CONVERSE ENVIRONMENTAL WEST

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December 30, 1989
88-44-369-01-346

Ms. Dyan Whyte
Water Resource Control Engineer
San Francisco Bay Regional Water Quality Control Board
1800 Harrison Street
Oakland, California 94607

Subject: Shell Oil Company - Quarterly Report
630 High Street
Oakland, California

Dear Ms. Whyte:

Enclosed please find one copy of the Shell Oil Company Quarterly Report of Activities for Quarter 4, 1989 prepared by Converse Environmental West (CEW) - San Francisco.

Please call if you have any questions.

Very truly yours,

Converse Environmental West

Robin Breuer for

Marc I. Yalom
Project Hydrogeologist

MIY:fs
Enclosure

cc: Ms. Diane Lundquist - Shell Oil Company (w/ encl.)
Mr. Rafat Shahid - Alameda County Health Car Services (w/ encl.)
Mr. Douglas W. Charlton - CEW (w/o encl.)
Ms. Robin M. Breuer - CEW (w/ encl.)

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DOUGLAS W. CHARLTON
Principal Geologist

ACTIVE GASOLINE STATION

SHELL OIL COMPANY
630 High Street
Oakland, California

December 30, 1989

CEW Project No. 88-44-369-01

This report has been prepared by the staff of **Converse Environmental West (CEW)** under the professional supervision of the Engineer and/or Geologist whose seal(s) and signature(s) appear hereon.

The findings, recommendations, specifications or professional opinions are presented, within the limits prescribed by the Client, after being prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.

Converse Environmental West

REPORT OF ACTIVITIES

SHELL OIL COMPANY FACILITY
630 High Street
Oakland, California

For Quarter 4, 1989
Submitted: December 31, 1989

RWQCB Representative:	Ms. Dyan Whyte Water Resource Control Engineer San Francisco Bay RWQCB 1800 Harrison Street Oakland, California 94607
LIA Representative:	Mr. Rafat Shahid Alameda County Health Care Services Agency 80 Swan Way Oakland, California 94621
Shell Engineer:	Ms. Diane Lundquist Environmental Engineer Shell Oil Company 1390 Willow Pass Road Concord, California
Converse Project Manager:	Ms. Robin Breuer, Project Manager 55 Hawthorne Street, Suite 500 San Francisco, California 94105 (415) 543-4200
Registered Geologist in Charge:	Douglas W. Charlton, Principal Geologist 55 Hawthorne Street, Suite 500 San Francisco, California 94105 (415) 543-4200
Site Owner:	Shell Oil Company

1. SITE DESCRIPTION

1.1 Maps

Vicinity Map: See Drawing 1
Plot Plan: See Drawing 2

1.2 Neighborhood Topography

Slightly sloping to the northwest.

1.3 Primary Surface Waters Nearby

Alameda Estuary is approximately one-eighth of a mile to the west.

1.4 Water Table Information

Q4/89: Depth to Water: 9-12 feet below grade.
Depth to Highest High Water determined by redox boundary: approximately 9 feet below grade.

2. INVESTIGATION HISTORY

2.1 Soil Borings Drilled to Period Start

Boring	Date	Status
SB-1	4/89	Abandoned
SB-2	4/89	Abandoned
SB-3	8/89	Abandoned

2.2 Groundwater Wells Drilled to Period Start

Well	Date	Status
MW-1	4/89	Active
MW-2	4/89	Active
MW-3	4/89	Active
MW-4	4/89	Active
MW-5	8/89	Active
MW-6	8/89	Active
MW-7	8/89	Active
MW-8	8/89	Active

2.3 Investigative History Summary

CHRONOLOGICAL SUMMARY

The following is a chronological summary of site activities.

Date	Description of Activity
01/85	Re-modernization of gas station. Armer/Norman dismantled and removed all fuel dispensing facilities and excavated certain areas near former pump islands, product lines and areas which smelled of gasoline.
01/26/89	Blaine Tech Services collected and analyzed (10) excavation soil samples. The inspector from the Alameda County Health Department specified sampling locations. Soils were analyzed for TPH-g, BTEX and organic lead.
02/03/89	Blaine Tech Services collected and analyzed soil samples in areas of product dispensing pump islands after additional excavation in these areas and in areas of former waste oil and gasoline tank pits (sample No. 10 - 75 ppm and No. 12 - 600 ppm TPH-g).
02/03/89	Further excavation in former waste oil tank pit. Soil and groundwater samples were collected and analyzed in the area around sample no. 12 of February 3, 1989 sampling event. These soil samples contained less than 50 ppm TPH-d. Groundwater sample no. 3 from that area contained 1,800 ppb TPH-g and 200 ppb TPH-d.
02/24/89	Alameda County Environmental Health Department notified Shell that site conditions indicated a confirmed release, which required an investigation Work Plan within 25 days of the letter date.
03/89	Shell transferred project to CEW.
03/20/89	CEW submitted Revised Work Plan to agencies.
04/26/89	CEW installed wells MW-1 to MW-4 and soil borings SB-1 and SB-2.
05/19/89	CEW developed wells MW-1 through MW-4.
05/25/89	CEW surveyed site and well head elevations (MW-1 through MW-4) to arbitrary datum.
05/26/89	CEW sampled groundwater from wells MW-1 through MW-4.
08/15/89	CEW installed wells MW-5 through MW-8 and boring SB-3.
08/22/89	CEW surveyed wells MW-5 through MW-8 to arbitrary datum.
08/29/89	CEW sampled and developed wells MW-5 through MW-8.
10/17/89	**Loma Prieta Earthquake struck.**
11/15/89	**CEW installed wells MW-9 and MW-10 and Boring SB-4.**
11/22/89	**CEW developed wells MW-9 and MW-10.**
12/11/89	**CEW sampled and surveyed wells MW-9 and MW-10.**

3. WORK COMPLETED THIS PERIOD

3.1 Introduction

Work initiated and completed during the quarter followed the task descriptions and modifications of the site Work Plan dated March 20, 1989. The relative timing and schedule of these activities is shown in summary in the Critical Path for the project (Drawing 3).

Initially, the Work Plan called for drilling of ten soil borings. Six borings were to be abandoned. Four borings were to be completed as groundwater monitoring wells.

Once investigations began, a more thorough study became necessary. As a consequence, fourteen borings have been drilled. Ten borings have been completed as groundwater monitoring wells and the remainder have been abandoned.

3.2 Soil Boring Drilling/Sampling

During Q4/89, a total of three soil borings were drilled, sampled, and abandoned or completed as monitoring wells following the protocols described in Appendices A and B. Soil cuttings were handled by Crosby Overton, following task procedures described in Appendix G. Boring logs are enclosed as Attachment 1. A summary of soil boring activities is presented in Table 1.

3.3 Well Installations

In Q4/89, two groundwater monitoring wells were installed, developed and sampled following the protocols in Appendices A, C, D and E. These wells were installed as 4-inch diameter filter-packed PVC wells through hollow-stem auger drilling equipment. The boring logs and as-built well construction diagrams for these wells are included as Attachment 1. A summary of well installations is provided in Table 2.

3.4 Soil Analysis/Results

Soil samples from the borings were collected on five foot centers downhole. These samples were properly packaged and transferred to a California State-certified analytical laboratory under proper chain-of-custody and preservation (see Appendix F). The samples were analyzed for TPH as gasoline (EPA Methods 5030 and 8015), TPH as diesel (EPA Methods 3550 and 8015), TPH as motor oil (EPA Methods 3550 and 8015), BTEX (EPA Methods 5030 and 8020), and lead (EPA Methods 3050 and 7421). Analytical results are summarized in Table 3, and certified sheets from all analyses are enclosed as Attachment 2.

3.5 Groundwater Analysis and Results

Groundwater samples were properly packaged and transferred to a California State-certified analytical laboratory under proper chain-of-custody and preservation (see Appendix E). The samples were analyzed for TPH as gasoline (Methods 5030 and 8015), TPH as diesel (Methods 3510 and 8015), TPH as motor oil (EPA Methods 3510 and 8015) BTEX (EPA Methods 5030 and 602), and lead (EPA Methods 5030 and 7421). Because wells MW-1, MW-9, and MW-10 were located near the approximate location of the former onsite waste oil tank, groundwater samples from these wells were analyzed for chlorinated hydrocarbons (EPA Method 624). Samples from MW-1 were analyzed for Zn, Cr, Cd (by ICP) and oil and grease (EPA Methods 503A&E).

Selected certified past and Q4/89 preliminary groundwater analytical results are summarized in Table 4.

NOTE: Certified groundwater analytical results are pending at the issuance of this report. Upon receipt of the certified results, a supplemental report will be submitted to the RWQCB, containing appropriate isopleth maps for soil and groundwater, cross-sections, and hard copy of analytical results.

The supplemental report will be submitted on or before January 31, 1990, as an exception to the normal quarterly scheduled reporting for this site. Therefore, a full quarterly report will be presented to the RWQCB on or before its next due date, March 31, 1990.

3.6 Physical Monitoring Results

All ten wells were physically monitored for depth to water table, and inspection for floating product, once during the quarter. A summary of these results is presented in Table 5.

3.7 Neighborhood Environmental Assessment

An environmental assessment of neighborhood business, ownerships and unauthorized subsurface tank releases reported to regulatory agencies commenced during Q4/89. This research and neighborhood inspection showed that certain parties other than Shell could, in part, be responsible for site contamination.

A list of sites with reported underground fuel leaks which potentially impact the Shell property is included as Table 6. The sites listed in Table 6 are located on Plate 1.

Due to the October 17, 1989 earthquake impact on operations of the RWQCB, Alameda County Health Care Services Agency, and the Oakland Fire Department, detailed information on reported offsite fuel tanks was not available.

4. REVIEW OF DATA AND INTERPRETATIONS

4.1 Groundwater Elevation and Gradient (See Drawing 4)

- The groundwater gradient is approximately 0.005 ft/ft. to the southwest to west.
- Groundwater is at approximately 10 feet below ground surface across much of the section.

4.2 Distribution of MVF Contamination in Soil (See Drawings 5, 6, 7 and 8)

- The highest TPH-g soil contamination (≤ 12 ppm) is centered about the site of the former underground waste oil and fuel tanks.

  TPH-g was detected in soil samples at MW-1. This well was sited adjacent to the former underground fuel tank bed and in the general vicinity of the former waste oil tank. These tanks are suggested as the sources of contamination at MW-1.

  Petroleum hydrocarbons were also detected from soil samples at SB-1 and SB-2, samples collected from fill materials of the former fuel tank excavation.

  Lead, toluene, benzene, xylenes, and grease were also detected in the same area.

- TPH-d is the principal contaminant in unsaturated soil.
- The highest TPH-d and TPH-mo soil contamination is centered at MW-10.

  MW-10 is located near the property boundary with EBMUD. The EBMUD property is listed on the RWQCB's Alameda County list of sites with reported fuel leaks. The data suggest an offsite source of the diesel and motor oil contamination. Observed at the Shell property.

- An area of petroleum hydrocarbon soil contamination is located in the vicinity of well MW-4.

  Analysis of soil samples indicated the presence of benzene, toluene, and lead in excess of 20 ppm at MW-4.

  MW-4 is sited in an area of no known previous underground tanks or piping runs. Soil analytical results suggest a surface product release to the vadose zone. This is supported by the detection of heavier hydrocarbon fractions (diesel and motor oil), which would have been less likely to migrate from the former underground tank bed at SB-1 and SB-2.

- Offsite sources of contamination are not ruled out, and further investigation is required.

  Petroleum hydrocarbon contamination (TPH-g, TPH-d, and BTEX) was detected in groundwater at well MW-5. This well is located cross-gradient from the former underground tank bed, and on the upgradient side of the property. Non-detection

of petroleum hydrocarbons in the soil at MW-5 implies migration of contaminants through groundwater.

- Neighborhood background concentrations of lead in the soil have not been established. Lead in site soils may not be the result fuel releases at the site.

  Elevated Highway 880 is located adjacent to the site (directly east). Decades of leaded fuel exhaust emissions from vehicular traffic may have contributed to lead concentrations in the neighborhood and site.

4.3 Distribution of MVF Dissolved in Groundwater

- The certified groundwater analytical results for MW-1 through MW-10 are pending at the time of release of this report. These results will be presented with appropriate maps, tables, and conclusions in a supplemental report issued in January 1990.

4.4 Distribution of Floating Product on Groundwater

- Floating product was not detected on groundwater in any well.

4.5 Site Geology (See Drawings 9 and 10)

- The uppermost part of the subsurface consists of fill averaging four feet in thickness. The fill soil materials include gravel, sand, and clay in heterogeneous mixtures. Concrete rubble, wood fragments, asphalt chunks, and rubbish are present in the fill.

