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ENVIRONMENTAL
PROTECTION
95-07-5 PM 1:45

October 4, 1995

Mr. Barney Chan
ALAMEDA COUNTY HEALTH AGENCY
Department of Environmental Health
1131 Harbor Park Way
Alameda, CA 94502

Dear Mr. Chan:

Please find enclosed the Ninth Quarterly Groundwater Monitoring Report written by BSK & Associates. The reports reflect results from water sampling taken on September 6, 1995. Analytical results appear to be higher than previously indicated, reasons for this increase are under review.

If you have questions or comments regarding the enclosed information, please feel free in contacting me at (510) 632- 3467, extension 211.

Sincerely:

Dave Robinson
Environmental Engineering Manager

944
9/26/95

cc: Eddy So, CRWQCB



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September 26, 1995

BSK JOB NO. P92270.3

American Brass and Iron Foundry
7825 San Leandro Street
Oakland, California 94621

Attention: Mr. David Robinson
Environmental Engineering Manager

Subject: Ninth Quarterly Groundwater
Monitoring Report - September 1995
American Brass and Iron Foundry
7825 San Leandro Street
Oakland, California

As requested and authorized, BSK & Associates has performed the ninth quarterly monitoring of three shallow groundwater Monitoring Wells MW-2 through MW-4 at American Brass & Iron Foundry, located at 7825 San Leandro Street, Oakland, California (Site). This report presents the project background, groundwater data obtained during this sampling event as well as previous data, conclusions based on this quarter's data, and recommendations for further action, as appropriate. The Site location is shown on the Vicinity Map, Figure 1.

BSK appreciates this opportunity to continue to be of service to American Brass & Iron. If there are questions or comments regarding this report, please contact the undersigned.

Respectfully submitted,
BSK & Associates

Martin B. Cline, R.G.
Geologist

Alex Y. Eskandari, P.E.
Project Manager
C.E. #38101

AYE\MC
(ENV\AB&I\QRTLY\295)

Distribution:
American Brass & Iron Foundry (3 copies)

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**NINTH QUARTERLY GROUNDWATER
MONITORING REPORT - SEPTEMBER 1995
AMERICAN BRASS & IRON FOUNDRY
7825 SAN LEANDRO STREET
OAKLAND, CALIFORNIA**

Introduction

This quarterly monitoring report has been prepared to meet Alameda County Department of Environmental Health (ACDEH) requirements for status updates of groundwater at the Site following the removal of four Underground Storage Tanks (USTs) during 1991 and 1992, as initially presented in their letter of October 2, 1992, to David Robinson of American Brass & Iron Foundry (AB & I).

Background

AB & I has been operating at its present location for more than eighty years. AB & I's current activities include the manufacture of cast iron pipe and fittings. The facility accepts scrap iron and steel which it stockpiles on-site and utilizes in its processes.

AB & I maintained three USTs to store petroleum products and one UST to store solvent. AB & I removed the four USTs between August 1991 and June 1992. Removal and disposal of two of the USTs (the 8,000-gallon capacity gasoline tank and the 550-gallon capacity leaded gasoline tank) were described in two consultant's (Levine-Fricke) reports. Documentation of the removal and disposal of the two remaining USTs (the 8,000-gallon capacity 1,1,1-TCA UST and the 10,000-gallon capacity diesel UST) was reported by AB & I.

In general, analytical results for the soil and groundwater samples collected adjacent to the tanks during the tank removal projects showed detectable concentrations of Total Petroleum Hydrocarbons as gasoline (TPHg), Total Petroleum Hydrocarbons as diesel (TPHd), 1,1-DCA, Chloroethane, and 1,1,1-TCA. Affected soil at each former tank location was excavated until confirmation samples indicated the chemicals of concern were at relatively low concentrations, or to where an obstruction made further excavation impossible or hazardous.

BSK & Associates (BSK) installed four shallow groundwater monitoring wells at the Site in February 1993, one well per former tank location as shown on Figure 2, Site Plan. Soil and groundwater samples revealed soil contamination in the vicinities of the former 500-gallon gasoline tank and the TCA solvent tank, and contaminated groundwater at these two locations as well as the former diesel tank location. The well installation and sampling findings are presented in BSK Report No. P92270.3, dated April 30, 1993.

NINTH QUARTERLY MONITORING ACTIVITIES - SEPTEMBER 1995

General

Ninth quarterly monitoring of groundwater Monitoring Wells MW-2, MW-3 and MW-4 was performed by BSK personnel on September 6, 1995, in accordance with the Groundwater Well Monitoring portion of our Proposal No. PR93204.3 of July 29, 1993. As directed by Mr. David Robinson (after meeting with Barney Chan of ACEHD on March 13, 1995), sampling of the groundwater Monitoring Well MW-1, has not been performed since then. Field procedures and observations are provided in the following text and figures.



Field Work

Water samples from site wells were obtained after purging each well of approximately four casing volumes, and allowing eighty percent recovery. Observation of water level, and for immiscible product, was performed using an electric sounder and clear point-source bailer prior to purging. The water level was recorded to the nearest 1/100th of a foot. During purging, the water parameters: pH, temperature and electrical conductivity were monitored and recorded at regular intervals on Well Field Logs. The Well Field Logs are presented in Figures 3 through 5. Water samples for analytical testing were obtained in the order of most to least volatility. Samples were obtained via point-source bailer (Teflon^R or polyethylene disposable), and transferred to the appropriate sample containers, with preservative as needed. The samples were labeled and placed into a cooler with water-ice or blue ice for delivery to our State-certified analytical laboratory.

Sampling, purging and decontamination waste water was contained on-site in a 55-gallon drum provided by AB & I. Each container was labeled according to the wastewater source, date of accumulation and owner.

Analytical Testing

Analytical testing of the water samples obtained from the site were performed by BSK State-certified Analytical Laboratories in Fresno, California.

The analyses performed for each contaminant type are those specified by the Tri-Regional Water Board Staff Recommendations of August 10, 1992 and ACDEH. The analyses are:

Well MW-2

Chlorinated Solvent by EPA Method 601
Oil and Grease by Methods 5520 C&F
TPHgasoline by GCFID-5030
BTEX by EPA Method 602

Well MW-3

TPHgasoline by GCFID-5030
BTEX by Method 602

Well MW-4

TPHgasoline by GCFID-5030
BTEX by Method 602

Samples were submitted to our State-certified analytical laboratory utilizing Chain-of-Custody documentation and procedure.

The results of the chemical analyses of groundwater for this quarter, and previous quarterly test results, are summarized in the following tables; water analyses results and related Action Levels are reported in Micrograms per liter (ug/l). The Chemical Test Data Sheets and project Chain-of-Custody documentation are presented in Appendix "A" of this report.

