TA57

Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: March 20, 1995
In Reply Refer To: ESH-18: WQ&H:95-144
Mail Stop: K497
Telephone: 505/665-1859

Roger Anderson
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Jim Piatt, Chief
Surface Water Quality Bureau
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, New Mexico 87502

Dear Messrs. Anderson and Piatt:

SUBJECT: LOS ALAMOS NATIONAL LABORATORY, NOTICE OF INTENT TO DISCHARGE, MILAGRO PROJECT AT FENTON HILL

Enclosed is a Notice of Intent to Discharge (NOI) for the Milagro Project at Fenton Hill. This NOI is being submitted to both the New Mexico Environment Department (NMED) and the Oil Conservation Division pursuant to Section 1-201 of the New Mexico Water Quality Control Commission (WQCC) Regulations. The NOI covers the discharge of 3.5 million gallons of water from a storage pond located at the Fenton Hill Geothermal Site. This water will be applied to the surface of the ground through the use of a temporary sprinkler irrigation system. This will be a one time discharge. Please see the attached NOI, site map, and analytical results for more details.

Please call Alex Puglisi at 667-4882 or Bob Beers at 667-7969 if you need any additional information regarding the attached NOI and the Milagro Project.

Thank you for your attention in this matter.

Sincerely,

Steven Rae
Acting Group Leader
Water Quality and Hydrology Group

AP:SR/em

Attach: a/s

Cy: A. Puglisi, ESH-18, w/att., MS K497
B. Beers, ESH-18, w/o att., MS K497
N. Williams, ESH-18, w/o att., MS K497
M. Saladen, ESH-18, w/o att., MS K497
H. Decker, NMED, w/att., MS J993
G. Sinnis, P-23, w/att., MS H846
J. Albright, EES-4, w/att., MS D443
M. Murray, P-11, w/att., MS H846
M. Leavitt, NMED, w/att., Santa Fe, New Mexico
K. Zamora, DOE/LAAO, w/o att., MS A316
WQ&H File, w/att., MS K497
CRM-4, w/o att., MS A150

3693

NOTICE OF INTENT TO DISCHARGE

1. **Name and address of the facility making the discharge.**

   Los Alamos National Laboratory
   Los Alamos, New Mexico 87545

2. **Location of the discharge (in Township, Range and Section, if available).**

   Fenton Hill Geothermal Site
   Sandoval County, New Mexico
   NE 1/4 Sec. 13, T19N, R2E (New Mexico Principal Meridian)
   1,776,000 N, 374,000 E (New Mexico State Plane grid)

3. **Project description**

   The Milagro collaboration will include installation of a gamma-ray telescope at the 5 million gallon clean water storage reservoir at the Fenton Hill Geothermal Site. Before construction can begin the reservoir must be drained. The Laboratory proposes to drain the pond by applying the water to the surrounding forest. A USGS map with an outline of the area (roughly 40 acres) set aside by the Forest Service for the Milagro project is included. Following is the method we propose to apply this water to the surrounding forest. The Laboratory has chosen this approach to maximize this amount of evaporation, and minimize the effect on the environment. The Forest Service is aware of these plans and has approved it. In addition, the Forest Service has indicated that the Laboratory could use additional area to spray the water if necessary. The reservoir presently contains 4 million gallons of water. The Hot/Dry Rock Program at Fenton Hill will take .75 million gallons of this water to meet its need. Thus, the Milagro Project will apply the remaining 3.25 million gallons of water to the surrounding forest.

4. **The means of discharge (To Lagoon, Flowing Stream, Water Course, Arroyo, Septic Tank, Other).**

   The discharge will be applied to the surface of approximately 40 acres of land within the boundaries of the Santa Fe National Forest. The method of land application is described below.

   1. 4x2" PVC pipes acting as headers to deliver water from reservoir to spray system.
   2. Along each header, at 50' intervals, attach standard backyard garden hoses (25 hoses per header).
   3. At the end of each garden hose attach 1 "rain-bird or fogger" type spray nozzle. The nozzles will be set to maximum fog (to maximize the evaporation rate) and spray at 2 gallons per minute (gpm).
   4. To maximize evaporation the nozzles will be placed on posts 6' off of the ground.
   5. The total rate of application will be 200 gpm.
   6. The total area of application will be 40 acres.
   7. To maximize evaporation and aid monitoring the spraying operation will only take place during the day. No spraying will occur at night and application will be postponed during storm events to prevent runoff.
   8. The application site will be monitored throughout periods of application. If pooling, ponding, or runoff does occur, the offending sprayers will be turned off.
   9. Application sites and application rates will be chosen so as to prevent any runoff into adjacent watercourses.

   The 3.25 million gallons of water is roughly equal to 10 acre-feet of water. Since water is being applied to 40 acres of land, the Laboratory will be applying approximately 3.0" of water to the land over a 30 day period (minus any evaporation). If we assume that 1/3 of the water evaporates, this application process is equivalent to 2" of rain fall over a 1 month time period. This application rate should be sufficiently low enough to prevent pooling or ponding.

5. **The estimated concentration of contaminants in the discharge.**

See attached Analytical Results for Metals, Volatile Organic Compounds, Semi-Volatile Organic Compounds, Anions/Catrons, and Nutrients.

6. **The type of operation from which the discharge is derived.**

Geothermal Research and Development. Water from recovery well at the site mixed with fresh water from production well.

7. **The estimated flow to be discharged per day.**

Approximately 100,000 gallons per day. Total volume of water discharged is expected to be approximately 3.25 million gallons.

8. **The estimated depth to ground water (if available).**

The depth to the top of the aquifer at the site is about 370 ft (113m). Water level measurements in observation wells in the immediate area of the site indicate that the water table is near flat.

Signed Steven Rae **Date** 3-20-95

Steven Rae, Acting Group Leader (ESH-18)

MILAGRO PROJECT: 1995 PRE-AMPLIC [illegible]
POND-WATER SAMPLES

FENTON HILL SAMPLES
2/8/95

1.) Taken at pump house on North side of pond.

FENTON 1	total metals: TAL + Lithium
FENTON 2	dissolved metals (filtered)
FENTON 3	SVOA
FENTON 4	boron
FENTON 5	868 - anions/cations
FENTON 6	869 - nutrients
FENTON 7	VOA

2.) Taken at sump on West side of pond.

