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Environmental Services Company
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Jennifer C. Sedlachek
Project Manager

ExxonMobil

April 4, 2012

Mr. Mark E. Detterman
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Preferential Pathway Survey Report**
Former Exxon RAS #70691
10100 International Boulevard, Oakland, California
ACHCSA File No. RO0000162

Dear Mr. Detterman:

Attached for your review and comment is a copy of the *Preferential Pathway Survey Report* for the above-referenced site. The report, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, is submitted in response to correspondence from the Alameda County Health Care Services Agency dated January 12, 2012.

Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,

Jennifer C. Sedlachek
Project Manager

Attachment: ETIC Preferential Pathway Survey Report

c: w/ attachment:
Mr. Jose Sauchedo - Dodg Corporation
Mr. Tony and Ms. Fee Ling Chan
Mr. Hussein Saffouri - Ramsey Law Group

c: w/o attachment:
Mr. Thomas E. Neely - ETIC Engineering, Inc.

Preferential Pathway Survey Report

Former Exxon Retail Site 70691
10100 International Boulevard
Oakland, California

ACHCSA File No. RO0000162

Prepared for

ExxonMobil Oil Corporation

Prepared by

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, California 94523
(925) 602-4710

4/3/12

Yuko Mamiya
Project Geologist

Date

4/3/12

Hamidou Barry
Project Manager

Date

April 3, 2012

Thomas E. Neely, PG, CHG, REA II, QSD
Senior Hydrogeologist

Date

REGISTERED GEOLOGIST
THOMAS E. NEELY
Exp. 9.30.13
No. 7652
STATE OF CALIFORNIA

April 2012

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Former Exxon Retail Site 70691

SITE CONTACTS

Site Name:	Former Exxon Retail Site 70691
Site Address:	10100 International Boulevard Oakland, California
ExxonMobil Project Manager:	Jennifer C. Sedlachek ExxonMobil Environmental Services Company 4096 Piedmont Avenue #194 Oakland, California 94611 (510) 547-8196
Consultant to ExxonMobil:	ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, California 94523 (925) 602-4710
ETIC Project Manager:	Hamidou Barry
Regulatory Oversight:	Mark E. Detterman Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577 (510) 567-6876

1.0 INTRODUCTION

At the request of ExxonMobil Environmental Services Company on behalf of ExxonMobil Oil Corporation (ExxonMobil), ETIC Engineering, Inc. (ETIC) has prepared this Preferential Pathway Survey Report for former Exxon Retail Site (RS) 70691, located at 10100 International Boulevard (formerly East 14th Street) in Oakland, California (Figures 1 and 2).

In a letter dated 12 January 2012, the Alameda County Health Care Services Agency (ACHCSA) conditionally approved for implementation the Information Submittal and Work Plan for Subsurface Investigation (work plan) (ETIC 2011). The ACHCSA requested that a preferential pathway survey be performed. The ACHCSA also requested a well search within ¼-mile of the site. Regulatory correspondence is included in Appendix A.

This report documents the results of the preferential pathway survey, evaluating subsurface utility lines, utility vaults, and trenches within the site vicinity. The report also presents a summary of potentially sensitive receptors such as water supply wells and surface water within a search radius of 1,500 feet from the center of the site.

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND LAND USE

The site is comprised of Assessor's Parcel Number 047-5516-017-01 and is situated at 10100 International Boulevard at the southeastern corner of the intersection of 101st Avenue and International Boulevard (formerly named East 14th Street) in Oakland, California (Figure 1). The site consists of four adjacent lots (19 through 22), extending southward from 101st Avenue along East 14th Street (ACA 2006). Lot 19 has been identified with the addresses 10100 and 10102 East 14th Street. Lot 20 has been identified with the addresses 10102½ and 10106 East 14th Street. Lot 21 has been identified with the address 10112 East 14th Street. Lot 22 has been identified with the address 10116 East 14th Street. Properties in the vicinity of the site are a mixture of commercial and residential. The site is currently occupied by EZ Tires shop with associated parking.

2.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

The site is located in the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Subbasin is a northwest trending alluvial plain bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Basin. The East Bay Plain Basin extends beneath San Francisco Bay to the west. Numerous creeks including San Pablo Creek, Wildcat Creek, San Leandro Creek, and San Lorenzo Creek flow from the western slope of the Coast Ranges westward across the plain and into the San Francisco Bay. The East Bay Plain Subbasin aquifer system consists of unconsolidated deposits of Quaternary age. Deposits include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill. The cumulative thickness of the unconsolidated deposits is about 1,000 feet (DWR 2003).

Early Pleistocene Santa Clara Formation

The Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits. The formation ranges from 300 to 600 feet thick (DWR 2003).

Late Pleistocene Alameda Formation

The Alameda Formation includes a sequence of alluvial fan deposits. The formation was deposited primarily in an estuarine environment and ranges from 26 to 245 feet thick (DWR 2003).

Early Holocene Temescal Formation

The Temescal Formation is an alluvial deposit consisting primarily of silt and clay with some

gravel layers. The formation ranges from 1 to 50 feet thick (DWR 2003).

Artificial Fill

Artificial fill is found mostly along the bay front and wetlands areas and is derived primarily from dredging as well as quarrying, construction, demolition debris, and municipal waste. The fill ranges in thickness from 1 to 50 feet with the thickest deposits found closer to San Francisco Bay (DWR 2003).

2.3 LOCAL GEOLOGY AND HYDROGEOLOGY

Local geology and hydrogeology information was obtained from records for the nearby Former 76 Service Station #7124 site located at 10151 International Boulevard (Stantec 2009). Based upon subsurface assessment activities performed at the Former 76 station, the site is underlain by silty sand to depths of approximately 5 to 7 feet below ground surface (bgs). The silty sand is underlain generally by clay to depths of approximately 12 to 15 feet bgs. The clay is underlain generally by interbedded silt and clay with occasional sand with thicknesses of up to 3 feet observed (Stantec 2009).

Historically, the depth to groundwater at the Former 76 station site has ranged from approximately 13.5 to 20 feet bgs. The direction of groundwater flow during the fourth quarter of 2011 was toward the west-northwest with a hydraulic gradient of approximately 0.009 foot/foot, consistent with the historically dominant direction (ARCADIS 2012). Occasionally, the groundwater flow direction at the Former 76 Service Station #7124 site was reported to be toward the south or northwest (Stantec 2009).

2.4 SURFACE WATER

The Environmental Data Resources (EDR) Radius Map Report and historical topographic maps dated 1948, 1959, 1968, 1973, 1980, and 1993 were evaluated for the presence of surface water bodies and potential wetlands in the vicinity of the site.

No surface water bodies were identified within 1,500 feet of the site. The surface water body closest to the site is San Leandro Creek. The creek flows generally to the west and passes approximately 1 mile south of the site before draining into San Leandro Bay and then to San Francisco Bay. The EDR report identifies no wetlands in the search radius. Relevant sections of the EDR report are included in Appendix B. The historical topographic maps are included in Appendix C.

2.5 SUMMARY OF PREVIOUS INVESTIGATIONS

In March 1974, two 8,000-gallon underground storage tanks (USTs) and one 550-gallon used-oil UST were excavated and removed from the site under a permit from the City of Oakland (City of Oakland 1990).

In October 1993, an oil/water separator and associated piping at the site were emptied, cleaned, and filled with concrete (Geomatrix 1994). During closure activities, Geomatix personnel observed a gap in the seam around the sanitary sewer drain pipe approximately 8 inches below the garage floor in the oil/water separator. In November 1993, two soil samples were collected from approximately 1 foot bgs at locations B-1 and B-2 (Figure 2), adjacent to the northwestern and southeastern corners of the oil/water separator, respectively (Geomatrix 1994). Total Petroleum Hydrocarbons quantified as gasoline (TPH-g) and diesel (TPH-d) were detected in the samples. However, the analytical laboratory noted that the petroleum hydrocarbons present were likely heavier compounds such as motor oil. Volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and elevated concentrations of lead also were detected in the soil samples (Geomatrix 1994).

Reportedly, in late 1993 or 1994, soil was excavated presumably to remove impacted soil in the vicinity of the former oil/water separator (RGA 1999). Reportedly, the excavation was approximately 6 feet wide and 17 feet deep (the length of excavation was not stated). One sample was apparently collected from the excavated soil and indicated the presence of Total Petroleum Hydrocarbons as motor oil (TPH-mo) at 6,200 parts per million (ppm) (RGA 1999). The location of the excavation was not specified and the disposition of soil was not provided.

Since 1994, the ACHCSA has requested that a subsurface investigation be performed to evaluate the extent of impacts in the subsurface. In July 1999, RGA Environmental (on behalf of the owner) submitted a work plan to conduct a subsurface investigation. However, there are no records indicating that the investigation was performed. Since 1999, the ACHCSA has requested that the subsurface investigation be performed and has requested that additional tasks be performed in conjunction with the subsurface investigation.

In January 2012, a geophysical survey was performed to identify utility alignments and to identify subsurface structures beneath the site. The detailed results of the survey will be included in a separate soil and groundwater investigation report.

In February 2012, a total of 12 soil borings (B3 through B13 and B9A) were drilled at the site, and soil and groundwater samples were collected. The results of the investigation will be included in a separate soil and groundwater investigation report.

A full discussion of the site history is presented in the November 2011 Information Submittal and Work Plan for Subsurface Investigation (ETIC 2011). Soil sample analytical results for borings B-1 and B-2 are summarized in Tables 1 and 2.

3.0 PREFERENTIAL PATHWAY SURVEY

3.1 CONDUIT EVALUATION

Subsurface utilities and trenches in the vicinity of the site were evaluated using maps provided by Pacific Gas and Electric Company (PG&E), the City of Oakland, and the East Bay Municipal Utility District (EBMUD), field utility mark-outs by Underground Service Alert (USA) member companies, and the geophysical survey conducted in January 2012.

Copies of the provided utility maps are included in Appendix D, and the identified subsurface utilities are shown on Figure 2.

3.1.1 Natural Gas Lines

A utility map provided by PG&E shows gas main lines beneath the eastern side of International Boulevard and southern side of 101st Avenue. USA mark-outs and the January 2012 geophysical survey did not identify lateral gas lines beneath the site. Based upon a telephone conversation with PG&E personnel on 9 March 2012, the standard depth of the main gas lines is generally 32 to 36 inches bgs (PG&E 2012). The PG&E utility map is confidential and is not included in this report.

3.1.2 Electric Lines

A utility map provided by PG&E shows underground electric lines beneath both sidewalks along International Boulevard and a lateral line near the southern boundary of the site. Based upon a telephone conversation with PG&E personnel on 9 March 2012, the standard depth of the main electric lines is generally 32 to 36 inches bgs (PG&E 2012). The location of the lateral electric line was verified by USA mark-outs and was shown to extend to the site building. The January 2012 geophysical survey identified three other electric lines located beneath the site at a depth of approximately 2 to 3 feet bgs. The PG&E utility map is confidential and is not included in this report.

