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94 DEC 21 PM 3:21  
December 20, 1994

Susan Hugo  
Alameda County Department of  
Environmental Health  
UST Local Oversight Program  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, CA 94502

Re: Fourth Quarter Monitoring Report  
Former Exxon Service Station  
3055 35th Avenue  
Oakland, California  
Cambria Project #20-105-104

Dear Ms. Hugo:

This report summarizes the fourth quarter 1994 ground water monitoring results for the site referenced above (Figure 1). Described below are the fourth quarter of 1994 activities, anticipated first quarter 1995 activities and a discussion of the hydrocarbon distribution in ground water.

#### FOURTH QUARTER 1994 ACTIVITIES

Blaine Tech Services, Inc. of San Jose, California (BTS) collected ground water samples from wells MW-1, MW-2 and MW-3 on November 11, 1994. The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, ethylbenzene, toluene and xylenes (BETX). BTS also gauged all site wells and checked them for liquid-phase hydrocarbons. No liquid-phase hydrocarbons were detected.

#### ANTICIPATED FIRST QUARTER 1995 ACTIVITIES

BTS will gauge all site wells, check the wells for liquid-phase hydrocarbons, and collect water samples from the wells. Cambria will tabulate the data and prepare a quarterly monitoring report.

#### HYDROCARBON DISTRIBUTION IN GROUND WATER

TPHg and benzene were detected in all three of the site wells, at up to 57,000 and 14,000 parts per billion (ppb), respectively (Table 1, Attachment A). Hydrocarbon concentrations in ground water are highest downgradient of the former underground gasoline tanks and the southernmost pump island. No hydrocarbon

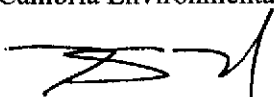
Susan Hugo  
December 20, 1994

CAMBRIA

sheen was observed in the three wells. Based on the ground water flow direction (Figure 2) and hydrocarbon concentrations at the downgradient property line, it appears that aqueous-phase hydrocarbons are migrating offsite to the southwest.

Please call if you have any questions or comments.

Sincerely,  
Cambria Environmental Technology, Inc.



N. Scott MacLeod, R.G.  
Principal Geologist

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Attachments: A - Analytic Reports for Ground Water

cc: Lynn Worthington, Better Homes Realty, 5942 MacArthur Boulevard, Suite B, Oakland, California  
94605



0 1,500 3,000



Scale (ft)

