02-8703-66-SI
REV. NO. 0

Brown Dayton

FINAL DRAFT
SITE INSPECTION REPORT
DAYTON T. BROWN
BOHEMIA, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8703-66
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

OCTOBER 27, 1989

NUS CORPORATION
SUPERFUND DIVISION

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SECTION 1

SITE SUMMARY

SITE SUMMARY

Dayton T. Brown is an active site located in an industrial/commercial/residential section of Bohemia, Suffolk County, New York, in central Long Island. The facility, operating since 1960, is divided into two divisions: manufacturing, and industrial research and development. The site covers 30 acres, of which 25 acres are commercially active. There are eight buildings on site: a manufacturing building, a laboratory building, and six remote testing buildings.

Dayton T. Brown has generated a variety of wastes over the years, including plating waste, painting waste, and photo waste. These wastes are currently either removed by a licensed scavenger, or discharged to a permitted basin.

Two areas of concern at the Dayton T. Brown site include underground tanks and a recharge basin. There are four underground tanks. Tanks No. 2 and No. 3 are holding tanks, and Tanks No. 1 and No. 4 are overflow tanks. These tanks hold a combined volume of approximately 10,000-12,000 gallons. These tanks were used to hold plating waste prior to off-site disposal. At present, the tanks contain plating sludge and are possibly in unsound condition. The recharge basin is regulated by a State Pollutant Discharge Elimination System (SPDES) permit. This basin receives cooling water and photo waste. In the past, Dayton T. Brown has violated permit limits for waste parameters and concentration. There is no potential for direct contact with these waste units because the recharge basin and underground tanks are surrounded by a fence and access is controlled by security guards.

NUS Corp. Region 2 FIT performed a site inspection of the Dayton T. Brown facility on July 28, 1987. During the site inspection, one effluent, two soil, two sediment, one tap water and two sludge samples were collected. Analyses of the sludge samples taken from Tanks No. 2 and No. 3 indicate the presence of several organic and heavy metal contaminants. The only organic compound found in soil samples was bis(2-ethylhexyl)phthalate, found at a concentration of 2,300 ppb in soil sample NYR4-S1. This contaminant was also found in both sludge samples. Several heavy metal contaminants were also found in soil samples. Analyses of the tap water and effluent samples did not indicate any organic contamination. Manganese and copper were present in these samples. Many of the inorganic parameters for these samples did not meet EPA QA/QC specifications.

There is a potential for on-site contaminants to migrate into the groundwater and contaminate wells within 3 miles of the site. Contaminants were found in soil samples taken by NUS Corp. Region 2 FIT on July 28, 1987. The condition of the underground tanks is unknown.

Ref. Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9

SECTION 2

ENVIRONMENTAL PROTECTION AGENCY FORM 2070-13

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D002050177

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Dayton T. Brown Inc.

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: 555 Church Street

03 CITY: Bohemia

04 STATE: NY

05 ZIP CODE: 11716

06 COUNTY: Suffolk

07 COUNTY CODE: 103

08 CONG DIST.: 2

09 COORDINATES

LATITUDE: 4 0° 4 6' 1 5". N

LONGITUDE: 0 7 3° 0 6' 0 0". W

10 TYPE OF OWNERSHIP (Check one)

X A. PRIVATE _ B. FEDERAL _ C. STATE
_ D. COUNTY _ E. MUNICIPAL _ F. OTHER
_ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 7 / 28 / 87 (MONTH DAY YEAR)

02 SITE STATUS: X ACTIVE _ INACTIVE

03 YEARS OF OPERATION: 1960 (BEGINNING YEAR) / still active (ENDING YEAR) _ UNKNOWN

AGENCY PERFORMING INSPECTION (Check all that apply)

_ A. EPA X B. EPA CONTRACTOR NUS Corp., FIT 2 (Name of firm) _ C. MUNICIPAL _ D. MUNICIPAL CONTRACTOR _____ (Name of firm)

_ E. STATE _ F. STATE CONTRACTOR _____ (Name of firm) _ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Edward L. Leonard	Environmental Scientist	NUS Corp.	(201) 225-6160

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Claire Marcussen	Chemist	NUS Corp.	(201) 225-6160
Gerald Gilliland	Technician	NUS Corp.	(201) 225-6160
Thomas Varner	Engineer	NUS Corp.	(201) 225-6160
Dan de Bruijn	Technician	NUS Corp.	(201) 225-6160

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Robert Single	Personnel Manager	Dayton T. Brown 555 Church Street Bohemia, NY 11716	(516) 589-6300
Bill Schaat	Corporate Maintenance	Dayton T. Brown 555 Church Street Bohemia, NY 11716	(516) 589-6300

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION _ WARRANT	0830	Sunny and hot. Air temperature 80 - 90° F. Steady wind from the north at approximately 5 mph.

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Amy Brochu	U.S. EPA	(201) 906-6802

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
D. Foerter		NUS Corp., FIT 2	(201) 225-6160	10/13/89 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

_ A. SOLID
_ B. POWDER, FINES
X C. SLUDGE
_ D. OTHER _____ (Specify)
_ E. SLURRY
X F. LIQUID
_ G. GAS

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS _____
NO. OF DRUMS 70

03 WASTE CHARACTERISTICS (Check all that apply)

X A. TOXIC
_ B. CORROSIVE
_ C. RADIOACTIVE
X D. PERSISTENT
X E. SOLUBLE
_ F. INFECTIOUS
_ G. FLAMMABLE
_ H. IGNITABLE
_ I. HIGHLY VOLATILE
_ J. EXPLOSIVE
_ K. REACTIVE
_ L. INCOMPATIBLE
_ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown	Unknown	There are two major areas of concern: four inactive underground holding tanks, containing plating sludge; and a permitted recharge basin, receiving cooling water and photo waste.
OLW	OILY WASTE			
SOL	SOLVENTS	Unknown	Unknown	
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown	Unknown	
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown	Unknown	

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
Previous sampling Results.					
MES	Copper	7440-50-8	Recharge Basin	8.0	mg/L
MES	Lead	7439-92-1	Recharge Basin	0.4	mg/L
MES	Silver	7440-22-4	Recharge Basin	0.7	mg/L
SOL	1,1,1-Trichloroethane	71-55-6	Recharge Basin	8.0	ppb
SOL	Trichloroethene	79-01-6	Recharge Basin	7.8	ug/L
Sampling Results from NUS Region 2 FIT Investigation.					
OCC	4-Methyl-2-Pentanone	108-10-1	Tank, Below Ground	49	ug/kg
SOL	Tetrachloroethane	79-34-5	Tank, Below Ground	360	ug/kg
OCC	Ethylbenzene	100-41-4	Tank, Below Ground	49	ug/kg
OCC	Phenol	108-95-2	Tank, Below Ground	6,900E	ug/kg
OCC	Benzoic Acid	65-85-0	Tank, Below Ground	4,000E	ug/kg
OCC	bis (2-Ethylhexyl) phthalate	117-81-7	Tank, Below Ground*	83,000E	ug/kg
MES/SLU	Aluminum	7429-90-5	Tank, Below Ground	50,500	mg/kg
MES/SLU	Arsenic	7440-38-2	Tank, Below Ground	40.6	mg/kg
MES/SLU	Barium	7440-39-3	Tank, Below Ground	2,250	mg/kg
MES/SLU	Beryllium	7440-41-7	Tank, Below Ground	3.2	mg/kg
MES/SLU	Cadmium	7440-43-9	Tank, Below Ground	194E	mg/kg
IOC/SLU	Calcium	1317-65-3	Tank, Below Ground	12,600	mg/kg
MES/SLU	Chromium	7440-47-3	Tank, Below Ground*	43,100	mg/kg
MES/SLU	Copper	7440-50-8	Tank, Below Ground*	3,680	mg/kg
IOC/SLU	Iron	1309-37-1	Tank, Below Ground*	122,000	mg/kg
MES/SLU	Lead	7439-92-1	Tank, Below Ground	1,290E	mg/kg
MES/SLU	Manganese	7439-96-5	Tank, Below Ground*	628	mg/kg
MES/SLU	Mercury	7439-97-6	*	0.1E	mg/kg
MES/SLU	Nickel	7440-02-2	Tank, Below Ground	159E	mg/kg
MES/SLU	Selenium	7782-49-2	Tank, Below Ground	4.74E	mg/kg
MES/SLU	Silver	7440-22-4	Tank, Below Ground	29.6	mg/kg
MES/SLU	Sodium	7440-23-5	Effluent**	10,600	ug/l
MES/SLU	Vanadium	1314-62-1	Tank, Below Ground	646	mg/kg
MES/SLU	Zinc	7440-66-6	Tank, Below Ground	99,000	mg/kg
IOC/SLU	Cyanide	151-50-8	Tank, Below Ground	45.2	mg/kg

E=estimated value
* Found in surface soil
** found in tap water

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Toluene	108-88-3	FDS		
FDS	Methyl ethyl ketone	78-93-3	FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (See specific references. e.g., state files, sample analysis, reports) (con't)

Background Files, Suffolk County Department of Health Services (SCDHS), Suffolk County, New York.
Preliminary Assessment, U.S. Environmental Protection Agency, October 17, 1989.
Letter from D.C. Gobbi, Bureau of Environmental Pollution Control, to A. Donato, Dayton T. Brown, December 2, 1985.
Trace Organic Analysis of Industrial Waste, Dayton T. Brown, Inc., January 25, 1984.
Letter from D.C. Gobbi, Bureau of Environmental Pollution Control, to R. Single, Dayton T. Brown, Inc., February 21, 1984.
Field Logbook No. 0115, Dayton T. Brown, TDD No. 02-8703-66, Site Inspection, NUS Region 2 FIT, Edison, New Jersey. July 28, 1987,
U.S. EPA Contract Laboratory Program, Alliance Technologies, Century Refiniry Co., Hittman Ebasco Assoc. Inc., Chemtech Consulting Group, Case No. 7765/3181 B, Laboratory Analysis from NUS Corporation, Region 2 FIT Site Inspection
conducted on July 28, 1987.
Telecon Note: Conversation between R. Single, Dayton T. Brown, and Ed Leonard, NUS Corp., August 27, 1987.

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 OBSERVED (DATE:) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 200,000 — 04 NARRATIVE DESCRIPTION

The potential exists for groundwater contamination via the possibly leaking underground storage tanks and the discharges, which exceeded permit levels, to the recharge basin. Analysis of the sludge in the underground storage tanks indicate the presence of several organic and heavy metal contaminants.

01 B. SURFACE WATER CONTAMINATION — 02 OBSERVED (DATE:) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The potential for surface water contamination does not exist. There are no drainage routes from the site to the nearest body of water.

01 C. CONTAMINATION OF AIR — 02 OBSERVED (DATE:) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The potential for air contamination does not exist. Waste storage and disposal facilities are located below ground. No air monitoring readings were detected above background in the ambient air.

01 D. FIRE/EXPLOSIVE CONDITIONS — 02 OBSERVED (DATE:) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Field observations did not indicate the potential for significant fire/explosive conditions on site.

01 E. DIRECT CONTACT — 02 OBSERVED (DATE:) — _ POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The potential for direct contact does not exist. Areas of contamination are entirely fenced.

01 X F. CONTAMINATION OF SOIL — 02 X OBSERVED (DATE: 7/28/87) — _ POTENTIAL — _ ALLEGED
03 AREA POTENTIALLY AFFECTED: Unknown (ACRES) — 04 NARRATIVE DESCRIPTION

Analysis of soil sample NYR4-S1 indicated the presence at bis (2-Ethylhexyl) Phthalate at a concentration of 2,300 ppb.

01 X G. DRINKING WATER CONTAMINATION — 02 OBSERVED (DATE:) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 200,000 — 04 NARRATIVE DESCRIPTION

The potential exists for drinking water contamination via the underground holding tanks and the recharge basin. Suffolk County drinking water is entirely supplied by groundwater.

01 H. WORKER EXPOSURE/INJURY — 02 OBSERVED (DATE:) — _ POTENTIAL — _ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The potential for worker exposure/injury does not exist. Areas of contamination are entirely fenced.

01 X I. POPULATION EXPOSURE/INJURY — 02 OBSERVED (DATE:) — X POTENTIAL — _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 200,000 — 04 NARRATIVE DESCRIPTION

The potential exists for population exposure to possibly contaminated drinking water.

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 J. DAMAGE TO FLORA — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

The potential for damage to flora does not exist. The site is located in a densely populated industrial/commercial area.

01 K. DAMAGE TO FAUNA — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

The potential for damage to fauna does not exist. The site is located in a densely populated industrial/commercial area.

01 L. CONTAMINATION OF FOOD CHAIN — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

The potential for food chain contamination does not exist. The site is located in a densely populated industrial/commerical area.

01 X M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 X OBSERVED (DATE: 1/25/84) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 5,342 — 04 NARRATIVE DESCRIPTION

There are two areas of unstable waste containment: the recharge basin, which receives effluent discharge in violation of SPDES permit limits and parameters; and the possibly unsound underground holding tanks, which store waste. Population potentially affected within a 1-mile radius is approximately 5,342 people.

01 X N. DAMAGE TO OFFSITE PROPERTY — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

The potential exists for off-site property damage via contamination of wells.

01 O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

There is no known contamination of sewers, storm drains, or WWTP's.

01 X P. ILLEGAL/UNAUTHORIZED DUMPING — 02 X OBSERVED (DATE: 1/25/84) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

Analysis of the effluent entering the recharge basin by the Suffolk County Department of Health Services has demonstrated violations of SPDES permit limits and parameters.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

There are no other known, potential or alleged hazard.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 200,000

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)

Field Logbook No. 0115, Dayton T. Brown, TDD No. 02-8703-66, Site Inspection, NUS Region 2 FIT, Edison, New Jersey, July 28, 1987.
U.S. EPA Contract Laboratory Program, Alliance Technologies, Century Refining Co., Hittman Ebasco Assoc. Inc., Chemtech Consulting Group, Case No. 7765/3181B, Laboratory Analysis from NUS Corporation, Region 2 FIT Site Inspection Conducted on July 28, 1987.
Trace Organic Analysis of Industrial Waste, Dayton T. Brown, Inc., January 25, 1984.
Letter from D.C. Gobbi, Bureau of Environmental Pollution Control, to R. Single, Dayton T. Brown, Inc., February 21, 1984.
General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS), Landover, Maryland, 1986.
Letter from Diane Trube, NUS Corp., to Mr. Pat Dugan, Suffolk County Water Authority, March 25, 1987.
U.S. Department of the Interior, Geological Survey Topographic Map, 7.5 Minute Series, "Patchogue Quadrangle, New York", 1967, "Central Islip Quadrangle, New York", 1967, revised 1979, "Bayshore Quadrangle, New York", 1969, revised 1979, "Sayville Quadrangle, New York", 1967.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D002050177

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
_ A. NPDES				
_ B. UIC				
_ C. AIR				
_ D. RCRA				
_ E. RCRA INTERIM STATUS				
_ F. SPCC PLAN				
X G. STATE (Specify) SPDES	NY0075809	6/1/85	6/1/90	In the past, Dayton T. Brown has violated this permit for waste parameters and concentration.
_ H. LOCAL (Specify)				
_ I. OTHER (Specify)				
_ J. NONE				

III. SITE DESCRIPTION

01 Storage/Disposal (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
X A. SURFACE IMPOUNDMENT	54,036	cubic feet	_ A. INCINERATION	X A. BUILDINGS ON SITE
_ B. PILES			_ B. UNDERGROUND INJECTION	
_ C. DRUMS, ABOVE GROUND			_ C. CHEMICAL/PHYSICAL	
_ D. TANK, ABOVE GROUND			_ D. BIOLOGICAL	06 AREA OF SITE
X E. TANK, BELOW GROUND	10,000	gallons	_ E. WASTE OIL PROCESSING	
_ F. LANDFILL			_ F. SOLVENT RECOVERY	
_ G. LANDFARM			_ G. OTHER RECYCLING/RECOVERY	30 (Acres)
_ H. OPEN DUMP			_ H. OTHER (Specify)	
_ I. OTHER (Specify)				

07 COMMENTS

The surface impoundment is a SPDES-permitted recharge basin receiving cooling water and photo waste from the laboratory building. The four underground concrete tanks were used for holding plating waste. At present the tanks are not used, but contain some plating sludge.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

_ A. ADEQUATE, SECURE _ B. MODERATE X C. INADEQUATE, POOR _ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

The underground tanks are in unknown condition, with no liner or leak containment system.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: YES X NO

02 COMMENTS The underground tanks and the recharge basin are entirely fenced and of limited access to the public and employees.

VI SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)

Field Logbook No. 0115, Dayton T. Brown, TDD No. 02-8703-66, Site Inspection, NUS Region 2 FIT, Edison, New Jersey, July 28, 1989.
Telecon Note: Conversation between R. Single, Dayton T. Brown, and Ed Leonard, NUS Corp., August 27, 1987.
State Pollutant Discharge Elimination System Permit No. 0075809, June 1, 1985.
Telecon Note: Conversation between A. Speiser, LKB Assoc., and Ed Leonard, NUS Corp., January 20, 1989.

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D002050177

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL	02 STATUS: ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. _	B. X	A. _	B. unknown	C. _	A. 0.07 (mi)
NON-COMMUNITY	C. _	D. _	D. _	E. _	F. _	B. _ (mi)

* see section II, 09 below

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

X A. ONLY SOURCE FOR DRINKING _ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) _ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) _ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: 200,000 03 DISTANCE TO NEAREST DRINKING WATER WELL: 0.07 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
20 (ft)	Southwest	20 (ft)	Unknown (gpd)	X YES _ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

There are nine wells within the 3-mile radius of the site, serving approximately 200,000 people. The wells range in depth from 83 feet to 838 feet. Approximately half the wells are screened in the Glacial Aquifer and half in the Magothy Aquifer. The three nearest wells are located approximately 400 feet southeast of the site, on Church Street. The two shallow wells are screened at 156 feet and 158 feet in the Glacial Aquifer. Both wells are out of service, due to organic contamination. However, these closures were not directly attributable to the Dayton T. Brown facility. The deeper well is screened at 838 feet in the Magothy Aquifer.

10 RECHARGE AREA
X YES _ NO
COMMENTS Aquifers are recharged directly by rainwater infiltration.

11. DISCHARGE AREA
_ YES X NO
COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

_ A. RESERVOIR, RECREATION DRINKING WATER SOURCE _ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES _ C. COMMERCIAL, INDUSTRIAL X D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
None		(mi)
		(mi)
		(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 5,300 NO. OF PERSONS	B. 27,000 NO. OF PERSONS	C. 57,700 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 0.01 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: 8,000

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 0.002 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site. e.g., rural, village, densely populated urban area)

The site is located within the village of Bohemia at the eastern end of Islip Township. It is a densely populated industrial/commercial/residential area.

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

_ A. 10^{-6} - 10^{-8} cm/sec _ B. 10^{-4} - 10^{-6} cm/sec _ C. 10^{-4} - 10^{-3} cm/sec X D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

X A. IMPERMEABLE (Less than 10^{-6} cm/sec) _ B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) _ C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) _ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK: 1,650 (ft)
04 DEPTH OF CONTAMINATED SOIL ZONE: 14 (ft)
05 SOIL pH: Unknown

06 NET PRECIPITATION: 14 (in)
07 ONE YEAR 24 HOUR RAINFALL: 2.5 (in)
08 SLOPE
SITE SLOPE: 1 %
DIRECTION OF SITE SLOPE: Southeast
TERRAIN AVERAGE SLOPE: 1 %

09 FLOOD POTENTIAL
SITE IS IN 500 YEAR FLOODPLAIN
10 _ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE: A. 2.0 (mi)
OTHER: B. 1.0 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
none within 3 miles (mi)
ENDANGERED SPECIES: Not Applicable

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS: NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0.0 (mi)	B. 0.01 (mi)	C. Unknown (mi)	D. Unknown (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site property is relatively level, at an elevation of approximately 45-50 feet above mean sea level. Regional slope of the terrain is southerly. The site is located within an industrial/commercial complex, directly south of MacArthur Airport.

VII SOURCES OF INFORMATION (Cite specific references e.g., state files, sample analysis, reports)

- Application Form "C" for a State Pollutant Discharge Elimination System (SPDES) Permit, Dayton T. Brown, Inc. (undated).
Telecon Note: Conversation between Pat Dugan, Suffolk County-Water Authority, and Diane Trube, NUS Corp., March 24, 1987.
General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS), Landover Maryland, 1986.
Response to letter from Diane Trube, NUS Corp., to Mr. Pat Dugan, Suffolk County Water Authority, March 25, 1987.
Soren J., Results of Subsurface Exploration in the Mid-Island Area of Western Suffolk County, Long Island, New York, 1971.
Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix a, 1986.
Atlantic Coast Ecological Inventory, U.S. Department of the Interior, Fish and Wildlife Service, 1980.
U.S. Department of the Interior, Geological Survey Topographic Map, 7.5 Minute Series, "Patchogue Quadrangle, New York," 1967, "Central Islip Quadrangle, New York", 1967, revised 1979, "Bayshore Quadrangle, New York", 1969, revised 1979, Sayville Quadrangle, New York", 1967.
Telecon Note: Conversation between R. Single, Dayton T. Brown, and Ed Leonard, NUS Corp., July 21, 1987.
U.S. Department of Housing and Urban Development, Flood Insurance Rate Map (FIRM), Town of Islip, Suffolk County, New York, Panel 10, July 18, 1983.

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	1	Organic Labs: Alliance Technologies 213 Burlington Road Bedford, MA 01730	12/12/87*
SURFACE WATER			
WASTE Sludge	2	Century Refining Co. 695 North Seventh Street Brighton, CO. 80601	
Effluent	1		
AIR			
RUNOFF		Inorganic Labs: Hittman Ebasco Assoc. Inc. 9151 Rumsey Road Columbia, MD 21045	1/12/88*
SPILL			
SOIL	2	Chemtech Consulting Group 360 West 11th Street New York, NY 10014	2/24/88*
VEGETATION			
OTHER Sediment	2		

* Dates on which NUS Corp. received data.

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Air Monitoring	No readings above ambient conditions were detected on the OVA flame ionization detector or the HNu photoionization detector. Elevated readings were detected in underground holding tank No. 3 on the OVA.
Dimensions	Approximate measurements were obtained for the swale and recharge basin. The depth was obtained for each underground holding tank.

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND X AERIAL

02 IN CUSTODY OF NUS Corp., Region 2 FIT
(Name of organization or individual)

03 MAPS X YES _ NO

04 LOCATION OF MAPS NUS Corp., Region 2 FIT, Edison NJ

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Field notebook No. 0115. Filed under TDD No. 02-8703-66.

VI. SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)

Field Logbook No. 0115, Dayton T. Brown, TDD No. 02-8703-66, Site Inspection, NUS Region 2 FIT, Edison, New Jersey, July 28, 1987.

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D002050177

II. CURRENT OWNER(S)

01 NAME	02 D + B NUMBER	08 NAME (PARENT COMPANY (If applicable))	09 D + B NUMBER
Dayton T. Brown, Inc.			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
555 Church Street			
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE
Bohemia / NY	11716		

01 NAME	02 D + B NUMBER	08 NAME	09 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE

01 NAME	02 D + B NUMBER	08 NAME	09 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE

01 NAME	02 D + B NUMBER	08 NAME	09 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD#, etc.)	11 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	12 CITY / 13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
J.M. Greene			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
Great River Road			
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Great River / NY			

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Telecon Note: Conversation between office clerk, Assessor's Office-Islip, and Ed Leonard NUS Corp., July 23, 1987.
Telecon Note: Conversation between office clerk, Suffolk County Clerk's Office, and Ed Leonard, NUS Corp., July 23, 1989.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D002050177

II. CURRENT OPERATOR(S)

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER
Dayton T. Brown, Inc.			
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
555 Church Street			
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
Bohemia / NY	11716		
08 YEARS OF OPERATION / 09 NAME OF OWNER			
29			

III. PREVIOUS OPERATOR(S) (List most recent first: Provide only if different from owner)

PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION / 09 NAME OF OWNER			

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION / 09 NAME OF OWNER			

01 NAME	02 D + B Number	10 NAME	11 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD#, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION / 09 NAME OF OWNER			

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, U.S. Environmental Protection Agency, October 17, 1986.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
NY D002050177

II ON-SITE GENERATOR

01 NAME: Dayton T. Brown, Inc.
02 D + B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD#, etc.): 555 Church Street
04 SIC CODE:
05 CITY: Bohemia
06 STATE: NY
07 ZIP CODE: 11716

III OFF-SITE GENERATOR(S)

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD#, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment, U.S. Environmental Protection Agency, October 17, 1986.

II. PAST RESPONSE ACTIVITIES

01 A. WATER SUPPLY CLOSED — 02 DATE: unknown — 03 AGENCY: unknown
04 DESCRIPTION

Two shallow wells located on Church Street have been closed due to organic contamination. However, these closures were not directly attributable to the Dayton T. Brown facility.

01 B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 D. SPILLED MATERIAL REMOVED — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 E. CONTAMINATED SOIL REMOVED — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 F. WASTE REPACKAGED — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 G. WASTE DISPOSED ELSEWHERE — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history as a response action; however wastes were routinely disposed of off-site.

01 H. ON SITE BURIAL — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history

01 I. IN SITU CHEMICAL TREATMENT — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 J. IN SITU BIOLOGICAL TREATMENT — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 K. IN SITU PHYSICAL TREATMENT — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 L. ENCAPSULATION — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 M. EMERGENCY WASTE TREATMENT — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 N. CUTOFF WALLS — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 P. CUTOFF TRENCHES/SUMP — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 Q. SUBSURFACE CUTOFF WALL — 02 DATE: _____ — 03 AGENCY: _____
04 DESCRIPTION

No previous history.

II. PAST RESPONSE ACTIVITIES

01 R. BARRIER WALLS CONSTRUCTED 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 S. CAPPING/COVERING 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 T. BULK TANKAGE REPAIRED 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 U. GROUT CURTAIN CONSTRUCTED 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 V. BOTTOM SEALED 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 W. GAS CONTROL 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 X. FIRE CONTROL 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 Y. LEACHATE TREATMENT 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 Z. AREA EVACUATED 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 1. ACCESS TO SITE RESTRICTED 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 2. POPULATION RELOCATED 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history.

01 3. OTHER REMEDIAL ACTIVITIES 02 DATE: _____ 03 AGENCY: _____
04 DESCRIPTION

No previous history

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Application Form "C" for a State Pollutant Discharge Elimination System (SPDES) Permit, Dayton T. Brown, Inc., (undated).

Background Files, NUS Corporation, Region 2 FIT, Edison, New Jersey.

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION X YES _ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

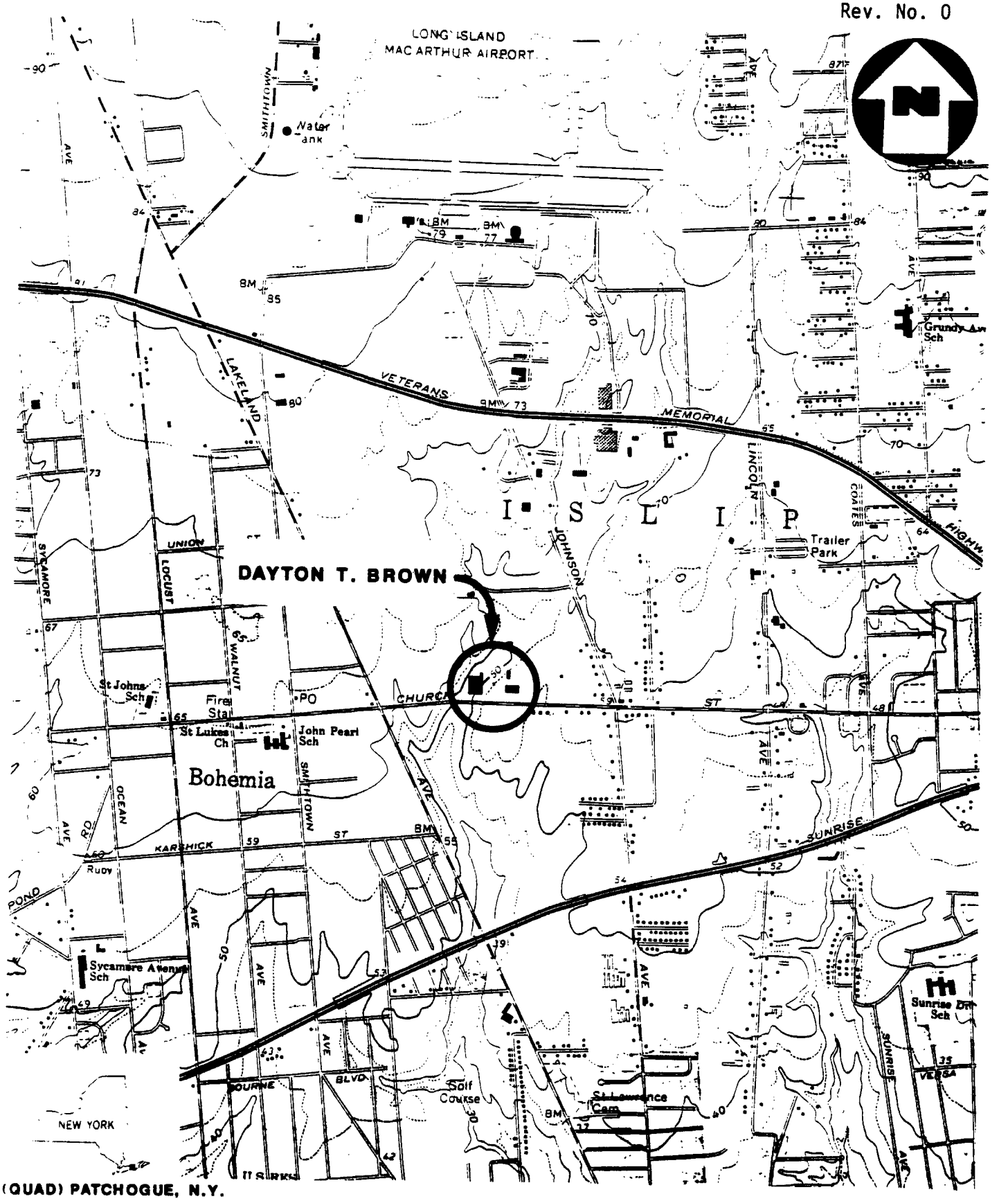
5/6/87 Consent Order (No. 1-1373) filed by NYSDEC.
This order required Dayton T. Brown to comply with state air emission regulations (Part 228, Title 6, NYCRR) and to submit quarterly progress reports summarizing actions and/or efforts taken.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, report)

Order of Consent, from State of New York, Department at Conservation, to Dayton T. Brown, May 6, 1985.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The site is recommended for a Listing Site Inspection. This recommendation is based on the potential for on-site contaminants to migrate to groundwater, which serves a population of approximately 200,000 people. Analytical results of soil samples taken by NUS Corp. Region 2 FIT indicate the presence of organic and heavy metal contaminants. A majority of the heavy metals found in these soil samples were also found in sludge samples taken from Tanks No. 2 and No. 3, which are located west of the manufacturing building. There is also a question as to the soundness of the underground tanks. Dayton T. Brown officals have said that the tanks were not leak tested and that the tanks had no pollution control devices.



(QUAD) PATCHOGUE, N.Y.