3.1.3 Sanitary Sewer Lines and Storm Water Sewer Lines

A utility map provided by the City of Oakland Community and Economic Development Agency (CEDA) shows sanitary sewer and storm water pipelines in the site vicinity.

A 12-inch and 8-inch diameter sanitary sewer pipelines are situated at a depth of approximately 13 to 14 feet bgs beneath and parallel to International Boulevard. The 12-inch pipeline intersects with another 8-inch diameter sanitary sewer line beneath the approximate centerline of 101st Avenue. A sanitary cleanout (UV9) was identified at the site during the geophysical survey conducted in January 2012. A sanitary sewer lateral, however, was not identified during the survey, indicated on the utility map, nor marked by USA.

A 12-inch diameter, concrete storm water sewer line is situated at a depth of approximately 10 feet bgs beneath and parallel to International Boulevard adjacent to the site. Two storm water catch basins are located onsite near the western border (UV1 and UV2), and two other storm

water catch basins (UV3 and UV4) are located near the northwestern corner of the site on International Boulevard.

The depths of the sanitary sewer and storm water sewer lines are estimated based on the CEDA utility map, top of the casing elevation of the nearby monitoring wells at the Former 76 Service Station #7124 (ARCADIS 2012) and a 1993 7.5-minute topographic map (Appendix C).

3.1.4 Municipal Water Lines

A utility map provided by EBMUD shows a 4-inch and an 8-inch diameter, cast iron municipal water main line beneath and parallel to International Boulevard at a depth of approximately 36 to 42 inches bgs. Another main water line is located beneath 101st Avenue and intersects with the 4-inch diameter water main. The water lateral for the site is not indicated on the utility map. However, the January 2012 geophysical survey identified a possible water lateral line in the northern corner of the property at a depth of approximately 3 feet bgs. The depths of the municipal water mains are based on information provided by EBMUD via e-mail in February 2012 since the depths were not available on the utility map provided by the agency (EBMUD 2012). The utility map is confidential and is not included in this report.

3.1.5 Communication Lines

American Telephone & Telegraph (AT&T) and Comcast were not available for interviews on 13 and 20 January and 7 February 2012 and did not provide the requested information about locations of their utilities. USA mark-outs indicate an AT&T line located beneath the site near the northwestern corner extending to the building. The line was verified during the January 2012 geophysical survey at a depth of approximately 1 foot bgs.

3.1.6 Trenches

During the geophysical survey conducted in January 2012, the entire site, including the interior of the onsite garage and the sidewalk on the perimeter of the site, were surveyed using vertical magnetic gradient, metal detector, ground-penetrating radar (GPR), and electromagnetic line locating methods.

Two subsurface anomalies were identified onsite using GPR. The first anomaly is approximately 27 feet long by 22 feet wide located north of the building. The second anomaly is approximately 10 feet long by 10 feet wide located in the southern portion of the site. The geophysical survey report states that the GPR reflection patterns for the first GPR anomaly are consistent with a backfilled UST excavation, and the second GPR anomaly likely indicates a former concrete pad or foundation backfill (NORCAL 2012). No other trenches or trench/foundation backfills were identified. The detailed results of the survey will be included in a separate soil and groundwater investigation report.

Soil encountered during drilling activities in February 2012 suggests that the excavation backfill near the western side of the first GPR anomaly extends to approximately 11 feet bgs. The results of the investigation will be discussed in a separate soil and groundwater investigation report.

In February 2012, groundwater was encountered at the site at depths between approximately 14 and 25.5 feet bgs. The depth to groundwater was greater than the approximate depths of the identified subsurface utilities in the site vicinity with the possible exception of the sanitary sewer line under International Boulevard. The depth of the sanitary sewer line may coincide with the highest level of encountered groundwater.

3.2 UTILITY VAULTS

A reconnaissance of the site was conducted in December 2011 to identify subgrade utility vaults onsite and adjacent to the site. Nine subgrade utility vaults (UV) were identified. Two storm water catch basins (UV1 and UV2) are located onsite and near the western property line. Two other storm water catch basins (UV3 and UV4) are located offsite near the northwestern corner of the site on International Boulevard and 101st Avenue, respectively. A telephone vault (UV5) is located in the sidewalk on 101st Avenue. A Caltrans traffic control vault (UV6) and two PG&E vaults (UV7 and UV8) are located in the sidewalk along International Boulevard. A sanitary sewer clean-out (UV9) was identified onsite. The utility vaults UV1 though UV9 are shown on Figure 2 and are listed in Table 3.

The identified utility vaults were evaluated for potential human entry during the December 2011 site reconnaissance. The only utility vault that was large and deep enough for human entry was the storm water catch basin UV3, which was appeared to be at least 5 to 6 feet deep.

3.3 WELL SURVEY

A survey of the wells within a 1,500-foot radius of the site was conducted in January 2012. All types of municipal and private wells, including drinking water wells, irrigation wells, industrial wells, monitoring wells, remediation wells, and cathodic protection wells of all active, inactive, abandoned, and decommissioned status were included in the survey.

Well information was obtained from the EDR Radius Map Report, the California Department of Water Resources (DWR), the Alameda County Public Works Agency (ACPWA), and GeoTracker. The EDR records did not indicate any water supply wells located within 1,500 feet of the site.

A total of 23 wells were identified within 1,500 feet of the site: Four active monitoring wells, 17 decommissioned monitoring/remediation wells, one industrial well of unknown status, and one cathodic protection well of unknown status. Of the 23 wells identified, the closest well to the site is an active monitoring well located approximately 265 feet southwest of the site (cross-gradient). The industrial well is located at approximately 1,150 feet south-southeast of the site (cross-gradient to upgradient), and the cathodic protection well is located at approximately 1,476 feet north-northeast o the site (cross-gradient).

On 8 March 2012, ETIC performed a reconnaissance of the site vicinity to assess the location of all 23 wells identified. The results of this reconnaissance and identified wells are summarized in

Table 4. The wells are shown on Figure 3. Relevant sections of the EDR report are included in Appendix B.

4.0 SUMMARY AND CONCLUSIONS

ETIC performed a preferential pathway survey, which included a well search within a 1,500-foot radius of the site. Well records provided by the ACPWA, DWR, EDR, and GeoTracker, utility maps and USA mark-outs were reviewed as part of the survey. The results of a geophysical survey conducted at the site and field reconnaissance of the site vicinity were also used to locate potential preferential pathways. The following summarizes the results of the survey:

- In February 2012, groundwater was encountered in borings at the site at depths between approximately 14 feet bgs and 25.5 feet bgs.

- One storm water catch basin along International Boulevard extends at least 5 to 6 feet bgs and can be entered by a human.

- Based upon site-specific data and information obtained for the preferential pathway survey, the depth to groundwater appears to be greater than the depth of the identified utilities with the possible exception of the sanitary sewer line under International Boulevard. The depth of the sanitary sewer line may coincide with the highest level of encountered groundwater.

- The well survey identified a total of 23 wells located within 1,500 feet of the site. The closest well (an active monitoring well) is located 265 feet southwest of the site: The wells include four active monitoring wells, 17 decommissioned monitoring/remediation wells, one industrial well, and one cathodic protection well. The active monitoring wells, industrial well, and cathodic protection well are located cross-gradient or upgradient of the site.

- The closest surface water body, San Leandro Creek, is located at approximately 1 mile south of the site.

5.0 REFERENCES

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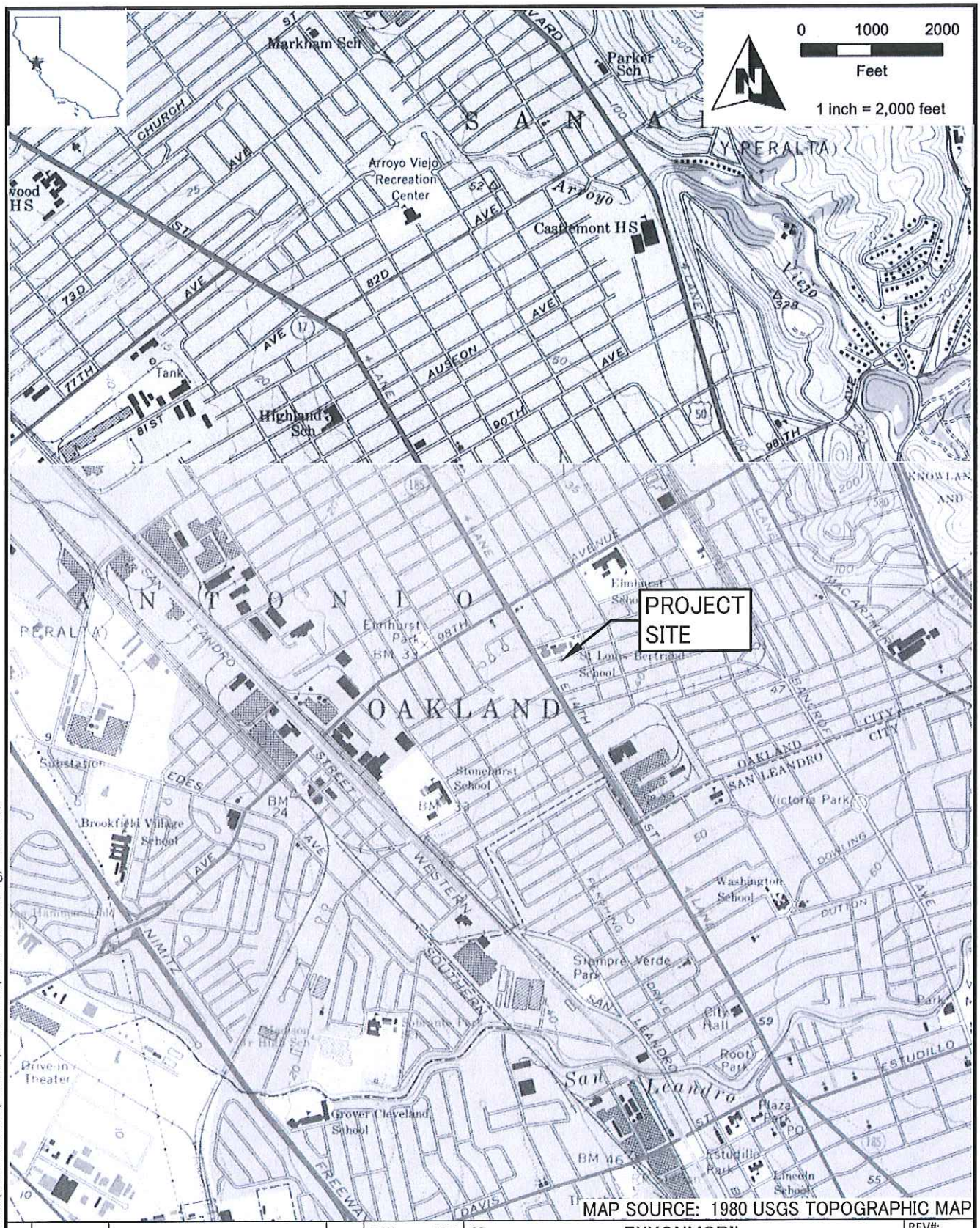
Figures



