sand, 5% silt, no odor	
15		1.4	4-8-14	2.0		SM	SILTY SAND (SM), yellowish brown, (10YR 5/6), moist, medium dense, 80% fine grained sand, 20% silt, no odor, micaceous, vertical fibrous roots surrounded by greenish gray clay (GLEY 2 6/1), no odor	Grout
20		1.4	4-6-12	3.1		SP-SM	POORLY GRADED SAND with SILT (SP-SM), very dark grayish brown (10YR 3/2) to yellowish brown(10YR 5/6), wet, medium dense, 90% fine sand, 10% silt, no odor	
25		1.4	5-10-12	2.3		SP	POORLY GRADED SAND (SP), yellowish brown (10YR 5/6), wet, medium dense, 95% fine sand, 50% silt, no odor	Seal
30		1.1	5-8-10	4.2		SC-CL	CLAYEY SAND (SC) to LEAN CLAY with SAND (CL), brown (10YR 5/3), wet, medium dense, 30-50% clay and 80-50% fine sand, no odor	Pack
35		0.6	7-11-14				poor recovery, slough	
		0.6	8-14-19				*insufficient sample for head space measurement	
							Total Depth = 35 ft bgs	

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-17-70*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 76.0	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 9.5 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,655.10	**EASTING (CCS NAD 83 Z 3):** 6,042,725.31	**DATE STARTED:** 10/27/2009 10:55 / **DATE COMPLETED:** 10/27/2009 16:00
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: Prescott Park, Oakland, CA		**LOGGED BY:** Susannah Goldston	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE: INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
							Concrete	
5						SP-SM	Air knife to 5 ft bgs	
10		0.8	7-11-14	3.9		SP-SM	POORLY GRADED SAND with SILT (SP-SM), black (10YR 2.5/1), moist, medium dense, 90% fine sand, micaceous, 10% silt, no odor	
15		1.1	6-23-43	1.6		SP-SC	POORLY GRADED SAND with CLAY (SP-SC), light yellowish bron (10 YR 6/4) and bluish gray (GLEY2/6/1) mottled, moist, medium dense, 90% fine sand, 10% low plasticity clay, no odor	
20		0.8	5-19-28	3.3		SP-SM	POORLY GRADED SAND with SILT (SP-SM), yellowish brown (10YR 5/4), wet, medium dense, >90% fine sand, 10% silt, no odor	
25		1.4	23-50-R	1.9		SP-SM	POORLY GRADED SAND with SILT (SP-SM), light yellowish brown (10YR 6/5), wet, very dense, 90% fine sand with 10% silt, no odor	Grout
30		1.1	50 for 2"	2.9		SP	POORLY GRADED SAND (SP), brown (10YR 5/3), wet, very dense, >95% fine sand with trace of silt, no odor	
35		0.8	18 for 3"	2.4				
40		0.8	65-6	3.6				

CH2MHILL

PROJECT NUMBER: 385686.FI.01

BORING NUMBER: *RMW-17-70*

SOIL BORING LOG

PROJECT NAME: AMCO Superfund		**DRILLED DEPTH (ft):** 76.0	**DRILLING CONTRACTOR:** WDC Exploration
SURFACE ELEVATION: 9.5 ft. MSL	**NORTHING (CCS NAD 83 Z 3):** 2,119,655.10	**EASTING (CCS NAD 83 Z 3):** 6,042,725.31	**DATE STARTED:** 10/27/2009 10:55 / **DATE COMPLETED:** 10/27/2009 16:00
DRILLING METHOD: Hollow Stem Auger		**DRILLING EQUIPMENT:** CME 75	**WATER LEVEL:** ft bgs on
LOCATION: Prescott Park, Oakland, CA		**LOGGED BY:** Susannah Goldston	**AIR MONITORING EQUIPMENT:** Photoionization Detector (PID) - 11.7 eV lamp

DEPTH BGS (feet)	SAMPLE: INTERVAL	RECOVERY (ft)	SPT RESULTS	PID (PPM)	SOIL SAMPLE	USCS CODE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	WELL CONSTRUCTION DIAGRAM
		0.9	67-6	3.7		SP	POORLY GRADED SAND (SP), brown (10YR 5/3), wet, very dense, >95% fine sand, no odor, no silt	
45								
		1.1	23-65/3	3.0		SP	POORLY GRADED SAND (SP), grayish brown (10YR 5/2), wet, very dense, fine grained sand, no silt, no odor	Grout
50								
		1.1	17-50-R	3.3				
55								
		1.1	30-60-R	3.2				Seal
60								
		1.1	17-60-R	3.7				Pack
65								
		1.1	28-23-50/5	3.2				
70								
		1.1	21-50-R	3.6		SP	POORLY GRADED SAND (SP), bluish gray (GLEY 2 6/1), wet, very dense, fine grained sand 95%, <5% silt	
75								
		0.5	50-2	1.9		ML/CH	SANDY SILT (ML) changing to FAT CLAY (CH), dark bluish gray (GLEY 2 4/1), moist, high plasticity clay, dense, no odor (ML just above change to CH)	

Total Depth = 76 ft bgs

CH2MHILL

Appendix B
Well Completion Diagrams

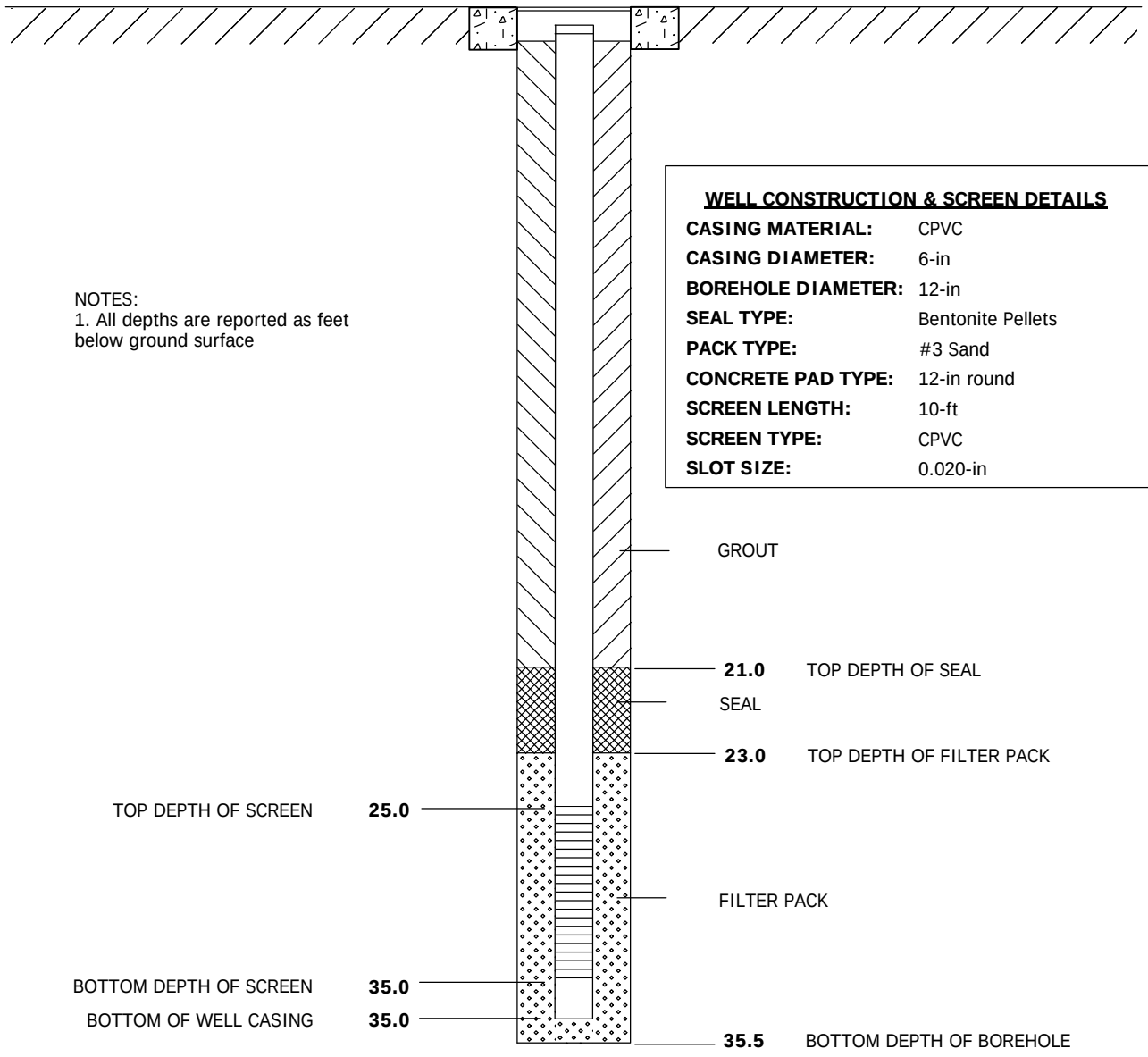
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-06-35***

LOCATION: Large Vacant Lot, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/15/2009 09:55
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/15/2009 14:20
LOGGER: Enrique Benede	**WELL COMPLETION DATE:** 10/16/2009
TOP OF CASING ELEVATION (NAVD 88): 10.78	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	CPVC
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite Pellets
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	12-in round
SCREEN LENGTH:	10-ft
SCREEN TYPE:	CPVC
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

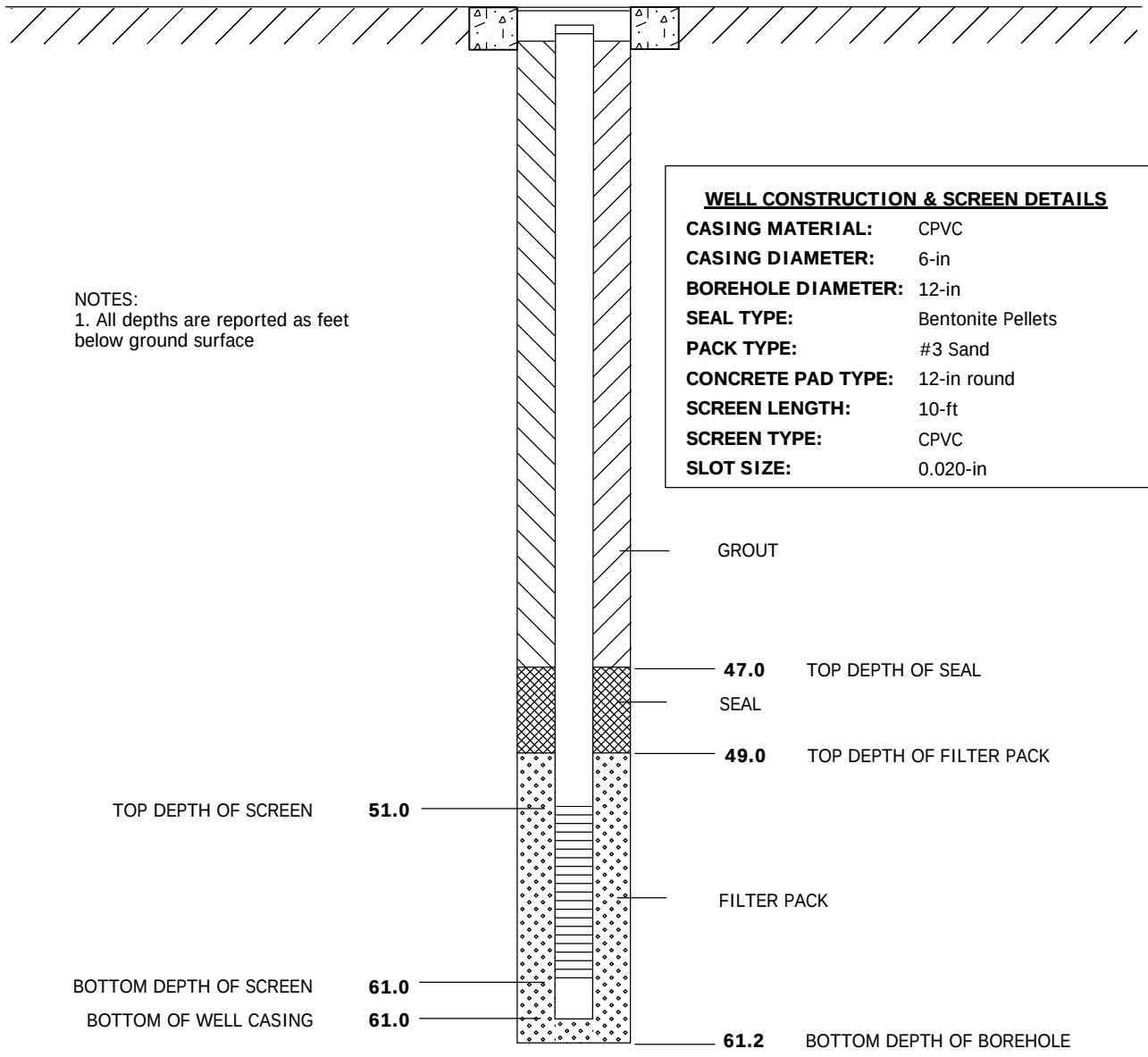
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-06-61***