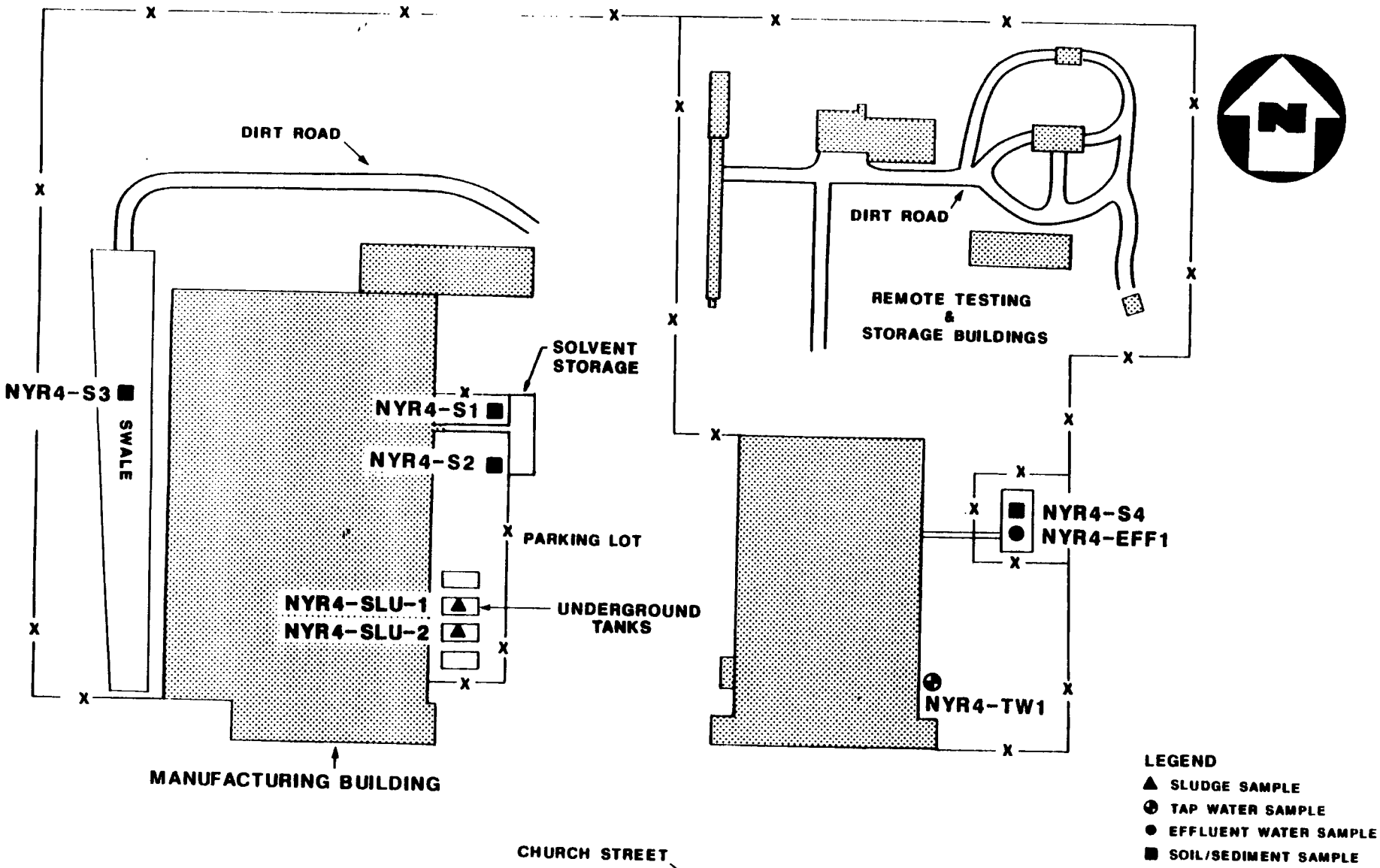
FIGURE 1

SITE LOCATION MAP

DAYTON T. BROWN, BOHEMIA, N.Y.

SCALE: 1" = 2000'

NUS CORPORATION
A Halliburton Company



U2-8703-66-SI
Rev. No. 0

FIGURE 2

SAMPLE LOCATION MAP

DAYTON T. BROWN, BOHEMIA, N.Y.

(NOT TO SCALE)

NUS CORPORATION

SECTION 3

MAPS AND PHOTOGRAPHS

DAYTON T. BROWN
BOHEMIA, NEW YORK

CONTENTS

Figure 1: Site Location Map
Figure 2: Sample Location Map
Exhibit A: Photographic Log

EXHIBIT A

PHOTOGRAPHIC LOG

DAYTON T. BROWN
BOHEMIA, NEW YORK

SITE INSPECTION: JULY 28, 1987

DAYTON T. BROWN
BOHEMIA, NEW YORK
JULY 28, 1987

PHOTOGRAPHIC INDEX

ALL PHOTOGRAPHS TAKEN BY EDWARD LEONARD

Photo Number	Description	Time
1P-1	T. Varner collecting sample S-1.	1030
1P-2	T. Varner collecting sample S-2.	1048
1P-3	D. Debruijn collecting sample SLU-1.	1146
1P-4	D. Debruijn collecting sample SLU-2.	1215
1P-5	T. Varner collecting sample S-3.	1303
1P-6	Looking south at swale by MFG. building.	1320
1P-7	D. Debruijn collecting sample S-4.	1340
1P-8	D. Debruijn collecting sample EFF-1.	1346
1P-9	View of recharge basin by lab building.	1352
1P-10	View of recharge basin by lab building.	1356
1P-11	D. Debruijn collecting sample TW-1 from well No. 3.	1411
1P-12	Site sign by parking lot.	1508
1P-13	Site sign on MFG. building.	1513

DAYTON T. BROWN, BOHEMIA, NEW YORK

1P-1 July 28, 1987 1030
T. Varner collecting sample S-1.

1P-2 July 28, 1987 1048
T. Varner collecting sample S-2.

DAYTON T. BROWN, BOHEMIA, NEW YORK

1P-3 July 28, 1987 1146
D. Debruijn collecting sample SLU-1.

1P-4 July 28, 1987 1215
D. Debruijn collecting sample SLU-2.

DAYTON T. BROWN, BOHEMIA, NEW YORK

1P-5 July 28, 1987 1303
T. Varner collecting sample S-3.

1P-6 July 28, 1987 1320
Looking south at swale by MFG. Building.

DAYTON T. BROWN, BOHEMIA, NEW YORK

1P-7 July 28, 1987 1340
D. Debruijn collecting sample S-4.

1P-8 July 28, 1987 1346
D. Debruijn collecting sample EFF-1.

DAYTON T. BROWN, BOHEMIA, NEW YORK

1P-9 July 28, 1987 1352
View of recharge basin by lab building, looking north.

1P-10 July 28, 1987 1356
View of recharge basin by lab building, looking south.

DAYTON T. BROWN, BOHEMIA, NEW YORK

1P-11 July 28, 1987 1411
D. Debruijn collecting sample TW-1 from well #3.

1P-12 July 28, 1987 1508
Site sign by parking lot.

DAYTON T. BROWN, BOHEMIA, NEW YORK

1P-13

July 28, 1987
Site sign on MFG. Building.

1513

SECTION 4

CONCLUSIONS AND RECOMMENDATIONS

SECTION 5

BIBLIOGRAPHY OF INFORMATION SOURCES

BIBLIOGRAPHY

1. Preliminary Assessment, U.S. Environmental Protection Agency, October 17, 1986.

2. Application Form "C" for a State Pollutant Discharge Elimination System (SPDES) Permit, Dayton T. Brown, Inc., (undated).

3. Letter from D.C. Gobbi, Bureau of Environmental Pollution Control, to A. Donato, Dayton T. Brown, December 2, 1985.

4. Trace Organic Analysis of Industrial Waste, January 25, 1984.

5. Letter from D. C. Gobbi, Bureau of Environmental Pollution Control, to R. Single, Dayton T. Brown, Inc., February 21, 1984.

6. Field Logbook No. 0115, Dayton T. Brown, TDD No. 02-8703-66, Site Inspection, NUS Region 2 FIT, Edison, New Jersey, July 28, 1987.

7. U.S. EPA Contract Laboratory Program, Alliance Technologies, Century Refining Co, Hittman Ebasco Assoc. Inc., Chemtech Consulting Group, Case No. 7765/3181B, Laboratory Analysis from NUS Corporation, Region 2 FIT Site Inspection conducted on July 28, 1987.

8. Telecon Note: Conversation between R. Single, Dayton T. Brown, and Ed Leonard, NUS Corp., August 27, 1987.

9. Telecon Note: Conversation between Pat Dugan, Suffolk County Water Authority, and Diane Trube, NUS Corp., March 24, 1987.

10. State Pollutant Discharge Elimination System Permit No. 0075809, June 1, 1985.

11. Telecon Note: Conversation between A. Speiser, LKB Assoc., and Ed Leonard, NUS Corp., January 20, 1989.

12. General Sciences Corporation, Graphical Exposure Modeling Systems (GEMS), Landover, Maryland, 1986.

13. Response to letter from Diane Trube, NUS Corp. to Mr. Pat Dugan, Suffolk County Water Authority, March 25, 1987.

14. Soren, J., Results of Subsurface Exploration in the Mid-Island Area of Western Suffolk County, Long Island, New York, 1971.

15. Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.

16. Atlantic Coast Ecological Inventory, U S. Department of the Interior, Fish and Wildlife Service, 1980.

17. Project Note from E. Leonard to file, Subject: Background Information on Dayton T. Brown, April 9, 1987.

BIBLIOGRAPHY (Cont'd)

18. Telecon Note: Conversation between office clerk, Assessor's Office- Islip, and Ed Leonard, NUS Corp. July 23, 1987.

19. Telecon Note: Conversation between office clerk, Suffolk County Clerks Office, and Ed Leonard, NUS Corp., July 23, 1987.

20. Federal Register, Volume 43, Number 120, Page 26, 611, June 21, 1978.

21. Order of Consent, from State of New York, Department of Environmental Conservation, to Dayton T. Brown, May 6, 1985.

22. U.S. Department of the Interior, Geological Survey Topographic Map, 7.5 Minute Series. "Patchogue Quadrangle, New York", 1967, "Central Islip Quadrangle, New York', 1967 revised 1979, Bayshore Quadrangle, New York", 1969, revised 1979, "Sayrville Quadrangle, New York, 1967.

23. Telecon Note: Conversation between R. Single, Dayton T. Brown, and Ed Leonard, NUS Corp., July 21, 1987.

24. U.S. Department of Housing and Urban Development, Flood Insurance Rate Map (Firm), Village of Islip, Suffolk County, New York, Panel 10, July 18, 1983.

SECTION 6

BACKGROUND INFORMATION

REFERENCE NO. 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08817

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

Site Name: Dayton T. Brown

Address: 555 Church Street, Bohemia, NY 11716

County: Suffolk

EPA I.D. No.: NYD002050177

Summary:

Dayton T. Brown is a currently active industrial facility. Operations are divided into two divisions: manufacturing (the production of sheet metal cabinets) and industrial research and development. Hazardous waste is produced from the plating of metal parts, the painting of products, and photo processing.

A recharge sump located to the east of the building has been used to discharge photo processing rinse water. Testing of the sump on January 25, 1984 revealed high concentrations of silver, lead, and copper. Varying concentrations of trichloroethylene, 1,1,1-trichloroethane, and tetracholoroethylene have also appeared in this water. Two concrete in-ground holding tanks are also present east of the building. These were used to store metal plating wastewater. The tanks still contain a sludge, which most likely contains a high concentration of metals.

Priority for Inspection:
High ___
Medium X
Low ___
None ___

Recommendations:

The groundwater in the Bohemia area just west of Dayton T. Brown is already known to be contaminated with chloroform (a well field on Locust Ave. has been closed). The company itself had to stop using an on-site well because of contamination with 1,1,1-trichloroethane. Because of the above problems, and Suffolk County's dependency on groundwater, the site should be evaluated.

Sampling areas should include the discharge to the recharge sump, sludge from the holding tanks, the closed plant well (if possible) and any other nearby wells. Soil around the above areas should also be sampled. Samples should be analyzed for organics and metals.

Prepared by: Carol Price, Environmental Scientist
U.S. EPA, Environmental Services Division

Date: October 17, 1986

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER: D002050177

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Dayton T. Brown	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: 555 Church Street
03 CITY: Bohemia	04 STATE: NY; 05 ZIP CODE: 11716; 06 COUNTY: Suffolk; 07 COUNTY CODE: 103; 08 CONG DIST: 1
09 COORDINATES LATITUDE: 40 46 15._ LONGITUDE: _73 06 00._	

10 DIRECTIONS TO SITE (Starting from nearest public road):
Take the Sunrise Highway east to Lakeland Avenue. Make left onto Lakeland Avenue. Make first right from Lakeland Avenue onto Church Street. Continue along Church Street until reaching site.

III. RESPONSIBLE PARTIES

01 OWNER (If known): Dayton T. Brown (Corporation)	02 STREET (Business, mailing, residential): 555 Church Street
03 CITY: Bohemia	04 STATE: NY; 05 ZIP CODE: 11716; 06 TELEPHONE NUMBER: (516) 589-6300
07 OPERATOR (If known and different from owner): Tony Donato/Robert Single	08 STREET (Business, mailing, residential): 555 Church Street
09 CITY: Bohemia	10 STATE: NY; 11 ZIP CODE: 11716; 12 TELEPHONE NUMBER: (516) 389-6300

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: ____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: ____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☒ A. RCRA 3001 DATE RECEIVED: 8/8/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: __/__/__ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 11/26/85 (MONTH DAY YEAR)
☐ NO
7/24/85
8/11/82

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☒ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: ____ (Specify)
CONTRACTOR NAME(S): ____

02 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1960 (BEGINNING YEAR) | Current (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Silver, lead, copper, and some solvents were found in the effluent being discharged to a recharge sump. Two unused inground holding tanks containing metallic sludge from metal plating operations are located on site.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Groundwater contamination may be present from the contaminants found in the water discharged to the recharge sump. The potential for contamination exists from possible leaks in the inground tanks holding metallic sludge waste. Suffolk County is highly dependent on groundwater as a drinking supply.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspection on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Diana Messina	02 OF (Agency/Organization): EPA/ESD/SMB/Superfund Support Section	03 TELEPHONE NUMBER: (201) 321-6776

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Carol Price	EPA	ESD/SMB/Superfund	(201-321-6714)	10/17/86 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D002050177

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [X] B. POWDER, FINES
- [X] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS _____
NO. OF DRUMS 70

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [X] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [X] G. FLAMMABLE
- [ ] H. IGNITABLE
- [X] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	3300	Gallons	Waste paint sludge in drums
OLW	OILY WASTE			
SOL	SOLVENTS	3000	Gallons	Underground storage tanks
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		Waste plating sludge

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently used CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	Methyl Ethyl Ketone		Underground tank	Unknown	
SOL	Methyl Isobutyl Ketone		Underground tank	Unknown	
SOL	Toluene	108-88-3	Underground tank	Unknown	
SOL	1,1,1-trichloroethane	25323-89-1	Recharge sump	220	ppb
SOL	Tetrachloroethylene		Recharge sump	2	ppb
SOL	Trichloroethylene	79-01-6	Recharge sump	7.8	ppb
MES	Silver		Recharge sump	0.16	ppm
MES	Copper		Recharge sump	8.0	ppm
MES	Lead		Recharge sump	0.4	ppm

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

USGS Geological Survey Quadrangle Maps, Patchogue, NY Quad
US EPA RCRA 3001 Notification
US EPA RCRA Permits files
New York State Department of Env. Conservation files (Region 1)
Suffolk County Dept. of Health files

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER: D002050177

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 57,659
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Groundwater contamination may be possible from the discharge of wastewater to the ground water via the recharge sump. The wastewater contained silver, lead, and copper in excess of the drinking water standards. Three solvents (see page two) were also detected in the wastewater being discharged. Population within 3 miles of the site is 57,659.

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: 112,764
02 ☒ OBSERVED (DATE: 4/19/85) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

On April 19, 1985 the NYS-DEC ordered Dayton T. Brown to lower volatile organic emissions from a surface coating line or be fined. Since then the company has reduced the amount of enamel paint they use and is trying to switch to water based paint. Population within four miles of the site is 112,764.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: Not known
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Soil beneath the recharge sump and beneath the inground plating sludge tanks may be contaminated with solvents and metals.

01 ☒ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Suffolk County depends on groundwater as a drinking water supply. A Suffolk County well field is located approximately 2600 feet to the east of the site on Church Street. This well field consists of three wells, two of which pump 1400 gpm and one which pumps 1300 gpm. A well field on Locust Avenue has been closed because of chloroform contamination.

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 112,764
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

A total of 112,764 people live within 4 miles of the site and could be affected by groundwater and air contamination.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D002050177

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include numbers of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/flying drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The potential exists for damage to off-site wells.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 112,764 people live within 4 miles of the site

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling records, reports)

REFERENCE NO. 2

APPLICATION FORM "C" FOR A STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) PERMIT
INDUSTRIAL OR MINING

1. APPLICANT DATA

APPLICATION TYPE: ☐ New ☐ Renewal ☐ Modification

IF RENEWAL OR MODIFICATION, GIVE PREVIOUS APPLICATION NO., EFFECTIVE DATE, EXPIRATION DATE: No. NY– | Effective Date | Expiration Date

OWNER'S NAME (Corporate, Partnership or Individual): Dayton T. Brown, Inc.

TYPE OF OWNERSHIP: ☒ Corporate ☐ Individual ☐ Partnership ☐ Public

OWNER'S MAILING ADDRESS (Street, City, State, Zip Code): Church Street, Bohemia, New York 11716

REFER ALL CORRESPONDENCE TO: (Name, Title and Address): William J. Rowley, Jr. Assistant Secretary, Church St. Bohemia

TELEPHONE NO. (Include Area Code): 516 | 589-6300

FACILITY NAME: Dayton T. Brown, Inc.

FACILITY LOCATION (Street or Road): Church Street

CITY, TOWN OR VILLAGE: Bohemia

COUNTY: Suffolk

GIVE EXPLICIT DIRECTIONS TO LOCATION, If Necessary:

NATURE OF BUSINESS OR TYPE OF FACILITY: Engineering and Testing

NO. OF EMPLOYEES: 400+

NO. OF SHIFTS: 2

IF ALL YOUR WASTE IS DISCHARGED TO A PUBLICLY OWNED WASTE TREATMENT FACILITY AND/OR A LICENSED WASTE SCAVENGER AND TO THE BEST OF YOUR KNOWLEDGE YOU ARE NOT REQUIRED TO OBTAIN AN SPDES PERMIT, COMPLETE THIS SECTION ONLY, SIGN APPLICATION AND RETURN.

AND/OR

NAME AND ADDRESS OF MUNICIPALITY RESPONSIBLE FOR RECEIVING WASTE:

NAME AND ADDRESS OF LICENSED WASTE SCAVENGER:
Chemical Pollution and Control
120 South Fourth Street
Bayshore, New York 11706

3. PRODUCTION DATA (Use additional forms, if necessary)

PRINCIPAL TYPES OF PROCESSING DONE AT THIS FACILITY

NONE

PRINCIPAL PRODUCTS AND AMOUNTS PRODUCED PER TIME UNIT	RAW MATERIALS AND AMOUNTS CONSUMED PER TIME UNIT
1. NONE	1.
2.	2.
3.	3.
4.	4.
5.	5.

4. DOES ANY OF YOUR DISCHARGES CONTAIN OR IS IT POSSIBLE FOR ANY DISCHARGE TO CONTAIN ONE OR MORE OF THE FOLLOWING SUBSTANCES ADDED AS A RESULT OF YOUR OPERATIONS, ACTIVITIES OR PROCESSES?

☐ Aluminum ☐ Arsenic ☐ Boron ☐ Chromium ☐ Flourides ☐ Lead ☐ Nickel ☐ Selenium ☐ Tin
☐ Ammonia ☐ Barium ☐ Cadmium ☐ Copper ☐ Gold ☐ Manganese ☐ Oil & Grease ☐ Silver ☐ Zinc
☐ Antimony ☐ Beryllium ☐ Chlorine ☐ Cyanide ☐ Iron ☐ Mercury ☐ Phenols ☐ Sulfides

☐ Corrosion control chemicals (specify) ____
☐ Halogenated organics or halogenated hydrocarbons (e.g. chlorinated, flourinated or brominated) (specify) ____
☐ Herbicides or pesticides (specify) ____
☐ Radioactivity (specify) ____
☐ Slimicides, biocides or algaecides (specify) ____
☐ Substituted aromatics (e.g. derivatives of benzene, pyridene, biphenyl, napthalene, coal or petroleum tar, etc.) (specify) ____
☐ Surfactants (specify) ____
☒ None of the above

Specify the trade names and manufacturer of any chemicals used at this facility which are not listed above and whose specific constituents are not known to you. ____

Explanation of above: (Attach additional sheets, if necessary) ____

6. DISCHARGE DATA (Continued) (See Instructions) ATTACH SKETCH SHOWING OUTFALL LOCATIONS

OUTFALL NO.	☐ Proposed ☐ Replacement ☒ Existing ☐ Expansion	TYPE OF WASTE	TYPE OF TREATMENT (If none, so state)
1-2		Cooling Water	None

DESIGN FLOW	ACTUAL FLOW	FREQUENCY OF DISCHARGE	IS FLOW EQUALIZATION PROVIDED?
144,000 Gal/Day	50,000 Gal/Day	☒ Continuous ☐ Intermittent ☐ Batch	☐ Yes ☒ No If "Yes", describe in comments

PERIOD OF DISCHARGE		
12 Months per year	7 Days per week	24 Hours per day

SURFACE DISCHARGE	If "Yes", Name of Receiving Waters	Classification	Waters Index No.
☐ Yes ☒ No			

SUBSURFACE DISCHARGE	If "Yes", Name of nearest Surface Water	Distance	SOIL TYPE	Depth to Water Table
☒ Yes ☐ No	None within miles	Ft.	Sand	20 Ft.

OUTFALL NO.	☐ Proposed ☐ Replacement ☒ Existing ☐ Expansion	TYPE OF WASTE	TYPE OF TREATMENT (If none, so state)
3		Rinse Water (Photo)	None

DESIGN FLOW	ACTUAL FLOW	FREQUENCY OF DISCHARGE	IS FLOW EQUALIZATION PROVIDED?
5,000 Gal/Day	500 Gal/Day	☒ Continuous ☐ Intermittent ☐ Batch	☐ Yes ☒ No If "Yes", describe in comments

PERIOD OF DISCHARGE		
12 Months per year	5 Days per week	8 Hours per day

SURFACE DISCHARGE	If "Yes", Name of Receiving Waters	Classification	Waters Index No.
☐ Yes ☒ No			

SUBSURFACE DISCHARGE	If "Yes", Name of nearest Surface Water	Distance	SOIL TYPE	Depth to Water Table
☒ Yes ☐ No	None within miles	Ft.	Sand	20 Ft.

OUTFALL NO.	☐ Proposed ☐ Replacement ☒ Existing ☐ Expansion	TYPE OF WASTE	TYPE OF TREATMENT (If none, so state)
4		Cooling Water	None

DESIGN FLOW	ACTUAL FLOW	FREQUENCY OF DISCHARGE	IS FLOW EQUALIZATION PROVIDED?
144,000 Gal/Day	2,400 Gal/Day	☐ Continuous ☒ Intermittent ☐ Batch	☐ Yes ☒ No If "Yes", describe in comments

PERIOD OF DISCHARGE		
12 Months per year	5 Days per week	8 Hours per day

SURFACE DISCHARGE	If "Yes", Name of Receiving Waters	Classification	Waters Index No.
☐ Yes ☒ No			

SUBSURFACE DISCHARGE	If "Yes", Name of nearest Surface Water	Distance	SOIL TYPE	Depth to Water Table
☒ Yes ☐ No	None	Ft.	Sand	20 Ft.

OUTFALL NO.	☐ Proposed ☐ Replacement ☒ Existing ☐ Expansion	TYPE OF WASTE	TYPE OF TREATMENT (If none, so state)
5-6-7		Sanitary	Settling Pool

DESIGN FLOW	ACTUAL FLOW	FREQUENCY OF DISCHARGE	IS FLOW EQUALIZATION PROVIDED?
? Gal/Day	? Gal/Day	☐ Continuous ☒ Intermittent ☐ Batch	☐ Yes ☒ No If "Yes", describe in comments

PERIOD OF DISCHARGE		
12 Months per year	5 Days per week	10 Hours per day

SURFACE DISCHARGE	If "Yes", Name of Receiving Waters	Classification	Waters Index No.
☐ Yes ☒ No			

SUBSURFACE DISCHARGE	If "Yes", Name of nearest Surface Water	Distance	SOIL TYPE	Depth to Water Table
☒ Yes ☐ No	None	Ft.	Sand	20 Ft.

COMMENTS:

I hereby affirm under penalty of perjury that information provided on this form and any attached supplemental forms is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

APPLICANT'S SIGNATURE (See Instructions)	Date	Printed Name	Title
[signature]	11/28/78	DIMEMICK IANNIZZI	SR VICE PRESIDENT

REFERENCE NO. 3

PETER F. COHALAN
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

DAVID HARRIS, M.D., M.P.H.
COMMISSIONER

Dayton T. Brown
555 Church Street
Bohemia, New York 11716

December 2, 1985

Attn: Mr. A. Donato

Gentlemen:

An inspection of your plant was conducted by a representative of this department on 11/26/85 . This inspection revealed that discharging spent photo developing waste to the surface of the ground is being practiced. This procedure should be immediately terminated so that your facility is in total compliance with your existing New York SPDES permit.

This waste is not to be discharged to the ground and may be transported and disposed of only by an approved industrial waste scavenger. A listing of these scavengers may be obtained from the Office of Solid Waste, State of New York Department of Environmental Conservation, Stony Brook, New York, phone number 516-751-7900.

In addition, Article 12 of the Suffolk County Sanitary Code gives specific guidelines for storage of toxic and hazardous materials. Please contact Mr. Vincent Frisina, P.E., of this office at 516-451-4649 for information and guidance in meeting these storage standards.

A reinspection of your facility has been scheduled to determine your compliance in this matter. If I can be of further assistance, please call me at 516-451-4641.

Very truly yours,

D. C. Gobbi
Bureau of Environmental Pollution Control

DCG/lc

15 HORSEBLOCK PLACE • FARMINGVILLE, NEW YORK 11738 • (516) 451- 4641

Sample Number
E105-063-01

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: VERSAR, INC.
Case No: 958.0 - B#14
Lab Sample ID No: 6190A
QC Report No:
Sample Matrix: LOW LEVEL AQUEOUS
Contract No:
Data Release Authorized By:
Date Sample Received: 7-25-85

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 7-29-85
Date Analyzed: 7-29-85
Conc/Dil Factor: 1.0 pH —
Percent Moisture: 100%
Percent Moisture (Decanted): —

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10u
74-83-9	Bromomethane	10u
75-01-4	Vinyl Chloride	10u
75-00-3	Chloroethane	10u
75-09-2	Methylene Chloride	JB 3.0
67-64-1	Acetone	B 1150.
75-15-0	Carbon Disulfide	5u
75-35-4	1, 1-Dichloroethene	5u
75-34-3	1, 1-Dichloroethane	5u
156-60-5	Trans-1, 2-Dichloroethene	5u
67-66-3	Chloroform	5u
107-06-2	1, 2-Dichloroethane	5u
78-93-3	2-Butanone	10u
71-55-6	1, 1, 1-Trichloroethane	1.8 J
56-23-5	Carbon Tetrachloride	5u
108-05-4	Vinyl Acetate	10u
75-27-4	Bromodichloromethane	5u

CAS Number		ug/l or ug/Kg (Circle One)
79-34-5	1, 1, 2, 2-Tetrachloroethane	5u
78-87-5	1, 2-Dichloropropane	5u
10061-02-6	Trans-1, 3-Dichloropropene	5u
79-01-6	Trichloroethene	17.8
124-48-1	Dibromochloromethane	5u
79-00-5	1, 1, 2-Trichloroethane	5u
71-43-2	Benzene	5u
10061-01-5	cis-1, 3-Dichloropropene	5u
110-75-8	2-Chloroethylvinylether	10u
75-25-2	Bromoform	5u
591-78-6	2-Hexanone	10u
108-10-1	4-Methyl-2-Pentanone	10u
127-18-4	Tetrachloroethene	5u
108-88-3	Toluene	5u
108-90-7	Chlorobenzene	5u
100-41-4	Ethylbenzene	5u
100-42-5	Styrene	5u
	Total Xylenes	5u

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J).

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

[illegible]

[illegible] Page 2 of 2

Facility Name: Brown, Layton T [illegible] No. NY 0075809 [illegible] Suffolk

Date of Inspection: 7/24/85 Dates of Sampling Analysis:
Date of Sample Collection: 7/24/85 Time of Sample Collection: 11:55 a.m. Sample Type: Grab

1. Findings of Analyses ~~(Non-Compliance)~~

Sample No.	Parameter	Limitation	Analysis	Sample No.	Parameter	Limitation	Analysis

2. Other Findings

1. Effluent contains methylene chloride, acetone, 1,1,1-trichloroethane & trichloroethene, they are hazardous waste according to ENYCRR, Part 371, Sj 4(t)

3. Recommendations

notify Solid Waste Unit of Finding 1

Report Date: 1/29/86 Reporter A. Mizikov Signature Semen M. Mizikov
Date: _____ Supervisor _____ Signature _____

Attachments: (X) chain of custody forms; (X) laboratory analysis summaries
(X) Other, lab submission form, permit limits, facility diagram

REFERENCE NO. 4

DIVISION OF ENVIRONMENTAL HEALTH, INDUSTRIAL HYGIENE & PUBLIC HEALTH

PUBLIC HEALTH LABORATORY

TRACE ORGANIC ANALYSIS OF INDUSTRIAL WASTE

Name Dalton T Brown Inc.

Location Church St Bohemia NY

Point of Collection leach recharge lagoon ~ 75 East

Remarks: of the bld, receives photo waste water

Compound	ppb	Compound	ppb
Methylene Chloride	-	Cis Dichloroethylene	<16
Freon 113	<4	Benzene	<10
Chloroform	<5	Toluene	<10
1,1,1 Trichloroethane	8	Chlorobenzene	<12
Carbon Tetrachloride	<4	Ethylbenzene	<10
1,1,2 Trichloroethylene	15	Xylene(s)	<10
Bromodichloromethane	<3	Bromobenzene	<16
1,1,2 Trichloroethane	<5	Chlorotoluene(s)	<12
Chlorodibromomethane	<2	1,3,5 Trimethylbenzene	<10
Tetrachloroethylene	<2	1,2,4 Trimethylbenzene	<10
Bromoform	<5	m,p-Dichlorobenzene	<14
1,1,2,2 Tetrachloroethane	<3	o-Dichlorobenzene	<14
Octane	<40	p-Diethylbenzene	<10
Styrene	<10	1,2,4,5 Tetramethylbenzene	<10
n-Nonane	<40	1,2,4 Trichlorobenzene	<16
p-Ethyltoluene	<10	1,2,3 Trichlorobenzene	<18
n-Decane	<40		
n-Undecane	<40		

During transport of the sample from collection point to laboratory, the chain of custody must not be broken. The sample should be delivere by the sample collector or a designated representative who will sign for the receipt, integrity, and transfer of the sample during shipment.

	SIGNATURE	AFFILIATION	DATE	TIME
1. Collected by	Lori Vom	SCHS	1/25/84	9:30 AM
2. Transfered to	Francis J Amendola	SCDHS-PHL	1-25-84	11:15 AM
3. Transfered to				
4. Transfered to				

REFERENCE NO. 5

COUNTY OF SUFFOLK

PETER F. COHALAN
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

Dayton T. Brown, Inc.
555 Church St.
Bohemia, New York 11716
ATTN: Mr. Robert Single

Date Feb. 21, 1984
SPDES NO. NY 0075809
Lab. No. 1-84-137, 1-84-138
Field No. 1-ID-1-25
2-ID-1-25

Gentlemen:

On 1/25/84 samples of industrial waste were taken fromxxxxx the discharge sump & leaching lagoon located approx.75' E of lab bldg. Upon analysis, the following parameters were found in concentrations above the maximum allowed in your SPDES Permit or in groundwater effluent standards:

1-ID-1-25			2-ID-1-25		
1.	Copper	8.0 Mg/l	6.	Silver	.7 Mg/l
2.	Lead	.4 Mg/l	7.		
3.	Silver	.16 Mg/l	8.		
4.			9.		
5.			10.		