MAP SOURCE: 1980 USGS TOPOGRAPHIC MAP

#	DATE	DESCRIPTION	BY

DGN: YM
DRW: RRG
CHK: YM
SIG:
YY-000691-UP

CO: EXXONMOBIL

REV#:
REV DATE:

SITE LOCATION AND TOPOGRAPHIC MAP
FORMER EXXON RETAIL SITE 70691
10100 INTERNATIONAL BOULEVARD

SITE: OAKLAND, CALIFORNIA

FIGURE: 1

ETIC ENGINEERING
2285 MORELLO AVENUE
PLEASANT HILL, CA 94523
(925) 602-4710
eticeng.com

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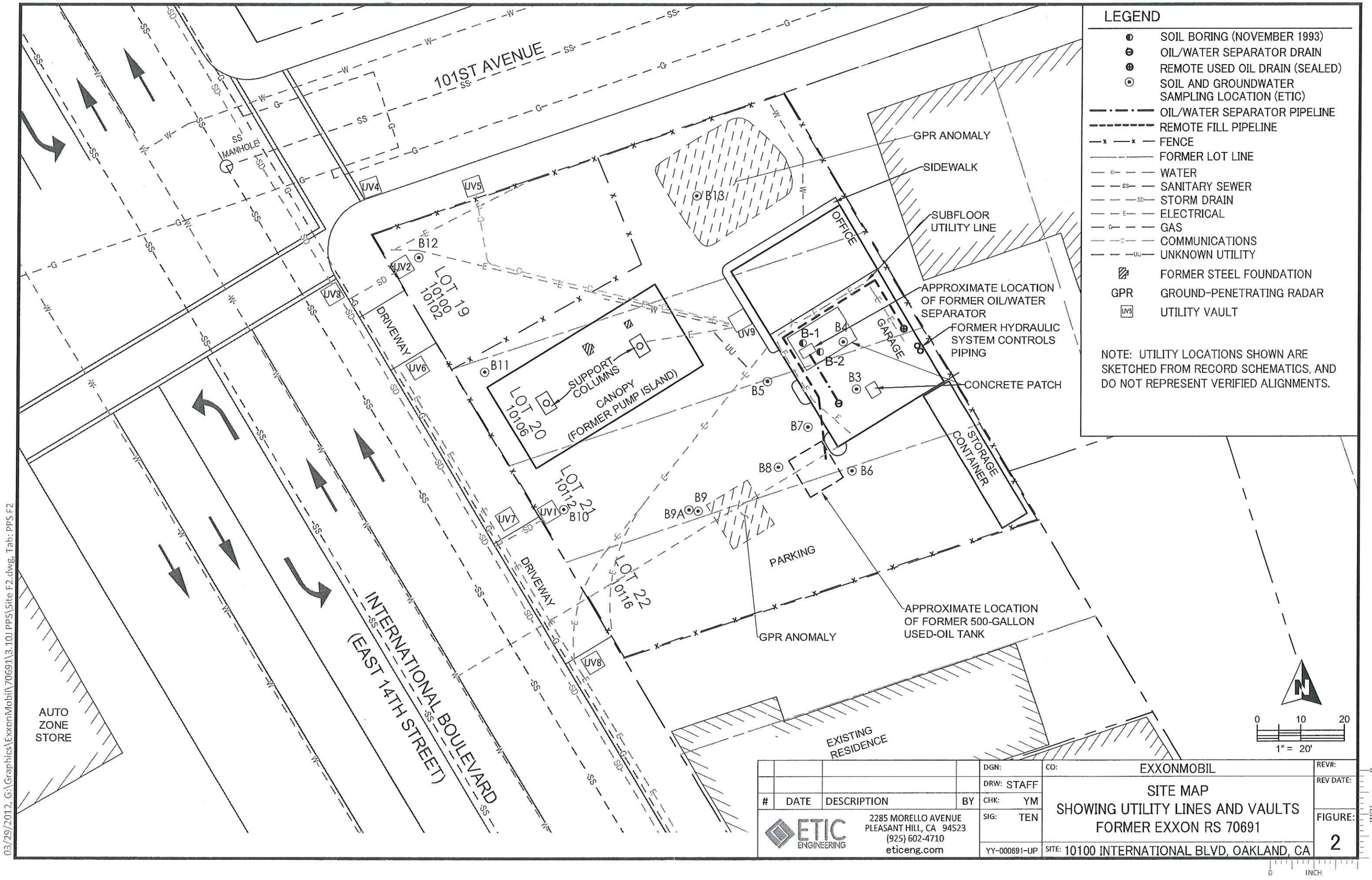
03/29/2012, G:\Graphics\ExxonMobil\70691\3.10J PPS\PPS-TOPO.dwg, Tab: FIG1



#	DATE	DESCRIPTION	BY

DGN:
DRW: STAFF
CHK: YM
SIG: TEN
YY-000691-UP

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CO: EXXONMOBIL

SITE MAP
SHOWING UTILITY LINES AND VAULTS
FORMER EXXON RS 70691

SITE: 10100 INTERNATIONAL BLVD, OAKLAND, CA

REV#:
REV DATE:
FIGURE: 2

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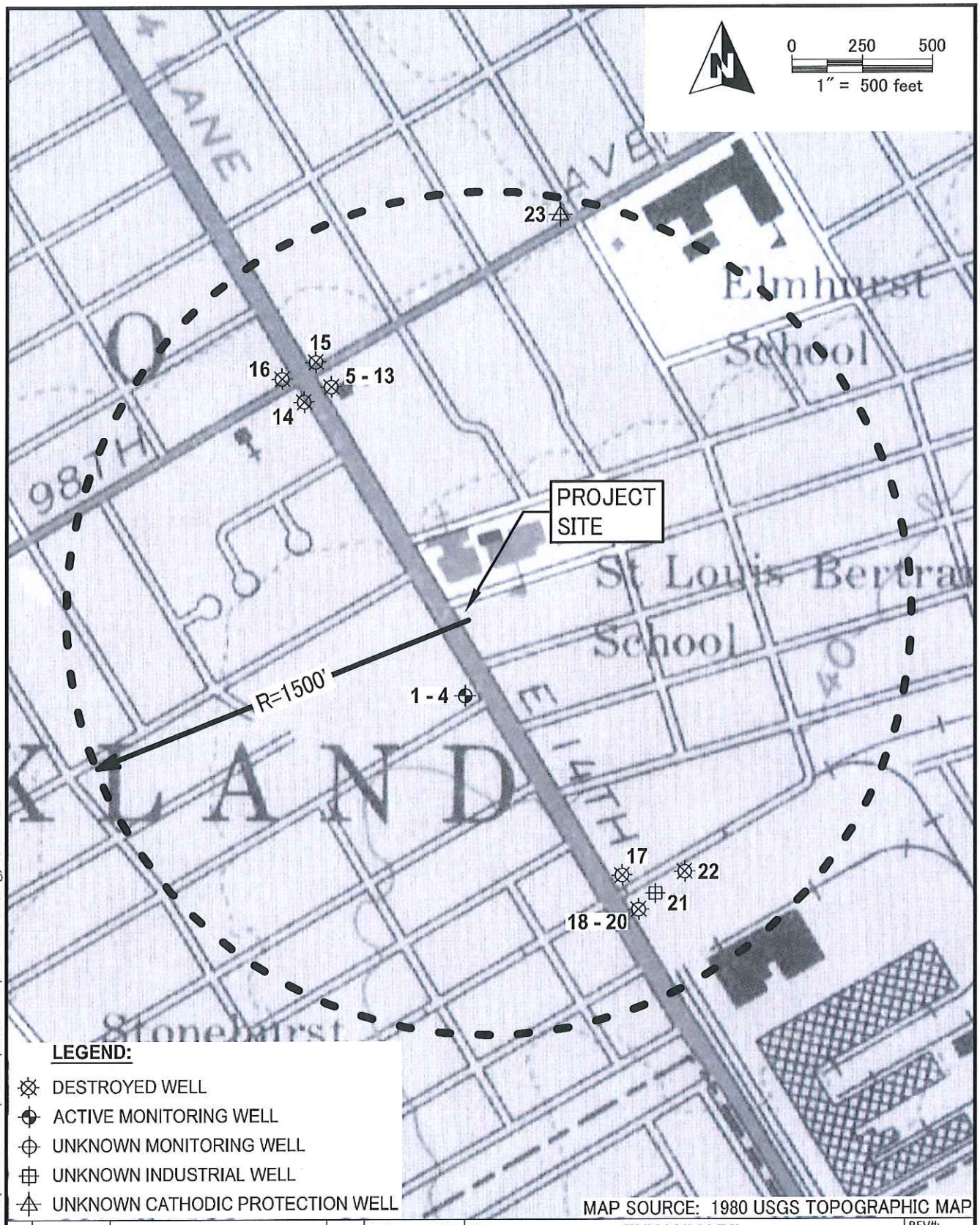

MAP SOURCE: 1980 USGS TOPOGRAPHIC MAP

#	DATE	DESCRIPTION	BY

DGN: YM
DRW: RRG
CHK: YM
SIG:
YY-000691-UP

CO: EXXONMOBIL
REV#:
REV DATE:

WELL SURVEY MAP
FORMER EXXON RETAIL SITE 70691
10100 INTERNATIONAL BOULEVARD

SITE: OAKLAND, CALIFORNIA

FIGURE: 3

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Tables

TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS, VOCs, AND SVOCs
FORMER EXXON RS 70691, 10100 INTERNATIONAL BOULEVARD, OAKLAND, CALIFORNIA

Sample ID	Sample Date	Depth (feet bgs)	Concentration (mg/kg)										
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	Methylene Chloride	Naphthalene	2-Methyl-naphthalene	Butylbenzyl-phthalate	bis (2-Ethylhexyl) phthalate
B-1-1.0	11/18/1993	1	0.25	9.5	4.6	49	920	36,000*	0.39	8.8	11	7.6	9.8
B-2-1.0	11/18/1993	1	<1.0	6.7	3.8	56	560	33,000*	<1.0	18	24	<3.3	9.8

TPH-g Total Petroleum Hydrocarbons as gasoline.
TPH-d Total Petroleum Hydrocarbons as diesel.
VOCs Volatile organic compounds.
SVOCs Semivolatile organic compounds.

mg/kg Milligrams per kilogram.
bgs Below ground surface.
* The concentrations reported as diesel are primarily due to the presence of a heavier petroleum product of hydrocarbon range C18-C36, possibly motor oil.