- Beneath the fill is a layer of clay varying up to 8 feet in thickness (MW-7). At wells MW-2 and MW-3 this a thin (less than two feet thick) sand layer within the clay zone thick was intersected. The base of the clay layer is approximately 10 feet bgs.

- A layer of sands and gravels, ranging between 2 feet (MW-7) and 12 feet (MW-8) in thickness underlies the clayey stratum. These more permeable soils are generally clayey with some scattered clay free zones.

- The more sands and gravels are underlain by clay which extend from approximately 15 feet bgs to 24 feet bgs, the depth of maximum exploration.

5. WORK PLANED BUT NOT COMPLETED

Groundwater sampling occurred in December, but year-end backlog of analytical laboratory work prevented completion of certified analysis early enough for inclusion of data into this report. Analytical results arrived today (12/29/89). These results will be compiled, interpreted and presented with certified isopleth maps and will be discussed in the text in a supplemental report to be presented in January 1990.

Slug tests planned for Q4/89 were not completed.

Preparation of a Soil Remediation Action Plan was commenced but not finalized.

Preparation of An Offsite Groundwater Investigation Plan was commenced but not finalized.

6. WORK PLANNED FOR NEXT QUARTER

- Task 2: Complete the Soil Remediation Action Plan. Options for cost effective soil remediation will be identified and relatively evaluated on the volume of contaminated soil, the hydrologic conditions of contamination, and the concentration of contaminants involved.

- Task 6: Collect and Analyze Groundwater Samples. Quarterly samples will be collected and all wells will be physically monitored once during Q1/90.

- Task 7: Conduct Hydrology Tests and Research. Perform slug tests on all wells and interpret collected data so that hydraulic properties may be assessed.

- Task 11: Complete the Offsite Groundwater Investigation Plan. Amend the March 20, 1989 Revised Work Plan to address the potential for offsite groundwater MVF contamination.

TABLE 1: Summary of Soil Borings Drilled

Boring No.	Date Drilled	Completion	Diameter (inches)	T.D. (ft. bgs)	Unsaturated Soil Samples (ft. bgs)	High OVM	Saturated Soil Samples (ft. bgs)
MW-1	4/25/89	4" well	12	20	5	>1000 @ 12'	None
MW-2	4/25/89	4" well	12	25	5,10	NR	15
MW-3	4/26/89	4" well	12	20	5,10	0	None
MW-4	4/26/89	4" well	12	22	5,10	5 @ 5'	None
MW-5	8/17/89	4" well	12	20	5,10	450 @ 16'	None
MW-6	8/26/89	4" well	12	24	5,10	0	15
MW-7	8/15/89	4" well	12	24	5,10	0	15,20
MW-8	8/15/89	4" well	12	24	5	0	10
MW-9	**11/15/89**	**4" well**	**12**	**16**	**5**	**0**	**None**
MW-10	**11/16/89**	**4" well**	**12**	**17**	**5,9**	**5 @ 9'**	**None**
SB-1	4/27/89	Abandoned	8	10	5	NR	None
SB-2	4/27/89	Abandoned	8	10	5,10	NR	None
SB-3	8/17/89	Abandoned	8	10	5,10	1300 @ 5'	None
SB-4	**11/15/89**	**Abandoned**	**8**	**9**	**5,9**	**0**	**None**

NR - Not recorded

TABLE 2: Summary of Groundwater Monitoring Well Installations

Well No.	Date	Diameter Well (in.)	Initial Water Table (ft. bgs)	Static Water Table (ft. bgs)	T.D. Well (ft. bgs)	Screen (ft. bgs)	Bentonite Seal (ft. bgs)	Grout Seal (ft. bgs)
MW-1	4/25/89	4	10	10.43	20	13-9	9-6	6-0
MW-2	4/25/89	4	14.5	11.67	25	20-10	10-8	8-0
MW-3	4/26/89	4	11.5	10.36	20	17-8	8-6	6-0
MW-4	4/26/89	4	10.0	10.91	22	17-7	7-6	6-0
MW-5	08/17/89	4	12.0	11.34	18.0	8-18	5-7	1-5
MW-6	08/16/89	4	15.0	10.58	20	10-20	7-9	1-7
MW-7	08/15/89	4	17.5	9.76	20	10-20	7-9	1-7
MW-8	08/15/89	4	9.0	9.01	21	9-21	6-8	1-6
MW-9	**11/15/89**	**4**	**10.0**	**11.52**	**12**	**6-12**	**4-5**	**1-4**
MW-10	**11/16/89**	**4**	**11.0**	**9.55**	**13**	**7-13**	**5-6**	**1-5**

TABLE 3: Soil Analytical Results (ppm)

Boring No.	Sample Depth (ft. bgs)	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Total Oil and Grease	Xylene	Total Lead
SB-1	5	12*	27	85	<0.025	0.10	NA	0.14	71
SB-2	5	<10	<10	<10	0.042	0.054	NA	<0.075	16
SB-2	5,10**	<10	<10	130	<0.025	0.04	NA	<0.075	10
SB-3	5	<10	<10	<10	<0.025	0.22	290	<0.075	66
SB-3	10	<10	<10	<10	<0.025	0.045	<50	<0.075	4.2
SB-4	**5**	**<1**	**16**	**77**	**<0.0025**	**0.032**	**NA**	**<0.0025**	**220**
SB-4	**9**	**<1**	**<1**	**11**	**<0.0025**	**0.056**	**NA**	**<0.0025**	**3.9**
MW-1	5	11	<10	<10	<0.025	0.11	NA	<0.075	9.6
MW-1	5,10**	63	<10	<10	0.042	0.14	NA	0.16	7.6
MW-2	5	<10	<10	<10	<0.025	0.34	NA	<0.075	13
MW-2	5,10,15**	<10	<10	<10	<0.025	0.15	NA	<0.075	4.0
MW-3	10	<10	<10	<10	<0.025	<0.025	NA	<0.075	3.9
MW-3	5,10**	<10	<10	<10	<0.025	0.068	NA	<0.075	5.1
MW-4	5	<10	<10	<10	0.046	0.21	NA	<0.075	26
MW-4	5,10**	<10	<10	<10	<0.025	0.066	NA	<0.075	27
MW-5	5	<10	<10	<10	<0.025	<0.025	<50	<0.075	14.0
MW-5	10	<10	<10	<10	<0.025	<0.025	<50	<0.075	5.9
MW-6	5	<10	<10	<10	<0.025	0.057	220	<0.075	5.6
MW-6	10	<10	<10	<10	<0.025	<0.025	<50	<0.075	4.3
MW-7	5	<10	<10	<10	<0.025	0.040	<50	<0.075	9.8
MW-7	10	<10	<10	<10	<0.025	<0.025	<50	<0.075	3.7
MW-8	5	<10	<10	<10	<0.025	<0.025	<50	<0.075	5.1
MW-8	10	<10	<10	<10	<0.025	<0.025	<50	<0.075	2.6
MW-9	**5**	**<1**	**<1**	**10**	**<0.0025**	**0.013**	**NA**	**<0.0025**	**170**
MW-10	**5**	**<1**	**<1**	**240**	**<0.0025**	**0.049**	**NA**	**<0.0025**	**120**
MW-10	**9**	**<1**	**380**	**3.1**	**<0.0025**	**<0.0025**	**NA**	**<0.0025**	**3.1**

* Sample contains higher boiling hydrocarbons not characteristic with gasoline.
** Composite sample.
NA Not analyzed.

TABLE 4: Groundwater Analytical Results (ppm)

Well No.	Date Sampled	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead
MW-1	5/25/89	11	7.1	1.6	0.0066	0.023	0.023	0.180	NA
MW-1	8/29/89	17	7.2	1.9	0.20	0.18	0.059	0.55	<0.002
MW-1	**12/12/89**	**13**	**4.4**	**<0.05**	**0.250**	**0.036**	**0.270**	**0.380**	**NA**
MW-2	5/25/89	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0015	<0.0015	NA
MW-2	8/29/89	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0015	<0.0015	<0.002
MW-2	**12/11/89**	**<0.05**	**0.081**	**0.22**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**NA**
MW-3	5/25/89	1.2	0.40	0.088	<0.0005	<0.0005	<0.0015	<0.0015	NA
MW-3	8/29/89	2.5	0.81	<0.05	0.025	0.01	0.0065	0.0055	<0.002
MW-3	**12/15/89**	**2.8**	**0.81**	**<0.05**	**0.015**	**0.008**	**0.004**	**0.012**	**NA**
MW-4	5/25/89	2.9	1.1	0.29	<0.005	0.0094	<0.0015	0.0034	NA
MW-4	8/29/89	2.9	1.5	0.79	0.029	<0.0005	0.012	0.0016	<0.002
MW-4	**12/12/89**	**4.6**	**1.0**	**<0.05**	**0.170**	**0.026**	**0.011**	**0.020**	**NA**
MW-5	8/30/89	1.4	0.30	<0.05	0.0049	0.00079	0.0056	0.0068	<0.002
MW-5	**12/5/89**	**1.4**	**0.33**	**<0.05**	**0.0049**	**0.0038**	**0.0091**	**0.008**	**NA**
MW-6	8/29/89	<0.05	0.32	0.45	<0.0005	<0.0005	<0.0015	<0.0015	<0.002
MW-6	**12/5/89**	**<0.05**	**0.60**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**NA**
MW-7	8/29/89	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0015	<0.0015	<0.002
MW-7	**12/5/89**	**<0.05**	**<0.05**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**NA**
MW-8	8/29/89	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0015	<0.0015	<0.002
MW-8	**12/11/89**	**<0.05**	**<0.05**	**0.0011**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**NA**
MW-9	**12/13/89***	**<0.05**	**0.23**	**0.54**	**<0.0044**	**<0.006**	**<0.0072**	**<0.005**	**NA**
MW-10	**12/13/89***	**<0.05**	**0.11**	**0.30**	**<0.0044**	**<0.006**	**<0.0072**	**<0.005**	**NA**

NA - Not Analyzed
* BTEX analyses by GCMS (EPA Method 624)

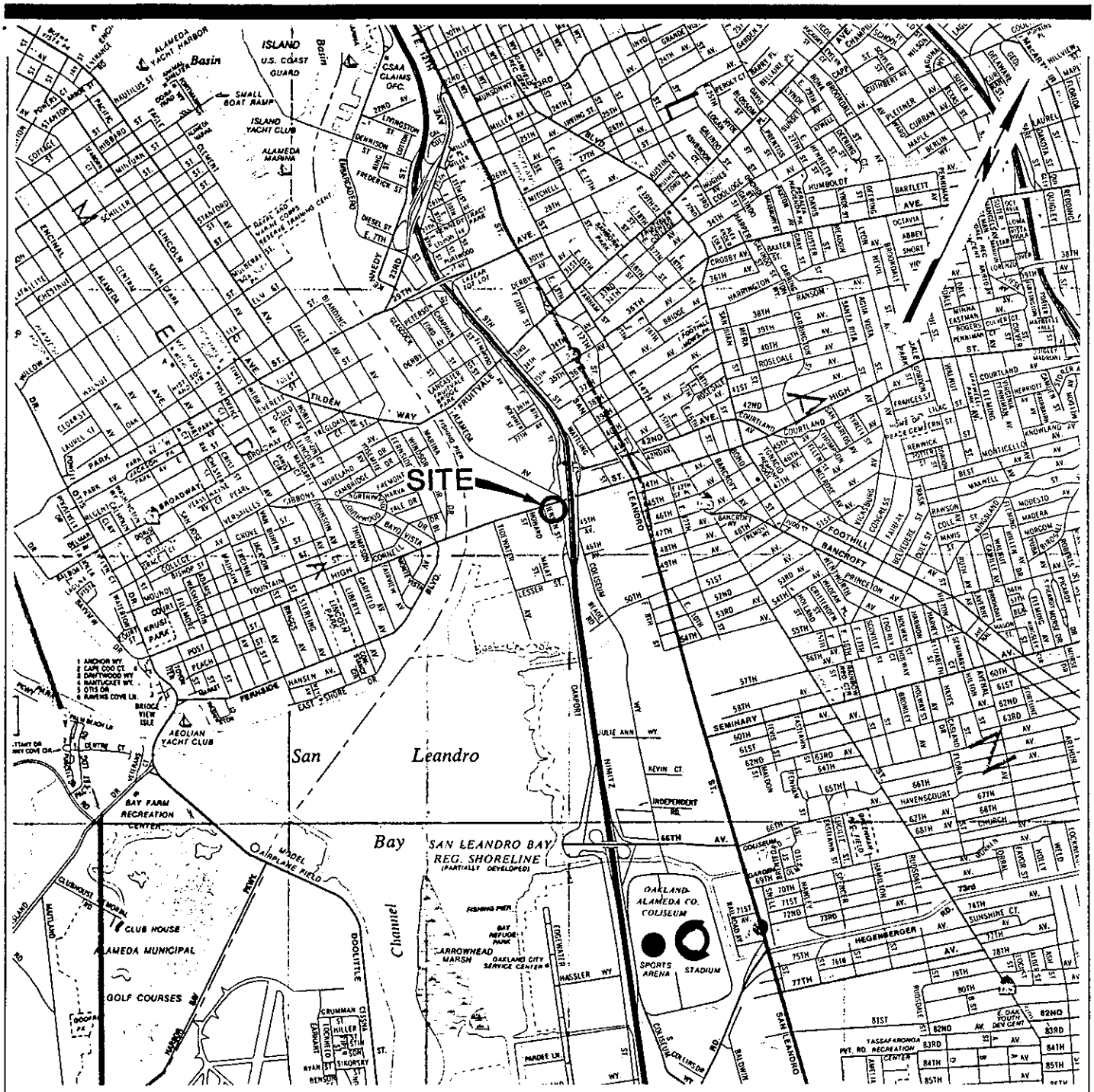
TABLE 5: Physical Monitoring Results: Evidence of Contamination*