**TABLE 1 - ANALYTICAL RESULTS, GROUNDWATER SAMPLES
BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES (BTEX)
Results in micrograms per liter (ug/l)**

| Sample Location (Action Level) | CONSTITUENTS | | | |
|---|-----------------------------|-------------------------------|------------------------------------|--------------------------------|
| | Benzene (1) ₁ | Toluene (100) ₂ | Ethylbenzene (680) ₁ | Xylenes (1750) ₁ |
| SAMPLE DATE: 9/6/95 (Ninth Quarter) | | | | |
| MW-1 | -- | -- | -- | -- |
| MW-2 | ND | ND | ND | ND |
| MW-3 | ND | ND | ND | ND |
| MW-4 | 9.4 | 1.4 | 6.3 | 6.2 |
| SAMPLE DATE: 6/23/95 (Eighth Quarter) | | | | |
| MW-1 | -- | -- | -- | -- |
| MW-2 | ND | ND | ND | ND |
| MW-3 | ND | ND | ND | ND |
| MW-4 | ND | ND | 0.9 | 1.7 |
| SAMPLE DATE: 3/17/95 (Seventh Quarter) | | | | |
| MW-1 | -- | -- | -- | -- |
| MW-2 | 4.9 | ND | ND | ND |
| MW-3 | ND | ND | ND | ND |
| MW-4 | ND | ND | ND | ND |
| SAMPLE DATE: 12/16/94 (Sixth Quarter) | | | | |
| MW-1 | 0.6 | ND | ND | ND |
| MW-2 | ND | 18 | ND | ND |
| MW-3 | ND | ND | ND | ND |
| MW-4 | 0.4 | 0.4 | ND | 1.2 |
| SAMPLE DATE: 09/09/94 (Fifth Quarter) | | | | |
| MW-1 | ND | ND | ND | ND |
| MW-2 | ND | ND | ND | ND |
| MW-3 | ND | ND | ND | ND |
| MW-4 | 0.4 | ND | 0.7 | 1.3 |
| SAMPLE DATE: 06/10/94 (Fourth Quarter) | | | | |
| MW-1 | ND | ND | ND | ND |
| MW-2 | ND | ND | ND | ND |
| MW-3 | ND | ND | ND | ND |
| MW-4 | 4.3 | ND | 1.8 | 4.3 |
| SAMPLE DATE: 03/04/94 (Third Quarter) | | | | |
| MW-1 | 1.1 | ND | ND | ND |
| MW-2 | ND | ND | ND | 3.6 |
| MW-3 | ND | ND | ND | ND |
| MW-4 | ND | 0.9 | ND | 1.1 |
| SAMPLE DATE: 12/03/93 (Second Quarter) | | | | |
| MW-1 | ND | ND | ND | ND |
| MW-2 | ND | 250 | 19 | 5.1 |
| MW-3 | ND | ND | ND | ND |
| MW-4 | ND | ND | 1.4 | 2.8 |
| SAMPLE DATE: 08/20/93 (First Quarter) | | | | |
| MW-1 | 2.2 | 3.7 | 4.5 | 17 |
| MW-2 | 2.9 | 4.2 | 6.3 | 25 |
| MW-3 | 7.2 | 9.3 | 8.6 | 31 |
| MW-4 | 5.6 | 4.9 | 7.5 | 22 |

TABLE 1 (CONTINUED)

| C O N S T I T U E N T S | | | | |
|--|-----------------------------|-------------------------------|------------------------------------|--------------------------------|
| Sample Location (Action Level) | Benzene (1) ₁ | Toluene (100) ₂ | Ethylbenzene (680) ₁ | Xylenes (1750) ₁ |
| SAMPLE DATE: 03/10/93 (Initial Well Installation Sampling) | | | | |
| MW-1 | 0.6 | ND | ND | ND |
| MW-2 | ND | 0.8 | ND | ND |
| MW-3 | ND | ND | ND | ND |
| MW-4 | 1.0 | 2.0 | 7.6 | 19 |

ND - None Detected

1 - California Department Of Health Services Drinking Water Standard, Revised 10/23/91

2 - California DOHS Action Level, 7/1/92

-- - Not Sampled

TABLE 2 - ANALYTICAL RESULTS, GROUNDWATER SAMPLES
TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE AND DIESEL,
TOTAL AND HYDROCARBON OIL AND GREASE
TOTAL LEAD, AND VOLATILE HALOCARBONS
 Results in micrograms per liter (ug/l)

| C O N S T I T U E N T S | | | | | | |
|--|----------------------|----------------------------------|----------------------------|----------------------------------|--------------------|---|
| Sample Location (Action Level) | TPH Gasoline (NA) | TPH Diesel (100) ₁ | Total Oil & Grease (NA) | Hydrocarbon Oil & Grease (NA) | Total Lead (50) | Volatile Halocarbons (Determined by Compound) |
| SAMPLE DATE: 9/6/95 (Ninth Quarter) | | | | | | |
| MW-1 | -- | -- | -- | -- | -- | -- |
| MW-2 | 110 ₍₄₎ | -- | ND | ND | -- | ND |
| MW-3 | ND | -- | -- | -- | -- | -- |
| MW-4 | 420 | -- | -- | -- | -- | -- |
| SAMPLE DATE: 6/23/95 (Eighth Quarter) | | | | | | |
| MW-1 | -- | -- | -- | -- | -- | -- |
| MW-2 | 190 ₍₄₎ | -- | ND | ND | -- | Chloroethane - 0.9(NA) |
| MW-3 | ND | -- | -- | -- | -- | -- |
| MW-4 | 180 ₍₄₎ | -- | -- | -- | ND | -- |
| SAMPLE DATE: 3/17/95 (Seventh Quarter) | | | | | | |
| MW-1 | -- | -- | -- | -- | -- | -- |
| MW-2 | 320 ₍₄₎ | -- | -- | 1 | -- | Chloroethane - 2.4(NA) |
| MW-3 | ND | -- | -- | -- | -- | -- |
| MW-4 | 62 ₍₄₎ | -- | -- | -- | ND | -- |
| SAMPLE DATE: 12/16/94 (Sixth Quarter) | | | | | | |
| MW-1 | -- | 180 ₍₅₎ | -- | -- | -- | -- |
| MW-2 | 130 ₍₄₎ | -- | ND | ND | -- | ND |
| MW-3 | ND | -- | -- | -- | -- | -- |
| MW-4 | 100 | -- | -- | -- | 86 | -- |
| SAMPLE DATE: 09/09/94 (Fifth Quarter) | | | | | | |
| MW-1 | -- | ND | -- | -- | -- | -- |
| MW-2 | 830 ₍₂₎ | -- | 2 | 2 | -- | Chloroethane - 1.4(NA) 1,1-Dichloroethane - 0.8(0.5) |
| MW-3 | ND | -- | -- | -- | -- | -- |
| MW-4 | 150 ₍₂₎ | -- | -- | -- | ND | -- |