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - METALS
FORMER EXXON RS 70691, 10100 INTERNATIONAL BOULEVARD, OAKLAND, CALIFORNIA

Sample ID	Sample Date	Depth (feet bgs)	Concentration (mg/kg)				
			Cadmium	Chromium	Lead	Nickel	Zinc
B-1-1.0	11/18/1993	1	3.9	27.6	1,140	29.7	340
B-2-1.0	11/18/1993	1	23.1	32.0	3,800	32.1	958

mg/kg Milligrams per kilogram.
bgs Below ground surface.

TABLE 3 UTILITY VAULTS
FORMER EXXON RS 70691, 10100 INTERNATIONAL BOULEVARD, OAKLAND, CALIFORNIA

Map Identification (Figure 2)	Type	Onsite or Offsite	Location
UV1	Storm water catch basin	Onsite	Western side of the property, downgradient
UV2	Storm water catch basin	Onsite	Northwestern corner of the property, downgradient
UV3	Storm water catch basin	Offsite	Adjacent to eastern sidewalk on International Blvd, downgradient
UV4	Storm water catch basin	Offsite	Adjacent to southern sidewalk on 101st Avenue, cross-gradient
UV5	Telephone vault	Offsite	Southern sidewalk along 101st Avenue, cross-gradient
UV6	Caltrans traffic control vault	Offsite	Eastern sidewalk along International Blvd, downgradient
UV7	PG&E utility box	Offsite	Eastern sidewalk along International Blvd, downgradient
UV8	PG&E utility box	Offsite	Eastern sidewalk along International Blvd, downgradient
UV9	Sanitary sewer clean-out	Onsite	Western side of the onsite building, downgradient

Note:
Blvd = Boulevard.
PG&E = Pacific Gas and Electric Company.
Caltrans = California Department of Transportations.

The list includes vaults identified in the immediate vicinity of the site.

TABLE 4 WELL SURVEY
FORMER EXXON RS 70691, 10100 INTERNATIONAL BOULEVARD, OAKLAND, CALIFORNIA

Well Number (Figure 3)	TRS	Well Location	Bearing From the Site	Owner's Well ID	Well Use	Status	Depth of Surface Sanitary Seal	Sources	Field Verified
1	2S3W 23	10151 International Blvd., Oakland	286 ft. S, cross-gradient	MW-1	Monitoring	Active	Unknown	GeoTracker	Yes
2	2S3W 23	10151 International Blvd., Oakland	298 ft. S, cross-gradient	MW-2	Monitoring	Active	Unknown	GeoTracker	Yes
3	2S3W 23	10151 International Blvd., Oakland	265 ft. S, cross-gradient	MW-3	Monitoring	Active	Unknown	GeoTracker	Yes
4	2S3W 23	10151 International Blvd., Oakland	295 ft. S, cross-gradient	MW-4	Monitoring	Active	Unknown	GeoTracker	Yes
5	2S3W 23E1	9800 E. 14th Street, Oakland	872 ft. NNW, cross-gradient	VW-1	Remediation	Decommissioned	3 ft.*	ACPWA, DWR, Geotracker	Yes
6	2S3W 23E2	9800 E. 14th Street, Oakland	871 ft. NNW, cross-gradient	VW-2	Remediation	Decommissioned	3 ft.*	ACPWA, DWR, Geotracker	Yes
7	2S3W 23E3	9800 E. 14th Street, Oakland	937 ft. NNW, cross-gradient	MW-1	Monitoring	Decommissioned	6 ft.*	ACPWA, DWR, Geotracker	Yes
8	2S3W 23E4	9800 E. 14th Street, Oakland	915 ft. NNW, cross-gradient	MW-2	Monitoring	Decommissioned	5 ft.*	ACPWA, DWR, Geotracker	Yes
9	2S3W 23E5	9800 E. 14th Street, Oakland	977 ft. NNW, cross-gradient	MW-3	Monitoring	Decommissioned	6 ft*	ACPWA, DWR, Geotracker	Yes
10	2S3W 23E6	9800 E. 14th Street, Oakland	875 ft. NNW, cross-gradient	MW-4	Monitoring	Decommissioned	6 ft.*	ACPWA, DWR, Geotracker	Yes
11	2S3W 23E7	9800 E. 14th Street, Oakland	1,000 ft. NNW, cross-gradient	MW-5	Monitoring	Decommissioned	7 ft.*	ACPWA, DWR, Geotracker	Yes
12	2S3W 23E8	9800 E. 14th Street, Oakland	947 ft. NNW, cross-gradient	MW-6	Monitoring	Decommissioned	6 ft.*	ACPWA, DWR, Geotracker	Yes
13	2S3W 23E10	9800 E. 14th Street, Oakland	980 ft. NNW, cross-gradient	MW-8	Monitoring	Decommissioned	6 ft.*	Geotracker	Yes
14	2S3W 23E9	9800 E. 14th Street, Oakland	958 ft. NNW, cross-gradient	MW-7	Monitoring	Decommissioned	9 ft.*	ACPWA, Geotracker	Yes
15	2S3W 23E11	9800 E. 14th Street, Oakland	1,100 ft. NNW, cross-gradient	MW-9	Monitoring	Decommissioned	5 ft.*	ACPWA, Geotracker	Yes
16	2S3W 23E12	9800 E. 14th Street, Oakland	1,100 ft. NNW, cross-gradient	MW-10	Monitoring	Decommissioned	5 ft.*	ACPWA, Geotracker	Yes
17	2S3W 23M2	10440 E. 14th Street, Oakland	1,000 ft. SSE, cross-gradient to upgradient	MW-1	Monitoring	Decommissioned	9.5 ft.*	ACPWA, DWR, Geotracker	**
18	2S3W 23M3	10500 105th Avenue, Oakland	1,165 ft. SSE, cross-gradient to upgradient	None	Monitoring	Decommissioned	Unknown	ACPWA, Geotracker	**
19	2S3W 23M4	10500 105th Avenue, Oakland	1,165 ft. SSE, cross-gradient to upgradient	None	Monitoring	Decommissioned	Unknown	ACPWA, Geotracker	**
20	2S3W 23M6	10550 105th Avenue, Oakland	1,165 ft. SSE, cross-gradient to upgradient	None	Monitoring	Decommissioned	Unknown	ACPWA, Geotracker	**
21	2S3W 23L1	1500 105th Avenue, Oakland	1,150 ft. SSE, cross-gradient to upgradient	None	Industrial	Unknown	20 ft.	ACPWA, DWR	**
22	2S3W 23M5	1433 105th Avenue, Oakland	1,130 ft. SSE, cross-gradient to upgradient	None	Monitoring	Decommissioned	Unknown	ACPWA, Geotracker	**
23	2S3W 23F2	Plymouth and 98th Street, Oakland	1,476 ft. NNE, cross-gradient	None	Cathodic Protection	Unknown	120 ft.	ACPWA, DWR	**

Note:
* = Original construction at installation.
** = No physical evidence of well. Well not found during 3/8/12 site reconnaissance.
ft. = Feet.
Blvd = Boulevard.
NNW = North-northwest.
NNE = North-northeast.
S = South.
SSE =South-southeast.
TRS = Township, Range, Section.
Source: Alameda County Public Works Agency (ACPWA), November 2011.
Department of Water Resources (DWR), November 2011.

Appendix A

Regulatory Correspondence

Hamidou Barry

From: Thomas Neely
Sent: Wednesday, March 21, 2012 3:04 PM
To: Yuko Mamiya
Cc: Hamidou Barry
Subject: FW: Quan's Automotive (Former Exxon RAS #70691; 10100 International Blvd, Oakland; RO162); Work Plan Addendum Approval

Thomas Neely, PG, CHG, REA II, QSD
ETIC Engineering, Inc.
2285 Morello Ave.
Pleasant Hill
CA 94523
Tel: 925-602-4710 x2161
Fax: 925-602-4720
Mobile: 925-301-7125
tneely@eticeng.com
www.eticeng.com

From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Friday, February 17, 2012 10:42 AM
To: Thomas Neely; 'Sedlachek, Jennifer C'
Subject: Quan's Automotive (Former Exxon RAS #70691; 10100 International Blvd, Oakland; RO162); Work Plan Addendum Approval

Tom and Jennifer,
A quick email to confirm general concurrence by ACEH of the work plan addendum for the subject site, dated February 10, 2012. Also, thanks for the field work notification for next week. In regards to the report, the previous directive letter contained a April 6th delivery date; please continue to use that date.
Best,

Mark Detterman
Senior Hazardous Materials Specialist, PG, CEG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6876
Fax: 510.337.9335
Email: mark.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

Hamidou Barry

From: Thomas Neely
Sent: Friday, January 13, 2012 11:48 AM
To: 'Detterman, Mark, Env. Health'
Cc: Hamidou Barry
Subject: RE: Quan's Automotive / Former Exxon #70691: Request for Waste Oil Analytical Suite

Mark,

Thanks for your time today. We will prepare a work plan addendum, as discussed.

Thank you,

Tom

Thomas Neely, PG, CHG, REA II, QSD
ETIC Engineering, Inc.
2285 Morello Ave.
Pleasant Hill
CA 94523
Tel: 925-602-4710 x2161
Fax: 925-602-4720
Mobile: 925-301-7125
tneely@eticeng.com
www.eticeng.com

From: Detterman, Mark, Env. Health [mailto:Mark.Detterman@acgov.org]
Sent: Friday, January 13, 2012 11:38 AM
To: Thomas Neely
Subject: Quan's Automotive / Former Exxon #70691: Request for Waste Oil Analytical Suite

Tom,
To followup on our telephone conversation, I wanted to confirm my request that a waste oil analytical suite be incorporated into the analytical program for the site, particularly in the vicinity of the oil-water separator and the waste oil UST, as well as pipelines to the OWS and the WO UST. This would include PCBs, PCP, and creosote. In soil, these can be done on selected samples, those with the highest detectable TPHmo concentration at each location. The intent is to give us sufficient information to make a determination that the potential contaminants are, or are not, a concern at the site. With luck they could be eliminated in any future investigation. If groundwater is impacted below those locations, the suite should also be done for the grab groundwater samples. Let me know if you have questions.
Best,

Mark Detterman
Senior Hazardous Materials Specialist, PG, CEG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6876
Fax: 510.337.9335
Email: mark.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

January 12, 2012

Mr. Jose Sauchedo, Dodg Corporation
4849 East 12th Street
Oakland, CA 94601-5107

Max and Fay Smith
Unknown Address

Mr. Tony and Ms. Fee Ling Chan
78 Park Manor Drive
Daly City, CA 94015

Ms. Jennifer Sedlachek
ExxonMobil
4096 Piedmont, #194
Oakland, CA 94611
(sent via electronic mail to:
Jennifer.C.Sedlachek@exxonmobil.com)

Subject: Conditional Work Plan Approval; Fuel Leak Case No. RO0000162 and GeoTracker Global ID T0600102217, Quan's Automotive / ExxonMobil Site #70691, 10100 International Blvd / E. 14th Street, Oakland, CA

Dear Ladies and Gentlemen:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Information Submittal and Work Plan for Subsurface Investigation,* dated November 10, 2011, prepared and submitted on your behalf by ETIC Engineering, Inc. (ETIC). The work plan was submitted in response to an ACEH letter dated July 22, 2011. Thank you for submitting the work plan. Thank you also for claiming the site in Geotracker.

