GLASS MANUFACTURING
AP-42 Section 8.13
Reference Number
10

Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

The reference to FPEIS Test Series is filed elsewhere

8.13 Ref # 10

ENVIRONMENTAL ASSESSMENT DATA SYSTEMS
FPEIS SERIES REPORT

SERIES FORM 1 DATE 06/21/83

FPEIS TEST SERIES NO: 223 DESCRIBES SAMPLING AT SITE FROM 02/16/78 TO 02/16/78 BY KVB, INC.

SPONSOR ORGANIZATION: CALIFORNIA AIR RESOURCES BOARD
CONTRACT NUMBER: A6-191-30 PURPOSE OF TEST: ENVIRONMENTAL ASSESSMENTS (MULTIMEDIA)
TASK/DIRECTIVE NUMBER: 000

SOURCE DESCRIPTION----------

SOURCE CATEGORY:	CONSUMER PRODUCTS	SOURCE NAME:	CONFIDENTIAL
SOURCE TYPE:	GLASS & GLASS PROD	SITE NAME:	
PRODUCT/DEVICE:	GLASS BOTTLES	ADDRESS:	
PROCESS TYPE:	MANUFACTURE		LOS ANGELES ,CA 00000
DESIGN PROCESS RATE:	4900 KG/HR		
FEED MATERIAL CATEGORY:	INORG CHEM		
PRIMARY CONTROL DEVICE:		SIC CODE:	3221

EADS WASTE STREAM DATA BASES----------

WASTE STREAM DATA FROM OTHER MEDIA WHICH WERE COLLECTED CONCURRENTLY WITH THIS TEST SERIES ARE AS FOLLOWS(TEST SERIES NUMBER-TSN):
LEDS TSN: GEDS TSN: 00075 SDDS TSN:

REFERENCE REPORT----------

TITLE
AUTHOR
SPONSOR REPORT NUMBER NTIS NUMBER PUBLICATION DATE

FINE PARTICLE EMISSIONS FROM STATIONARY AND MISCELLANEOUS SOURCES IN THE SOUTH COAST AIR BASIN.
TABACK H.J.
KVB REPORT 5806-783 PB 293 923/AS FEBRUARY 1979

TEST SERIES COMMENTS----------

PROGRAM OBJECTIVES TO INVENTORY TSP EMISSIONS,TO PREPARE A COMPREHENSIVE INVENTORY OF EMISSIONS(I.E. BY SIZE DISTRIBUTION AND CHEMICAL COMPOSITION),AND TO DESCRIBE ALT. METHODS OF CONTROL. THE FURNACE TESTED WAS AN ENDPORT WITH 42.8 SQUARE METERS OF SURFACE AREA.

FPEIS TEST SERIES NO: 00223 STREAM NO: 01

SERIES FORM 2 DATE 06/21/83

EFFLUENT STREAM DESIGN CHARACTERISTICS----------

STREAM NAME: FURNACE OUTLET

STREAM DESIGN DATA AT SOURCE

MOISTURE CONTENT= PCT MASS/VOLUMETRIC FLOW RATE= VELOCITY= M/S

TEMPERATURE= C PRESSURE= CM HG STACK HEIGHT= 18.3 METERS

COMMENTS: DESIGN CHARACTERISTICS UNKNOWN

CONTROL/TREATMENT SYSTEM CHARACTERISTICS-----

DEVICE 01

GENERIC SYSTEM TYPE: NONE
DESIGN TYPE:
SPECIFIC PROCESS/DEVICE:

DEVICE CLASS:
COMMERICAL NAME:
MANUFACTURER:

SOURCE/PROCESS CONDITIONS DATA----------

TEST CONDITIONS-----

TEST DATE: 02/16/78 TEST START TIME: 1135 FINISH TIME: 1305

SOURCE OPERATING MODE: CONTINUOUS, 8400 HRS/YR PERCENT OF DESIGN CAPACITY= 100.0

COMMENTS:

FUELS AND FEEDSTOCKS CHARACTERISTICS----------

SOURCE FUEL/FEED MATERIAL: INORG CHEMICAL FEED MATERIAL RATE: 4900 KG/HR

NAME OF ANALYTICAL LABORATORY: QA AUDIT CODE:

SAMPLE MASS: SAMPLE VOLUME:

CHARACTERISTICS:

PARAMETER	ANALYTICAL METHOD	HIGH DETECTION LIMIT	LOW DETECTION LIMIT	DETECTION LIMIT UNITS	VALUE	UNITS/TEXT
SAND-MV	NOT SPECIFIED				2.24E+04	KG/HR
SALT CAKE	NOT SPECIFIED				1.28E+02	KG/HR
LIMESTONE	NOT SPECIFIED				7.00E+03	KG/HR
SODA ASH	NOT SPECIFIED				9.00E+03	KG/HR
SAND-I	NOT SPECIFIED				6.80E+03	KG/HR
ARSENIC	NOT SPECIFIED				6.00E+00	KG/HR
CULLET	NOT SPECIFIED				3.90E+03	KG/HR
CAO MIX(1%)	NOT SPECIFIED				6.00E+00	KG/HR
SE MIX(5%)	NOT SPECIFIED				1.30E+01	KG/HR
CARBON	NOT SPECIFIED				1.10E+01	KG/HR

PARTICLE DIAMETERS BASED ON CLASSIC AERODYNAMIC DEFINITION (TASK GROUP ON LUNG DYNAMICS)

PARTICLE SIZE SUMMARY----------

SAMPLE NO.	SAMPLE LOCATIONS DEVICE	SYSTEM	UG/DNM3	PARTICLE DIAMETER IN MICROMETERS 20.0	15.0	10.0	6.0	2.5	1.25	1.0	0.625
01	INLET	I	CUM MASS CONC	1.11E+05	1.08E+05	1.06E+05	1.05E+05	1.03E+05	0.00E+00	0.00E+00	0.00E+00
			DM/DLOG D	2.10E+04	1.95E+04	7.53E+03	3.49E+03	7.36E+03	0.00E+00	0.00E+00	0.00E+00
				EXTRAPOL	EXTRAPOL	EXTRAPOL	INTERPOL	INTERPOL	MISSING	MISSING	MISSING

SAMPLING ACTIVITY DESCRIPTION----------

MEASUREMENT INSTRUMENT/METHOD TYPE: I NAME: SASS TRAIN-WITH CYCLONES SAMPLING START TIME: 1135 DURATION: 90 MIN

SAMPLING CONDITIONS-- MASS/VOLUMETRIC FLOWRATE= 6.5 M3/SEC FLOWRATE METHOD: PITOT TUBE TEMPERATURE= 437 C

MOISTURE CONTENT= 9.7 PCT VELOCITY= 15.0 M/SEC PRESSURE= 765 MM HG

SAMPLE DENSITY= 1.0 G/CM3 DENSITY DETERMINATION: ASSUMED

DEVICE SAMPLING LOCATION=INLET DEVICE/PROCESS NUMBER= 1 SAMPLING LOCATION DESCRIPTION: 5M FROM STACK OUTLET

SYSTEM SAMPLING LOCATION= INLET OR UNCONTROLLED CORRESPONDING SAMPLE NUMBER:

VOLUME OF SAMPLE COLLECTED= 9.33 M3 TOTAL MASS OF SAMPLE COLLECTED= 1.29 G

MEASUREMENT INSTRUMENT: TEMPERATURE= 203 C INLET PRESSURE= 765 MM HG FLOW RATE= 187.0 L/MIN

ESTIMATED TIME BETWEEN SAMPLING AND CHEM ANALYSIS: DAYS -SAMPLING AND RADIOASSAY: DAYS

COLLECTION SURFACE/SUBSTRATE:

PERCENT ISOKINETIC SAMPLING= 81 GAS ANALYSIS (PCT BY WEIGHT)-- CO2= 6.80 CO= 0.00 O2= 8.60 N2= 84.60

OTHER TRACE GASES (IN PPM): SO2 15-20,NOX >500,NO2 65,CO 5-10 DILUTION FACTOR= 1.0

PARTICLE MEASUREMENTS WERE MADE ON THE BASIS OF MASS UPPER BOUNDARY DIAMETER= 30.00 UM

PARTICLE DIAMETERS ARE DEFINED ACCORDING TO THE FOLLOWING DEFINITION: CLASSIC AERODYNAMIC

PARTICLE DIAMETERS WERE DETERMINED FROM CALIBRATION

COMMENTS ON THE SAMPLING ACTIVITY----------

OF THE TOTAL SAMPLE MASS 191.5 MG IS INORGANIC & 19.1 MG IS
ORGANIC CAUGHT IN THE IMPINGERS, SEE GEDS TSN 75.