Well No.	Date	Depth to Water (ft.)	Petroleum Odor in Water	Thickness Floating Product (inches)	Notes
MW-1	5/25/89	10.43	Yes	0.0	Gray sheen
MW-1	8/29/89	10.94	Yes	0.0	Sheen
MW-1	**12/5/89**	**10.32**	**Yes**	**0.0**	**No sheen**
MW-2	5/25/89	11.63	No	0.0	No sheen
MW-2	8/29/89	12.62	No	0.0	No sheen
MW-2	**12/5/89**	**11.83**	**No**	**0.0**	**No sheen**
MW-3	5/25/89	10.43	No	0.0	No sheen
MW-3	8/29/89	10.90	No	0.0	No sheen
MW-3	**12/5/89**	**10.46**	**Yes**	**0.0**	**No sheen**
MW-4	5/25/89	10.72	Yes	0.0	Sheen
MW-4	8/29/89	11.28	Yes	0.0	No sheen
MW-4	**12/5/89**	**10.53**	**Yes**	**0.0**	**No sheen**
MW-5	8/30/89	11.38	Yes	0.0	No sheen
MW-5	**12/5/89**	**11.27**	**Yes**	**0.0**	**No sheen**
MW-6	8/29/89	10.59	Yes	0.0	No sheen
MW-6	**12/5/89**	**8.23**	**No**	**0.0**	**No sheen**
MW-7	8/29/89	9.75	No	0.0	No sheen
MW-7	**12/5/89**	**9.29**	**No**	**0.0**	**No sheen**
MW-8	8/29/89	9.02	No	0.0	No sheen
MW-8	**12/5/89**	**9.87**	**No**	**0.0**	**No sheen**
MW-9	**12/5/89**	**11.52**	**No**	**0.0**	**No sheen**
MW-10	**12/5/89**	**9.55**	**No**	**0.0**	**No sheen**

* Sheen; odor; FID; color; PID (opened/odor trapped in casing)

TABLE 6: Neighborhood Potentially Responsible Parties

Site Name	Location
American Can Company	3801 East 8th Street
EBMUD	Oakport Street
Eko-Tek	4200 Alameda Avenue
Exxon	720 High Street
Owens-Illinois	3600 Alameda Avenue
U.S. Cold Storage	3925 Alameda Avenue
I.M. Rich Paint Company	615 High Street
Sandblasting Co.	4356 Coliseum Way



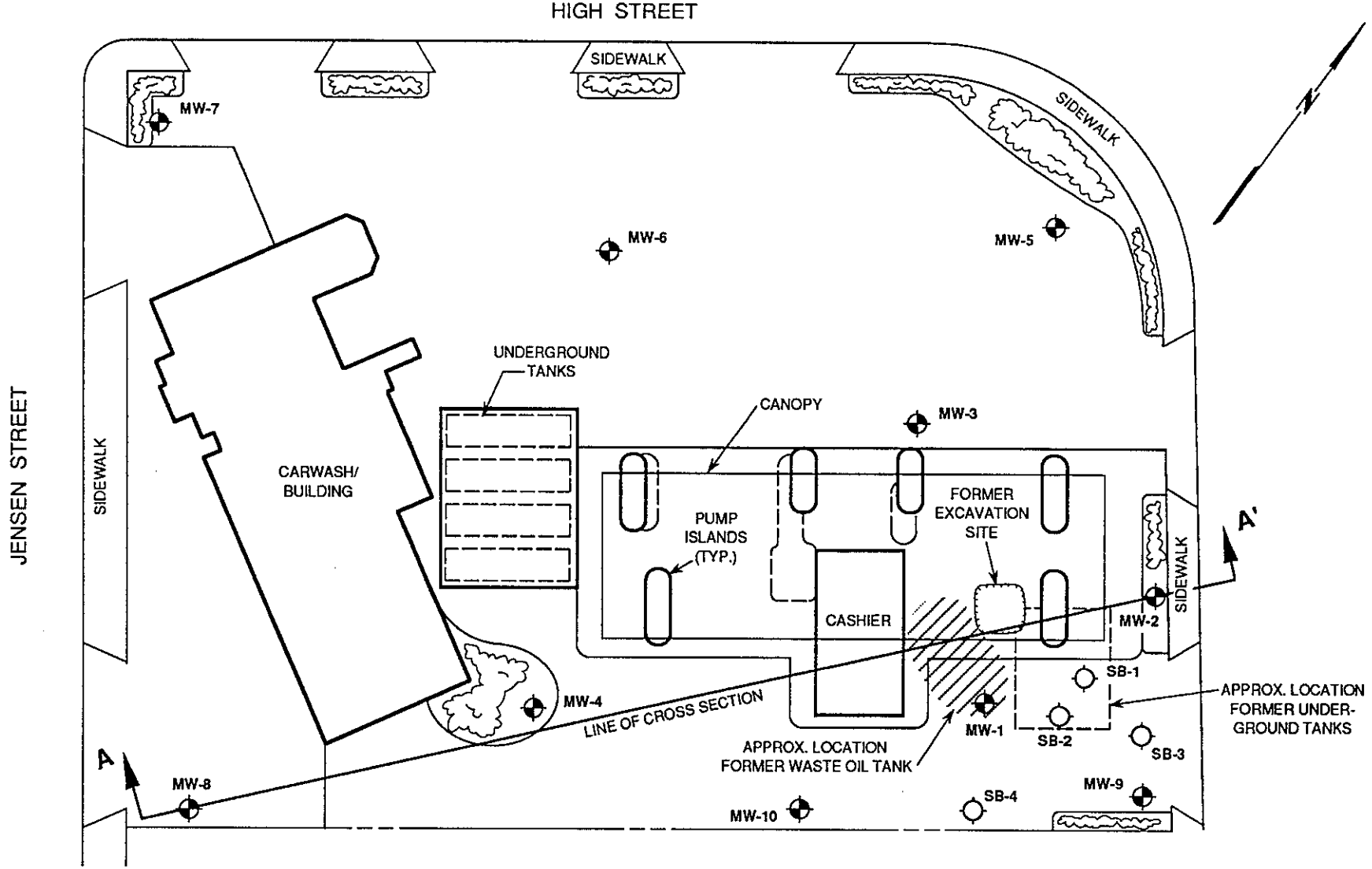
SOURCE: California State Automobile Association

SITE LOCATION MAP

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental Consultants California

Scale: AS SHOWN	Project No.: 88-44-369-01
Prepared by: KGC	Date: 3/16/89
Checked by: RMB	Drawing No.: 1
Approved by: DWC	



Base Map: Surveyed with EDM, Converse 1989.

LEGEND:

SB-1 SOIL BORING

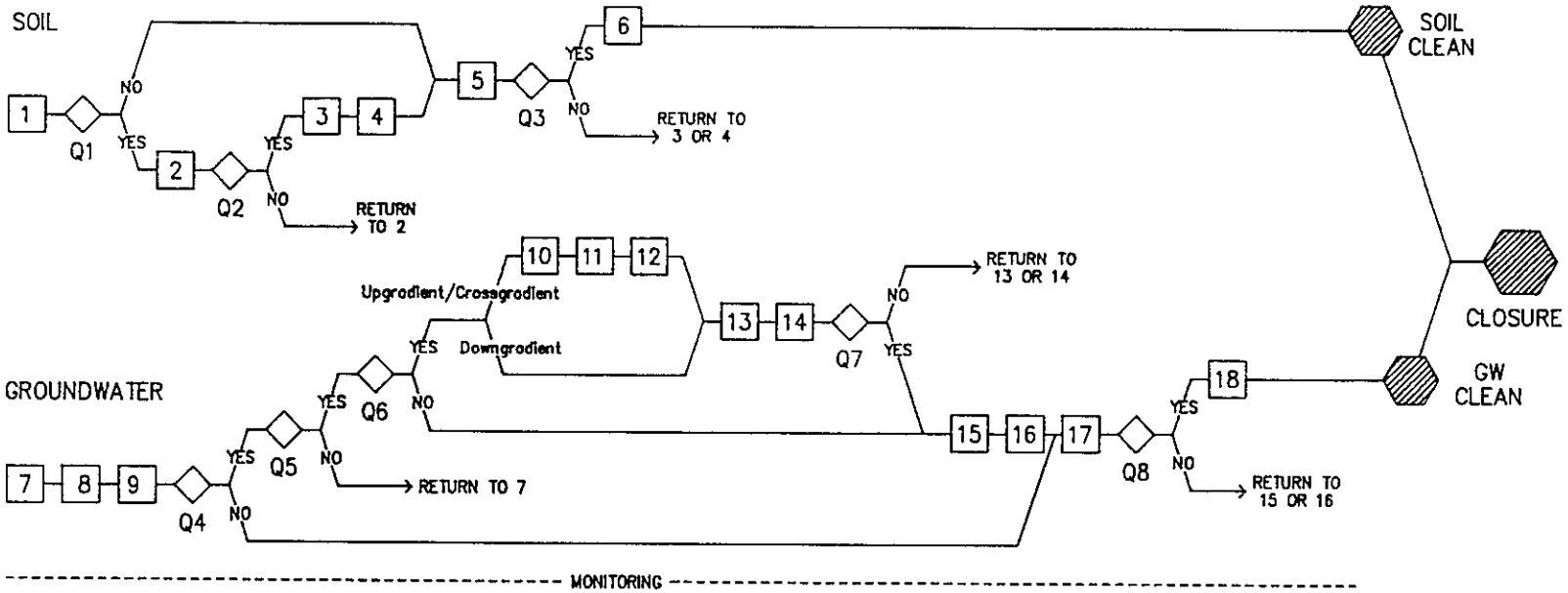
MW-1 GROUNDWATER MONITORING WELL

PLOT PLAN

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale: AS SHOWN	Project No.: 88-44-369-01
Prepared by: LQL	Date: 12/29/89
Checked by: MIY	Drawing No.: 2
Approved by: DWC	



TASKS

Program 1: Onsite Soil Investigation/Remediation

Task 1 Drill and Sample Soil Borings
Task 2 Drill Step-Out Borings
Task 3 Prepare Soil Remedial Action Plan (if needed)
Task 4 Remediate Soil (if needed)
Task 5 Establish Clean Standards - Soil
Task 6 Confirm Remediated Soil

Program 2: Onsite Groundwater Investigation

Task 7 Install/Develop Groundwater Monitoring Wells
Task 8 Sample/Analyze Groundwater
Task 9 Conduct Hydrology Tests and Research

Program 3: Offsite Groundwater Investigation (if needed)

Task 10 Perform Neighborhood Assessment
Task 11 Refer to Legal Counsel
Task 12 Inform RWQCB
Task 13 Prepare Offsite Groundwater Investigation Plan
Task 14 Install Offsite Wells, Sample/Analyze

Program 4: Groundwater Remediation (if needed)

Task 15 Prepare Groundwater Remedial Action Plan
Task 16 Implement Remedial Action Plan
Task 17 Establish Cleanup Standards - Groundwater
Task 18 Confirm Groundwater Remediation

QUESTIONS

Q1: Are there concentrations of TPH greater than 100 ppm in any soil?

Q2: Is soil characterized?

Q3: Is the leaching potential acceptably low for contaminants proposed to be left in place?

Q4: Is groundwater actionable?

Q5: Is groundwater characterized onsite?

Q6: Does groundwater pollution extend offsite?

Q7: Is groundwater characterized offsite?