Based on ACEH staff review of the work plan, the proposed scope of work is conditionally approved for implementation provided that the technical comments below are incorporated during the proposed work. Submittal of a revised work plan or a work plan addendum is not required unless an alternate scope of work outside that described in the work plan or these technical comments is proposed. We request that you address the following technical comments, perform the proposed work, and send us the report described below. Please provide 72-hour advance written notification to this office (e-mail preferred to: mark.detterman@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Work Plan Modifications –** The referenced work plan proposes a series of actions with which ACEH is in general agreement of undertaking; however, ACEH requests several modifications to the approach. Please submit a report by the date specified below.

    a. **General Work Plan Comments -** ACEH perceives the site investigation may benefit with use of rapid site assessment techniques which allow the installation of additional soil bores, using agreed upon protocols (sampling, analytical, etc.) already described in a work plan. The installation of wells, which are likely to be required ultimately at the site, would not be currently acceptable as the protocols have yet to be described for the site. The submittal of a work plan addendum would be limited to a revised site plan with either altered or additional bore locations, unless wells or other undescribed activities were to be proposed. Description of well installation methodologies, or other activities, in a work plan addendum would allow these activities to proceed, once ACEH is in agreement.

b. **Geophysical Survey** – The work plan proposes to use geophysical methods to locate former UST excavations at the site. ACEH requests the effort be extended to include the hydraulic lift excavation, other lifts or subsurface structures, dispenser islands, and product or vent lines at the site, from all generations of USTs. These are requested to be located on future site plans.

c. **Silica Gel Cleanup** – The work plan proposes to use silica gel cleanup (SGC) on extractable analytical testing. ACEH requests that for each soil bore a second standard (non-SGC) extractable test be run for the highest SGC result. This would include both planned carbon ranges (diesel and motor oil). These will allow a comparison of non-SGC and SGC results at the site.

   ACEH additionally requests that the two highest SCG results for groundwater also be subjected to non-SGC analysis for both carbon ranges.

d. **Soil Sample Selection Protocols** – The work plan proposes to collect and retain for laboratory analysis soil samples at the depths of 2 feet bgs, 5 ft bgs, at significant lithology changes, and the capillary fringe. To clarify and prevent miscommunication, ACEH requests these samples be analyzed as requested in the July 15, 2008 directive letter.

   ACEH additionally requests the collection and analysis of soil samples to determine the vertical extent of contaminated soil beneath the site.

e. **Groundwater Collection Protocols** – Once groundwater is encountered, the work plan proposes to wait up to 15 minutes to allow groundwater to accumulate. ACEH requests that this time specification be significantly lengthened to the extent possible, including returning later in the day to the bore location for sampling and grouting.

f. **Bore Logging** – Only to clarify the proposed logging protocols, ACEH requests that PID readings be included on the logs.

g. **Subsurface Clearance Protocols** – While not described in the attached protocols, and principally to clarify, ACEH requests that clearance not include air knifing due to the likelihood of volatilization of light hydrocarbon fractions. Please additionally describe the procedures utilized in the soil and groundwater investigation report requested below.

2. **Request for a Preferential Pathway Survey** – Because a geophysical survey is proposed to be conducted at the site, and because site parcels have an extensive history of use, ACEH requests that a preferential pathway survey also be conducted at the site. As you are likely aware, the purpose of the preferential pathway study is to locate potential migration pathways and conduits and determine the probability of a groundwater plume encountering preferential pathways and conduits that could spread contamination. Specifically ACEH requests the inclusion of utility laterals an often overlooked potential conduit. Consequently, we request that you perform a preferential pathway study that details the potential migration pathways and potential conduits (utilities, utility laterals, pipelines, foundational, and etc.) for vertical and lateral migration that may be present in the vicinity of the site.

   Discuss your analysis and interpretation of the results of the preferential pathway study (including the well survey and utility survey requested below) and report your results in the report requested below. The results of your study shall contain all information required by California Code of Regulations, Title 23, Division 3, Chapter 16, §2654(b).

   a. **Utility Survey** - An evaluation of all utility lines, utility laterals, and trenches (including sewers, storm drains, pipelines, trench backfill, foundation backfill, etc.) within and near the site and plume area(s) is required as part of your study. Please reduce, and synthesize available information and maps, and generate appropriate (vicinity and / or site specific) maps and cross-sections (if appropriate) illustrating the location and depth of all utility lines and trenches within and near the site and plume areas(s) as part of your study.

b. **Well Survey** - The preferential pathway study is requested to include a well survey of all wells (monitoring and production wells: active, inactive, standby, decommissioned (sealed with concrete), abandoned (improperly decommissioned or lost); and dewatering, drainage, and cathodic protection wells) within a ¼ mile radius of the subject site.

Please include the preferential pathway analysis in the soil and groundwater investigation report requested below.

3. **Request for Email Addresses** – If your email address is not listed on the first page of this letter, or in the list of cc's listed below, ACEH requests your email address to help expedite communications and to help lower overall costs. Please provide that information in your next submittal.

TECHNICAL REPORT REQUEST

Please claim the site in GeoTracker and submit appropriate documents to GeoTracker and ACEH (Attention: Mark Detterman), according to the following schedule:

- **February 17, 2012** – Work Plan Addendum (if significant alterations to plans are anticipated)
- **April 6, 2012** – Soil and Groundwater Investigation Report

Should you have any questions, please contact me at (510) 567-6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,

Digitally signed by Mark E. Detterman
DN: cn=Mark E. Detterman, o, ou, email, c=US
Date: 2012.01.12 14:12:32 -08'00'

Mark E. Detterman
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations
Electronic Report Upload (ftp) Instructions

cc: Thomas Neely, ETIC Engineering, Inc, 2285 Morello Avenue, Pleasant Hill, CA 94523 (sent via electronic mail to TNeely@eticeng.com)

Donna Drogos, ACEH, (sent via electronic mail to donna.drogos@acgov.org)
Mark Detterman, ACEH, (sent via electronic mail to mark.detterman@acgov.org)
Geotracker, Electronic File

Attachment 1

Responsible Party(ies) Legal Requirements/Obligations

REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**REVISION DATE:** July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection**.
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

1) Obtain User Name and Password
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to deh.loptoxic@acgov.org
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

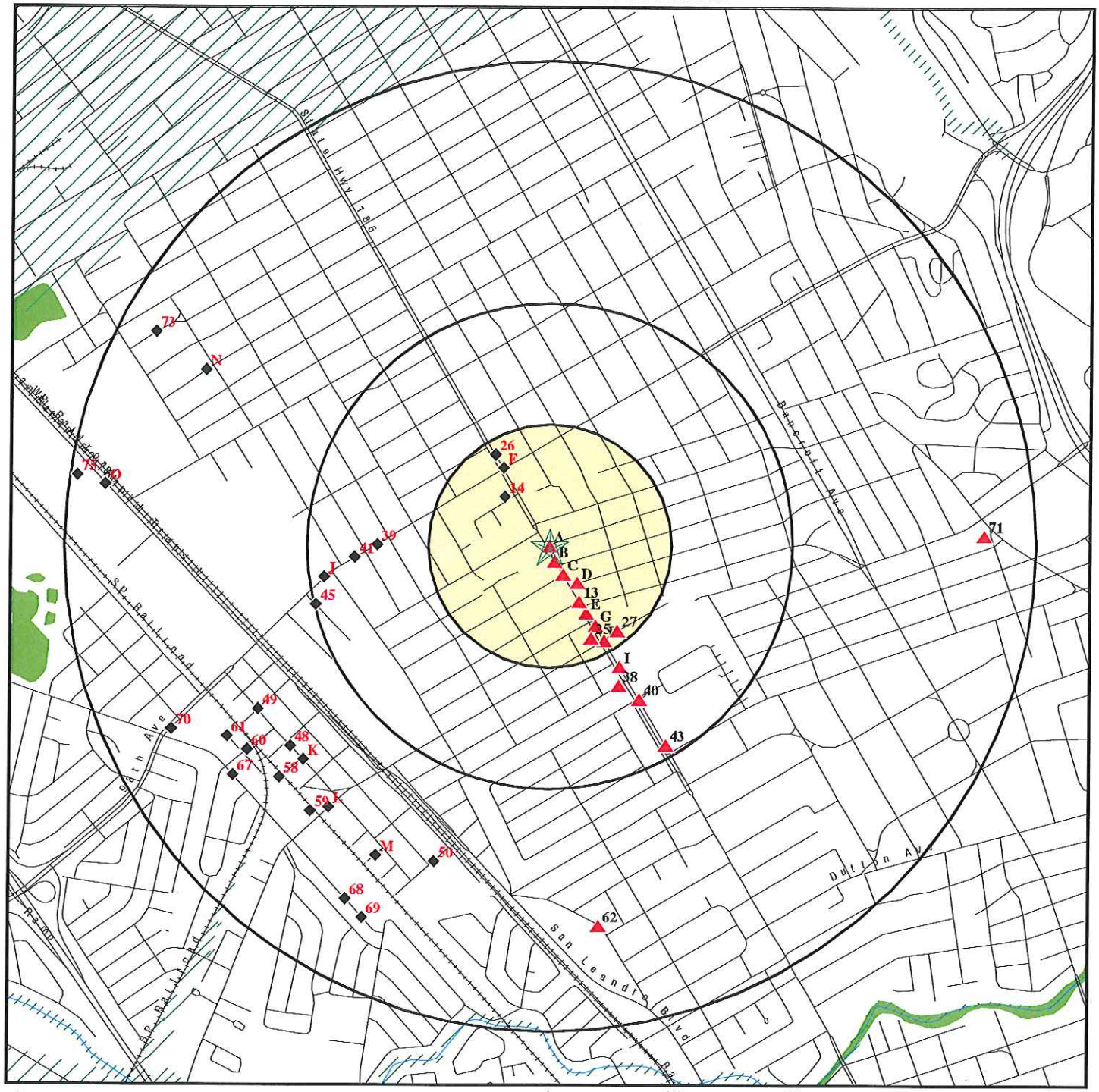
3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

Appendix B

EDR Radius Map Report

(The EDR Radius Map™ – Overview Map
GgeoCheck®- Physical Setting Source Map and Findings)

OVERVIEW MAP - 3118939.2s



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland CA 94603 LAT/LONG: 37.7421 / 122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY #: 3118939.2s DATE: July 08, 2011 6:07 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B10	USGS3235868	1/2 - 1 Mile WSW
B12	USGS3235865	1/2 - 1 Mile WSW
15	USGS3235855	1/2 - 1 Mile SSE
C21	USGS3235863	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
13	CADW40000038286	1/2 - 1 Mile West
14	CADW40000038271	1/2 - 1 Mile WSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
27	CADW40000038213	1/2 - 1 Mile South