FENTON 2A	SVOA
FENTON 2B	boron
FENTON 2C	total metals: TAL + Lithium
FENTON 2D	dissolved metals (filtered)
FENTON 2E	868 - anions/cations
FENTON 2F	869 - nutrients

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

To: Alex Puglisi, CST-3

Date: March 17, 1995

From: Toney Begay, CST-9

Mail Stop/Phone: E518/7-6011

Thru: Steve Doom, Team Leader, CST-9

Subject: Arsenic analysis summary - RN21289

Due to inconsistencies of the previous arsenic data for request number, 21289, these samples were re-analyzed. The results obtained from the re-analysis were more consistent. Attached is the final report (number 32962) for these arsenic values.

Per our telephone conversation yesterday, the other inorganic results were fine and therefore no re-analysis was necessary.

This closes this request. I am sorry for this delay and the inconvenience it caused. Please feel free to call me again at any time.

Regards,

Toney Begay

Toney Begay, CST-9

REPORT NUMBER: 32962

********** CST ANALYTICAL REPORT **********

Prepared by: TONEY on 17-Mar-1995

REQUEST NUMBER: 21289 MATRIX: W ANALYST: AAS PROGRAM CODE: E250

OWNER: AP GROUP: MAIL-STOP: PHONE:

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.1	95.03089	AS	ETVAA	4.4	0.9	MG/L	3/17/95	REANALYSIS
FENTON.2C	95.03090	AS	ETVAA	4.2	0.8	MG/L	3/17/95	REANALYSIS
FENTON.2	95.03091	AS	ETVAA	4.	0.8	MG/L	3/17/95	REANALYSIS
FENTON.2D	95.03092	AS	ETVAA	4.	0.8	MG/L	3/17/95	REANALYSIS

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REPORT NUMBER: 32399

********** CST ANALYTICAL REPORT **********

Prepared by: MAB on 28-Feb-1995

REQUEST NUMBER: 21289 MATRIX: W ANALYST: AAS PROGRAM CODE: E250

OWNER: AP GROUP: MAIL-STOP: PHONE:

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.1	95.03089	AS	ETVAA	3200.	640.	UG/L	2/23/95	
FENTON.1	95.03089	HG	CVAA	< 0.2		UG/L	2/22/95	
FENTON.1	95.03089	SE	ETVAA	< 1.		UG/L	2/14/95	
FENTON.2C	95.03090	AS	ETVAA	3500.	700.	UG/L	2/23/95	
FENTON.2C	95.03090	HG	CVAA	< 0.2		UG/L	2/22/95	
FENTON.2C	95.03090	SE	ETVAA	< 1.		UG/L	2/14/95	
FENTON.2	95.03091	AS	ETVAA	3200.	640.	UG/L	2/23/95	
FENTON.2	95.03091	HG	CVAA	< 0.2		UG/L	2/22/95	
FENTON.2	95.03091	SE	ETVAA	< 1.		UG/L	2/14/95	
FENTON.2D	95.03092	AS	ETVAA	4500.	900.	UG/L	2/28/95	
FENTON.2D	95.03092	HG	CVAA	< 0.2		UG/L	2/22/95	
FENTON.2D	95.03092	SE	ETVAA	< 1.		UG/L	2/14/95	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.1	95.03089	AS	ETVAA	3200.	640.	UG/L	2/23/95	
FENTON.1	95.03089	HG	CVAA	0.2	0.2	UG/L	2/22/95	

MATRIX SPIKES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
FENTON.1	95.03089	HG	CVAA	2.	1.7	UG/L	2/22/95	

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REPORT NUMBER: 32359

********** CST ANALYTICAL REPORT **********

Prepared by: MKOBY on 27-Feb-1995

REQUEST NUMBER: 21289 MATRIX: W ANALYST: IMS PROGRAM CODE: E250

OWNER: AP GROUP: MAIL-STOP: PHONE:

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.1	95.03089	LI	ICPMS	19.5	3.6	MG/L	2/27/95	
FENTON.1	95.03089	U	ICPMS	< 2.		UG/L	2/27/95	
FENTON.2C	95.03090	LI	ICPMS	19.6	2.6	MG/L	2/27/95	
FENTON.2C	95.03090	U	ICPMS	< 2.		UG/L	2/27/95	
FENTON.2	95.03091	U	ICPMS	< 2.		UG/L	2/27/95	
FENTON.2D	95.03092	U	ICPMS	< 2.		UG/L	2/27/95	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.5	95.03102	LI	ICPMS	25.6	4.4	MG/L	2/27/95	
FENTON.5	95.03102	LI	ICPMS	23.3	4.4	MG/L	2/27/95	
FENTON.5	95.03102	U	ICPMS	< 2.		UG/L	2/27/95	
FENTON.5	95.03102	U	ICPMS	< 2.		UG/L	2/27/95	

MATRIX SPIKES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
FENTON.5	95.03102	U	ICPMS	11.	12.	UG/L	2/27/95	

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REPORT NUMBER: 32346

********** CST ANALYTICAL REPORT **********

Prepared by: KATHY STRAW on 27-Feb-1995

REQUEST NUMBER: 21289 MATRIX: W ANALYST: WET PROGRAM CODE: E250

OWNER: AP GROUP: MAIL-STOP: PHONE:

NOTEBOOK: A001307 PAGE: 128

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.5	95.03102	CL	IC	1.3	0.1	G/L	2/15/95	
FENTON.5	95.03102	COD	COLOR	55.	11.	MG/L	2/24/95	
FENTON.5	95.03102	COND	CB	4500.	225.	UMHOS/CM	2/23/95	
FENTON.5	95.03102	F	ISE	7.51	0.75	MG/L	2/27/95	
FENTON.5	95.03102	PALK	TITR	45.	5.	MG/L	2/27/95	
FENTON.5	95.03102	PH	GE	8.08	0.1	UNITS	2/23/95	
FENTON.5	95.03102	SO4	IC	239.	24.	MG/L	2/15/95	
FENTON.5	95.03102	TALK	TITR	472.	47.	MG/L	2/27/95	
FENTON.5	95.03102	TDS	GRAV	3.3	0.3	G/L	2/23/95	
FENTON.5	95.03102	TSS	GRAV	15.	1.	MG/L	2/23/95	
FENTON.2E	95.03104	CL	IC	1.3	0.1	G/L	2/15/95	
FENTON.2E	95.03104	COD	COLOR	39.	10.	MG/L	2/24/95	
FENTON.2E	95.03104	COND	CB	4480.	224.	UMHOS/CM	2/23/95	
FENTON.2E	95.03104	F	ISE	7.54	0.75	MG/L	2/27/95	
FENTON.2E	95.03104	PALK	TITR	18.	5.	MG/L	2/27/95	
FENTON.2E	95.03104	PH	GE	8.11	0.1	UNITS	2/23/95	
FENTON.2E	95.03104	SO4	IC	238.	24.	MG/L	2/15/95	
FENTON.2E	95.03104	TALK	TITR	466.	47.	MG/L	2/27/95	
FENTON.2E	95.03104	TDS	GRAV	3.2	0.3	G/L	2/23/95	
FENTON.2E	95.03104	TSS	GRAV	< 1.		MG/L	2/23/95	
FENTON.6	95.03105	NH3-N	FIA	< 0.01		MG/L	2/22/95	
FENTON.6	95.03105	NO2-N	FIA	< 0.02		MG/L	2/23/95	
FENTON.6	95.03105	NO3-N	FIA	0.06	0.04	MG/L	2/23/95	
FENTON.6	95.03105	PO4-P	ACOLR	1.4	0.3	MG/L	2/23/95	
FENTON.6	95.03105	TKN	ACOLR	0.36	0.04	MG/L	2/23/95	
FENTON.2F	95.03106	NH3-N	FIA	< 0.01		MG/L	2/22/95	
FENTON.2F	95.03106	NO2-N	FIA	< 0.02		MG/L	2/23/95	
FENTON.2F	95.03106	NO3-N	FIA	0.1	0.04	MG/L	2/23/95	
FENTON.2F	95.03106	PO4-P	ACOLR	1.3	0.3	MG/L	2/23/95	
FENTON.2F	95.03106	TKN	ACOLR	0.28	0.03	MG/L	2/23/95	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT

FENTON.5	95.03102 F	ISE	7.31	0.73	MG/L	2/27/95
FENTON.2E	95.03104 F	ISE	6.58	0.66	MG/L	2/27/95

REPORT NUMBER: 32457

********** CST ANALYTICAL REPORT **********

Prepared by: MBG on 1-Mar-1995

REQUEST NUMBER: 21289 MATRIX: W ANALYST: OES PROGRAM CODE: E250

OWNER: AP GROUP: MAIL-STOP: PHONE:

NOTEBOOK: Y04156 PAGE: 280

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.1	95.03089	AG	ICPES	< 0.012		MG/L	2/13/95	
FENTON.1	95.03089	AL	ICPES	< 0.1		MG/L	2/13/95	
FENTON.1	95.03089	BA	ICPES	0.18	0.004	MG/L	2/13/95	
FENTON.1	95.03089	CD	ICPES	< 0.003		MG/L	2/13/95	
FENTON.1	95.03089	CO	ICPES	< 0.004		MG/L	2/13/95	
FENTON.1	95.03089	CR	ICPES	< 0.004		MG/L	2/13/95	
FENTON.1	95.03089	CU	ICPES	1.8	0.2	MG/L	2/13/95	
FENTON.1	95.03089	FE	ICPES	1.6	0.2	MG/L	2/13/95	
FENTON.1	95.03089	MN	ICPES	0.069	0.007	MG/L	2/13/95	
FENTON.1	95.03089	MO	ICPES	0.02	0.01	MG/L	2/13/95	
FENTON.1	95.03089	NI	ICPES	< 0.01		MG/L	2/13/95	
FENTON.1	95.03089	PB	ICPES	0.17	0.13	MG/L	2/13/95	
FENTON.1	95.03089	V	ICPES	0.007	0.006	MG/L	2/13/95	
FENTON.1	95.03089	ZN	ICPES	0.26	0.03	MG/L	2/13/95	
FENTON.2C	95.03090	AG	ICPES	0.027	0.012	MG/L	2/13/95	
FENTON.2C	95.03090	AL	ICPES	< 0.1		MG/L	2/14/95	
FENTON.2C	95.03090	BA	ICPES	0.17	0.02	MG/L	2/13/95	
FENTON.2C	95.03090	CD	ICPES	< 0.003		MG/L	2/13/95	
FENTON.2C	95.03090	CO	ICPES	< 0.004		MG/L	2/13/95	
FENTON.2C	95.03090	CR	ICPES	< 0.004		MG/L	2/13/95	
FENTON.2C	95.03090	CU	ICPES	< 0.009		MG/L	2/13/95	
FENTON.2C	95.03090	FE	ICPES	1.	0.1	MG/L	2/13/95	
FENTON.2C	95.03090	MN	ICPES	0.065	0.007	MG/L	2/13/95	
FENTON.2C	95.03090	MO	ICPES	0.026	0.015	MG/L	2/13/95	
FENTON.2C	95.03090	NI	ICPES	< 0.01		MG/L	2/13/95	
FENTON.2C	95.03090	PB	ICPES	< 0.03		MG/L	2/13/95	
FENTON.2C	95.03090	V	ICPES	< 0.008		MG/L	2/13/95	
FENTON.2C	95.03090	ZN	ICPES	0.15	0.02	MG/L	2/13/95	
FENTON.2	95.03091	AG	ICPES	0.043	0.012	MG/L	2/14/95	
FENTON.2	95.03091	AL	ICPES	< 0.1		MG/L	2/14/95	
FENTON.2	95.03091	BA	ICPES	0.16	0.02	MG/L	2/14/95	
FENTON.2	95.03091	CD	ICPES	< 0.003		MG/L	2/14/95	
FENTON.2	95.03091	CO	ICPES	< 0.004		MG/L	2/14/95	
FENTON.2	95.03091	CR	ICPES	< 0.004		MG/L	2/14/95	
FENTON.2	95.03091	CU	ICPES	0.12	0.03	MG/L	2/14/95	
FENTON.2	95.03091	FE	ICPES	1.	0.1	MG/L	2/14/95	
FENTON.2	95.03091	MN	ICPES	0.059	0.006	MG/L	2/14/95	