Please be advised that these unsatisfactory conditions constitute violations of the N.Y.S. Environmental Conservation Law and/or the Suffolk County Sanitary Code. Please be further advised that the discharge of any water from an industrial process to the groundwater of Suffolk County without having first obtained a State Pollutant Discharge Elimination System (SPDES) Permit for that discharge is also a violation of the N.Y.S. E.C.L. and/or the Suffolk County Sanitary Code, Article 12.

If you do not already possess a valid SPDES Permit for the above discharge, then you should apply immediately through this office for said permit.

Since the above-noted violations may subject you to legal action, it is expected that these violations cease immediately. Violations of the Suffolk County Sanitary Code are subject to the imposition of a civil penalty of up to Five Hundred ($500) dollars per violation. E.C.L. violations are also subject to a civil penalty. A reinspection in the near future will determine your compliance in this matter.

Very truly yours,

D. C. Gobbi
Environmental Pollution Control

(SEE REVERSE SIDE FOR STANDARDS)

15 Horseblock Place, Farmingville, N.Y. 11738, (516) 451-4630

REFERENCE NO. 6

0052-F
02-8703-66

NUS CORPORATION

II

0115

DAYTON T. BROWN
TDD# 02-8703-66
PROJECT MANAGER: E. LEONARD
LOGBOOK# 0115
JULY 23, 1987

GUIDANCE FOR PROPER USE OF LOG BOOKS

Purpose

- Serves to document onsite activities and be understandable to an outside reader.
- Provides the basis for later written reports.
- Used an an evidentiary document and may be used in legal proceedings.

Distribution

- Controlled by the project manager and distributed as appropriate to personnel designated by the project manager.

General Procedures

- Record information in language which is objective and factual.
- Use ink. Waterproof ink is recommended.
- Leave first two pages blank. They serve as space for the table of contents to be added when the log book is complete.
- The first written page identifies the date, time, TDD number, site name, location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- Start on a new page at the start of each day's field activities. This page should identify date, time, TDD number, site name and location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- List all persons leaving or entering the site.
- Information recorded in the log book should be in chronological order.
- Sign and date each page, log all entries using a 24 hour clock. Entries should be time logged every 15 to 30 minutes.
- Corrections are to be lined through and initialed. No erroneous notes are to be made illegible.
- Include a sketch or map of the site which can be used to locate photo or sample locations. Note landmarks, indicate north, and if possible include an approximate scale. Include as many sketches and maps as necessary.
- A person not present when field activities were being documented should read each completed page, and countersign and date when satisfied that the written notes are understandable.

Specific Field Activities To Be Documented

- Record the who, what and where of field activities.
- Indicate sampling and photo locations on a site sketch or map.
- As part of the chain of custody procedure, recorded in-situ sampling information must include sample number, date, time, sampling personnel, sample type, designation of sample as a grab or composite, and any preservative used.
- Information for in-situ measurements must include a sample ID number, the date, time, and personnel taking measurements. Pertinent in-situ measurements include but are not limited to pH, temperature, conductivity, flow measurements, continuous air monitoring measurements, and stack gas analysis. If infield calculations are necessary they must be checked and signed by a second team member.
- Create a photo log to document photos taken in the field. These must include date, time, photographer, sample number, roll number, frame number, photo ID number and description. Indicate if the film is for slides or prints in the column for roll number. Photo ID numbers can be added at the time the photo log is assembled.
- Record onsite health and safety measures used. Describe observed potential hazards to health and safety. Document the level of protection used, decontamination procedure used and specific decontamination solutions.
- When sampling is complete, a summary log is to be completed. It must include date, time, sample number, description, field book reference page, and the number and date of the chain of custody from on which the sample is listed. Indicate whether or not the sample was split.
- Record details regarding relevant information obtained during onsite interviews. Include names of persons interviewed, the interest group represented, their address and phone number.
- Record any other relevant information which would be difficult to generate at a later date.

DAYTON T. BROWN 7/28/87
TDD # 02-8703-66

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E. L. Leonard 7/30/87 J. Kennedy 8/4/87

DAYTON T. BROWN 7/28/87
TDD# 02-8703-66

4

EQUIPMENT ON SITE

CAMERA (SLIDE)	# 428512	
CAMERA (PRINT)	# 469770	
MINI RAD	# 428587	
COMPASS	C	
OVA-D	# 428696	CALB 7/24/87 S.B.
HNU-B	# 307138	CALB 7/26/87 SB.
EXPLOS.-D	# 307151	CALB 7/11/87 S.B
DRAEGER	A	
SCBA	428550	T. VARNAR
	~~# 192036~~ 192036	D. DEBRUIJN

WEATHER: AM SUNNY. WARM ~ 80°F
CLOUD COVER ~ 5%. BREEZE STEADY
FROM NORTH ~ 5 MPH.

PM SUNNY. HOT ~ 85-90°F
CLOUDY COVER ~ 5%. STEADY BREEZE
FROM NORTH ~ 5 MPH.

0820 HRS ARRIVE ON SITE

0827 HRS SEE R. SINGLE - PERSONNEL MANA

CORP. MAINT - BILL SCHAAF

BACKGROUND DATA:
- # EMPLOYEES ~ 350
- FENCE ALL ROUND EXCEPT FRONT

CL Leonard 7/30/87 Stennett 8/4/87

DAYTON T. BROWN 7/28/87
TDD # 02-8703-66

- 24 HR SECURITY - POST AT S/W CORNER LAB
- SITE ~ 30 ACRES
  ~25 ACTIVE INCLUDING SOFTBALL FIELD + PICKNIC TABLE
- VOLUME OF TANKS ~ 6000 GALLON TOGETHER, WILL GIVE BETTER ESTIMATE.
- LEACH POOL DIMENSION ~25 FEET DIA X ~8 FEET DEEP WILL MEASURE
- SWALE ~ 400 FT X 10 FT X 5-6 FT
  L W D

0850 ~~0855~~ 24 HRS FIND AREA FOR DECON AREA.

0855 HRS START SETTING UP DECON AREA.

0905 HRS D. DEBRUINN & T. VARNAR SUIT-UP
C. MARCUSSEN HOLD TAILGATE SAFTY MEETING
NUS PERSONNEL ONSITE

E. LEONARD - PM
C. MARCUSSEN - SSO
G. GILLILAND - SMO
T. VARNAR - SAMPLER
D. DEBRUINN - SAMPLER

0916 HR D. DEBRUINN ON AIR. T. VARNAR BACK-UP.

0919 HRS NO READINGS ABOVE BACKGROUND ON OVA BEHIND MFG BUILDING, NORTHEND.

CLeonard 7/30/87 Skennedy 8/4/87

DAYTON C. BROWN 7/28/87
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0921 HRS NO READINGS ABOVE BACKGROUND ON OVA IN NORTH END OF SWALE. COOLING WATER, BUT NONE FOR ~ PAST 1.5 YRS. PRESENTLY ROOF RUNNOFF INTO SWALE. NO WASTE OF ANY SORT IE ~~PHOTO~~ RINSE OR PLATING WASTE.

0924 HRS NO READINGS ABOVE BACKGROUND ON OVA IN MIDDLE OF SWALE

0927 HRS NO READINGS ABOVE BACKGROUND ON OVA AT SOUTH END OF SWALE.

0928 HRS D. DEBRUIJN OFF AIR.

0935 HRS BACK OF LAB. BUILDING. D. DEBRUIJN ON AIR.

0936 HRS N/E CORNER OF LAB BUILDING NO ~~RAD~~ READINGS ABOVE BACKGROUND ON ~~EH~~ OVA.

0939 HRS NO READINGS IN ~~LEACHING~~ ~~EH~~ ~~POOL~~. RECHARGE BASIN, ABOVE BACKGROUND ON OVA.

C. Leonard 7/30/87, S. Kennedy 8/4/87

DAYTON T. BROWN 7/28/87
TDD 02-8703-66 7

0940 HRS D. DEBRUIJN OFF AIR.

D. DEBRUIJN ~~ON AIR~~ ON AIR.
0946 HRS NEAR UNDERGROUND HOLDING TANKS ~40'N.
RECHARGE BASIN NO
READ. BASIN FOR ROOF RUNOFF.

0948 HRS HOLDING TANKS (SEE PG 17)
AT ~~SOUTH~~ SOUTH TANK 6-7 PPM OVA
~~HNU~~ NOTHING ABOVE BACKGROUND HNU

0951 HRS ~~SOUTH~~ NORTH TANK
OVA NO READINGS ABOVE BACK GROUND
HNU NO READINGS ABOVE BACKGROUND

0956 HRS NO READINGS ABOVE BACKGROUND
ON OVA BEHIND SOLVENT STORAGE
SHED

0958 HRS D. DEBRUIJN OFF AIR

1000 HRS TAKING BREAK. PREPING FOR
SAMPLES.

1010 HRS T. VARNAR SUITS-UP FOR
SOIL SAMP., BY SOL. STORAGE
SHED.

CL Leonard 7/30/87 SKennedy 8/4/87

DAYTON T. BROWN
TDD # 02-8703-66

7/28/87

1022 HRS T. VARNAR ON RESPIRATION + STARTS SAMPLING FOR S-1 AT NORTH END OF SOLVENT STORAGE SHED.

1023 HRS NO SURFACE READINGS ABOVE BACKGROUND ON OVA

1027 HRS NO READING ABOVE BACKGROUND ON OVA, AT 6 INCHES. SAMPLE OBTAINED AT 6-8 INCHES. SPLIT SAMPLES. OBTAINED 1 - 12 OZ JAR SAMPLE FOR SITE REP.

1029 HRS B. SINGLE STATES DEPTH TO GROUND WATER ~14-16 FT DEPENDS ON TIME OF YEAR + AREA ON SITE.

1033 HRS FINISH SAMPLING S-1, HEAD TO SAMPLE S-2.

1040 HRS D. DEBRUIJN ON AIR QEH NO READINGS ON EXPLOSIMETER ON NORTH + SOUTH UNDERGROUND STORAGE TANKS

1044 HRS D. DEBRUIJN OFF AIR. T. VARNAR STARTS OBTAINING SAMP OBTAINING S-2. NO READING ABOVE BACKGROUND ON OVA, AT SURFACE.

[signature] S. Kennedy 8/4/87

1046 HRS D. DEBRUIJN ON AIR.

1048HRS S-2 OBTAINED AT ~ 6-8 INCHES IN DEPTH. NO READINGS ABOVE BACKGROUND ON OVA AT 6 INCHES

1054 HRS T. VARNAR FINISH OBTAINING SAMPLE S-2. ALSO OBTAINED SAMPLE FOR SITE REP 1-1202 JAR.

1055 HRS. D. DEBRUIJN OFF AIR. NO CYANIDE READINGS OBTAINED FROM EITHER UNDERGROUND HOLDING TANKS NORTH OR SOUTH.

1056 HRS. T. VARNAR OFF RESPIRATOR.

1057 HRS SAMPLERS TAKING BREAK AT DECON AREA.

1102 HRS PREPING TO TAKE AIR SAMP ON TWO ADD UNDERGROUND HOLDING TANKS # 1 + 4. (SEE PG. 17)

1106 HRS D. DEBRUIJN ON AIR.

1107 HRS UNDERGROUND TANK # 1 NO READ ABOVE BACKGROUND ON OVA + HNU NO READING ON EXPLOSIMETER

C. Leonard 7/30/87 S. Kennedy 8/4/87

DAYTON T. BROWN 7/28/87
TDD # 02-8703-66

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R. SINGLE STATES THAT TANK
1+4 ARE PROBABLY OVERFLOWS
1+2 CONNECTED + 3+4 CONNECTED

1111 HRS #1 NO CYANIDE READINGS

1113 HRS #4 NO READINGS ABOVE BACK-
GROUND ON OVA + HNU. NO
READINGS ON EXPLOSIMETER.

~~WE~~ HOLDING TANKS 2+3
APPOXIMATE SIZE 8'X8' X 14' DEEP.
NORMALLY REMOVED ~6000 GAL.
AT A TIME OF PLATING WASTE
FROM # 2+3. 1+4 OVERFLOWS
+ INTERCONNECTED.

1117 HS TANK #4 NO CYANIDE READINGS.

1118 HRS D. DEBRUIJN OFF AIR.

1119 HRS TAKING BREAK.

1128 HRS D. DEBRUIJN ON AIR.

[signature] 7/30/87 S. Kennedy 8/4/87

DAYTON T. BROWN
TDD # 02-8703-66

7/28/87

1131 HRS D. DEBRUIJN STARTS SAMPING FOR SW-1. WITH PONAR ON TANK #3.

1134 HRS NO READINGS ABOVE BACKGROUND ON HNU + OVA.

1136 HRS D. DEBRUIJN OFF AIR CHANGED AIR TANKS. MOIST DENSE CLAY-LIKE SLUDGE. BROWN, RED-ORANGE PURPLE + GREEN IN COLOR

1137 HRS NO READINGS ABOVE BACKGROUND ON OVA + HNU.

D. DEBRUIJN ON AIR

1140 HRS D. DEBRUIJN STARTS COLLECTING SAMPLE SW-1 FROM TANK #3. (INTO BOTTLES)

1145 HRS FINISH SAMPLING TANK #3, SW-1. ALSO OBTAINED 1-12oz SAMPLE FOR RAP.

R. SINGLE STATES ALL FOUR TANK HOLD ~ 10000 - 12000 GALLONS, INFORMATION JUST ACQUIRED FROM B. SCHAAF

1151 HRS D DEBRUIJN OFF AIR.

1152 HRS BREAK

CK Leonard 7/30/87 S. Kennedy 8/11/87

DAYTON T. BROWN
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1205 HRS D. DEBRUIJN ON AIR.

1207 HRS ~~ST~~ D DEBRUIJN STARTS SAMPLING TANK #2 WITH EKMAN DREDGE. SLU-2

1209 HRS NO READINGS ABOVE BACKGROUND ON OVA + HNU
SLUDGE MOIST DENSE CLAY-LIKE ~~BLU~~ BLUE-GREEN, RED-ORANGE WITHBROWN IN COLOR.

1211 HRS D. DEBRUIJN STARTS OBTAINING ~~SLU-1~~ SLU-2 IN TANK # 2 (INTO BOTTLES)

1217 HR D. DEBRUIJN FINISHING SAMPLING FOR SL-2. ALSO OBTAINED 1-12oz SAMPLE FOR PEP.

TANK DEPTHES TO SLUDGE

1219 HRS

#1	12' 0"
#2	10' 2"
#3	8' 4"
#4	12' 8"

EL Leonard 7/30/87 S. Kennedy 8/4/87

TOD # 02-8703-66

1221 HRS D DEBROWN OFF AIR

1225 HRS CLOSED ALL HOLD TANKS BACK TO DRON AREA TO REST.

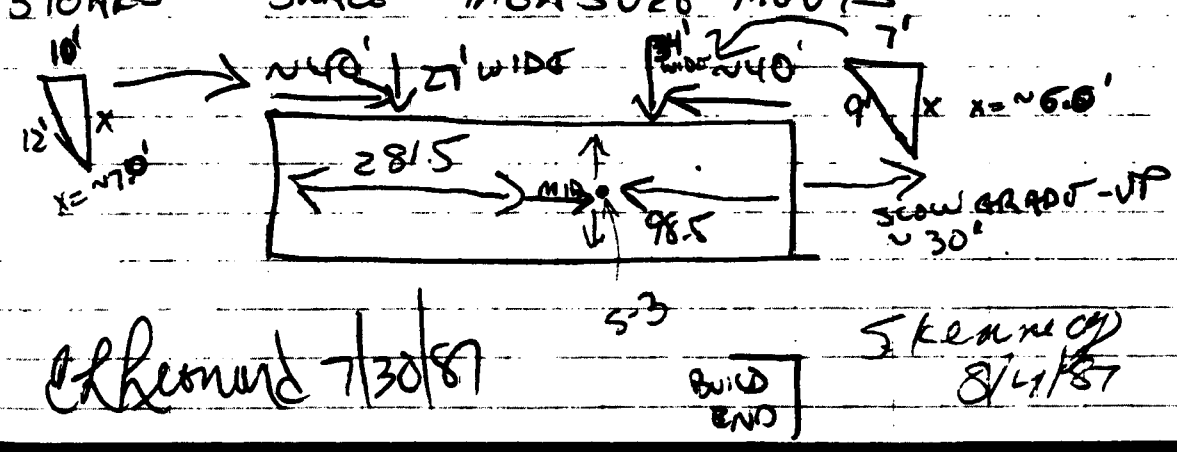
1250 HRS LEAVE TO OBTAIN SAMPLES S-3. IN SWALE. E LEONARD, T. VARNAR + B SINGLE

1256 HRS T VARNAR ON RESPIRATOR.

1258 HRS T. VARNAR STARTS OBTAINING S-3. NO READING ABOVE BACKGROUND ON HNU. SAMPLE OBTAINED ~12-16 INCHES.

1305 HRS T. VARNAR FINISH OBTAINING SAMPLE S-3 - ALSO OBTAINED SAMPLE FOR SITE REP. COOLING WATER ONLY IN SWALE NOT IN PAST 1.5 YEARS. NO PHOTO WASTE, PRESENTY ROOF RUNOFF. T. VARNAR OFF RESPIRATOR

1310 HRS SWALE MEASUREMENTS



E Leonard 7/30/87

S Kennedy 8/4/87

DAYTON C. BROWN 7/28/87

TDF 02-8703.66

1317 HRS BACK TO DECON AREA

1324 HRS BACK AT DECON AREA

1327 HRS HEAD TO ~~LEACHING POOL~~ RECHARGE BASIN #4 BY LAB. BUILDING. T. VARNAR, E. LEONARD D. DEBRUIJN + R. SINGLE

1331 HRS D. DEBRUIJN ON RESPIRATOR STARTS SAMPING. S-4 IN RECHARGE BASIN. NO READINGS ABOVE BACKGROUND ON HNU.

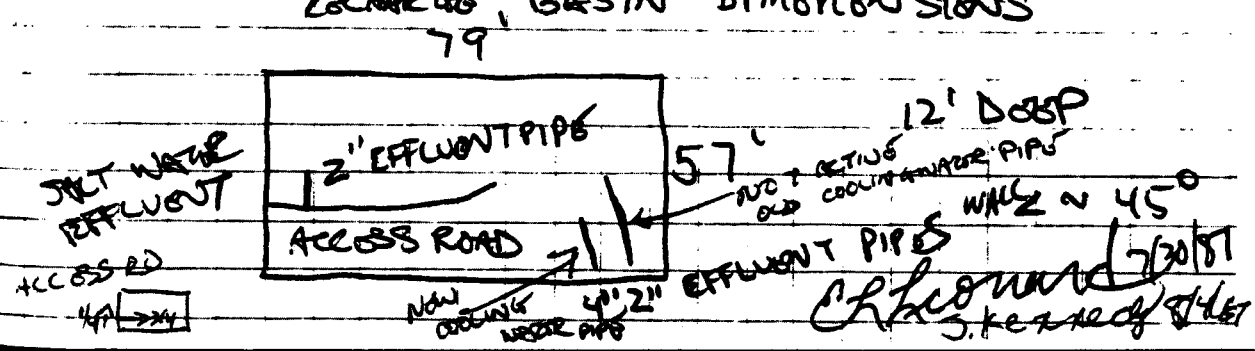
1341 HRS D. DEBRUIJN FINISHING OBTAINING S-4. ALSO OBTAINED 1-12oz SAMPLE FOR SITE REP.

1343 HRS D. DEBRUIJN STARTS OBTAINING EFF-1. ~~SPLIT SAMP~~ #4 TWO 40ml ~~VOA~~ SAMPLES OBTAINED FOR SITE REP

1344 HRS NO READINGS ABOVE BACKGROUND. ON HNU.

1348 HRS D. DEBRUIJN FINISH OBTAIN EFF-1. D. DEBRUIJN OFF RESPIRATOR

1350 HRS ~~LEACH POOL DIMEN #4~~ RECHARGE BASIN DIMENSIONS



7/30/87

E. Leonard

S. Kennedy 8/4/87

TDD # 02-8703-66

1400 HRS PRODUCTION WELL FROM SOUTH EAST CORNER OF LAB BUILDING. WELL USED TO RUN LAWN SPRINKLERS. SPINKLERS RAN ALL NIGHT TURNED SPRINKLERS ON & WILL LET RUN ~ 5 MINUTES. D.T. BROWN CALLS IT WELL #3 CASING ~ 60 FEET DEEP
SPRINKLERS RAN ALL NIGHT UNTILL ~ 0700 HRS THIS MORNING.

1405 HRS AFTER RUNNING SPRINKLES AT FULL FORCE FOR ~5 MINUTES STARTED SAMPLING. NO READINGS ABOVE BACKGROUND ON HNU,
~~1406 HRS~~ D. ~~BACK~~ BY TAP DIRECTLY ON WELL HEAD.

1407 HRS SPRINKLERS STILL RUNNING D. DEBRUIJN STARTS OBTAINING TW-1. ~~SPLIT~~ OBTAINED BY SAMPLES ~~WITH~~ FOR B. SINGLE TWO 40 ML VOA.

~~1418 HRS~~
1418 HR D DEBRUIJN FINISHING OBTAINING TW-1

1423 HRS BACK AT DECON AREA PACKING & CLEANING.

EL Leonard 7/30/87 Skennedy 8/4/87

1430 HRS GIVE R. SINGLE ALL HIS SAMPLES LABLED. TOLD HIM I WOULD STOP BY BEFORE WE LEAVE. STILL PACKING EQ + SAMPLES. I ALSO SUGGESTED TO R. SINGLE THAT HE KEEP SAMPLES COOL. HE SAID HE WOULD KEEP THEM IN HIS OFFICE

1500 HRS MAJORITY OF EQUIPMENT PACKED. & SMO STILL PACKING SAMPLES.

1506 HRS E LEONARD LEAVES TO TAKE PHOTO OF DAYTON T. BROWN SIGNS

1515 HRS E. LEONARD BACK TO DECON AREA.

1530 HRS FINISH PACKING RAS SAMPLES.

1534 HRS E. LEONARD SEE R. SINGLE GAVE LETTER OF INTRODUCTION. TOLD HIM REPORT WOULD BE READY ~~AN~~ FOR ~ 6 MONTHS
EH

1537 HRS CALLED OFFICE TO CALL IN SAMPLES. SAS LABS NOT AVAILABLE.

1605 HRS FINISH ~~ONT~~ EH PACKING

1617 HRS LEAVE SITE.

Skewney

[signature] 7/30/87 8/4/87

DAYTON T. BROWN
TDD# 02-8703-66

7/28/87

1636 HRS ARRIVE FED EX

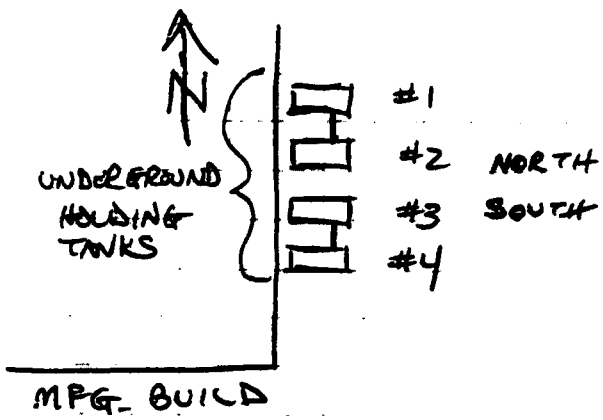
1647 HRS LEAVE FED EX

GENERAL NOTES

- OBTAINED THE FOLLOWING ADDITIONAL SAMPLES FOR THE SITE REP, AT EACH SAMPLING LOCATION:
  - S1-S4: ONE 12-OZ BOTTLE, AT EACH LOCATION
  - SLU1+SLU2: ONE 12-OZ BOTTLE, AT EACH LOCATION
  - EFF1: TWO 40-ML VOA VILES
  - TW1: TWO 40-ML VOA VILES

- SAMPLES S1, S2, S3, S4, EFF1, TW1, TBLK1, TBLK2, RIN1, RIN2 & RIN3 ~~AR~~ WERE ALL SHIPPED TO THE APPROPRIATE LABS ON 7/28/87. FROM FED EX. SAMPLES SLU1, SLU2 + TBLK3 WILL NOT BE SHIPPED UNTILL 7/29/87 FROM THE OFFICE IN EDISON, NJ. LABS WERE NOT AVAILABLE AS OF 1540 HRS 7/28/87.

-



Ch Leonard 7/30/87 Skeenecky 8/4/87

DAYTON T. BROWN 7/28/87
TDD#02-8203-66

THE TWO ORIGINAL TANKS THAT WERE TO BE SAMPLED WERE #2 (INITIALLY DESIGNATED THE NORTH TANK) & #3 (INITIALLY DESIGNATED THE SOUTH TANK). WHILE ON SITE THE SITE REP STATED THAT THERE WHERE TWO ADDITIONAL UNDERGROUND HOLDING TANKS #1 & #4. THESE TANKS WERE OVER FLOWS FOR THE ORIGINAL TWO TANKS #1 & #2 WERE CONNECTED & #3 & #4 WERE CONNECTED. TOTAL VOLUME FOR ALL 4 TANK IS APPROXIMATELY 10000 - 12000 GALLONS.

[signature] 7/30/87 Skeaxedy 8/4/87

DAYTON T. BROWN 7/30/87
TDD # 02-8703-66

CASE # 7765/3181B

SAMP ID #	ORGAN TR #	INORGAN TR #	SAMP TYPE/LOCATION
NYR4-SLU1	BK847	MBL132	SLUDGE. OBTAINED FROM UNDERGROUND HOLDING TANK #3, ON EAST SIDE OF MFG BUILD. ALSO MS/MSD SAMPLE. TIME 1140-1148 HRS.
NYR4-SLU2	BK848	MBL168	SLUDGE OBTAINED FROM UNDERGROUND HOLDING TANK #2, ON EAST SIDE OF MFG BUILDING. ALSO ENVIRONMENTAL DUPLICATE SAMPLE. TIME 1211-1217 HRS
NYR4-TBLK3	BK849	N/A	AQUEOUS TRIP BLANK-SLUDGE

ORGANIC LAB:
AIRBILL # 32335241/
CENTURY REFINING CO.
695 NORTH SEVENTH ST.
BRIGHTON, CO 80601

INORGANIC LAB:
AIRBILL # 32335227/
CHEMTECH CONSULTING GROUP
360 WEST 11TH ST.
NY, NY 10014

EL Leonard 7/30/87 SKEEN 8/4/87

DAYTON T. BROWN 7/29/87

TDD # 02-8103-66

CASE # 7732

SAMP ID #	ORGANIC TR #	INORGANIC TR #	SAMPLE TYPE/LOCATION
NYR4-S1	BK804	MBK670	SOIL. NORTH END OF S.S. SHED 2' WEST OF SHED & 3' NORTH OF WALKWAY. ALSO MS/MSD. SAMPLE. 6-8" Deep. TIME 1022-1033 HRS
NYR4-S2	BK805	MBL124	SOIL. SOUTH END OF S.S. SHED. 1' WEST OF SHED & 19' SOUTH OF WALKWAY. ALSO ENVIRONMENTAL DUPLICATE SAMPLE. 6-8" Deep. TIME 1044-1054 HRS
NYR4-S3	BK806	MBL127	SEDIMENT. NORTH END OF SWALE. 98.5' SOUTH OF NORTH WEST CORNER OF MFG. BUILDING. ~ MIDPOINT BETWEEN SWALE SIDES. 12-16" Deep. TIME 1258-1305 HRS
NYR4-S4	BK807	MBL128	SEDIMENT. SOUTH END OF RECHARGE BASIN. ~ 10' NORTH EAST OF EFFLUENT ENTRY POINT. 0-2" Deep/SURFACE TIME 1331-1341 HRS.
NYR4-TW1	BK939	MBK666	TAP WATER. WELL #3 ON EAST SIDE OF LAB BUILDING. ALSO MS/MSD SAMPLE. TIME 1407-1418 HRS.
NYR4-EFF1	BK801	MBK667	EFFLUENT. SOUTH END OF RECHARGE BASIN. ACTIVE 4" DISCHARGE PIPE FROM LAB BUILDING. ALSO ENVIRONMENTAL DUPLICATE SAMPLE. TIME 1343-1348 HRS.

EL Leonard 7/30/~~86~~ 87 SKERNECK 8/4/87

DAYTON T. BROWN
TDD # 02-8703.66

7/28/87

SAMP ID #	ORGAN TR #	INORGAN TR #	SAMPLE TYPE / LOCATION
NYR4-TBLK1	BK518	N/A	AQUEOUS TRIP BLANK - WATER
NYR4-TBLK2	BK519	N/A	AQUEOUS TRIP BLANK - SOIL/SED
NYR4-~~TBLK~~ RIN 1	BK520	MBJ606	AQUEOUS RINSATE BLANK FOR TROWL
NYR4-RIN2	BK521	MBK660	AQUEOUS RINSATE BLANK FOR AUGER
NYR4-RIN3	BK522	MBK663	AQUEOUS RINSATE BLANK FOR DREDGE

ORGANIC LAB:

AIRBILL # 4486829712
ALLIANCE TECHNOLOGIES
213 BURLINGTON RD
BEDFORD, MA 01730

INORGANIC LAB:

AIRBILL # 4486830095
HITTMAN-ECASCO ASSOC INC
9151 RUMSEY ROAD
COLUMBIA, MD 21045

EKhoward 7/30/87 Skennedy 8/4/87

DAYTON T. BROWN TDD# 02-8703-66 7/28/87

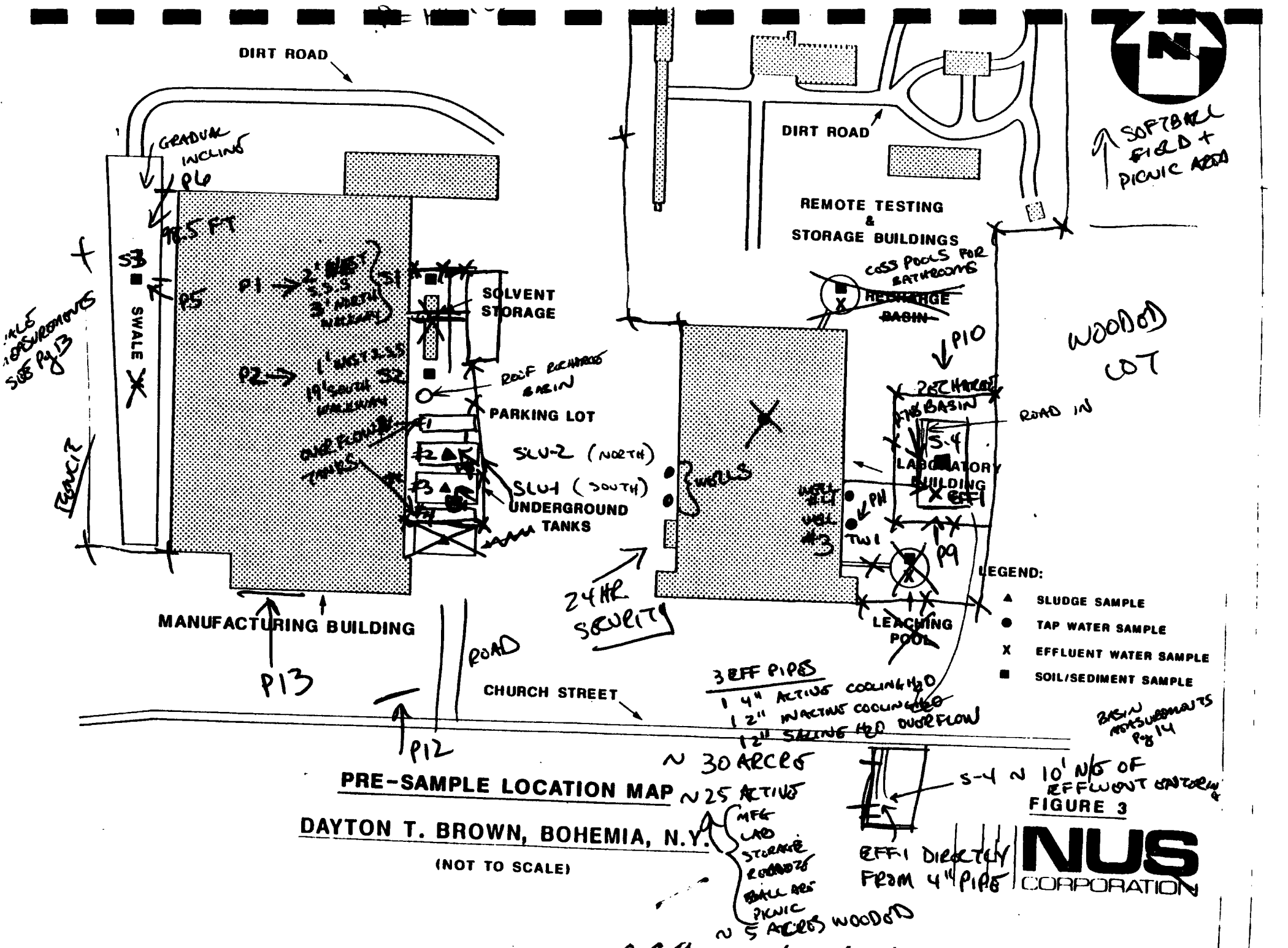
DATE	PHOTOGRAPHER	TIME	ROLL/FR	DESCRIPTION
7/28/87	EH	1030 HRS	~~S1-1~~ S1-1 ~~R1-1~~ P1-1	T. VARNAR OBTAINING SAMPLE S-1. NORTH END OF S.S.S.
7/28/87	EH	1048 HRS	~~S1-P2~~ S1-2 ~~R1-P2~~ EH P1-2	T VARNAR OBTAINING SAMPLE S-2. SOUTH END OF S.S.S.
7/28/87	EH	1146 HRS	~~S1-1~~ EH ~~S1-P3~~ S1-3 ~~R1-P3~~ EH P1-3	D. DEBRUIJN OBTAINING SAMPLE SLU-1. TANK #3
7/28/87	EH	1215 HRS	~~S1-P4~~ S1-4 ~~R1-P4~~ EH P1-4	D. DEBRUIJN OBTAINING SAMPLE SLU-2 TANK #2
7/28/87	EH	1303 HRS	S1-5 ~~R1-5~~ EH P1-5	T. VARNAR OBTAINING SAMPLE S-3 IN SWALE.
7/28/87	EH	1320 HRS	S1-6 ~~R1-6~~ EH P1-6	LOOKING SOUTH AT SWALE, BY MFG. BUILD.
7/28/87	EH	1340 HRS	S1-7 ~~R1-7~~ EH P1-7	D DEBRUIJN OBTAINING SAMPLE S-4 IN ~~[illegible] COACH POOL~~ RECHARGE BASIN. EH

CKGeonard 7/30/87 SKennedy 8/4/87

DAYTON T. BROWN TDD # 02-8703-66 7/28/87

DATE	PHOTO-GRAPHER	TIME	ROLL/FR	DESCRIPTION
7/28/87	EH	1346 HRS	S1-8 ~~R1-8~~ EH P1-8	D. DEBRUIJN OBTAINING SAMPLE EFF-1. FROM ~~EH~~ ~~LEACH~~ RECHARGE BASIN ~~POOL~~ EH FROM ACTIVE DISCHARGE PIPE (4")
7/28/87	EH	1352 HRS	S1-9 ~~R1-9~~ EH P1-9	VIEW OF ~~LEACH POOL~~ RECHARGE BASIN EH BY LAB BUILDING, LOOKING NORTH.
7/28/87	EH	1356 HRS	S1-10 ~~R1-10~~ EH P1-10	VIEW OF RECHARGE BASIN BY LAB BUILDING, LOOKING SOUTH
7/28/87	EH	1411 HRS	~~R1-11~~ EH S1-11 P1-11	D. DEBRUIJN OBTAINING SAMPLE TW1, FROM WELL #3
7/28/87	EH	1508 HRS	~~R1-12~~ EH P1-12 ~~S1~~ EH S1-12	SIGN TO PARKING LOT STATING D.T. BROWN
7/28/87	EH	1513 HRS	~~R1-13~~ EH P1-13 S1-13	D.T. BROWN ABOVE THE ENTRANCE TO THE MFG. BUILDING.