EFFLUENT STREAM DESIGN CHARACTERISTICS----------

COMPONENT NO	NAME	DESCRIPTION	VALUE
1	PROBE+10 CYC		
		STAGE/FILTER CUT SIZE:	9.20 UM
		STAGE WEIGHT:	8.87E+01 MG
		CHEMICAL ANALYSIS LABORATORY NAME:	ARMAME
2	3 UM CYCLONE		
		STAGE/FILTER CUT SIZE:	3.80 UM
		STAGE WEIGHT:	1.21E+01 MG
3	1 UM CYCLONE		
		STAGE/FILTER CUT SIZE:	1.30 UM
		STAGE WEIGHT:	3.47E+01 MG
4	FILTER		
		STAGE/FILTER CUT SIZE:	.01 UM
		STAGE WEIGHT:	9.48E+02 MG
		COMPONENT (ALIQUOT) MASS/VOLUME:	947.600 MG

PARTICLE SIZE TABLE---------

STAGE #	1	2	3	4
D50(MICRONS)	9.20	3.80	1.30	.01
STAGE WEIGHTS(MILLIGRAMS)	8.87E+01	1.21E+01	3.47E+01	9.48E+02
MICROGRAMS/DNCM/STAGE	9.42E+03	1.28E+03	3.68E+03	1.01E+05
NUMBER/DNCM/STAGE	2.55E+09	1.19E+10	6.41E+11	1.30E+17
CUM. %MASS<D50	91.81	90.70	87.49	
CUM. MICROGRAMS/ACM<D50	5.91E+04	5.84E+04	5.63E+04	0.00E+00
CUM. MICROGRAMS/DNCM<D50	1.06E+05	1.04E+05	1.01E+05	0.00E+00
GEOM D50	1.92E+01	5.91E+00	2.22E+00	1.14E-01
DM/DLOGD-(UG/DNM3)	1.48E+04	3.35E+03	7.91E+03	4.76E+04
DN-LOGD/(NUMBER/DNM3)	3.99E+09	3.09E+10	1.38E+12	6.14E+16

COMMENTS ON THE EFFLUENT CHARACTERISTICS---------

COMPONENT NO.	NAME	REMARKS
1	PROBE+10 CYC	ONLY 100MG SAMPLE CUTS GIVEN CHEMICAL ANALYSIS. PARTICULATE WEIGHT CAUGHT BY PROBE IS 75.4 MG & 10 UM CYCLONE IS 13.3 MG

EFFLUENT CHARACTERISTICS SUMMARY----------

COMMENTS ON THE EFFLUENT CHARACTERISTICS---------

COMPONENT NO.	NAME	REMARKS
4	FILTER	ARMAMENT LAB DID ELEMENTAL ANALYSIS AND ROCKWELL DID SULFATE, NITRATE, AND TOTAL CARBON.
4	FILTER	ARMAMENT LAB DID ELEMENTAL ANALYSIS AND ROCKWELL DID SULFATE, NITRATE, AND TOTAL CARBON.

INORGANIC/NON-LEVEL 1 ORGANIC CHEMISTRY DATA SUMMARY

MEG NUMBER	CAS NUMBER	SPECIES PREFERRED NAME COMPONENT NUMBER ANALYTICAL METHOD	COMPONENT NAME	DETECTION LIMITS HIGH	DETECTION LIMITS LOW	UNITS	TOTAL MG RECOVERED	SOURCE CONCENTRATION (UG/M3)
29A100	07440-09-7	POTASSIUM POTASSIUM POTASSIUM METAL 04 X-RAY FLUORESCENCE SPECTROMETRY	FILTER				19.000	2.00E+03
34A100	07440-70-2	CALCIUM CALCIUM METAL 04 X-RAY FLUORESCENCE SPECTROMETRY	FILTER				9.500	<1.03E+03
46A100	07439-92-1	LEAD PLUMBUM 04 X-RAY FLUORESCENCE SPECTROMETRY	FILTER				9.500	<1.03E+03
49A100	07440-38-2	ARSENIC 04 X-RAY FLUORESCENCE SPECTROMETRY	FILTER				24.600	2.70E+03
53A300	14265-45-3	SULFITE ION 04 WET CHEMICAL ANALYSIS (NOT SPECIFIED)	FILTER				569.000	6.20E+04
68A100	07440-47-3	CHROMIUM 04 X-RAY FLUORESCENCE SPECTROMETRY	FILTER				9.500	<1.03E+03

