

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

PETE WILSON, Governor

DEPARTMENT OF HEALTH SERVICES

2151 BERKELEY WAY
BERKELEY, CA 94704-1011
(510)540-2800



February 14, 1995

Certificate No.: 1332

Superior Precision Analytical, Inc.
P.O. Box 1545
Martinez, CA 94553

This is to advise you that the laboratory named above has been certified/ registered as an environmental testing laboratory pursuant to the provisions of the California Environmental Laboratory Improvement Act of 1988 (Health and Safety Code, Division 1, Part 2, Chapter 7.5, commencing with Section 1010).

The fields of testing for which this laboratory has been certified/registered under this Act are indicated in the enclosed "List of Approved Fields of Testing and Analytes." Certification/registration shall remain in effect until September 30, 1996 unless revoked. This certificate is subject to an annual fee as prescribed by Section 1017(a), Health and Safety Code, on the anniversary date of the certificate.

Please note that your laboratory is required to notify the Environmental Laboratory Accreditation Program of any major changes in the laboratory such as the transfer of ownership, change of laboratory director, change in location, or structural alterations which may affect adversely the quality of analyses (Section 1014(b), California Health & Safety Code).

Please note that the new regulations pertaining to environmental laboratories were adopted on December 5, 1994 and may be found in the California Code of Regulations, Title 22, Division 4, Chapter 19 Sections 64801 through 64827.

Your continued cooperation is essential in order to establish a reputation for the high quality of the data produced by environmental laboratories certified by the State of California.

If you have additional questions, please contact Amanda Vidal at (510) 540-2800.

Sincerely,

A handwritten signature in cursive script that reads "George C. Kulasingam".

George C. Kulasingam, Ph.D., Manager
Environmental Laboratory
Accreditation Program

Enclosure

SEP-24-1996 14:50

P. 03

ENVIRONMENTAL LABORATORY ACCREDITATION/REGISTRATION
List of Approved Fields of Testing and Analytes