[signature] 7/30/87 Swanbeard 8/4/87



PRE-SAMPLE LOCATION MAP

DAYTON T. BROWN, BOHEMIA, N.Y.

(NOT TO SCALE)

FIGURE 3

CLBrownard 7/30/87 Skennedy 8/4/87

REFERENCE NO. 7

- Copy of CLP Data
(Redlined & marked)

- Computer QA'd printout

Site Name: DAYTON T. BROWN, INC
Case : 7732
Brics #: NYR4
TDD # : C2-8703-66

SITE NAME: DAYTON T. BROWN, INC.
TDD#: 02-8703-66
SAMPLING DATE: 7/28/87
EPA CASE NO.: 7732 LAB: ALLIANCE/CENREF

VOLATILES														
Sample ID No.	NYR4-S1(MS/MSD)	NYR4-S2(DUP)	NYR4-S3	NYR4 S4	NYR4-TW1(MS/MSD)	NYR4-EFF1(DUP)	NYR4-SLU1(MS/MSD)	NYR4-SLU2(DUP)	NYR4-RIN1	NYR4-RIN2	NYR4 RIN3	NYR4-TBLK1	NYR4-TBLK2	NYR4-TBLK3
Traffic Report No.	BK804	BK805	BK806	BK807	BK939	BK801	BK847	BK848	BK520	BK521	BK522	BK518	BK519	BK849
Matrix	SOIL	SOIL	SEDIMENT	SEDIMENT	TAP WATER	WATER	SLUDGE	SLUDGE	WATER	WATER	WATER	N/A	N/A	N/A
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor	5	5	5	5	1	1	3.4	3.8	1	1	1	1	1	1
Percent Moisture	2.2	7	4.1	16.9	--	--	71	74	--	--	--	--	--	--
Chloromethane														
Bromomethane														
Vinyl Chloride														
Chloroethane														
Methylene Chloride	13	15	8	18			B	B						B
Acetone							B		44	117	53			65 E
Carbon Disulfide														
1,1-Dichloroethene														
1,1-Dichloroethane														
Trans-1,2-Dichloroethene (total)														
Chloroform														
1,2-Dichloroethane														
2-Butanone									24	22	30			38 E
1,1,1-Trichloroethane														
Carbon Tetrachloride														
Vinyl Acetate														
Bromodichloromethane														
1,2-Dichloropropane														
cis-1,3-Dichloropropene														
Trichloroethene						J								
Dibromochloromethane														
1,1,2-Trichloroethane														
Benzene														
trans-1,3-Dichloropropene														
Bromoform														
4-Methyl-2-Pentanone							49							
2-Hexanone														
Tetrachloroethene							360	J						
Toluene					J	J	B		J	J	J		J	J
1,1,2,2-Tetrachloroethane														
Chlorobenzene														
Ethylbenzene							49							
Styrene														
Xylenes (Total)														

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of a compound, but can't be identified
NR - analysis not required
Detection limits elevated if Dilution Factor 1) and/or percent moisture 10%

SITE NAME: DAYTON T. BROWN, INC.
TDOB: 02-8703-66
SAMPLING DATE: 7/28/87
EPA CASE NO.: 7732 LAB: ALLIANCE/CENREF

SEMI-VOLATILES														
Sample ID No.	NYR4-S1(MS/MSD)	NYR4-S2(DUP)	NYR4-S3	NYR4-S4	NYR4-TW1(MS/MSD)	NYR4-EFF1(DUP)	NYR4-SLU1(MS/MSD)	NYR4-SLU2(DUP)	NYR4-RIN1	NYR4-RIN2	NYR4-RIN3	NYR4-TBLK1	NYR4-TBLK2	NYR4-TBLK3
Traffic Report No.	BK804	BK805	BK806	BK807	BK939	BK801	BK847	BK848	BK520	BK521	BK522	BK518	BK519	BK849
Matrix	SOIL	SOIL	SEDIMENT	SEDIMENT	TAP WATER	WATER	SLUDGE	SLUDGE	WATER	WATER	WATER	N/A	N/A	N/A
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	2	2	1	1	2	2	17	19	2	2	2	N/A	N/A	N/A
Percent Moisture	2.2	7	4.1	16.9	--	--	71	74	--	--	--	N/A	N/A	N/A
Phenol	J	J			J		6900 E					NR	NR	NR
bis(2-Chloroethyl)ether							R					NR	NR	NR
2-Chlorophenol							R					NR	NR	NR
1,3-Dichlorobenzene							R					NR	NR	NR
1,4-Dichlorobenzene							R					NR	NR	NR
Benzyl alcohol							R					NR	NR	NR
1,2-Dichlorobenzene							R					NR	NR	NR
2-Methylphenol							R					NR	NR	NR
bis(2-Chloroisopropyl)ether							R					NR	NR	NR
4-Methylphenol	J						R					NR	NR	NR
N-Nitroso-di-n-dipropylamine							R					NR	NR	NR
Hexachloroethane							R					NR	NR	NR
Nitrobenzene							R					NR	NR	NR
Isophorone	J	J					R					NR	NR	NR
2-Nitrophenol							R					NR	NR	NR
2,4-Dimethylphenol							R					NR	NR	NR
Benzoic acid	J	J					R					NR	NR	NR
bis(2-Chloroethoxy)methane								4000 E	J			NR	NR	NR
2,4-Dichlorophenol							R					NR	NR	NR
1,2,4-Trichlorobenzene							R					NR	NR	NR
Naphthalene	J						R					NR	NR	NR
4-Chloroaniline							J					NR	NR	NR
Hexachlorobutadiene							R					NR	NR	NR
4-Chloro-3-Methylphenol							R					NR	NR	NR
2-Methylnaphthalene	J	J					R					NR	NR	NR
Hexachlorocyclopentadiene							J					NR	NR	NR
2,4,6-Trichlorophenol							R					NR	NR	NR
2,4,5-Trichlorophenol							R					NR	NR	NR
2-Chloronaphthalene							R					NR	NR	NR
2-Nitroaniline							R					NR	NR	NR
Dimethylphthalate							R					NR	NR	NR
Acenaphthylene							R					NR	NR	NR
2,6-Dinitrotoluene							R					NR	NR	NR
3-Nitroaniline							R					NR	NR	NR
Acenaphthene							R					NR	NR	NR
2,4-Dinitrophenol							R					NR	NR	NR
4-Nitrophenol							R					NR	NR	NR
Dibenzofuran							R					NR	NR	NR
2,4-Dinitrotoluene							R					NR	NR	NR
Diethylphthalate							R					NR	NR	NR
4-Chlorophenyl-phenyl ether							R					NR	NR	NR
Fluorene							R					NR	NR	NR
4-Nitroaniline							R					NR	NR	NR
4,6-Dinitro-2-methylphenol							R					NR	NR	NR
N-nitrosodiphenylamine							R					NR	NR	NR
4-Bromophenyl-phenyl ether							R					NR	NR	NR
Hexachlorobenzene							R					NR	NR	NR

SITE NAME: DAYTON T. BROWN, INC.
TDDB: 02-8703-66
SAMPLING DATE: 7/28/87
EPA CASE NO.: 7732 LAB: ALLIANCE/CENREF

SEMI-VOLATILES														
Sample ID No.	NYR4-S1(MS/MSD)	NYR4 S2(DUP)	NYR4-S3	NYR4-S4	NYR4-TW1(MS/MSD)	NYR4-EFF1(DUP)	NYR4-SLU1(MS/MSD)	NYR4-SLU2(DUP)	NYR4-RIN1	NYR4-RIN2	NYR4-RIN3	NYR4-TBLK1	NYR4-TBLK2	NYR4-TBLK3
Traffic Report No.	BK804	BK805	BK806	BK807	BK939	BK801	BK847	BK848	BK520	BK521	BK522	BK518	BK519	BK849
Matrix	SOIL	SOIL	SEDIMENT	SEDIMENT	TAP WATER	WATER	SLUDGE	SLUDGE	WATER	WATER	WATER	N/A	N/A	N/A
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	2	2	1	1	2	2	17	19	2	2	2	N/A	N/A	N/A
Percent Moisture	2.2	7	4.1	16.9	--	--	71	74	--	--	-	N/A	N/A	N/A
Pentachlorophenol														
Phenanthrene							R					NR	NR	NR
Anthracene							R					NR	NR	NR
Di-n-butylphthalate							R					NR	NR	NR
Fluoranthene							R					NR	NR	NR
Pyrene							R					NR	NR	NR
Butylbenzylphthalate							R					NR	NR	NR
3,3'-Dichlorobenzidine							R					NR	NR	NR
Benzo(a)anthracene							R					NR	NR	NR
Chrysene							R					NR	NR	NR
bis(2-Ethylhexyl)phthalate	2300	B	R		B		R	83000 E	34000	B	B	NR	NR	NR
Di-n-octylphthalate					J							NR	NR	NR
Benzo(b)fluoranthene							R		11			NR	NR	NR
Benzo(k)fluoranthene							R					NR	NR	NR
Benzo(a)pyrene							R					NR	NR	NR
Indeno(1,2,3-cd)pyrene							R		J			NR	NR	NR
Dibenz(a,h)anthracene							R		J			NR	NR	NR
Benzo(g,h,i)perylene							R					NR	NR	NR

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of a compound, but can't be identified
NR - analysis not required
Detection limits elevated if Dilution Factor 11 and/or percent moisture 10%

SITE NAME: DAYTON T. BROWN, INC.
TDGO: 02-8703-66
SAMPLING DATE: 7/28/87
EPA CASE NO.: 7732 LAB: ALLIANCE CENREF

PESTICIDES														
Sample ID No.	NYR4-S1(MS/MSD)	NYR4-S2(DUP)	NYR4-S3	NYR4-S4	NYR4-TW1(MS/MSD)	NYR4-EFF1(DUP)	NYR4-SLU1(MS/MSD)	NYR4-SLU2(DUP)	NYR4-RIN1	NYR4-RIN2	NYR4-RIN3	NYR4-TBLK1	NYR4-TBLK2	NYR4-TBLK3
Traffic Report No.	BK804	BK805	BK806	BK807	BK939	BK801	BK847	BK848	BK520	BK521	BK522	BK518	BK519	BK849
Matrix	SOIL	SOIL	SEDIMENT	SEDIMENT	TAP WATER	WATER	SLUDGE	SLUDGE	WATER	WATER	WATER	N/A	N/A	N/A
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	5	2	1	1	5	1	10	10	1	1	1	N/A	N/A	N/A
Percent Moisture	2.2	7	4.1	16.9	--	--	71	74	--	--	--	N/A	N/A	N/A
alpha-BHC	R	R	R	R										
beta-BHC	R	R	R	R								NR	NR	NR
delta-BHC	R	R	R	R								NR	NR	NR
gamma-BHC (Lindane)	R	R	R	R								NR	NR	NR
Heptachlor	R	R	R	R								NR	NR	NR
Aldrin	R	R	R	R								NR	NR	NR
Heptachlor epoxide	R	R	R	R								NR	NR	NR
Endosulfan I	R	R	R	R								NR	NR	NR
Dieldrin	R	R	R	R								NR	NR	NR
4,4'-DDE	R	R	R	R								NR	NR	NR
Endrin	R	R	R	R								NR	NR	NR
Endosulfan II	R	R	R	R								NR	NR	NR
4,4'-DDD	R	R	R	R								NR	NR	NR
Endosulfan sulfate	R	R	R	R								NR	NR	NR
4,4'-DDT	R	R	R	R								NR	NR	NR
Methoxychlor	R	R	R	R								NR	NR	NR
Endrin ketone	R	R	R	R								NR	NR	NR
alpha-Chlordane	R	R	R	R								NR	NR	NR
gamma-Chlordane	R	R	R	R								NR	NR	NR
Toxaphene	R	R	R	R								NR	NR	NR
Aroclor-1016	R	R	R	R								NR	NR	NR
Aroclor-1221	R	R	R	R								NR	NR	NR
Aroclor-1232	R	R	R	R								NR	NR	NR
Aroclor-1242	R	R	R	R								NR	NR	NR
Aroclor-1248	R	R	R	R								NR	NR	NR
Aroclor-1254	R	R	R	R								NR	NR	NR
Aroclor-1260	R	R	R	R								NR	NR	NR

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of a compound, but can't be identified
NR - analysis not required
Detection limits elevated if Dilution Factor 11 and/or percent moisture 10%

SITE NAME: DAYTON T. BROWN, INC.
TDDB: 02-8703-66
SAMPLING DATE: 7/28/87
EPA CASE NO.: 7732
LAB NAME: HITTMAN/CHEMTECH

INORGANICS

Sample ID No.	MYR4-S1(MS/MSD)	MYR4-S2(DUP)	MYR4-S3	MYR4-S4	MYR4-TW1(MS/MSD)	MYR4-EFF1(DUP)	MYR4-SLU1(MS/MSD)	MYR4-SLU2(DUP)	MYR4-RIN1	MYR4-RIN2	MYR4-RIN3	MYR4-TBLK1	MYR4-TBLK2	MYR4-TBLK3
Traffic Report No.	MBK670	MBL126	MBL127	MBL128	MBK666	MBK667	MBL132	MBL160	MBJ606	MBK660	MBK663	N/A	N/A	N/A
Matrix	SOIL	SOIL	SOIL	SOIL	WATER	WATER	SOIL	SOIL	WATER	WATER	WATER	N/A	N/A	N/A
Units	mg/kg	mg/kg	mg/kg	mg/kg	ug/L	ug/L	mg/kg	mg/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	4390	4190	1020	1370		R	50500	44400	J		J	NR	NR	NR
Antimony					R	R			R	R	R	NR	NR	NR
Arsenic	J	J		J			40.6	36.7				NR	NR	NR
Barium	J	J	R	R	R	R	2250	2140	R	R	R	NR	NR	NR
Beryllium							J	3.2				NR	NR	NR
Cadmium							194 E	94.2 E				NR	NR	NR
Calcium	R	R	R		R	R	12600	5740	J	J	J	NR	NR	NR
Chromium	10	7.4	R	J	R	R	43100	27000	J	J	J	NR	NR	NR
Cobalt	J	J					J	J				NR	NR	NR
Copper	J	J	J	103	57	111	3060	3680	J		J	NR	NR	NR
Iron	7220	6360	1530	2210	R	R	122000	79700	R	R	R	NR	NR	NR
Lead	R	R	R	R	R	R	1290 E	575 E	R	R	R	NR	NR	NR
Magnesium	J	J	R	R	J	J	J	J	R	R	R	NR	NR	NR
Manganese	181	150	40	52	J	612	628	318				NR	NR	NR
Mercury		0.1 E										NR	NR	NR
Nickel	J	J	J	J	J	J	159 E	80 E				NR	NR	NR
Potassium	R	R	R	R	R	R			R	R	R	NR	NR	NR
Selenium							4.74 E					NR	NR	NR
Silver			J	J	R	R	29.6	15	R	R	R	NR	NR	NR
Sodium	R	R	R	R	10300	10600	8410	J	R	R	R	NR	NR	NR
Thallium					R	R			R	R	R	NR	NR	NR
Tin					R	R			R	R	R	NR	NR	NR
Vanadium	J						646	386				NR	NR	NR
Zinc	R	189	R	R	R	R	99000	62900	R	R	R	NR	NR	NR
Cyanide							21	45.2				NR	NR	NR

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

RECORD OF COMMUNICATION

☐ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO: Leon Lazarus

FROM: Amy Brochu

DATE: 9/30/87

TIME: 12:00 noon

SUBJECT: CLP Inorganics Data Packages for Quality Assurance Review

SUMMARY OF COMMUNICATION

Attached are the following CLP Inorganics Data Packages to be reviewed for Quality Assurance:

SITE	CASE #/ SAS #	LABORATORY	ANALYSIS/ MATRIX	NUMBER OF SAMPLES	BLANK NUMBER(S)	DUPLICATE NUMBER(S)
MKY Facility, REM2/Over.	7928	Century-NJ	Inorganics water soil	 9 19	MBL486,415	MBL478 & 479, 490 & 493, 491 & 494, 480 & 481, 483 & 484, 410 & 414
Maywood Chem., REM3/Over.	7946	Centec	Inorganics water soil	 1 2	MBL225	--
Lipari LF, REM2/Rem.	7894	Chemtech	Inorganics + CN^- water soil	 1 35	MBL459	MBJ917 & 927, MBL465 & 470
Swepco Tube, FIT/SI	7733	Hittman	Inorganics water soil	 4 2	MBL140, 141	--
Dayton T. Brown, FIT/SI	7732	Hittman	Inorganics + CN^- water soil	 5 4	MBJ606, MBK660, MBK663	--

CONCLUSIONS, ACTION TAKEN OR REQUIRED

Kentucky Ave. Wellfield, REM3/Over.	7896	Cambridge	Inorganics water	 4	MBL546	--
Brewster Wellfield, REM3/Rem.	3174B	Wilson	SAS-grain size, moisture, spec. grav. soil	 6	JAN 1 1 [illegible]	--

INFORMATION COPIES TO: File

EPA Form 1300-6 (7-72) REPLACES EPA HQ FORM 5300-9 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

STANDARD OPERATING PROCEDURES

Title: APPENDIX A - CHECK LIST AND REPORT FORM.

Date:
Number:
Revision: 0

A.1 This section must be completed by the Surveillance and Monitoring Section.

A.1.1 Project Name/Site: Dept - T. [illegible]

A.1.2 Contract No. 68-01-7356 Case No. 7732

A.1.3 Objective of Study (Specify data used)

FIT - II

E 7-FA02P022

A.1.4 Name of Analytical Laboratory 1: Hittman

A.1.4.1 Sample Matrix: Water 5 Soil/Sediment 4

Other (Describe)

A.1.4.2 Concentration Requested: Low ✓ Medium

A.1.4.3 Sample Nos.: 4: MBK666, 667; MBJ606; MBK660, 663
5: MBK670; MBL 126-128.

A.1.5 Name of Analytical Laboratory 2:

A.1.5.1 Sample Matrix: Water Soil/Sediment

Other (Describe)

A.1.5.2 Concentration Requested: Low Medium

A.1.5.3 Sample Nos.:

A.1.6 Name of Laboratory 3:

A.1.6.1 Sample Matrix: Water Soil/Sediment

Other (Describe)

A.1.6.2 Concentration Requested: Low Medium

A.1.6.3 Sample Nos.:

Title: Appendix A.1: Data Assessment - Contract Compliance (Significant Element Review)

Contractor Preparer _____ Completion Date 12-30-87

NOTE: All "action" requirements apply to data preparer, unless specifically stated otherwise.

		YES	NO	N/A
A.1.1	Contract Compliance Screening Report (CCS) - Present?	✓		
A.1.2	Record of Communication (from RSCC) - Present?	[✓]		
	Action: If no, request from RSCC.			
A.1.3	Sample Traffic Report - Present or on file?	[✓]		
	Action: If no, request from Regional Sample Control Center (RSCC).			
A.1.4	Cover Page - Present?	[✓]		
	ACTION: If no, prepare Telephone Record Log, and contact laboratory.			
	Do numbers of sample correspond to numbers on Record of Communication?	[✓]		
	Do sample numbers on cover page agree with sample numbers on:			
	a. Traffic Report Sheet?	[✓]		
	b. Form I's?	[✓]		
	c. Surveillance and Monitoring Branch Review	[✓]		
	ACTION: If no for any of the above, contact RSCC for clarification.			
A.1.5	Form I (Data Reporting) - All present and complete?	[✓]		
	ACTION: If no, prepare telephone record log and contact laboratory.			

Title: Appendix A.1: Data Assessment - Contract Compliance (Significant Element Review)

	YES	NO	N/A
A.1.6 Holding Times (Aqueous Samples Only) (Examine Sample Traffic Reports and Form X)			
Mercury (28 days) - Exceeded?	___	[✓]	___
Cyanide (14 days) - Exceeded?	___	[✓]	___
Other metals (6 months) - Exceeded?	___	[✓]	___
Conventionals (Use 40 CFR 136 criteria) - Exceeded?	___	[___]	✓

Which Parameters? _____

CONTRACTOR ACTION: Prepare a list of all samples and analytes for which holding times have been exceeded. Specify the number of days from date of collection (see traffic report) to the date of analysis (from raw data). Attach to checklist.

MMB ACTION: If yes, reject (red-line) values less than Instrument Detection Limit (IDL). Flag as estimated (J) those values above IDL.

A.1.7 Raw Data			
Digestion Log* for flame AA/ICP present?	[✓]	___	___
Digestion Log for furnace AA present?	[✓]	___	___
Digestion Log for mercury present?	[✓]	___	___
Digestion Log for cyanides present?	[✓]	___	___

*Weights, dilutions, and volumes used to obtain the reported values.

Measurement readout record present?	ICP	[✓]	___	___
	Flame AA	[___]	___	✓
	Furnace AA	[✓]	___	___
	Mercury	[✓]	___	___ + Bench sheet
	Cyanides	[✓]	___	___ + Bench sheet
Conventionals: _____		[___]	___	✓

	YES	NO	N/A
Record of 4 point calibration present? Flame AA	[ ]		✓
Furnace AA	[✓]		

NOTE: If less than 4, other standards must be run immediately after calibration, and be ± 5% of true value.

	YES	NO	N/A
Record of 4 point calibration present? Mercury	[✓]		
Cyanide	[✓]		
Percent solids calculations present for soil (sediments)?	[✓]		

ACTION: If no for any of above, prepare Telephone Record Log and contact laboratory.

	YES	NO	N/A
Was one prep blank analyzed for each 20 samples?	[✓]		

MMB ACTION: If no, flag as estimated (J) all data which prep blank was not analyzed.
NOTE: If only one blank was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).

	YES	NO	N/A
Do concentration of field blanks fall below two times IDL for all aqueous parameters? and soil parameters?	[ ]	✓	

MMB ACTION: If no, reject (red-line) all data (aqueous) (except field blank) that has a concentration less than ten times the (three times for soil data) field blank value but not flagged with a "U" (less than).

* Three field blanks, highest values used for judgement.
* Al, Ba, Cu, Zn, Co, Fe, Pb, Mg, K, Na

A.1.8.1 Form II (Initial and Continuing Calibration Verification

	YES	NO	N/A
Present and complete?	[✓]		

ACTION: If no, prepare Telephone Record Log and contact laboratory.

		YES	NO	N/A
A.1.6.2	Circle all values on Data Summary Sheet that are outside of contract windows. Are all calibration standards (initial and continuing) within 75-125%?	[✓]	___	___
	Are all calibration standards (initial and continuing) within 50-150%?	[✓]	___	___
	MMB ACTION: Flag as estimated (J) all data analyzed between a calibration standard of 50-75% or 125-150% recovery and nearest adjacent calibration standards reject (red-line) as unacceptable data if recovery of calibration standard is below 50% or above 150% for nearest adjacent standards.			
A.1.9.1	Form III (Blanks) - Present and complete?	[✓]	___	___
	MMB ACTION: If no, prepare Telephone Record Log and contact laboratory.			
A.1.9.2	Form III (Blanks) and Field Blanks			
	Circle all calibration blank values on Data Summary Sheet that are above IDL. Are all calibration blank values less than Contract Required Detection Limits (CRDL)?	[✓]	___	___
	MMB ACTION: If no, flag as estimated (J) on Form I all data between calibration blank with value over CRDL and nearest adjacent calibration blank.			
	Was an initial calibration blank analyzed?	[✓]	___	___
	Was a continuing calibration blank analyzed after every 10 samples or every 2 hours (whichever is more frequent)?	[✓]	___	___
	CONTRACTOR ACTION: List those analytes which are out of compliance with the above criteria.			
	MMB ACTION: If no, flag as estimated (J) all values not analyzed within 5 samples of calibration blank.			

	YES	NO	N/A
Do concentrations of prep blanks fall below two times IDL for all parameters?	[ ]	✓	

MMB ACTION: If no, reject (red-line) all data that has a concentration less than ten times the prep blank value, but not flagged with a "U" (less than).

* Water: Ba, Fe, Mg, K, Na, Zn
Soil: Fe, Mg, K, Na

A.1.10.1 Form IV (ICP Interference Check Sample) - Present and complete? NOTE: Not required for furnace AA, flame AA, mercury and Ca, K, Na, and Mg. [✓] ACTION: If no, prepare Telephone Record Log and contact laboratory.

A.1.10.2 Form IV (ICP Interference Check Sample [ICS]) - Circle all values on Data Summary Sheet that are more than ± 20% of established mean value. Are all ICP Interference Check Sample results inside of control limits (± 20% of true value)? [✓]

If no, is concentration of Al, Ca, Fe, or Mg lower in sample than in ICS? [ ] ✓

MMB ACTION: If no, flag as estimated (J) those sample results for which ICS recovery is between ± 20% to 50% of mean value; and reject (red-line) those sample results for which ICS recovery is less than 50%. If ICS recovery is above 150%, reject positive results only (not flagged with a "U").

A.1.11.1 Form IX (ICP Serial Dilution) - Circle all values on Data Summary Sheet with a RPD greater than 10%. Are all ICP Serial Dilution results within control limit of 10% RPD? [ ] ✓

If no, are all associated data on Form I's flagged with an "E"? [✓]* ✓*

* Mg * Soil: Ba
Water: Ba, Fe

MMB ACTION: If not flagged with an "E" flag as estimated (J) all associated samples results for which RPD is greater than 10% but less than 100%; reject (red-line) all associated sample results for which RPD is above 100%.

	YES	NO	N/A
NOTE: Either diluted or undiluted analysis may be used to report final value as long as either is above 10 times IDL.			
A.1.12.1 Form V (Spiked Sample Recovery) - Present and complete for each matrix type? NOTE: Not required for Ca, Mg, K, and Na (both matrix types), Al and Fe (soil only).	[✓]	___	___
ACTION: If no, prepare telephone record log and contact laboratory.			
A.1.12.2 Form V (Spiked Sample Recovery)			
Was field blank used for spiked samples?	✓ *	[___]	___
If yes, was field blank described as such on Traffic Report?	[✓]	___	___
MMB ACTION: Flag all data as estimated (J) for which field blank was used as spiked sample.			
Was at least one spiked sample prepared and analyzed for: every 20 water samples?	[✓]	___	___
Every 20 soil/sediment samples?	[✓]	___	___
For both AA and ICP when both are used for same analyte?	[___]	___	✓
MMB ACTION: If no, flag as estimated (J) all data for which spiked sampled was not analyzed. NOTE: If only one spiked sample was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).			
Circle all values on Data Summary Sheet that are outside of control limits (75% to 125%).			
Are all recoveries within control limits?	[___]	✓	___
If no, is sample concentration greater than four times spike concentration?	[___]	✓	___

* for Fe [illegible]

[illegible] Rejected.

* Soil - Sb, Hg
Water - Sb, Pb, Hg, Ag, Tl, Sn, CN

	YES	NO	N/A
ACTION: If no, circle those analytes on Form V for which sample concentration was not greater than four times the spike concentration.			
Are any spike recoveries: a) greater than 150%?	✓	[ ]	
b) less than 50%?	✓	[ ]	

MMB ACTION: If greater than 150%, reject (red-line) all associated aqueous data not flagged with a "U" (less than value). Likewise, flag associated soil/sediment data as estimated (J) which are not flagged with a "U".

If less than 50%, reject (red-line) all associated data for aqueous samples only. Flag associated soil/sediment data as estimated (J).

	YES	NO	N/A
A.1.13.1 Form VI (Lab) Duplicates - Present and complete for each matrix type?	[✓]		

ACTION: If no, prepare Telephone Record Log and contact laboratory.

A.1.13.2 Form VI (Lab) Duplicates

	YES	NO	N/A
Was field blank used for ~~spiked~~ duplicate samples?	✓	[ ]	
Was at least one duplicate sample prepared and and analyzed for: every 20 water samples?	[✓]		
Every 20 soil/sediment samples?	[✓]		

ACTION: If yes, flag all data as estimated (J) for which field blank was used as duplicate.

MMB ACTION: If no, flag as estimated (J) all data for which duplicate sample was not analyzed. NOTE: If only one duplicate sample was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).