TABLE 2 (CONTINUED)

| CONSTITUENTS | | | | | | |
|--|----------------------|----------------------------------|----------------------------|----------------------------------|--------------------|--|
| Sample Location (Action Level) | TPH Gasoline (NA) | TPH Diesel (100) ₁ | Total Oil & Grease (NA) | Hydrocarbon Oil & Grease (NA) | Total Lead (50) | Volatile Halocarbons (Determined by Compound) |
| SAMPLE DATE: 06/10/94 (Fourth Quarter) | | | | | | |
| MW-1 | -- | 490 | -- | -- | -- | -- |
| MW-2 | 920 | -- | 2,000 | 2,000 | -- | Chloroethane - 4.2(NA) 1,1-Dichloroethane - 0.6(0.5) ₃ 1,1,1-Trichloroethane - 0.8(200) ₃ |
| MW-3 | ND | -- | -- | -- | -- | -- |
| MW-4 | 460 | -- | -- | -- | ND | -- |
| SAMPLE DATE: 03/04/94 (Third Quarter) | | | | | | |
| MW-1 | -- | 710 | -- | -- | -- | -- |
| MW-2 | 420 | -- | ND | ND | -- | Chloroethane - 3.7(NA) |
| MW-3 | ND | - | -- | -- | -- | -- |
| MW-4 | 50 | -- | -- | -- | ND | -- |
| SAMPLE DATE: 12/03/93 (Second Quarter) | | | | | | |
| MW-1 | -- | 3200 ₍₃₎ | -- | -- | -- | -- |
| MW-2 | 900 | -- | ND | ND | -- | Chloroethane - 3.8(NA) |
| MW-3 | 80 | -- | -- | -- | -- | -- |
| MW-4 | 1100 | -- | -- | -- | ND | -- |
| SAMPLE DATE: 08/20/93 (First Quarter) | | | | | | |
| MW-1 | -- | 2100 ₍₁₎ | -- | -- | -- | -- |
| MW-2 | 720 ₍₂₎ | -- | ND | ND | -- | Chloroethane - 4.7(NA) |
| MW-3 | 190 | -- | -- | -- | -- | -- |
| MW-4 | 350 | -- | -- | -- | ND | -- |
| SAMPLE DATE: 03/10/93 (Initial Well Installation Sampling) | | | | | | |
| MW-1 | -- | 830 | -- | -- | -- | -- |
| MW-2 | 920 | -- | 1.0 | ND | -- | Bromoform - 0.6(100) ₂ Chloroethane - 5.0(NA) 1,1-Dichloroethane - 1.7(0.5) ₃ 1,1,1-Trichloroethane - 6.7(200) ₃ |
| MW-3 | ND | -- | -- | -- | -- | -- |
| MW-4 | 1800 | -- | -- | -- | 58.0 | -- |

ND - None Detected, NA - Not Applicable

-- - Not Tested

1 - 1980 EPA 10-Day Suggested No Adverse Response Level (SNARL)

2 - EPA Drinking Water Standard, Revised 7/1/92

3 - California Department of Health Services Drinking Water Standards, Revised 10/23/91

(1) - "Not Diesel-Like", as reported by analytical laboratory

(2) - "Not Gasoline-Like", as reported by analytical laboratory

(3) - "Appears to be heavier than diesel," as reported by analytical laboratory

(4) - Chromatography for this sample is described as inconsistent with the gasoline standard

(5) - Chromatography for this sample is described as inconsistent with the diesel standard

GROUNDWATER DATA - SEPTEMBER 1995

Regional Hydrogeology

The American Brass & Iron Foundry facility is located on the San Leandro alluvial cone of the East Bay Plain. The upper 400 feet of the San Leandro Cone comprises discontinuous beds of sand and gravel which extend westward under San Francisco Bay, and are capped by confining clay layers. Groundwater in this area is used mainly for industrial and irrigation purposes, but is suitable in quality for most uses. Shallow aquifers of limited extent located throughout the Bay Plain are often perched and unconfined, and typically yield less than 35 gallons per minute from silty sands. These aquifers are often tapped by wells less than 50 feet in depth and used for local irrigation. These minor aquifers are most susceptible to groundwater pollution (Maslonowski, 1984).

Site Groundwater Conditions

Based upon the groundwater elevations in the three on-site groundwater monitoring wells (MW-2, MW-3 and MW-4) the direction of groundwater flow is generally in a northeast direction. The calculated hydraulic gradient is approximately 0.01 ft/ft. The groundwater elevation in each of the three measured on-site wells have dropped by 0.25 to 0.45 feet since last reported. A summary of the groundwater data collected to date is listed below in Table 3 and graphically presented on Figure 7.

TABLE 3
SUMMARY OF GROUNDWATER DATA

| Well Number (Date Measured) | Groundwater Elevation (Feet) | Hydraulic Gradient (ft/ft) | Direction of Groundwater Flow |
|---|------------------------------|----------------------------|--------------------------------------|
| MW-2 (9/6/95) MW-3 MW-4 | 2.80 1.85 1.60 | 0.010 (1) | Northeast (1) |
| MW-2 (6/23/95) MW-3 MW-4 | 3.05 2.31 2.04 | 0.008 (1) | Northeast (1) |
| MW-2 (3/17/95) MW-3 MW-4 | 3.79 3.05 2.93 | 0.007 (1) | Northeast (1) |
| MW-1 (12/16/94) MW-2 MW-3 MW-4 | 3.65 3.30 2.69 2.48 | 0.007 (1) 0.005 (2) | Northeast (1) Northeast (2) |
| MW-1 (9/9/94) MW-2 MW-3 MW-4 | 2.14 2.38 1.74 1.43 | 0.008 (1) 0.003 (2) | Northeast (1) North-Northwest (2) |
| MW-1 (6/10/94) MW-2 MW-3 MW-4 | 2.55 2.73 2.12 1.78 | 0.008 (1) 0.002 (2) | Northeast (1) North-Northwest (2) |
| MW-1 (3/4/94) MW-2 MW-3 MW-4 | 1.29 3.14 2.54 2.25 | 0.007 (1) 0.005 (2) | Northeast (1) West (2) |

TABLE 3 (CONTINUED)

| Well Number (Date Measured) | Groundwater Elevation (Feet) | Hydraulic Gradient (ft/ft) | Direction of Groundwater Flow |
|-----------------------------|------------------------------|----------------------------|-------------------------------|
| MW-1 (12/3/93) | 2.04 | | |
| MW-2 | 2.39 | 0.008 (1) | Northeast (1) |
| MW-3 | 1.72 | 0.003 (2) | Northwest-West (2) |
| MW-4 | 1.47 | | |
| MW-1 (8/20/93) | 2.05 | | |
| MW-2 | 2.30 | 0.008 (1) | Northeast (1) |
| MW-3 | 1.55 | 0.003 (2) | Northwest (2) |
| MW-4 | 1.29 | | |
| MW-1 (3/10/93) | 2.29 | | |
| MW-2 | 3.41 | 0.004 (1) | North-Northwest (1) |
| MW-3 | 2.53 | 0.003 (2) | West (2) |
| MW-4 | 3.45 | | |

- (1) Based upon a three point solution using wells MW-2, MW-3 and MW-4.
 (2) Based upon a three point solution using wells MW-1, MW-2 and MW-3.