COMMENTS ON THE CHEMICAL RESULTS----------

COMPONENT NO.	NAME	REMARKS
4	FILTER	CALCIUM, CHROMIUM & LEAD DETECTED AT <1 TO 0.1 PERCENT OF TOTAL FILTER WT.

```
HASH-SERIES    = 000005179000
HASH-STREAM    = 000000002030
HASH-SOURCE    = 000002428462    HASH-E-FAC     = 000000000000
HASH-SAMPLE    = 000000551585    HASH-PADRE     = 000000050962
CUM-1200   = 000001970089
CUM-1300   = 000000137329
CUM-1410   = 000000000000
CUM-1820   = 000000083166
CUM-2520   = 000000000000
CUM-2570   = 000000000000
CUM-3020   = 000000000000
CUM-3200   = 000000000000
CUM-3360   = 000000000000
HASH-TOTAL     = 000008161077
C78    = 000008161077
```

ADMINISTRATION SECTION

0005
KVB
17332 IRVINE BLVD

TUSTIN ,CA 92680

SERIES STATUS----------

DATA BASE:	FPEIS
TSN:	00223
SPONSOR:	IERL-RTP
SPONSOR PROJECT OFFICER:	GARY L. JOHNSON
CONTRACTOR CONTACT:	MICHAEL J. BERLANT
CONTRACTOR PHONE:	714-832-9020
CONTRACT NUMBER:	68-02-3175 TASK/TD NO. 001
NUMBER OF CARDS RECEIVED:	54
DATA CARDS RECEIVED:	04/14/80
TEST SERIES ASSIGNED:	11/14/79

EDIT PHASE----------

DATE STARTED:	07/24/80
NUMBER OF RUNS:	10
DATE ENCODED:	08/05/80
DATE RECEIVED:	12/10/80
DATE APPROVAL:	06/30/81
DATE LAST RUN:	07/02/81
NUMBER OF FATAL ERRORS:	00000
NUMBER OF WARNING ERRORS:	00000
EDIT HASH TOTAL:	000000000000

LOAD PHASE---------

DATE LOADED:	09/05/81
DATE RELOADED:	
CRITERIA DATA LOADED:	
CYCLE NO.:	
LOAD HASH TOTAL:	000000000000

SERIES PHASE--------

DATE LAST RUN:	06/21/83
NUMBER OF RUNS:	8
SERIES HASH TOTAL:	81610.77

8.13 Ref # 13

F00223

THIS EADS INFORMATION REPRESENTS SOURCE TEST DATA FROM A VARIETY OF SOURCES INCLUDING FEDERAL, STATE, AND PRIVATE INDUSTRY ORGANIZATIONS. THE TECHNICAL CONTENT AND VALIDITY OF THE DATA ARE THE SOLE RESPONSIBILITY OF THE ORGANIZATIONS THAT PERFORMED THE TESTING AND DATA ENCODING FOR ENTRY INTO THE EADS. THE EPA AND ITS EADS CONTRACTORS HAVE REVIEWED THE DATA FOR EADS COMPUTER FORMATTING REQUIREMENTS AND CONSISTENT ENGINEERING UNITS. THE DATA HAVE BEEN APPROVED FOR ENTRY INTO EADS BY THE TESTING ORGANIZATIONS (OR DATA ENCODERS) AND TECHNICAL QUESTIONS SHOULD BE ADDRESSED TO THEM. WHEN AVAILABLE, REFERENCES FROM WHICH THE DATA HAVE BEEN ENCODED ARE GIVEN. APPROVAL FOR EADS LOADING DOES NOT SIGNIFY THAT THE CONTENTS OF THE TEST SERIES NECESSARILY REFLECT THE VIEWS AND POLICIES THE GOVERNMENT, NOR DOES THE MENTION OF TRADE NAMES OR COMMERCIAL PRODUCTS CONSTITUTE ENDORSEMENT OR RECOMMENDATION FOR USE.

FPEIS TEST SERIES NO: 223 DESCRIBES SAMPLING AT SITE FROM 02/16/78 TO 02/16/78 BY KVB, INC.