	YES	NO	N/A
Circle all values on Data Summary Sheet that are outside of control limits (20% or CRDL).			
Are all values within control limits?	[✓]		
Aqueous			
Is any RPD greater than 50% where sample and duplicate are both greater than 5 times CRDL?		[✓]	
Is any difference between sample and duplicate greater than CRDL where sample and/or duplicate is less than 5 times CRDL, but greater than CRDL?		[✓]	
MMB ACTION: If yes, reject (red-line) all associated data.			
Soil/Sediment			
Is any RPD greater than 100% where sample and duplicate are both greater than 5 times CRDL?		[✓]	
Is any difference between sample and duplicate greater than 2 times CRDL where sample and/or duplicate is less than 5 times CRDL but greater than CRDL?		[✓]	
MMB ACTION: If yes, reject (red-line) all associated data.			
A.1.13.3 Is "NC" reported in RPD column for any sample duplicate pair where either value is less than CRDL?	[✓]		
MMB ACTION: If no, write in "NC" with red pencil on Form VI and initial. Note under Data Acceptability Narrative (contract non-compliance).			
A.1.14.1 **Form VII (Instrument Detection Limits [IDL] and Laboratory Control Sample [LCS]**			
IDLs present and complete?	[✓]		
LCSs present and complete: aqueous?	[✓]		
soil/sediment?	[✓]		

	YES	NO	N/A
ACTION: If no, prepare Telephone Record Log and contact laboratory.			
A.1.14.2 Form VII (Instrument Detection Limits [IDL] and Laboratory Control Sample [LCS]			
Circle all IDL values greater than CRDL on data summary sheet.			
IS IDL greater than CRDL for any parameter?	___	[✓]	___
MMB ACTION: If yes, reject (red-line) all values flagged with "U" (less than "values").			
Circle all LCS values outside of control limits (80% to 120%) on data summary sheet.			
Is any LCS value: between 50% and 80%?	✓ *	[___]	___
between 120% and 150%?	___	[✓]	___
less than 50%?	___	[✓]	___
greater than 150%?	✓ *	[___]	___
MMB ACTION: Between 50% to 80%, flag all associated data as estimated (J); between 120% to 150% flag all positive (not flagged with a "U") results as estimated (J); less than 50% reject (red-line) all data; greater than 150% reject all positive results.			
A.1.15.1 Form VIII (Standard Additions Results) - Present?	[✓]	___	___
If no, is any Form I result coded with an "S" or a "+"?			
ACTION: If yes, write request on Telephone Record Log.			
A.1.15.2 Furnace Standard Addition Results - Form VIII			
Is any post-digestion spike recovery less than 10% for any result? (See RAW DATA)	___	[✓]	___
CONTRACTOR ACTION: Prepare a list of all results with recoveries less than 10%.			

* Different criteria was used to judge 50% LCS values. Pg. 4. - ✓ all 'J'

	YES	NO	N/A
MMB ACTION: If yes, reject (red-line) affected data.			
Is coefficient of correlation less than 0.990 for any sample?	___	[✓]	___
MMB ACTION: If yes, reject (red-line) affected data.			
A.1.15.3 Form IX (ICP Serial Dilutions)			
Present and complete for each matrix type?	[✓]	___	___
ACTION: If no, write request on Telephone Record Log.			
A.1.16.1 Dissolved Inorganics			
Were any analyses performed for dissolved as well as total analytes?	___	[✓]	___
If yes, apply the following questions only if both dissolved and total constituents are above CRDL (For SAS parameters: above 5 * IDL).			
Is the concentration of any dissolved analyte greater than its total concentration by more than 10%.	___	[___]	✓
Is the concentration of any dissolved analyte greater than its total concentration by more than 50%?	___	[___]	✓
MMB ACTION: If more than 10%, flag both dissolved and total values as estimated (J); if more than 50% reject (red-line) the data for both values.			
CONTRACTOR ACTION: Prepare a list comparing differences between all dissolved and total analytes. Compute the differences as a percent of the total analyte only when both dissolved and total concentrations are above CRDL (5 * IDC for SAS parameters).			

A.2.1 Data Verification

A.2.1.1 Choose at least one furnace AA parameter, one flame AA parameter, two ICP parameters, mercury and cyanide (if determined) for the initial evaluation process. If errors are encountered during review, perform the following:

a. Furnace AA - evaluate all other furnace parameters for the type of error found.

b. Flame AA/ICP _ evaluate another two parameters for same type error(s), if still encountered, then all other parameters must be examined for same type of error(s).

A.2.1.2 For each parameter chosen for the initial evaluation, all deliverables (except for Form I's - see below) must be examined for computation and transcription errors and omissions.

A.2.2 Ten percent of Form I's (at least one) should be evaluated initially for computation, transcription errors and/or omissions. If errors are found, check all other Form I's for same type error(s).

A.2.3 Data Assessment Checklist

List Parameter(s) chosen as Initial Evaluation Parameters for

Furnace As Pb
Flame _____
ICP Al, Cu
List Samples (Form I's) chosen for initial review: RANDOM

A.2.3.1 Form I (Data Reporting)

	YES	NO	N/A
Was a brief physical description of sample given in comments section? Do digestion logs	[✓]	___	___
ACTION: If no, note exceptions under "Contract Problems/Non-Compliance" of data assessment narrative, or list separately and attach to checklist.			
Do any computation/transcription errors exceed 10% of reported values?	___	[✓]	___

	YES	NO	N/A
ACTION: If yes, prepare Telephone Record Log, and contact laboratory for corrected data.			
Are all "less than" values properly coded with a "U"?	[✓]		
ACTION: If no, write request for corrected data on Telephone Record Log, and red pencil affected data with "U" on Form I and initial.			
Were any samples diluted beyond requirements of contract?		[✓]	
If yes, were dilutions noted under Comments Section of Form I?	[ ]		[✓]
ACTION: Note under "Contract Problems/Non-Compliance" of data assessment narrative.			

A.2.3.2 Form II (Initial and Continuing Calibration Verification)

	YES	NO	N/A
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, request corrected data and prepare Telephone Record Log; correct errors with red pencil and initial.			
Does Raw Data Record agree with weights and volumes required by CLP methods?	[✓]		
ACTION: If no, prepare Telephone Record Log, and contact laboratory for explanation.			

A.2.3.3 Linear Range

	YES	NO	N/A
Was any sample result (raw data) higher than highest calibration standard (except ICP) or linear range (Form XIII) by more than 10%? (Note: Form XIII provided only quarterly.)		[✓]	
MMB ACTION: If yes, flag result reported on Form I as estimated (J).			

	YES	NO	N/A
A.2.3.4 Form III (Blanks)			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
A.2.3.5 Form IV (ICP Interference Check Sample [ICS])			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
Was ICS analyzed at beginning and end of run (and at least once every 8 hours)?	[✓]		
MMB ACTION: If no, flag as estimated (J) all samples for which AL, CA, Fe or MG is higher than in ICS.			
A.2.3.6 Form V (Spike Sample Recovery)			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct errors with red pencil and initial.			
A.2.3.7.1 Form VI (Duplicates)			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			

	YES	NO	N/A
A.2.3.7.2 Field Duplicates			
Were field duplicates analyzed?	___	[✓]	___
ACTION: If yes, prepare a list of duplicate results and corresponding RPD. Apply CLP results criteria, and circle all values outside of contract/limits.			
Aqueous			
Is any RPD greater than 50% where sample and duplicate are both greater than 5 times CRDL?	___	[___]	✓
Is any difference between sample and duplicate greater than CRDL where sample and/or duplicate is less than 5 times CRDL, but greater than CRDL?	___	[___]	✓
MMB ACTION: If yes, reject (red-line) associated data for field duplicates only.			
Soil/Sediment			
Is any RPD greater than 100% where sample and duplicate are both greater than 5 times CRDL?	___	[___]	✓
Is any difference between sample and duplicate greater than 2 times CRDL where sample and/or duplicate is less than 5 times CRDL but greater than CRDL?	___	[___]	✓
MMB ACTION: If yes, reject (red-line) all associated data for field duplicates only.			

		YES	NO	N/A
A.2.3.8	**Form VII (Instrument Detection Limits [IDL] and Laboratory Control Sample ([LCS])**			
	Do any computation/transcription errors exceed 10% of IDL and/or LCS values?	___	[✓]	___
	ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
	Was at least one LCS analyzed for every 20 aqueous samples?	[✓]	___	___
	CONTRACTOR ACTION: List exceptions and attach to checklist.			
	MMB ACTION: If no, flag as estimated (J) all aqueous data for which LCS was not analyzed. NOTE: If only one LCS was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).			
A.2.3.9	**Form IX (ICP Serial Dilution)**			
	Do any computation/transcription errors exceed 10% of reported values?	___	[✓]	___
	ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
A.2.3.10	**Furnace AA Results**			
	Were duplicate injections analyzed for each sample?	[✓]	___	___

	YES	NO	N/A
MMB ACTION: If no, reject (red-line) all positive (not flagged with a "U") results.			
CONTRACTOR ACTION: List all exceptions and attach to checklist.			
For any concentrations above CRDL do duplicate injections agree to within ± 20% RSD?	[✓]		
If no, was analysis repeated at least once?	[ ]		✓
MMB ACTION: If no, flag result reported on Form I as estimated (J) when RSD is between 20 to 50%. If RSD is above 50%, reject (red-line).			
If yes, was second run within ± 20% RSD?	[ ]		✓
MMB ACTION: If no, do as above.			

A.2.3.11 Form VIII (Standard Addition Results)

	YES	NO	N/A
Are any MSA analyses missing from Form VII?		[✓]	
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data, and correct errors with red pencil and initial.			
Was "special quantitation procedure" followed correctly?	[✓]		
ACTION: If no, note exceptions under "Contract Problems/Non-Compliance" of data assessment narrative, or prepare a separate list.			

Title: Appendix A.3: Data Acceptability Narrative

Case# 7732 Site Dayton T. Brown
Lab Hittman - Erasco

A.3.1 Are all data of acceptable quality? Yes ___ No ✓

If no, list exceptions with reason(s) for rejection of qualification as estimated value (J).

① Ba; Ca; Cr; Fe; Pb; K; Zn Samples MBK 666-667 (water)
Al Sample MBK 667 (water)
: Data rejected (red-lined) due to field blank contamination. Concentration of field blank does not fall below two times IDL and sample concentrations are less than ten times the field blank value and not flagged with 'u'.
Pb; K; Na; Samples MBK 670; MBL 126-128 (soil)
Ca; Samples MBK 670; MBL 126-127 (soil)
Zn; Samples MBK 670 MBL 127-128 (soil)
Ba; Samples MBL 127-128
Cr; Sample MBL 127
Mg; Sample MBL 128
: Data rejected (red-lined) due to field blank contamination as above. Sample concentrations however fell below three times the field blank value and not flagged with 'u'.

NNB Reviewer: Frank J. Menna Date: 12-30-87
Signature

Verified by: [illegible] Date: 1-4-88
Signature

CASE # 7732 PAGE # 2

Title: Appendix A.3: Data Acceptability Narrative

A.3.1 (Continuation)

(2) Ba; Fe; Zn; Samples MBJ 606, MBK 660, 663 [666, 667 previously rejected]
Mg, K; Na; Samples MBJ 606; MBK 660 663 (waters)
K; Na; Samples MBK 670; MBL 126-128
Mg; Samples MBL 127 [128 previously rejected] (soils)
: Data rejected (red-lined) due to preparation blank contamination. Concentration of prep blank does not fall below two times IDL and the sample concentrations are less than ten times the prep blank value and not flagged with 'U'.

(3) Sb; Ag; Tl; Sn; Samples MBJ 606, MBK 660, 663 666-667 (water)
Pb; Samples MBJ 606, MBK 660 663 [666-667 previously rejected] (water)
: Data rejected (red-lined), spike recovery is less than 50%.

~~Other Problems/Noncompliance~~

Sb; Samples MBK 670; MBL 126-128 (soil)
Hg; Samples MBL 126 (soil) [NOT FLAGGED WITH 'U']
Data flagged as estimated 'J', spike recoveries are less than 50% and greater than 150% respectively.

(4) Ba, All samples (water + soil; waters previously rejected; soils 127-128 rejected)
Fe; All water samples (all previously rejected)
: Data flagged as estimated 'J'; ICP serial dilution result is outside control limit of 10%.

(5) Fe; All water samples; field blank used for matrix spike and duplicate analysis (data already rejected)
No further action taken.

Title: Appendix A.3: Data Acceptability Narrative

Case# 7732 Site PAGE #3
Lab

A.3.1 Are all data of acceptable quality? Yes ___ No ✓

If no, list exceptions with reason(s) for rejection of qualification as estimated value (J).

⑥ N.; (Pb + K previously rejected) All soil samples Data judged to be estimated 'J' due to soil LCS value exceeding 150%, and the found concentration of 40 mg/kg to fall outside the TKM control limits, 5 to 39.8 mg/kg. For the LCS values for soil, the TKM control limits were used to evaluate the data.

MMB Reviewer: _____ Date: _____
Signature

Verified by: [signature] Date: 1-4-88
Signature

5266b

HITTMAN EBASCO ASSOCIATES INC.
A Subsidiary of EBASCO SERVICES INCORPORATED
9151 Rumsey Road, Columbia, MD 21045
(301) 730-8525

HITTMAN EBASCO

December 28, 1987

RECEIVED
DEC 29 1987
MONITORING MANAGEMENT

Mr. Frank Messina
EPA Region II
Woodbridge Avenue
Building 209
Edison, New Jersey 08837

Dear Mr. Messina:

Enclosed is the Form VII for soils you requested for case 7732. Please excuse the delay in submission.

Please feel free to call if I may be of further assistance.

Sincerely,

Elizabeth A. Pickral

Elizabeth A. Pickral
Reporting Section Supervisor

EPA-7003
Enclosures
eap

LABORATORY: HITTMAN EBASCO
CASE: 7732
CONTRACT NO: 7002-029

CASE NARRATIVE

1) IRON PREP BLANKS ARE ABOVE THE CRDL. ALL SOIL SAMPLES ASSOCIATED WITH THE PREP BLANK ARE TEN TIMES THE VALUE OF THE BLANK. THE ASSOCIATED WATER SAMPLES ARE NOT TEN TIMES THE BLANK VALUE. THE LAB FOUND A PROBLEM WITH CONTAMINATED GLASSWARE. THERE WAS NOT SUFFICIENT SAMPLE LEFT TO DO ANOTHER DIGESTION. ALL OTHER QC ASSOCIATED WITH THESE SAMPLES IS IN CONTROL.

2) CYANIDE

ANALYST DISTILLED 380 ML OF SAMPLE FOR MBK667 DUE TO LIMITED SAMPLE VOLUME. THIS RAISES THE DETECTION LIMIT BY A FACTOR OF 1.3.

DURING THE ANALYSIS OF THE ICV, HALF OF THE SOLUTION WAS LOST RESULTING IN A DILUTION FACTOR OF 2.2. THE RESULTING ICV RECOVERY WAS IN CONTROL.

3) ALL DATA VOIDED WITH A BLACK MARKER IS DATA THAT DOES NOT PERTAIN TO CASE 7732. IT WAS VOIDED ON 9/23/87 BY MAW.

4) AS RUN ON THE 3030 IDL = 1.42
TL RUN ON THE 3030 IDL = 3.9
AG RUN ON THE 3030 IDL = 0.66
CR RUN ON THE 3030 IDL = 0.62

REVIEWED BY: Phyllis Christopher

PHYLLIS CHRISTOPHER
INORGANIC SECTION
SUPERVISOR

REVIEWED BY: L. D. Carter

LARRY CARTER
LABORATORY GENERAL
MANAGER

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

Date 9/24/87

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name HITTMAN EBASCO ASSOCIATES INC. Case No. 7732

SOW No. 7/84 Q.C. Report No. 33

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MBJ 606	4890		
MBK 660	4891		
MBK 663	4892		
MBK 666	4893		
MBK 667	4894		
MBK 670	4895		
MBL 126	4896		
MBL 127	4897		
MBL 128	4898		

Comments:

ICP Interelement and background corrections applied? Yes X No ___.

If yes, corrections applied before X or after ___ generation of raw data.

Footnotes:

NR - not required by contract at this time

Form I:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP/Flame AA) or F (for furnace).

U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

R - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBL 126

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4896 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	4190 P	13.	Magnesium	[577] PE
2.	Antimony	4.8 UFR J	14.	Manganese	150 P
3.	Arsenic	[1.3] F	15.	Mercury	0.1 CVR J
4.	Barium	[24] P J	16.	Nickel	[16] P J
5.	Beryllium	1.0 UP	17.	Potassium	~~[142] P~~
6.	Cadmium	2.0 UP	18.	Selenium	0.5 UF
7.	Calcium	~~[512] P~~	19.	Silver	0.4 UF
8.	Chromium	7.4 F	20.	Sodium	~~[40] P~~
9.	Cobalt	[5.5] P	21.	Thallium	2.0 UF
10.	Copper	[11] P	22.	Tin	18 UP
11.	Iron	6360 P	23.	Vanadium	8.0 UP
12.	Lead	~~15 P~~	24.	Zinc	189 P

Cyanide 1.0 U

Percent Solids (%) 95.5

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Mg - F flag due to serial dilution out of control

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBL 127

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4897 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

ug/L or (mg/kg) dry weight (Circle One)

1.	Aluminum	1020 P	13.	Magnesium	~~[297] P~~ E
2.	Antimony	4.7 UF R	14.	Manganese	40 P
3.	Arsenic	0.7 UF	15.	Mercury	0.1 UCVR
4.	Barium	~~[8.8] P~~	16.	Nickel	[9.3] P
5.	Beryllium	1.0 UP	17.	Potassium	~~[893] P~~
6.	Cadmium	2.0 UP	18.	Selenium	0.4 UF
7.	Calcium	~~[26] P~~	19.	Silver	[0.4] F
8.	Chromium	~~[1.8] F~~	20.	Sodium	~~[29] P~~
9.	Cobalt	4.2 UP	21.	Thallium	1.9 UF
10.	Copper	[6.8] P	22.	Tin	18 UP
11.	Iron	1530 P	23.	Vanadium	7.8 UP
12.	Lead	~~3.6 F~~	24.	Zinc	~~[8.8] P~~

Cyanide 1.0 U

Percent Solids (%) 97.5

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Mg - E flag due to serial dilution out of control

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBL 128

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4898 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	1370 P	13.	Magnesium	~~[181]PF~~
2.	Antimony	5.5UFR J	14.	Manganese	52 P
3.	Arsenic	[1.5]F	15.	Mercury	0.1UCVR
4.	Barium	~~[97]P~~ J	16.	Nickel	[8.5]P
5.	Beryllium	1.1 UP	17.	Potassium	~~[102]P~~
6.	Cadmium	2.3 UP	18.	Selenium	0.5UF
7.	Calcium	26 UP	19.	Silver	[1.3]F
8.	Chromium	[3.4]F	20.	Sodium	~~[29]P~~
9.	Cobalt	4.8UP	21.	Thallium	2.3 UF
10.	Copper	103 P	22.	Tin	21 UP
11.	Iron	2210 P	23.	Vanadium	9.1 UP
12.	Lead	~~5.7F~~	24.	Zinc	~~[34]P~~

Cyanide 1.2U Percent Solids (%) 83.6

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Mg - E flag due to serial dilution out of control

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBJ 606

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4890 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	[97]P	13.	Magnesium	~~[86]P~~
2.	Antimony	~~[9.9]FR~~	14.	Manganese	2.5 UP
3.	Arsenic	1.4 UF	15.	Mercury	0.2 UCVR
4.	Barium	~~[47]P~~	16.	Nickel	13 UP
5.	Beryllium	2.0 UP	17.	Potassium	~~[106]P~~
6.	Cadmium	4.1 UP	18.	Selenium	0.9 UF
7.	Calcium	[65]P	19.	Silver	~~0.7 UFR~~
8.	Chromium	[1.3]F	20.	Sodium	~~[397]P~~
9.	Cobalt	8.5 UP	21.	Thallium	~~3.9 UFR~~
10.	Copper	[16]P	22.	Tin	~~37 UPR~~
11.	Iron	~~136 P~~ J	23.	Vanadium	16 UP
12.	Lead	~~[4.5]FR~~	24.	Zinc	~~[16]P~~

Cyanide 10 UR Percent Solids (%)

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBK 660

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4891 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	83 UP	13.	Magnesium	~~[129]P~~
2.	Antimony	~~7.6 UFR~~	14.	Manganese	2.5 UP
3.	Arsenic	1.4 UF	15.	Mercury	0.2 UCVR
4.	Barium	~~[9.0]P~~	16.	Nickel	13 UP
5.	Beryllium	2.0 UP	17.	Potassium	~~[87]P~~
6.	Cadmium	4.1 UP	18.	Selenium	0.9 UF
7.	Calcium	[125]P	19.	Silver	~~[1.2]FR~~
8.	Chromium	[1.5]F	20.	Sodium	~~[397]P~~
9.	Cobalt	8.5 UP	21.	Thallium	~~3.9 UFR~~
10.	Copper	9.1 UP	22.	Tin	~~37 UPR~~
11.	Iron	~~138P~~	23.	Vanadium	16 UP
12.	Lead	~~14 FR~~	24.	Zinc	~~[16]P~~
Cyanide		10 UR	Percent Solids (%)		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBK 663

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4892 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	[128]P	13.	Magnesium	~~[165]P~~
2.	Antimony	~~9.6UFR~~	14.	Manganese	2.5 UP
3.	Arsenic	1.4 UF	15.	Mercury	0.2UCVR
4.	Barium	~~[137]P~~	16.	Nickel	13 UP
5.	Beryllium	2.0 UP	17.	Potassium	~~[306]P~~
6.	Cadmium	4.1 UP	18.	Selenium	0.9UF
7.	Calcium	[1920]P	19.	Silver	~~[1.3]FR~~
8.	Chromium	[1.4]F	20.	Sodium	~~[436]P~~
9.	Cobalt	8.5 UP	21.	Thallium	~~3.9 UPR~~
10.	Copper	[12]P	22.	Tin	~~37 UPR~~
11.	Iron	~~43P~~	23.	Vanadium	16 UP
12.	Lead	~~21FR~~	24.	Zinc	~~66P~~

Cyanide 10 UR Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBK 666

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4893 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	88 UP	13.	Magnesium	[2490] P
2.	Antimony	~~9.6 UFR~~	14.	Manganese	[13] P
3.	Arsenic	1.4 UWF	15.	Mercury	0.2 UCVR
4.	Barium	~~[55] P~~	16.	Nickel	[14] P
5.	Beryllium	2.0 UP	17.	Potassium	~~[2140] P~~
6.	Cadmium	4.1 UP	18.	Selenium	0.9 UF
7.	Calcium	~~6610 P~~	19.	Silver	~~[0.9] FR~~
8.	Chromium	~~[1.2] F~~	20.	Sodium	10300 P
9.	Cobalt	8.5 UP	21.	Thallium	~~20 UWFR~~
10.	Copper	57 P	22.	Tin	~~37 UP R~~
11.	Iron	~~213 P~~	23.	Vanadium	16 UP
12.	Lead	~~5.6 FR~~	24.	Zinc	~~79 P~~

Cyanide 10 UR Percent Solids (%)

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Tl: dilution factor 5x

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBK 667

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4894 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	~~[45]P~~	13.	Magnesium	[2560]P
2.	Antimony	~~9.6UCFR~~	14.	Manganese	612 P
3.	Arsenic	1.4 UF	15.	Mercury	0.2 UCVR
4.	Barium	~~[87]P~~ J	16.	Nickel	[16]P
5.	Beryllium	2.0 UP	17.	Potassium	~~[2410]P~~
6.	Cadmium	4.1 UP	18.	Selenium	0.9 UF
7.	Calcium	~~7600P~~	19.	Silver	~~0.7UCFR~~
8.	Chromium	~~[16]F~~	20.	Sodium	10600 P
9.	Cobalt	8.5 UP	21.	Thallium	~~20.9 UCFR~~
10.	Copper	111 P	22.	Tin	~~37 UPR~~
11.	Iron	~~483P~~ T	23.	Vanadium	16 UP
12.	Lead	~~[34]FR~~	24.	Zinc	~~21P~~

Cyanide 10 UR Percent Solids (%)

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Tl: Dilution factor 5x

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBK 670

Date 9/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Hittman Ebasco Assoc., Inc. CASE NO. 7732

SOW NO. 7/84

LAB SAMPLE ID. NO. 4895 QC REPORT NO. 33

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ____ Soil ✓ Sludge ____ Other ____

ug/L or (mg/kg) dry weight (Circle One)

1.	Aluminum	4390 P	13.	Magnesium	[417] PE
2.	Antimony	4.7 UFR J	14.	Manganese	181 P
3.	Arsenic	[2.6] F	15.	Mercury	0.1 UCVR
4.	Barium	[40] P J	16.	Nickel	[15] P J
5.	Beryllium	1.0 UP	17.	Potassium	~~[15] P~~
6.	Cadmium	2.0 UP	18.	Selenium	0.4 UF
7.	Calcium	~~[377] P~~	19.	Silver	0.3 UF
8.	Chromium	10 F	20.	Sodium	~~[377] P~~
9.	Cobalt	[6.8] P	21.	Thallium	1.9 UF
10.	Copper	[9.2] P	22.	Tin	18 UP
11.	Iron	7220 P	23.	Vanadium	[11] P
12.	Lead	~~83 F~~	24.	Zinc	~~64 P~~

Cyanide 1.0 U

Percent Solids (%) 98.0

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Mg - E flag due to serial dilution out of control

Lab Manager [signature]

RECORD OF COMMUNICATION

☐ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO: Leon Lazarus

FROM: Regina Mulcahy

DATE 9/03/87

TIME 4:30 P.M.

SUBJECT

CLP Inorganics Data Packages for Quality Assurance Review

SUMMARY OF COMMUNICATION

Attached are the following CLP Inorganics Data Packages to be reviewed for Quality Assurance:

SITE	CASE #/ SAS #	LABORATORY	ANALYSIS/ MATRIX	NUMBER OF SAMPLES	BLANK NUMBER(S)	DUPLICATE NUMBER(S)
Shamong Townshp LF/FIT/SI	7734	Chemtech	Inorganics soil water	8 1	MBL161(rins)	None
Cinnaminson REM2/Rem	7662	Wilson	Inorganics water	9	MBH773(TB) MBH779(FB)	MBH771, MBI824
Dayton B. Brown/FIT/SI	7765/ 3181B	Chemtech	Inorganics sludge	2	None	None
Port Wash. LF/REM2/Enf	7817	Compuchem	Inorganics soil water	6 2	MBI827,825 (FB)	None
Walmore Rd. FIT/SI	7786	Compuchem	Inorganics soil water	7 4	MBL508,509 (rins)	None
SCP Chem. REM3/Enf overs	7665	Wilson	Inorganics soil water	3 7	MBJ563(FB)	None
Princeton Polychrome/FIT/SI	7668	Chemtech	Inorganics soil water	3 5	MBL119,118 (rins)	None
Keck Farm/FIT/SI	7669	Chemtech	Inorganics soil water	4 6	MBK759-761 (rins)	None
Bog Creek REM3/Rem	7461	RMAL	Inorganics water	16	MBJ335,343 (FB)	None
Schenk's Scrapyard/FIT/SI	7666	PBS&J	Inorganics soil water	5 2	MBK 685,686 (rins)	None

CONCLUSIONS, ACTION TAKEN OR REQUIRED

INFORMATION COPIES TO:

File

EPA Form 1300-6 (7-72) REPLACES EPA HQ FORM 5300-8 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

A.1 This section must be completed by the Surveillance and Monitoring Section.

A.1.1 Project Name/Site: _____

_____

A.1.2 Contract No. _____ Case No. _____

A.1.3 Objective of Study (Specify data used) _____

_____

_____

_____

_____

A.1.4 Name of Analytical Laboratory 1: _____

A.1.4.1 Sample Matrix: Water _____ Soil/Sediment _____

Other (Describe) _____

A.1.4.2 Concentration Requested: Low _____ Medium _____

A.1.4.3 Sample Nos.: _____

A.1.5 Name of Analytical Laboratory 2: _____

A.1.5.1 Sample Matrix: Water _____ Soil/Sediment _____

Other (Describe) _____

A.1.5.2 Concentration Requested: Low _____ Medium _____

A.1.5.3 Sample Nos.: _____

A.1.6 Name of Laboratory 3: _____

A.1.6.1 Sample Matrix: Water _____ Soil/Sediment _____

Other (Describe) _____

A.1.6.2 Concentration Requested: Low _____ Medium _____

A.1.6.3 Sample Nos.: _____

Title: Appendix A.1: Data Assessment - Contract Compliance (Significant Element Review)

~~Contractor~~ HMB Preparer FRANK MASSINA Completion Date 2-09-88

NOTE: All "action" requirements apply to data preparer, unless specifically stated otherwise.

		YES	NO	N/A
A.1.1	Contract Compliance Screening Report (CCS) - Present?	✓		
A.1.2	Record of Communication (from RSCC) - Present?	[ ]		
	Action: If no, request from RSCC.			
A.1.3	Sample Traffic Report - Present or on file?	[✓]		
	Action: If no, request from Regional Sample Control Center (RSCC).			
A.1.4	Cover Page - Present?	[✓]		
	ACTION: If no, prepare Telephone Record Log, and contact laboratory.			
	Do numbers of sample correspond to numbers on Record of Communication?	[✓]		
	Do sample numbers on cover page agree with sample numbers on:			
	a. Traffic Report Sheet?	[✓]		
	b. Form I's?	[✓]		
	c. Surveillance and Monitoring Branch Review	[✓]		
	ACTION: If no for any of the above, contact RSCC for clarification.			
A.1.5	Form I (Data Reporting) - All present and complete?	[✓]		
	ACTION: If no, prepare telephone record log and contact laboratory.			

	YES	NO	N/A
A.1.6 Holding Times (Aqueous Samples Only) (Examine Sample Traffic Reports and Form I)			
Mercury (28 days) - Exceeded?	___	[___]	✓
Cyanide (14 days) - Exceeded?	___	[___]	✓
Other metals (6 months) - Exceeded?	___	[___]	✓
Conventionals (Use 40 CFR 136 criteria) - Exceeded?	___	[___]	✓

Which Parameters? _____

CONTRACTOR ACTION: Prepare a list of all samples and analytes for which holding times have been exceeded. Specify the number of days from date of collection (see traffic report) to the date of analysis (from raw data). Attach to checklist.

RMB ACTION: If yes, reject (red-line) values less than Instrument Detection Limit (IDL). Flag as estimated (J) those values above IDL.

	YES	NO	N/A
A.1.7 Raw Data			
Digestion Log* for flame AA/ICP present?	[✓]	___	___
Digestion Log for furnace AA present?	[✓]	___	___
Digestion Log for mercury present?	[✓]	___	___
Digestion Log for cyanides present?	[___]	✓	___

*Weights, dilutions, and volumes used to obtain the reported values.

Measurement readout record present?				
	ICP	[✓]	___	___
	Flame AA	[✓]	___	___
	Furnace AA	[✓]	___	___
	Mercury	[✓]	___	___
	Cyanides	[✓]	___	___
Conventionals: _____		[___]	___	✓

	YES	NO	N/A
Record of 4 point calibration present? Flame AA	[✓]		
Furnace AA	[✓]		

NOTE: If less than 4, other standards must be run immediately after calibration, and be ± 5% of true value.

	YES	NO	N/A
Record of 4 point calibration present? Mercury	[✓]		
Cyanide	[✓]		
Percent solids calculations present for soil (sediments)?	[✓]		

ACTION: If no for any of above, prepare Telephone Record Log and contact laboratory.

	YES	NO	N/A
Was one prep blank analyzed for each 20 samples?	[✓]		

MMB ACTION: If no, flag as estimated (J) all data which prep blank was not analyzed.
NOTE: If only one blank was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).

	YES	NO	N/A
Do concentration of field blanks fall below two times IDL for all <u>aqueous</u> parameters? and soil parameters?	[ ]		✓

MMB ACTION: If no, reject (red-line) all data (aqueous) (except field blank) that has a concentration less than ten times the (three times for solids) field blank value but not flagged with a "U" (less than).