FENTON.2	95.03091	MO	ICPES	0.025	0.015	MG/L	2/14/95
FENTON.2	95.03091	NI	ICPES	< 0.01		MG/L	2/14/95
FENTON.2	95.03091	PB	ICPES	< 0.03		MG/L	2/14/95
FENTON.2	95.03091	V	ICPES	< 0.01		MG/L	2/14/95
FENTON.2	95.03091	ZN	ICPES	< 0.02		MG/L	2/14/95
FENTON.2D	95.03092	AG	ICPES	0.041	0.012	MG/L	2/14/95
FENTON.2D	95.03092	AL	ICPES	< 0.1		MG/L	2/14/95
FENTON.2D	95.03092	BA	ICPES	0.16	0.02	MG/L	2/14/95
FENTON.2D	95.03092	CD	ICPES	< 0.003		MG/L	2/14/95
FENTON.2D	95.03092	CO	ICPES	< 0.004		MG/L	2/14/95
FENTON.2D	95.03092	CR	ICPES	< 0.004		MG/L	2/14/95
FENTON.2D	95.03092	CU	ICPES	< 0.017		MG/L	2/14/95
FENTON.2D	95.03092	FE	ICPES	0.99	0.1	MG/L	2/14/95
FENTON.2D	95.03092	MN	ICPES	0.064	0.006	MG/L	2/14/95
FENTON.2D	95.03092	MO	ICPES	0.024	0.015	MG/L	2/14/95
FENTON.2D	95.03092	NI	ICPES	< 0.01		MG/L	2/14/95
FENTON.2D	95.03092	PB	ICPES	< 0.03		MG/L	2/14/95
FENTON.2D	95.03092	V	ICPES	< 0.01		MG/L	2/14/95
FENTON.2D	95.03092	ZN	ICPES	0.045	0.02	MG/L	2/14/95
FENTON.4	95.03093	B	ICPES	36.	6.	MG/L	2/14/95
FENTON.2B	95.03099	B	ICPES	38.	6.	MG/L	2/14/95
FENTON.5	95.03102	CA	ICPES	32.	3.	MG/L	2/14/95
FENTON.5	95.03102	HARD	CALC	96.	10.	MG/L	2/14/95
FENTON.5	95.03102	K	ICPES	97.	15.	MG/L	2/14/95
FENTON.5	95.03102	MG	ICPES	4.2	0.4	MG/L	2/14/95
FENTON.5	95.03102	NA	ICPES	1000.	100.	MG/L	2/14/95
FENTON.2E	95.03104	CA	ICPES	31.	5.	MG/L	2/14/95
FENTON.2E	95.03104	HARD	CALC	93.	10.	MG/L	2/14/95
FENTON.2E	95.03104	K	ICPES	87.	13.	MG/L	2/14/95
FENTON.2E	95.03104	MG	ICPES	4.	0.5	MG/L	2/14/95
FENTON.2E	95.03104	NA	ICPES	950.	95.	MG/L	2/14/95

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
FENTON.5	95.03102	CA	CALC	32.	3.	MG/L	2/14/95	
FENTON.5	95.03102	HARD	CALC	96.	10.	MG/L	2/14/95	
FENTON.5	95.03102	K	CALC	95.	15.	MG/L	2/14/95	
FENTON.5	95.03102	MG	CALC	4.2	0.4	MG/L	2/14/95	
FENTON.5	95.03102	NA	CALC	1000.	100.	MG/L	2/14/95	

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Fenton Hill
Mudaro Project
2/20/95
Volatiles

CST-12 VOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

TO: Alex A. Puglisi **DATE:** 14-Feb-95
THRU: Anthony Lombardo, CST-12 Organic Analysis Team Leader
FROM: Michael Guttman, CST-12 Organic Analysis Section MG 2/14/95

MATRIX: WATER **REQUEST NUMBER:** 21286

Results Summary
Attached is a tabulation of samples submitted for volatiles analysis and their analytical results (Table 1). The samples were collected on 8-Feb-95 and were analyzed on 10-Feb-95.

Method Summary
Samples were analyzed using EPA Method 8260. In summary, a measured volume of sample, usually 5 mL, is analyzed using the purge and trap method combined with capillary column GC/MS. A Delta Perspective PTA-30 Autosampler and a Tekmar 3000 Purge and Trap Concentrator are interfaced to a Hewlett-Packard 5890 Gas Chromatograph / 5971 Mass Selective Detector to perform the analyses. The analytical column used is a J&W Scientific DB624, 75 m by 0.53 mm ID, 3 micron film or equivalent.

Anomalies And Analysis Notes
Below is a summary of QA/QC criteria as outlined in EPA SW-846 and LANL SOPs and a summary of any anomalies which occured during the analyses.

Calibration QC were within criteria for all analyses.
Surrogate recoveries were within criteria for all analyses.
Internal standard responses were within criteria for all analyses.

Matrix spike and matrix spike duplicate were analyzed as part of the analytical batch which included the samples from this work request. All spike recoveries and relative percent differences were within criteria. A copy of the MS/MSD recovery form is included with this report.

Holding times were met for all sample analyses.

If you have any questions regarding this data, please call Anthony Lombardo at 667-5889.

CST-12 VOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

Table 1. Summary of results of sample analyses for volatiles.

REQUEST NUMBER: 21286

SAMPLE ID	TARGET COMPOUNDS FOUND	AMOUNT (ug/L)	LOQ (ug/L)	TICs
B95.03081	None			N
S95.03080	Acetone	55	20	Y
	2-Butanone	20	20	
	Bromoform	6.8	5	

Sample IDs beginning with the letter S are samples: those beginning with the letter B are blanks.

LOQ: Limit of quantitation. LOQs normally range between 5 and 20ug/L depending on the compound, unless otherwise noted.

TICs: Tentatively identified compounds.

NA: Not applicable.

MB
2/17/95

3A

WATER VOLAT MATRIX SPIKE.MATRIX SPIKE DUPLIC E RECOVERY

Lab Name: LANL CST-12 Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix Spike - Sample No.: S9501987

m/z
2/14/95

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1 1-Dichloroethene	50	0	49	98	(61-145)
Benzene	50	0	50	100	(76-127)
Trichloroethene	50	0	48	96	(71-120)
Toluene	50	0	49	98	(76-125)
Chlorobenzene	50	0	48	96	(75-130)

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MS % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethene	50	49	98	0	14	(61-145)
Benzene	50	52	104	4	11	(76-127)
Trichloroethene	50	49	98	2	14	(71-120)
Toluene	50	50	100	2	13	(76-125)
Chlorobenzene	50	51	102	6	13	(75-130)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Comments: _____

********** CST ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LCO on 15-Feb-1995

REQUEST NUMBER: 21286 MATRIX: W ANALYST: MICHAEL GUTTMAN PROGRAM CODE: E250 NOTEBOOK: PAGE:

OWNER: AP GROUP: MAIL-STOP: PHONE: TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 95.03080 Date Collected: 2/08/95 Date Received: 2/09/95 Date Extracted: 2/10/95 Date Analyzed: 2/10/95

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.7	95.03080	67641	55.	16.5	UG/L	2/15/95	N	Acetone
FENTON.7	95.03080	71432	< 5.		UG/L	2/15/95	N	Benzene
FENTON.7	95.03080	108861	< 5.		UG/L	2/15/95	N	Bromobenzene
FENTON.7	95.03080	74975	< 5.		UG/L	2/15/95	N	Bromochloromethane
FENTON.7	95.03080	75274	< 5.		UG/L	2/15/95	N	Bromodichloromethane
FENTON.7	95.03080	75252	6.8	2.04	UG/L	2/15/95	N	Bromoform
FENTON.7	95.03080	74839	< 10.		UG/L	2/15/95	N	Bromomethane
FENTON.7	95.03080	78933	20.	6.	UG/L	2/15/95	N	2-Butanone
FENTON.7	95.03080	104518	< 5.		UG/L	2/15/95	N	n-Butylbenzene
FENTON.7	95.03080	135988	< 5.		UG/L	2/15/95	N	sec-Butylbenzene
FENTON.7	95.03080	98066	< 5.		UG/L	2/15/95	N	tert-Butylbenzene
FENTON.7	95.03080	75150	< 5.		UG/L	2/15/95	N	Carbon disulfide
FENTON.7	95.03080	56235	< 5.		UG/L	2/15/95	N	Carbon tetrachloride
FENTON.7	95.03080	108907	< 5.		UG/L	2/15/95	N	Chlorobenzene
FENTON.7	95.03080	124481	< 5.		UG/L	2/15/95	N	Chlorodibromomethane
FENTON.7	95.03080	75003	< 10.		UG/L	2/15/95	N	Chloroethane
FENTON.7	95.03080	67663	< 5.		UG/L	2/15/95	N	Chloroform
FENTON.7	95.03080	74873	< 10.		UG/L	2/15/95	N	Chloromethane
FENTON.7	95.03080	95498	< 5.		UG/L	2/15/95	N	o-Chlorotoluene
FENTON.7	95.03080	106434	< 5.		UG/L	2/15/95	N	p-Chlorotoluene
FENTON.7	95.03080	96128	< 10.		UG/L	2/15/95	N	1,2-Dibromo-3-chloropropane
FENTON.7	95.03080	74953	< 5.		UG/L	2/15/95	N	Dibromomethane
FENTON.7	95.03080	95501	< 5.		UG/L	2/15/95	N	o-Dichlorobenzene (1,2)
FENTON.7	95.03080	541731	< 5.		UG/L	2/15/95	N	m-Dichlorobenzene (1,3)
FENTON.7	95.03080	106467	< 5.		UG/L	2/15/95	N	p-Dichlorobenzene (1,4)
FENTON.7	95.03080	75718	< 10.		UG/L	2/15/95	N	Dichlorodifluoromethane

********** CST ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.7	95.03080	75343	< 5.		UG/L	2/15/95	N	1,1-Dichloroethane
FENTON.7	95.03080	107062	< 5.		UG/L	2/15/95	N	1,2-Dichloroethane
FENTON.7	95.03080	75354	< 5.		UG/L	2/15/95	N	1,1-Dichloroethene
FENTON.7	95.03080	156605	< 5.		UG/L	2/15/95	N	trans-1,2-Dichloroethene
FENTON.7	95.03080	156592	< 5.		UG/L	2/15/95	N	cis-1,2-Dichloroethylene
FENTON.7	95.03080	78875	< 5.		UG/L	2/15/95	N	1,2-Dichloropropane
FENTON.7	95.03080	142289	< 5.		UG/L	2/15/95	N	1,3-Dichloropropane
FENTON.7	95.03080	594207	< 5.		UG/L	2/15/95	N	2,2-Dichloropropane
FENTON.7	95.03080	563586	< 5.		UG/L	2/15/95	N	1,1-Dichloropropene
FENTON.7	95.03080	10061015	< 5.		UG/L	2/15/95	N	cis-1,3-Dichloropropene
FENTON.7	95.03080	10061026	< 5.		UG/L	2/15/95	N	trans-1,3-Dichloropropene
FENTON.7	95.03080	100414	< 5.		UG/L	2/15/95	N	Ethylbenzene
FENTON.7	95.03080	106934	< 5.		UG/L	2/15/95	N	Ethylene dibromide
FENTON.7	95.03080	591786	< 20.		UG/L	2/15/95	N	2-Hexanone
FENTON.7	95.03080	98828	< 5.		UG/L	2/15/95	N	Isopropylbenzene
FENTON.7	95.03080	99876	< 5.		UG/L	2/15/95	N	4-Isopropyltoluene
FENTON.7	95.03080	74884	< 5.		UG/L	2/15/95	N	Methyl iodide
FENTON.7	95.03080	108101	< 20.		UG/L	2/15/95	N	4-Methyl-2-pentanone
FENTON.7	95.03080	75092	< 5.		UG/L	2/15/95	N	Methylene chloride
FENTON.7	95.03080	103651	< 5.		UG/L	2/15/95	N	Propylbenzene
FENTON.7	95.03080	100425	< 5.		UG/L	2/15/95	N	Styrene
FENTON.7	95.03080	630206	< 5.		UG/L	2/15/95	N	1,1,1,2-Tetrachloroethane
FENTON.7	95.03080	79345	< 5.		UG/L	2/15/95	N	1,1,2,2-Tetrachloroethane
FENTON.7	95.03080	127184	< 5.		UG/L	2/15/95	N	Tetrachloroethylene
FENTON.7	95.03080	108883	< 5.		UG/L	2/15/95	N	Toluene
FENTON.7	95.03080	76131	< 5.		UG/L	2/15/95	N	1,1,2-Trichloro-1,2,2-trifluoroethane
FENTON.7	95.03080	71556	< 5.		UG/L	2/15/95	N	1,1,1-Trichloroethane
FENTON.7	95.03080	79005	< 5.		UG/L	2/15/95	N	1,1,2-Trichloroethane
FENTON.7	95.03080	79016	< 5.		UG/L	2/15/95	N	Trichloroethene
FENTON.7	95.03080	75694	< 5.		UG/L	2/15/95	N	Trichlorofluoromethane
FENTON.7	95.03080	96184	< 5.		UG/L	2/15/95	N	1,2,3-Trichloropropane
FENTON.7	95.03080	95636	< 5.		UG/L	2/15/95	N	1,2,4-Trimethylbenzene
FENTON.7	95.03080	108678	< 5.		UG/L	2/15/95	N	1,3,5-Trimethylbenzene
FENTON.7	95.03080	75014	< 10.		UG/L	2/15/95	N	Vinyl chloride
FENTON.7	95.03080	1330207	< 5.		UG/L	2/15/95	N	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 95.03080