SPONSOR ORGANIZATION: CALIFORNIA AIR RESOURCES BOARD
CONTRACT NUMBER: A6-191-30 PURPOSE OF TEST: ENVIRONMENTAL ASSESSMENTS (MULTIMEDIA)
TASK/DIRECTIVE NUMBER: 000

SOURCE DESCRIPTION----------

SOURCE CATEGORY: CONSUMER PRODUCTS
SOURCE TYPE: GLASS & GLASS PROD
PRODUCT/DEVICE: GLASS BOTTLES
PROCESS TYPE: MANUFACTURE
DESIGN PROCESS RATE: 4900 KG/HR
FEED MATERIAL CATEGORY: INORG CHEM
PRIMARY CONTROL DEVICE:

SOURCE NAME: CONFIDENTIAL
SITE NAME:
ADDRESS:
LOS ANGELES ,CA 00000
SIC CODE: 3221

EADS WASTE STREAM DATA BASES----------

WASTE STREAM DATA FROM OTHER MEDIA WHICH WERE COLLECTED CONCURRENTLY WITH THIS TEST SERIES ARE AS FOLLOWS(TEST SERIES NUMBER-TSN):

LEDS TSN: GEDS TSN: 00075 SDDS TSN: FEIS TSN: CMDS TSN:

REFERENCE REPORT----------

TITLE
AUTHOR
SPONSOR REPORT NUMBER NTIS NUMBER PUBLICATION DATE

FINE PARTICLE EMISSIONS FROM STATIONARY AND MISCELLANEOUS SOURCES IN THE SOUTH COAST AIR BASIN.
TABACK H.J.
KVB REPORT 5806-783 PB 293 923/AS FEBRUARY 1979

TEST SERIES COMMENTS----------

PROGRAM OBJECTIVES TO INVENTORY TSP EMISSIONS,TO PREPARE A COMPREHENSIVE INVENTORY OF EMISSIONS(I.E. BY SIZE DISTRIBUTION AND CHEMICAL COMPOSITION),AND TO DESCRIBE ALT. METHODS OF CONTROL. THE FURNACE TESTED WAS AN ENDPORT WITH 42.8 SQUARE METERS OF SURFACE AREA.

FPEIS TEST SERIES NO: 00223 STREAM NO: 01

SERIES FORM 2 DATE 10/02/86

EFFLUENT STREAM DESIGN CHARACTERISTICS----------

STREAM NAME: FURNACE OUTLET

STREAM DESIGN DATA AT SOURCE

MOISTURE CONTENT= PCT MASS/VOLUMETRIC FLOW RATE= VELOCITY= M/S

TEMPERATURE= C PRESSURE= CM HG STACK HEIGHT= 18.3 METERS

COMMENTS: DESIGN CHARACTERISTICS UNKNOWN

CONTROL/TREATMENT SYSTEM CHARACTERISTICS-----

DEVICE 01

GENERIC SYSTEM TYPE: NONE
DESIGN TYPE:
SPECIFIC PROCESS/DEVICE:

DEVICE CLASS:
COMMERICAL NAME:
MANUFACTURER:

SOURCE/PROCESS CONDITIONS DATA----------

TEST CONDITIONS-----

TEST DATE: 02/16/78 TEST START TIME: 1135 FINISH TIME: 1305

SOURCE OPERATING MODE: CONTINUOUS, 8400 HRS/YR PERCENT OF DESIGN CAPACITY= 100.0

COMMENTS:

FUELS AND FEEDSTOCKS CHARACTERISTICS----------

SOURCE FUEL/FEED MATERIAL: INORG CHEMICAL FEED MATERIAL RATE: 4900 KG/HR

NAME OF ANALYTICAL LABORATORY: QA AUDIT CODE:

SAMPLE MASS: SAMPLE VOLUME:

CHARACTERISTICS:

PARAMETER	ANALYTICAL METHOD		HIGH DETECTION LIMIT	LOW DETECTION LIMIT	DETECTION LIMIT UNITS	VALUE	UNITS/TEXT
SAND-MV	NO ANALYTICAL METHOD	NS				2.24E+04	KG/HR
SALT CAKE	NO ANALYTICAL METHOD	NS				1.28E+02	KG/HR
LIMESTONE	NO ANALYTICAL METHOD	NS				7.00E+03	KG/HR
SODA ASH	NO ANALYTICAL METHOD	NS				9.00E+03	KG/HR
SAND-I	NO ANALYTICAL METHOD	NS				6.80E+03	KG/HR
ARSENIC	NO ANALYTICAL METHOD	NS				6.00E+00	KG/HR
CULLET	NO ANALYTICAL METHOD	NS				3.90E+03	KG/HR
CAO MIX(1%)	NO ANALYTICAL METHOD	NS				6.00E+00	KG/HR
SE MIX(5%)	NO ANALYTICAL METHOD	NS				1.30E+01	KG/HR
CARBON	NO ANALYTICAL METHOD	NS				1.10E+01	KG/HR