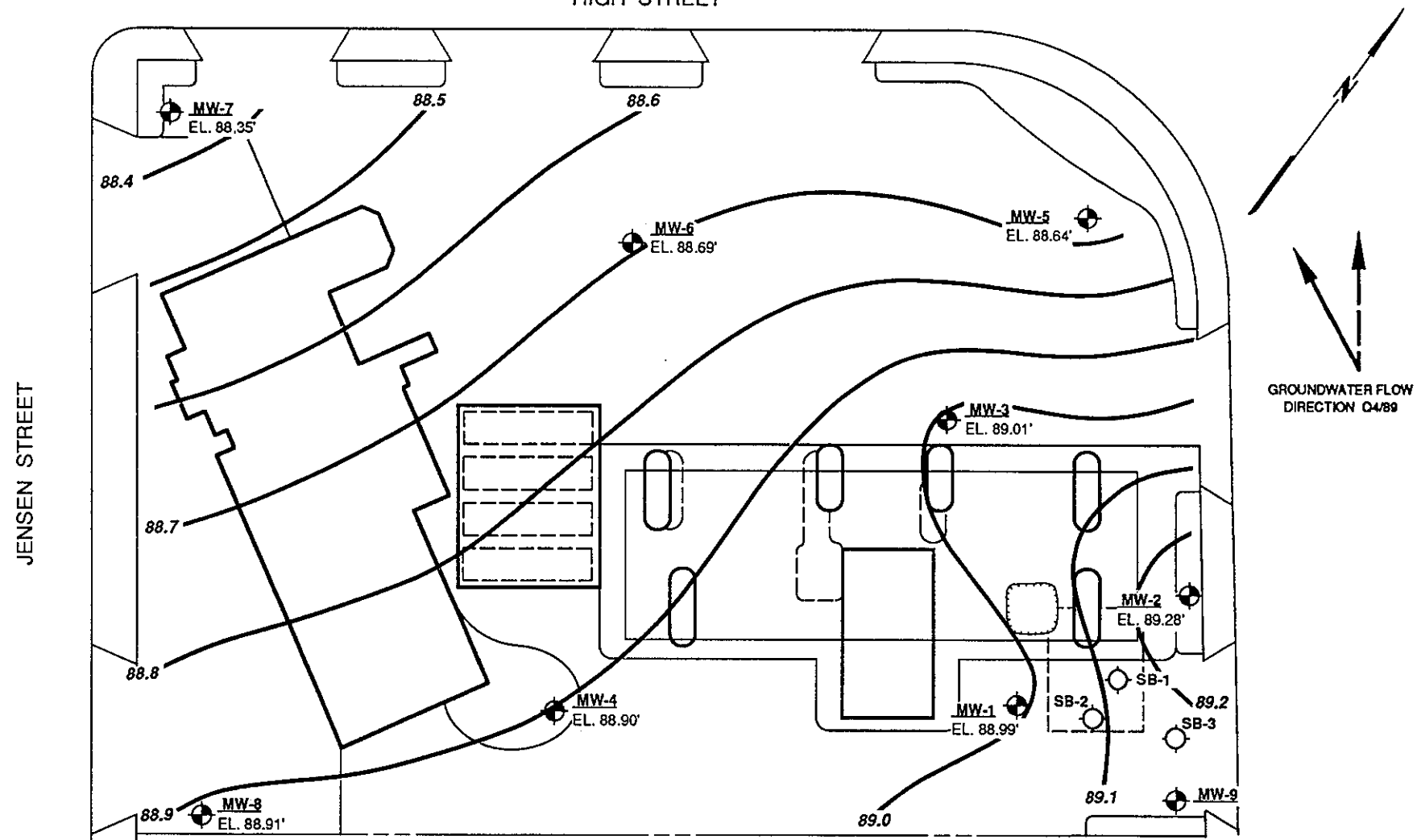
Q8: Is the environmental risk acceptably low for contaminants proposed to be left in groundwater?

SUMMARY OF PROGRESS - QUARTER 3, 1989

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental Consultants California

Scale	N/A
Project No	88-44-369-01
Date	5-24-89
Drawing No	3
Prepared By	LQL
Checked By	RMB
Approved By	DWC



LEGEND:

GROUNDWATER CONTOURS IN FEET ABOVE MEAN SEA LEVEL

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

EL. 88.35' GROUNDWATER ELEVATIONS SHOWN WITH RESPECT TO AN ARBITRARY POINT WITH AN ASSUMED ELEVATION OF 100 FEET

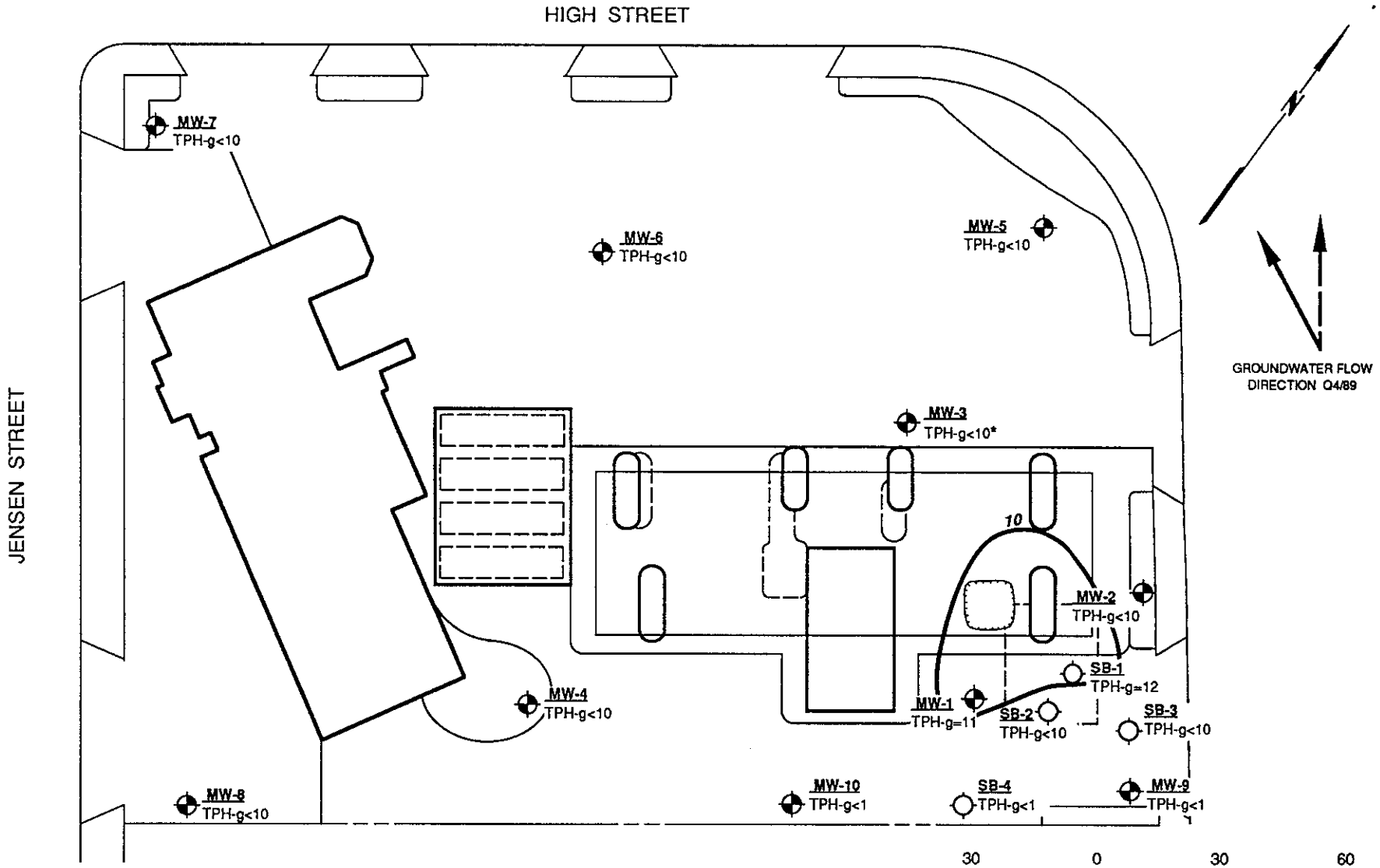
Base Map: Surveyed with EDM, Converse 1989.

POTENTIOMETRIC MAP Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Prepared by	LQL
Checked by	MIY
Approved by	DWC
Project No.	88-44-369-01
Date	12/29/89
Drawing No.	4



LEGEND:

ISOCONCENTRATION CONTOURS SHOWING GASOLINE (ppm); DASHED WHERE APPROXIMATE, ? WHERE UNCERTAIN

TPH-g = GASOLINE (ppm)

* DEPTH COMPOSITE SAMPLES

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

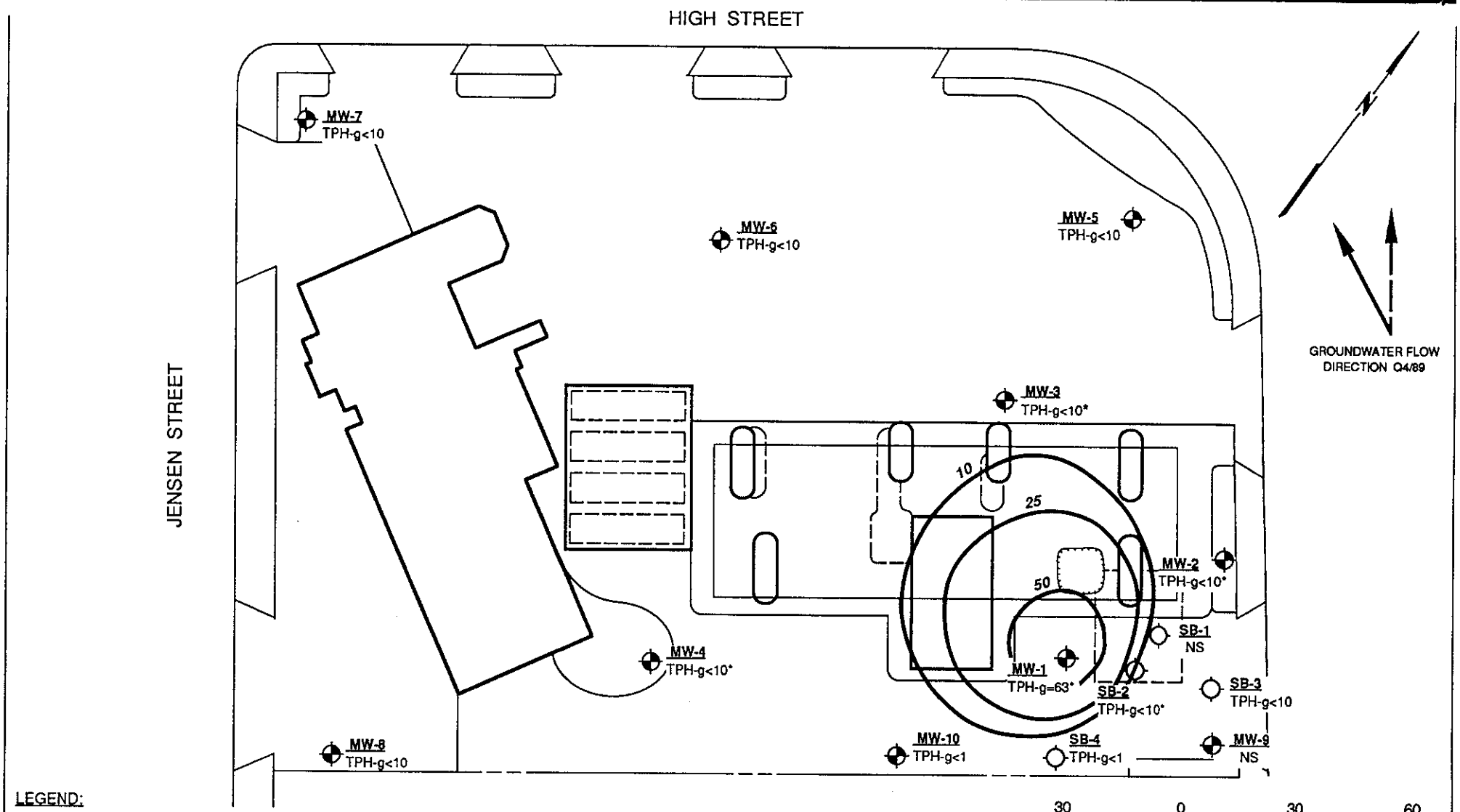
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-g IN SOIL AT 5' Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-369-01
Prepared by	LQL
Date	12/29/89
Checked by	MIY
Drawing No.	5
Approved by	DWC



LEGEND:

ISOCONCENTRATION CONTOURS SHOWING GASOLINE (ppm); DASHED WHERE APPROXIMATE, ? WHERE UNCERTAIN

TPH-g = GASOLINE (ppm)