FINDINGS

Petroleum hydrocarbons as gasoline (TPH-g) were detected at levels of 110 ug/l and 420 ug/l in groundwater samples collected from the groundwater Monitor Wells MW-2 and MW-4, respectively. Petroleum hydrocarbons as gasoline were reported as none detected in the groundwater samples collected from MW-3. Benzene, toluene, ethylbenzene and total xylenes were detected at 9.4, 1.4, 6.3 and 6.2 ug/l, respectively, in the groundwater sample collected from MW-4. Volatile halocarbons were reported as none detected in the groundwater samples collected from MW-2.

RECOMMENDATIONS

Since MW-1 will no longer be monitored, the well should be properly closed. Assessment of the lateral extent of shallow groundwater contamination should be considered in the vicinity of Wells MW-2 and MW-4.

Quarterly monitoring of the three wells installed should continue to be performed to assess contaminant concentration fluctuation with respect to groundwater level, gradient and flow direction. Groundwater samples collected from the quarterly monitoring of Well MW-4, should be analyzed for chlorinated hydrocarbons by EPA Method 601.

LIMITATIONS

This groundwater monitoring well report has been prepared for the exclusive use of American Brass & Iron Foundry Company. Unauthorized use of or reliance on the information contained in this report by others, unless given express written consent by BSK & Associates, is strictly prohibited.

The findings and conclusions presented in this report are based on field observations, and on data obtained from the sources listed in this report. This report has been prepared in accordance with generally accepted methodologies and standards of practice for the area. No other warranty, either expressed or implied, is made as to the findings or conclusions included in this report.

The findings of this report are valid as of the present. The passage of time, natural processes or human intervention on the property or adjacent properties, and changes in the regulations can cause changed conditions which can invalidate the findings and conclusions in this report.

This report is neither certification nor guarantee that the property is free of, or contains hazardous substance contamination, other than that mentioned in the report.

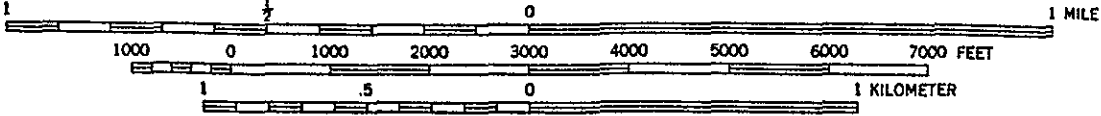
DISTRIBUTION

A copy of this report should be forwarded by the client to the Alameda County Department of Environmental Health for their review. An extra copy of this report has been forwarded to American Brass and Iron Foundry for this purpose.

Respectfully Submitted,
BSK & Associates



SCALE 1:24 000



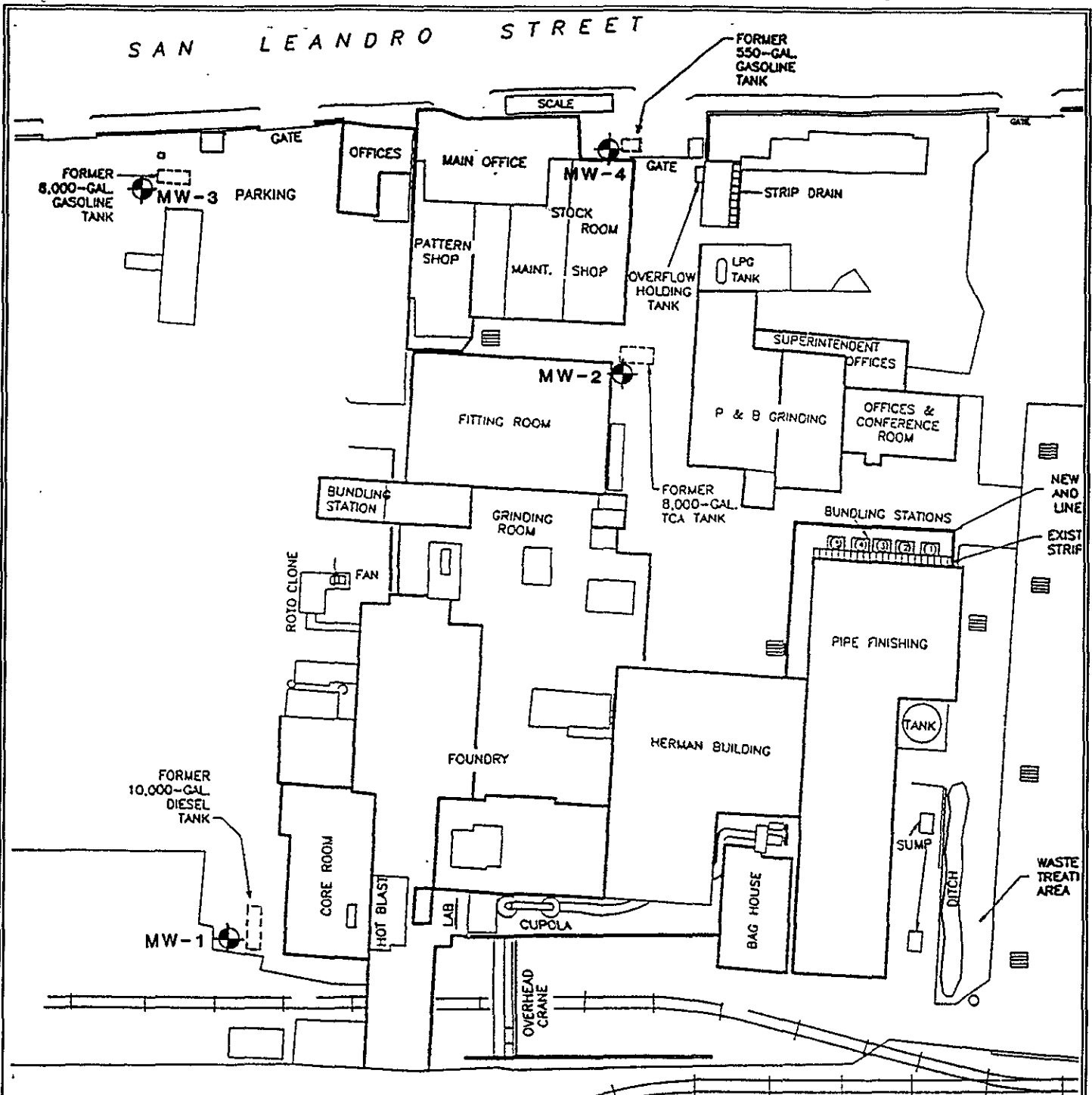
CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 5-FOOT CONTOURS
 NATIONAL GEODETIC VERTICAL DATUM OF 1929
 DEPTH CURVES IN FEET—DATUM IS MEAN LOWER LOW WATER