Superior Precision Analytical, Inc.
1555 Burke Street, Unit I
San Francisco, CA

TELEPHONE No: (415) 647-2081
CALIFORNIA COUNTY: San Francisco

CERTIFICATE NUMBER: 1332
EXPIRATION DATE: 9/30/96

<u>1 Microbiology of Drinking Water and Wastewater (-----)</u>			
1.1	Total Coliforms in Drinking Water by Multiple Tube Fermentation	-----	N
1.2	Fecal Coliforms/E. Coli in Drinking Water by MTF	-----	N
1.3	Total Coliforms in Drinking Water by Membrane Filter Technics	-----	N
1.4	Fecal Coliforms/E. Coli in Drinking Water by Membrane Filter Technics	-----	N
1.5	Total Coliforms and E. Coli in Drinking Water by MMO-MUG	-----	N
1.6	Total Coliforms in Drinking Water by Clark's Presence/Absence	-----	N
1.7	Fecal Coliforms/E. Coli in Drinking Water by Clark's Presence/Absence	-----	N
1.8	Heterotrophic Plate Count	-----	N
1.9	Total Coliforms in Wastewater by Multiple Tube Fermentation	-----	N
1.10	Fecal Coliforms in Wastewater by MTF	-----	N
1.11	Total Coliforms in Wastewater by Membrane Filter Technics	-----	N
1.12	Fecal Coliforms in Wastewater by Membrane Filter Technics	-----	N
1.13	Fecal Streptococci or Enterococci by Multiple Tube Technics	-----	N
1.14	Fecal Streptococci or Enterococci by Membrane Filter Technics	-----	N
<u>2 Inorganic Chemistry and Physical Properties of Drinking Water excluding Toxic Chemical Elements (-----)</u>			
2.1	Alkalinity	----- N	
2.2	Calcium	----- N	
2.3	Chloride	----- N	
2.4	Corrosivity	----- N	
2.5	Fluoride	----- N	
2.6	Hardness	----- N	
2.7	Magnesium	----- N	
2.8	MBAS	----- N	
2.9	Nitrate	----- N	
2.10	Nitrite	----- N	
2.11	Sodium	----- N	
2.12	Sulfate	----- N	
2.13	Total Filterable Residue and Conductivity	----- N	
2.14	Iron (Colorimetric Methods Only)	----- N	
2.15	Manganese (Colorimetric Methods Only)	----- N	
2.16	Phosphate, ortho	----- N	
2.17	Silica (Colorimetric Methods Only)	----- N	
2.18	Cyanide	----- N	
<u>3 Analysis of Toxic Chemical Elements in Drinking Water (-----)</u>			
3.1	Arsenic	----- N	
3.2	Barium	----- N	
3.3	Cadmium	----- N	
3.4	Chromium, total	----- N	
3.5	Copper	----- N	
3.6	Iron	----- N	
3.7	Lead	----- N	
3.8	Manganese	----- N	
3.9	Mercury	----- N	
3.10	Selenium	----- N	
3.11	Silver	----- N	
3.12	Zinc	----- N	
3.13	Aluminum	----- N	
3.14	Asbestos	----- N	
3.15	EPA Method 200.7	----- N	
3.16	EPA Method 200.8 (Unregulated Elements and Lead Only)	----- N	
3.17	Antimony	----- N	
3.18	Beryllium	----- N	
3.19	Nickel	----- N	
3.20	Thallium	----- N	
<u>4 Organic Chemistry of Drinking Water (measurement by GC/MS combination) (-----)</u>			
4.1	EPA Method 501.3	----- N	
4.2	EPA Method 524.2	----- N	
4.3	EPA Method 525	----- N	
4.4	EPA Method 513	----- N	
<u>5 Organic Chemistry of Drinking Water (excluding measurements by GC/MS combination) (-----)</u>			
5.1	EPA Method 501.1	----- N	
5.2	EPA Method 501.2	----- N	
5.3	EPA Method 502.1	----- N	
5.4	EPA Method 502.2	----- N	
5.5	EPA Method 503.1	----- N	
5.6	EPA Method 504	----- N	
5.7	EPA Method 505	----- N	
5.8	EPA Method 506	----- N	
5.9	EPA Method 507	----- N	
5.10	EPA Method 508	----- N	
5.11	EPA Method 508A	----- N	
5.12	EPA Method 510.1	----- N	
5.13	EPA Method 515.1	----- N	
5.14	EPA Method 531.1	----- N	
5.15	EPA Method 547	----- N	
5.16	EPA Method 548	----- N	
5.17	EPA Method 549	----- N	
5.18	EPA Method 550	----- N	
5.19	EPA Method 550.1	----- N	
5.20	EPA Method 551	----- N	
5.21	EPA Method 552	----- N	

CERTIFICATE NUMBER: 1332
 EXPIRATION DATE: 9/30/96

6 Radiochemistry (-----)

6.1	Gross Alpha and Beta Radiation -----	N	6.11	Gross Alpha by Co-precipitation -----	N
6.2	Total Radium -----	N	6.12	Radium 228 -----	N
6.3	Radium 226 -----	N	6.13	Radioactive Iodine -----	N
6.4	Uranium -----	N	6.14	Gross Alpha & Beta in Hazardous Wastes --	N
6.5	Radon 222 -----	N	6.15	Alpha Emitting Radium Isotopes	
6.6	Radioactive Cesium -----	N		in Haz. Wastes -----	N
6.7	Iodine 131 -----	N	6.16	Radium 228 in Hazardous Wastes -----	N
6.8	Radioactive Strontium -----	N			
6.9	Tritium -----	N			
6.10	Gamma and Photon Emitters -----	N			