LOCATION: Large Vacant Lot, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/16/2009 12:20
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/19/2009 09:00
LOGGER: Enrique Benede	**WELL COMPLETION DATE:** 10/20/2009
TOP OF CASING ELEVATION (NAVD 88): 10.54	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	CPVC
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite Pellets
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	12-in round
SCREEN LENGTH:	10-ft
SCREEN TYPE:	CPVC
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

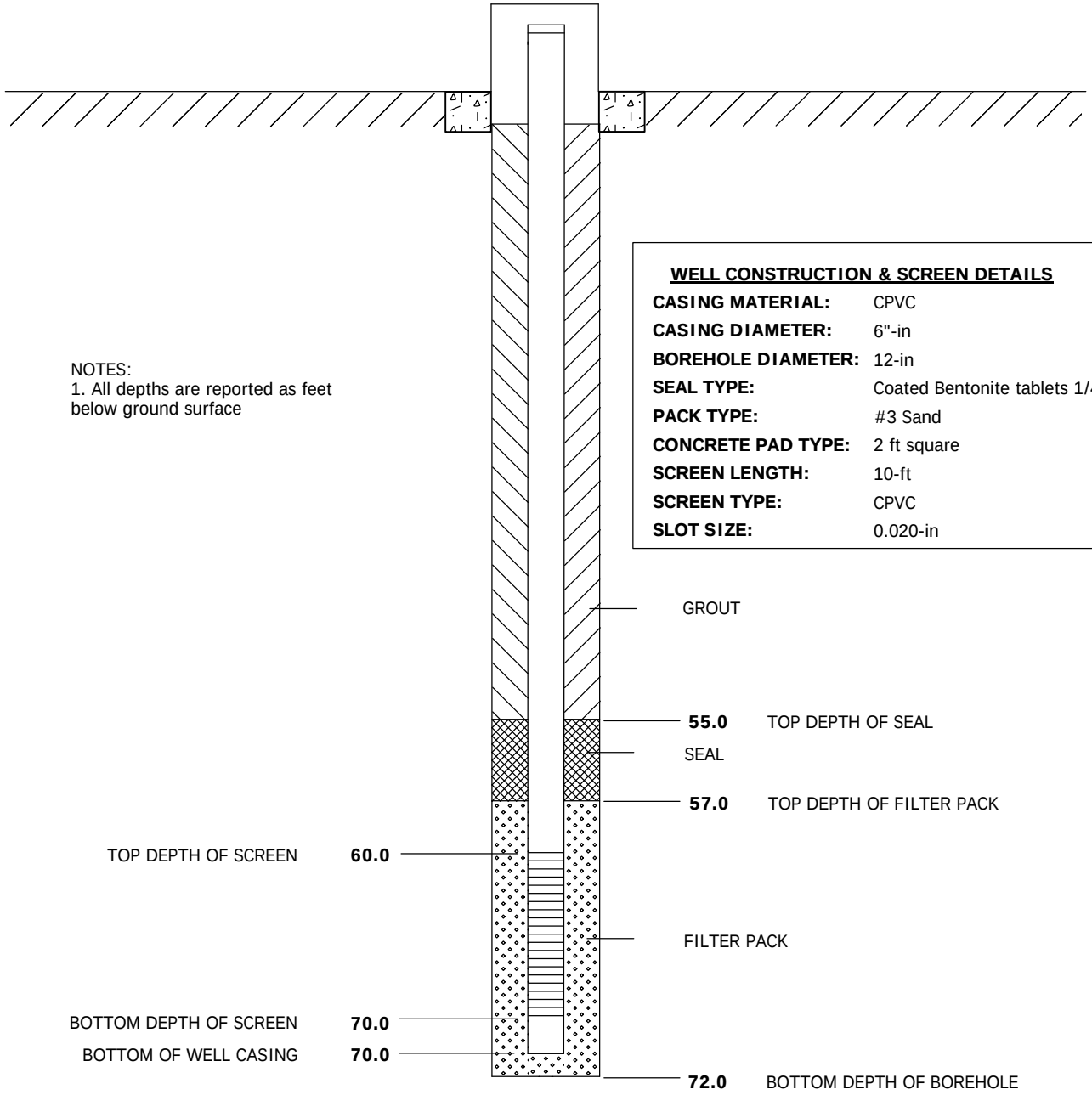
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-09-70***

LOCATION: Prescott Park, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 11/3/2009 07:30
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 11/4/2009 09:20
LOGGER: Susannah Goldston	**WELL COMPLETION DATE:** 11/4/2009
TOP OF CASING ELEVATION (NAVD 88): 12.64	**GENERAL REMARKS:** ---

LOCKING MONUMENT COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	CPVC
CASING DIAMETER:	6"-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Coated Bentonite tablets 1/4"
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	2 ft square
SCREEN LENGTH:	10-ft
SCREEN TYPE:	CPVC
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

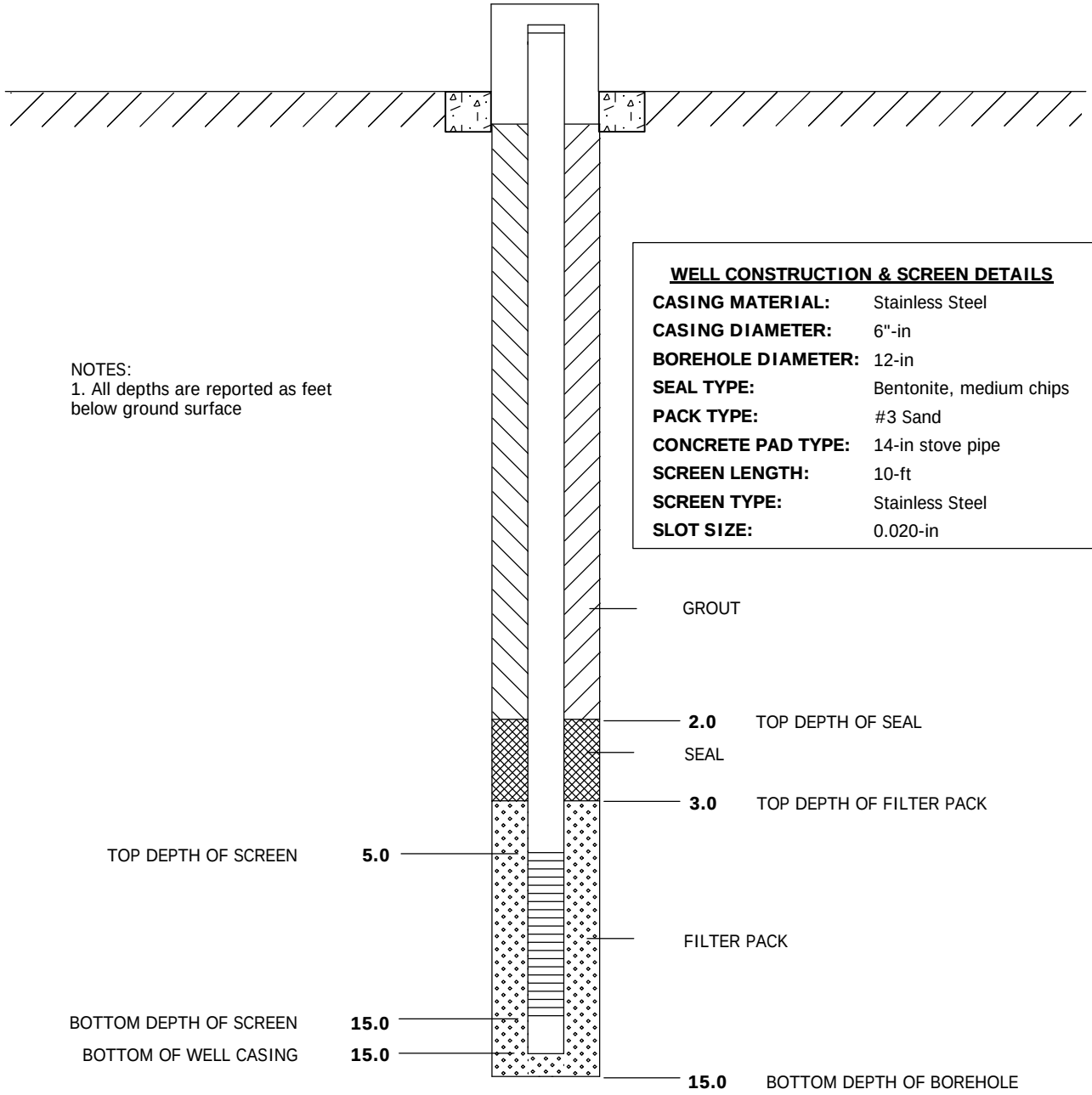
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.03	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-15-15***

LOCATION: Cable Moore Yard, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/20/2009 14:40
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/20/2009 15:30
LOGGER: Enrique Benede	**WELL COMPLETION DATE:** 10/20/2009
TOP OF CASING ELEVATION (NAVD 88): 13.98	**GENERAL REMARKS:** ---

LOCKING MONUMENT COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	Stainless Steel
CASING DIAMETER:	6"-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite, medium chips
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	14-in stove pipe
SCREEN LENGTH:	10-ft
SCREEN TYPE:	Stainless Steel
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