Source: USGS 7.5 Minute Topographic Maps, Oakland East and San Leandro Quadrangles

**NINTH QUARTERLY
 GROUNDWATER MONITORING
 AMERICAN BRASS & IRON FOUNDRY
 7825 SAN LEANDRO STREET
 OAKLAND, CALIFORNIA**

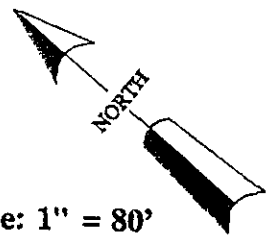
VICINITY MAP
 Job No. P92270.3
 SEPTEMBER 1995
 FIGURE: 1

BSK
 & ASSOCIATES



LEGEND:

⊕ - Groundwater Monitoring Well Location and Designation



Basemap Source: Levine-Fricke Work Plan 92P-404I, 10/30/91

Scale: 1" = 80'

**NINTH QUARTERLY
GROUNDWATER MONITORING
AMERICAN BRASS & IRON FOUNDRY
7825 SAN LEANDRO STREET
OAKLAND, CALIFORNIA**

SITE PLAN
Job No. P92270.3
SEPTEMBER 1995
FIGURE: 2

BSK
& ASSOCIATES

WELL FIELD LOG

Well Observation: x Date: 9/6/95
 Sample Collection: x Date: 9/6/95

Project Name: American Brass & Iron
 Location: Oakland, CA
 Personnel: BS/RSS
 Weather: Clear, warm

WELL INFORMATION:

| | | | |
|---------------------------------|--------------------------------|--------------|------------------|
| Well Number | MW-2 | Date Purged | 9/6/95 |
| Depth to Water - feet(TOC) | 5.00 | Purge Method | Submersible Pump |
| Well Depth (feet) | 17 | | |
| Water Volume (gallons) | 12 | Purge Begin | 12:14 |
| Reference Elevation - feet(TOC) | +7.80 | Purge End | 12:29 |
| Groundwater Elevation (feet) | +2.80 | Purge Rate | 2.3 GPM |
| Measurement Technique | Solinst Electric Water Sounder | | |

IMMISCIBLE LAYERS:

Top: None Observed, No Odor
 Bottom: None Observed, No Odor
 Detection Method: Visual
 Collection Method: Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

| TIME | VOLUME REMOVED (gallons) | ELECTRICAL CONDUCTIVITY (Micromhos) | pH | TEMP. (°F) | COLOR/COMMENTS |
|-------|--------------------------|-------------------------------------|------|------------|----------------|
| 12:16 | 5.0 | 1710 | 7.09 | 80.2 | |
| 12:18 | 10.0 | 1661 | 6.97 | 76.9 | |
| 12:20 | 15.0 | 1626 | 6.89 | 74.7 | |
| 12:25 | 24.0 | 1625 | 6.91 | 74.5 | |
| 12:29 | 32.0 | 1631 | 6.85 | 74.3 | |

SAMPLE COLLECTION DATA:

Sampling Equipment: Teflon Point-Source Bailer

| TIME | ANALYSIS | AMOUNT/CONTAINER USED | SAMPLE INTERVAL |
|-------|------------------------------------|--|-----------------|
| 12:35 | EPA 601 | 2-40 ml glass vials with HCl | ±6' |
| " | TPH-G and BTEX | 2-40 ml glass vials with HCl | " |
| " | Total and Hydrocarbon Oil & Grease | 1-liter amber glass bottle with H ₂ SO ₄ | " |

Field Observations: None

WELL FIELD LOG

Well Observation: x Date: 9/6/95
 Sample Collection: x Date: 9/6/95

Project Name: American Brass & Iron
 Location: Oakland, CA
 Personnel: BS/RSS
 Weather: Clear, Warm

WELL INFORMATION:

| | | | |
|---------------------------------|--------------------------------|--------------|------------------|
| Well Number | MW-3 | Date Purged | 9/6/95 |
| Depth to Water - feet(TOC) | 7.98 | Purge Method | Submersible Pump |
| Well Depth (feet) | 19 | | |
| Water Volume (gallons) | 1.9 | Purge Begin | 10:17 |
| Reference Elevation - feet(TOC) | 9.83 | Purge End | 10:27 |
| Groundwater Elevation (feet) | +1.85 | Purge Rate | 1.0 GPM |
| Measurement Technique | Solinst Electric Water Sounder | | |

IMMISCIBLE LAYERS:

Top: None observed, no odor
 Bottom: Not observed, no odor
 Detection Method: Visual
 Collection Method: Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

| TIME | VOLUME REMOVED (gallons) | ELECTRICAL CONDUCTIVITY (Micromhos) | pH | TEMP. (°F) | COLOR/COMMENTS |
|-------|--------------------------|-------------------------------------|------|------------|----------------|
| 10:20 | 2.5 | 3020 | 7.44 | 82 | |
| 10:22 | 5.0 | 3160 | 7.19 | 80 | |
| 10:25 | 7.5 | 2680 | 7.12 | 78 | |
| 10:27 | 10.0 | 3010 | 7.14 | 78 | |

SAMPLE COLLECTION DATA:

Sampling Equipment: Teflon Point-Source Bailer

| TIME | ANALYSIS | AMOUNT/CONTAINER USED | SAMPLE INTERVAL |
|-------|------------|------------------------------|-----------------|
| 10:35 | TPHg, BTEX | 2-40 ml glass vials with Hcl | 10' |
| | | | |

Field Observations: None

WELL FIELD LOG

Well Observation: x Date: 9/6/95
 Sample Collection: x Date: 9/6/95

Project Name: American Brass & Iron
 Location: Oakland, CA.
 Personnel: BS/RSS
 Weather: Clear, Warm