* DEPTH COMPOSITE SAMPLES

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

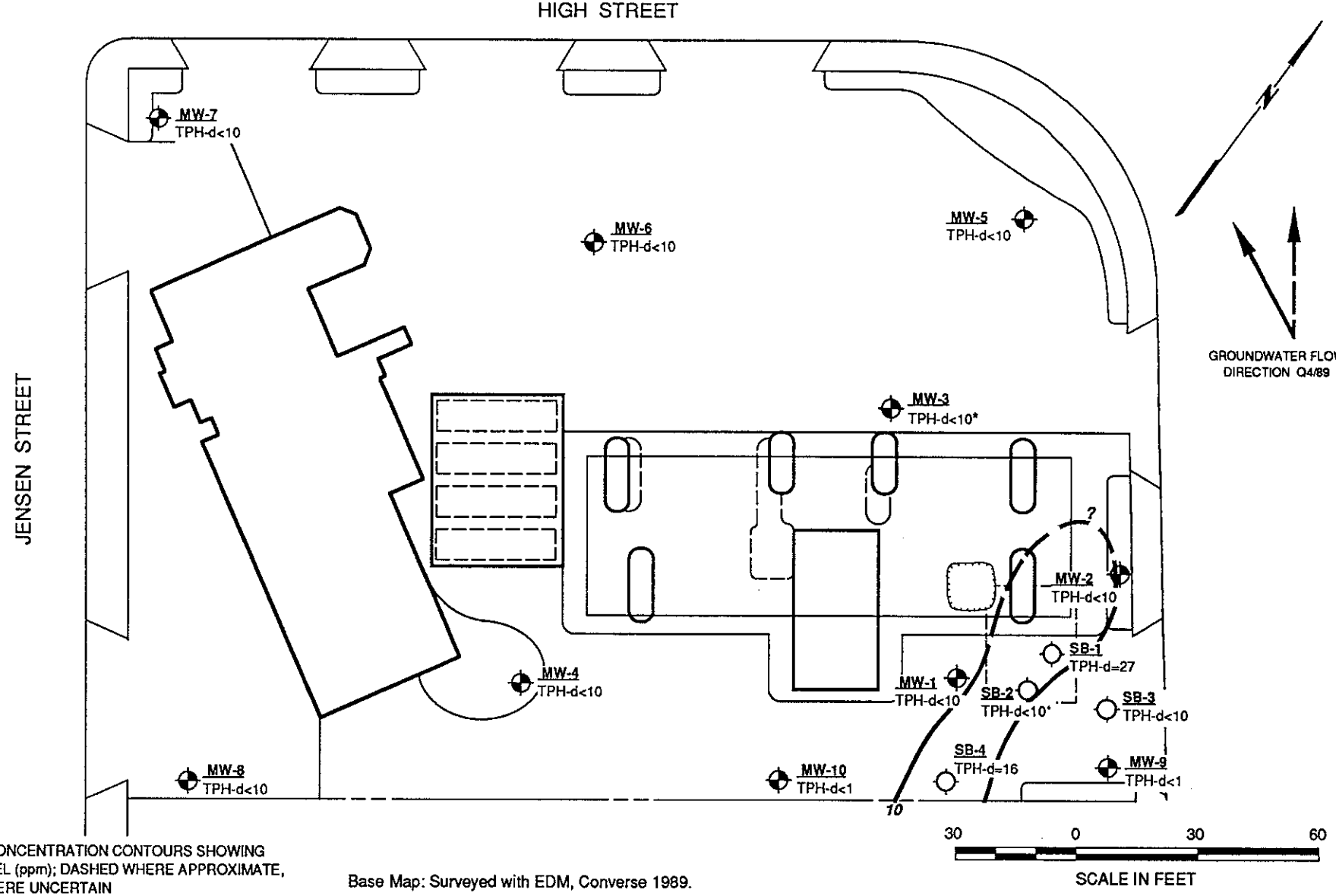
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-g IN SOIL AT 9'-10' BGS Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Prepared by	LQL
Checked by	MIY
Approved by	DWC
Project No.	88-44-369-01
Date	12/29/89
Drawing No.	6



LEGEND:

ISOCONCENTRATION CONTOURS SHOWING DIESEL (ppm); DASHED WHERE APPROXIMATE, ? WHERE UNCERTAIN

TPH-d= DIESEL (ppm)

* DEPTH COMPOSITE SAMPLES

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

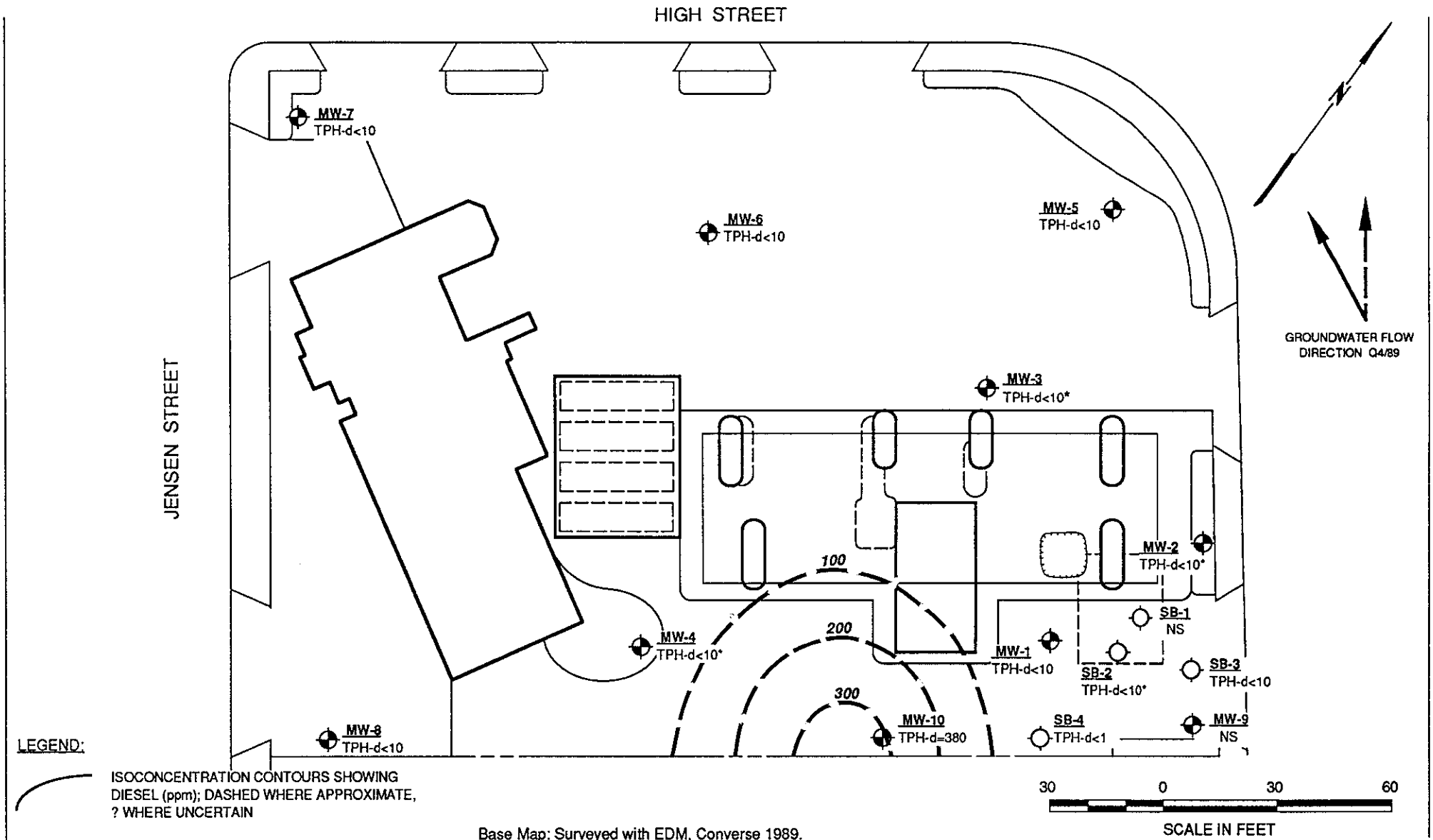
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-d IN SOIL AT 5' Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-369-01
Prepared by	LQL
Date	12/29/89
Checked by	MIY
Drawing No.	7
Approved by	DWC



LEGEND:

ISOCONCENTRATION CONTOURS SHOWING DIESEL (ppm); DASHED WHERE APPROXIMATE, ? WHERE UNCERTAIN

TPH-d = DIESEL (ppm)

NS = NOT SAMPLED

* DEPTH COMPOSITE SAMPLES

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

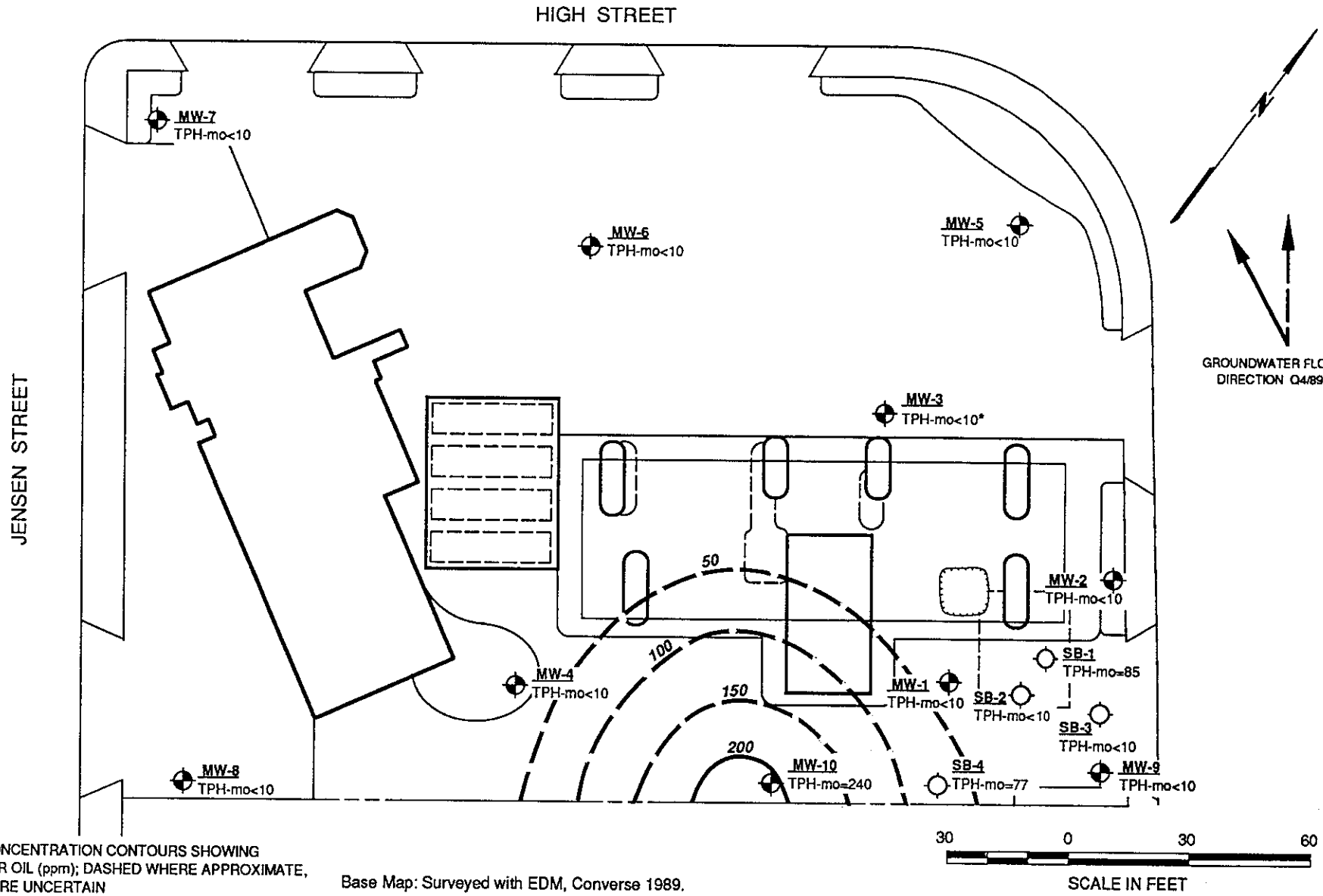
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-d IN SOIL AT 9'-10' BGS Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Prepared by	LQL
Checked by	MIY
Approved by	DWC
Project No.	88-44-369-01
Date	12/29/89
Drawing No.	8



LEGEND:

ISOCONCENTRATION CONTOURS SHOWING MOTOR OIL (ppm); DASHED WHERE APPROXIMATE, ? WHERE UNCERTAIN

TPH-mo = MOTOR OIL (ppm)