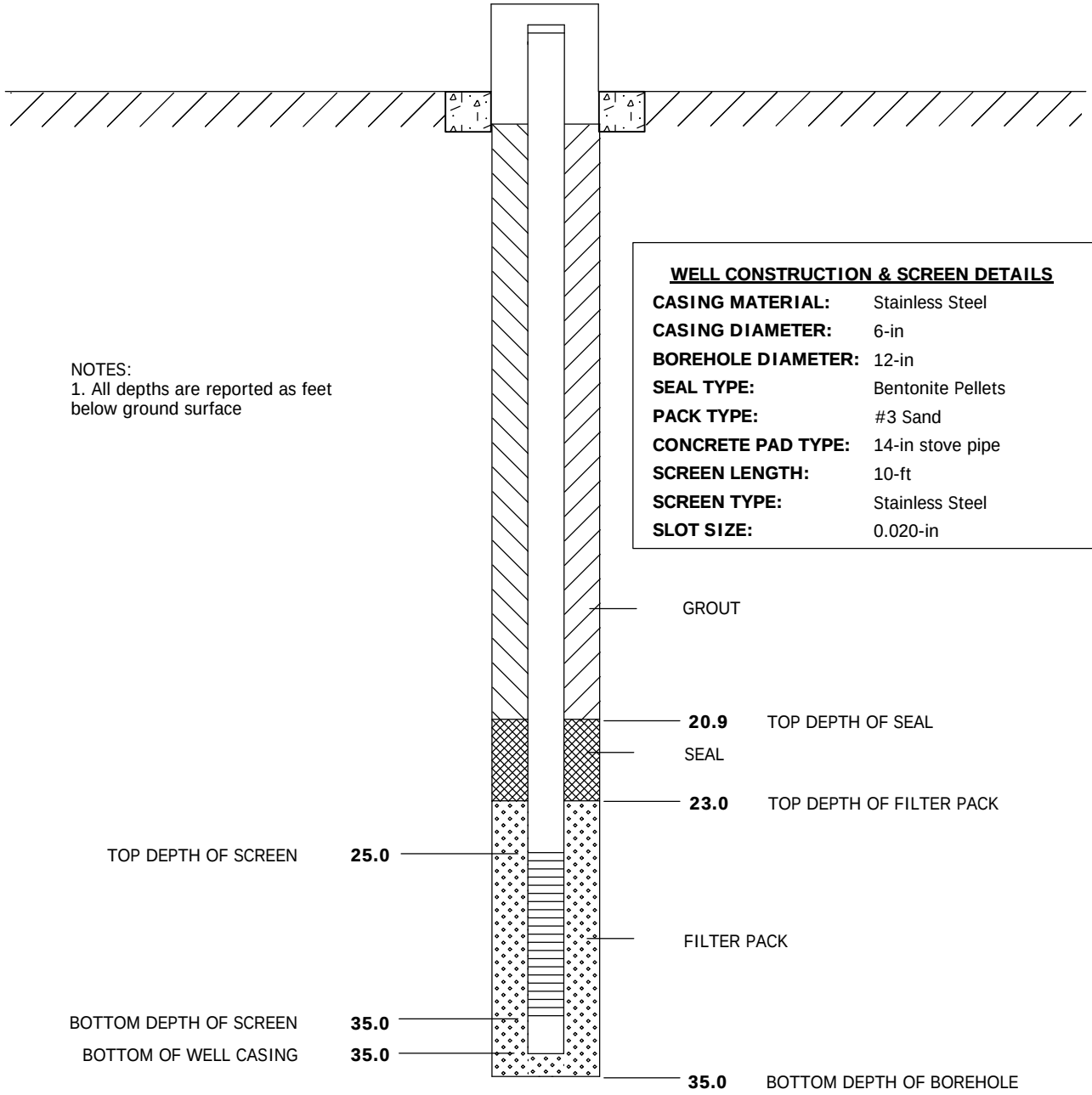
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-15-35***

LOCATION: Cable Moore Yard, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 11/2/2009 09:00
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 11/2/2009 14:00
LOGGER: Susannah Goldston	**WELL COMPLETION DATE:** 11/2/2009
TOP OF CASING ELEVATION (NAVD 88): 13.90	**GENERAL REMARKS:** ---

LOCKING MONUMENT COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	Stainless Steel
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite Pellets
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	14-in stove pipe
SCREEN LENGTH:	10-ft
SCREEN TYPE:	Stainless Steel
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

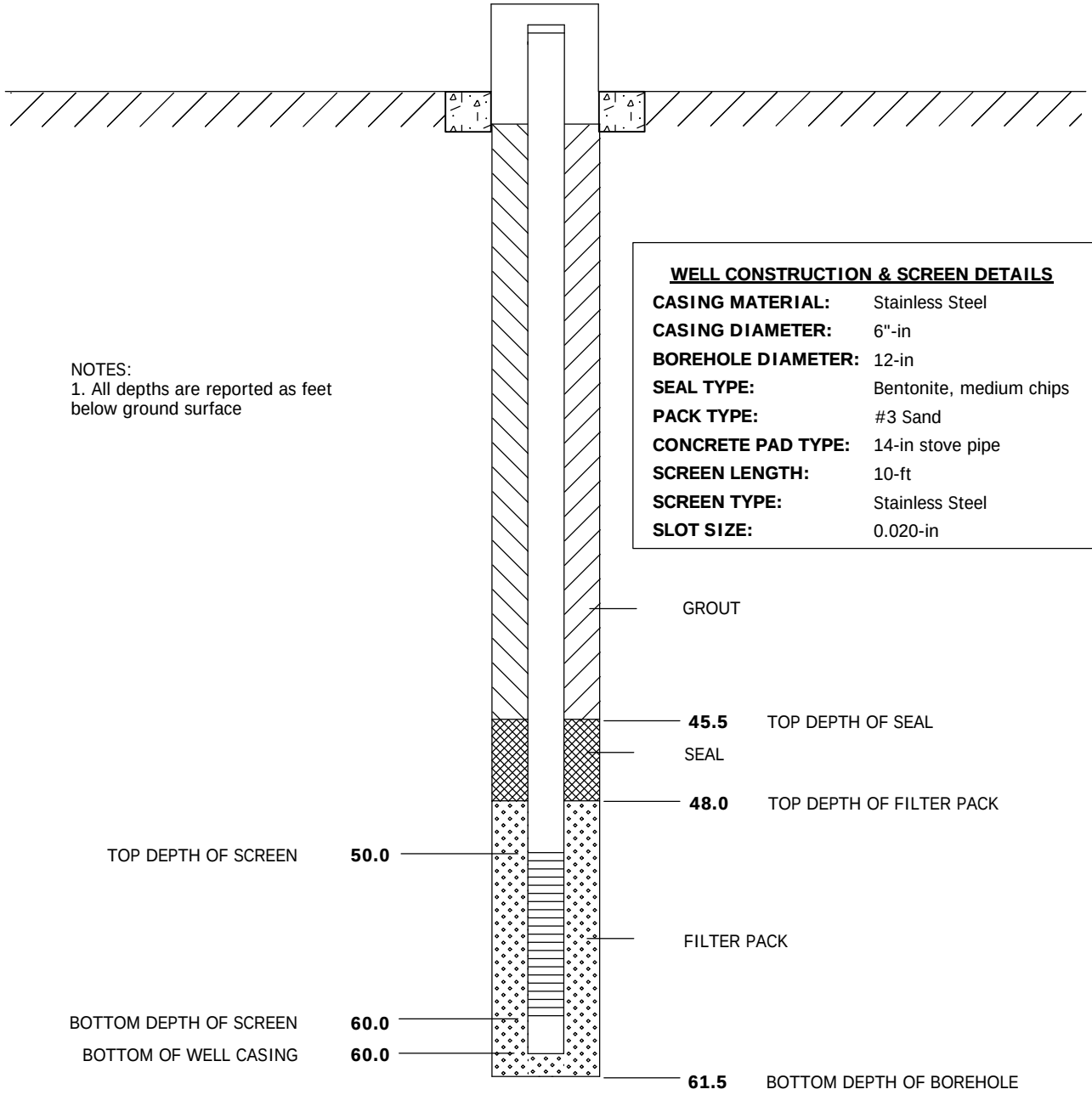
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.02	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-15-60***

LOCATION: Cable Moore Yard, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/21/2009 08:50
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/21/2009 16:45
LOGGER: Susannah Goldston	**WELL COMPLETION DATE:** 10/22/2009
TOP OF CASING ELEVATION (NAVD 88): 13.92	**GENERAL REMARKS:** ---

LOCKING MONUMENT COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	Stainless Steel
CASING DIAMETER:	6"-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite, medium chips
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	14-in stove pipe
SCREEN LENGTH:	10-ft
SCREEN TYPE:	Stainless Steel
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

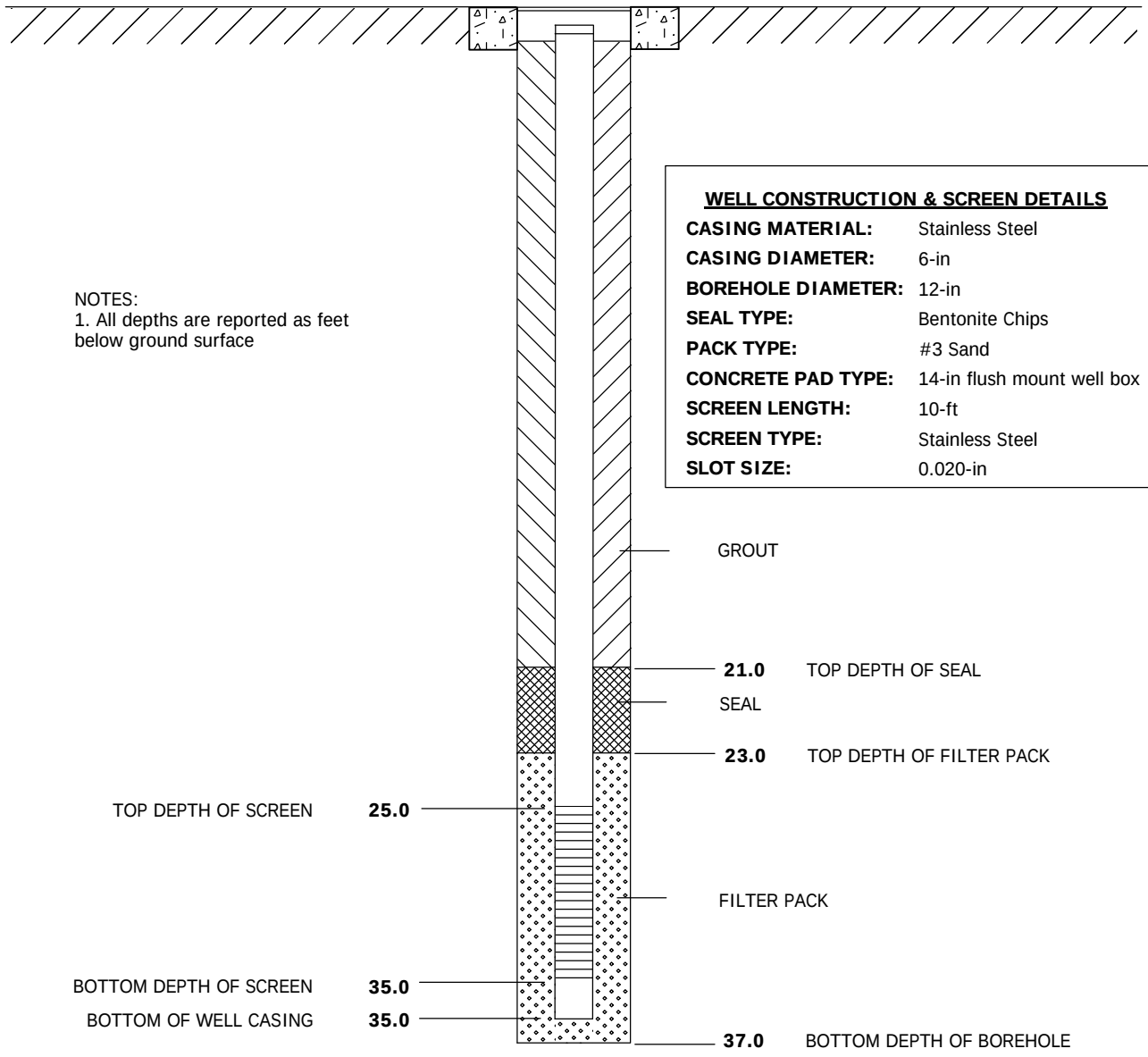
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.02	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-16-35***

