DUNN CORPORATION

Engineers Geologists, Environmental Scientists
12 Metro Park Road
Albany, New York 12205
Tel 518/458-1313
Fax 518/458-2472

March 19, 1993

Mr. Barney M. Chan
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Dear Mr. Chan:

Subject: American National Can Company
3801 E. 8th Street, Oakland, California

INTRODUCTION

In August, 1992, Dunn Corporation (DUNN) submitted to you on behalf of American National Can Company (ANC), a proposed ground water remedial plan for the subject site. As part of that plan, DUNN proposed a remedial system in Area 4 of the site which called for the recovery and treatment of ground water from well GW-3 with simultaneous recovery and treatment of water from a perched water collection system. Since August, 1992, DUNN has gathered additional data from Area 4. DUNN completed the pump test of well GW-3 and the installation and testing of the temporary perched water collection trench as outlined in the proposed remedial plan.

Following the completion of the pump test, the concentrations of dissolved hydrocarbons in well GW-3 had decreased significantly. Based on this additional data, you approved of the suspension of the implementation of the proposed recovery system pending further ground water monitoring.

The purpose of this letter is to describe the pump test and the evaluation of the temporary perched water collection trench and to provide you with the results that were obtained during these activities. Additionally, we are taking this opportunity to discuss our interpretation of these results and to propose an alternative to the previously submitted ground water remedial plan for Area 4 ground water.

TEMPORARY PERCHED WATER COLLECTION TRENCH

The temporary perched water collection trench was constructed on October 19 and 20, 1992. Trench construction consisted of cutting and removing a 4-foot wide by 35-foot long section of concrete slab (Figure 1), and excavating the underlying layer of gravel base and top of the dense tidal marsh clay. The thickness of the base fill gravel ranged from 2 to 6 inches. The top 2 to 6 inches of the tidal marsh clay was excavated and sloped to provide drainage to the east end of the trench.

As the excavation of the trench was completed, a small quantity of water began to "seep" into the trench. This quantity was estimated by DUNN's on-site representative to be

approximately 1 gallon per hour. The following day the trench was pumped dry. Water that had collected in the trench was pumped into a fractionation tank. From October 22 until October 28, 1992, virtually no water infiltrated the temporary trench. As a result, samples of perched water could not be collected for chemical analysis.

Based on the trench performance results discussed above, DUNN determined that the permanent perched water recovery system proposed in the Ground Water Remedial Plan (previously submitted to the Agency) would not be feasible or necessary. Therefore, the temporary trench was abandoned on December 1 and 2, 1992, in a manner that formed a hydraulic barrier to significantly reduce any future buildup of perched water from migrating to the backfilled UST excavation. The trench was backfilled with clean compacted sand from an off-site source. Utilizing a one foot wide bucket, a second trench was excavated in the compacted sand and approximately six inches into the tidal marsh clay. This secondary trench was filled with ready mix concrete which was keyed into the dense clay layer. The surface of the trench was then covered with reinforced concrete. Figure 2 is a diagram showing the details of the trench abandonment.

WELL GW-3 PUMP TESTING

Between October 21 and October 24, 1992, DUNN personnel carried out a series of pumping tests on Well GW-3. The purpose of the pump tests was to provide the data necessary to finalize the design of the proposed ground water recovery system (i.e., pumping rate, pump depth setting, etc.). An initial 2-hour stepped-rate pumping test was performed on October 21 to evaluate the potential yield of the well. On October 22, 1992, an 8-hour constant-rate pump test was performed. On October 23 and 24, ten short-duration (15 minute to 4 hour) pump tests were performed.

In an effort to evaluate potential changes in dissolved petroleum hydrocarbon concentrations in the ground water as pumping progressed, samples of discharge water were collected at various intervals during all of the pump tests. Prior to starting the stepped-rate test, and after purging three well volumes, an initial sample (GW-3-PT-1) was collected with a plastic disposable bailer. A second sample (GW-3-PT-2) was collected at the completion of the stepped-rate test. During the 8-hour pump test, four samples (GW-3-PT-3 through GW-3-PT-6) were collected at discharge intervals of 1,000 gallons each. On October 23, 1992, three samples (GW-3-PT-7 through GW-3-PT-9) were collected at the beginning, in the middle, and at the end of the ten short-duration pump tests, respectively.

All samples (except GW-3-PT-1) were collected from a sampling valve on the pump discharge line. All samples collected were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) and for Total Petroleum Hydrocarbons as gasoline (TPHg) by DHS LUFT Methods. Figure 3 is a graph which plots the intervals at which the samples were collected during the pumping tests versus the total xylene concentration of each sample.

The analytical results of the samples collected during the pumping tests showed that the recovery of a relatively small amount of ground water during the pump tests was significant in removing the plume of contaminated ground water. Combined with previous analytical results of wells MW-9, MW-14 and MW-16, which reflected an absence of dissolved petroleum hydrocarbons, this data demonstrates that the plume in the vicinity of well GW-3 is not laterally extensive.

Based on the results of samples collected during the pump tests, a post-pump-test monitoring plan for well GW-3 was developed to determine the extended effects of the pumping on ground water quality. Since the completion of the pump tests, a total of four samples have been collected from GW-3 at three to four week intervals (November 12, 1992; December 4, 1992; December 30, 1992; and, January 20, 1992). The analytical results obtained from these samples are summarized on Table 1. Laboratory analytical reports for the above referenced ground water samples collected from GW-3 are attached with this letter.

The analytical results of samples collected since the completion of the pump test show that the concentration of total xylenes remained below the applicable Maximum Contaminant Level (MCL), established by the United States Environmental Protection Agency (USEPA) for drinking water, for more than two months. A concentration of 11 ppm of xylenes was detected in the sample collected on January 20, 1993. It should be noted that between December 30, 1992 and January 20, 1993, the ground water elevation beneath the site was roughly one foot higher than it has ever been measured since December, 1990. These analytical results and corresponding ground water elevations indicate that the predominant source of impact in well GW-3 is likely the limited amount of contaminated soil located within a distance of 10 to 15-feet north and east of GW-3 that was not removed with the former group of compound USTs (Subsurface Investigation Summary Report; DUNN; June, 1992). As a result of these conditions, we feel that ground water recovery and treatment is not a practical solution for remediating the vicinity of well GW-3.

CONCLUSIONS

Over the past two years, ANC has expended significant cost and effort in investigating soil and ground water quality in the vicinity of well GW-3. At this time, we feel that ground water recovery and treatment is not a practical option for remediating the vicinity of GW-3. Furthermore, we feel that due to several other factors, any remedial efforts in this area are not necessary. These factors are as follows:

- Analytical results show that the impact to both soil (Subsurface Investigation Summary Report, DUNN, June, 1992) and ground water is restricted to the immediate vicinity of well GW-3. Analytical results also demonstrate that contaminants are not migrating through the ground water, either downgradient or off site. The impacted soil is essentially isolated by overlying asphalt and concrete and laterally by low permeability clay sedimentary soils;

- Although during extremely high ground water events the concentrations of dissolved petroleum compounds slightly exceed National Primary Drinking Water Standards, the ground water beneath the site is not utilized for any purposes at the site, or at any known downgradient location, and certainly not as a drinking water supply; and,

- Data generated during the past two years demonstrates that the ground water quality in the locality is severely degraded. Most noteworthy is the neighboring property immediately to the east, EKOTEK LUBE. There is little doubt that the subsurface impact from that property is negatively affecting the quality of ground water in the vicinity of the ANC property and to the south, or downgradient from EKOTEK LUBE.