none

CST-12 SEMIVOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

TO: Alex A. Puglisi
FROM: Anthony Lombardo, CST-12 Organic section TL 3/2/95

REQUEST NUMBER: 21286
MATRIX: Water
SUMMARY DATE: March 1, 1995

1. Results Summary

Two samples were received for semivolatile analysis. Samples were collected on February 8, 1995. Sample extraction was started on February 13, 1995. Samples were analyzed on February 24, 1995. All hold times were met. Below is a tabulation of the analytical results:

SAMPLE ID	TARGET COMPOUNDS FOUND	AMOUNT (ug/L)	LOQ (ug/L)	TICs
95.03085 (Blank)	Di-n-butyl-phthalate	11	10	N
95.03083	Di-n-butyl-phthalate	11(1)	10	N
95.03084	Di-n-butyl-phthalate	13(1)	10	N

LOQ: Limit Of Quantitation. LOQ for most compounds is 10 ug/L, but is 20 ug/L or 50 ug/L for some compounds. See final report for specific compound detection limits.
TICs: Tentatively identified compounds
(1): Amount was not significantly higher than amount found in the blank.

Non-target peaks were not identified or quantitated for this request. Further TIC information can be provided at customer request.

2. Method Summary

Samples were extracted by continuous liquid-liquid extraction method. A measured volume of sample, usually 1 liter, is placed in a continuous liquid-liquid extractor. pH is adjusted to >11 (base-neutral extraction) and the sample is extracted for 18 to 24 hours. The sample pH is then adjusted to <2 (acid extraction) and methylene chloride extraction is repeated for an additional 18 to 24 hours. Sample extracts were then combined, dried and concentrated to 1.0 ml final volume. Appropriate surrogate standards were added prior to extraction. Analysis was performed by capillary column GC/MS methods. Extraction and analysis methods are consistent with EPA SW-846 methods 3520 and 8270. Analytical column used was a J&W Scientific DB5-MS 30M by 0.25 mm ID, 0.25 micron film or equivalent.

3. Anomalies and analysis notes.

3/2/95

Sample analyses met all QA/QC criteria as outlined in EPA-SW846 methods and LANL SOPs, except where noted below.

Di-n-butylphthalate was seen in the blank at 11 ug/L. This compound is considered a common contaminant and is allowed in blanks at up to five times the LOQ. Amount of Di-n-butylphthalate found in the samples was not significantly higher than the amount found in the blank and can be attributed to laboratory contamination.

Surrogate recoveries were within EPA criteria for all analyses. Internal standard responses were within criteria for all analyses. All hold times were met.

If you have any question regarding this data, please call Anthony Lombardo at 667-5889.

********** CST ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: JDT on 2-Mar-1995

REQUEST NUMBER: 21286 MATRIX: W ANALYST: ANTHONY LOMBARDO PROGRAM CODE: E250 NOTEBOOK: CST9004 PAGE: 85

OWNER: AP GROUP: MAIL-STOP: PHONE: TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 95.03083 Date Collected: 2/08/95 Date Received: 2/09/95 Date Extracted: 2/13/95 Date Analyzed: 2/24/95

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.3	95.03083	83329	< 10.		UG/L	3/02/95		Acenaphthene
FENTON.3	95.03083	208968	< 10.		UG/L	3/02/95		Acenaphthylene
FENTON.3	95.03083	62533	< 10.		UG/L	3/02/95		Aniline
FENTON.3	95.03083	120127	< 10.		UG/L	3/02/95		Anthracene
FENTON.3	95.03083	103333	< 10.		UG/L	3/02/95		Azobenzene
FENTON.3	95.03083	92875	< 50.		UG/L	3/02/95		m-Benzidine
FENTON.3	95.03083	56553	< 10.		UG/L	3/02/95		Benzo[a]anthracene
FENTON.3	95.03083	50328	< 10.		UG/L	3/02/95		Benzo[a]pyrene
FENTON.3	95.03083	205992	< 10.		UG/L	3/02/95		Benzo[b]fluoranthene
FENTON.3	95.03083	191242	< 10.		UG/L	3/02/95		Benzo[g,h,i]perylene
FENTON.3	95.03083	207089	< 10.		UG/L	3/02/95		Benzo[k]fluoranthene
FENTON.3	95.03083	65850	< 50.		UG/L	3/02/95		Benzoic acid
FENTON.3	95.03083	100516	< 10.		UG/L	3/02/95		Benzyl alcohol
FENTON.3	95.03083	111911	< 10.		UG/L	3/02/95		Bis(2-chloroethoxy)methane
FENTON.3	95.03083	111444	< 10.		UG/L	3/02/95		Bis(2-chloroethyl)ether
FENTON.3	95.03083	108601	< 10.		UG/L	3/02/95		Bis(2-chloroisopropyl)ether
FENTON.3	95.03083	117817	< 10.		UG/L	3/02/95		Bis(2-ethylhexyl)phthalate
FENTON.3	95.03083	101553	< 10.		UG/L	3/02/95		4-Bromophenylphenyl ether
FENTON.3	95.03083	85687	< 10.		UG/L	3/02/95		Butyl benzyl phthalate
FENTON.3	95.03083	59507	< 10.		UG/L	3/02/95		4-Chloro-3-methylphenol
FENTON.3	95.03083	106478	< 10.		UG/L	3/02/95		4-Chloroaniline
FENTON.3	95.03083	91587	< 10.		UG/L	3/02/95		2-Chloronaphthalene
FENTON.3	95.03083	95578	< 10.		UG/L	3/02/95		o-Chlorophenol
FENTON.3	95.03083	7005723	< 10.		UG/L	3/02/95		4-Chlorophenylphenyl ether
FENTON.3	95.03083	218019	< 10.		UG/L	3/02/95		Chrysene
FENTON.3	95.03083	84742	11.	3.3	UG/L	3/02/95		Di-n-butyl phthalate