* DEPTH COMPOSITE SAMPLES

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

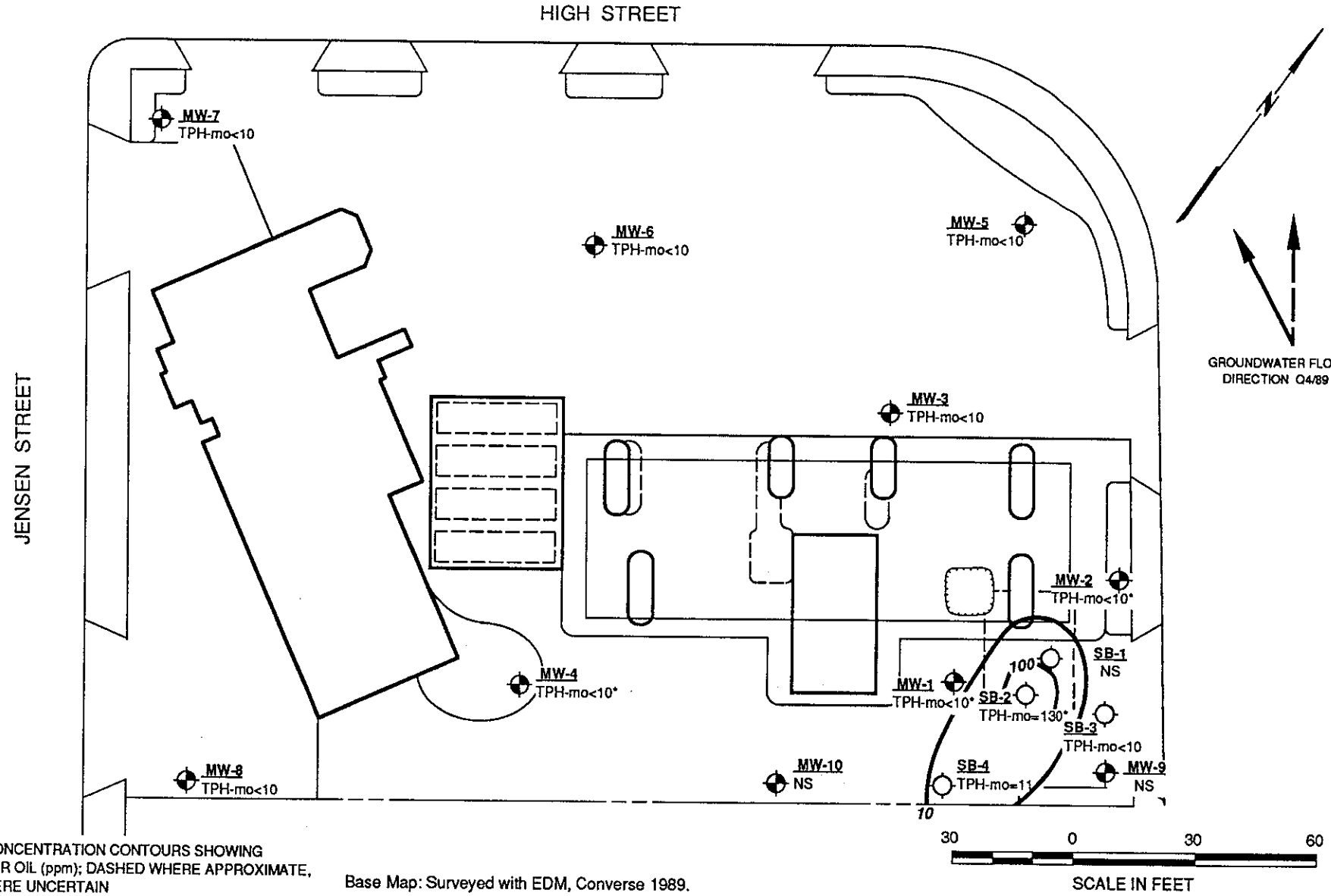
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-mo IN SOIL AT 5' Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale: AS SHOWN	Project No.: 88-44-369-01
Prepared by: LQL	Date: 12/29/89
Checked by: MIY	Drawing No.: 9
Approved by: DWC	



LEGEND:

ISOCONCENTRATION CONTOURS SHOWING MOTOR OIL (ppm); DASHED WHERE APPROXIMATE, ? WHERE UNCERTAIN

TPH-mo = MOTOR OIL (ppm)

* DEPTH COMPOSITE SAMPLES

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

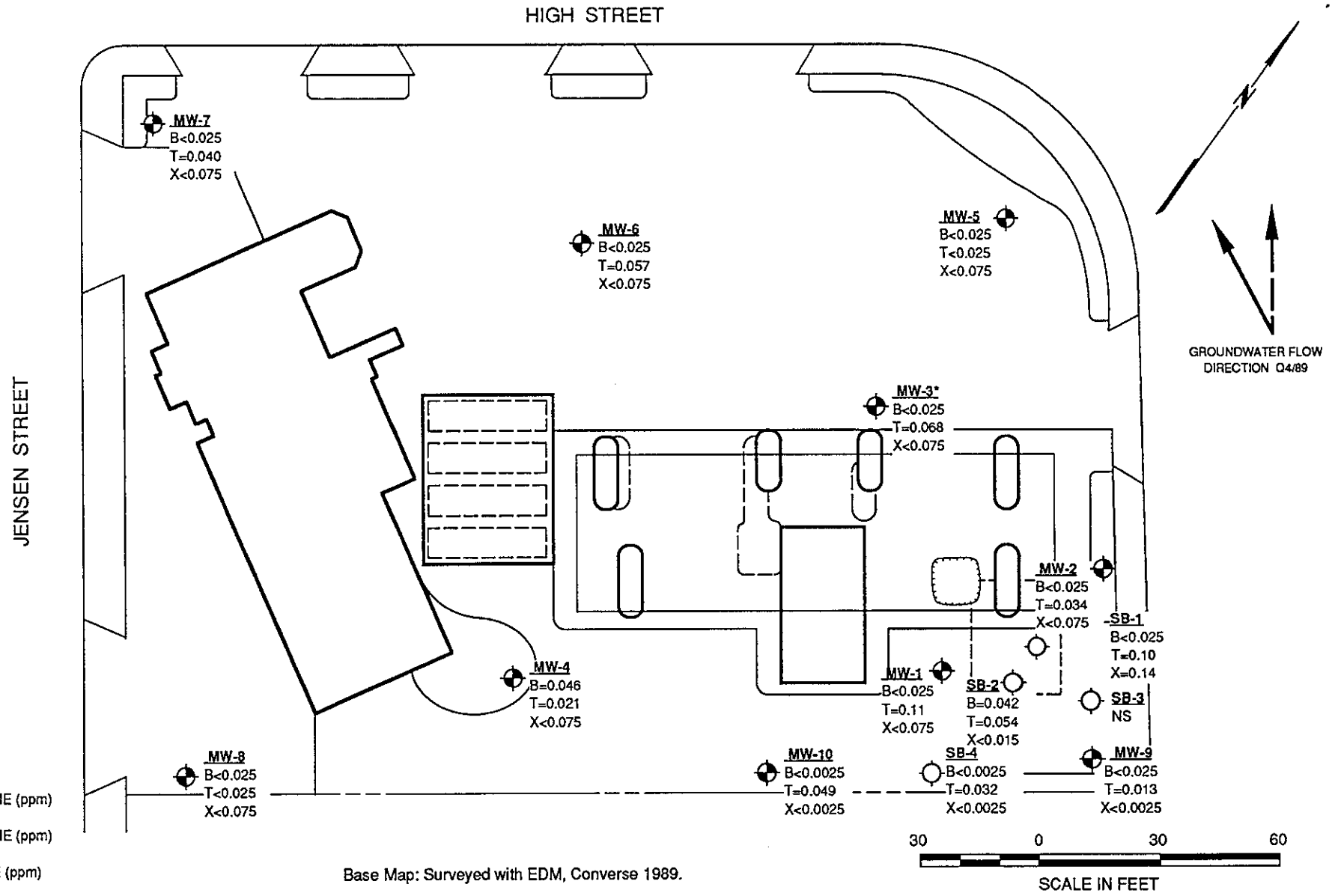
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-mo IN SOIL AT 10' Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-369-01
Prepared by	LQL
Date	12/29/89
Checked by	MIY
Drawing No.	10
Approved by	DWC



LEGEND:

B = BENZENE (ppm)

T = TOLUENE (ppm)

X = XYLENE (ppm)

SB-1 ○ SOIL BORING

MW-1 ⊕ GROUNDWATER MONITORING WELL

* DEPTH COMPOSITE SAMPLES

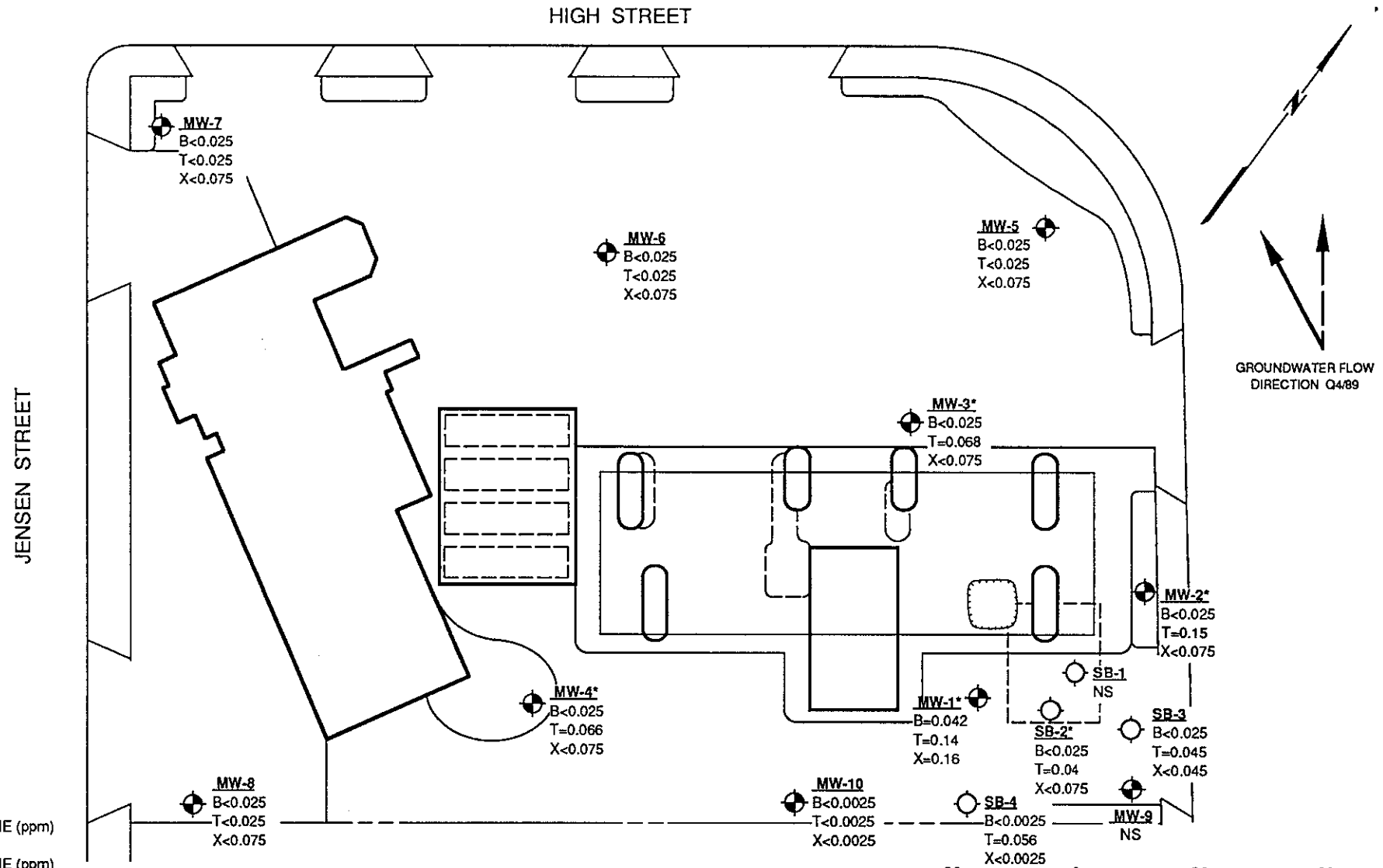
Base Map: Surveyed with EDM, Converse 1989.