Based on these conclusions, we request that the Department of Environmental Health approve our proposal to discontinue any further remedial action in this area of the site and to recommend concurrence by the SFBRWQCB in this decision.

Please contact me at (518) 458-1313 if I can answer any questions or if I can provide any additional data necessary for you to grant our request.

Very truly yours,

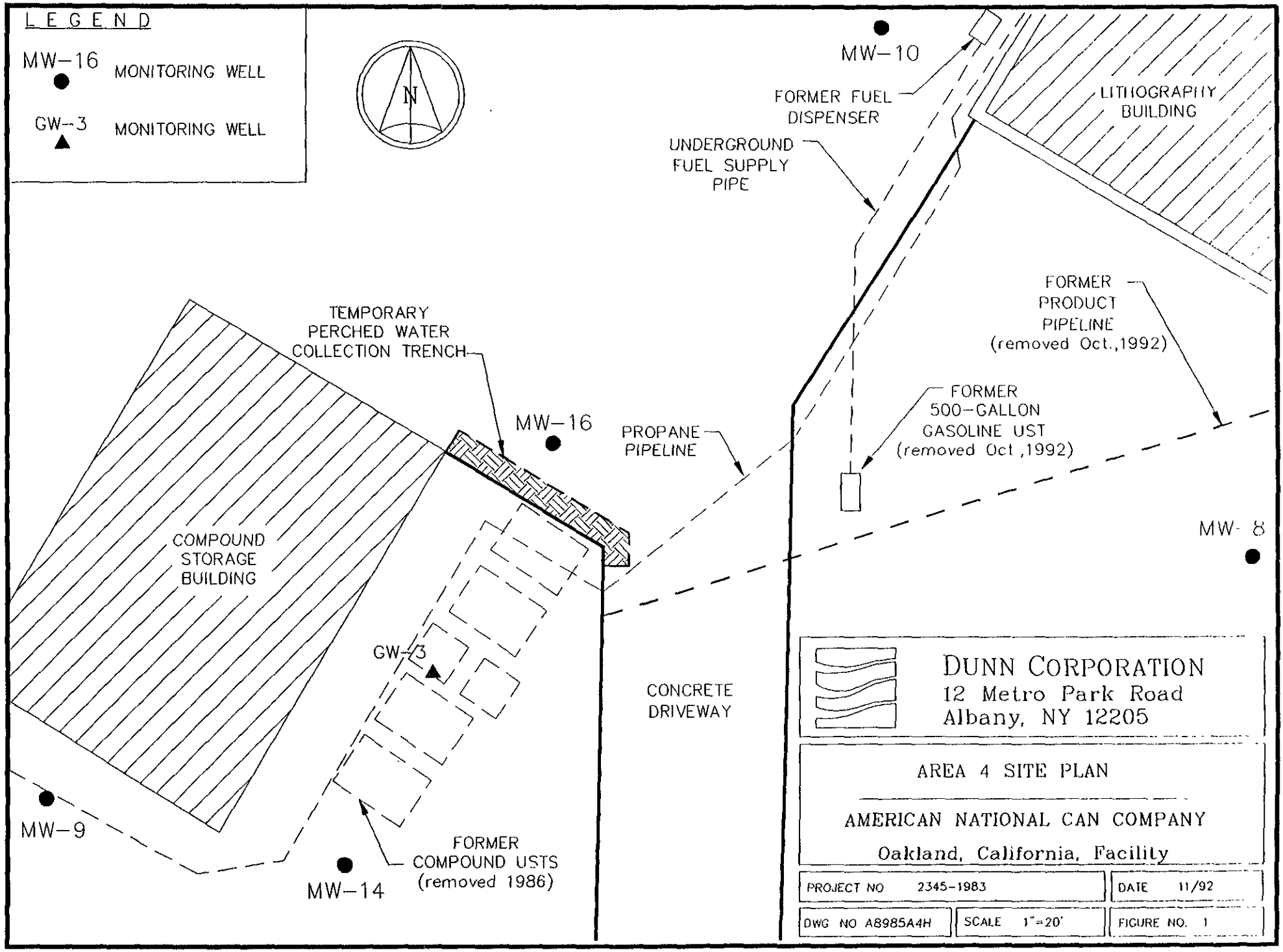
DUNN CORPORATION

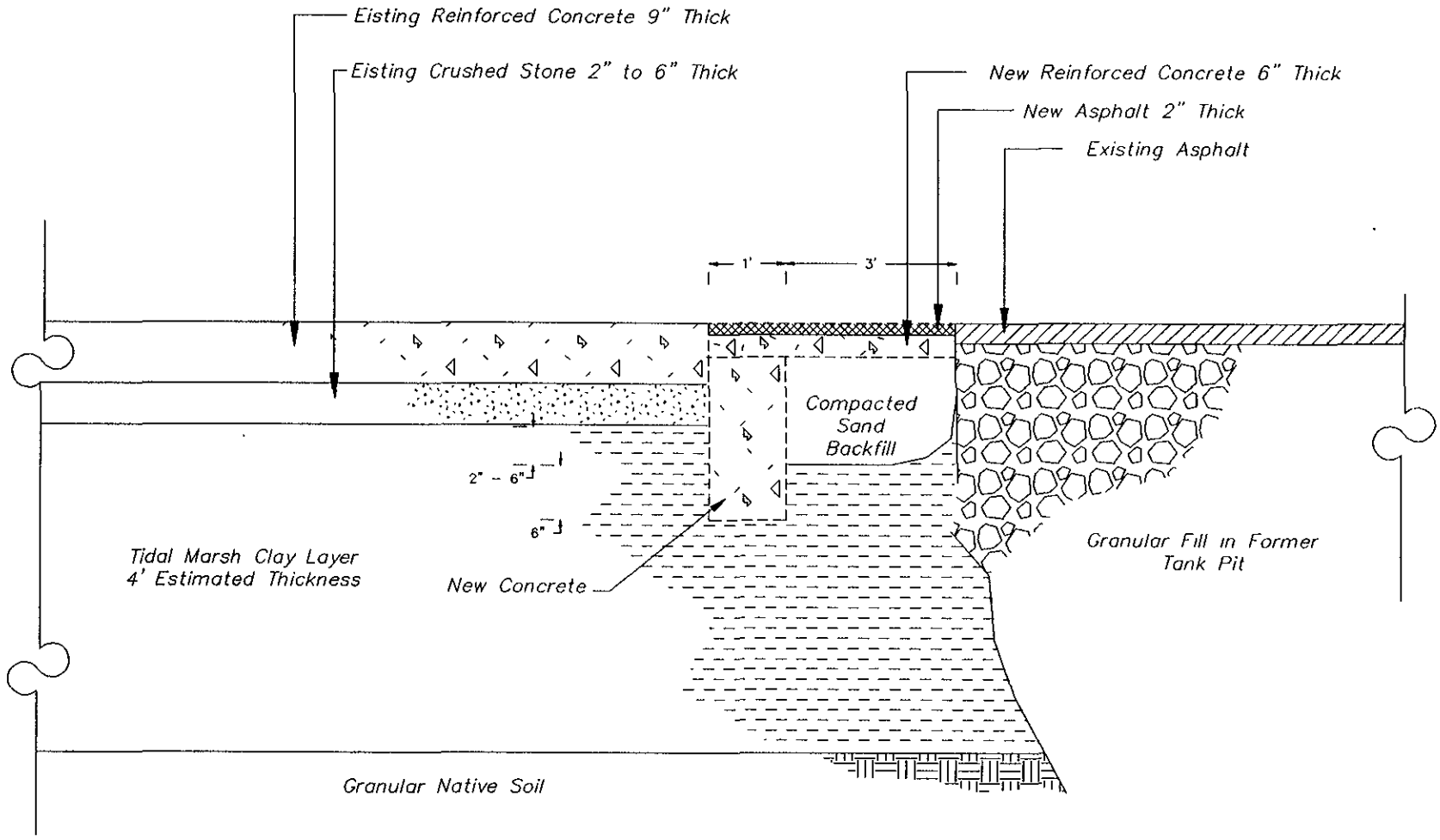
Walter O. Howard
Senior Hydrogeologist

WOH/mhh

c: J. Moran (ANC)
J. Peters (ANC)
L. Feldman (RWQCB)
E. Alusow (DUNN)

Should continue monitoring


LEGEND
MW-16 MONITORING WELL
GW-3 MONITORING WELL
N
MW-10
FORMER FUEL DISPENSER
UNDERGROUND FUEL SUPPLY PIPE
LITHOGRAPHY BUILDING
FORMER PRODUCT PIPELINE (removed Oct.,1992)
FORMER 500-GALLON GASOLINE UST (removed Oct ,1992)