LOCATION: In front of 1432 3rd St., Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/22/2009 15:15
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/22/2009 18:00
LOGGER: Ricardo Carmona	**WELL COMPLETION DATE:** 10/22/2009
TOP OF CASING ELEVATION (NAVD 88): 8.87	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	Stainless Steel
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite Chips
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	14-in flush mount well box
SCREEN LENGTH:	10-ft
SCREEN TYPE:	Stainless Steel
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

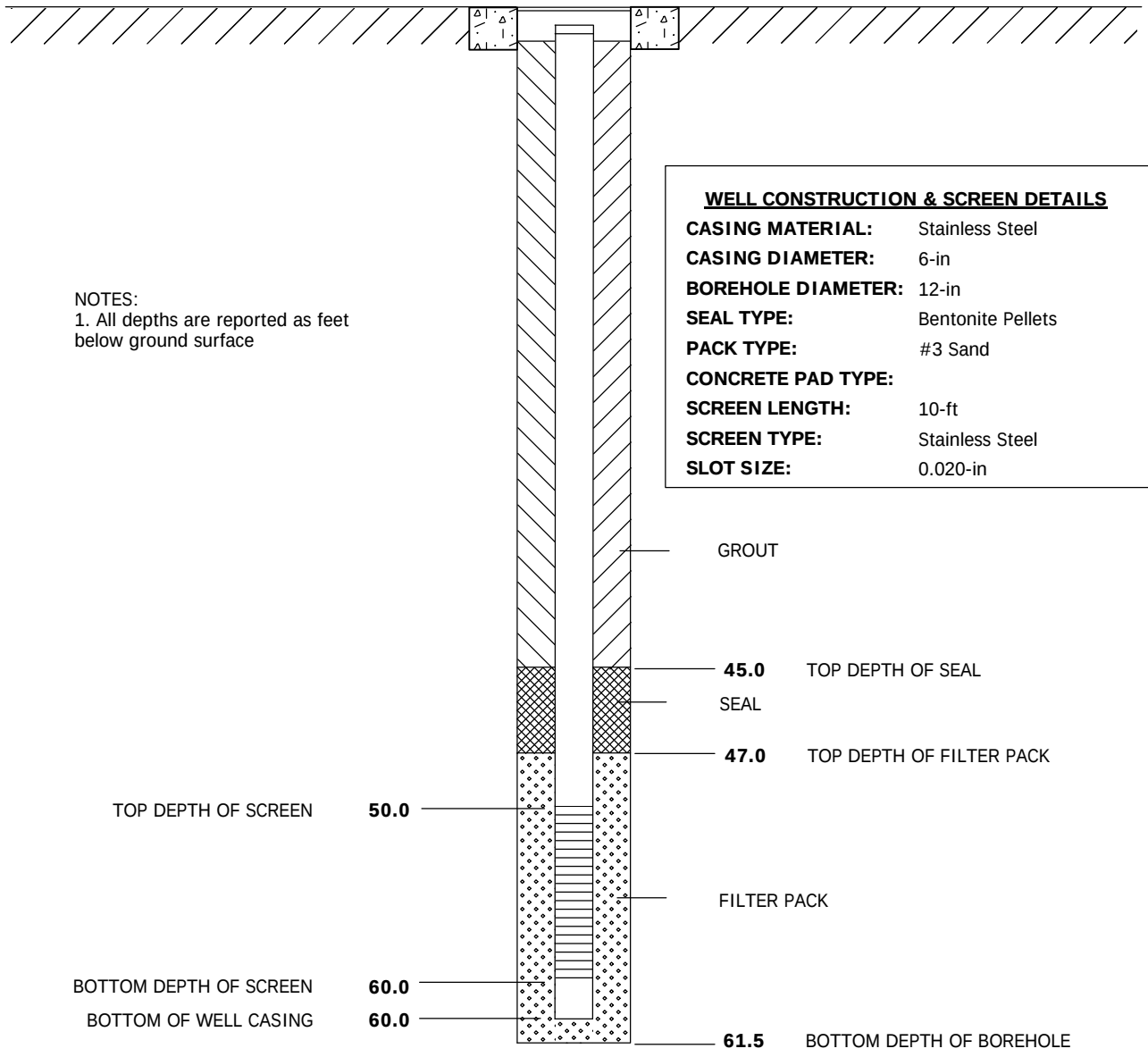
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-16-61***

LOCATION: In front of 1432 3rd St., Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/21/2009 08:30
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/21/2009 16:30
LOGGER: Ricardo Carmona	**WELL COMPLETION DATE:** 10/22/2009
TOP OF CASING ELEVATION (NAVD 88): 9.04	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	Stainless Steel
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite Pellets
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	
SCREEN LENGTH:	10-ft
SCREEN TYPE:	Stainless Steel
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

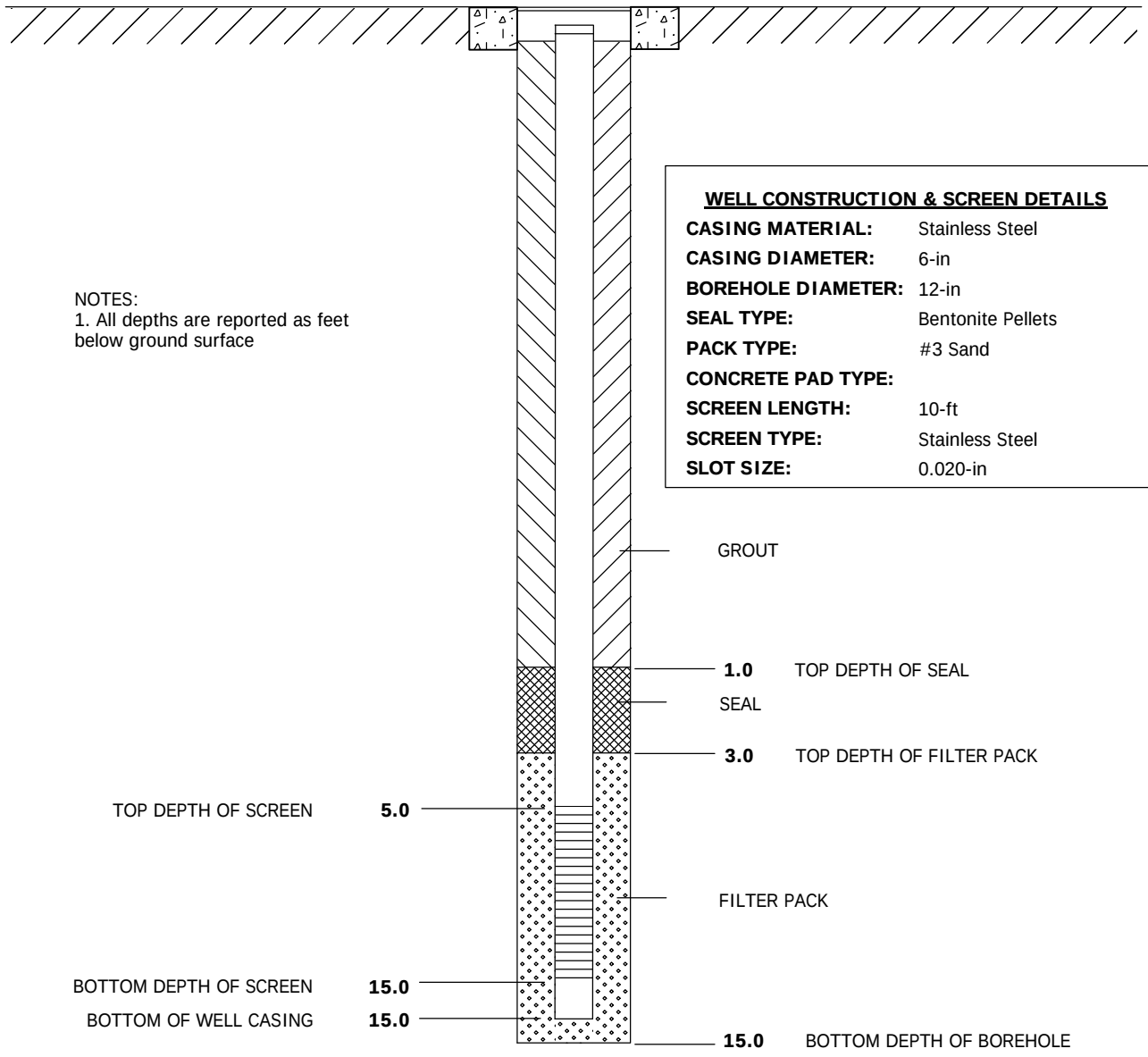
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-16E-15***

LOCATION: In front of 1428 3rd St., Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/30/2009 08:45
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/30/2009 10:30
LOGGER: Susannah Goldston	**WELL COMPLETION DATE:** 10/30/2009
TOP OF CASING ELEVATION (NAVD 88): 9.26	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	Stainless Steel
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite Pellets
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	
SCREEN LENGTH:	10-ft
SCREEN TYPE:	Stainless Steel
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