WELL INFORMATION:

| | | | |
|---------------------------------|--------------------------------|--------------|------------------------------|
| Well Number | MW-4 | Date Purged | 9/6/95 |
| Depth to Water - feet(TOC) | 7.92 | Purge Method | Clear Point-Source Bailer |
| Well Depth (feet) | 24.5 | | |
| Water Volume (gallons) | 2.8 | Purge Begin | 13:04 |
| Reference Elevation - feet(TOC) | +9.52 | Purge End | 13:08 |
| Groundwater Elevation (feet) | +1.60 | Purge Rate | 3.0 GPM |
| Measurement Technique | Solinst Electric Water Sounder | | |

IMMISCIBLE LAYERS:

Top: None Observed, Faint Hydrocarbon Odor
 Bottom: None Observed, Faint Hydrocarbon Odor
 Detection Method: Visual
 Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

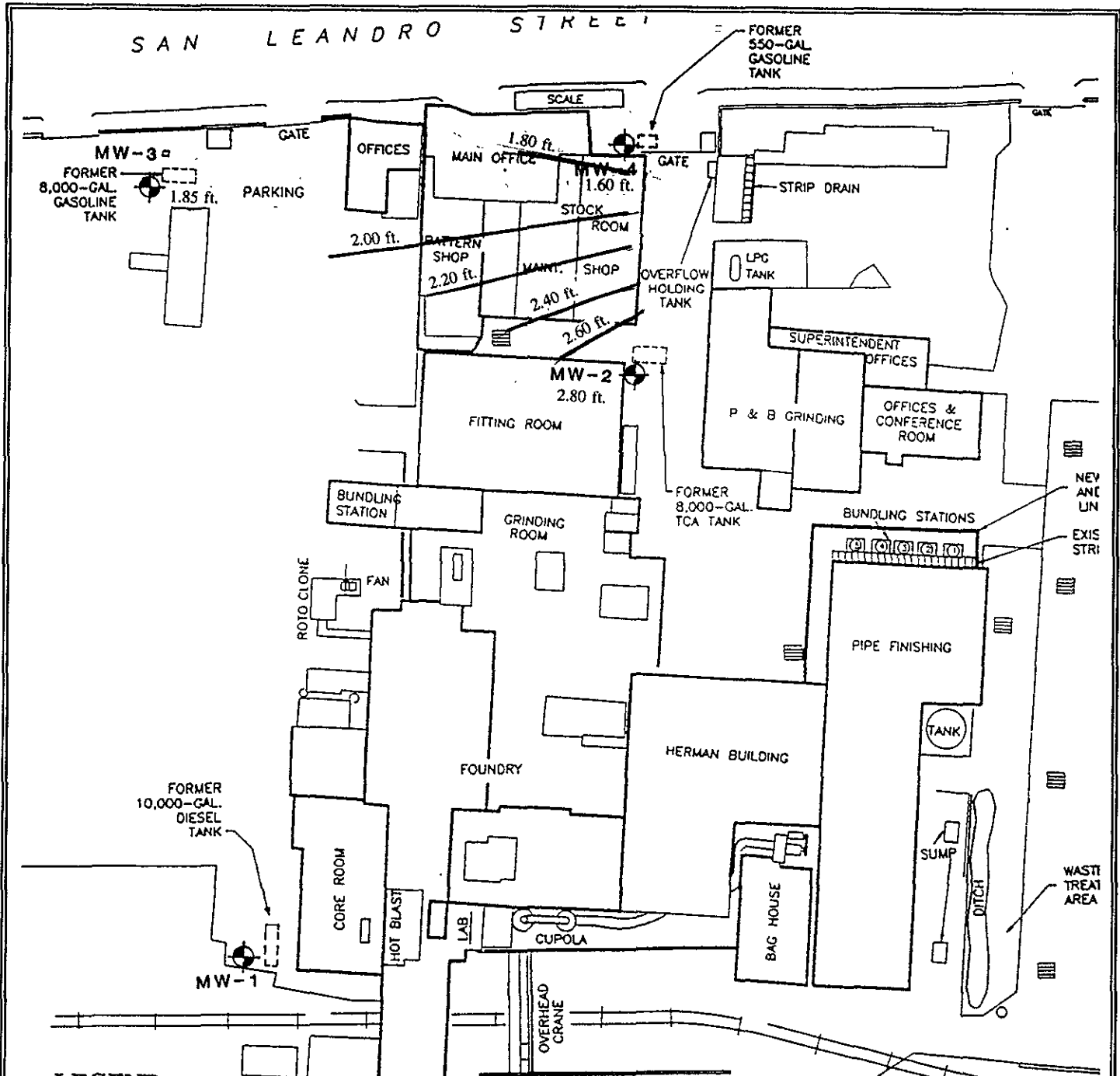
| TIME | VOLUME REMOVED (gallons) | ELECTRICAL CONDUCTIVITY (Micromhos) | pH | TEMP. (°F) | COLOR/COMMENTS |
|-------|--------------------------|-------------------------------------|------|------------|------------------|
| 13:05 | 3.0 | 1010 | 8.12 | 82 | Hydrocarbon Odor |
| 13:06 | 6.0 | 1004 | 7.48 | 80 | " |
| 13:07 | 9.0 | 1039 | 7.22 | 78 | " |
| 13:08 | 12.0 | 1058 | 7.17 | 77 | " |

SAMPLE COLLECTION DATA:


Sampling Equipment: Teflon Point-Source Bailer


| TIME | ANALYSIS | AMOUNT/CONTAINER USED | SAMPLE INTERVAL |
|-------|--------------|------------------------------|-----------------|
| 13:20 | TPH-G & BTEX | 2-40 ml glass vials with HCl | ± 10' |

Field Observations: None

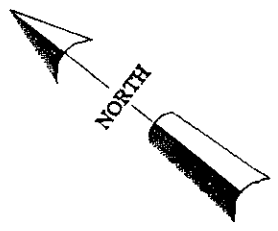


LEGEND:

 - Groundwater Monitoring Well
 Location and Designation

 - Line of Equal Groundwater Elevation
 - in feet Above Mean Sea Level

Scale: 1" = 80'