TEMPORARY PERCHED WATER COLLECTION TRENCH
MW-16
PROPANE PIPELINE
COMPOUND STORAGE BUILDING
GW-3
CONCRETE DRIVEWAY
MW-8
MW-9
MW-14
FORMER COMPOUND USTS (removed 1986)
DUNN CORPORATION
12 Metro Park Road
Albany, NY 12205
AREA 4 SITE PLAN
AMERICAN NATIONAL CAN COMPANY
Oakland, California, Facility
PROJECT NO 2345-1983
DATE 11/92
DWG NO A8985A4H
SCALE 1"=20'
FIGURE NO. 1

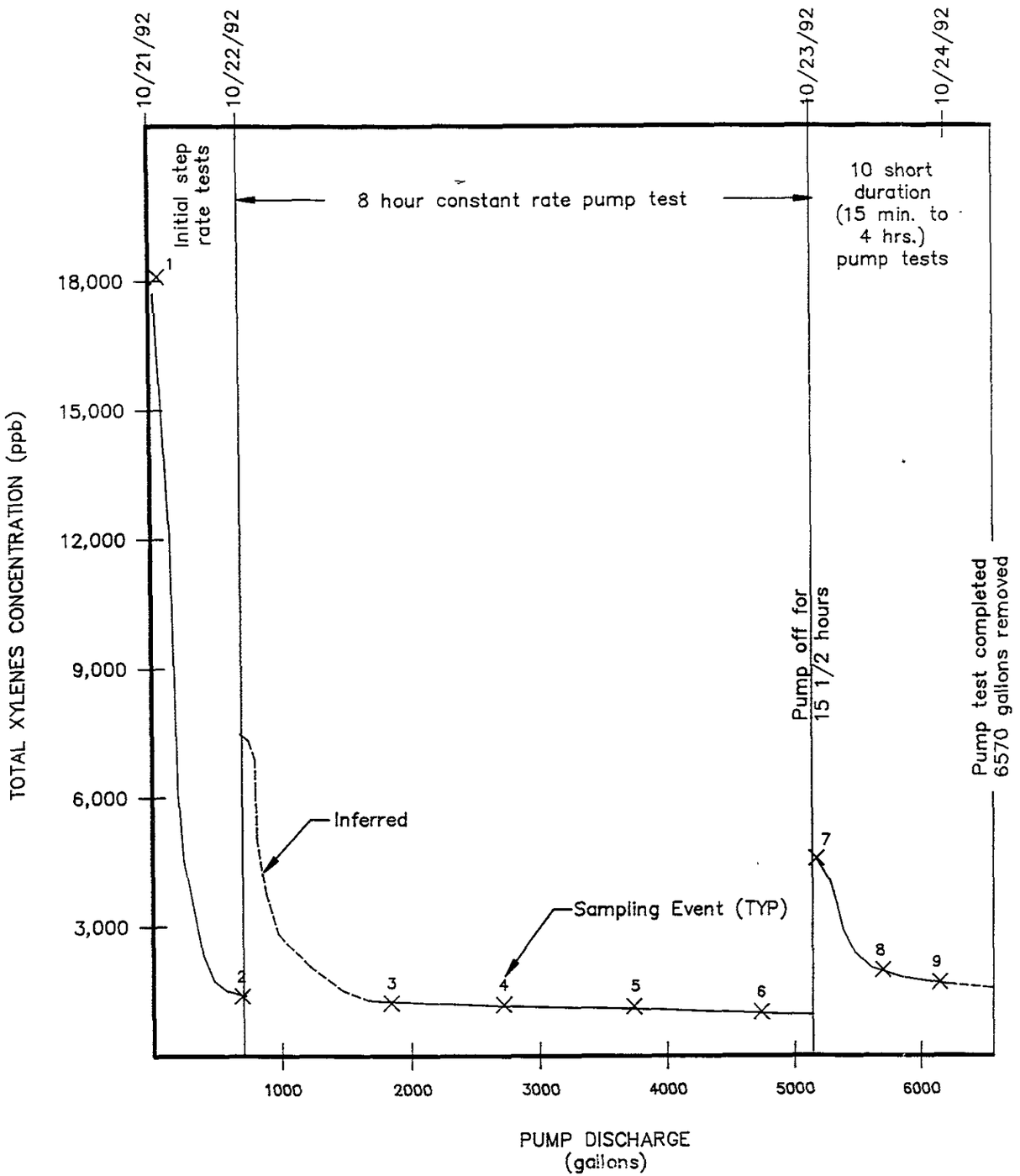


DUNN CORPORATION
12 Metro Park Road
Albany, NY 12205

TEMPORARY PERCHED WATER COLLECTION TRENCH
ABANDONMENT DETAIL

AMERICAN NATIONAL CAN
OAKLAND, CALIFORNIA PLANT

PROJECT NO. 2345-1983	DATE 12/92	DWG. NO. A9187	SCALE NTS	FIGURE NO. 2



ANALYTICAL RESULTS

SAMPLE NO.	LAB SAMPLE NO.	TOTAL XYLENES CONCENTRATION (ppb)
1.	GW-3-PT-1	18,000
2.	GW-3-PT-2	1,400
3.	GW-3-PT-3	1,200
4.	GW-3-PT-4	1,100
5.	GW-3-PT-5	980
6.	GW-3-PT-6	900
7.	GW-3-PT-7	4,500
8.	GW-3-PT-8	1,900
9.	GW-3-PT-9	1,600