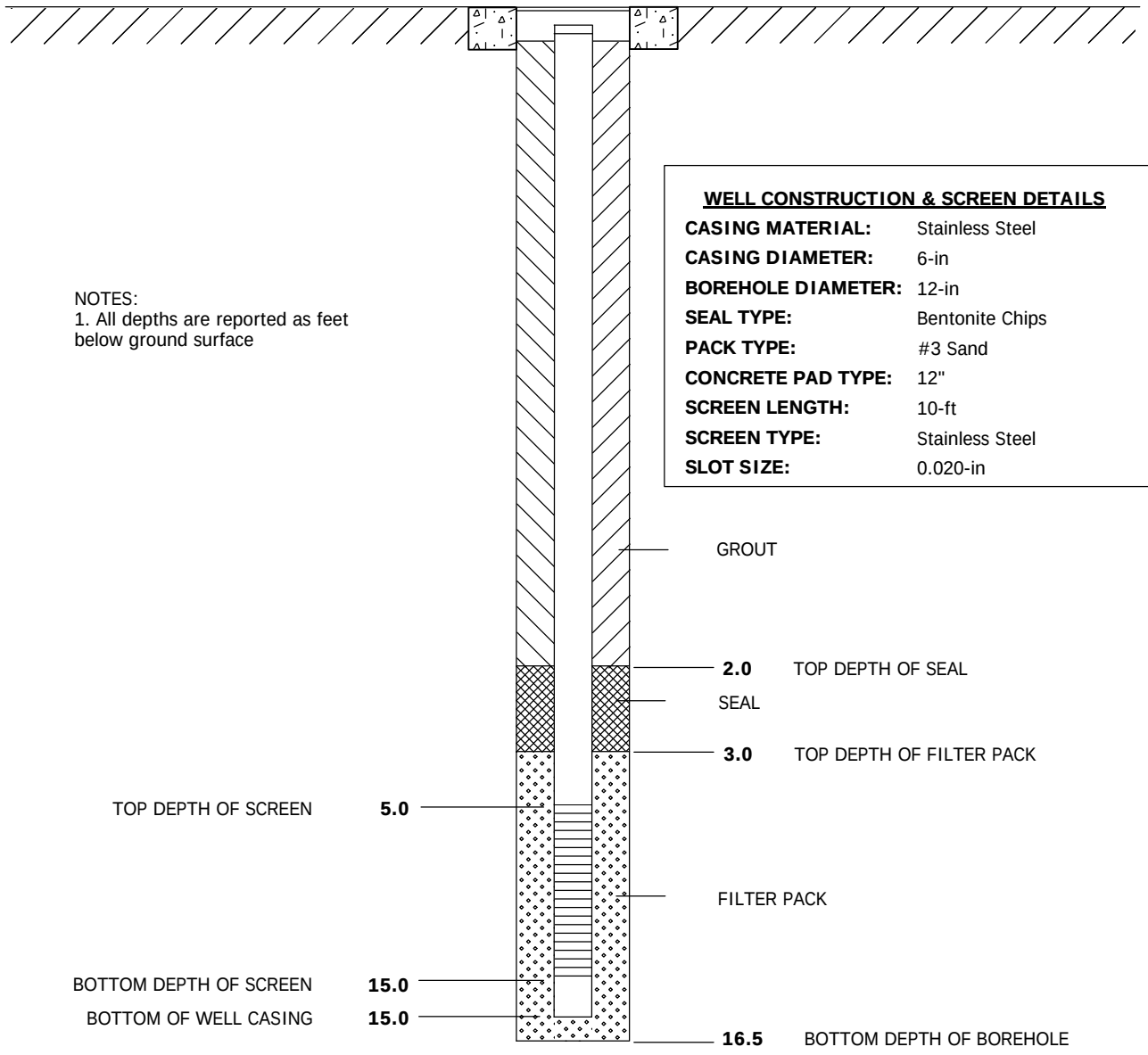
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.03	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-16W-15***

LOCATION: In front of 1436 3rd St., Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/29/2009 15:20
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/30/2009
LOGGER: Susannah Goldston	**WELL COMPLETION DATE:** 10/30/2009
TOP OF CASING ELEVATION (NAVD 88): 8.92	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	Stainless Steel
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite Chips
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	12"
SCREEN LENGTH:	10-ft
SCREEN TYPE:	Stainless Steel
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

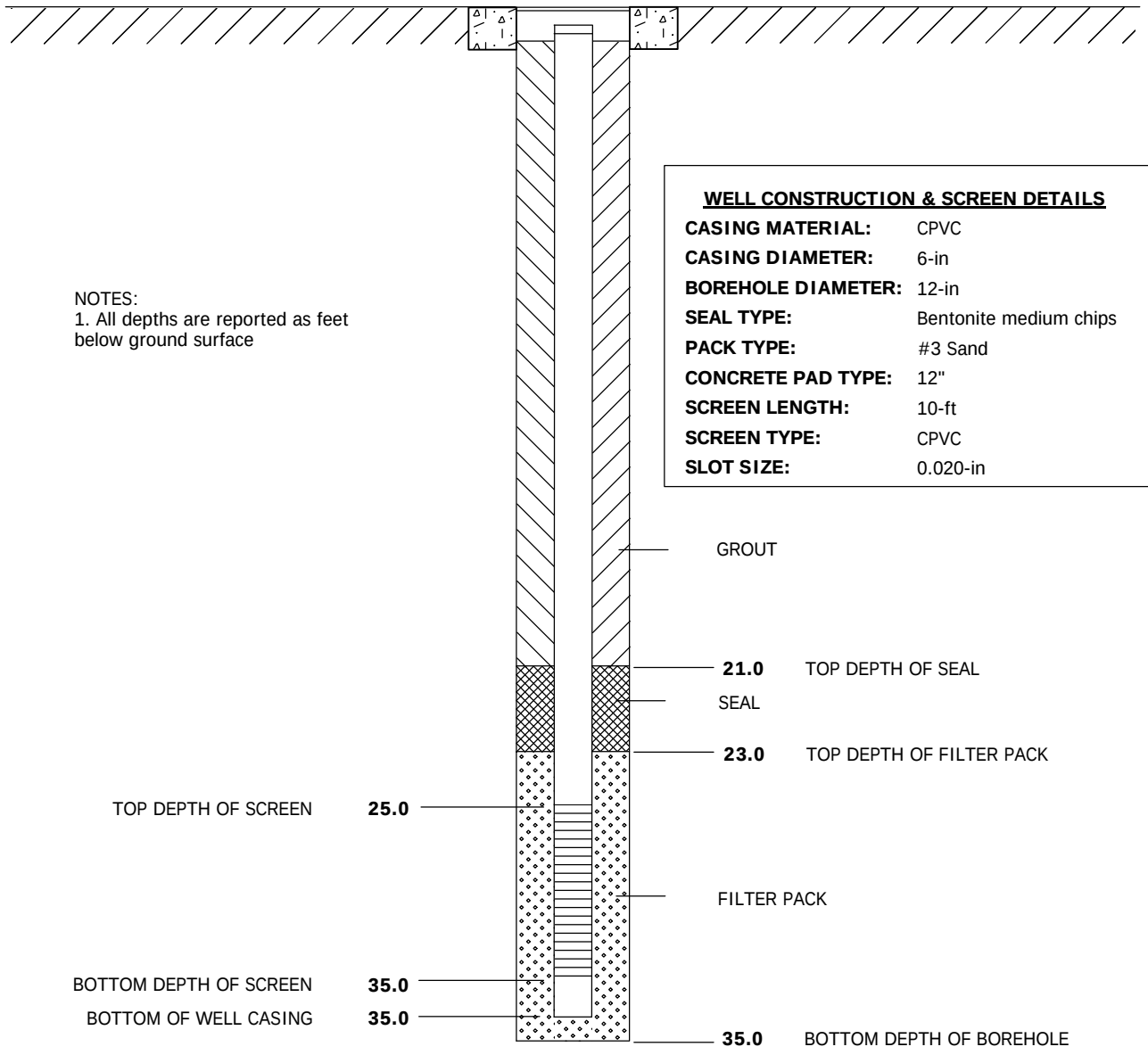
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-17-35***

LOCATION: Prescott Park, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/26/2009 11:50
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/26/2009 16:00
LOGGER: Susannah Goldston/Enrique Benede	**WELL COMPLETION DATE:** 10/26/2009
TOP OF CASING ELEVATION (NAVD 88): 9.38	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	CPVC
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite medium chips
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	12"
SCREEN LENGTH:	10-ft
SCREEN TYPE:	CPVC
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

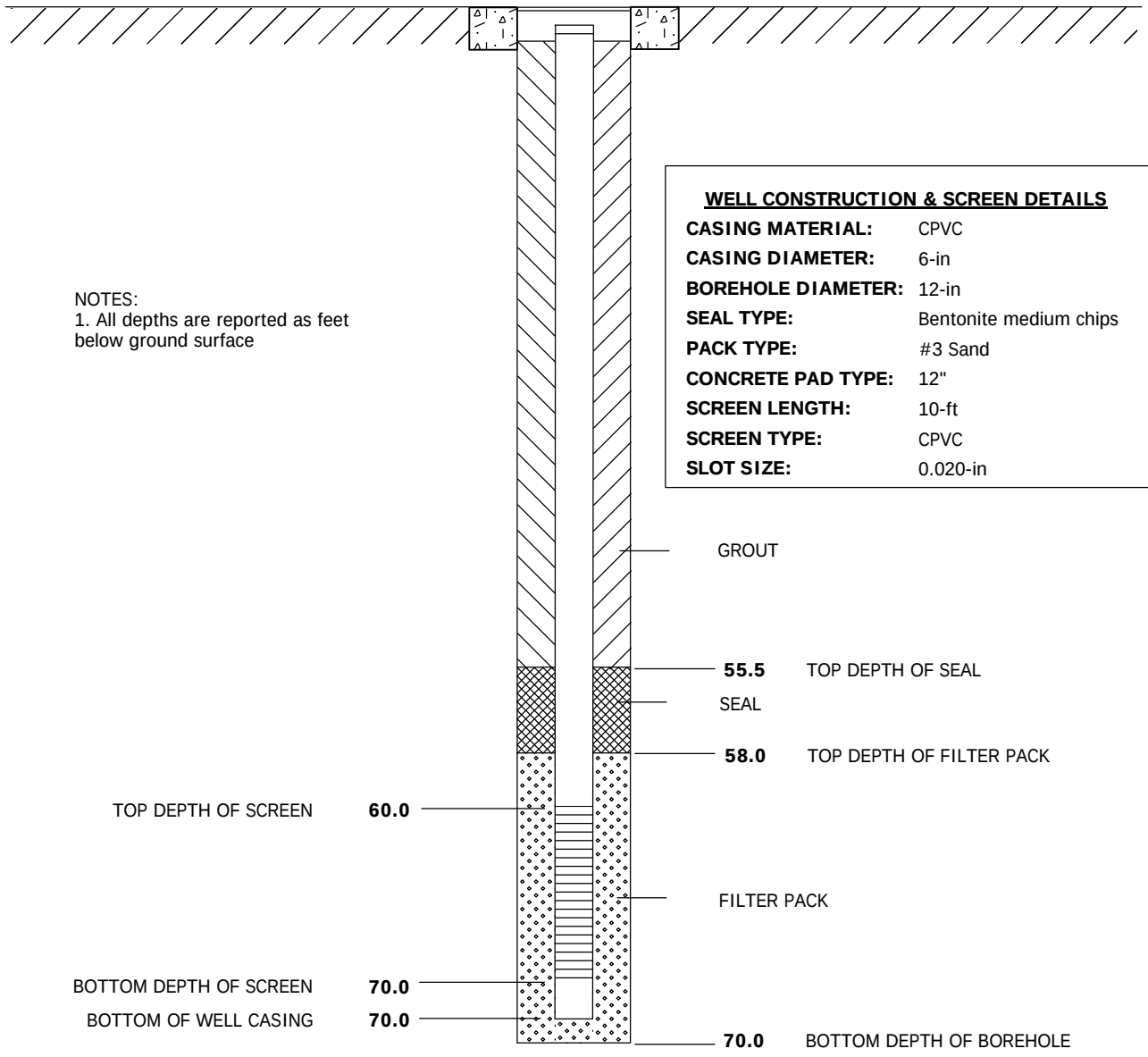
WELL COMPLETION DIAGRAM

PROJECT NO: 385686.FI.01	**PROJECT:** AMCO Superfund	**WELL NO:** ***RMW-17-70***

LOCATION: Prescott Park, Oakland, CA

DRILLING CONTRACTOR: WDC Exploration	**DRILLING START:** 10/27/2009 10:55
DRILLING METHOD: Hollow Stem Auger	**DRILLING END:** 10/27/2009 16:00
LOGGER: Susannah Goldston	**WELL COMPLETION DATE:** 10/29/2009
TOP OF CASING ELEVATION (NAVD 88): 9.52	**GENERAL REMARKS:** ---