A.1.8.1 <u>Form II (Initial and Continuing Calibration Verification</u>

	YES	NO	N/A
Present and complete?	[✓]		

ACTION: If no, prepare Telephone Record Log and contact laboratory.

Title: Appendix A.1: Data Assessment - Contract Compliance (Significant Element Review)

		YES	NO	N/A
A.1.8.2	Circle all values on Data Summary Sheet that are outside of contract windows. Are all calibration standards (initial and continuing) within 75~~-125%~~?	[✓]		
	Are all calibration standards (initial and continuing) within 50-150%?	[✓]		
	MMB ACTION: Flag as estimated (J) all data analyzed between a calibration standard of 50-75% or 125-150% recovery and nearest adjacent calibration standards reject (red-line) as unacceptable data if recovery of calibration standard is below 50% or above 150% for nearest adjacent standards.			
A.1.9.1	Form III (Blanks) - Present and complete?	[✓]		
	MMB ACTION: If no, prepare Telephone Record Log and contact laboratory.			
A.1.9.2	Form III (Blanks) and Field Blanks			
	Circle all calibration blank values on Data Summary Sheet that are above IDL. Are all calibration blank values less than Contract Required Detection Limits (CRDL)?	[✓]		
	MMB ACTION: If no, flag as estimated (J) on Form I all data between calibration blank with value over CRDL and nearest adjacent calibration blank.			
	Was an initial calibration blank analyzed?	[✓]		
	Was a continuing calibration blank analyzed after every 10 samples or every 2 hours (whichever is more frequent)?	[✓]		
	CONTRACTOR ACTION: List those analytes which are out of compliance with the above criteria.			
	MMB ACTION: If no, flag as estimated (J) all values not analyzed within 5 samples of calibration blank.			

	YES	NO	N/A
Do concentrations of prep blanks fall below two times IDL for all parameters?	[✓]		

MMB ACTION: If no, reject (red-line) all data that has a concentration less than ten times the prep blank value, but not flagged with a "B" (less than).

A.1.10.1 Form IV (ICP Interference Check Sample) - Present and complete? NOTE: Not required for furnace AA, flame AA, mercury and Ca, K, Na, and Mg. [✓]

ACTION: If no, prepare Telephone Record Log and contact laboratory.

A.1.10.2 Form IV (ICP Interference Check Sample [ICS]) - Circle all values on Data Summary Sheet that are more than ± 20% of established mean value. Are all ICP Interference Check Sample results inside of control limits (± 20% of true value)? [✓]

If no, is concentration of Al, Ca, Fe, or Mg lower in sample than in ICS? [ ] ✓

MMB ACTION: If no, flag as estimated (J) those sample results for which ICS recovery is between ± 20% to 50% of mean value; and reject (red-line) those sample results for which ICS recovery is less than 50%. If ICS recovery is above 150%, reject positive results only (not flagged with a "B").

A.1.11.1 Form IX (ICP Serial Dilution) - Circle all values on Data Summary Sheet with a RPD greater than 10%. Are all ICP Serial Dilution results within control limit of 10% RPD? [ ] ✓

If no, are all associated data on Form I's flagged with an "E"? [ ] ✓

MMB ACTION: If not flagged with an "E" flag as estimated (J) all associated samples results for which RPD is greater than 10% but less than 100%; reject (red-line) all associated sample results for which RPD is above 100%.

Cd, Pb, N.

	YES	NO	N/A
NOTE: Either diluted or undiluted analysis may be used to report final value as long as either is above 10 times IDL.			
A.1.12.1 Form V (Spiked Sample Recovery) - Present and complete for each matrix type? NOTE: Not required for Ca, Mg, K, and Na (both matrix types), Al and Fe (soil only).	[✓]		
ACTION: If no, prepare telephone record log and contact laboratory.			
A.1.12.2 Form V (Spiked Sample Recovery)			
Was field blank used for spiked samples?		[ ]	✓
If yes, was field blank described as such on Traffic Report?	[ ]		✓
MMB ACTION: Flag all data as estimated (J) for which field blank was used as spiked sample.			
Was at least one spiked sample prepared and analyzed for: every 20 water samples?	[ ]		✓
Every 20 soil/sediment samples?	[✓]		
For both AA and ICP when both are used for same analyte?	[ ]		✓
MMB ACTION: If no, flag as estimated (J) all data for which spiked sampled was not analyzed. NOTE: If only one spiked sample was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).			
Circle all values on Data Summary Sheet that are outside of control limits (75% to 125%).			
Are all recoveries within control limits?	[ ]*	✓	
If no, is sample concentration greater than four times spike concentration?	[ ]	✓*	

* Sb, As, Se, Tl, Pb

	YES	NO	N/A
ACTION: If no, circle those analytes on Form V for which sample concentration was not greater than four times the spike concentration.			
Are any spike recoveries: a) greater than 150%?	___	[✓]	___
b) less than 50%?	✓	[___]	___
MMB ACTION: If greater than 150%, reject (red-line) all associated aqueous data not flagged with a "U" (less than value). Likewise, flag associated soil/sediment data as estimated (J) which are not flagged with a "U".			
If less than 50%, reject (red-line) all associated data for aqueous samples only. Flag associated soil/sediment data as estimated (J).			
A.1.13.1 Form VI (Lab) Duplicates - Present and complete for each matrix type?	[✓]	___	___
ACTION: If no, prepare Telephone Record Log and contact laboratory.			
A.1.13.2 Form VI (Lab) Duplicates			
Was field blank used for ~~spiked~~ duplicate samples?	___	[___]	✓
ACTION: If yes, flag all data as estimated (J) for which field blank was used as duplicate.			
Was at least one duplicate sample prepared and and analyzed for: every 20 water samples?	[___]	___	✓
Every 20 soil/sediment samples?	[✓]	___	___
MMB ACTION: If no, flag as estimated (J) all data for which duplicate sample was not analyzed. NOTE: If only one duplicate sample was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).			

	YES	NO	N/A
Circle all values on Data Summary Sheet that are outside of control limits (20% or CRDL).			
Are all values within control limits?	[✓]		
Aqueous			
Is any RPD greater than 50% where sample and duplicate are both greater than 5 times CRDL?		[ ]	✓
Is any difference between sample and duplicate greater than CRDL where sample and/or duplicate is less than 5 times CRDL, but greater than CRDL?		[ ]	✓
MMB ACTION: If yes, reject (red-line) all associated data.			
Soil/Sediment			
Is any RPD greater than 100% where sample and duplicate are both greater than 5 times CRDL?		[✓]	
Is any difference between sample and duplicate greater than 2 times CRDL where sample and/or duplicate is less than 5 times CRDL but greater than CRDL?		[✓]	
MMB ACTION: If yes, reject (red-line) all associated data.			
A.1.13.3 Is "NC" reported in RPD column for any sample duplicate pair where either value is less than CRDL?	[✓]		
MMB ACTION: If no, write in "NC" with red pencil on Form VI and initial. Note under Data Acceptability Narrative (contract non-compliance).			
A.1.14.1 **Form VII (Instrument Detection Limits [IDL] and Laboratory Control Sample [LCS])**			
IDLs present and complete?	[✓]		
LCSs present and complete: aqueous?	[ ]		✓
soil/sediment?	[✓]		

	YES	NO	N/A
ACTION: If no, prepare Telephone Record Log and contact laboratory.			
A.1.14.2 Form VII (Instrument Detection Limits [IDL] and Laboratory Control Sample [LCS])			
Circle all IDL values greater than CRDL on data summary sheet.			
IS IDL greater than CRDL for any parameter?	✓	[ ]	
MMB ACTION: If yes, reject (red-line) all values flagged with "U" (less than "values").			
Circle all LCS values outside of control limits (80% to 120%) on data summary sheet.			
Is any LCS value: between 50% and 80%?		[✓]	
between 120% and 150%?		[✓]	
less than 50%?		[✓]	
greater than 150%?		[✓]	
MMB ACTION: Between 50% to 80%, flag all associated data as estimated (J); between 120% to 150% flag all positive (not flagged with a "U") results as estimated (J); less than 50% reject (red-line) all data; greater than 150% reject all positive results.			
A.1.15.1 Form VIII (Standard Additions Results) - Present?	[✓]		
If no, is any Form I result coded with an "S" or a "+"?			
ACTION: If yes, write request on Telephone Record Log.			
A.1.15.2 Furnace Standard Addition Results - Form VIII			
Is any post-digestion spike recovery less than 10% for any result? (See RAW DATA)		[✓]	
CONTRACTOR ACTION: Prepare a list of all results with recoveries less than 10%.			

	YES	NO	N/A
MMB ACTION: If yes, reject (red-line) affected data.			
Is coefficient of correlation less than 0.990 for any sample?	___	[✓]	___
MMB ACTION: If yes, reject (red-line) affected data.			
A.1.15.3 Form IX (ICP Serial Dilutions)			
Present and complete for each matrix type?	[✓]	___	___
ACTION: If no, write request on Telephone Record Log.			
A.1.16.1 Dissolved Inorganics			
Were any analyses performed for dissolved as well as total analytes?	___	[✓]	___
If yes, apply the following questions only if both dissolved and total constituents are above CRDL (For SAS parameters: above 5 * IDL).			
Is the concentration of any dissolved analyte greater than its total concentration by more than 10%.	___	[___]	✓
Is the concentration of any dissolved analyte greater than its total concentration by more than 50%?	___	[___]	✓
MMB ACTION: If more than 10%, flag both dissolved and total values as estimated (J); if more than 50% reject (red-line) the data for both values.			
CONTRACTOR ACTION: Prepare a list comparing differences between all dissolved and total analytes. Compute the differences as a percent of the total analyte only when both dissolved and total concentrations are above CRDL (5 * IDC for SAS parameters).			

A.2.1 Data Verification

A.2.1.1 Choose at least one furnace AA parameter, one flame AA parameter, two ICP parameters, mercury and cyanide (if determined) for the initial evaluation process. If errors are encountered during review, perform the following:

a. Furnace AA - evaluate all other furnace parameters for the type of error found.

b. Flame AA/ICP _ evaluate another two parameters for same type error(s), if still encountered, then all other parameters must be examined for same type of error(s).

A.2.1.2 For each parameter chosen for the initial evaluation, all deliverables (except for Form I's - see below) must be examined for computation and transcription errors and omissions.

A.2.2 Ten percent of Form I's (at least one) should be evaluated initially for computation, transcription errors and/or omissions. If errors are found, check all other Form I's for same type error(s).

A.2.3 Data Assessment Checklist

List Parameter(s) chosen as Initial Evaluation Parameters for

Furnace As Tl
Flame K
ICP Al, Zn
List Samples (Form I's) chosen for initial review: ~~MBL~~ MBL 132, 168
FY 2-9-88

A.2.3.1 Form I (Data Reporting)

	YES	NO	N/A
Was a brief physical description of sample given in comments section?	[✓]		
ACTION: If no, note exceptions under "Contract Problems/Non-Compliance" of data assessment narrative, or list separately and attach to checklist.			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	

	YES	NO	N/A
ACTION: If yes, prepare Telephone Record Log, and contact laboratory for corrected data.			
Are all "less than" values properly coded with a "U"?	[✓]		
ACTION: If no, write request for corrected data on Telephone Record Log, and red pencil affected data with "U" on Form I and initial.			
Were any samples diluted beyond requirements of contract?	✓	[ ]	
If yes, were dilutions noted under Comments Section of Form I?	[✓]		[ ]
ACTION: Note under "Contract Problems/Non-Compliance" of data assessment narrative.			

A.2.3.2 Form II (Initial and Continuing Calibration Verification)

	YES	NO	N/A
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, request corrected data and prepare Telephone Record Log; correct errors with red pencil and initial.			
Does Raw Data Record agree with weights and volumes required by CLP methods?	[✓]		
ACTION: If no, prepare Telephone Record Log, and contact laboratory for explanation.			

A.2.3.3 Linear Range

	YES	NO	N/A
Was any sample result (raw data) higher than highest calibration standard (except ICP) or linear range (Form XIII) by more than 10%? (Note: Form XIII provided only quarterly.)		[✓]	
MMB ACTION: If yes, flag result reported on Form I as estimated (J).			

	YES	NO	N/A
A.2.3.4 Form III (Blanks)			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
A.2.3.5 Form IV (ICP Interference Check Sample [ICS])			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
Was ICS analyzed at beginning and end of run (and at least once every 8 hours)?	[✓]		
MMB ACTION: If no, flag as estimated (J) all samples for which AL, CA, Fe or MG is higher than in ICS.			
A.2.3.6 Form V (Spike Sample Recovery)			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct errors with red pencil and initial.			
A.2.3.7.1 Form VI (Duplicates)			
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			

	YES	NO	N/A
A.2.3.7.2 Field Duplicates			
Were field duplicates analyzed?	___	[✓]	___
ACTION: If yes, prepare a list of duplicate results and corresponding RPD. Apply CLP results criteria, and circle all values outside of contract/limits.			
Aqueous			
Is any RPD greater than 50% where sample and duplicate are both greater than 5 times CRDL?	___	[___]	✓
Is any difference between sample and duplicate greater than CRDL where sample and/or duplicate is less than 5 times CRDL, but greater than CRDL?	___	[___]	✓
MMB ACTION: If yes, reject (red-line) associated data for field duplicates only.			
Soil/Sediment			
Is any RPD greater than 100% where sample and duplicate are both greater than 5 times CRDL?	___	[___]	✓
Is any difference between sample and duplicate greater than 2 times CRDL where sample and/or duplicate is less than 5 times CRDL but greater than CRDL?	___	[___]	✓
MMB ACTION: If yes, reject (red-line) all associated data for field duplicates only.			

		YES	NO	N/A
A.2.3.8	Form VII (Instrument Detection Limits [IDL] and Laboratory Control Sample ([LCS])			
	Do any computation/transcription errors exceed 10% of IDL and/or LCS values?	___	[✓]	___
	ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
	Was at least one LCS analyzed for every 20 aqueous samples?	[✓]	___	___
	CONTRACTOR ACTION: List exceptions and attach to checklist.			
	MMB ACTION: If no, flag as estimated (J) all aqueous data for which LCS was not analyzed. NOTE: If only one LCS was analyzed for more than 20 samples, then first 20 samples analyzed do not have to be flagged as estimated (J).			
A.2.3.9	Form IX (ICP Serial Dilution)			
	Do any computation/transcription errors exceed 10% of reported values?	___	[✓]	___
	ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data and correct error with red pencil and initial.			
A.2.3.10	Furnace AA Results			
	Were duplicate injections analyzed for each sample?	[✓]	___	___

	YES	NO	N/A
MMB ACTION: If no, reject (red-line) all positive (not flagged with a "U") results.			
CONTRACTOR ACTION: List all exceptions and attach to checklist.			
For any concentrations above CRDL do duplicate injections agree to within ± 20% RSD?	[✓]		
If no, was analysis repeated at least once?	[ ]		✓
MMB ACTION: If no, flag result reported on Form I as estimated (J) when RSD is between 20 to 50%. If RSD is above 50%, reject (red-line).			
If yes, was second run within ± 20% RSD?	[ ]		✓
MMB ACTION: If no, do as above.			

A.2.3.11 Form VIII (Standard Addition Results)

	YES	NO	N/A
Are any MSA analyses missing from Form VII?		[✓]	
Do any computation/transcription errors exceed 10% of reported values?		[✓]	
ACTION: If yes, prepare Telephone Record Log, contact laboratory for corrected data, and correct errors with red pencil and initial.			
Was "special quantitation procedure" followed correctly?	[✓]		
ACTION: If no, note exceptions under "Contract Problems/Non-Compliance" of data assessment narrative, or prepare a separate list.			

Title: Appendix A.3: Data Acceptability Narrative

Case# 7765/3181B Site DAYTON T. BROWN
Lab CHEMTECH

A.3.1 Are all data of acceptable quality? Yes ___ No ✓

If no, list exceptions with reason(s) for rejection of qualification as estimated value (J).

① Cd; Pb; Ni; Samples MBL 132, 168 SLUDGE
: Data flagged as estimated 'J'; serial dilution % difference is outside the control limits of 10%, within 100% and not flagged with 'E'. Indication of chemical or physical interferences.

② Se; Samples MBL 132, 168 SLUDGE
: Data flagged as estimated 'J'; matrix spike value is < 50%, an indication of a low bias.

MMB Reviewer: Frank J. Mennis Date: 2-09-88
Signature

Verified by: [signature] Date: 2-11-88
Signature

WA85-0830 - AMENDMENT THREE (3)
U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

Date 9/1/87 CH

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name Chemtech Consulting Group Case No. 7765/3181B

SOW No. 785 Q.C. Report No. G2- 932

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MBL132	G2-932-01		
MBL168	G2-932-02		

Comments:

ICP interelement and background corrections applied? Yes X No ___

If yes, corrections applied before X or after ___ generation of raw data.

Footnotes:

NR - Not required by contract at this time

Form I:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP), A (for Flame AA) or F (for Furnace AA).

U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

W - Indicates duplicate analysis is not within control limits.

r - Indicates the correlation coefficient for method of standard addition is less than 0.995

M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

Form I

EPA Contract Laboratory Program
...le Management Office
...o. Box 818 - Alexandria, VA 22313
...03/557-2490 FTS: 8-557-2490

EPA Sample No. MBL 132

Date 9/1/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group

CASE NO. 7765/3181B

SOW NO. 785

Lab Receipt Date 7/30/87

LAB SAMPLE ID. NO. G2-932-01

QC REPORT NO. -G2- 932

Elements Identified and Measured

Concentration: Low ____ Medium X

Matrix: Water ____ Soil ____ Sludge X Other ____

ug/L or (mg/kg dry weight) (Circle One)

1.	Aluminum	50500	P	13.	Magnesium	[2600]	P
2.	Antimony	29U	P N	14.	Manganese	628	P
3.	Arsenic	40.6	F N	15.	Mercury	0.45U	
4.	Barium	2250	P	16.	Nickel	159	P J
5.	Beryllium	~~[3.7]~~ 53.8	AY	17.	Potassium	446U	A
6.	Cadmium	194	P J	18.	Selenium	4.74	F SN J
7.	Calcium	12600	P	19.	Silver	29.6	P
8.	Chromium	43100	P	20.	Sodium	8410	P
9.	Cobalt	[18.5]	P	21.	Thallium	7.1U	F N
10.	Copper	3060	P	22.	Vanadium	646	P
11.	Iron	122000	P	23.	Zinc	99000	P
12.	Lead	1290	EP NAY J		Percent Solids (%)	22.4	
	Cyanide	21					

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Brown After- light yellow Texture: coarse

Dir. FACTOR FOR CN: x 62.5

Lab Manager E Hecker

Form I

...EPA Contract Laboratory Program
...ple Management Office
...O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MBL 168

Date 9/1/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group

CASE NO. 7765/3181B

SOW NO. 785

Lab Receipt Date 7/30/87

LAB SAMPLE ID. NO. G2-932-02

QC REPORT NO. G2-932

Elements Identified and Measured

Concentration: Low _____ Medium +

Matrix: Water _____ Soil _____ Sludge + Other _____

ug/L or (mg/kg dry weight) (Circle One)

1.	Aluminum	44400	P	13.	Magnesium	[2400]	P
2.	Antimony	26U	P N	14.	Manganese	318	P
3.	Arsenic	~~30.7~~ 36.6	P S N (36.7)	15.	Mercury	0.4U	
4.	Barium	2140	P	16.	Nickel	80	P J
5.	Beryllium	2.2U	P	17.	Potassium	400U	A
6.	Cadmium	94.2	P J	18.	Selenium	1.6U	F N J
7.	Calcium	5740	P	19.	Silver	15	P
8.	Chromium	27000	P	20.	Sodium	[1370]	P
9.	Cobalt	[16.2]	P	21.	Thallium	6.4U	F N
10.	Copper	3680	P	22.	Vanadium	~~386~~	P (386)
11.	Iron	79700	P	23.	Zinc	62900	P
12.	Lead	525	P Nay J		Percent Solids (%)	25.0	
	Cyanide	45.2					

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Brown. After- light Yellow. Texture: Coarse

Lab Manager E Hecker

RECORD OF COMMUNICATION

☐ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO:	FROM:	DATE
Leon Lazurus	Regina Mulcahy	TIME 9/18/87 1:00 PM

SUBJECT

CLP Organic Data Package for Quality Assurance Review

SUMMARY OF COMMUNICATION

The following CLP Organic Data packages are in the DCR awaiting review by the MMB.

SITE	CASE #/ SAS #	LABORATORY	ANALYSIS/ MATRIX	NUMBER OF SAMPLES	BLANK NUMBER(S)	DUPLICATE NUMBER(S)
Walmore Rd. FIT/SI	7786	York labs	Organics water soil	 7 8	BK958,959 =rins BK941,957 =TB	BK961,962
LiPari LF REM2/Enf	7774	Aquatec	Organics water	 9	BL166(TB)	None
Bog Creek REM3/Rem	7616	Acurex	Organics water	 13	BK329,334 =FB BK328,335 =TB	None
Port Wash LF REM2/Enf	7817	Compuchem	Organics soil water	 6 4	BJ640,637 =TB BJ639,636 =FB	None
Witmer Rd. FIT/SI	7667	GSRI	Organics soil water	 4 2	BK904(TB) BK905(rins)	None
Dayton T. Brown/FIT/SI	7765/ 3181B	Cenrcf	Organics sludge water	 2 1	BK849(TB)	None

CONCLUSIONS, ACTION TAKEN OR REQUIRED

LiPari LF REM2/Enf	7613	EAL	Organics soil water	 5 4	BJ593(FB) BJ594,595, 592=TB	BJ667,671

INFORMATION COPIES

TO:

File and Data Package

EPA Form 1300-6 (7-72) REPLACES EPA HQ FORM 5300-3 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

SURVEILLANCE AND MONITORING BRANCH REVIEW

Project Name/Site: Dayton T. Brown

Case Number: 7765/31810

Type Investigation (Circle One): Remedial Site Other

Contract No.: 68-01-7161

Laboratory: CENREF

Sample Identification Numbers:

Aqueous: BK849

Soil/Sediment: BK ~~847~~ 848

Superfund Account No.: 7TDR02892Z

Comments:

SURVEILLANCE AND MONITORING BRANCH REVIEW

Project Name/Site: Dayton T. Brown

Case Number: 7765/3181B

Type Investigation (Circle One): Remedial (Site) Other

Contract No.: 68-01-7161

Laboratory: Centrec

Sample Identification Numbers:

Aqueous: BK849(TB)

Soil/Sediment: BK847-48

Superfund Account No.: STFA02P972

Comments:

Date:
Number: HW-4
Revision: ~~2~~ 2

Title: Attachment 2 - CLP Data Assessment Checklist (GC and GC/MS Analysis) - [redacted] DR REVIEW

[redacted] MONITORING MANAGEMENT BRANCH REVIEW

PART I: ~~Contractor and Preliminary Review~~

	YES	NO	N/A
1.0 Data Completeness and Deliverables			
1.1 Are any deliverables missing?		[✓]	
1.2 Was SMO CCS checklist included with package?	[✓]		

CONTRACTOR ACTION: If incomplete, list any missing data on the Missing Data Tracking Form (Attachment 5), and request missing information from laboratory by phone.

but pest/PCB section is missing - No letter

I. COVER LETTER/NARRATIVE

	YES	NO	N/A
2.0 Cover Letter/Case Narrative			
2.1 Is the Narrative or Cover Letter present?	[✓]		
2.2 Are the following items contained in the Narrative or Cover Letter:			
a. Case Number and/or SAS Number	[✓]		
b. Contract Number	[✓]		

II. QC SUMMARY

	YES	NO	N/A
3.0 Surrogate Percent Recovery Summaries (Form II)			
3.1 Are the Surrogate Percent Recovery Summaries present for each of the following matrix:			
a. Water	[✓]		
b. Soil	[✓]		
3.2 Are all the samples listed on the Surrogate Percent Recovery Summaries for each of the following matrix:			
a. Water	[✓]		
b. Soil	[✓]		

	YES	NO	N/A
3.3 Were outliers marked correctly with an asterisk?	[✓]		

CONTRACTOR ACTION: Circle all outliers in red.

	YES	NO	N/A
3.4 Were two or more BN surrogates outside of contract specifications (or one surrogate less than 10% recovery) for any samples?		[✓]	
Method Blanks?		[✓]	
If yes, were samples reanalyzed?	[ ]		✓
Were blanks reanalyzed?	[ ]		✓

MMB ACTION: If Initial analysis and reanalysis both have 2 or more surrogate recoveries less than contract QC requirements (or one surrogate less than 10%) red-line all the detection limits (u's) and flag all positive data (hits) with a J.

If initial analysis and reanalysis both have two or more surrogate recoveries above contract QC requirements do not red-line detection limits (u's) but flag all positive values with a J.

When two or more surrogates for the blank are below contract QC requirements red-line all positive values, but not detection limits, for the associated samples, if sample surrogates are within or above QC limits; but if two or more sample surrogates are below contract QC limits, red-lined all sample data (Detection limits and positive data).

When two or more surrogates for the blank exceed contract QC requirements, validate sample data considering sample surrogate recoveries alone.

	YES	NO	N/A
3.5 Were two or more acid surrogates outside of contract specifications (or one surrogate less than 10% recovery) for any samples?		[✓]	
Method Blanks?		[✓]	
If yes, were samples reanalyzed?	[ ]		✓
Were blanks reanalyzed?	[ ]		✓

MMB ACTION: If initial analysis and reanalysis both have 2 or more surrogate recoveries less than contract QC requirements (or one surrogate less than 10%) red-line all the detection limits (u's) and flag all positive data (hits) with a J.

If initial analysis and reanalysis both have two or more surrogate recoveries above contract QC requirements do not red-line detection limits (u's) but flag all positive values with a J.

When two or more surrogates for the blank are below contract QC requirements red-line all positive values, but not detection limits, for the associated samples, if sample surrogates are within or above QC limits; but if two or more sample surrogates are below contract QC limits, red-lined all sample data (Detection limits and positive data).

When two or more surrogates for the blank exceed contract QC requirements, validate sample data considering sample surrogate recoveries alone.

	YES	NO	N/A
3.6 Was one or more VOA surrogates outside of contract specifications for any samples?	✓	[ ]	
Blanks?		[✓]	
If yes, were samples reanalyzed?	[✓]		
Were blanks reanalyzed?	[ ]		✓

BK847 was out by 1% .. no action (range 101-117% BK847 = 118%)

MMB ACTION: If initial analysis and reanalysis both have one or more surrogate recoveries below contract QC requirements red-line all detection limits (u's) and flag all positive values (hits) with a J.

If initial analysis and reanalysis both have one or more surrogate recoveries above contract QC requirements do not red-line detection limits but flag all positive values with a J.

When one or more surrogate recoveries for the blank are below contract QC requirements red-line all positive values but not the detection limits for the associated samples if sample surrogates are within or above contract QC limits; but if one or more sample surrogate recoveries are below QC limits red-line all data (Detection limits and positive values).

When one or more surrogate recoveries for the blank exceed contract requirement validate data for the associated samples considering sample surrogate recoveries alone.

3.7 Was pesticides/PCB surrogate outside of contract specifications for any samples?		[✓]	
Method Blanks?		[✓]	

MMB ACTION: If recoveries are below contract requirement flag all associated positive results with a J and red-line all detection limits. If the recoveries are above contract requirement do not red-line the detection limits but flag all positive value with a J. However professional judgement should be used to determine whether a high bias exists due to coeluting interferences.

Title: Attachment 1 - CLP Data Assessment Checklist (GC and GC/MS Analysis) Part I: ~~Contractor and Preliminary Review~~ DR [redacted] REVIEW

Date:
Number: HW-4
Revision: 2

	YES	NO	N/A
5.0 Blanks			
5.1 Is the Reagent Blank Summary present? (Form IV)	[✓]		
5.2 Frequency of Analysis: for the analysis of VOA HSL compounds, has an reagent/method blank been analyzed for each set of samples or every 20 samples of similar matrix (e.g. - water, low soil, medium soil, etc.), whichever is more frequent?	[✓]		
5.3 For VOA's, has an instrument blank been analyzed at least once every 12 hours for each GC/MS system used?	[✓]		
5.4 For B/N/A's and Pesticides/PCB's, has a method blank been extracted and analyzed for each set of samples or every 20 samples of similar matrix and similar extraction technique?			
B/N/A's	[✓]		
Pesticides/PCB's	[✓]		
5.5 Has the method blank for B/N/As and Pesticides/PCBs been run on the same GC/MS or GC system as the samples?	[✓]		
6.0 Contamination (Reagent Blank Summary - Form IV)			
6.1. Do any method/instrument/reagent blanks have positive results for: HSL +/or TIC VOA's?	✓	[ ]	
B/N?		[✓]	
Acids?		[✓]	
Pesticides?		[✓]	
PCBs?		[✓]	
6.2 Do any field/trip blanks have positive results for: HLS and/or TIC VOA's?	✓	[ ]	
B/N?		[ ]	✓
Acids?		[ ]	✓
Pesticides?		[ ]	✓
PCBs?		[ ]	✓

	YES	NO	N/A

CONTRACTOR ACTION: Prepare a list of the samples associated with each of the contaminated and/or missing method blanks (attach a separate sheet).

MMB ACTION: For common ~~[illegible]~~ blank contaminants found (e.g., methylene chloride, acetone, toluene and 2-butanone), phthalate esters reject (red-line) all associated positive results present at less than 10 times the blank contaminant levels; for all other contaminants reject (red-line) when all associated positive results are present at less than 5 times the blank contaminant levels. Do not reject any values reported with a "U" (detection limit values).

III SAMPLE DATA

9.0 Are the Traffic Report Forms present for all samples? [✓] ___ ___

CONTRACTOR ACTION: List missing Traffic Reports on Missing Data Tracking Form. (See 1.1)

10.0 Organic Analysis Data (FORM I)

10.1 Are the four (4) Organic Analysis Data Sheets (VOA, BNA, Pesticides and Tentatively Identified Compounds) with completed header information required on each page of Form I, present for each of the following.

a. Samples and/or fractions as appropriate [✓] ___ ___

b. Matrix spikes and matrix spike duplicates [✓] ___ ___

c. Blanks [✓] ___ ___

CONTRACTOR ACTION: List Missing or incomplete Data Sheets on missing Data Tracking Form. (See 1.1)

10.2 Are the VOA/BNA Reconstructed Ion Chromatograms for each sample, the mass spectra for the identified compounds, and the Data System Printouts (Quant. list) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate [✓] ___ ___

b. Matrix spikes and matrix spike duplicates (Mass spectra not required) [✓] ___ ___

c. Blanks [✓] ___ ___

	YES	NO	N/A
10.3 Are the response factors shown in the Quant Lists?	[✓]		

CONTRACTOR ACTION: List Missing or incomplete Reconstructed Ion Chromatograms, mass spectra and Data System printouts on the Missing Data Tracking Form (See 1.1).

	YES	NO	N/A
10.4 Are the Tentatively Identified Compounds (Form I, Part B) present and include scan number and estimated concentration?	[✓]		

CONTRACTOR ACTION: List missing TICs, Form I on Missing Data Tracking Form (See 1.1).

10.5 Are the lab generated standard mass spectra of the identified compounds for each sample present?

	YES	NO	N/A
a. Volatile standard spectra	[✓]		
b. Semi-volatile standard spectra	[✓]		

CONTRACTOR ACTION: List missing mass spectra on Missing Data Tracking Form (See 1.1).

11.0 GC/MS Evaluation

11.1 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following.