MCL = 1750 ppb

DUNN CORPORATION
12 Metro Park Road
Albany, NY 12205

GRAPH OF PUMPING TEST ANALYTICAL RESULTS
RECOVERY WELL GW-3
October 1992

AMERICAN NATIONAL CAN COMPANY

CITY OF OAKLAND — ALAMEDA COUNTY, CA

PROJECT NO. 2345-1983		DWG. NO. 2C340
SCALE: NTS	DATE 11/92	FIGURE NO. 3

TABLE 1

AMERICAN NATIONAL CAN COMPANY
OAKLAND, CALIFORNIA, FACILITY

Ground Water Analytical Results from Monitoring Well GW-3

SAMPLE	NO. DAYS SINCE PUMP TEST	GROUND WATER ELEVATION	ANALYTICAL RESULTS				
			Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH as Gasoline
GW-3-PT-1	Start of test	1.94'	nd	nd	7500	18000	45000
GW-3-PT-2	During Test	- 4.88'	nd	19	620	1400	4200
GW-3-PT-3	During Test	- 4.88'	nd	nd	530	1200	3300
GW-3-PT-4	During Test	- 4.88'	nd	nd	460	1100	3200
GW-3-PT-5	During Test	- 4.88'	nd	8	400	980	2300
GW-3-PT-6	During Test	- 4.88'	nd	23	370	900	2000
GW-3-PT-7	During Test	- 4.88'	nd	nd	1900	4500	11000
GW-3-PT-8	During Test	- 4.88'	nd	nd	720	1900	5400
GW-3-PT-9	End of test	-4.88'	nd	nd	650	1600	5300
GW-3 (Nov. 12, 1992)	19	2.13'	nd	nd	500	1800	6700
GW-3 (Dec. 4, 1992)	41	2.23'	nd	nd	2300	7100	21000
GW-3 (Dec. 30, 1992)	67	3.21'	nd	nd	1000	3300	11000
GW-3 (Jan. 20, 1993)	88	4.37'	nd	nd	3900	11000	39000

NOTES: All analytical results are expressed in micrograms per litre (parts per billion).
Ground water elevations are expressed in feet above or below mean sea level.
The highest ground water elevation measured prior to the completion of the pump test was 2.95' on May 5, 1992.

680 MCL

1750

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

RECEIVED

NOV 1 0 1992

DUNN CORPORATION

REPORT

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210382
Date Received : 10/22/92
Project ID : 02345-01983
Purchase Order: 29518

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9210382- 1	GW-3-PT-1
9210382- 2	GW-3-PT-2
9210382- 3	GW-3-PT-3
9210382- 4	GW-3-PT-4
9210382- 5	GW-3-PT-5
9210382- 6	GW-3-PT-6

This report consists of 8 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Director

11-5-92
Date

1961 Concourse Drive, Suite E • San Jose, CA 95131 • Phone (408) 432-8192 • Fax (408) 432-8198

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210382
Date Received : 10/22/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9210382- 1	GW-3-PT-1	WATER	10/21/92	TPHg/BTEX
9210382- 2	GW-3-PT-2	WATER	10/21/92	TPHg/BTEX
9210382- 3	GW-3-PT-3	WATER	10/22/92	TPHg/BTEX
9210382- 4	GW-3-PT-4	WATER	10/22/92	TPHg/BTEX
9210382- 5	GW-3-PT-5	WATER	10/22/92	TPHg/BTEX
9210382- 6	GW-3-PT-6	WATER	10/22/92	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210382
Date Received : 10/22/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The BTEX matrix spike and matrix spike duplicate on sample GW-3-PT-6 are outside of quality control limits due to a relatively high background concentration in the sample.

Cheryl Balmer 11/5/92
Department Supervisor Date

Steve Jones 11/03/92
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9210382
Matrix : WATER
Date Sampled : 10/20/92

Project Number : 02345-01983
Date Released : 11/04/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# GW-3-PT-1 -01	Sample I.D.# GW-3-PT-2 -02	Sample I.D.# GW-3-PT-3 -03	Sample I.D.# GW-3-PT-4 -04	Sample I.D.# GW-3-PT-5 -05
Benzene	0.5	ND	ND	ND	ND	ND
Toluene	0.5	ND	19	ND	ND	8
Ethylbenzene	0.5	7500	620	530	460	400
Total Xylenes	0.5	18000	1400	1200	1100	980
TPH as Gasoline	50	45000	4200	3300	3200	2300
% Surrogate Recovery		85%	108%	93%	94%	92%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		10/30/92	10/30/92	11/02/92	11/02/92	10/30/92
RLMF		250	25	25	25	10

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Steve Sma 11/05/92
Analyst Date

Cheryl Balmer 11/5/92
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9210382 Project Number : 02345-01983
Matrix : WATER Date Released : 11/04/92
Date Sampled : 10/22/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# GW-3-PT-6 -06	Sample I.D.# B03001E3 BLANK	Sample I.D.# BN0201E3 BLANK
Benzene	0.5	ND	ND	ND
Toluene	0.5	23	ND	ND
Ethylbenzene	0.5	370	ND	ND
Total Xylenes	0.5	900	ND	ND
TPH as Gasoline	50	2000	ND	ND
% Surrogate Recovery		86%	85%	99%
Instrument I.D.		HP12	HP12	HP12
Date Analyzed		10/30/92	10/30/92	11/02/92
RLMF		10	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Steve Arma 11/05/92
Analyst Date

Cheryl Brenner 11/5/92
Supervisor Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 02345-01983 GW-3-PT-6
Matrix : WATER
Date Sampled : 10/22/92
Date Analyzed : 10/30/92

Anametrix I.D. : 9210382-06
Analyst : JP
Supervisor : CB
Date Released : 11/04/92
Instrument I.D.: HP12

COMPOUND	SPIKE AMT (ug/L)	SAMPLE CONC (ug/L)	REC MS	%REC MS	REC MD (ug/L)	%REC MD	RPD	%REC LIMITS
BENZENE	200	3	150	74%	150.0	74%	0%	49-159
TOLUENE	200	23	160	69%	160.0	69%	0%	53-156
ETHYLBENZENE	200	370	470	50%	470.0	50%	0%	54-151
TOTAL XYLENES	200	900	940	20%	940.0	20%	0%	56-157
p-BFB				102%		100%		53-147

* Quality control established by Anametrix, Inc.