LOCKING FLUSH COMPLETION



NOTES:
1. All depths are reported as feet below ground surface

WELL CONSTRUCTION & SCREEN DETAILS

CASING MATERIAL:	CPVC
CASING DIAMETER:	6-in
BOREHOLE DIAMETER:	12-in
SEAL TYPE:	Bentonite medium chips
PACK TYPE:	#3 Sand
CONCRETE PAD TYPE:	12"
SCREEN LENGTH:	10-ft
SCREEN TYPE:	CPVC
SLOT SIZE:	0.020-in

WELL DIAGRAM IS NOT TO SCALE

CH2MHILL

Appendix C
Well Development Records

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATA SHEET

WELL OR LOCATION RMW-06-M

PROJECT AMCO EVENT DEVELOPMENT SAMPLER SG DATE 11/18/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing

Intake depth 29'

SWL 5.22
(if above screen)

SWL NA
(if in screen)

Measured TD 34.15 from TOC

=TOP

=BOP

34.15 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	13:46	~~2.5~~	
		see below	see below
Stop	15:12		
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 28.93 ~~29~~ ft. = 42.5 gals. X 3 127.6 gals.
(SWL to TD; one volume; purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:

BAIL / SURGE / PUMP
Bailed ~30 gallons
Pumped ~ 215 gal

TOTALIZER = (initial) 3360; (final) 3575

Actual gallons purged 215

Actual volumes purged ~5

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other TIME	DTW	gpm
1. 5	20.4	1278	6.66	63 (TOO HIGH)	1347	13.01	2.5
2. 30 (3390)	20.0	1427	7.30	1000	1354	13.78	2.0
3. 60 (3420)	20.2	1636	7.30	568	1410	13.72	2.0
4. 90 (3450)	18.1	1662	7.40	473	1424	13.48	2.0
5. 120 (3480)	18.1	1667	7.58	590	1438	15.19	2.5
6. 150 (3510)	17.3	1609	7.36	340	1448	16.76	3.0
7. 180 (3540)	16.2	1738	7.64	133	1501	16.88	3.0
8. 210 (3570)	15.8	1750	7.44	26	1510	16.80	3.0
9. 3575							
10.							
11.							
12.							
13.							
14.							
15.							

*Take measurement at approximately each casing volume purged. ⊕

HY-Minimal W.L. drop

MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump

LY - Able to purge 3 volumes by returning later or next day.

VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW-06-D

PROJECT AMCO EVENT WELL DEVELOPMENT SAMPLER SG DATE 11/18/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing

Intake depth 55'

SWL 4.73'
(if above screen)

SWL NA
(if in screen)

Measured 60.24'
TD from TOC

50.24 =TOP

=BOP

60.24 =TD
(as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	10:29	~~4~~ 5	
Stop	11:40		9.68
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 55.51 ~~20~~ ft. = 81.6 gals. X 3 244.8 gals.
SWL to TD — one volume — purge volume - 3 casings

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:
BAIL / SURGE / PUMP
Bailed ~40 gal Pumped ~ 340 gallons

Totalizer = (initial) 3,020 (final) 3,360

Actual gallons purged 340
Actual volumes purged ~4 volumes
Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other TIME	WL
1. 0 (3,020)	16.7	1948	7.26	E3 (Too high)	10:30	5.30
2. 40 (3,060)	16.2	1597	7.55	1000	10:37	~~10.75~~ NA
3. 60 (3080)	17.0	1631	7.75	504	10:42	9.53
4. 90 (3110)	17.0	1298	7.72	331	10:46	9.63
5. 120 (3140)	17.7	1340	7.65	348	10:52	9.65
6. 150 (3170)	17.2	1180	7.81	223	11:00	9.65
7. 180 (3200)	17.0	1159	7.75	221	11:08	9.66
8. 210 (3230)	15.9	1230	7.65	220	11:15	9.66
9. 240 (3260)	15.9	1171	7.64	164	11:20	9.67
10. 270 (3290)	17.8	1114	7.52	172	11:26	9.67
11. 300 (3320)	16.8	1177	7.60	179	11:33	9.67
12. 330 (3350)	17.5	1189	7.54	151	11:39	9.68
13.						
14.						
15.						

*Take measurement at ⊕ approximately each casing volume purged.

HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

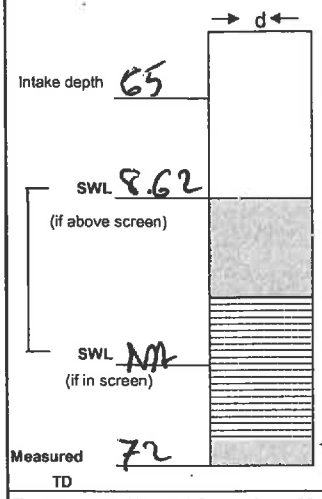
WELL OR LOCATION RMW-09D

PROJECT AMCO EVENT WELL DEVELOPMENT SAMPLER ER DATE 11/13/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing



60 =TOP

70 =BOP

72 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	11:30	≈ 6	
Stop	12:20		
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 63.38 ft. = 93.17 gals. X 3 280 gals.

SWL to TD — one volume — purge volume - 3 casings

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:
BAIL / SURGE / PUMP
BAILED ≈ 110 GALLONS
PUMPED ≈ 300 GALLONS

FLOW RATE 6 GPM

Actual gallons purged ≈ 300

Actual volumes purged ≈ 3

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other	
1. 0	18.2	1120	6.60	TOO HIGH	WL	
2. 30	18.3	1198	6.70	TOO HIGH		
3. 60	18.0	1580	6.58	TOO HIGH		
4. 90	17.4	1230	6.80	1000		
5. 120	17.4	1165	7.01	809		
6. 150	16.9	1230	6.80	432		
7. 180	16.4	1140	7.03	320		
8. 210	16.3	1536	7.05	301		
9. 240	16.1	1320	7.04	250		
10. 270	15.9	1180	7.02	210		
11. 300	15.8	1165	7.04	170		
12.						
13.						
14.						
15.						

*Take measurement at ⊕ approximately each casing volume purged. HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW-15-D

PROJECT AMCO EVENT WELL DEVELOPMENT SAMPLER SG DATE 11/19/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing

Intake depth 55'

SWL 3.43
(if above screen)

SWL NA
(if in screen)

Measured TD 60.09

d

50 =TOP

60 =BOP

60 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	0940	5.25	
			See below
Stop	1050		
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 51.66 (29 ft.) SWL to TD = 75.9 one volume gals. X 3 = 227.8 purge volume - 3 casings gals.

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:

BAIL / SURGE / PUMP
BAIL ~ 45 gal PUMP ~ 360 gal

TOTALIZER = 3580 (initial), 3930 (final)

Actual gallons purged ~360

Actual volumes purged 4.7

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other TIME	DTW
1. 10 (3580)	19.9	930	6.63	E3 (TOO HIGH)	0941	10.10
2. 40 (3610)	17.0	1154	7.41	E3	0948	13.15
3. 60 (3630)	15.9	1168	7.61	1000	0951	13.25
4. 90 (3660)	15.0	1175	7.67	986	0957	13.28
5. 120 (3690)	15.1	1182	7.74	715	1003	13.30
6. 150 (3720)	15.0	~~10~~ 8.3	7.72	683	1009	13.31
7. 180 (3750)	15.1	1198	7.79	661	1015	13.34
8. 210 (3780)	14.7	33.4	7.71	603	1021	13.36
9. 240 (3810)	14.8	1188	7.71	462	1026	13.38
10. 270 (3840)	14.6	1189	7.70	447	1032	13.39
11. 300 (3870)	14.1	1231	7.70	337	1039	13.40
12. 330 (3900)	14.2	720	7.71	415	1043	13.40
13. 360 (3930)	14.4	562	7.69	292	1049	13.40
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕

HY-Minimal W.L. drop

MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump

LY - Able to purge 3 volumes by returning later or next day.

VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW-15-5

PROJECT AMCO EVENT WELL DEVELOPMENT SAMPLER SG DATE 11/19/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing

Intake depth 14' ~~10'~~ ~~12'~~

SWL NA ~~8.43~~
(if above screen)

SWL 8.43 ~~NA~~
(if in screen)

Measured TD 17.28

d

7 =TOP

17 =BOP

17 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	14:43	<1	
Stop	14:58		
Start	15:25		
Stop (dry)	15:38		
Stop			
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 8.55 ~~28~~ ft. = 12.6 gals. X 3 37.7 gals.

SWL to TD — one volume — purge volume - 3 casings

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:

BAIL / SURGE / PUMP

BAILED ~5 gallons

TOTALIZER = 4080 (i) ;

Actual gallons purged

Actual volumes purged

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other TIME	DTW
1. 0 (4090)	15.1	7.7	5.89	E3	14:44	8.59
2. 10 (4100)	15.4	449	6.57	E3	14:49	12.05
3. 15 (4105)	15.2	387	6.90	E3	14:56	13.40
4. 16 (4106)	15.4	5.2	7.70	E3	15:26	11.5
5. 20 (4110)	15.6	899	7.31	E3	15:32	13.30
6. 25 (4115)	15.4	917	7.49	E3	15:38	14.8
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕

HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATA SHEET

WELL OR LOCATION RMW-15-M

PROJECT AMCO EVENT WELL DEVELOPMENT SAMPLER SG DATE 11/19/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing

Intake depth 32'

SWL 8.39
(if above screen)

SWL NA
(if in screen)

Measured TD 37.13

d

27 =TOP

37 =BOP

37 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	12:31	43.5	
			See below
Stop	13:12		
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 28.7 (SWL to TD) 29 ft. = 42.2 (one volume) gals. X 3 126.7 (purge volume - 3 casings) gals.

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:

BAIL/SURGE/PUMP
Bailed ~ 40 gal pumped 150 g

TOTALIZER = 3930 (i) ; 4080 (f)

Actual gallons purged 150 gal

Actual volumes purged 3.5

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other TIME	DTW
1. 0 (3920)	15.6	1745	7.66	E3 (toohigh)	1233	15.0
2. 30 (3960)	15.4	1954	7.27	E3	1240	17.70
3. 60 (3990)	15.2	1851	7.28	1000	1247	19.88
4. 90 (4020)	15.2	2273	7.20	379	1255	19.98
5. 120 (4050)	15.2	1143	7.27	12.2	1302	20.01
6. 150 (4080)	15.1	1154	7.13	46.1	13:12	20.08
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW-16W-5

PROJECT Amco EVENT WELL DEVELOP SAMPLER SG DATE 11/30/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing

Intake depth ~13.4

SWL 3.78
(if above screen)

SWL NA
(if in screen)

Measured TD 14.4 (TOC)

d

4.4 =TOP

14.4 =BOP

14.4 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	1300	~2.5	7.2
~~pump~~ Stop (too low)	1312		11.5
bail			
Stop bailing	13:29		14.0
	14:15		9.5
bail	14:20		9.5
Stop bailing (dry)	14:30		14.0
Stop			
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * ~~29~~ 10.42 ft. (SWL to TD) = 15.6 gals. (one volume) X 3 46.8 gals. (purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:

Bail ~5 gallons + 5 gallons / Pump ~20 gal / Bail ~13 gal + 17 gal

① Total. (~~1412~~ 0412 - initial) (no final)

Actual gallons purged 60

Actual volumes purged ~4

Well Yield ⊕

	Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	~~Other~~ Time	~~DTW~~
1.	4	24.6	7	6.20	E3 ②	1302	
2.	9	21.8	4506	6.77	E3	1305	8.80
3.	14	22.3	775	7.26	E3	1308	10.15
4.	19	22.2	432.8	7.41	E3	1310	11.40
* 5.	24 (bailer)	22.6	753	7.60	E3	1320	NA
6.	29 (bailer)	21.4	807	7.62	E3	1324	14.0
recharge 7.	30	18.9	855	8.26	E3	1420	9.5
8.	37	18.4	~~8.07~~ 770	8.07	E3	1424	~12.0
9.	45	18.3	801	7.75	E3	1428	~~14.1~~ NA
10.	47						14.1
11.							
12.							
13.							
14.							
15.							