	YES	NO	N/A
a. Samples and/or fractions as appropriate	[✓]		
b. Blanks	[✓]		

CONTRACTOR ACTION: If no, list the missing numbers on the Missing Data Tracking Form (See 1.1)

12.0 Holding Times

12.1 Have any holding times from date of collection been exceeded for:

a. Volatiles

	YES	NO	N/A
Aqueous: 10 days* from time the lab receives the sample with 24 hours allowed from time of collection to lab receipt.		[✓]	

Title: Attachment 1 - CLP Data Assessment Checklist (GC and GC/MS Analysis) Part I: ~~Contractor and Preliminary Review~~ DR [redacted] REVIEW

Date:
Number: HW-4
Revision: 2

	YES	NO	N/A
Soil/Sediment: 10 days from time the lab receives the sample with 24 hours allowed from time of collection to lab receipt. *14 days if preserved with HCI (pH<2).	___	[✓]	___
b. NVOA's and Pesticides/PCBs:			
Aqueous (5 days from time of lab receipt to extraction, 40 days after extraction)	___	[ ]	✓
Soil/Sediment (10 days from time of lab receipt to extraction, 40 days after extraction)	✓	[ ]	___

Allow 24 hours from time of collection to lab receipt.

CONTRACTOR ACTION: List the samples and their respective fractions with exceedances below. (Attach additional sheets if necessary.)

Table of Holding Time Exceedances

Sample	Sample Matrix	Fraction(s)	(See Traffic Report) Date Sampled	Date Lab Received	(See Form I) Date Extracted	(See Form I & Form V) Date Analyzed
BK847	Soil	BNA	7/29/87	7/30/87	8/19/87	9/1/87

MMB ACTION: If these holding times are exceeded, red-line detection limits and flag all positive values with a J.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, Data System Printouts (Quant. list), and work sheet calculations present for the following:

a. Semi-volatiles (initial and continuing calibrations)	[✓]	___	___
b. Volatiles (initial and continuing calibrations)	[✓]	___	___

	YES	NO	N/A
13.2 Are the response factors also present in the Quan List?	[✓]		

CONTRACTOR ACTION: List missing or incomplete RICs, Quant. lists and work sheet calculations on Missing Data Tracking Form (See 1.1).

15.4 Internal Standard Area Summary (Form VIII)

15.4.1 Are the internal standard summary sheets (Form VIII) present and complete with all the required information?

VOA	[ ]	✓	
BNA	[ ]	✓	

CONTRACTOR: List missing or incomplete summary sheets on missing tracking form (see 1.1).

15.4.2 Are the internal standard areas within the upper and lower limits for each sample and blank analyzed under a given continuing calibration?

VOA	[ ]	✓	
BNA	[ ]	✓	

CONTRACTOR: List all the outliers.

Sample #	Internal Std	Area	Lower Limit	Upper Limit

(Attach additional sheets if necessary.)

MMB ACTION: Use professional judgement to determine effect on data. Acceptance or rejection should not be based solely on the internal standard areas but should be determined in conjunction with other QA/QC data.

	YES	NO	N/A
18.0 GC Evaluation (Form X-PEST)			
18.1 Pesticide/PCB Identification - Are retention times of standard and sample compounds within the calculated retention time windows for the:			
Quantitation Column?	[✓]		
Confirmation Column?	[✓]		
CONTRACTOR ACTION: Circle all outliners in red.			
19.0 Package Copies			
19.1 Are all the xeroxing of readable quality?	[✓]		
CONTRACTOR ACTION: If not, list appropriate page numbers on Missing Data Tracking Form (See 1.1).			

[redacted]

II QC SUMMARY RESULTS

	YES	NO	N/A
3.0 Surrogate Spikes			
3.1 Were any transcription/calculation errors found between raw data and Surrogate Per Cent Recovery Form?		[✓]	
MMB ACTION: Make any necessary corrections, and note errors under Conclusions.			
5.0 Blanks			
5.1 Chromatography - review the blank raw data - chromatograms, RICs, quan reports or data system printouts and spectra. Is chromatographic performance for each instrument acceptable for:			
VOA's?	[✓]		
B/N & Acids?	[✓]		
Pest/PCB's?	[✓]		

Title: Attachment 1 - CLP Data Assessment Checklist (GC and GC/MS Analysis) DR
PART II: MMB Review - [redacted] REVIEW

Date:
Number: HW-4
Revision: 2

	YES	NO	N/A
10.0 GC/MS Evaluation			
10.1 HSL Compounds			
10.1.1 Is the RRT of reported compounds within 0.06 RRT units of the standard RRT?	[✓]		
10.1.2 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	[✓]		
10.1.3 Are all ions present in the sample, but not present in the standard accounted for?	[✓]		
10.1.4 Do relative intensities specified above agree within 20% between the sample and standard spectra?	[✓]		
MMB ACTION: Use professional judgment to determine acceptability of data: if it is determined that incorrect ID's were made, all such data should be red-lined and changed to ~~an estimated (J) quantitation~~ appropriate detection limit. Ions greater than 10% in the sample spectrum but not present in the standard spectrum must be considered and accounted for.			
10.1.5 Check at least 2 of all positive values. Were any errors found in: Transcriptions?		[✓]	
Calculations?		[✓]	
MMB ACTION: Make any necessary corrections and note errors under Conclusions.			
10.2 Tentative ID - Non-HSL Compounds			
10.2.1 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% present in the sample mass spectrum?	[✓]		
10.2.2 Do relative intensities specified above agree within 20% between the sample and reference spectra?	[✓]		
10.2.3 Are molecular ions present in reference spectrum present in sample spectrum?	[✓]		

	YES	NO	N/A
10.2.4 Are all non-HSL compounds classified as tentatively identified reported with estimated quantitation and detection limits?	[✓]		

MMB ACTION: Use professional judgment to determine acceptability of data. If data is considered to be unacceptable, the tentative ID should be changed to "unknown".

11.0 Holding Times

	YES	NO	N/A
11.1 Have all associated sample data which have exceeded holding times been red-lined on the data sheet (including detection limits) indicating rejection?	[✓]		✓

MMB ACTION: Make any necessary corrections.

12.0 GC Evaluation

	YES	NO	N/A
12.1 Do chromatograms and data system printouts confirm retention times, retention time windows, and reported values (Forms IX-PEST 1 and X-PEST 2)?	[✓]		
12.2 Do positive identifications have proper dissimilar column analysis?	[ ]		✓
12.3 Are retention times of standard and sample compounds within the calculated retention times windows for the:			
"No Hits" Quantitation Column?	[ ]		✓
Confirmation Column?	[ ]		✓
12.4 If concentration is sufficient, is GC/MS confirmation provided? ^ (>10 µg/ml in the extract)	[ ]		✓

MMB ACTION: Reject (red-line) all positive results (meeting quantitation column criteria, but missing confirmation by a second column or GC/MS (if appropriate). Also reject (red-line) all positive results not meeting retention time windows unless associated standard compounds are similarly biased.

	YES	NO	N/A
12.5 Check 10% of all positive values. Were any errors found in:			
Transcriptions?			✓
Calculations?			✓

MMB ACTION: Make any necessary corrections and note errors under Conclusions.

III SAMPLE DATA PACKAGE

8.0 Traffic Report

8.1 Do the Traffic Reports indicate any problems with sample receipt, condition of samples or special notations affecting the quality of the data?	✓		

MMB ACTION: Use professional judgment in evaluating any effect on the quality of the data.

Trip blank - BK 849 has small bubbles in both vials

"J" value on all hits!

Date:
Number: HW-4
Revision: 2

Title: Attachment 2 - CLP Data Assessment Checklist
(GC and GC/MS Analysis) DR
PART II: MMB Review - [redacted] REVIEW

CASE # 7765/3181B LAB CENREF SITE Dayton T. Brown

19.0 Conclusions: (NOTE: Reviewers must red-line unacceptable data on sample data (FORM I) sheets; red-line data does not imply the compound is not present). Only the MMB reviewer has the authority to red-line unacceptable data. The letter J indicates an estimated value. In addition to the two definitions stated in the contract it also implies that the analyte is present but the quantitative value contains an unspecified degree of error. If an accurate quantity is desired, resampling ~~/analysis~~ and reanalysis is recommended.

19.1 Data Assessment Method blank measures laboratory contamination caused by dirty glassware, etc. In order to be valid, the concentration of an analyte in a sample must be at least 5 or 10 times (depending on the analyte) the concentration of that analyte present in the method blank. Red-lined methylene chloride as method blank contamination in BK849.

Trip blank consists of analyte free water sealed in a 40ml vial that is taken into the field during sampling. Trip blank contamination is caused by contamination of samples in the field. In order to be valid, the concentration of an analyte in a sample must be at least 5 or 10 times (depending on the analyte) the concentration of that analyte present in the trip blank. The following compounds were red-lined as trip blank contamination : methylene chloride, acetone and toluene in BK847; methylene chloride in BK848.

The amount of analyte in a sample changes with time. If specified holding times are exceeded, the data may not be accurate. All positive values in BK847 (Semi-Volatiles) were flagged with a "J" (estimate) and all detection limit values were red-lined for exceeding extraction/holding time.

Trip blank/VOA BK849 had small bubbles present in both vials. Positive values were flagged with a "J" (estimate).

19.2 Contract Problems/Non-compliance

Reviewer's Signature: George Karras Date: 12/14/87

Verified By: [illegible] Date: 12/15/87

Cenref Labs Centana Energy Corporation

September 4, 1987

Case Narrative

Case: 7765/SAS 3181B
Region: II
Contract No.: 68-01-7161

Samples: BK847,BK848,BK847MS,BK847MSD--Low Level Sludges for VOA,BNA, and Pesticide analysis.

BK849,BK849MS,BK849MSD--Low level Waters for VOA analysis.

General

Two low level sludges plus associated matrix spike samples were analyzed for full HSL compounds. One low level water plus associated matrix spike samples was analyzed for VOAs only.

Sample Receiving/Chain of Custody

1. Both sludges were received in good condition on July 30, 1987. BK849 sample vials had small bubbles present. The paperwork for the case had the wrong Case/SAS number. SMO was contacted and the paperwork corrected. (See Telephone Record Log.) The sample tags were missing and the tag numbers were not listed on the Chain of Custody.

VOAs

1. All samples were analyzed within the holding time periods.

2. BK847 and BK848 were analyzed as low level soils. BK847,BK847MS, and BK847MSD all had high recoveries of Toluene-D8, indicating a matrix effect. All other surrogate recoveries were inside Q.C. Limits.

3. The surrogate recoveries for BK849, BK849MS, and BK849MSD were inside the Q.C. limits.

4. BK847MS had a high recovery of Chlorobenzene; all other spike recoveries were inside Q.C. Limits. The RPD for 1,1-Dichloroethene was high; all other RPDs were inside Q.C. Limits.

Executive Offices: P.O. Box 414320, Kansas City, Missouri 64141-4320
Mid-Continent Area: R.R. 2, Box 119, Liberal, Kansas 67901 • (316) 624-4292
Rocky Mountain Area: 695 North 7th, Brighton, Colorado 80601 • (303) 659-0497

5. The spike recoveries and RPD values for the water sample were all within the Q.C. limits

6. The Hewlett-Packard data system does not report spectrum matches for TIC's when the probability of a match is less than one percent. All possible matches have been reported.

BNAs

1. BK847 and BK848 were listed on the OTR as medium level concentrations. They were extracted as medium level soils August 4, 1987. The extracts were analyzed by GC/FID and were not medium level. The samples were extracted as low level soils August 5, 1987. BK847 and BK848 had several very high surrogate recoveries while BK847MS and BK847MSD had a high recovery for Terpheny-d14 only. The samples were re-extracted on August 19, 1987. On re-extraction sample BK848 had surrogate recoveries inside the Q.C. limits while BK847 had a high recovery for Terphenyl-d14. This caused BK847 and BK848 to exceed the holding time for extraction by ten days.

2. BK847, BK847MS, BK847MSD had high recoveries of Terphenyl-D14, indicating a matrix effect.

3. All soil extracts were left at 5mL during the final concentration step due to precipitate formation.

4. The recoveries for Pyrene and Phenol were high. BK847MS had a high recovery of 4-Chloro-3-Methylphenol. The RPDs for 1,2,4-Trichlorophenol,Acenaphthene, and 1,4-Dichlorobenzene were high. The probable cause for this is due to interferences from the elevated baselines. All other spike recoveries and RPDs were inside Q.C. Limits.

5. The Hewlett-Packard data system does not report spectrum matches for TIC's when the probability of a match is less than one percent. All possible matches have been reported.

003

Pesticides

1. Both samples were extracted and analyzed within the holding time period.

2. All surrogate recoveries were inside Q.C. Limits. The surrogates were diluted out for BK347 and BK848. Dilutions were necessary because of the high level of interfering peaks.

3. BK847MS had high spike recoveries for Heptachlor, Aldrin, and 4,4-DDT. BK847MSD had high spike recoveries for Heptachlor. The RPD values for Dieldrin, Endrin, and 4,4-DDT were outside the Q.C. limits. These recovery problems were probably due to the high level of interfering peaks.

4. No pesticides or PCBs were detected in any of the samples.

5. Occasionally the Nelson Analytical Software assigns inaccurate injection times. These times have been hand corrected on the chromatograms.

Sincerely,

Jack Berges
Laboratory Manager

Optional Flags used for Reporting GC/MS Data

A - Aldol condensation product. This flag is used for tentatively identified compounds in soil samples when the compound is suspected aldol condensation byproduct of the extraction technique.

M - Analyte has not met the identification criteria but, in the opinion of the Mass Spectral Interpretation Specialist, the identification is correct.

This flag is used when the mass spectrum of the target analyte does not meet all of the criteria in the contract Task III, but the Mass Spectral Interpretation Specialist feels that the compound is actually present.

Sp- Spike compound.

This flag is used for Matrix Spike results to indicate that the compound was spiked into the sample before analysis.

Ken
Jack
Jenny
Russ
Dawn

In Reference to Case No(s):
SAS 3181 B
Case 7765

005

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM
Telephone Record Log

Date of Call: July 30, 1987

Laboratory Name: Centref Labs

Lab Contact: Lori Walter

Region: Region II

Regional Contact: Jean Kelb

Call Initiated By: X Laboratory ___ Region

In reference to data for the following sample number(s):

BK847, BK848, BK849

Summary of Questions/Issues Discussed:

1. We were expecting SAS 3181B/Case 7765. All paperwork & samples said SAS 3181B/Case 7732.
2. We were expecting 2 waters: 1 for full HSL, 1 for VOA. We only received the VOA sample.
3. Sample BK848 Organics Traffic Report said "Sample for duplicate analysis."

Summary of Resolution:

1. Jean said the correct case # is 7765. I will change the paperwork and samples.
2. The Case is complete. We should not anticipate this other water.
3. Duplicate analysis is not required.

Lori Walter
Signature

7-30-87
Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

| Sample Number | 017
| BK 847

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Centref Labs
Lab Sample ID: >P5628
Sample Matrix: Sludge
Data release Authorized by:

Case No.: 7765/SAS 3181A
QC Report No.: 7765/SAS 3181A
Contract No.: 68-01-7161
Date Sample Received: 07/30/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/02/87 13:09
Conc/Dil Factor: 3.4 pH : 5.9
Percent Moisture: (Not Decanted) 71.0%

C.A.S. Number		ug/l or ug/Kg (Circle One)		C.A.S. Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	34	U	78-87-5	1,2-Dichloropropane	17	U
74-83-9	Bromomethane	34	U	10061-02-6	Trans-1,3-Dichloropropene	17	U
75-01-4	Vinyl Chloride	34	U	79-01-6	Trichloroethene	17	U
75-00-3	Chloroethane	34	U	124-48-1	Dibromochloromethane	17	U
75-09-2	Methylene Chloride	~~[illegible]~~		79-00-5	1,1,2-Trichloroethane	17	U
67-64-1	Acetone	~~[illegible]~~	B	71-43-2	Benzene	17	U
75-15-0	Carbon Disulfide	17	U	10061-01-5	cis-1,3-Dichloropropene	17	U
75-35-4	1,1-Dichloroethene	17	U	110-75-8	2-Chloroethylvinylether	34	U
75-34-3	1,1-Dichloroethane	17	U	75-25-2	Bromoform	17	U
156-60-5	Trans-1,2-Dichloroethene	17	U	108-10-1	4-Methyl-2-Pentanone	49	
67-66-3	Chloroform	17	U	591-78-6	2-Hexanone	34	U
107-02-2	1,2-Dichloroethane	17	U	127-18-4	Tetrachloroethene	360	
78-93-3	2-Butanone	34	U	79-34-5	1,1,2,2-Tetrachloroethane	17	U
71-55-6	1,1,1-Trichloroethane	17	U	108-88-3	Toluene	~~[illegible]~~	
56-23-6	Carbon Tetrachloride	17	U	108-90-7	Chlorobenzene	17	U
108-05-4	Vinyl Acetate	34	U	100-41-4	Ethylbenzene	49	
75-27-4	Bromodichloromethane	17	U	100-42-5	Styrene	17	U
					Total Xylenes	17	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a concentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/ul in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

OPTIONAL FLAGS

Sp- Spike compound. The compound is a Matrix Spike compound.

A - Aldol Condensation product. Suspected condensation product in BNA soil extract.

M- Analyte has not met the identification criteria but, in the opinion of the Mass Spectral Interpretation Specialist, the identification is correct.

OK 9/2/87 KK

Lab Name : Cenref Labs
Case No : 7765/SAS 31818

Sample Number
BK 847

018

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 08/19/87
Date Analyzed: 9/01/87 19:46
Conc/Dil Factor: 17
Percent Moisture (Decanted) 71%

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)		
108-95-2	Phenol	6900	—	
111-44-4	bis(-2-Chloroethyl)Ether	5600	U	
95-57-8	2-Chlorophenol	5600	U	
541-73-1	1,3-Dichlorobenzene	5600	U	
106-46-7	1,4-Dichlorobenzene	5600	U	
100-51-6	Benzyl Alcohol	5600	U	
95-50-1	1,2-Dichlorobenzene	5600	U	
95-48-7	2-Methylphenol	5600	U	
39638-32-9	bis(2-chloroisopropyl)Ether	5600	U	
106-44-5	4-Methylphenol	5600	U	
621-64-7	N-Nitroso-Di-n-Propylamine	5600	U	
67-72-1	Hexachloroethane	5600	U	
98-95-3	Nitrobenzene	5600	U	
78-59-1	Isophorone	5600	U	
88-75-5	2-Nitrophenol	28000	U	
105-67-9	2,4-Dimethylphenol	5600	U	
65-85-0	Benzoic Acid	4000	JM	J
111-91-1	bis(-2-Chloroethoxy)Methane	5600	U	
120-83-2	2,4-Dichlorophenol	5600	U	
120-82-1	1,2,4-Trichlorobenzene	5600	U	
91-20-3	Naphthalene	1200	J	J
106-47-8	4-Chloroaniline	5600	U	
87-68-3	Hexachlorobutadiene	5600	U	
59-50-7	4-Chloro-3-Methylphenol	5600	U	
91-57-6	2-Methylnaphthalene	1800	J	J
77-47-4	Hexachlorocyclopentadiene	5600	U	
88-06-2	2,4,6-Trichlorophenol	5600	U	
95-95-4	2,4,5-Trichlorophenol	28000	U	
91-58-7	2-Chloronaphthalene	5600	U	
88-74-4	2-Nitroaniline	28000	U	
131-11-3	Dimethyl Phthalate	5600	U	
208-96-8	Acenaphthylene	5600	U	
99-09-2	3-Nitroaniline	28000	U	

C.A.S. Number		ug/L or ug/Kg (Circle One)		
83-32-9	Acenaphthene	5600	U	
51-28-5	2,4-Dinitrophenol	28000	U	
100-02-7	4-Nitrophenol	28000	U	
132-64-9	Dibenzofuran	5600	U	
121-14-2	2,4-Dinitrotoluene	5600	U	
606-20-2	2,6-Dinitrotoluene	5600	U	
84-66-2	Diethylphthalate	5600	U	
7005-72-3	4-Chlorophenyl-phenylether	5600	U	
86-73-7	Fluorene	5600	U	
100-01-6	4-Nitroaniline	28000	U	
534-52-1	4,6-Dinitro-2-Methylphenol	5600	U	
86-30-6	N-Nitrosodiphenylamine (1)	5600	U	
101-55-3	4-Bromophenyl-phenylether	5600	U	
118-74-1	Hexachlorobenzene	5600	U	
87-86-5	Pentachlorophenol	28000	U	
85-01-8	Phenanthrene	5600	U	
120-12-7	Anthracene	5600	U	
84-74-2	Di-n-Butylphthalate	5600	U	
206-44-0	Fluoranthene	5600	U	
129-00-0	Pyrene	5600	U	
85-68-7	Butylbenzylphthalate	5600	U	
91-94-1	3,3'-Dichlorobenzidine	11000	U	
56-55-3	Benzo(a)Anthracene	5600	U	
117-81-7	bis(2-Ethylhexyl)Phthalate	83000		J
218-01-9	Chrysene	5600	U	J
117-84-0	Di-n-Octyl Phthalate	5600	U	
205-99-2	Benzo(b)Fluoranthene	5600	U	
207-08-9	Benzo(k)Fluoranthene	5600	U	
50-32-8	Benzo(a)Pyrene	5600	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	5600	U	
53-70-3	Dibenz(a,h)Anthracene	5600	U	
191-24-2	Benzo(g,h,i)Perylene	5600	U	

(1)-Cannot be separated from diphenylamine

7/84

OK
9/2/87
KK

Lab Name : Cenref Labs
Case No : 7765 SAS 3181R

Sample Number
BK847

019

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 08/05/87
Date Analyzed: 09/02/87
Conc/Dil Factor: 10
Percent Moisture (Decanted) 71

GPC Cleanup __ Yes X_ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg
319-84-6	Alpha-BHC.	27.0 U
319-87-7	Beta-BHC	27.0 U
319-86-8	Delta-BHC.	27.0 U
58-89-9	Gamma-BHC (Lindane). . .	27.0 U
76-44-8	Heptachlor	27.0 U
309-00-2	Aldrin	27.0 U
1024-57-3	Heptachlor Epoxide . . .	27.0 U
959-98-8	Endosulfan I	27.0 U
60-57-1	Dieldrin	55.0 U
72-55-9	4,4'-DDE	55.0 U
72-20-8	Endrin	55.0 U
33213-65-9	Endosulfan II.	55.0 U
72-54-8	4,4'-DDD	55.0 U
1031-07-8	Endosulfan Sulfate . . .	55.0 U
50-29-3	4,4'-DDT	55.0 U
72-43-5	Methoxychlor	270.0 U
53494-70-5	Endrin Ketone.	55.0 U
57-74-9	Chlordane.	270.0 U
8001-35-2	Toxaphene.	550.0 U
12674-11-2	Aroclor-1016.	270.0 U
11104-28-2	Aroclor-1221.	270.0 U
11141-16-5	Aroclor-1232.	270.0 U
53469-21-9	Aroclor-1242.	270.0 U
12672-29-6	Aroclor-1248.	270.0 U
11097-69-1	Aroclor-1254.	550.0 U
11096-82-5	Aroclor-1260.	550.0 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of Total extract (uL)

Vs Ws 30.2 Vt 5000 uL Vi 5 uL

OK 9/4/87 KK

oratory Name: Conrad Labs

ase No: 7765 KAS 3181B

Sample Number
BK 847

020

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 76131	1,1,2-Trichloro-1,2,2-Trifluoroethane	VOA	294	120 J
2. -	C-8 Alkene MF: C_8H_{16}	VOA	552	41 J
3. -	Dimethyl Cyclohexane	VOA	637	24 J
4. -	Dimethyl Cyclohexane	VOA	654	21 J
5. -	Unknown	VOA	673	38 J
6. -	Unknown	VOA	742	51 J
7. -	Unknown	VOA	805	55 J
8.				
9. -	Chlorobenzaldehyde	BNA	465	100 000 J
10. 629505	Tridecane	BNA	709	9000 J
11. -	Unknown Alkene	BNA	920	11000 J
12. -	Unknown Acid	BNA	928	10000 J
13. 629629	Pentadecane	BNA	964	13000 J
14. 544763	Hexadecane	BNA	1080	12000 J
15. -	Tetramethyl butyl Phenol	BNA	1107	25000 J
16. 629787	Heptadecane	BNA	1191	39000 J
17. -	Unknown Alkane	BNA	1199	55000 J
18. -	Unknown	BNA	1205	23000 J
19. -	Tetramethyl butyl Phenol	BNA	1215	36000 J
20. -	Nonyl Phenol + unknown	BNA	1223	47000 J
21. -	Nonyl Phenol	BNA	1231	32000 J
22. -	Nonyl Phenol	BNA	1238	24000 J
23. -	Unknown	BNA	1247	23000 J
24. -	Nonyl Phenol	BNA	1258	33000 J
25. -	Tetramethyl butyl Phenol	BNA	1266	23000 J
26. 593453	Octadecane	BNA	1296	26000 J
27. -	Unknown Alkene	BNA	1307	30000 J
28. 629925	Nonadecane	BNA	1394	32000 J
29.				
30.				

OK 9/2/87 KC

Sample Number
BK 848

100

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Centef Labs
Lab Sample ID: >P5629
Sample Matrix: Sludge
Data release Authorized by: [signature]

Case No.: 7765/SAS 31818
QC Report No.: 7765/SAS 3181H
Contract No.: 68-01-7161
Date Sample Received: 07/31/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/02/87 14:18
Conc/Dil factor: 3.9 pH : 6.9
Percent Moisture: (Not Decanted) 74.0%

C.A.S. Number		ug/l or ug/Kg (Circle One)		C.A.S. Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	38	U	78-87-5	1,2-Dichloropropane	19	U
74-83-9	Bromomethane	38	U	10061-02-6	Trans-1,3-Dichloropropene	19	U
75-01-4	Vinyl Chloride	38	U	79-01-6	Trichloroethene	19	U
75-00-3	Chloroethane	38	U	124-48-1	Dibromochloromethane	19	U
75-09-2	Methylene Chloride	~~14~~	~~J~~	79-00-5	1,1,2-Trichloroethane	19	U
67-64-1	Acetone	38	U	71-43-2	Benzene	19	U
75-15-0	Carbon Disulfide	19	U	10061-01-5	cis-1,3-Dichloropropene	19	U
75-35-4	1,1-Dichloroethene	19	U	110-75-8	2-Chloroethylvinylether	38	U
75-34-3	1,1-Dichloroethane	19	U	75-25-2	Bromoform	19	U
156-60-5	Trans-1,2-Dichloroethene	19	U	108-10-1	4-Methyl-2-Pentanone	38	U
67-66-3	Chloroform	19	U	591-78-6	2-Hexanone	38	U
107-02-2	1,2-Dichloroethane	19	U	127-18-4	Tetrachloroethene	16	J
78-93-3	2-Butanone	38	U	79-34-5	1,1,2,2-Tetrachloroethane	19	U
71-55-6	1,1,1-Trichloroethane	19	U	108-88-3	Toluene	19	U
56-23-5	Carbon Tetrachloride	19	U	108-90-7	Chlorobenzene	19	U
108-05-4	Vinyl Acetate	38	U	100-41-4	Ethylbenzene	19	U
75-27-4	Bromodichloromethane	19	U	100-42-5	Styrene	19	U
					Total Xylenes	19	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a concentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/ul in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

OPTIONAL FLAGS

Sp- Spike compound. The compound is a Matrix Spike compound.

A - Aldol Condensation product. Suspected condensation product in ANA soil extract.

M- Analyte has not met the identification criteria but, in the opinion of the Mass Spectral Interpretation Specialist, the identification is correct.

OK 9/2/87

Lab Name : Cenref Labs
Case No : 7765/SAS 31818

Sample Number
BK 848

101

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 08/19/87
Date Analyzed: 9/01/87 18:57
Conc/Dil Factor: 19
Percent Moisture (Decanted) 74%

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	6400	U
111-44-4	bis(-2-Chloroethyl)Ether	6400	U
95-57-8	2-Chlorophenol	6400	U
541-73-1	1,3-Dichlorobenzene	6400	U
106-46-7	1,4-Dichlorobenzene	6400	U
100-51-6	Benzyl Alcohol	6400	U
95-50-1	1,2-Dichlorobenzene	6400	U
95-48-7	2-Methylphenol	6400	U
39638-32-9	bis(2-chloroisopropyl)Ether	6400	U
106-44-5	4-Methylphenol	6400	U
621-64-7	N-Nitroso-Di-n-Propylamine	6400	U
67-72-1	Hexachloroethane	6400	U
98-95-3	Nitrobenzene	6400	U
78-59-1	Isophorone	6400	U
88-75-5	2-Nitrophenol	32000	U
105-67-9	2,4-Dimethylphenol	6400	U
65-85-0	Benzoic Acid	1300	JM
111-91-1	bis(-2-Chloroethoxy)Methane	6400	U
120-83-2	2,4-Dichlorophenol	6400	U
120-82-1	1,2,4-Trichlorobenzene	6400	U
91-20-3	Naphthalene	6400	U
106-47-8	4-Chloroaniline	6400	U
87-68-3	Hexachlorobutadiene	6400	U
59-50-7	4-Chloro-3-Methylphenol	6400	U
91-57-6	2-Methylnaphthalene	6400	U
77-47-4	Hexachlorocyclopentadiene	6400	U
88-06-2	2,4,6-Trichlorophenol	6400	U
95-95-4	2,4,5-Trichlorophenol	32000	U
91-58-7	2-Chloronaphthalene	6400	U
88-74-4	2-Nitroaniline	32000	U
131-11-3	Dimethyl Phthalate	6400	U
208-96-8	Acenaphthylene	6400	U
99-09-2	3-Nitroaniline	32000	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	6400	U
51-28-5	2,4-Dinitrophenol	32000	U
100-02-7	4-Nitrophenol	32000	U
132-64-9	Dibenzofuran	6400	U
121-14-2	2,4-Dinitrotoluene	6400	U
606-20-2	2,6-Dinitrotoluene	6400	U
84-66-2	Diethylphthalate	6400	U
7005-72-3	4-Chlorophenyl-phenylether	6400	U
86-73-7	Fluorene	6400	U
100-01-6	4-Nitroaniline	32000	U
534-52-1	4,6-Dinitro-2-Methylphenol	32000	U
86-30-6	N-Nitrosodiphenylamine (1)	6400	U
101-55-3	4-Bromophenyl-phenylether	6400	U
118-74-1	Hexachlorobenzene	6400	U
87-86-5	Pentachlorophenol	32000	U
85-01-8	Phenanthrene	6400	U
120-12-7	Anthracene	6400	U
84-74-2	Di-n-Butylphthalate	6400	U
206-44-0	Fluoranthene	6400	U
129-00-0	Pyrene	6400	U
85-68-7	Butylbenzylphthalate	6400	U
91-94-1	3,3'-Dichlorobenzidine	13000	U
56-55-3	Benzo(a)Anthracene	6400	U
117-81-7	bis(2-Ethylhexyl)Phthalate	34000	
218-01-9	Chrysene	6400	U
117-84-0	Di-n-Octyl Phthalate	6400	U
205-99-2	Benzo(b)Fluoranthene	6400	U
207-08-9	Benzo(k)Fluoranthene	6400	U
50-32-8	Benzo(a)Pyrene	6400	U
193-39-5	Indeno(1,2,3-cd)Pyrene	6400	U
53-70-3	Dibenz(a,h)Anthracene	6400	U
191-24-2	Benzo(g,h,i)Perylene	6400	U

(1)-Cannot be separated from diphenylamine

OK 9/2/87 KK

Form 1

7/85

Lab Name : Centref Labs
Case No : 7765 SAS 31818

Sample Number
BKR48

102

ORGANICS ANALYSIS DATA SHEET
(Page 3)

Pesticides/PCBs

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 08/05/87
Date Analyzed: 09/02/87
Conc/Dil Factor: 10
Percent Moisture (Decanted) 74

GPC Cleanup __ Yes X_ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg
319-84-6	Alpha-BHC.	30.0 U
319-87-7	Beta-BHC	30.0 U
319-86-8	Delta-BHC.	30.0 U
58-89-9	Gamma-BHC (Lindane). . .	30.0 U
76-44-8	Heptachlor	30.0 U
309-00-2	Aldrin	30.0 U
1024-57-3	Heptachlor Epoxide . . .	30.0 U
959-98-8	Endosulfan I	30.0 U
60-57-1	Dieldrin	60.0 U
72-55-9	4,4'-DDE	60.0 U
72-20-8	Endrin	60.0 U
33213-65-9	Endosulfan II.	60.0 U
72-54-8	4,4'-DDD	60.0 U
1031-07-8	Endosulfan Sulfate . . .	60.0 U
50-29-3	4,4'-DDT	60.0 U
72-43-5	Methoxychlor	300.0 U
53494-70-5	Endrin Ketone.	60.0 U
57-74-9	Chlordane.	300.0 U
8001-35-2	Toxaphene.	600.0 U
12674-11-2	Aroclor-1016.	300.0 U
11104-28-2	Aroclor-1221.	300.0 U
11141-16-5	Aroclor-1232.	300.0 U
53469-21-9	Aroclor-1242.	300.0 U
12672-29-6	Aroclor-1248.	300.0 U
11097-69-1	Aroclor-1254.	600.0 U
11096-82-5	Aroclor-1260.	600.0 U

Vi = Volume of extract injected (uL)
Vs = Volume of water extracted (mL)
Ws = Weight of sample extracted (g)
Vt = Volume of Total extract (uL)

Vs Ws 30.9 Vt 5000 uL Vi 5 uL

OK 9/4/87 KK

Laboratory Name: Centre Labs

Case No: 7765/SAS 3181B

Sample Number: BK848

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	No volatile compounds Detected	VOA	—	—
2.				
3. —	unknown	BNA	100	~~3900 JB~~
4. 4431-75-3	3-Hexene-2,5-dione	BNA	156	~~3500 JBA~~
5. —	Ethylmethylbenzene	BNA	186	8300 J
6. —	Trimethyl Benzene	BNA	198	10,000 J
7. —	Trimethyl Benzene	BNA	244	31,000 J
8. —	Trimethyl Benzene	BNA	296	11,000 J
9. —	unknown	BNA	661	2,600 J
10. —	unknown	BNA	924	3,200 J
11. —	unknown	BNA	950	3200 J
12. —	Tetramethylbutyl phenol	BNA	1104	7100 J
13. —	unknown Alkane	BNA	1132	3200 J
14. —	unknown Alkane	BNA	1195	5100 J
15. —	unknown	BNA	1244	2600 J
16. —	unknown Alkane	BNA	1303	5800 J
17. —	unknown Alkane	BNA	1385	2600 J
18. —	unknown Alkane	BNA	1391	3800 J
19. —	unknown	BNA	1585	4500 J
20. —	unknown	BNA	1612	5100 J
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

OK
9/2/87
KIC

Sample Number
RK R49

157

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Cenref Labs
Lab Sample ID: >P5640
Sample Matrix: Water
Data release Authorized by: Jack Bagle

Case No.: 7765/SAS 3181R
QC Report No.: 7765/SAS 3181B
Contract No.: 68-01-7161
Date Sample Received: 07/30/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/04/87 15:04
Conc/Dil factor: 1.0 pH :7.0
Percent Moisture: (Not Decanted) 100%

C.A.S. Number		ug/L or ug/Kg (Circle One)		C.A.S. Number		ug/L or ug/Kg (Circle One)	
74-87-3	Chloromethane	10	U	78-87-5	1,2-Dichloropropane	5	U
74-83-9	Bromomethane	10	U	10061-02-6	Trans-1,3-Dichloropropene	5	U
75-01-4	Vinyl Chloride	10	U	79-01-6	Trichloroethene	5	U
75-00-3	Chloroethane	10	U	124-48-1	Dibromochloromethane	5	U
75-09-2	Methylene Chloride	~~5~~	~~JB~~	79-00-5	1,1,2-Trichloroethane	5	U
67-64-1	Acetone	65	J	71-43-2	Benzene	5	U
75-15-0	Carbon Disulfide	5	U	10061-01-5	cis-1,3-Dichloropropene	5	U
75-35-4	1,1-Dichloroethene	5	U	110-75-8	2-Chloroethylvinylether	10	U
75-34-3	1,1-Dichloroethane	5	U	75-25-2	Bromoform	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U	108-10-1	4-Methyl-2-Pentanone	10	U
67-66-3	Chloroform	5	U	591-78-6	2-Hexanone	10	U
107-02-2	1,2-Dichloroethane	5	U	127-18-4	Tetrachloroethene	5	U
78-93-3	2-Butanone	38	J	79-34-5	1,1,2,2-Tetrachloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U	108-88-3	Toluene	5	J
56-23-6	Carbon Tetrachloride	5	U	108-90-7	Chlorobenzene	5	U
108-05-4	Vinyl Acetate	10	U	100-41-4	Ethylbenzene	5	U
75-27-4	Bromodichloromethane	5	U	100-42-5	Styrene	5	U
					Total Xylenes	5	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a concentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

OPTIONAL FLAGS

Sp- Spike compound. The compound is a Matrix Spike compound.