BTEX LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW1028
Matrix	: WATER	Analyst	: M
Date Sampled	: N/A	Supervisor	: CF
Date Analyzed	: 10/28/92	Date Released	: 11/04/92
		Instrument ID	: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	17.0	85%	49-159
Toluene	20.0	18.0	90%	53-156
Ethylbenzene	20.0	19.0	95%	54-151
TOTAL Xylenes	20.0	20.0	100%	56-157
P-BFB			100%	53-147

* Limits established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW1029
Matrix	: WATER	Analyst	: M
Date Sampled	: N/A	Supervisor	: CB
Date Analyzed	: 10/29/92	Date Released	: 11/04/92
		Instrument I.D.	: HP12

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	250	250	100%	56-116
SURROGATE		100%		53-147

* Quality control established by Anametrix, Inc.

BTEX LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW1030
Matrix	: WATER	Analyst	: NP
Date Sampled	: N/A	Supervisor	: CB
Date Analyzed	: 10/30/92	Date Released	: 11/04/92
		Instrument ID	: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	20.0	100%	49-159
Toluene	20.0	21.0	105%	53-156
Ethylbenzene	20.0	20.0	100%	54-151
TOTAL Xylenes	20.0	22.0	110%	56-157
P-BFB			80%	53-147

* Limits established by Anametrix, Inc.

NOT... the samples are contaminated
PLEASE FAX results to W.O. Howard

Dunn Geoscience Corp.
12 Metro Park Road
Albany, N.Y. 12205 (518) 458-1313

9210382 (18) 08.55 MA

DUNN GEOSCIENCE CORP

Client Name: AMERICAN NATIONAL CAN CO.
Project No.: 02345-01883
Site Location: Oakland, Ca.
Sampler: Walter O. Howard

DGC Contact: ED ALLISON
Laboratory Contact: JENNIFER MILLER
Lab Identification:
Date Report Required: STANDARD

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	Preserv.	Comp. or Grab	Comment
(1) GW-3-PT-1	10/21/92	1055	WATER	SAMPLE TAP FROM SUBMERSIBLE PUMP		3 x 40 ml	HCl	Grab	TPHg + BTEX (5030: 8015/8020)
(2) GW-3-PT-2	"	1715	↓	↓	↓	↓	↓	↓	↓
(3) GW-3-PT-3	10/22/92	1030	↓	↓	↓	↓	↓	↓	↓
(4) GW-3-PT-4		1215	↓	↓	↓	↓	↓	↓	↓
(5) GW-3-PT-5		1415	↓	↓	↓	↓	↓	↓	↓
(6) GW-3-PT-6		1605	↓	↓	↓	↓	↓	↓	↓

Walter O. Howard 10/22/92

	Name	Affiliation	Date	Time
Relinquished by:	Walter O. Howard	DUNN	10/22/92	1810
Received by:	[illegible signature]			
Relinquished by:	NCM 90		10-22	1812
Received by:				

	Name	Date	Time
Received by Laboratory:	[illegible signature]	10/22/92	19:10

Samples Intact & Properly Preserved: (Yes) or No

Laboratory Comments:

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210412
Date Received : 10/23/92
Project ID : 02345-01983
Purchase Order: 29518

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9210412- 1	GW-3-PT-7
9210412- 2	GW-3-PT-8
9210412- 3	GW-3-PT-9

This report consists of 18 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Director

11-06-92
Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210412
Date Received : 10/23/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9210412- 1	GW-3-PT-7	WATER	10/23/92	TPHd
9210412- 3	GW-3-PT-9	WATER	10/23/92	TPHd
9210412- 1	GW-3-PT-7	WATER	10/23/92	TPHg/BTEX
9210412- 2	GW-3-PT-8	WATER	10/23/92	TPHg/BTEX
9210412- 3	GW-3-PT-9	WATER	10/23/92	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210412
Date Received : 10/23/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as diesel for samples GW-3-PT-7 and GW-3-PT-9 are primarily due to the presence of a lighter petroleum product, possibly gasoline.

Cheryl Balmer 11/5/92
Department Supervisor Date

Peggie Dawson 11/5/92
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92

Project Number : 02345-01983
Date Released : 11/05/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# GW-3-PT-7 -01	Sample I.D.# GW-3-PT-8 -02	Sample I.D.# GW-3-PT-9 -03	Sample I.D.# B03001E2 BLANK
Benzene	0.5	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND
Ethylbenzene	0.5	1900	720	650	ND
Total Xylenes	0.5	4500	1900	1600	ND
TPH as Gasoline	50	11000	5400	5300	ND
% Surrogate Recovery		100%	73%	97%	103%
Instrument I.D.		HP4	HP4	HP4	HP4
Date Analyzed		10/30/92	10/30/92	10/30/92	10/30/92
RLMF		100	100	100	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Reggie Dawson 11-5-92
Analyst Date

Cheryl Balmer 11/5/92
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Date Extracted: 10/28/92

Project Number : 02345-01983
Date Released : 11/05/92
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9210412-01	GW-3-PT-7	10/30/92	50	400
9210412-03	GW-3-PT-9	10/30/92	50	130
DWBL102892	METHOD BLANK	10/29/92	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Reggie Davison 11/5/92
Analyst Date

Cheryl Balmer 11/5/92
Supervisor Date

BTEX LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW1030
Matrix	: WATER	Analyst	: RD
Date Sampled	: N/A	Supervisor	: CB
Date Analyzed	: 10/30/92	Date Released	: 11/04/92
		Instrument ID	: HP4

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	19.0	95%	49-159
Toluene	20.0	21.0	105%	53-156
Ethylbenzene	20.0	21.0	105%	54-151
TOTAL-Xylenes	20.0	21.0	105%	56-157
P-BFB			97%	53-147

* Limits established by Anametrix, Inc.

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 10/28/92
Date Analyzed : 10/29/92

Anametrix I.D. : LCSW1028
Analyst : RP
Supervisor : [illegible]
Date Released : 11/04/92
Instrument I.D.: HP23

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	1100	88%	1130	90%	3%	63-130

*Quality control established by Anametrix, Inc.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210412
Date Received : 10/23/92
Project ID : 02345-01983
Purchase Order: 29518
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9210412- 1	GW-3-PT-7	WATER	10/23/92	160.1
9210412- 3	GW-3-PT-9	WATER	10/23/92	160.1
9210412- 1	GW-3-PT-7	WATER	10/23/92	2340B
9210412- 3	GW-3-PT-9	WATER	10/23/92	2340B
9210412- 1	GW-3-PT-7	WATER	10/23/92	310.1
9210412- 3	GW-3-PT-9	WATER	10/23/92	310.1
9210412- 1	GW-3-PT-7	WATER	10/23/92	6010
9210412- 3	GW-3-PT-9	WATER	10/23/92	6010

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9210412
Date Received : 10/23/92
Project ID : 02345-01983
Purchase Order: 29518
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- Spike recoveries for sample GW-3-PT-7 for manganese by EPA Method 6010 were outside of Anametrix control limits due to high levels present in the unspiked sample.

Department Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Project Number: 02345-01983

Date Prepared : 10/30/92
Date Analyzed : 10/30/92
Date Released : 11/06/92
Instrument I.D.: ICP1

ELEMENTS	EPA Method#	Reporting Limit (ug/L)	Sample I.D.# GW-3-PT -7 -01	Sample I.D.# GW-3-PT -9 -03	Sample I.D.# BLANK MB1030W
Iron (Fe)	6010	100	1130	734	ND
Manganese (Mn)	6010	15.0	1930	2370	ND

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Method for Evaluating Solid Waste, SW-846 3rd Edition November 1986, and California Code of Regulations Title 22, or Method for Chemical Analysis of Water and Wastes, EPA, 3rd edition, 1983.