7 Shellfish Sanitation (-----)

7.1	Shellfish meat Microbiology -----	N
7.2	Paralytic Shellfish Poison -----	N
7.3	Domoic Acid -----	N

8 Aquatic Toxicity Bioassays (-----)

8.1	Hazardous Waste Aquatic Toxicity Bioassay (Title 22, CCR, 66261.24(a)(6)) -----	N
8.2	Wastewater Testing According to Kopperdahl (1976) using Freshwater Fish. -----	N
8.3	Wastewater Testing According to EPA/600/4-85/013 using Freshwater and/or Marine Organisms -----	N
8.4	Wastewater Testing by EPA Method 1000.0 -----	N
8.5	Wastewater Testing by EPA Method 1002.0 -----	N
8.6	Wastewater Testing by EPA Method 1003.0 -----	N
8.7	Wastewater Testing by EPA Method 1006 -----	N
8.8	Wastewater Testing by EPA Method 1007 -----	N
8.9	Wastewater Testing by EPA Method 1009 -----	N
8.10	Wastewater Testing According to Anderson, et. al. (1990) using Giant Kelp (<i>Macrocystis pyrifera</i>) --	N
8.11	Wastewater Testing According to Anderson, et. al. (1990) using Red Abalone (<i>Haliotis rufescens</i>) ---	N
8.12	Wastewater Testing According to Dinnel and Stober (1987) using Purple Sea Urchin (<i>Strongylocentrotus purpuratus</i>) -----	N
8.13	Wastewater Testing According to Dinnel and Stober (1987) using Red Sea Urchin (<i>Strongylocentrotus franciscanus</i>) -----	N
8.14	Wastewater Testing According to Dinnel and Stober (1987) using Sand Dollar (<i>Dendraster excentricus</i>) -----	N
8.15	Wastewater Testing According to procedure E 724-89 (ASTM, 1989) using Pacific Oyster (<i>Crassostrea gigas</i>) -----	N
8.16	Wastewater Testing According to procedure E 724-89 (ASTM, 1989) using California Bay Mussel (<i>Mytilus edulis</i>) -----	N
8.17	Wastewater Testing According to Standard Methods (APHA, 1989) using an alga (<i>Skeletonema costatum</i>) -----	N
8.18	Wastewater Testing According to EPA/600/4-90/027 using Freshwater and/or Marine Organisms -----	N

9 Physical Properties Testing of Hazardous Waste (-----)

9.1	Ignitability by Flashpoint determination (Title 22, CCR, 66261.21) -----	N
9.2	Corrosivity - pH determination (Title 22, CCR, 66261.22) -----	N
9.3	Corrosivity - Corrosivity towards steel (Title 22, CCR, 66261.22) -----	N
9.4	Reactivity (Title 22, CCR, 66261.23) -----	N

10 Inorganic Chemistry and Toxic Chemical Elements of Hazardous Waste

10.1	Antimony		10.7	Cobalt	
	7040(-----) -----	N		7200(-----) -----	N
	7041(-----) -----	N		7201(-----) -----	N
10.2	Arsenic		10.8	Copper	
	7060(-----) -----	N		7210(-----) -----	N
	7061(-----) -----	N		7211(-----) -----	N
10.3	Barium		10.9	Lead	
	7080(-----) -----	N		7420(-----) -----	N
	7081(-----) -----	N		7421(-----) -----	N
10.4	Beryllium		10.10	Mercury	
	7090(-----) -----	N		7470(-----) -----	N
	7091(-----) -----	N		7471(-----) -----	N
10.5	Cadmium		10.11	Molybdenum	
	7130(-----) -----	N		7480(-----) -----	N
	7131(-----) -----	N		7481(-----) -----	N
10.6	Chromium, total		10.12	Nickel	
	7190(-----) -----	N		7520(-----) -----	N
	7191(-----) -----	N			

CERTIFICATE NUMBER: 1332
EXPIRATION DATE: 9/30/96

10.13 Selenium			
7740(-----)	-----	N	
7741(-----)	-----	N	
10.14 Silver			
7760(-----)	-----	N	
7761(-----)	-----	N	
10.15 Thallium			
7840(-----)	-----	N	
7841(-----)	-----	N	
10.16 Vanadium			
7910(-----)	-----	N	
7911(-----)	-----	N	
10.17 Zinc			
7950(-----)	-----	N	
7951(-----)	-----	N	
10.18 Chromium (VI)			
7195(-----)	-----	N	
7196(-----)	-----	N	
7197(-----)	-----	N	
7198(-----)	-----	N	

10.19 Cyanide			
9010(-----)	-----	N	
10.20 Fluoride			
300.0(-----)	-----	N	
340.1(-----)	-----	N	
340.2(-----)	-----	N	
340.3(-----)	-----	N	
10.21 Sulfide			
9030(-----)	-----	N	
10.22 Total Organic Lead			
(-----)	-----	N	
10.23 EPA Method 6010(-----)	-----	N	
10.24 EPA Method 6020(-----)	-----	N	

11 Extraction Tests of Hazardous Waste (-----)

11.1 California Waste Extraction Test (WET) (Title 22, CCR, 66261.100, Appendix II)	-----	N
11.2 Extraction Procedure Toxicity	-----	N
11.3 Toxicity Characteristic Leaching Procedure (TCLP) All Classes	-----	N
11.4 Toxicity Characteristic Leaching Procedure (TCLP) Inorganics Only	-----	N
11.5 Toxicity Characteristic Leaching Procedure (TCLP) Extractables Only	-----	N
11.6 Toxicity Characteristic Leaching Procedure (TCLP) Volatiles Only	-----	N