PLAN: BTX IN SOIL AT 5' BGS Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-369-01
Prepared by	LQL
Date	12/29/89
Checked by	MIY
Drawing No.	11
Approved by	DWC



LEGEND:

B = BENZENE (ppm)

T = TOLUENE (ppm)

X = XYLENE (ppm)

SB-1 ○ SOIL BORING

MW-1 ⊕ GROUNDWATER MONITORING WELL

* DEPTH COMPOSITE SAMPLES

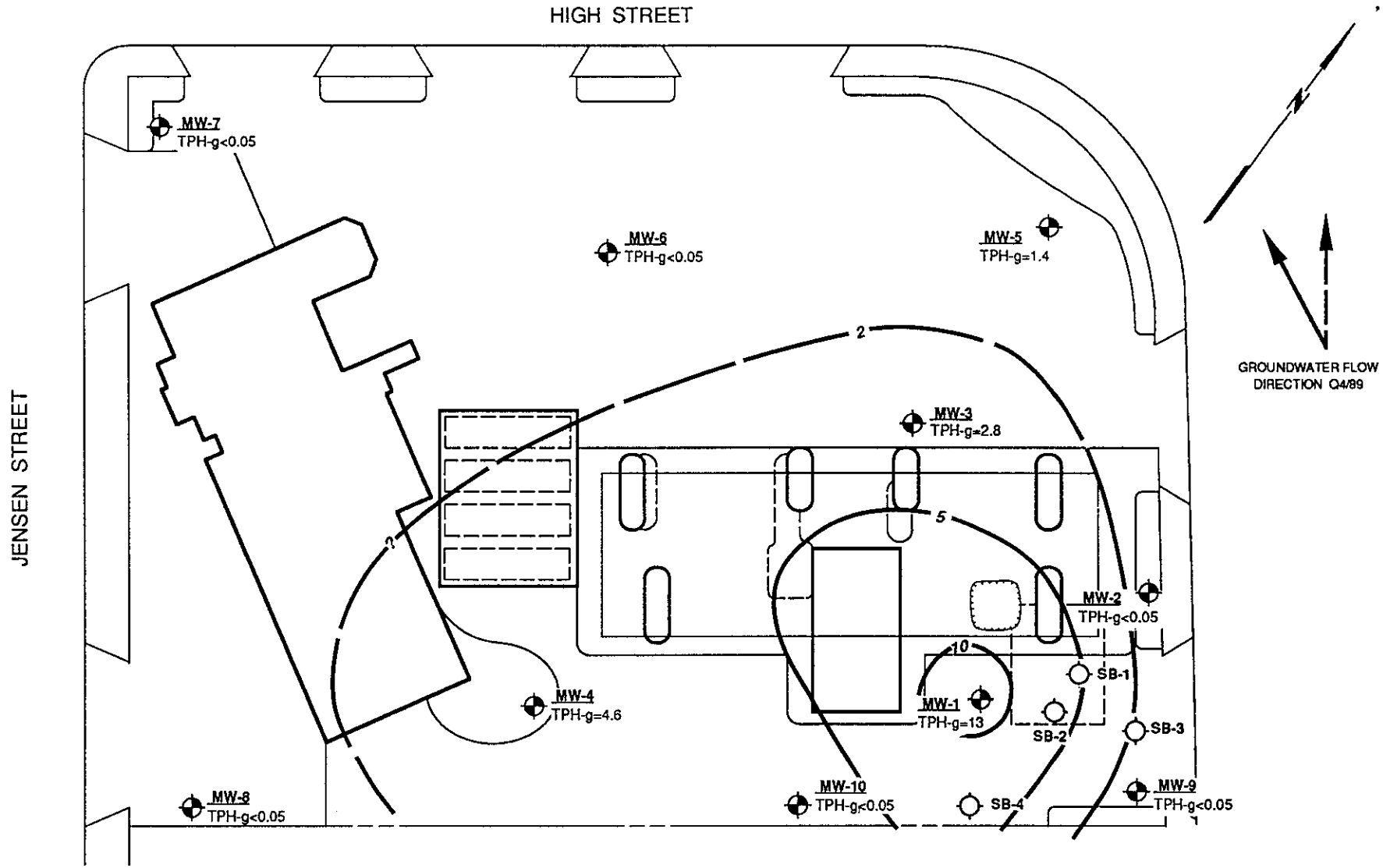
Base Map: Surveyed with EDM, Converse 1989.

PLAN: BTX IN SOIL AT 9'-10' BGS Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-369-01
Prepared by	LQL
Date	12/29/89
Checked by	MIY
Drawing No.	12
Approved by	DWC



LEGEND:

ISOCONCENTRATION CONTOURS SHOWING GASOLINE (ppm); DASHED WHERE APPROXIMATE, ? WHERE UNCERTAIN

TPH-g = GASOLINE (ppm)

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

30 0 30 60

SCALE IN FEET

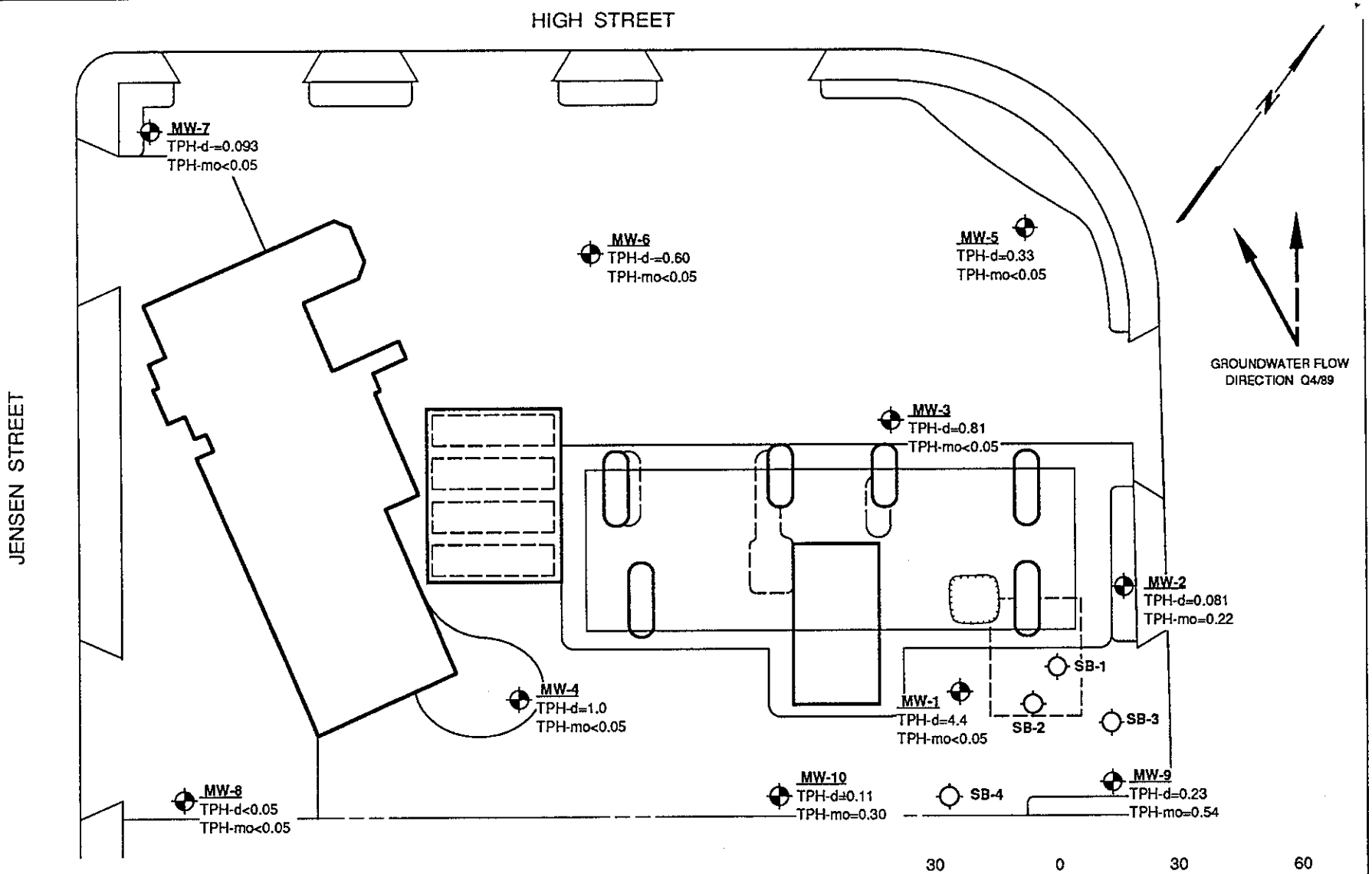
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-g IN GROUNDWATER Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-369-01
Prepared by	LQL
Date	12/29/89
Checked by	MIY
Drawing No.	13
Approved by	DWC



LEGEND:

TPH-d= DIESEL (ppm)

TPH-mo= MOTOR OIL (ppm)

* DEPTH COMPOSITE SAMPLES

SB-1 SOIL BORING

MW-1 GROUNDWATER MONITORING WELL

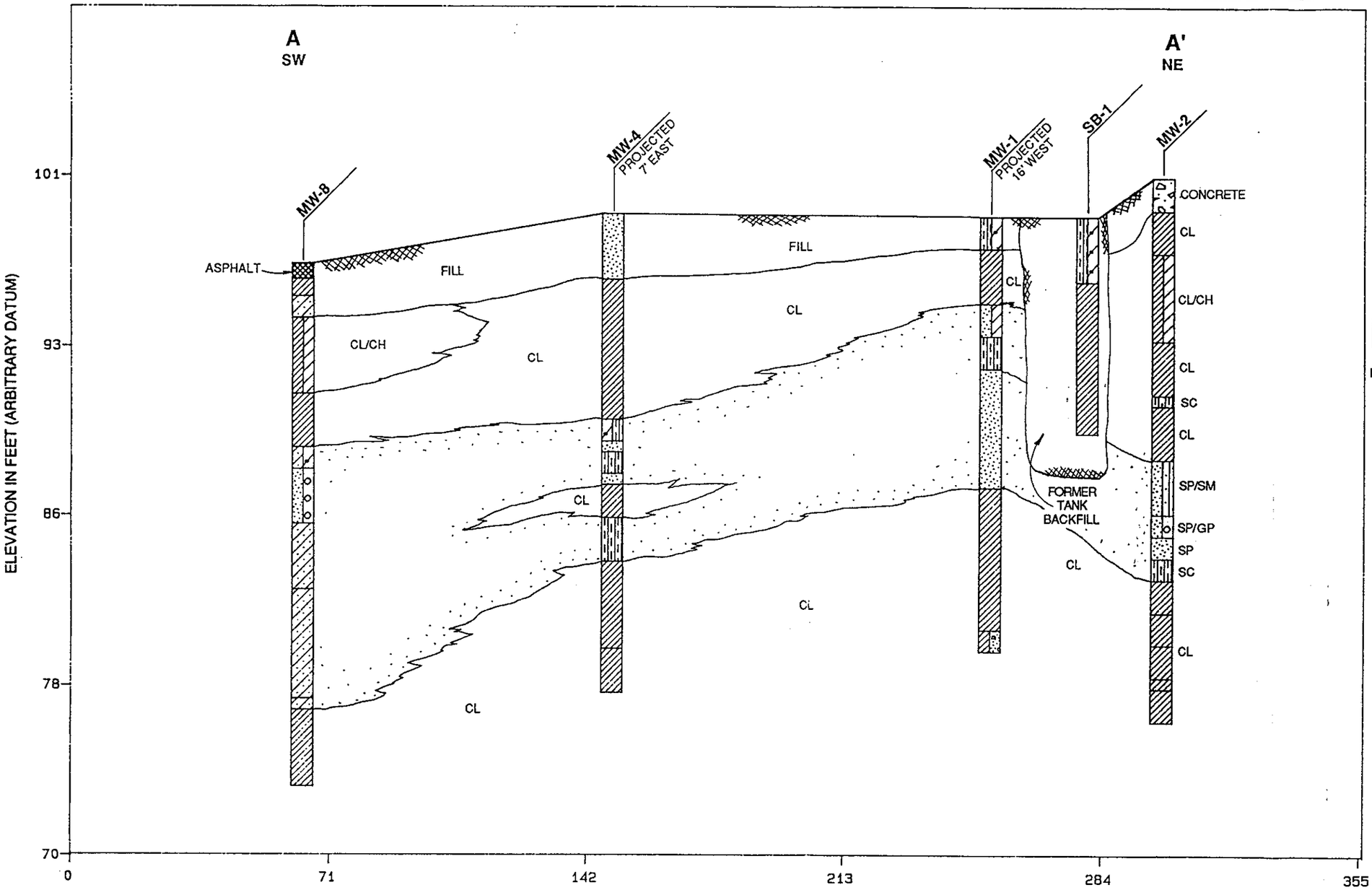
Base Map: Surveyed with EDM, Converse 1989.