PHYSICAL SETTING SOURCE MAP - 3118939.2s

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland CA 94603 LAT/LONG: 37.7421 / 122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY #: 3118939.2s DATE: July 08, 2011 6:10 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
1 **NW** **1/8 - 1/4 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0122 NE Not Reported Not Reported 15 ft 06/22/1992	**AQUIFLOW**	**66630**
A2 **WSW** **1/4 - 1/2 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0082 NE Not Reported Not Reported Not Reported 06/26/1986	**AQUIFLOW**	**55751**
A3 **WSW** **1/4 - 1/2 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2269 NE,NW,Varies 10.5 11 Not Reported 03/05/1987	**AQUIFLOW**	**55750**
A4 **WSW** **1/4 - 1/2 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1180 NW 10.5 11 Not Reported 03/18/1987	**AQUIFLOW**	**55749**
A5 **WSW** **1/4 - 1/2 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1180 NE 10.5 11 Not Reported 03/05/1987	**AQUIFLOW**	**55752**
6 **SSE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1380 NE 6.0 9.0 Not Reported 05/08/1991	**AQUIFLOW**	**51538**
7 **NE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0224 Varies Not Reported Not Reported Not Reported 12/12/1995	**AQUIFLOW**	**63911**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

			Database	EDR ID Number
B8 **WSW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0644 NW Not Reported Not Reported Not Reported 03/06/1997	**AQUIFLOW**	**65415**
9 **WSW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1654 SW Not Reported Not Reported 13 ft 12/19/1989	**AQUIFLOW**	**66632**

B10
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS3235868**

Agency cd:	USGS	Site no:	374425122104201
Site name:	002S003W22L003M		
Latitude:	374423.66	EDR Site id:	USGS3235868
Longitude:	1221042.74	Dec lat:	37.73983476
Dec lon:	-122.17961657	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	SAN LEANDRO	Map scale:	24000
Altitude:	23		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	2.5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Francisco Bay. California. Area = 1200 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19670111
Date inventoried:	19981211	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	945	Hole depth:	957
Source of depth data:	logs		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1998-08-12
Water quality data end date:	1999-03-24	Water quality data count:	3
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

			Database	EDR ID Number
11 **NNW** **1/2 - 1 Mile** **Lower**	Site ID:	01-1116	**AQUIFLOW**	**65376**
	Groundwater Flow:	NE, E, NW		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	6		
	Date:	03/15/1995		

B12
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS3235865**

Agency cd:	USGS	Site no:	374418122104201
Site name:	002S003W22Q002M		
Latitude:	374418	EDR Site id:	USGS3235865
Longitude:	1221042	Dec lat:	37.73826259
Dec lon:	-122.179411	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	SAN LEANDRO	Map scale:	24000
Altitude:	25		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	10		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Francisco Bay. California. Area = 1200 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1999-12-06
Water quality data end date:	1999-12-07	Water quality data count:	11
Ground water data begin date:	1999-12-06	Ground water data end date:	1999-12-06
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1999-12-06	40.80	

13
West
1/2 - 1 Mile
Lower

CA WELLS **CADW40000038286**

Longitude:	-122.1798
Latiude:	37.7413
Stwellno:	02S03W22Q002M
Districtco:	7
Welluseco:	N
Countyco:	1
Gwcode:	200901
Site id:	CADW40000038286

14
WSW
1/2 - 1 Mile
Lower

CA WELLS **CADW40000038271**

Longitude:	-122.18
Latiude:	37.7394
Stwellno:	02S03W22P003M
Districtco:	7
Welluseco:	N
Countyco:	1
Gwcode:	200901
Site id:	CADW40000038271

15
SSE
1/2 - 1 Mile
Higher

FED USGS **USGS3235855**

Agency cd:	USGS	Site no:	374358122094301
Site name:	002S003W26C003M		
Latitude:	374358	EDR Site id:	USGS3235855
Longitude:	1220943	Dec lat:	37.73270717
Dec lon:	-122.16302151	Coor meth:	U
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	SAN LEANDRO	Map scale:	Not Reported
Altitude:	53		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	005		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Francisco Bay. California. Area = 1200 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19820807
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	100	Hole depth:	100
Source of depth data:	logs		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: 0
Water quality data end date:1999-03-25
Ground water data begin date: 0000-00-00
Ground water data count: 0

Water quality data begin date: 1998-11-23
Water quality data count: 2
Ground water data end date: 0000-00-00

Ground-water levels, Number of Measurements: 0

C16
WSW
1/2 - 1 Mile
Lower

Site ID:	01-1740
Groundwater Flow:	SW
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	07/11/1996

AQUIFLOW **51341**

C17
WSW
1/2 - 1 Mile
Lower

Site ID:	01-1740
Groundwater Flow:	SW
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	05/24/1991

AQUIFLOW **51700**

C18
WSW
1/2 - 1 Mile
Lower

Site ID:	01-1740
Groundwater Flow:	Varies
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	06/22/1984

AQUIFLOW **51699**

D19
West
1/2 - 1 Mile
Lower

Site ID:	01-2187
Groundwater Flow:	SE
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	26 ft
Date:	12/07/1989

AQUIFLOW **51848**

D20
West
1/2 - 1 Mile
Lower

Site ID:	01-2187
Groundwater Flow:	SE
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	08/16/1990

AQUIFLOW **51849**

C21
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS3235863**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	374412122104901
Site name:	002S003W22K008M		
Latitude:	374412	EDR Site id:	USGS3235863
Longitude:	1221049	Dec lat:	37.73659599
Dec lon:	-122.18135549	Coor meth:	U
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	SAN LEANDRO	Map scale:	Not Reported
Altitude:	Not Reported		
Altitude method:	Not Reported		
Altitude accuracy:	Not Reported		
Altitude datum:	Not Reported		
Hydrologic:	San Francisco Bay. California. Area = 1200 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1948
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	551	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1998-08-12
Water quality data end date:	1998-08-12	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

D22
West
1/2 - 1 Mile
Lower

Site ID:	01-1100
Groundwater Flow:	SE
Shallow Water Depth:	2.0 f
Deep Water Depth:	2.5 f
Average Water Depth:	Not Reported
Date:	05/27/1993

AQUIFLOW **51907**

23
SSE
1/2 - 1 Mile
Higher

Site ID:	01-1371
Groundwater Flow:	W
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	6.7
Date:	08/26/1993

AQUIFLOW **67918**

24
WNW
1/2 - 1 Mile
Lower

Site ID:	01-2185
Groundwater Flow:	SE
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	02/15/1996

AQUIFLOW **66615**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
25 **East** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1955 Not Reported Not Reported Not Reported 20 01/01/1993	**AQUIFLOW**	**55777**
26 **WSW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2215 S 2.0 12.0 Not Reported 01/27/1992	**AQUIFLOW**	**67908**
27 **South** **1/2 - 1 Mile** **Lower**			**CA WELLS**	**CADW40000038213**

Longitude:	-122.1675
Latiude:	37.7277
Stwellno:	02S03W27H008M
Districtco:	7
Welluseco:	I
Countyco:	1
Gwcode:	200901
Site id:	CADW40000038213

Appendix C

Historical Topographic Map Report

Former Exxon RS 70691
10100 East 14th Street
Oakland, CA 94603

Inquiry Number: 3118939.4
July 08, 2011

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

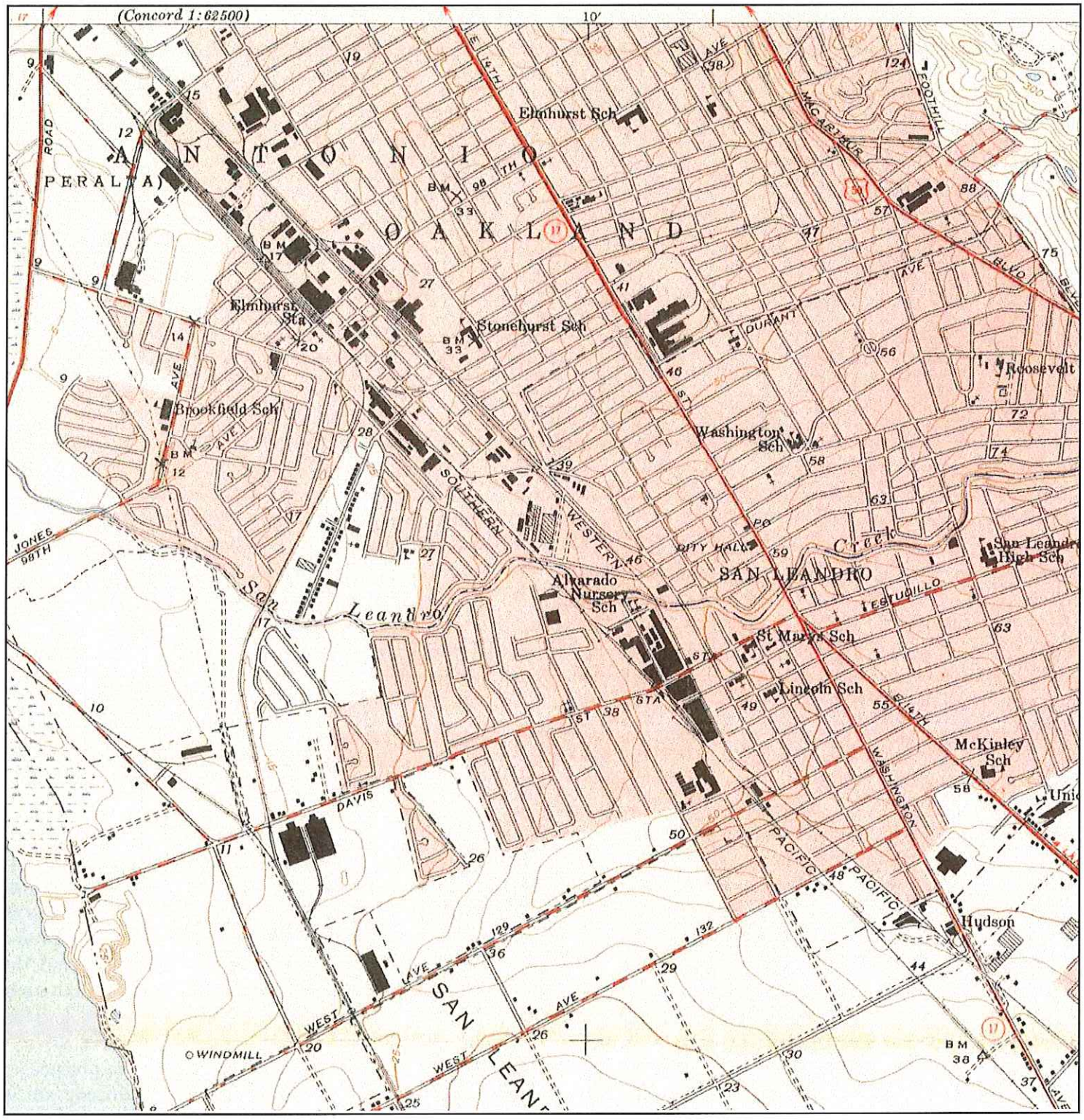
440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