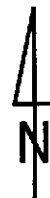


Figure 1. Site Location Map - 3055 35th Avenue, Oakland, California

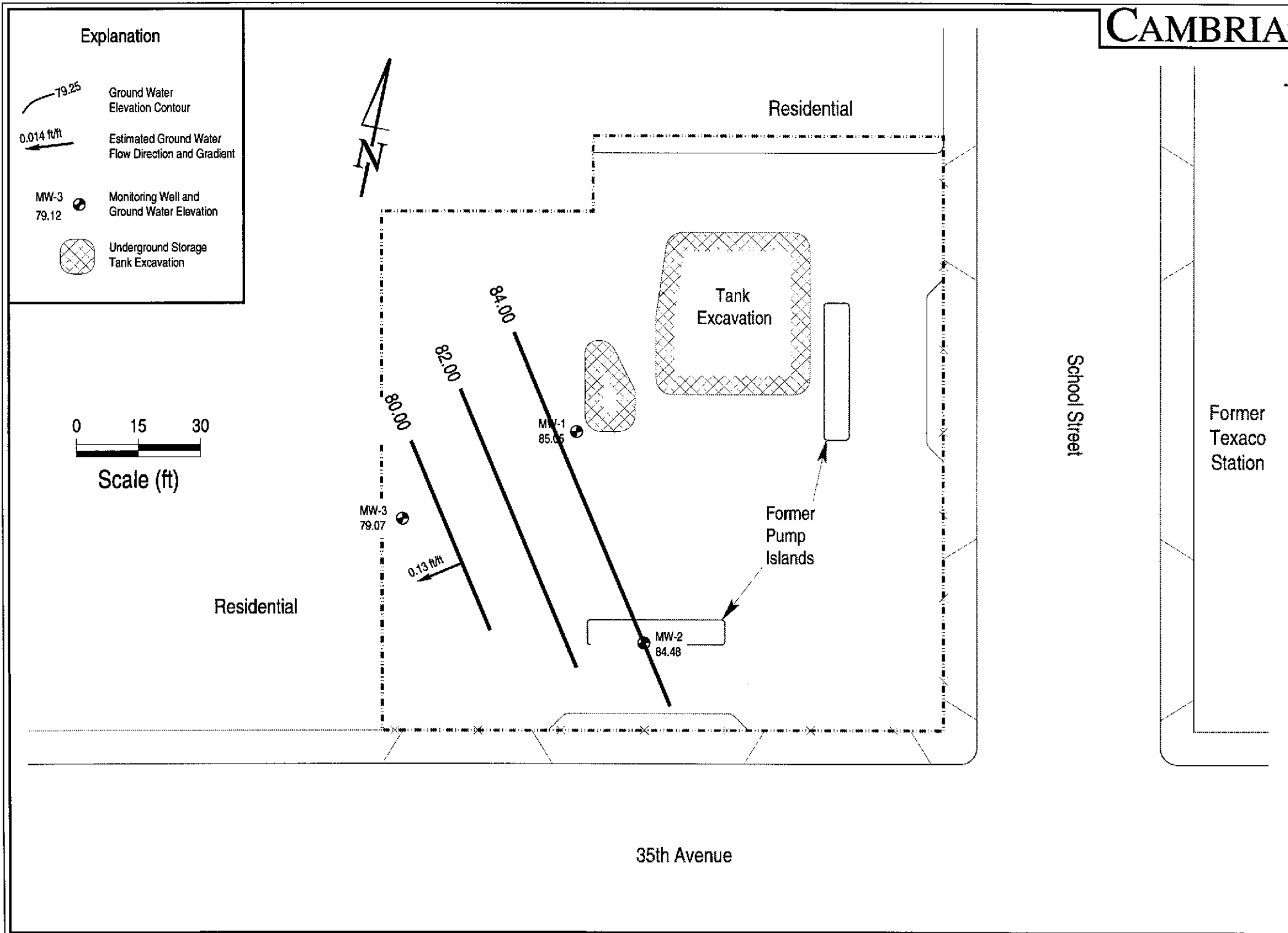


Figure 2. Ground Water Elevations - November 11, 1994 - 3055 35th Avenue, Oakland, California

Table 1. Ground Water Elevation and Analytic Data - 3055 35th Avenue, Oakland, California

Well/ Boring ID	Date	Casing Elev. (ft)	GW Depth (ft)	LPH (ft)	GW Elev. (ft)	TPHg	TPHd	TPHmo	B	T	E	X	Notes
(Concentration in parts per billion)													
<b>Wells</b>													
MW-1	5/25/94	100.85	16.79	Sheen	84.06	120,000	25,000	<50,000	22,000	17,000	2,800	16,000	a
	7/19/94		20.77	0	80.08	---	---	---	---	---	---	---	
	8/18/94		21.04	Sheen	79.81	925,000	---	---	16,500	6,200	1,000	9,400	
	11/11/94		15.80	0	85.05	57,000	---	---	14,000	4,400	1,400	6,400	
MW-2	5/25/94	100.00	15.65	0	84.35	61,000	6,900	<5,000	9,900	7,400	960	4,600	a
	7/19/94		19.81	0	80.19	---	---	---	---	---	---	---	
	8/18/94		20.37	0	79.63	88,000	---	---	10,750	10,500	1,850	9,600	
	11/11/94		15.52	0	84.48	54,000	---	---	5,900	6,700	1,300	7,500	
MW-3	5/25/94	96.87	13.93	Sheen	82.94	56,000	14,000	<50,000	14,000	14,000	1,300	11,000	a
	7/19/94		17.04	0	79.83	---	---	---	---	---	---	---	
	8/18/94		17.75	0	79.12	116,000	---	---	28,300	26,000	2,400	15,000	
	11/11/94		17.80	0	79.07	89,000	---	---	1,600	1,900	1,900	14,000	
<b>May 1994 Borings</b>													
SB-A	5/6/94	---	14.50	0	---	7,000	9,100	<25,000	450	75	180	330	
SB-B	5/6/94	---	15.00	0	---	130,000	3,800	<5,000	10,000	11,000	2,200	11,000	
SB-D	5/9/94	---	19.30	0	---	150	210	<500	6.5	10	2.9	12	
<b>DTSC MCLs or State Action Level</b>						NE	NE	NE	1	100	680	1,750	