********** CST ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.3	95.03083	117840	< 10.		UG/L	3/02/95		Di-n-octyl phthalate
FENTON.3	95.03083	53703	< 10.		UG/L	3/02/95		Dibenzo[a,h]anthracene
FENTON.3	95.03083	132649	< 10.		UG/L	3/02/95		Dibenzofuran
FENTON.3	95.03083	95501	< 10.		UG/L	3/02/95		o-Dichlorobenzene (1,2)
FENTON.3	95.03083	541731	< 10.		UG/L	3/02/95		m-Dichlorobenzene (1,3)
FENTON.3	95.03083	106467	< 10.		UG/L	3/02/95		p-Dichlorobenzene (1,4)
FENTON.3	95.03083	91941	< 20.		UG/L	3/02/95		3,3'-Dichlorobenzidine
FENTON.3	95.03083	120832	< 10.		UG/L	3/02/95		2,4-Dichlorophenol
FENTON.3	95.03083	84662	< 10.		UG/L	3/02/95		Diethyl phthalate
FENTON.3	95.03083	131113	< 10.		UG/L	3/02/95		Dimethyl phthalate
FENTON.3	95.03083	105679	< 10.		UG/L	3/02/95		2,4-Dimethylphenol
FENTON.3	95.03083	51285	< 50.		UG/L	3/02/95		2,4-Dinitrophenol
FENTON.3	95.03083	121142	< 10.		UG/L	3/02/95		2,4-Dinitrotoluene
FENTON.3	95.03083	606202	< 10.		UG/L	3/02/95		2,6-Dinitrotoluene
FENTON.3	95.03083	206440	< 10.		UG/L	3/02/95		Fluoranthene
FENTON.3	95.03083	86737	< 10.		UG/L	3/02/95		Fluorene
FENTON.3	95.03083	118741	< 10.		UG/L	3/02/95		Hexachlorobenzene
FENTON.3	95.03083	87683	< 50.		UG/L	3/02/95		Hexachlorobutadiene
FENTON.3	95.03083	77474	< 10.		UG/L	3/02/95		Hexachlorocyclopentadiene
FENTON.3	95.03083	67721	< 10.		UG/L	3/02/95		Hexachloroethane
FENTON.3	95.03083	193395	< 10.		UG/L	3/02/95		Indeno[1,2,3-cd]pyrene
FENTON.3	95.03083	78591	< 10.		UG/L	3/02/95		Isophorone
FENTON.3	95.03083	534521	< 50.		UG/L	3/02/95		2-Methyl-4,6-dinitrophenol
FENTON.3	95.03083	91576	< 10.		UG/L	3/02/95		2-Methylnaphthalene
FENTON.3	95.03083	95487	< 10.		UG/L	3/02/95		2-Methylphenol
FENTON.3	95.03083	106445	< 10.		UG/L	3/02/95		4-Methylphenol
FENTON.3	95.03083	91203	< 10.		UG/L	3/02/95		Naphthalene
FENTON.3	95.03083	88744	< 20.		UG/L	3/02/95		2-Nitroaniline
FENTON.3	95.03083	99092	< 20.		UG/L	3/02/95		3-Nitroaniline
FENTON.3	95.03083	100016	< 20.		UG/L	3/02/95		4-Nitroaniline
FENTON.3	95.03083	98953	< 10.		UG/L	3/02/95		Nitrobenzene
FENTON.3	95.03083	88755	< 10.		UG/L	3/02/95		2-Nitrophenol
FENTON.3	95.03083	100027	< 50.		UG/L	3/02/95		4-Nitrophenol
FENTON.3	95.03083	621647	< 10.		UG/L	3/02/95		N-Nitrosodi-n-propylamine
FENTON.3	95.03083	62759	< 10.		UG/L	3/02/95		N-Nitrosodimethylamine
FENTON.3	95.03083	86306	< 10.		UG/L	3/02/95		N-Nitrosodiphenylamine

********** CST ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.3	95.03083	87865	< 50.		UG/L	3/02/95		Pentachlorophenol
FENTON.3	95.03083	85018	< 10.		UG/L	3/02/95		Phenanthrene
FENTON.3	95.03083	108952	< 10.		UG/L	3/02/95		Phenol
FENTON.3	95.03083	129000	< 10.		UG/L	3/02/95		Pyrene
FENTON.3	95.03083	120821	< 10.		UG/L	3/02/95		1,2,4-Trichlorobenzene
FENTON.3	95.03083	95954	< 10.		UG/L	3/02/95		2,4,5-Trichlorophenol
FENTON.3	95.03083	88062	< 10.		UG/L	3/02/95		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 95.03083

none

********** CST ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: JDT on 2-Mar-1995

REQUEST NUMBER: 21286 MATRIX: W ANALYST: ANTHONY LOMBARDO PROGRAM CODE: E250 NOTEBOOK: CST9004 PAGE: 85

OWNER: AP GROUP: MAIL-STOP: PHONE: TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 95.03084 Date Collected: 2/08/95 Date Received: 2/09/95 Date Extracted: 2/13/95 Date Analyzed: 2/24/95