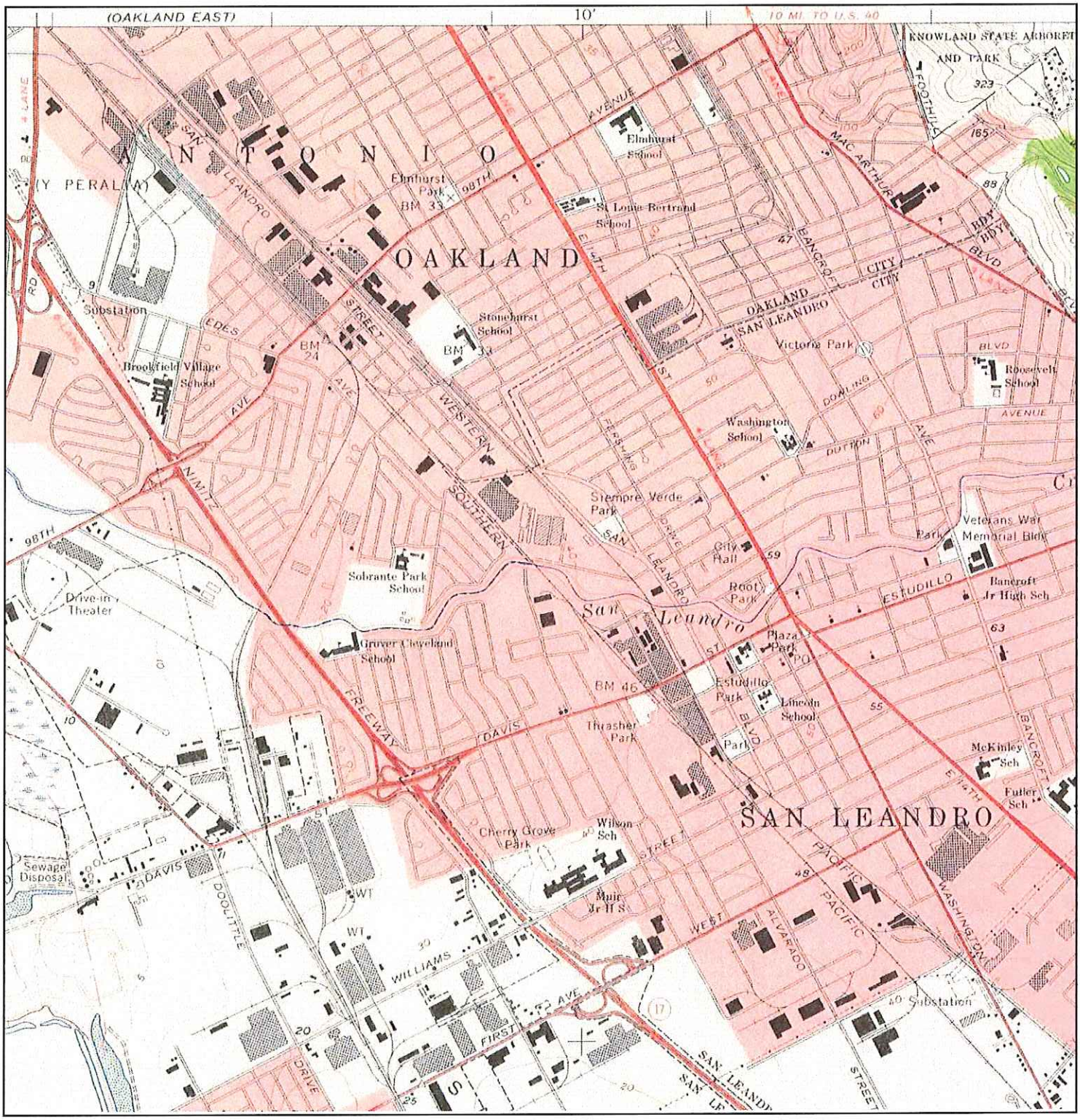
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map



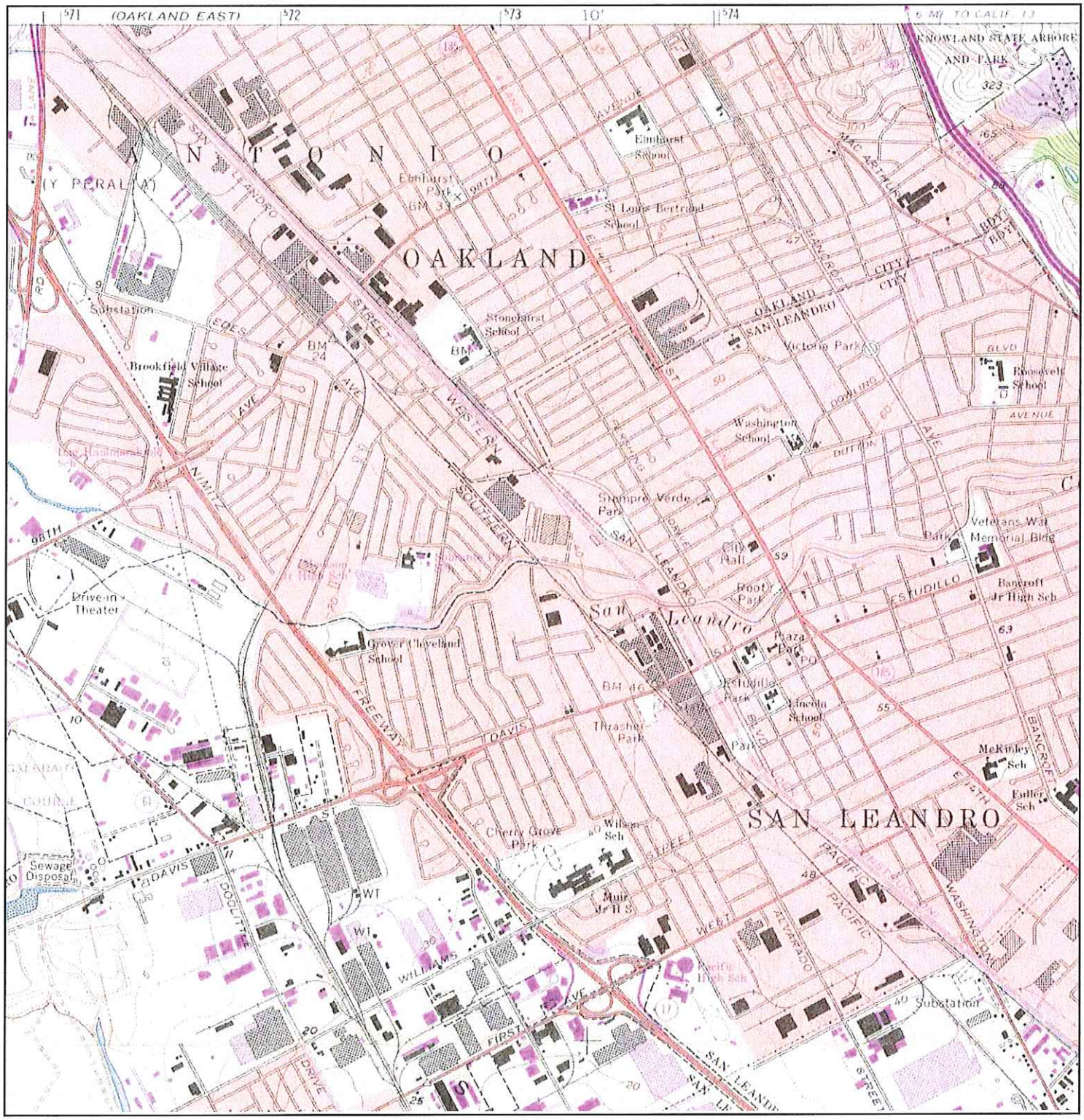
N	TARGET QUAD NAME: SAN LEANDRO MAP YEAR: 1948 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland, CA 94603 LAT/LONG: 37.7421 / -122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY#: 3118939.4 RESEARCH DATE: 07/08/2011

Historical Topographic Map



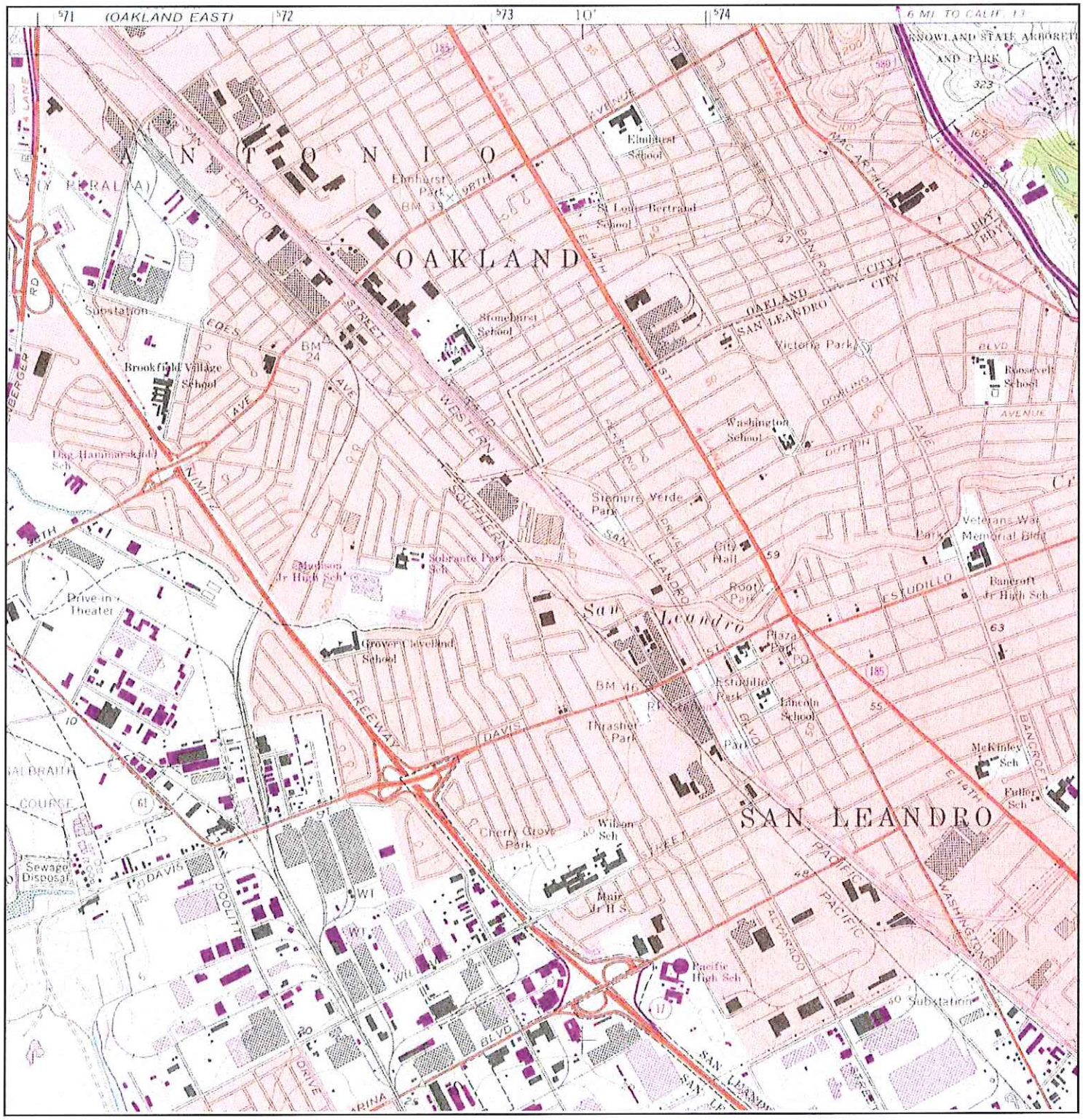
N	TARGET QUAD NAME: SAN LEANDRO MAP YEAR: 1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland, CA 94603 LAT/LONG: 37.7421 / -122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY#: 3118939.4 RESEARCH DATE: 07/08/2011