12 Organic Chemistry of Hazardous Waste (measurement by GC/MS combination)

12.1 EPA Method 8240(06-20-89)	-----	Y
12.2 EPA Method 8250(-----)	-----	N
12.3 EPA method 8270(05-03-93)	-----	Y
12.4 EPA Method 8280(-----)	-----	N
12.5 EPA Method 8290(-----)	-----	N
12.6 EPA Method 8260(01-05-93)	-----	Y

13 Organic Chemistry of Hazardous Waste (excluding measurements by GC/MS combination)

13.1 EPA Method 8010(-----)	-----	N	
13.2 EPA Method 8015(01-05-93)	-----	Y	
13.3 EPA Method 8020(01-04-88)	-----	Y	
13.4 EPA Method 8030(-----)	-----	N	
13.5 EPA Method 8040(-----)	-----	N	
13.6 EPA Method 8060(-----)	-----	N	
13.7 EPA Method 8080(12-21-88)	-----	Y	
13.8 EPA Method 8090(-----)	-----	N	
13.9 EPA Method 8100(02-03-93)	-----	Y	
13.10 EPA Method 8120(-----)	-----	N	
13.11 EPA Method 8140(-----)	-----	N	
13.12 EPA Method 8150(-----)	-----	N	
13.13 EPA Method 8310(-----)	-----	N	
13.14 EPA Method 632 (-----)	-----	N	
13.15 Total Petroleum Hydrocarbons (LUFT Manual) (06-10-88)	-----	Y	
13.16 EPA Method 8011(01-05-93)	-----	Y	
13.17 EPA Method 8021(01-05-93)	-----	Y	
13.18 EPA Method 8070(-----)	-----	N	
13.19 EPA Method 8110(-----)	-----	N	
13.20 EPA Method 8141(-----)	-----	N	
13.21 EPA Method 8330(-----)	-----	N	

14 Bulk Asbestos Analysis (-----)

14.1 1% or Greater Asbestos Concentrations (Title 22, CCR, 66261.24(a)(2)(A))	-----	N
---	-------	---

15 Substances Regulated Under the California Safe Drinking Water and Toxic Enforcement Act (Proposition 65) and Not Included in Other listed Groups.

16 Wastewater Inorganic Chemistry, Nutrients and Demand (02-14-95)

16.1 Acidity	-----	N	
16.2 Alkalinity	-----	N	
16.3 Ammonia	-----	N	
16.4 Biochemical Oxygen Demand	-----	N	
16.5 Boron	-----	N	
16.6 Bromide	-----	Y	
16.7 Calcium	-----	N	
16.8 cBOD	-----	N	
16.9 Chemical Oxygen Demand	-----	N	
16.10 Chloride	-----	Y	
16.11 Chlorine Residual, total	-----	N	
16.12 Cyanide	-----	N	
16.13 Cyanide amenable to Chlorination	-----	N	
16.14 Fluoride	-----	Y	
16.15 Hardness	-----	N	
16.16 Kjeldahl Nitrogen	-----	N	
16.17 Magnesium	-----	N	
16.18 Nitrate	-----	Y	
16.19 Nitrite	-----	Y	
16.20 Oil and Grease	-----	Y	
16.21 Organic Carbon	-----	N	
16.22 Oxygen, Dissolved	-----	N	

CERTIFICATE NUMBER: 1542
 EXPIRATION DATE: 06-30-97

16.23	pH	Y	16.39	Surfactants (MBAS)	N
16.24	Phenols	N	16.40	Tannin and lignin	N
16.25	Phosphate, ortho	N	16.41	Turbidity	N
16.26	Phosphorus, total	N	16.42	Iron (Colorimetric Only)	N
16.27	Potassium	Y	16.43	Manganese (Colorimetric Only)	N
16.28	Residue, Total	Y	16.44	Total Recoverable	
16.29	Residue, Filterable (TDS)	Y		Petroleum Hydrocarbons	Y
16.30	Residue, Nonfilterable (TSS)	Y	16.45	Total Organic Halides	N
16.31	Residue, Settleable (SS)	Y			
16.32	Residue, Volatile	N			
16.33	Silica	N			
16.34	Sodium	Y			
16.35	Specific Conductance	Y			
16.36	Sulfate	N			
16.37	Sulfide (includes total & soluble)	Y			
16.38	Sulfite	N			