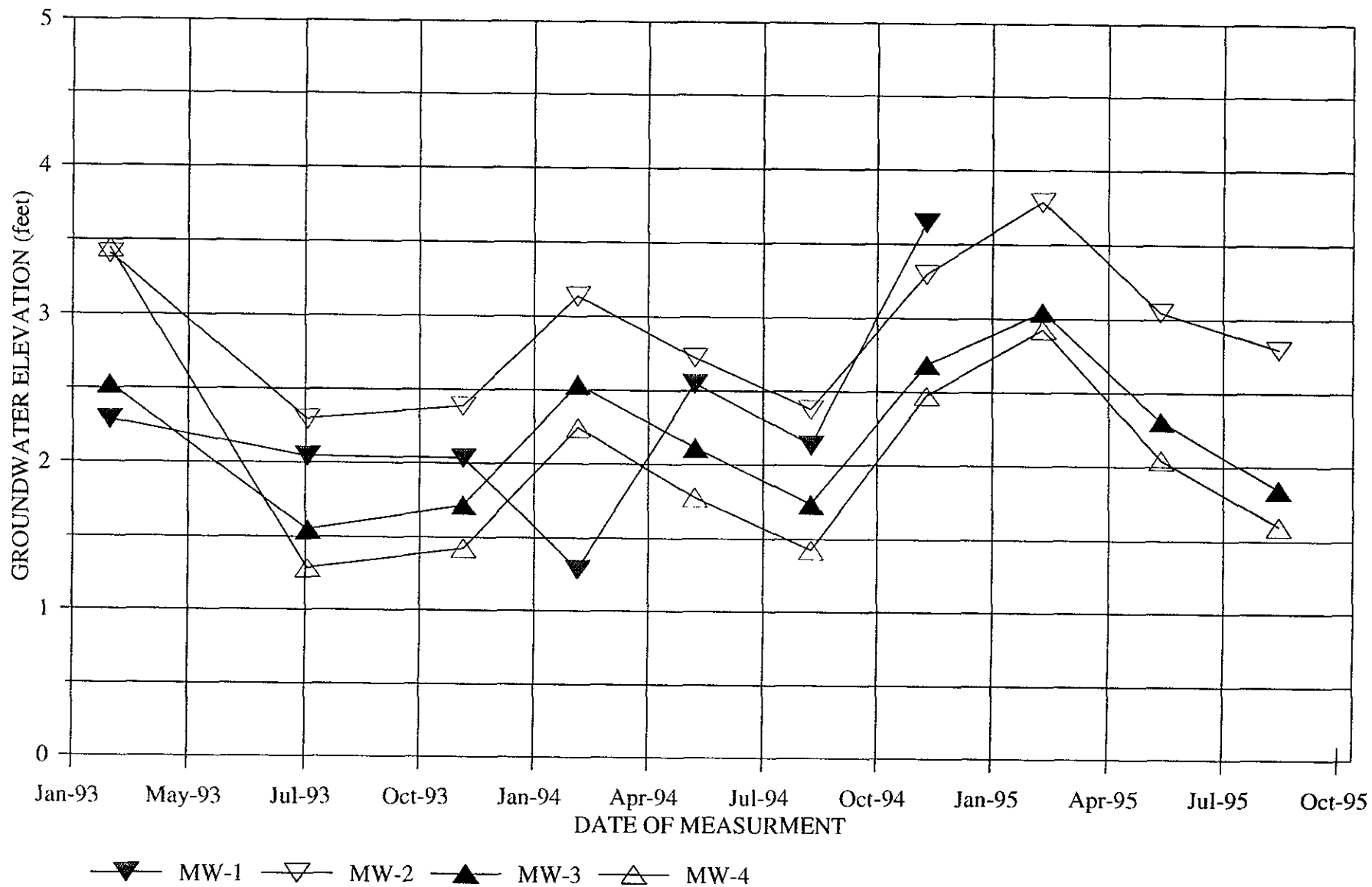


**NINTH QUARTERLY
 GROUNDWATER MONITORING
 AMERICAN BRASS & IRON FOUNDRY
 7825 SAN LEANDRO STREET
 OAKLAND, CALIFORNIA**

**Job No. P92270.3
 GROUNDWATER
 ELEVATION CONTOUR
 SEPTEMBER 1995
 FIGURE: 6**

**BSK
 & ASSOCIATES**

SUMMARY OF GROUNDWATER ELEVATIONS



BSK Job No. P92270.3
SEPTEMBER 1995
FIGURE 7

BSK

BSK ANALYTICAL LABORATORIES

FIGURE: A-1

BSK-Pleasanton
American Brass & Iron

Date Sampled : 09/06/95
Time Sampled : 1235
Date Received : 09/07/95
Date of Analysis : 09/08/95
Report Issue Date: 09/19/95

Case Number : Ch952358
Lab ID Number : 2358-2
Project Number : P92270.3
Sample Description: MW-2

Sample Type: LIQUID

Analyses for BTEX by EPA Method 8020
and TPH(G) by EPA Method 8015
Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

| Compound | Results | DLR |
|----------------------------------|---------|-----|
| Benzene | ND | 0.3 |
| Toluene | ND | 0.3 |
| Ethylbenzene | ND | 0.3 |
| Total Xylene Isomers | ND | 0.3 |
| Total Petroleum Hydrocarbons (G) | 110 | 50 |


Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

NOTE:

Hydrocarbons in the gasoline boiling point range are reported, in accordance with the method, as gasoline. Chromatography for this sample is described as inconsistent with the gasoline standard because early (light) boiling point range is missing or significantly decreased.

LEGEND:

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.
ND: None Detected


Cynthia Pigman, QA/QC Supervisor

BSK ANALYTICAL LABORATORIES

FIGURE: A-2

BSK-Pleasanton
American Brass & Iron

Date Sampled : 09/06/95
Time Sampled : 1235
Date Received : 09/07/95
Date of Analysis : 09/14/95
Report Issue Date: 09/19/95

Case Number : Ch952358
Lab ID Number : 2358-2
Project Number : P92270.3
Sample Description: MW-2

Sample Type: LIQUID

Analyses for Volatile Halocarbons by EPA Method 601
Prepared by EPA Method 5030

Results Reported in Micrograms per Liter ($\mu\text{g/L}$)

| Compounds | Results | DLR | Compound | Results | DLR |
|-----------------------------|---------|-----|-----------------------------|---------|-----|
| Bromodichloromethane | ND | 0.5 | 1,2-Dichloroethane | ND | 0.5 |
| Bromoform | ND | 0.5 | 1,1-Dichloroethene | ND | 0.5 |
| Bromomethane | ND | 1.0 | cis-1,2-Dichloroethene..... | ND | 0.5 |
| Carbon tetrachloride | ND | 0.5 | trans-1,2-Dichloroethene... | ND | 0.5 |
| Chlorobenzene | ND | 0.5 | 1,2-Dichloropropane | ND | 0.5 |
| Chloroethane | ND | 0.5 | cis-1,3-Dichloropropene ... | ND | 0.5 |
| Chloroform | ND | 0.5 | trans-1,3-Dichloropropene.. | ND | 0.5 |
| Chloromethane | ND | 0.5 | Methylene chloride | ND | 2.0 |
| Dibromochloromethane | ND | 0.5 | 1,1,2,2-tetrachloroethane.. | ND | 0.5 |
| 1,2-Dichlorobenzene | ND | 0.5 | Tetrachloroethene | ND | 0.5 |
| 1,1-Dichlorobenzene | ND | 0.5 | 1,1,1-Trichloroethane | ND | 0.5 |
| 1,2-Dichlorobenzene | ND | 0.5 | 1,1,2-Trichloroethane | ND | 0.5 |
| Dichlorodifluoromethane ... | ND | 2.0 | Trichloroethene | ND | 0.5 |
| 1,1-Dichloroethane | ND | 0.5 | Trichlorofluoromethane | ND | 0.5 |
| | | | Vinyl chloride | ND | 1.0 |

DLR = DLR x DLR Multiplier,

DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences
may result in higher detection limits.