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANALYSIS DATA SHEET - ALKALINITY - EPA METHOD 310.1
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Project Number: 02345-01983

Date Prepared : 10/30/92
Date Analyzed : 10/30/92
Date Released : 11/06/92
Instrument I.D.: N/A

ANAMETRIX ID	CLIENT ID	ALKALINITY AS CALCIUM CARBONATE (mg/L)
9210412-01	GW-3-PT-7	328
9210412-03	GW-3-PT-9	357

ND : Not detected at or above the practical quantitation limit for the method.

Alkalinity (EPA Method 310.1) as determined by SW-846, 3rd edition, or by Methods for Chemical Analysis of Water and Wastes, EPA, 3rd Edition, 1983.

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANALYSIS DATA SHEET - BICARBONATE - STANDARD METHOD 4500-CO2
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Project Number: 02345-01983

Date Prepared : 10/30/92
Date Analyzed : 10/30/92
Date Released : 11/06/92
Instrument I.D.: N/A

ANAMETRIX ID	CLIENT ID	BICARBONATE AS mg CALCIUM CARBONATE/L (mg/L)
9210412-01	GW-3-PT-7	328
9210412-03	GW-3-PT-9	357

ND : Not detected at or above the practical quantitation limit for the method.

Bicarbonate calculations as determined by Standard Method 4500-CO2.

Supervisor 11/6/92 Date

Chemist Iza J Nagpurwala 11/6/92 Date

ANALYSIS DATA SHEET - CARBONATE - STANDARD METHOD 4500-CO2
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Project Number: 02345-01983

Date Prepared : 10/30/92
Date Analyzed : 10/30/92
Date Released : 11/06/92
Instrument I.D.: N/A

ANAMETRIX ID	CLIENT ID	CARBONATE AS mg CALCIUM CARBONATE/L (mg/L)
9210412-01	GW-3-PT-7	0.29
9210412-03	GW-3-PT-9	0.41

ND : Not detected at or above the practical quantitation limit for the method.

Carbonate calculations as determined by Standard Method 4500-CO2.

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANALYSIS DATA SHEET - HYDROXIDE - STANDARD METHOD 4500-CO2
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Project Number: 02345-01983

Date Prepared : 10/30/92
Date Analyzed : 10/30/92
Date Released : 11/06/92
Instrument I.D.: N/A

ANAMETRIX ID	CLIENT ID	HYDROXIDE AS mg CALCIUM CARBONATE/L (mg/L)
9210412-01	GW-3-PT-7	0.0048
9210412-03	GW-3-PT-9	0.0062

ND : Not detected at or above the practical quantitation limit for the method.

Hydroxide calculations as determined by Standard Method 2340B.

Supervisor 11/6/92 Date

Chemist Lizza J Nagpurkar 11/6/92 Date

ANALYSIS DATA SHEET - TOTAL DISSOLVED SOLIDS EPA METHOD 160.1
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Project Number: 02345-01983

Date Prepared : 10/26/92
Date Analyzed : 10/26/92
Date Released : 11/06/92
Instrument I.D.: N/A

ANAMETRIX ID	CLIENT ID	Reporting Limit (mg/L)	TDS (mg/L)
9210412-01	GW-3-PT-7	6.0	566
9210412-03	GW-3-PT-9	6.0	568
MB1026W	METHOD BLANK	6.0	ND

ND : Not detected at or above the practical quantitation limit for the method.

Total dissolved solids as determined by SW-846, 3rd edition, or by Methods for Chemical Analysis of Water and Wastes, EPA, 3rd Edition 1983.

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

INDIVIDUAL METALS MATRIX SPIKE REPORT

Spike I.D. : 9210412-01MS,MD
Date Prepared: 10/30/92
Date Analyzed: 10/30/92
Assoc. WO # : 9210412

Inst. ID: ICP1
Date : 11/06/92
Matrix : WATER
Units : ug/L

ELEMENTS	METHOD	SPIKE AMOUNT	SAMPLE CONC.*	M.S. CONC.	% REC.	M.S.D. CONC.	% REC.	R P D
Fe	6010	1000	1130	2320	119	2280	115	3.4
Mn	6010	500	1930	2740	162	2710	156	3.8

COMMENT: Quality control limits for percent recovery are 75-125% and 25% for RPD.

* : Sample concentration of 0.0 indicates that the analyte in the sample was below detection limit for the method. 0.0 is entered for calculations of the percent recovery and RPD only.

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

INDIVIDUAL METALS METHOD SPIKE REPORT

Spike I.D.	: LCS1030W	Inst. ID:	AA1/ICP1
Date Prepared:	10/30/92	Date	: 11/06/92
Date Analyzed:	10/30/92	Matrix	: WATER
Assoc. WO #	: 9210412	Units	: ug/L

ELEMENTS	METHOD	SPIKE AMOUNT	METHOD SPIKE	% REC.
Fe	6010	1000	983	98.3
Mn	6010	500	477	95.4

COMMENT: Quality control limits for percent recovery are 80-120%.

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

INDIVIDUAL METALS METHOD SPIKE REPORT

Spike I.D. : LCS1026W
Date Prepared: 10/26/92
Date Analyzed: 10/26/92
Assoc. WO # : 9210412

Inst. ID: N/A
Date : 11/06/92
Matrix : WATER
Units : mg/L

ELEMENTS	METHOD	SPIKE AMOUNT	METHOD SPIKE	% REC.
TDS	160.1	1500	1480	98.7

COMMENT: Quality control limits for percent recovery are 80-120%.

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

ANALYSIS DATA SHEET - HARDNESS - STANDARD METHOD 2340B
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9210412
Matrix : WATER
Date Sampled : 10/23/92
Project Number: 02345-01983

Date Prepared : 10/30/92
Date Analyzed : 10/30/92
Date Released : 11/06/92
Instrument I.D.: ICP1

ANAMETRIX ID	CLIENT ID	Ca (mg/L)	Mg (mg/L)	HARDNESS AS mg CALCIUM CARBONATE/L (mg/L)
9210412-01	GW-3-PT-7	23.4	49.7	263
9210412-03	GW-3-PT-9	28.0	61.7	324

ND : Not detected at or above the practical quantitation limit for the method.