17 Toxic Chemical Elements in Wastewater (02-16-94)

17.1	Aluminum	N	17.18	Nickel	Y
17.2	Antimony	Y	17.19	Osmium	N
17.3	Arsenic	Y	17.20	Palladium	N
17.4	Barium	N	17.21	Platinum	N
17.5	Beryllium	N	17.22	Rhodium	N
17.6	Cadmium	Y	17.23	Ruthenium	N
17.7	Chromium (VI)	Y	17.24	Selenium	Y
17.8	Chromium, total	Y	17.25	Silver	Y
17.9	Cobalt	Y	17.26	Strontium	N
17.10	Copper	Y	17.27	Thallium	Y
17.11	Gold	N	17.28	Tin	N
17.12	Iridium	N	17.29	Titanium	N
17.13	Iron	N	17.30	Vanadium	N
17.14	Lead	Y	17.31	Zinc	N
17.15	Manganese	N	17.32	EPA Method 200.7	Y
17.16	Mercury	Y	17.33	EPA Method 200.8	N
17.17	Molybdenum	N	17.34	DCP	N
			17.35	Asbestos	N

18 Organic Chemistry of Wastewater (measurements by GC/MS combination (02-16-94)

18.1	EPA Method 624	Y
18.2	EPA Method 625	Y
18.3	EPA Method 1613	N
18.4	EPA Method 1625	N
18.5	EPA Method 613	N

19 Organic Chemistry of Wastewater (excluding measurements by GC/MS combination) (02-16-94)

19.1	EPA Method 601	Y	19.8	EPA Method 608	Y
19.2	EPA Method 602	Y	19.9	EPA Method 609	N
19.3	EPA Method 603	N	19.10	EPA Method 610	N
19.4	EPA Method 604	N	19.11	EPA Method 611	N
19.5	EPA Method 605	N	19.12	EPA Method 632	N
19.6	EPA Method 606	N	19.13	EPA Method 619	N
19.7	EPA Method 607	N			

20 Inorganic Chemistry and Toxic Chemical Elements of Pesticide Residues in Food (-----)

20.1	Processed foods by One of the following Methods	
	Atomic Absorption Spectrophotometry	N
	Inductively Coupled Plasma Atomic Emission Spectrophotometry	N
	Inductively Coupled Plasma/Mass Spectrometry	N
	Colorimetry	N
20.2	Raw Commodities by One of the following Methods	
	Atomic Absorption Spectrophotometry	N
	Inductively Coupled Plasma Atomic Emission Spectrophotometry	N
	Inductively Coupled Plasma/Mass Spectrometry	N
	Colorimetric	N
20.3	Dairy Products by One of the following Methods	
	Atomic Absorption Spectrophotometry	N
	Inductively Coupled Plasma Atomic Emission Spectrophotometry	N
	Inductively Coupled Plasma/Mass Spectrometry	N
	Colorimetry	N

CERTIFICATE NUMBER: 1542
 EXPIRATION DATE: 06-30-97

20.4	Feed Products by One of the Following Methods	
	Atomic Absorption Spectrophotometry	N
	Inductively Coupled Plasma Atomic Emission Spectrophotometry	N
	Inductively Coupled Plasma/Mass Spectrometry	N
	Colorimetry	N
21	<u>Organic Chemistry of Pesticide Residues in Food (measurements by GC/MS) (-----)</u>	
21.1	Gas Chromatographic/Mass Spectrometric Methods in Processed Foods	N
21.2	Gas Chromatographic/Mass Spectrometric Methods in Raw Commodities	N
21.3	Gas Chromatographic/Mass Spectrometric Methods in Dairy Products	N
21.4	Gas Chromatographic/Mass Spectrometric Methods in Feed Products	N
22	<u>Organic Chemistry of Pesticide Residues in Food (Excluding Measurement by GC/MS Combination) (-----)</u>	
22.1	Halogenated Compounds in Processed Foods by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.2	Organophosphorous Compounds in Processed Foods by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.3	Carbamates in Processed Foods by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.4	Halogenated Compounds in Raw Commodities by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.5	Organophosphorous Compounds in Raw Commodities by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.6	Carbamates in Raw Commodities by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.7	Halogenated Compounds in Dairy Products by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.8	Organophosphorous Compounds in Dairy Products by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.9	Carbamates in Dairy Products by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.10	Halogenated Compounds in Feed Products by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.11	Organophosphorous Compounds in Feed Products by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N
22.12	Carbamates in Feed Products by One of the Following Methods	
	Gas Chromatography	N
	High Pressure Liquid Chromatography	N
	Liquid Chromatography/Mass Spectrometry	N