ND: None Detected

---: Not Analyzed

Cynthia Pigman
Cynthia Pigman, QA/QC Supervisor

BSK ANALYTICAL LABORATORIES

FIGURE: A-3

BSK-Pleasanton
American Brass & Iron

Date Sampled : 09/06/95
Time Sampled : 1235
Date Received : 09/07/95
Date of Analysis : 09/08/95
Report Issue Date: 09/19/95

Case Number : Ch952358
Lab ID Number : 2358-2
Project Number : P92270.3
Sample Description: MW-2

Sample Type: LIQUID

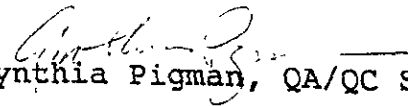
Analyses For Total Recoverable Oil & Grease and Total Recoverable Petroleum Hydrocarbons By Standard Method 5520C & F

Results Reported in Milligrams Per Liter (mg/L)

| Analyte | Results | DLR |
|----------------------------|---------|-----|
| Total Oil and Grease..... | ND | 1 |
| Hydrocarbon Oil and Grease | ND | 1 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences
may result in higher detection limits.
ND: None Detected


Cynthia Pigman, QA/QC Supervisor

BSK ANALYTICAL LABORATORIES

FIGURE: A-4

BSK-Pleasanton
American Brass & Iron

Date Sampled : 09/06/95
Time Sampled : .1035
Date Received : 09/07/95
Date of Analysis : 09/08/95
Report Issue Date: 09/19/95

Case Number : Ch952358
Lab ID Number : 2358-1
Project Number : P92270.3
Sample Description: MW-3

Sample Type: LIQUID

Analyses for BTEX by EPA Method 8020
and TPH(G) by EPA Method 8015
Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

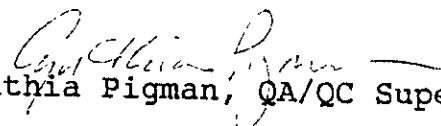
| Compound | Results | DLR |
|----------------------------------|---------|-----|
| Benzene | ND | 0.3 |
| Toluene | ND | 0.3 |
| Ethylbenzene | ND | 0.3 |
| Total Xylene Isomers | ND | 0.3 |
| Total Petroleum Hydrocarbons (G) | ND | 50 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

NOTE:
Hydrocarbons in the gasoline boiling point range are reported, in accordance with the method, as gasoline.

LEGEND:

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences
may result in higher detection limits.
ND: None Detected


Cynthia Pigman, QA/QC Supervisor

BSK ANALYTICAL LABORATORIES

FIGURE: A-5

BSK-Pleasanton
American Brass & Iron

Date Sampled : 09/06/95
Time Sampled : 1320
Date Received : 09/07/95
Date of Analysis : 09/08/95
Report Issue Date: 09/19/95

Case Number : Ch952358
Lab ID Number : 2358-3
Project Number : P92270.3
Sample Description: MW-4

Sample Type: LIQUID

Analyses for BTEX by EPA Method 8020
and TPH(G) by EPA Method 8015
Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

| Compound | Results | DLR |
|----------------------------------|---------|-----|
| Benzene | 9.4 | 0.3 |
| Toluene | 1.4 | 0.3 |
| Ethylbenzene | 6.3 | 0.3 |
| Total Xylene Isomers | 6.2 | 0.3 |
| Total Petroleum Hydrocarbons (G) | 420 | 50 |


Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

NOTE:

Hydrocarbons in the gasoline boiling point range are reported, in accordance with the method, as gasoline. Chromatography for this sample is described as inconsistent with the gasoline standard because early (light) boiling point range is missing or significantly decreased.

LEGEND:

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.
ND: None Detected


Cynthia Pigman, QA/QC Supervisor

Analyses Request / Chain of Custody

BSK Log Number: 2358

Analytical Due Date: 9/18/95

Environmental Services

Shaded areas for LAB use only

| | | |
|---|---|----------|
| Client Name <i>American Brass & Iron</i> | Report Attention: <i>Martin Cline</i> | Phone# |
| Address <i>40 BSK-P</i> | Project, Quote or PO # <i>P92770.3</i> | FAX # |
| City, State, Zip | Copy to: | System # |

| LAB use only | | | Date Sampled | Time Sampled | Sampled by: <i>BS/RSS</i> | Sample Description/Location | Comment or Station Code | TPH-G, BTEX | Total and Hydrocarbon | Oil & Grease | EPA 601 |
|--------------|------|---------|--------------|--------------|------------------------------|-----------------------------|-------------------------|-------------|-----------------------|--------------|---------|
| Sample # | Type | * Cont. | | | | | | | | | |
| 1 | L | 2 | 9/16/95 | 10:35 | <i>MW-3</i> | | | X | | | |
| 2 | L | 5 | ↓ | 12:35 | <i>MW-2</i> | | | X | X | X | |
| 3 | L | 2 | ↓ | 13:20 | <i>MW-4</i> | | | X | | | |
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Matrix Type: L - Liquid S - Solid G - Gas
 Type of Hazards Associated with Samples:

Additional Services:
 - 2 Day - 5 Day
 - Formal Chain of Custody - QC Data package

Additional Services Authorized by: _____
 (Signature)

Payment Received with Delivery
 Date: _____ Amount: \$ _____
 Check # _____ Initials _____
 Receipt # _____

| Signature | Print Name | Company | Date | Time |
|-----------------------------|-------------------------|-----------------|---------------|----------------|
| <i>Marty Cline</i> | <i>Martin Cline</i> | <i>BSK-P</i> | <i>8/7/95</i> | <i>08:30</i> |
| Received / Relinquished by: | | | | |
| Received / Relinquished by: | | | | |
| Received / Relinquished by: | | | | |
| <i>[Signature]</i> | <i>Juanice Garrison</i> | <i>BSK Labs</i> | <i>9/7/95</i> | <i>9/16:30</i> |