**Abbreviations**

Casing Elevation = Top of casing elevation with respect to an onsite benchmark  
 GW = Ground water  
 LPH = Liquid-phase hydrocarbons  
 TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015  
 TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015  
 TPHmo = Total petroleum hydrocarbons as motor oil by modified EPA Method 8015

B = Benzene by EPA Method 8020  
 E = Ethylbenzene by EPA Method 8020  
 T = Toluene by EPA Method 8020  
 X = Xylenes by EPA Method 8020  
 DTSC MCLs = Department of Toxic Substances Control maximum contaminant level for drinking water  
 NE = Not established

**Notes**

a = The positive TPHd result appears to be a hydrocarbon lighter than diesel

**ATTACHMENT A**

Analytic Reports for Ground Water



NATIONAL  
ENVIRONMENTAL  
® TESTING, INC.

Santa Rosa Division  
435 Tesconi Circle  
Santa Rosa, CA 95401  
Tel: (707) 526-7200  
Fax: (707) 526-9623

Scott Macleod  
Cambria Env. Technology  
1144 65th Street  
Suite C  
Oakland, CA 94608

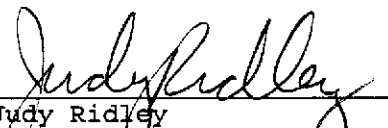
Date: 11/28/1994  
NET Client Acct. No: 98900  
NET Pacific Job No: 94.05489  
Received: 11/15/1994

Client Reference Information

Proj. No. 20-105-04/941111-S2

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

  
Judy Ridley  
Project Coordinator

  
Jim Hoch  
Operations Manager

Enclosure (s)





Client Name: Cambria Env. Technology  
 Client Acct: 98900  
 NET Job No: 94.05489

Date: 11/28/1994  
 ELAP Cert: 1386  
 Page: 2

Ref: Proj. No. 20-105-04/941111-S2

SAMPLE DESCRIPTION: MW-1

Date Taken:

Time Taken:

NET Sample No: 222586

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						11/18/1994	2319
DILUTION FACTOR*	100						11/18/1994	2319
as Gasoline	57		5	mg/L	5030		11/18/1994	2319
METHOD 8020 (GC,Liquid)	--						11/18/1994	2319
Benzene	14,000	FI	500	ug/L	8020		11/19/1994	2323
Toluene	4,400		50	ug/L	8020		11/18/1994	2319
Ethylbenzene	1,400		50	ug/L	8020		11/18/1994	2319
Xylenes (Total)	6,400	FI	500	ug/L	8020		11/19/1994	2323
SURROGATE RESULTS	--						11/18/1994	2319
Bromofluorobenzene (SURR)	119			% Rec.	5030		11/18/1994	2319

FI : Compound quantitated at a 1000X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.