Note : Formula used in hardness calculations as determined by Standard Method 2340B:

$$\text{Hardness as mg/L of } CaCO_3 = (2.497 * A) + (4.118 * B)$$

where: A = concentration of Calcium
B = concentration of Magnesium

Supervisor 11/6/92 Date

Chemist 11/6/92 Date

9210412

Dunn Geoscience Corp. 10/30 (18) 19:00 MA
12 Metro Park Road
Albany, N.Y. 12205 (518) 458-1313

DUNN GEOSCIENCE CORP

Client Name: AMERICAN NATIONAL CAN CO.
Project No.: 02345-01983
Site Location: OAKLAND, CA.
Sampler: WALTER O. Howard

DGC Contact: ED ALLISON
Laboratory Contact: JENNIFER MILLER
Lab Identification: ANALYTRIX, INC.
Date Report Required: STANDARD

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	Preserv.	Comp. or Grab	Analyses Comment
(1) GW-3-PT-7	10-23-92	0945	WATER	SAMPLE TAP FROM SUBMERSIBLE PUMP		3x40 ml	HCl	Grab	TPHg + BTEX (5030: 8015/8020)
						1x1 litre gl	N		TPHd
						1x1 litre gl	N		TDS, ALKALINITY, HARDNESS
						1x500 ml poly	HNO3		IRON, MANGANESE
(2) GW-3-PT-8		1035				3x40 ml	HCl		TPHg + BTEX (5030: 8015/8020)
(3) GW-3-PT-9		1130				3x40 ml	HCl		TPHg + BTEX (5030: 8015/8020)
						1x1 litre gl	N		TPHd
						1x1 litre g	N		TDS, ALKALINITY, HARDNESS
						1x500 ml poly	HNO3		IRON, MANGANESE

	Name	Affiliation	Date	Time
Relinquished by:	Walter O. Howard	DGC	10/23/92	1635
Received by:			10/23/92	16:35
Relinquished by:			10/23/92	18:24
Received by:				

	Name	Date	Time
Received by Laboratory:	Michelle D. Spinelli	10/24/92	18:24

Samples Intact & Properly Preserved: (Yes) or No

Laboratory Comments:

FORM30

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9211178
Date Received : 11/12/92
Project ID : 02345-01983
Purchase Order: 29518

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9211178- 1	GW-3
9211178- 2	T. BLANK
9211178- 3	B. BLANK

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Director

11-18-92
Date

RECEIVED
NOV 23 1992
DUNN CORPORATION

1961 Concourse Drive, Suite E • San Jose, CA 95131 • Phone (408) 432-8192 • Fax (408) 432-8198

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9211178
Date Received : 11/12/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9211178- 1	GW-3	WATER	11/12/92	TPHg/BTEX
9211178- 2	T. BLANK	WATER	11/12/92	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9211178
Date Received : 11/12/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 11/16/92 Date

Chemist 11/17/92 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9211178
Matrix : WATER
Date Sampled : 11/12/92

Project Number : 02345-01983
Date Released : 11/13/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# GW-3 -01	Sample I.D.# T. BLANK -02	Sample I.D.# BN1301E3 BLANK
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	500	ND	ND
Total Xylenes	0.5	1800	ND	ND
TPH as Gasoline	50	6700	ND	ND
% Surrogate Recovery		97%	101%	102%
Instrument I.D.		HP12	HP12	HP12
Date Analyzed		11/13/92	11/13/92	11/13/92
RLMF		100	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst 11/17/92 Date

Supervisor 11/16/92 Date

BTEX LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW1113
Matrix	: WATER	Analyst	: IS
Date Sampled	: N/A	Supervisor	:
Date Analyzed	: 11/13/92	Date Released	: 11/13/92
		Instrument ID	: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	23.0	115%	49-159
Toluene	20.0	23.0	115%	53-156
Ethylbenzene	20.0	23.0	115%	54-151
TOTAL Xylenes	20.0	24.0	120%	56-157
P-BFB			84%	53-147

* Limits established by Anametrix, Inc.

AMATRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

(17) 47117 8

CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
22345-01983	American National Can Co.

Send Report Attention of:	Report Due	Verbal Due
Edward Alusow	11/26/92	/ /

	Sample Number	Date	Time	Comp	Matrix	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPH/BTEX	Condition of Samples	Initial
(1)	GW-3	11-12-92	12:15				3	40ml	X	ALL SAMPLES CONTAINED IN PROPER CONTAINER NO BUBBLES	CL
(2)	TRIP BLANK	"					1	"	X		
(3)	BAILER BLANK	"	10:15				3	"	HOLD		CL

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	13:00 11-12-92		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by Lab: Calin Nolan	Date/Time 1300 11-12-92

Remarks: Edward Alusow

COMPANY: Dunn Corporation
ADDRESS: 12 Metro Park Road, Albany NY 12205
PHONE: (518) 458-8931 FAX:

ANAMETRIX INC
Environmental & Analytical Chemistry
Part of INCHCAPE ENVIRONMENTAL

REPORT

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9212112
Date Received : 12/04/92
Project ID : 02345-01983
Purchase Order: 29518

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9212112-11	4:MW-8
9212112-12	4:MW-14
9212112-13	4:MW-9
9212112-14	4:GW-3

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Director

12-18-92
Date

1961 Concourse Drive, Suite E • San Jose, CA 95131 • Phone (408) 432-8192 • Fax (408) 432-8198

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9212112
Date Received : 12/04/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9212112-11	4:MW-8	WATER	12/04/92	TPHg
9212112-12	4:MW-14	WATER	12/04/92	TPHg/BTEX
9212112-13	4:MW-9	WATER	12/04/92	TPHg/BTEX
9212112-14	4:GW-3	WATER	12/04/92	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9212112
Date Received : 12/04/92
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 12/16/92
Department Supervisor Date

Charles M Burch 12.16.92
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9212112
Matrix : WATER
Date Sampled : 12/04/92

Project Number : 02345-01983
Date Released : 12/16/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# 4:MW-8 -11	Sample I.D.# 4:MW-14 -12	Sample I.D.# 4:MW-9 -13	Sample I.D.# 4:GW-3 -14	Sample I.D.# BD0901E3 BLANK
Benzene	0.5	-	ND	ND	ND	ND
Toluene	0.5	-	ND	ND	ND	ND
Ethylbenzene	0.5	-	ND	ND	2300	ND
Total Xylenes	0.5	-	ND	ND	7100	ND
TPH as Gasoline	50	ND	ND	ND	21000	ND
% Surrogate Recovery		93%	92%	92%	88%	80%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		12/09/92	12/09/92	12/09/92	12/09/92	12/09/92
RLMF		1	1	1	250	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Charlotte Burch 12.16.92
Analyst Date

Cheryl Baemer 12/16/92
Supervisor Date

BTEX LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW1209
Matrix	: WATER	Analyst	: CmB
Date Sampled	: N/A	Supervisor	: A
Date Analyzed	: 12/09/92	Date Released	: 12/16/92
		Instrument ID	: HP21

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	10.0	10.1	101%	49-159
Toluene	10.0	9.9	99%	53-156
Ethylbenzene	10.0	10.3	103%	54-151
TOTAL Xylenes	10.0	10.3	103%	56-157
P-BFB			56%	53-147

* Limits established by Anametrix, Inc.