PARTICLE DIAMETERS BASED ON CLASSIC AERODYNAMIC DEFINITION (TASK GROUP ON LUNG DYNAMICS)

PARTICLE SIZE SUMMARY----------

SAMPLE NO.	SAMPLE LOCATIONS DEVICE	SYSTEM	UG/DNM3	PARTICLE DIAMETER IN MICROMETERS 20.0	15.0	10.0	6.0	2.5	1.25	1.0	0.625
01	INLET	I	CUM MASS CONC	1.11E+05	1.08E+05	1.06E+05	1.05E+05	1.03E+05	0.00E+00	0.00E+00	0.00E+00
			DM/DLOG D	2.10E+04	1.95E+04	7.53E+03	3.49E+03	7.36E+03	0.00E+00	0.00E+00	0.00E+00
				EXTRAPOL	EXTRAPOL	EXTRAPOL	INTERPOL	INTERPOL	MISSING	MISSING	MISSING

SAMPLING ACTIVITY DESCRIPTION----------

MEASUREMENT INSTRUMENT/METHOD TYPE: I NAME: SASS TRAIN-WITH CYCLONES SAMPLING START TIME: 1135 DURATION: 90 MIN

SAMPLING CONDITIONS-- MASS/VOLUMETRIC FLOWRATE= 6.5 M3/SEC FLOWRATE METHOD: PITOT TUBE TEMPERATURE= 437 C

MOISTURE CONTENT= 9.7 PCT VELOCITY= 15.0 M/SEC PRESSURE= 765 MM HG

SAMPLE DENSITY= 1.0 G/CM3 DENSITY DETERMINATION: ASSUMED

DEVICE SAMPLING LOCATION=INLET DEVICE/PROCESS NUMBER= 1 SAMPLING LOCATION DESCRIPTION: 5M FROM STACK OUTLET

SYSTEM SAMPLING LOCATION= INLET OR UNCONTROLLED CORRESPONDING SAMPLE NUMBER:

VOLUME OF SAMPLE COLLECTED= 9.33 M3 TOTAL MASS OF SAMPLE COLLECTED= 1.29 G

MEASUREMENT INSTRUMENT: TEMPERATURE= 203 C INLET PRESSURE= 765 MM HG FLOW RATE= 187.0 L/MIN

ESTIMATED TIME BETWEEN SAMPLING AND CHEM ANALYSIS: DAYS -SAMPLING AND RADIOASSAY: DAYS

COLLECTION SURFACE/SUBSTRATE:

PERCENT ISOKINETIC SAMPLING= 81 GAS ANALYSIS (PCT BY VOLUME)-- CO2= 6.80 CO= 0.00 O2= 8.60 N2= 84.60

OTHER TRACE GASES (IN PPM): SO2 15-20,NOX >500,NO2 65,CO 5-10 DILUTION FACTOR= 1.0

PARTICLE MEASUREMENTS WERE MADE ON THE BASIS OF MASS UPPER BOUNDARY DIAMETER= 30.00 UM

PARTICLE DIAMETERS ARE DEFINED ACCORDING TO THE FOLLOWING DEFINITION: CLASSIC AERODYNAMIC

PARTICLE DIAMETERS WERE DETERMINED FROM CALIBRATION

COMMENTS ON THE SAMPLING ACTIVITY----------

OF THE TOTAL SAMPLE MASS 191.5 MG IS INORGANIC & 19.1 MG IS
ORGANIC CAUGHT IN THE IMPINGERS, SEE GEDS TSN 75.