Client Name: Cambria Env. Technology  
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NET Job No: 94.05489

Date: 11/28/1994  
ELAP Cert: 1386  
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Ref: Proj. No. 20-105-04/941111-S2

SAMPLE DESCRIPTION: MW-2

Date Taken:

Time Taken:

NET Sample No: 222587

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTEXE, Liquid)								
METHOD 5030/M8015	--						11/18/1994	2319
DILUTION FACTOR*	100						11/18/1994	2319
as Gasoline	54		5	mg/L	5030		11/18/1994	2319
METHOD 8020 (GC, Liquid)	--						11/18/1994	2319
Benzene	5,900	FH	250	ug/L	8020		11/19/1994	2323
Toluene	6,700	FH	250	ug/L	8020		11/19/1994	2323
Ethylbenzene	1,300		50	ug/L	8020		11/18/1994	2319
Xylenes (Total)	7,500	FH	250	ug/L	8020		11/19/1994	2323
SURROGATE RESULTS	--						11/18/1994	2319
Bromofluorobenzene (SURR)	100			% Rec.	5030		11/18/1994	2319

FH : Compound quantitated at a 500X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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Ref: Proj. No. 20-105-04/941111-S2

SAMPLE DESCRIPTION: MW-3  
 Date Taken:  
 Time Taken:  
 NET Sample No: 222588

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						11/18/1994	2319
DILUTION FACTOR*	100						11/18/1994	2319
as Gasoline	89		0.05	mg/L	5030		11/18/1994	2319
METHOD 8020 (GC,Liquid)	--						11/18/1994	2319
Benzene	1,600	FI	500	ug/L	8020		11/19/1994	2323
Toluene	1,900	FI	500	ug/L	8020		11/19/1994	2323
Ethylbenzene	1,900		0.5	ug/L	8020		11/18/1994	2319
Xylenes (Total)	14,000	FI	500	ug/L	8020		11/19/1994	2323
SURROGATE RESULTS	--						11/18/1994	2319
Bromofluorobenzene (SURR)	120			% Rec.	5030		11/18/1994	2319

FI : Compound quantitated at a 1000X dilution factor.

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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Client Acct: 98900  
NET Job No: 94.05489

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## CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

<u>Parameter</u>	<u>CCV Standard % Recovery</u>	<u>CCV Standard Amount Found</u>	<u>CCV Standard Amount Expected</u>	<u>Units</u>	<u>Date Analyzed</u>	<u>Analyst Initials</u>
TPH (Gas/BTEX, Liquid)						
as Gasoline	93.0	0.93	1.00	mg/L	11/19/1994	lss
Benzene	89.4	4.47	5.00	ug/L	11/19/1994	lss
Toluene	88.2	4.41	5.00	ug/L	11/19/1994	lss
Ethylbenzene	94.4	4.72	5.00	ug/L	11/19/1994	lss
Xylenes (Total)	100.0	15.0	15.0	ug/L	11/19/1994	lss
Bromofluorobenzene (SURR)	106.0	106	100	% Rec.	11/19/1994	lss

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



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## METHOD BLANK REPORT

Parameter	Method	Reporting	Units	Date	Analyst
	Blank				
	Amount	Limit			
	Found			Analyzed	Initials
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	11/19/1994	lss
Benzene	ND	0.5	ug/L	11/19/1994	lss
Toluene	ND	0.5	ug/L	11/19/1994	lss
Ethylbenzene	ND	0.5	ug/L	11/19/1994	lss
Xylenes (Total)	ND	0.5	ug/L	11/19/1994	lss
Bromofluorobenzene (SURR)	77		% Rec.	11/19/1994	lss

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## MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike		RPD	Spike Amount	Sample Conc.	Matrix Spike Dup.		Units	Date Analyzed	Analyst Initials
	% Rec.	% Rec.				Conc.	Conc.			
TPH (Gas/BTXE, Liquid)										
as Gasoline	112.0	96.0	15.3	1.00	ND	1.12	0.96	mg/L	11/19/1994	lss
Benzene	112.8	102.3	9.8	17.2	ND	19.4	17.6	ug/L	11/19/1994	lss
Toluene	114.8	100.2	13.6	64.8	ND	74.4	64.9	ug/L	11/19/1994	lss

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



## KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- \* : Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. Do not multiply the reporting limits or reported values by the dilution factor.
- dw : Result expressed as dry weight.
- 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 the applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference,  $100 \text{ [Value 1 - Value 2]}/\text{mean value}$ .
- 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 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

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., Rev. 1, December 1987.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.