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.2A	95.03084	83329	< 10.		UG/L	3/02/95		Acenaphthene
FENTON.2A	95.03084	208968	< 10.		UG/L	3/02/95		Acenaphthylene
FENTON.2A	95.03084	62533	< 10.		UG/L	3/02/95		Aniline
FENTON.2A	95.03084	120127	< 10.		UG/L	3/02/95		Anthracene
FENTON.2A	95.03084	103333	< 10.		UG/L	3/02/95		Azobenzene
FENTON.2A	95.03084	92875	< 50.		UG/L	3/02/95		m-Benzidine
FENTON.2A	95.03084	56553	< 10.		UG/L	3/02/95		Benzo[a]anthracene
FENTON.2A	95.03084	50328	< 10.		UG/L	3/02/95		Benzo[a]pyrene
FENTON.2A	95.03084	205992	< 10.		UG/L	3/02/95		Benzo[b]fluoranthene
FENTON.2A	95.03084	191242	< 10.		UG/L	3/02/95		Benzo[g,h,i]perylene
FENTON.2A	95.03084	207089	< 10.		UG/L	3/02/95		Benzo[k]fluoranthene
FENTON.2A	95.03084	65850	< 50.		UG/L	3/02/95		Benzoic acid
FENTON.2A	95.03084	100516	< 10.		UG/L	3/02/95		Benzyl alcohol
FENTON.2A	95.03084	111911	< 10.		UG/L	3/02/95		Bis(2-chloroethoxy)methane
FENTON.2A	95.03084	111444	< 10.		UG/L	3/02/95		Bis(2-chloroethyl)ether
FENTON.2A	95.03084	108601	< 10.		UG/L	3/02/95		Bis(2-chloroisopropyl)ether
FENTON.2A	95.03084	117817	< 10.		UG/L	3/02/95		Bis(2-ethylhexyl)phthalate
FENTON.2A	95.03084	101553	< 10.		UG/L	3/02/95		4-Bromophenylphenyl ether
FENTON.2A	95.03084	85687	< 10.		UG/L	3/02/95		Butyl benzyl phthalate
FENTON.2A	95.03084	59507	< 10.		UG/L	3/02/95		4-Chloro-3-methylphenol
FENTON.2A	95.03084	106478	< 10.		UG/L	3/02/95		4-Chloroaniline
FENTON.2A	95.03084	91587	< 10.		UG/L	3/02/95		2-Chloronaphthalene
FENTON.2A	95.03084	95578	< 10.		UG/L	3/02/95		o-Chlorophenol
FENTON.2A	95.03084	7005723	< 10.		UG/L	3/02/95		4-Chlorophenylphenyl ether
FENTON.2A	95.03084	218019	< 10.		UG/L	3/02/95		Chrysene
FENTON.2A	95.03084	84742	13.	3.9	UG/L	3/02/95		Di-n-butyl phthalate

********** CST ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.2A	95.03084	117840	< 10.		UG/L	3/02/95		Di-n-octyl phthalate
FENTON.2A	95.03084	53703	< 10.		UG/L	3/02/95		Dibenzo[a,h]anthracene
FENTON.2A	95.03084	132649	< 10.		UG/L	3/02/95		Dibenzofuran
FENTON.2A	95.03084	95501	< 10.		UG/L	3/02/95		o-Dichlorobenzene (1,2)
FENTON.2A	95.03084	541731	< 10.		UG/L	3/02/95		m-Dichlorobenzene (1,3)
FENTON.2A	95.03084	106467	< 10.		UG/L	3/02/95		p-Dichlorobenzene (1,4)
FENTON.2A	95.03084	91941	< 20.		UG/L	3/02/95		3,3'-Dichlorobenzidine
FENTON.2A	95.03084	120832	< 10.		UG/L	3/02/95		2,4-Dichlorophenol
FENTON.2A	95.03084	84662	< 10.		UG/L	3/02/95		Diethyl phthalate
FENTON.2A	95.03084	131113	< 10.		UG/L	3/02/95		Dimethyl phthalate
FENTON.2A	95.03084	105679	< 10.		UG/L	3/02/95		2,4-Dimethylphenol
FENTON.2A	95.03084	51285	< 50.		UG/L	3/02/95		2,4-Dinitrophenol
FENTON.2A	95.03084	121142	< 10.		UG/L	3/02/95		2,4-Dinitrotoluene
FENTON.2A	95.03084	606202	< 10.		UG/L	3/02/95		2,6-Dinitrotoluene
FENTON.2A	95.03084	206440	< 10.		UG/L	3/02/95		Fluoranthene
FENTON.2A	95.03084	86737	< 10.		UG/L	3/02/95		Fluorene
FENTON.2A	95.03084	118741	< 10.		UG/L	3/02/95		Hexachlorobenzene
FENTON.2A	95.03084	87683	< 50.		UG/L	3/02/95		Hexachlorobutadiene
FENTON.2A	95.03084	77474	< 10.		UG/L	3/02/95		Hexachlorocyclopentadiene
FENTON.2A	95.03084	67721	< 10.		UG/L	3/02/95		Hexachloroethane
FENTON.2A	95.03084	193395	< 10.		UG/L	3/02/95		Indeno[1,2,3-cd]pyrene
FENTON.2A	95.03084	78591	< 10.		UG/L	3/02/95		Isophorone
FENTON.2A	95.03084	534521	< 50.		UG/L	3/02/95		2-Methyl-4,6-dinitrophenol
FENTON.2A	95.03084	91576	< 10.		UG/L	3/02/95		2-Methylnaphthalene
FENTON.2A	95.03084	95487	< 10.		UG/L	3/02/95		2-Methylphenol
FENTON.2A	95.03084	106445	< 10.		UG/L	3/02/95		4-Methylphenol
FENTON.2A	95.03084	91203	< 10.		UG/L	3/02/95		Naphthalene
FENTON.2A	95.03084	88744	< 20.		UG/L	3/02/95		2-Nitroaniline
FENTON.2A	95.03084	99092	< 20.		UG/L	3/02/95		3-Nitroaniline
FENTON.2A	95.03084	100016	< 20.		UG/L	3/02/95		4-Nitroaniline
FENTON.2A	95.03084	98953	< 10.		UG/L	3/02/95		Nitrobenzene
FENTON.2A	95.03084	88755	< 10.		UG/L	3/02/95		2-Nitrophenol
FENTON.2A	95.03084	100027	< 50.		UG/L	3/02/95		4-Nitrophenol
FENTON.2A	95.03084	621647	< 10.		UG/L	3/02/95		N-Nitrosodi-n-propylamine
FENTON.2A	95.03084	62759	< 10.		UG/L	3/02/95		N-Nitrosodimethylamine
FENTON.2A	95.03084	86306	< 10.		UG/L	3/02/95		N-Nitrosodiphenylamine

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CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
FENTON.2A	95.03084	87865	< 50.		UG/L	3/02/95		Pentachlorophenol
FENTON.2A	95.03084	85018	< 10.		UG/L	3/02/95		Phenanthrene
FENTON.2A	95.03084	108952	< 10.		UG/L	3/02/95		Phenol
FENTON.2A	95.03084	129000	< 10.		UG/L	3/02/95		Pyrene
FENTON.2A	95.03084	120821	< 10.		UG/L	3/02/95		1,2,4-Trichlorobenzene
FENTON.2A	95.03084	95954	< 10.		UG/L	3/02/95		2,4,5-Trichlorophenol
FENTON.2A	95.03084	88062	< 10.		UG/L	3/02/95		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 95.03084

none