PLAN: TPH-d & TPH-mo IN GROUNDWATER Q4/89

SHELL OIL COMPANY
630 High Street
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Prepared by	LQL
Checked by	MIY
Approved by	DWC
Project No.	88-44-369-01
Date	12/29/89
Drawing No.	14



LEGEND

FILL: MIXED GRAVEL, SAND AND CLAY

SC/GC/SP — RELATIVELY PERMEABLE SOIL: GRAVEL AND SAND

CL /CH — RELATIVELY IMPERMEABLE SOIL: CLAY-RICH SOILS

NOTE: FOR EXPLANATION OF SOIL CLASSIFICATIONS SEE APPENDIX A FIGURE A-1.

0 30 60
SCALE FEET

CROSS SECTION A-A'

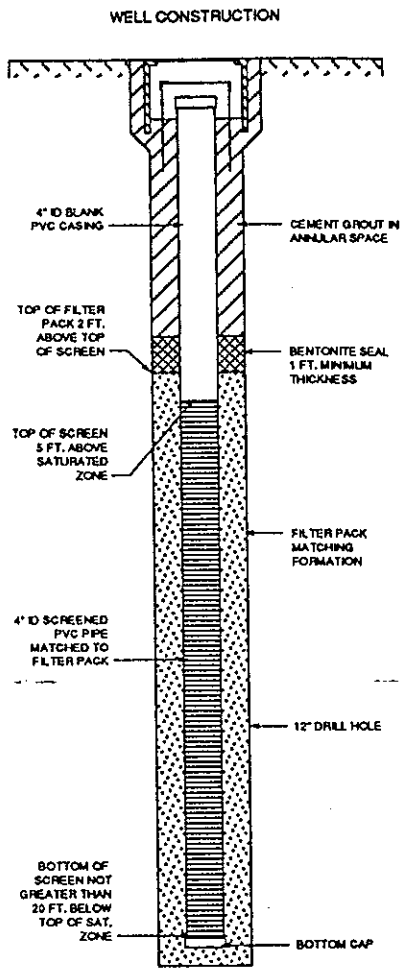
SHELL OIL COMPANY
630 High Street
Oakland, California

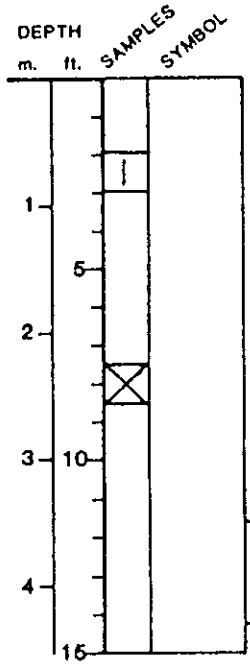
Converse Environmental Consultants California

Scale: AS SHOWN	Project No.: 88-44-369-01
Date: 9/28/89	
Prepared By: MLL	Drawing No.: 15
Checked By: MIY	
Approved By:	

ATTACHMENT 1

MAJOR DIVISIONS			SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS More than half is larger than No. 200 sieve	GRAVELS More than half coarse fraction is larger than No. 4 sieve	Clean gravels with little or no fines	GW	Well graded gravels, gravel - sand mixtures
			GP	Poorly graded gravels, gravel - sand mixtures
		Gravels with over 12% fines	GM	Silty gravels, poorly graded gravel - sand - silt mixtures
			GC	Clayey gravels, poorly graded gravel - sand - clay mixtures
	SANDS More than half coarse fraction is smaller than No. 4 sieve	Clean sands with little or no fines	SW	Well graded sands, gravelly sands
			SP	Poorly graded sands, gravelly sands
		Sands with over 12% fines	SM	Silty sands, poorly graded sand - silt mixtures
			SC	Clayey sands, poorly graded sand - clay mixtures
FINE GRAINED SOILS > half is smaller than No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic clays and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine, sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils





SAMPLE TYPE

DRIVE SAMPLE, 2.5" ID Sampler, driven with 140 lb. weight, 30" drop

NO RECOVERY

Water level at time of drilling

Stabilized water level on date noted

Note:

Soil conditions indicated by boring logs apply only at the location of the particular boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at the boring location with the passage of time. Data presented in the logs represent a simplification of the actual conditions encountered.

UNIFIED SOIL CLASSIFICATION AND BORING LOG SYMBOLS

Scale | Project No.

Prepared by | Date

Checked by | Drawing No.

Approved by | A 1

Converse Environmental Consultants California

LOG OF BORING NO. SB-4

DATE DRILLED: 11-15-89	ELEVATION:	WL TAKEN: n/a	EQUIPMENT: 3 3/4"x 8" Hollow-Stem Auger

DEPTH (ft)	SAMPLE	WATER LEVEL	SYMBOL	MOISTURE	CONSISTENCY	COLOR	DESCRIPTION		BLOWS/FT.	O.V.M. (ppm)	DRY DENSITY lb/ft³	TESTS
				slightly moist	medium dense	yellow brown	Sandy GRAVEL. (Fill)	GW				
						brown	Gravelly SAND. (Fill)	SW				
				slightly moist	medium		Fine Sandy SILT, organics. (Fill)	ML				
5	1			moist		black	Silty CLAY, trace Gravel, brown organics.	CH	11	0		
	2					black	Silty CLAY.		11	0		
10							Total Depth of Boring: 9 ft Below Ground Surface.					
15												
20												

REGISTERED PROFESSIONAL GEOLOGIST
Douglas W. Charlton
No. 4110
STATE OF CALIFORNIA

SHELL OIL COMPANY
630 High Street
Oakland, California

Project No.
88-44-369-01

Converse Environmental West

Drawing No.
A-2

LOG OF BORING NO. MW-9

DATE DRILLED: *11-15-89*	ELEVATION:	WL TAKEN: *n/a*	EQUIPMENT: *3 3/4"x 8" Hollow-Stem Auger*

DEPTH (ft)	SAMPLE	WATER LEVEL	SYMBOL	MOISTURE	CONSISTENCY	COLOR	DESCRIPTION		WELL CONSTRUCTION	BLOWS/FT.	O.V.M. (ppm)	T.P.H. (ppm)
				slightly moist	medium dense	brown	Sandy angular GRAVEL, trace Clay. (Fill)	GW				
				moist			Increasing Sand.					
				slightly moist	stiff	tan and gray	Silty CLAY, trace fine Sand.	CL				
				moist	medium	gray green	Silty CLAY, little Sand, trace Gravel. Black staining. No odor.	CL				
	1			very moist		light gray green				7	0	
5						gray						
	2			wet	medium dense	brown	Fine Gravelly coarse SAND, trace Clay.	SP		15	0	
10				moist	stiff	tan mottled black	Silty CLAY, little Sand, trace Gravel. Rust staining.	CL		8		
										15	0	
										17	0	
15				wet	dense	dark gray	SAND and GRAVEL.	SP/GP		53	0	
							Total Depth of Boring: 16 ft Below Ground Surface.					
20												

REGISTERED PROFESSIONAL GEOLOGIST
Douglas W. Charlton
No. 4110
STATE OF CALIFORNIA

SHELL OIL COMPANY
630 High Street
Oakland, California

Project No.
88-44-369-01

Converse Environmental West

Drawing No.
A-3

LOG OF BORING NO. MW-10

DATE DRILLED: 11-15-89	ELEVATION:	WL TAKEN: n/a	EQUIPMENT: 3 3/4"x 8" Hollow-Stem Auger

DEPTH (ft)	SAMPLE	WATER LEVEL	SYMBOL	MOISTURE	CONSISTENCY	COLOR	DESCRIPTION		WELL CONSTRUCTION	BLOWS/FT.	O.V.M. (ppm)	T.P.H. (ppm)
				slightly moist	medium dense	gray brown	Sandy angular GRAVEL. (Fill)	GW				
				moist		yellow brown	Gravelly SAND, trace cobble. (Fill)	SW				
				slightly moist	medium	brown	Fine Sandy SILT, trace Gravel. (Fill)	ML				
	1			moist		black	Silty CLAY.	CH		13	0	
5						gray	Silty CLAY, trace Sand.	CL				
	2			very moist	medium dense	blue green	Clayey SAND. Staining. Odor.	SC		15	5	
							-- grading to --			14		
10		▽					SAND and CLAY. Thin lenses white angular Gravel. Odor.	SC/CL		30	3	
				wet		gray	Gravelly SAND.	SP				
				slightly moist	stiff	tan	Silty CLAY, mottled rust and black, little fine Sand.	CL		11	0	
15						tan	Silty Clay, mottled rust and black, trace fine Sand.			23	0	
							Total Depth of Boring: 17 ft Below Ground Surface.					
20												

REGISTERED PROFESSIONAL GEOLOGIST
Douglas W. Charlton
No. 4110
STATE OF CALIFORNIA

SHELL OIL COMPANY
630 High Street
Oakland, California

Project No.
88-44-369-01

Converse Environmental West

Drawing No.
A-4

ATTACHMENT 2

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Marc Yalom
Converse Consultants
55 Hawthorne St., Ste 500
San Francisco, CA 94105

11-30-89
NET Pacific Log No: 8618
Series No: 103.1
Client Ref: Proj#88-44-369-01-11

Subject: Analytical Results for "Shell - 630 High Street, Oakland" Received 11-17-89.

Dear Mr. Yalom:

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Submitted by:

Judy Ridley
Client Services

Approved by:

Jules Skamarack
Laboratory Manager

/sm
Enc: Sample Custody Document

KEY TO ABBREVIATIONS and METHOD REFERENCES

Abbreviations

mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NR	:	Not requested.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

* Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated reporting limits by the dilution factor.

Parameter	Reporting Limit (ppm)	Descriptor, Lab No. and Results MW-9 #1 5' 11-15-89 (-39837)	 MW-10#1 5' 11-15-89 (-39838)	 MW-10#2 9' 11-15-89 (-39839)
Lead (EPA 7421)	0.2	170	120	3.1
PETROLEUM HYDROCARBONS		--	--	--
VOLATILE (SOIL)		--	--	--
DILUTION FACTOR *		1	1	1
DATE ANALYZED		11-27-89	11-27-89	11-28-89
METHOD GC FID/5030		--	--	--
as Gasoline	1	ND	ND	ND
METHOD 8020		--	--	--
Benzene	0.0025	ND	ND	ND
Ethylbenzene	0.0025	ND	ND	ND
Toluene	0.0025	0.013	0.049	ND
Xylenes, total	0.0025	ND	ND	ND
PETROLEUM HYDROCARBONS		--	--	--
EXTRACTABLE (SOIL)		--	--	--
DILUTION FACTOR *		1	10	10
DATE EXTRACTED		11-18-89	11-18-89	11-18-89
DATE ANALYZED		11-27-89	11-20-89	11-20-89
METHOD GC FID/3550		--	--	--
as Diesel	1	ND	ND	380
as Motor Oil	10	10	240	ND

Parameter	Reporting Limit (ppm)	Descriptor, Lab No. and Results SB4 #1 5' 11-15-89 (-39840)	SB4 #2 9' 11-15-89 (-39841)
Lead (EPA 7421)	0.2	220	3.9
PETROLEUM HYDROCARBONS		--	--
VOLATILE (SOIL)		--	--
DILUTION FACTOR *		1	1
DATE ANALYZED		11-27-89	11-27-89
METHOD GC FID/5030		--	--
as Gasoline	1	ND	ND
METHOD 8020		--	--
Benzene	0.0025	ND	ND
Ethylbenzene	0.0025	ND	ND
Toluene	0.0025	0.032	0.056
Xylenes, total	0.0075	ND	ND
PETROLEUM HYDROCARBONS		--	--
EXTRACTABLE (SOIL)		--	--
DILUTION FACTOR *		1	1
DATE EXTRACTED		11-18-89	11-18-89
DATE ANALYZED		11-27-89	11-27-89
METHOD GC FID/3550		--	--
as Diesel	1	16	ND
as Motor Oil	10	77	11

WIC
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TM: MJY

Converse Consultants

CHAIN OF CUSTODY RECORD

Project No.	Project Name
88-49-369-01-11	630 High St

Samplers: (signature) D. Coy

Station No.	Date	Time	Comp.	Grab	Station Location	Number of Containers	TPH G	TPH D	TPH MO	BTEX	Remarks
MW9	11/15	09			Drive 1 @ 5	1	X	X	X	X	S+D T.A.T.
MW9					2 @ 10	1					hold saturated
MW10					Drive 1 @ 5	1	X	X	X	X	
MW10					2 @ 9	1	X	X	X	X	
SB4					1 @ 5	1	X	X	X	X	
SB4					2 @ 9	1	X	X	X	X	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)
D. Coy	11/16 14:45	Jeff Wrobel	Jeff Wrobel		
Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Date/Time	Received by: (signature)
Relinquished by Courier: (signature)	Date/Time	Received by Mobile Lab: (signature)	Relinquished by Mobile Lab: (signature)	Date/Time	Received by Courier: (signature)
Method of Shipment: Via NCS		Shipped by: (signature)	Courier from Airport: (signature)	Received for Laboratory: (signature)	Date/Time: 11-17-87 0700