EFFLUENT STREAM DESIGN CHARACTERISTICS----------

COMPONENT NO	NAME	DESCRIPTION	VALUE
1	PROBE+10 CYC		
		STAGE/FILTER CUT SIZE:	9.20 UM
		STAGE WEIGHT:	8.87E+01 MG
		CHEMICAL ANALYSIS LABORATORY NAME:	ARMAME
2	3 UM CYCLONE		
		STAGE/FILTER CUT SIZE:	3.80 UM
		STAGE WEIGHT:	1.21E+01 MG
3	1 UM CYCLONE		
		STAGE/FILTER CUT SIZE:	1.30 UM
		STAGE WEIGHT:	3.47E+01 MG
4	FILTER		
		STAGE/FILTER CUT SIZE:	.01 UM
		STAGE WEIGHT:	9.48E+02 MG
		COMPONENT (ALIQUOT) MASS/VOLUME:	947.600 MG

PARTICLE SIZE TABLE---------

STAGE #	1	2	3	4
D50(MICRONS)	9.20	3.80	1.30	.01
STAGE WEIGHTS(MILLIGRAMS)	8.87E+01	1.21E+01	3.47E+01	9.48E+02
MICROGRAMS/DNCM/STAGE	9.42E+03	1.28E+03	3.68E+03	1.01E+05
NUMBER/DNCM/STAGE	2.55E+09	1.19E+10	6.41E+11	1.30E+17
CUM. %MASS<D50	91.81	90.70	87.49	
CUM. MICROGRAMS/ACM<D50	5.91E+04	5.84E+04	5.63E+04	0.00E+00
CUM. MICROGRAMS/DNCM<D50	1.06E+05	1.04E+05	1.01E+05	0.00E+00
GEOM D50	1.92E+01	5.91E+00	2.22E+00	1.14E-01
DM/DLOGD-(UG/DNM3)	1.48E+04	3.35E+03	7.91E+03	4.76E+04
DN-LOGD/(NUMBER/DNM3)	3.99E+09	3.09E+10	1.38E+12	6.14E+16

COMMENTS ON THE EFFLUENT CHARACTERISTICS---------

COMPONENT NO.	NAME	REMARKS
1	PROBE+10 CYC	ONLY 100MG SAMPLE CUTS GIVEN CHEMICAL ANALYSIS. PARTICULATE WEIGHT CAUGHT BY PROBE IS 75.4 MG & 10 UM CYCLONE IS 13.3 MG

EFFLUENT CHARACTERISTICS SUMMARY----------

COMMENTS ON THE EFFLUENT CHARACTERISTICS---------

COMPONENT NO.	NAME	REMARKS
4	FILTER	ARMAMENT LAB DID ELEMENTAL ANALYSIS AND ROCKWELL DID SULFATE, NITRATE, AND TOTAL CARBON.
4	FILTER	ARMAMENT LAB DID ELEMENTAL ANALYSIS AND ROCKWELL DID SULFATE, NITRATE, AND TOTAL CARBON.

INORGANIC/NON-LEVEL 1 ORGANIC CHEMISTRY DATA SUMMARY

MEG NUMBER	CAS NUMBER	SPECIES PREFERRED NAME COMPONENT NUMBER ANALYTICAL METHOD		COMPONENT NAME	DETECTION LIMITS HIGH	DETECTION LIMITS LOW	UNITS	TOTAL MG RECOVERED	SOURCE CONCENTRATION (UG/M3)
29A100	07440-09-7	POTASSIUM POTASSIUM POTASSIUM METAL 04 NO ANALYTICAL METHOD	XF	FILTER				19.000	2.00E+03
34A100	07440-70-2	CALCIUM CALCIUM METAL 04 NO ANALYTICAL METHOD	XF	FILTER				9.500	<1.03E+03
46A100	07439-92-1	LEAD PLUMBUM 04 NO ANALYTICAL METHOD	XF	FILTER				9.500	<1.03E+03
49A100	07440-38-2	ARSENIC 04 NO ANALYTICAL METHOD	XF	FILTER				24.600	2.70E+03
53A320	14808-79-8	SULFATE ION 04 NO ANALYTICAL METHOD	WC	FILTER				569.000	6.20E+04
68A100	07440-47-3	CHROMIUM 04 NO ANALYTICAL METHOD	XF	FILTER				9.500	<1.03E+03

COMMENTS ON THE CHEMICAL RESULTS----------

COMPONENT NO.	NAME	REMARKS
4	FILTER	CALCIUM, CHROMIUM & LEAD DETECTED AT <1 TO 0.1 PERCENT OF TOTAL FILTER WT.

DATA QUALITY CONTROL CHECKS FOLLOW:
HASH-SERIES = 00005179000
HASH-STREAM = 00000002030
HASH-SOURCE = 00002428462 HASH-E-FAC = 00000000000
HASH-SAMPLE = 00000551585 HASH-PADRE = 00000050962
HASH-TOTAL = 00008161077
C78 = 00008161077

END OF REPORT

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