Historical Topographic Map



N	TARGET QUAD NAME: SAN LEANDRO MAP YEAR: 1968 PHOTOREVISED:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland, CA 94603 LAT/LONG: 37.7421 / -122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY#: 3118939.4 RESEARCH DATE: 07/08/2011

Historical Topographic Map

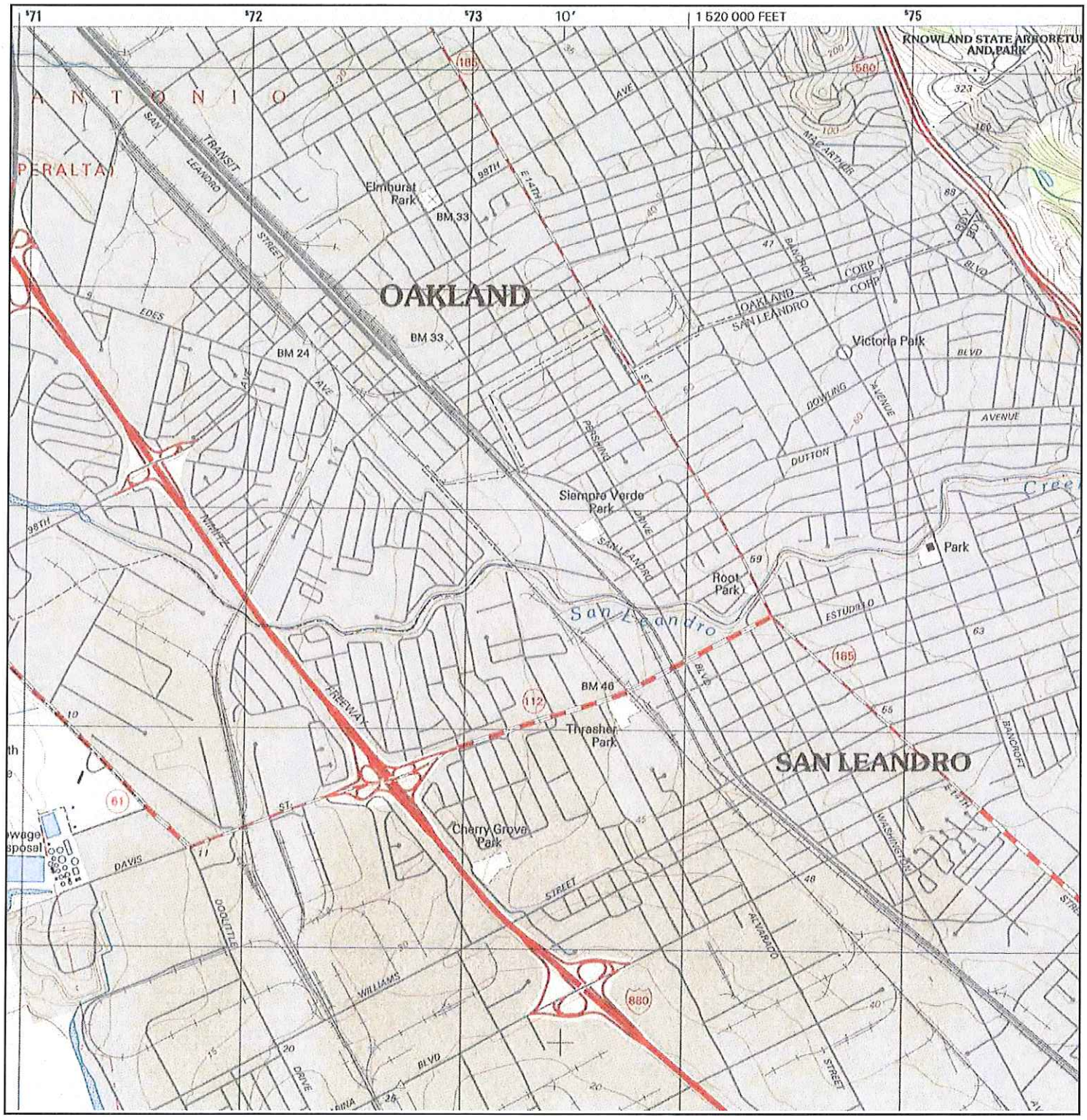


N	TARGET QUAD NAME: SAN LEANDRO MAP YEAR: 1973 PHOTOREVISED:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland, CA 94603 LAT/LONG: 37.7421 / -122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY#: 3118939.4 RESEARCH DATE: 07/08/2011

Historical Topographic Map

N ↑	TARGET QUAD NAME: SAN LEANDRO MAP YEAR: 1980 PHOTOREVISED:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland, CA 94603 LAT/LONG: 37.7421 / -122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY#: 3118939.4 RESEARCH DATE: 07/08/2011

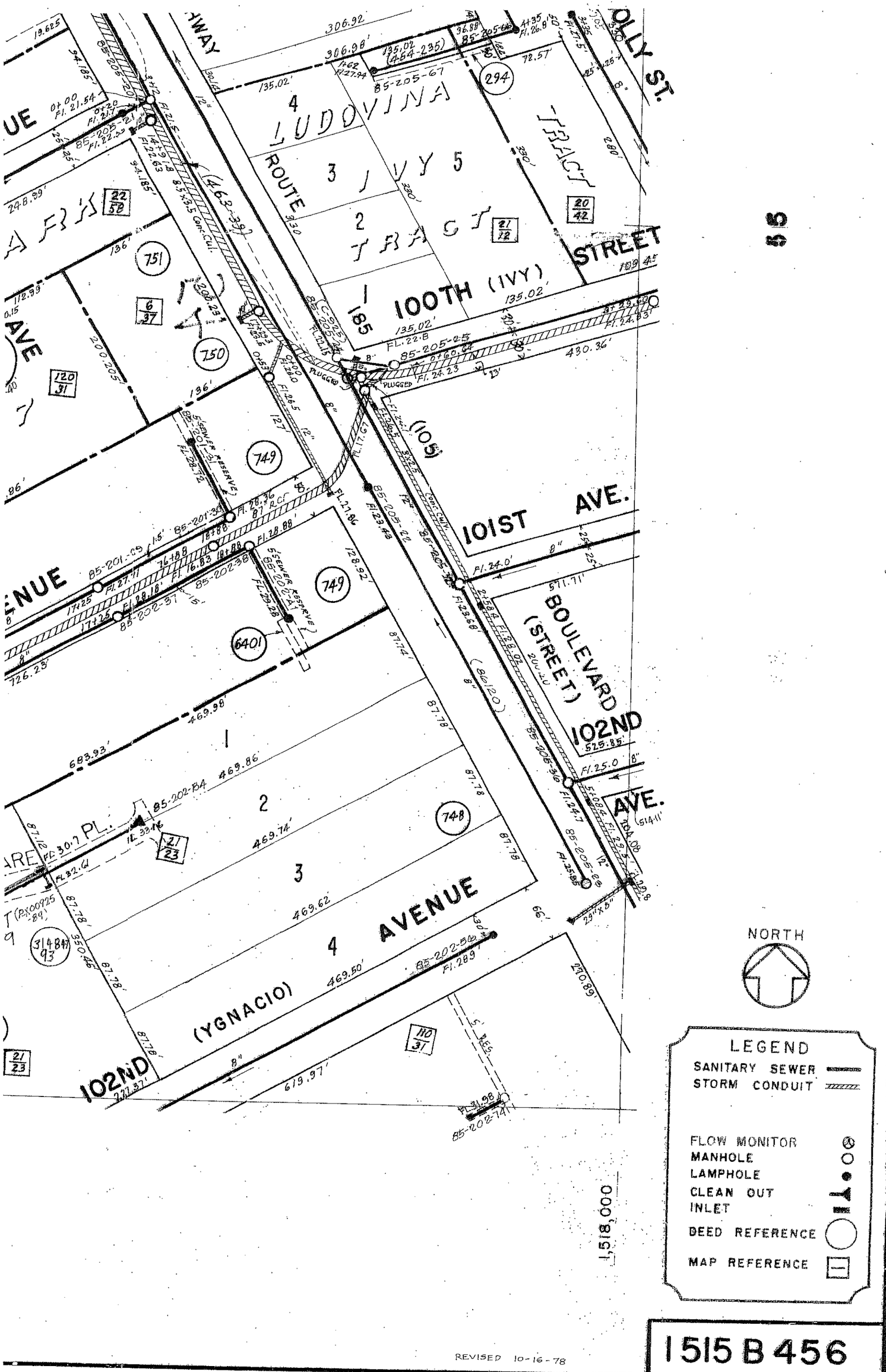
Historical Topographic Map



N	TARGET QUAD NAME: SAN LEANDRO MAP YEAR: 1993 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Former Exxon RS 70691 ADDRESS: 10100 East 14th Street Oakland, CA 94603 LAT/LONG: 37.7421 / -122.1687	CLIENT: ETIC CONTACT: Yuko Mamiya INQUIRY#: 3118939.4 RESEARCH DATE: 07/08/2011

Appendix D

Utility Maps


LUDOVINA
TRACT
IVY
STREET
100TH (IVY)
101ST AVE.
BOULEVARD (STREET)
102ND
AVENUE
(YGNACIO)
ROUTE
NORTH
LEGEND
SANITARY SEWER
STORM CONDUIT
FLOW MONITOR
MANHOLE
LAMPHOLE
CLEAN OUT
INLET
DEED REFERENCE
MAP REFERENCE
REVISED 10-16-78
1515 B 456
54