[redacted] Dunn Geoscience Corp. [redacted] 12112 [redacted]

12 Metro Park Road

Albany, N.Y. 12205 (518) 458-1313

14/27 (13) (18)

DUNN GEOSCIENCE CORP

Client Name: AMERICAN NATIONAL CAN CO.	DGC Contact: ED ALLISON
Project No.: 02345-0983	Laboratory Contact: J. PAYNE
Site Location: Oakland, Ca.	Lab Identification: ANAMETRIX
	Date Report Required: STANDARD
Sampler: WALTER O. HOWARD	

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	Preserv.	Comp. or Grab	ANALYSES ~~Comment~~
(11) AREA 4: MW-8	12/4/92	1015 ~~0945~~	WATER	BAILER	NYLON ROPE	2x40 ML	HCL	Grab	VOCs (624) w/XYLENES
						3x40 ML	HCL		~~TPHd~~ TPHg (DHS LUFT)
						2x1 litre	N		TPHd (DHS LUFT)
						2x1 litre	N		PCBs (8080)
(12) AREA 4: MW-11	↓	1215	↓	↓	↓	3x40 ML	HCL	↓	BTEX + TPHg (DHS LUFT)
(13) AREA 4: MW-9	↓	1240	↓	↓	↓	3x40 ML	HCL	↓	↓
(14) AREA 4: GW-3	↓	1310	↓	↓	↓	3x40 ML	HCL	↓	↓

Walter O. Howard 12/4/92

	Name	Affiliation	Date	Time
Relinquished by:	Walter O. Howard	DUNN	12/4/92	1420
Received by:	Benny S. Capagosa	ANAMETRIX	12/4/92	1420
Relinquished by:	Benny S. Capagosa	ANAMETRIX	12/4/92	1620
Received by:				

	Name	Date	Time
Received by Laboratory:	Michelle D. Aguilar	12/4/92	1620
Samples Intact & Properly Preserved: (Yes) or No			
Laboratory Comments:			

FORM50

ANAMETRIX INC
Part of Inchcape Environmental

REPORT

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9212374
Date Received : 12/30/92
Project ID : AMERICAN NATIONAL
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9212374- 1	GW-3
9212374- 2	T. BLANK
9212374- 3	B. BLANK

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen
Sarah Schoen, Ph.D.
Laboratory Director

01-04-93
Date

1961 Concourse Drive Suite E • San Jose CA 95131 • Phone (408) 432-8192 • Fax (408) 432-8198

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9212374
Date Received : 12/30/92
Project ID : AMERICAN NATIONAL
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9212374- 1	GW-3	WATER	12/30/92	TPHg/BTEX
9212374- 2	T. BLANK	WATER	12/30/92	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9212374
Date Received : 12/30/92
Project ID : AMERICAN NATIONAL
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Baemer 1/4/93
Department Supervisor Date

Peggie Davison 1/4/93
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9212374
Matrix : WATER
Date Sampled : 12/30/92

Project Number : AMERICAN NATIONAL
Date Released : 12/31/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# GW-3 -01	Sample I.D.# T. BLANK -02	Sample I.D.# BD3001E2 BLANK
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	1000	ND	ND
Total Xylenes	0.5	3300	ND	ND
TPH as Gasoline	50	11000	ND	ND
% Surrogate Recovery		107%	103%	106%
Instrument I.D.		HP4	HP4	HP4
Date Analyzed		12/30/92	12/30/92	12/30/92
RLMF		100	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Peggie Dawson 1/4/93
Analyst Date

Cheryl Balmer 1/4/93
Supervisor Date

BTEX LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW1230
Matrix	: WATER	Analyst	: RD
Date Sampled	: N/A	Supervisor	: GS
Date Analyzed	: 12/30/92	Date Released	: 01/04/93
		Instrument ID	: HP4

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	17.1	86%	49-159
Toluene	20.0	18.6	93%	53-156
Ethylbenzene	20.0	19.7	99%	54-151
TOTAL Xylenes	20.0	19.4	97%	56-157
P-BFB			84%	53-147

* Limits established by Anametrix, Inc.

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

9212374 (18)

CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME		
	American National Can		
Send Report Attention of: Edward Allison	Report Due 12/31/92	Verbal Due / /	

	Sample Number	Date	Time	Comp	Matrix	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPH/BTEX	Type of Analysis: Hold	Condition of Samples	Initial
(1)	GW-3	12/30/92	14:20		W		3	40ml	X			
(2)	Trip blank	"					3	"	X			
(3)	Boiler blank	"	13:20				4	"		Hold		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	12/30/92 15:30	[signature]	12/30/92 15:30
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by Lab:	Date/Time

Remarks: Dunn Corporation
One day Rush

COMPANY: Dunn Corporation
ADDRESS: 12 Metro Park Road Albany NY 12205
PHONE: [illegible]

ANAMETRIX INC

Part of Inchcape Environmental

REPORT

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9301209
Date Received : 01/20/93
Project ID : 02345-01983
Purchase Order: 29518

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9301209- 1	GW-3
9301209- 2	T. BLANK
9301209- 3	B. BLANK

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Director

1-27-93
Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9301209
Date Received : 01/20/93
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9301209- 1	GW-3	WATER	01/20/93	TPHg/BTEX
9301209- 2	T. BLANK	WATER	01/20/93	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. EDWARD ALUSOW
DUNN CORPORATION
12 METRO PARK ROAD
ALBANY, NY 12205

Workorder # : 9301209
Date Received : 01/20/93
Project ID : 02345-01983
Purchase Order: 29518
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 1/27/93
Department Supervisor Date

Charlotte Burch 1.27.93
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9301209
Matrix : WATER
Date Sampled : 01/20/93

Project Number : 02345-01983
Date Released : 01/26/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# GW-3 -01	Sample I.D.# T.BLANK -02	Sample I.D.# BJ2501E3 BLANK
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	3900	ND	ND
Total Xylenes	0.5	11000	ND	ND
TPH as Gasoline	50	39000	ND	ND
% Surrogate Recovery		115%	116%	114%
Instrument I.D.		HP4	HP4	HP4
Date Analyzed		01/25/93	01/25/93	01/25/93
RLMF		250	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Charlotte Bench 1-27-93
Analyst Date

Cheryl Bueno 1/27/93
Supervisor Date

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW0125
Matrix	: WATER	Analyst	: CMB
Date Sampled	: N/A	Supervisor	: JB
Date Analyzed	: 01/25/93	Date Released	: 01/26/93
		Instrument ID	: HP4

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	19.4	97%	49-159
Toluene	20.0	19.6	98%	53-156
Ethylbenzene	20.0	20.0	100%	54-151
TOTAL Xylenes	20.0	20.2	101%	56-157
P-BFB			97%	53-147

* Limits established by Anametrix, Inc.

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

(18) 9301 209

CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER:

PROJECT NAME: American National Can

Send Report Attention of: Edward Alusow

Report Due: ~~2/3/93~~

Verbal Due: / /

Sample Number	Date	Time	Comp	Matrix	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPHg/BTEX									Condition of Samples	Initial
(1) GW-3	1/20/93	~~10:30~~ 13:55		W		3	40ml	X										
(2) Trip blank	"					"	"	X										
(3) Bailer blank	"	~~13:40~~ 13:10				"	"	Hold										

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	1/20/93 15:00	[signature]	1/20/93 18:??
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by Lab:	Date/Time

Remarks: Ref# 1957J

COMPANY: Dunn corporation
ADDRESS: 12 Metro Park Rd Albany NY 12205
PHONE : (518) 458-8131 FAX :