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

① Totalizer doesn't rotate @ low gpm (gallons measured from buckets)

* begin to bail remaining volume

② E3 = Out of Range >1000 NTU

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW-16E-S

PROJECT Amco EVENT WELL DEVELOPMENT SAMPLER SG DATE 11/30/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6

1.47 gal/ft. casing

Intake depth ~13.5

SWL 4.40
(if above screen)

SWL ~~4.40~~
(if in screen)

Measured TD 14.7 from TOC

d

4.7 =TOP

14.7 =BOP

14.7 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	09:53	<0.5/min	9.25
Pump Stop *	09:58		11.2
Bail	10:40		11.2
Stop bailing (dry)	10:54		14.3
	13:30		11.2
stop bailing (dry)	13:52		14.3
Stop			
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 10.3 ~~29~~ ft. (SWL to TD) = 15.14 gals. (one volume) X 3 45.4 gals. (purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:
Bail / Surge / Pump
Bail ~18 gal / Pump 5 gallons / Bail ~9 gal + 8 gal
① Totalizer = 0411 ①

Bailing + Pump
Actual gallons purged ~~33~~ gallon (41)

Actual volumes purged ~2.5

Well Yield ⊕

Gallons Purged * (totalizer)	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	~~Other~~ TIME	DTW
1. 1 (0411 ①)	17.1	1282	6.53	E3 ②	09:56	9.25
* 2. 9 (bailer)	22.1	629	7.55	E3	10:40	11.2
3. 12 (bailer)	19.1	1187	7.82	E3	10:45	13.8
4. 14 (bailer)	18.7	1316	7.96	E3	10:52	14.3
change 5. 15 (bailer)	20.1	1249	7.95	113	13:40	11.2
6. 19 (bailer	18.6	1182	8.03	E3	13:46	13.5
7. 22						14.3
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

① Totalizer doesn't rotate at low gpm > measurements taken from buckets
* not enough water column for pumping - will bail
② E3 = out of Range >1000 NTU

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

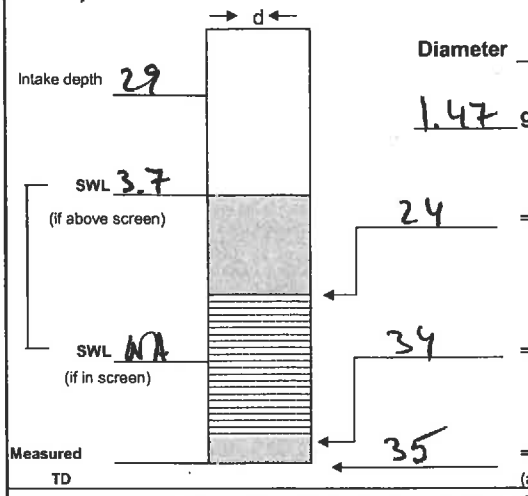
WELL OR LOCATION RMW-16-M

PROJECT AMCO EVENT WELL DEVELOP. SAMPLER EB DATE 11/13 TO 11/16/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing



ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	10:55	≈ 2	
Stop	12:30		
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 31.3 ft. (SWL to TD) = 46 gals. (one volume) X 3 = 138 gals. (purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:

BAIL / SURGE / PUMP
BAILED : 110 GALLONS
PUMPED : 180 GALLONS

Actual gallons purged 180

Actual volumes purged ~~180~~ = 1½

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other	
1. 0	20.7	1903	7.9	TOO HIGH		
2. 40	20.1	1784	7.05	994		
3. 60	20.2	1738	7.01	568		
4. 90	19.4	1689	7.03	420		
5. 120	18.1	1755	6.98	336		
6. 150	17.5	1640	7.03	210		
7. 180	16.8	1710	7.03	130		
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕

HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW - 16D

PROJECT AMCO EVENT WAL DISCHARGE SAMPLER CB DATE 11/16/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6

1.47 gal/ft. casing

Intake depth 55

SWL 3.80
(if above screen)

SWL NA
(if in screen)

Measured TD 60.2

50 =TOP

60 =BOP

60.2 =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	14:30	≥6	
Stop	15:30		
Sampled			
Final IWL			

PURGE CALCULATION

1.47 gal/ft. * 56.42 ft. (SWL to TD) = 83 gals. (one volume) X 3 249 gals. (purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:

Actual gallons purged ≈ 270

Actual volumes purged ≈ 1.5

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other	
1. 0	18.3	6.39 mS	7.70	TOO HIGH		
2. 40	19.7	3872	7.67	TOO HIGH		
3. 60	21.3	2068	7.60	894		
4. 90	21.3	2487	7.65	548		
5. 120	21.2	2954	7.64	585		
6. 150	21.0	2653	7.66	413		
7. 180	21.2	2730	7.60	320		
8. 210	21.3	2640	7.63	210		
9. 240	21.0	2530	7.65	220		
10. 270	21.2	2660	7.61	210		
11.						
12.						
13.						
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW-17M

PROJECT AMCO EVENT WELL DEVELOPMENT SAMPLER EB DATE 11/17/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47* gal/ft. casing

Intake depth 30'

SWL 4.75'
(if above screen)

SWL
(if in screen)

Measured TD 32.53'

d

24.5' =TOP

34.5' =BOP

34.5' =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	11:05	4.5	
			SEE BELOW
Stop	11:49		
Sampled	—	—	
Final IWL			4.77

PURGE CALCULATION

1.47 gal/ft. * 27.78 ft. = 40.84 gals. X 3 122.52 gals.
SWL to TD — one volume — purge volume - 3 casings

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:
BAIL / SURGE / PUMP FLOW RATE: 4.5 GPM
TD AFTER BAILING: 34.50' TOC
50 GALLONS PURGED BY BAILER.
TOTALIZER: 2480 (INITIAL) 2720 (FINAL) = 240 GALLONS

Actual gallons purged 240

Actual volumes purged 6

Well Yield ⊕

Gallons Purged *	Temp °C	EC (us/cm)	pH	Turbidity (NTU)	Other TIME	WL TOC
1. 60	18.7	21.63 mS	6.94	1000	11:05	14.9
2. 90	18.7	21.77 mS	7.09	851	11:15	15.16
3. 120	18.8	21.70 mS	7.05	516	11:22	15.17
4. 150	19.2	21.80 mS	7.04	310	11:28	15.22
5. 180	18.9	21.84 mS	7.05	272	11:35	15.22
6. 210	18.6	21.70 mS	7.04	192	11:42	15.36
7. 240	18.4	21.80 mS	7.03	190	11:49	15.37
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

WDC EXPLORATION WELLS
WELL DEVELOPMENT DATASHEET

WELL OR LOCATION RMW-17D

PROJECT AMCO EVENT WELL DEVELOPMENT SAMPLER EB DATE 11/17/09

Well type MW
(MW, EW, PZ, etc.)

Diameter 6"

1.47 gal/ft. casing

Intake depth MID POINT SCREEN

SWL 4.41'
(if above screen)

SWL
(if in screen)

Measured TD 68.85

59' =TOP

69' =BOP

69' =TD (as built)

ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	14:35	3.75	
Stop	15:56		
Sampled			
Final IWL			4.42

PURGE CALCULATION

1.47 gal/ft. * 64.44 (29) ft. = 94.73 gals. X 3 = 284.19 gals.

SWL to TD — one volume — purge volume - 3 casings

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Description of Event:
BAIL / SURGE / PUMP
FLOW RATE: 3.75 GPM
TD AFTER BAILING: 50 GALLONS PURGED BY BAILER
TOTALIZER: 2720 (INITIAL) 3020 (FINAL)

Actual gallons purged 300

Actual volumes purged ≈ 3

Well Yield ⊕ out of range

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other TIME	WL TEC
1. 0 (2780)	18.0	67.3 mS	6.70	TOO HIGH	14:35	7.90
2. 30 (2750)	18.0	76.1 mS	6.96	"	14:44	8.08
3. 60 (2780)	16.9	80.4 mS	6.97	809	14:52	8.04
4. 90 (2810)	16.7	81.8 mS	7.02	456	15:00	8.10
5. 120 (2840)	16.7	81.5 mS	6.99	380	15:07	8.12
6. 150 (2870)	16.8	82.6 mS	7.00	314	15:15	8.12
7. 180 (2900)	16.3	83.0 mS	7.03	278	15:24	8.15
8. 210 (2930)	16.9	82.2 mS	7.04	272	15:34	8.16
9. 240 (2960)	16.4	82.5 mS	7.04	237	15:40	8.16
10. 270 (2990)	15.7	82.5 mS	7.02	231	15:48	8.17
11. 300 (3020)	15.9	82.6 mS	7.01	229	15:56	8.17
12.						
13.						
14.						
15.						

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

Appendix D
Laboratory Reports

(On CD – Attached)

Appendix E
Quality Assurance/Quality Control Data Validation Packages

FIELD QA/QC SUMMARY FORM

Instructions: Complete one form per laboratory and per matrix for each sampling event.

Date:	2/8/2010	Site:	AMCO/DC Metals
Sampler:	Erin Kelly/Tamara Frank	Case/SAS#:	39119
Office:	155 Grand Ave. Suite 720	Laboratory:	Curtis and Tompkins
	Oakland, CA 94612		
Phone:	510-501-0349		

Mattrix: (check one)

	Groundwater	x	Surface Soil		Air
	Surface Water	x	Subsurface Soil		Other

I. BLANKS

Sample #	Type (circle one)	Date Collected
AB-01-1009	Equip / **Field** / Travel	10/20/2009
TB-01-1009	Equip / Field / **Travel**	10/20/2009
TB-02-1009	Equip / Field / **Travel**	10/21/2009
TB-03-1009	Equip / Field / **Travel**	10/22/2009
EB-01-smallrig-1009	**Equip** / Field / Travel	10/22/2009
EB-02-smallrig-1009	**Equip** / Field / Travel	10/26/2009
TB-04-1009	Equip / Field / **Travel**	10/26/2009
TB-05-2009	Equip / Field / **Travel**	10/27/2009
EB-03-smallrig-1009	**Equip** / Field / Travel	10/27/2009
TB-06-2009	Equip / Field / **Travel**	10/29/2009
EB-04-smallrig-1009	**Equip** / Field / Travel	10/29/2009
TB-07-2009	Equip / Field / **Travel**	10/30/2009
EB-05-smallrig-1009	**Equip** / Field / Travel	10/30/2009
TB-08-1009	Equip / Field / **Travel**	11/2/2009
EB-01-bigrig-1009	**Equip** / Field / Travel	11/2/2009
TB-09-1009	Equip / Field / **Travel**	11/3/2009
EB-06-smallrig-1009	**Equip** / Field / Travel	11/3/2009

II. BACKGROUND SAMPLES

Sample #	Date Collected

III. LAB QC SAMPLES

Sample #	Date Collected
RMW-09D-00-1009	11/2/2009
RMW-09D-10-1009	11/3/2009

IV. DUPLICATES

Sample #	Matches Sample #	Date Collected	Type (circle one)
RMW-15D-65-1009	RMW-15D-35-1009	10/21/2009	a / b / **c** / **d**
RMW-15D-78-1009	RMW-15D-12-1009	10/21/2009	a / b / **c** / **d**
RMW-16D-80-1009	RMW-16D-20-1009	10/21/2009	a / b / **c** / **d**
RMW-16D-85-1009	RMW-16D-15-1009	10/21/2009	a / b / **c** / **d**
RMW-16D-90-1009	RMW-16D-10-1009	10/21/2009	a / b / **c** / **d**
RMW-93D-21-1009	RMW-17D-21-1009	10/27/2009	a / b / **c** / **d**
RMW-85M-35-1009	RMW-15M-35-1009	11/2/2009	a / b / **c** / **d**
RMW-91D-00-1009	RMW-09D-00-1009	11/2/2009	a / b / **c** / **d**
RMW-91D-20-1009	RMW-09D-15-1009	11/3/2009	a / b / **c** / **d**

a= composite split
b= consecutive
c= colocated
d= soil sleeves

V. CHECKLIST OF FIELD PROBLEMS ENCOUNTERED

		Sample # / Date (s) of Occurence / Comments
X	None	
	Pumping Equipment Problems	
	Sample Filtering Problems	
	Less Than Required Sample Volume	
	Low Flow/Recharge Rates	
	Preservation Problems	
	Samples Not Shipped in 24 hrs.	
	Federal Express Delay	
	Other	

FIELD QA/QC SUMMARY FORM

Instructions: Complete one form per laboratory and per matrix for each sampling event.

Date:	2/8/2010	Site:	AMCO/DC Metals
Sampler:	Erin Kelly/Tamara Frank	Case/SAS#:	39119
Office:	155 Grand Ave. Suite 720	Laboratory:	R9
	Oakland, CA 94612		
Phone:	510-501-0349		

Mattrix:		Groundwater	x	Surface Soil		Air
(check one)		Surface Water	x	Subsurface Soil		Other

I. BLANKS

Sample #	Type (circle one)	Date Collected
AB-01-1009	Equip / **Field** / Travel	10/20/2009
TB-01-1009	Equip / Field / **Travel**	10/20/2009
TB-02-1009	Equip / Field / **Travel**	10/21/2009
TB-03-1009	Equip / Field / **Travel**	10/22/2009
EB-01-smallrig-1009	**Equip** / Field / Travel	10/22/2009
EB-02-smallrig-1009	**Equip** / Field / Travel	10/26/2009
TB-04-1009	Equip / Field / **Travel**	10/26/2009
TB-05-2009	Equip / Field / **Travel**	10/27/2009
EB-03-smallrig-1009	**Equip** / Field / Travel	10/27/2009
TB-06-2009	Equip / Field / **Travel**	10/29/2009
EB-04-smallrig-1009	**Equip** / Field / Travel	10/29/2009
TB-07-2009	Equip / Field / **Travel**	10/30/2009
EB-05-smallrig-1009	**Equip** / Field / Travel	10/30/2009
TB-08-1009	Equip / Field / **Travel**	11/2/2009
EB-01-bigrig-1009	**Equip** / Field / Travel	11/2/2009
TB-09-1009	Equip / Field / **Travel**	11/3/2009
EB-06-smallrig-1009	**Equip** / Field / Travel	11/3/2009

II. BACKGROUND SAMPLES

Sample #	Date Collected

III. LAB QC SAMPLES

Sample #	Date Collected
RMW-09D-00-1009	11/2/2009
RMW-09D-10-1009	11/3/2009

IV. DUPLICATES

Sample #	Matches Sample #	Date Collected	Type (circle one)	
RMW-15D-65-1009	RMW-15D-35-1009	10/21/2009	a / b / **c** / **d**	
RMW-15D-78-1009	RMW-15D-12-1009	10/21/2009	a / b / **c** / **d**	
RMW-16D-80-1009	RMW-16D-20-1009	10/21/2009	a / b / **c** / **d**	
RMW-16D-85-1009	RMW-16D-15-1009	10/21/2009	a / b / **c** / **d**	
RMW-16D-90-1009	RMW-16D-10-1009	10/21/2009	a / b / **c** / **d**	
RMW-93D-21-1009	RMW-17D-21-1009	10/27/2009	a / b / **c** / **d**	a= composite split
RMW-85M-35-1009	RMW-15M-35-1009	11/2/2009	a / b / **c** / **d**	b= consecutive
RMW-91D-00-1009	RMW-09D-00-1009	11/2/2009	a / b / **c** / **d**	c= colocated
RMW-91D-20-1009	RMW-09D-15-1009	11/3/2009	a / b / **c** / **d**	d= soil sleeves

V. CHECKLIST OF FIELD PROBLEMS ENCOUNTERED

		Sample # / Date (s) of Occurence / Comments
X	None	
	Pumping Equipment Problems	
	Sample Filtering Problems	
	Less Than Required Sample Volume	
	Low Flow/Recharge Rates	
	Preservation Problems	
	Samples Not Shipped in 24 hrs.	
	Federal Express Delay	
	Other	

FIELD QA/QC SUMMARY FORM

Instructions: Complete one form per laboratory and per matrix for each sampling event.

Date:	2/8/2010	Site:	AMCO/DC Metals
Sampler:	Erin Kelly/Tamara Frank	Case/SAS#:	39119
Office:	155 Grand Ave. Suite 720	Laboratory:	Shealy
	Oakland, CA 94612		
Phone:	510-501-0349		

Mattrix:						
(check one)		Groundwater	x	Surface Soil		Air
		Surface Water	x	Subsurface Soil		Other

I. BLANKS

Sample #	Type (circle one)	Date Collected
Y54S7	Equip / **Field** / Travel	10/20/2009
Y54S8	Equip / Field / **Travel**	10/20/2009
Y54T5	Equip / Field / **Travel**	10/21/2009
Y54Z3	Equip / Field / **Travel**	10/22/2009
Y54Y3	**Equip** / Field / Travel	10/22/2009
Y5500	**Equip** / Field / Travel	10/26/2009
Y5501	Equip / Field / **Travel**	10/26/2009
Y5502	Equip / Field / **Travel**	10/27/2009
Y5510	**Equip** / Field / Travel	10/27/2009
Y5517	Equip / Field / **Travel**	10/29/2009
Y5518	**Equip** / Field / Travel	10/29/2009
Y5519	Equip / Field / **Travel**	10/30/2009
Y5523	**Equip** / Field / Travel	10/30/2009
Y5524	Equip / Field / **Travel**	11/2/2009
Y5532	**Equip** / Field / Travel	11/2/2009
Y5541	Equip / Field / **Travel**	11/3/2009
Y5547	**Equip** / Field / Travel	11/3/2009

II. BACKGROUND SAMPLES

Sample #	Date Collected

III. LAB QC SAMPLES

Sample #	Date Collected
Y5539	11/2/2009
Y5534	11/3/2009

IV. DUPLICATES

Sample #	Matches Sample #	Date Collected	Type (circle one)	
Y54X8	Y54X5	10/21/2009	a / b / **c** / **d**	
Y54T6	Y54T7	10/21/2009	a / b / **c** / **d**	
Y54W9	Y54W3	10/21/2009	a / b / **c** / **d**	
Y54W1	Y54W0	10/21/2009	a / b / **c** / **d**	
Y54W2	Y54T9	10/21/2009	a / b / **c** / **d**	
Y5506	Y5505	10/27/2009	a / b / **c** / **d**	a= composite split
Y5530	Y5531	11/2/2009	a / b / **c** / **d**	b= consecutive
Y5540	Y5539	11/2/2009	a / b / **c** / **d**	c= colocated
Y5543	Y5542	11/3/2009	a / b / **c** / **d**	d= soil sleeves

V. CHECKLIST OF FIELD PROBLEMS ENCOUNTERED

		Sample # / Date (s) of Occurence / Comments
	None	
	Pumping Equipment Problems	Some samples had to be cancelled due to change in scope.
	Sample Filtering Problems	Refer to lab logins for notes.
	Less Than Required Sample Volume	
	Low Flow/Recharge Rates	
	Preservation Problems	
	Samples Not Shipped in 24 hrs.	
	Federal Express Delay	
x	Other	

FIELD QA/QC SUMMARY FORM

Instructions: Complete one form per laboratory and per matrix for each sampling event.

Date:	2/8/2010	Site:	AMCO/DC Metals
Sampler:	Erin Kelly/Tamara Frank	Case/SAS#:	39119
Office:	155 Grand Ave. Suite 720	Laboratory:	ChemTech
	Oakland, CA 94612		
Phone:	510-501-0349		

Mattrix: (check one)

	Groundwater	x Surface Soil	Air
	Surface Water	x Subsurface Soil	Other

I. BLANKS

Sample #	Type (circle one)	Date Collected
MY54S7	Equip / **Field** / Travel	10/20/2009
MY54S8	Equip / Field / **Travel**	10/20/2009
MY54T5	Equip / Field / **Travel**	10/21/2009
MY54Z3	Equip / Field / **Travel**	10/22/2009
MY54Y3	**Equip** / Field / Travel	10/22/2009
MY5500	**Equip** / Field / Travel	10/26/2009
MY5501	Equip / Field / **Travel**	10/26/2009
MY5502	Equip / Field / **Travel**	10/27/2009
MY5510	**Equip** / Field / Travel	10/27/2009
MY5517	Equip / Field / **Travel**	10/29/2009
MY5518	**Equip** / Field / Travel	10/29/2009
MY5519	Equip / Field / **Travel**	10/30/2009
MY5523	**Equip** / Field / Travel	10/30/2009
MY5524	Equip / Field / **Travel**	11/2/2009
MY5532	**Equip** / Field / Travel	11/2/2009
MY5541	Equip / Field / **Travel**	11/3/2009
MY5547	**Equip** / Field / Travel	11/3/2009

II. BACKGROUND SAMPLES

Sample #	Date Collected

III. LAB QC SAMPLES

Sample #	Date Collected
Y5539	11/2/2009
Y5534	11/3/2009

IV. DUPLICATES

Sample #	Matches Sample #	Date Collected	Type (circle one)
MY54X8	MY54X5	10/21/2009	a / b / **c** / **d**
MY54T6	MY54T7	10/21/2009	a / b / **c** / **d**
MY54W9	MY54W3	10/21/2009	a / b / **c** / **d**
MY54W1	MY54W0	10/21/2009	a / b / **c** / **d**
MY54W2	MY54T9	10/21/2009	a / b / **c** / **d**
MY5506	MY5505	10/27/2009	a / b / **c** / **d**
MY5530	MY5531	11/2/2009	a / b / **c** / **d**
MY5540	MY5539	11/2/2009	a / b / **c** / **d**
MY5543	MY5542	11/3/2009	a / b / **c** / **d**

a= composite split
b= consecutive
c= colocated
d= soil sleeves

V. CHECKLIST OF FIELD PROBLEMS ENCOUNTERED

		Sample # / Date (s) of Occurence / Comments
	None	
	Pumping Equipment Problems	Some samples had to be cancelled due to change in scope.
	Sample Filtering Problems	Refer to lab logins for notes.
	Less Than Required Sample Volume	
	Low Flow/Recharge Rates	
	Preservation Problems	
	Samples Not Shipped in 24 hrs.	
	Federal Express Delay	
x	Other	