A - Aldol Condensation product. Suspected condensation product in BNA soil extract.

OK 9/2/87 KC

Laboratory Name: Con Ref LABS

Case No: 7765 / SAS3181B

Sample Number: BK849

158

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	No volatile compounds detected	VOA	—	—
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

OK 9/2/87 KC

RECORD OF COMMUNICATION

☐ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO: Leon Lazurus

FROM: Regina Mulcahy

DATE 9/13/87

TIME 12:30 PM

SUBJECT

CLP Organic Data Package for Quality Assurance Review

SUMMARY OF COMMUNICATION

The following CLP Organic Data packages are in the DCR awaiting review by the MMB.

SITE	CASE #/ SAS #	LABORATORY	ANALYSIS/ MATRIX	NUMBER OF SAMPLES	BLANK NUMBER(S)	DUPLICATE NUMBER(S)
Bog Creek Farm/REM 3/Rem	7461	Acurex	Organics water	20	BK305,299, 324 = FB BK 296,325 = TB	None
LiPari LF Rem 2/Enf	7774/ 3191B	Compuchem	Organics water	13	BL155(TB)	BL156,157
Batavia LF GCA/Enf overs	7460	Nanco	Organics water	6	BJ678	None
Batavia LF GCA/Enf overs	7332	Pac.Analyt.	Organics water soil	2 3	None	None
Brewster Wellfield/REM 3/Rem overs	7897	CTL	Organics water	4	BN005(TB) BN006(FB)	None
Brewster WF REM 3/Rem overs	7897	Aquatec	Organics soil	7	None	BN009,011
W.R.Grace REM 3/Enf	7785	US Testing	Organics soil water	3 1	BL074(TB)	None
DUPONT Stauffer Duramate/FIT/SI	7816	Pac.Anal. Pac.F.Anal.	Organics soil water	9 3	BL319,320 =rins BL318(TB)	BL307,308
Dayton T. Brown/FIT/SI	7732	Alliance	Organics soil water	4 7	BK518,519 =TB BK520-522 =rins	

CONCLUSIONS, ACTION TAKEN OR REQUIRED

RECEIVED
DEC 0 8 1987
S & M BRANCH

INFORMATION COPIES TO:

File and Data Package

EPA Form 1300-6 (7-72) REPLACES EPA HQ FORM 6300-3 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

September 4, 1987

Mr. Tony Nesky
RAS Sampling Coordinator
SMO Viar and Company
209 Madison Street
Alexandria, VA 22314

Subject: Analytical Results - Soil and Water Samples - Case 7732
(Alliance 3-720-016)

Dear Mr. Nesky:

Enclosed please find the data package for samples submitted under Case 7732. This set consisted of 7 water samples and 4 soils which were received at Alliance Technologies Corporation on July 29, 1987. The samples and each of two matrix spikes per matrix underwent one or more of the following analyses:

Volatile Organic Analysis
Base/Neutral and Acid Extractable Analysis
Pesticide and PCB Analysis

Additional comments pertinent to the analysis of these samples are provided on the pages immediately following.

Please do not hesitate to contact the undersigned with any questions or concerns.

Sincerely,

Joanna M. Hall

Joanna M. Hall
Organic Section Manager
Chemistry Division

Approved by:

Neil Ram (ATD)

Neil M. Ram, Ph.D.
Manager
Chemistry Division

Enclosure

cc: EMSL/LV
Region II
F. Babin
J. Haggerty

JH/11

Contractor: Alliance

Alliance Project No. 68-01-7145

Narrative for Case 7732, Samples Received 7/29/87

Sample Receipt

1. Seven (7) water samples and four (4) soils were received on July 29, 1987, and were analyzed for all of the following:

   Volatile Organic Analysis
   Base/Neutral and Acid Extractable Analysis
   Pesticide and PCB Analysis

2. Upon receipt, the submitted samples were entered into the Master Log Book and assigned Alliance Control Numbers as show below:

VOA	Matrix	EPA ID	BNA/Pest/PCB	Matrix	EPA ID
53562	Water	BK 518	53574	Water	BK 520
53563	Water	BK 519	53575	Water	BK 521
53564	Water	BK 520	53576	Water	BK 522
53565	Water	BK 521	53577	Water	BK 801
53566	Water	BK 522	53578	Soil	BK 804
53567	Water	BK 801	53579	Soil	BK 805
53568	Soil	BK 804	53580	Soil	BK 806
53469	Soil	BK 805	53581	Soil	BK 807
53570	Soil	BK 806	53582	Water	BK 939
53571	Soil	BK 807			
53572	Water	BK 939			

VOA	Matrix	EPA ID	BNA/Pest/PCB	Matrix	EPA ID
53568 MS	Soil	BK 804 MS	53578 MS	Soil	BK 804 MS
53568 MSD	Soil	BK 804 MSD	53578 MSD	Soil	BK 804 MSD
53572 MS	Water	BK 939 MS	53582 MS	Water	BK 939 MS
53572 MSD	Water	BK 939 MSD	53582 MSD	Water	BK 939 MSD

VOA Narrative Case 7732
3-720-015

1. All samples were run within contract holding time.

2. All areas flagged with an (M) indicate manual integration.

Narrative for Semi-Volatiles
Case 7732

1. All samples were extracted and analyzed within contract holding times.

2. Sample MBL1 has a Bis (2-ethylhexy) phthalate contamination that is within contract allowances.

3. Samples MBL2, BK804, BK804MS, BK804MSD, BK805, BK806, and BK807 have a large peak which was not searched since it eluted before the first semi-volatile compound.

4. All samples with tentatively identified compounds had at least one peak in which less than three matches were found.

Pesticides/PCB
3-720-015

1. All samples were analyzed within contract specified holding times.

2. Pesticide Evaluation Standards Summary:

   a. On run dates 8/27/87 - 8/29/87 pesticide Mix A was used to calculate the % RSD for all compounds instead of Evaluation Mix A due to integration problems.

   b. The retention time shift of DBC for Pesticide Mix A could not be calculated on the SP2250/2401 column due to co-elution with endrin ketone.

   c. On run dates 8/19-21/87 the retention time shift for DBC could not be calculated for sample BK520 due to an interfering peak. The analyst feels that the system was not out of control because the percent difference of all subsequent injections met contract criteria.

   d. On run dates 8/28-30/87 the retention shift for DBC could not be calculated for Aroc 1248, Aroc 1260 (0.25ng concentration), and Pest Mix B (0.05ng concentration) due to integration problems. The analyst feels that the system was not out of control because the percent difference for all standards injected after these injections met contract criteria.

Pesticide/PCB Cross Reference

Date Standards Run	Column	Sample ID
8/19 - 21/87	SP2250/2401	MB1, BK939MSD, BK939MSD, BK520, BK521, BK522, BK801
8/25 - 26/87	SP2250/2401	MB1, BK939MS, BK939MSD
8/28 - 30/87	SP2250/2401	MB1, MB2, BK806, BK807, BK805, BK804, BK939MS, BK939MSD, BK804MS, BK804MSD
8/27 - 29/87	SP2100	MB2, BK804, BK805, BK806, BK807, BK804MS, BK804MSD

Dry Weight Case #7732
3-720-016

Sample ID	Allowance #	Percent moist	Wet Weight	Dry Weight
BK804	53578	2.2	29.0	28.36
BK805	53579	7.0	29.8	27.71
BK806	53580	4.1	30	28.77
BK807	53581	16.9	30.3	25.18
BK804MS	QC2844	2.2	30.0	29.34
BK804MSD	QC2845	2.2	30.0	29.34

$$\text{Calculation} = \frac{100 - \%\ \text{moisture}}{100} \times \text{Wet Weight} = \text{Dry Weight}$$

ALLIANCE
Technologies Corporation

September 11, 1987

Mr. Tony Nesky
RAS Sampling Coordinator
SMO Viar and Company
209 Madison Street
Alexandria, VA 22314

Subject: Corrected Analytical Results
Pesticides / PCB's in Soil
Case 7732
(Alliance 3-720-016)

Dear Mr. Nesky:

Enclosed please find a revised pesticide data package for soil samples submitted under Case 7732. Previously submitted data were not labelled as re-extracts. The reason for re-extraction is outlined in the attached narrative.

We apologize for any inconvenience caused by the omission.

Sincerely,

Joanna M. Hall
Organic Section Manager
Chemistry Division

Approved by:

Neil M. Ram, Ph.D.
Manager
Chemistry Division

Enclosure

cc: EMSL/LV
Region II

JH/11

RECEIVED
SEP 18 1987
S & M BRANCH

213 Burlington Road, Bedford, Massachusetts 01730 617-275-9000
A TRC Company

VOA Narrative Case 7732
3-720-016

Samples BK804, BK805, BK806, BK807, BK804MS, and BK804MSD were re-extracted with Method Blank 2 (QC2843) due to contamination found during the screening of the original soil method blank. The source of contamination has been identified and corrected.

Pesticide/PCB Cross Reference

Date Standards Run	Column	Sample ID
8/19 - 21/87	SP2250/2401	MB1, BK939MS, BK939MSD, BK520, BK521, BK522, BK801
8/25 - 26/87	SP2250/2401	MB1, BK939MS, BK939MSD
8/28 - 30/87	SP2250/2401	MB1, MB2, BK806RE, BK807RE, BK805RE, BK804RE, BK939MS, BK939MSD, BK804MSRE, BK804MSDRE,
8/27 - 29/87	SP2100	MB2, BK804RE, BK805RE, BK806RE, BK807RE, BK804MSRE, BK804MSDRE

Dry Weight Case #7732
3-720-016

Sample ID	Alliance NO.	Percent Moisture	Wet Weight	Dry Weight
BK804RE	53578	2.2	29.0	28.36
BK805RE	53579	7.0	29.8	27.71
BK806RE	53580	4.1	30	28.77
BK807RE	53581	16.9	30.3	25.18
BK804MSRE	QC2844	2.2	30.0	29.34
BK804MSDRE	QC2845	2.2	30.0	29.34

$$\text{Calculation} = \frac{100 - \%\ \text{moisture}}{100} \times \text{Wet Weight} = \text{Dry Weight}$$

DR Review

STANDARD OPERATING PROCEDURE

Title: Attachment 1 - CLP Data Assessment Checklist (GC and GC/MS Analyses)

Date:
Number: HW-4
Revision: 2

SURVEILLANCE AND MONITORING BRANCH REVIEW

Project Name/Site: Wayton T. Brown

Case Number: 7732

Type Investigation (Circle One): Remedial (Site) Other

Contract No.: 68-01-7145

Laboratory: Alliance

Sample Identification Numbers:

Aqueous: BK 939, BK 801, BK 518-522

Soil/Sediment: BK 804-807

Superfund Account No.: 8TFA02P9ZZ

Comments:

S.M. BRANCH

[redacted] MONITORING MANAGEMENT BRANCH REVIEW

PART I: [redacted]

1.0 Data Completeness and Deliverables

	YES	NO	N/A
1.1 Are any deliverables missing?		[✓]	
1.2 Was SMO CCS checklist included with package?	[✓]		

CONTRACTOR ACTION: If incomplete, list any missing data on the Missing Data Tracking Form (Attachment 5), and request missing information from laboratory by phone.

I. COVER LETTER/NARRATIVE

2.0 Cover Letter/Case Narrative

	YES	NO	N/A
2.1 Is the Narrative or Cover Letter present?	[✓]		
2.2 Are the following items contained in the Narrative or Cover Letter:			
a. Case Number and/or SAS Number	[✓]		
b. Contract Number	[✓]		

II. QC SUMMARY

3.0 Surrogate Percent Recovery Summaries (Form II)

	YES	NO	N/A
3.1 Are the Surrogate Percent Recovery Summaries present for each of the following matrix:			
a. Water	[✓]		
b. Soil	[✓]		
3.2 Are all the samples listed on the Surrogate Percent Recovery Summaries for each of the following matrix:			
a. Water	[✓]		
b. Soil	[✓]		

When two or more surrogates for the blank are below contract QC requirements red-line all positive values, but not detection limits, for the associated samples, if sample surrogates are within or above QC limits; but if two or more sample surrogates are below contract QC limits, red-lined all sample data (Detection limits and positive data).

When two or more surrogates for the blank exceed contract QC requirements, validate sample data considering sample surrogate recoveries alone.

	YES	NO	N/A
3.6 Was one or more VOA surrogates outside of contract specifications for any samples?	___	[___]	___
Blanks?	___	[___]	___
If yes, were samples reanalyzed?	[___]	___	___
Were blanks reanalyzed?	[___]	___	___

MMB ACTION: If initial analysis and reanalysis both have one or more surrogate recoveries below contract QC requirements red-line all detection limits (u's) and flag all positive values (hits) with a J.

If initial analysis and reanalysis both have one or more surrogate recoveries above contract QC requirements do not red-line detection limits but flag all positive values with a J.

When one or more surrogate recoveries for the blank are below contract QC requirements red-line all positive values but not the detection limits for the associated samples if sample surrogates are within or above contract QC limits; but if one or more sample surrogate recoveries are below QC limits red-line all data (Detection limits and positive values).

When one or more surrogate recoveries for the blank exceed contract requirement validate data for the associated samples considering sample surrogate recoveries alone.

3.7 Was pesticides/PCB surrogate outside of contract specifications for any samples?	___	[___]	___
Method Blanks?	___	[___]	___

MMB ACTION: If recoveries are below contract requirement flag all associated positive results with a J and red-line all detection limits. If the recoveries are above contract requirement do not red-line the detection limits but flag all positive value with a J. However professional judgement should be used to determine whether a high bias exists due to coeluting interferences.

Title: Attachment 1 - CLP Data Assessment Checklist (GC and GC/MS Analysis) Part I: ~~[illegible]~~ DR [redacted] REVIEW

Date:
Number: HW-4
Revision: 2

	YES	NO	N/A
5.0 Blanks			
5.1 Is the Reagent Blank Summary present? (Form IV)	[✓]	___	___
5.2 Frequency of Analysis: for the analysis of VOA HSL compounds, has an reagent/method blank been analyzed for each set of samples or every 20 samples of similar matrix (e.g. - water, low soil, medium soil, etc.), whichever is more frequent?	[___]	___	___
5.3 For VOA's, has an instrument blank been analyzed at least once every 12 hours for each GC/MS system used?	[___]	___	___
5.4 For B/N/A's and Pesticides/PCB's, has a method blank been extracted and analyzed for each set of samples or every 20 samples of similar matrix and similar extraction technique?			
B/N/A's	[✓]	___	___
Pesticides/PCB's	[___]	___	___
5.5 Has the method blank for B/N/As and Pesticides/PCBs been run on the same GC/MS or GC system as the samples?	[___]	___	___
6.0 Contamination (Reagent Blank Summary - Form IV)			
6.1. Do any method/instrument/reagent blanks have positive results for: HSL +/or TIC			
VOA's?	___	[___]	___
B/N?	___	[___]	___
Acids?	___	[___]	___
Pesticides?	___	[___]	___
PCBs?	___	[___]	___
6.2 Do any field/trip blanks have positive results for: HLS and/or TIC			
VOA's?	___	[___]	___
B/N?	✓	[___]	___
Acids?	✓	[___]	___
Pesticides?	___	[✓]	___
PCBs?	___	[✓]	___

	YES	NO	N/A
CONTRACTOR ACTION: Prepare a list of the samples associated with each of the contaminated and/or missing method blanks (attach a separate sheet).			

MMB ACTION: For common ~~VOA~~ blank contaminants found (e.g., methylene chloride, acetone, toluene and 2-butanone), phthalate esters reject (red-line) all associated positive results present at less than 10 times the blank contaminant levels; for all other contaminants reject (red-line) when all associated positive results are present at less than 5 times the blank contaminant levels. Do not reject any values reported with a "U" (detection limit values).

III SAMPLE DATA

9.0 Are the Traffic Report Forms present for all samples? [✓] ___ ___

CONTRACTOR ACTION: List missing Traffic Reports on Missing Data Tracking Form. (See 1.1)

10.0 Organic Analysis Data (FORM I)

10.1 Are the four (4) Organic Analysis Data Sheets (VOA, BNA, Pesticides and Tentatively Identified Compounds) with completed header information required on each page of Form I, present for each of the following.

a. Samples and/or fractions as appropriate [✓] ___ ___

b. Matrix spikes and matrix spike duplicates [✓] ___ ___

c. Blanks [✓] ___ ___

CONTRACTOR ACTION: List Missing or incomplete Data Sheets on missing Data Tracking Form. (See 1.1)

10.2 Are the VOA/BNA Reconstructed Ion Chromatograms for each sample, the mass spectra for the identified compounds, and the Data System Printouts (Quant. list) included in the sample package for each of the following?

a. Samples and/or fractions as appropriate [✓] ___ ___

b. Matrix spikes and matrix spike duplicates (Mass spectra not required) [✓] ___ ___

c. Blanks [✓] ___ ___

	YES	NO	N/A
10.3 Are the response factors shown in the Quant Lists?	[ ]		
CONTRACTOR ACTION: List Missing or incomplete Reconstructed Ion Chromatograms, mass spectra and Data System printouts on the Missing Data Tracking Form (See 1.1).			
10.4 Are the Tentatively Identified Compounds (Form I, Part B) present and include scan number and estimated concentration?	[ ]		
CONTRACTOR ACTION: List missing TICs, Form I on Missing Data Tracking Form (See 1.1).			
10.5 Are the lab generated standard mass spectra of the identified compounds for each sample present?			
a. Volatile standard spectra	[ ]		
b. Semi-volatile standard spectra	[ ]		
CONTRACTOR ACTION: List missing mass spectra on Missing Data Tracking Form (See 1.1).			
11.0 GC/MS Evaluation			
11.1 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following.			
a. Samples and/or fractions as appropriate	[ ]		
b. Blanks	[ ]		
CONTRACTOR ACTION: If no, list the missing numbers on the Missing Data Tracking Form (See 1.1)			
12.0 Holding Times			
12.1 Have any holding times from date of collection been exceeded for:			
a. Volatiles			
Aqueous: 10 days* from time the lab receives the sample with 24 hours allowed from time of collection to lab receipt.		[ ]	

Title: Attachment 1 - CLP Data Assessment Checklist (GC and GC/MS Analysis) Part I: ~~Contractor and Preliminary Review~~ DR [redacted] REVIEW

Date:
Number: HW-4
Revision: 2

	YES	NO	N/A
Soil/Sediment: 10 days from time the lab receives the sample with 24 hours allowed from time of collection to lab receipt. *14 days if preserved with HCl (pH<2).	___	[✓]	___
b. NVOA's and Pesticides/PCBs:			
Aqueous (5 days from time of lab receipt to extraction, 40 days after extraction)	___	[✓]	___
Soil/Sediment (10 days from time of lab receipt to extraction, 40 days after extraction)	___	[___]	___

Allow 24 hours from time of collection to lab receipt.

CONTRACTOR ACTION: List the samples and their respective fractions with exceedances below. (Attach additional sheets if necessary.)

Table of Holding Time Exceedances

Sample	Sample Matrix	Fraction(s)	(See Traffic Report) Date Sampled	Date Lab Received	(See Form I) Date Extracted	(See Form I & Form V) Date Analyzed
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MMB ACTION: If these holding times are exceeded, red-line detection limits and flag all positive values with a J.

13.0 Standards Data (GC/MS)

13.1 Are the Reconstructed Ion Chromatograms, Data System Printouts (Quant. list), and work sheet calculations present for the following:

a. Semi-volatiles (initial and continuing calibrations)	[✓]	___	___
b. Volatiles (initial and continuing calibrations)	[✓]	___	___

	YES	NO	N/A
13.2 Are the response factors also present in the Quan List?	[✓]	___	___

CONTRACTOR ACTION: List missing or incomplete RICs, Quant. lists and work sheet calculations on Missing Data Tracking Form (See 1.1).

15.4 Internal Standard Area Summary (Form VIII)

15.4.1 Are the internal standard summary sheets (Form VIII) present and complete with all the required information?

VOA	[___]	___	___
BNA	[___]	___	___

CONTRACTOR: List missing or incomplete summary sheets on missing tracking form (see 1.1).

15.4.2 Are the internal standard areas within the upper and lower limits for each sample and blank analyzed under a given continuing calibration?

VOA	[___]	___	✓
BNA	[___]	___	✓

CONTRACTOR: List all the outliers.

Sample #	Internal Std	Area	Lower Limit	Upper Limit

(Attach additional sheets if necessary.)

MMB ACTION: Use professional judgement to determine effect on data. Acceptance or rejection should not be based solely on the internal standard areas but should be determined in conjunction with other QA/QC data.

	YES	NO	N/A
18.0 GC Evaluation (Form X-PEST)			
18.1 Pesticide/PCB Identification - Are retention times of standard and sample compounds within the calculated retention time windows for the:			
Quantitation Column?	[✓]		
Confirmation Column?	[ ]	✓	
CONTRACTOR ACTION: Circle all outliners in red.			
19.0 Package Copies			
19.1 Are all the xeroxing of readable quality?	[✓]		
CONTRACTOR ACTION: If not, list appropriate page numbers on Missing Data Tracking Form (See 1.1).			

[redacted]

II QC SUMMARY RESULTS

3.0 Surrogate Spikes			
3.1 Were any transcription/calculation errors found between raw data and Surrogate Per Cent Recovery Form?	✓	[ ]	
MMB ACTION: Make any necessary corrections, and note errors under Conclusions.			
5.0 Blanks			
5.1 Chromatography - review the blank raw data - chromatograms, RICs, quan reports or data system printouts and spectra. Is chromatographic performance for each instrument acceptable for:			
VOA's?	[✓]		
B/N & Acids?	[✓]		
Pest/PCB's?	[✓]		

Title: Attachment 1 - CLP Data Assessment Checklist (GC and GC/MS Analysis) DR
PART II: MMB Review - [redacted] REVIEW

Date:
Number: HW-4
Revision: 2

	YES	NO	N/A
10.0 GC/MS Evaluation			
10.1 HSL Compounds			
10.1.1 Is the RRT of reported compounds within 0.06 RRT units of the standard RRT?	[✓]	___	___
10.1.2 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	[✓]	___	___
10.1.3 Are all ions present in the sample, but not present in the standard accounted for?	[✓]	___	___
10.1.4 Do relative intensities specified above agree within 20% between the sample and standard spectra?	[✓]	___	___

MMB ACTION: Use professional judgment to determine acceptability of data: if it is determined that incorrect ID's were made, all such data should be red-lined and changed to ~~an estimated (J) quantitation~~ appropriate detection limit. Ions greater than 10% in the sample spectrum but not present in the standard spectrum must be considered and accounted for.

	YES	NO	N/A
10.1.5 Check at least 2 of all positive values. Were any errors found in: Transcriptions?	___	[✓]	___
Calculations?	___	[✓]	___

MMB ACTION: Make any necessary corrections and note errors under Conclusions.

	YES	NO	N/A
10.2 Tentative ID - Non-HSL Compounds			
10.2.1 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% present in the sample mass spectrum?	[✓]	___	___
10.2.2 Do relative intensities specified above agree within 20% between the sample and reference spectra?	[✓]	___	___
10.2.3 Are molecular ions present in reference spectrum present in sample spectrum?	[✓]	___	___

	YES	NO	N/A
10.2.4 Are all non-HSL compounds classified as tentatively identified reported with estimated quantitation and detection limits?	[✓]	___	___

MMB ACTION: Use professional judgment to determine acceptability of data. If data is considered to be unacceptable, the tentative ID should be changed to "unknown".

11.0 Holding Times

	YES	NO	N/A
11.1 Have all associated sample data which have exceeded holding times been red-lined on the data sheet (including detection limits) indicating rejection?	[✓]	___	___

MMB ACTION: Make any necessary corrections.

12.0 GC Evaluation

	YES	NO	N/A
12.1 Do chromatograms and data system printouts confirm retention times, retention time windows, and reported values (Forms IX-PEST 1 and X-PEST 2)?	[___]	✓	___
12.2 Do positive identifications have proper dissimilar column analysis?	[___]	✓	___
12.3 Are retention times of standard and sample compounds within the calculated retention times windows for the:			
Quantitation Column?	[✓]	___	___
Confirmation Column?	[___]	✓	___
12.4 If concentration is sufficient, is GC/MS confirmation provided? ^ (>10 µg/ml in the extract)	[___]	___	✓

MMB ACTION: Reject (red-line) all positive results (meeting quantitation column criteria, but missing confirmation by a second column or GC/MS (if appropriate). Also reject (red-line) all positive results not meeting retention time windows unless associated standard compounds are similarly biased.

	YES	NO	N/A
12.5 Check 10% of all positive values. Were any errors found in:			
Transcriptions?	✓	[ ]	
Calculations?		[✓]	

MMB ACTION: Make any necessary corrections and note errors under Conclusions.

III SAMPLE DATA PACKAGE

8.0 Traffic Report

8.1 Do the Traffic Reports indicate any problems with sample receipt, condition of samples or special notations affecting the quality of the data?		[✓]	

MMB ACTION: Use professional judgment in evaluating any effect on the quality of the data.

Title: Attachment 2 - CLP Data Assessment Checklist (GC and GC/MS Analysis) DR
PART II: MMB Review - [redacted] REVIEW

Date:
Number: HW-4
Revision: 2

CASE # 7732 LAB Alliance SITE Alyton-T. Brown

19.0 Conclusions: (NOTE: Reviewers must red-line unacceptable data on sample data (FORM I) sheets; red-line data does not imply the compound is not present). Only the MMB reviewer has the authority to red-line unacceptable data. The letter J indicates an estimated value. In addition to the two definitions stated in the contract it also implies that the analyte is present but the quantitative value contains an unspecified degree of error. If an accurate quantity is desired, resampling ~~analysis~~ and reanalysis is recommended.

19.1 Data Assessment

19.2 Contract Problems/Non-compliance Bis (2-ethylhexyl) Phthalate was detected but not listed on form II in method blank

Reviewer's Signature: Donald H. Wright Date: 12/8/87

Verified By: [illegible] Date: 12/8/87

DAYTON T. BROWN

Method blanks measure laboratory contamination. Method blank contamination can be caused by dirty glass ware, impure solvents, etc. In order to be valid the concentration of an analyte in a sample must be at least 5 or 10 times (depending on analyte) the concentration of that in the method blank.

The following samples had bis(2-ethylhexyl)phthalate red-lined (rejected) for method blank contamination: BK520(BNA), BK521(BNA), BK939(BNA)

The following samples had hexanedioic acid, dioctyl ester red-lined (rejected) for method blank contamination: BK939(BNA), BK 521(BNA).

Rinse blanks consist of washings from sampling equipment. Rinse Blank contamination is caused by contamination of sampling equipment in the field. In order to be valid, the concentration of an analyte in a sample must be at least 5 or 10 times (depending on the analyte) the concentration of that analyte in the rinse blank.

The following samples had hexanedioic acid, dioctyl ester red-lined for rinse blank contamination: BK806(BNA).

The following samples had bis(2-ethylhexyl)phthalate red-lined for rinse blank contamination: BK805(BNA), BK806(BNA).

The amounts of analytes in a sample change with time. If specified holding times are exceeded, the data may not be accurate.

The following sample fractions were red-lined for holding time: BK804RE(Pest/PCB), BK805RE(Pest/PCB), BK806RE(Pest/PCB), BK807RE(Pest/PCB).

In order for a pesticide gas chromatographic identification to be valid, the appropriate peak must be present within the calculated retention time window for two different columns. If either peak is outside the retention time window for its respective column, the identification is not valid.

The following samples had aroclor 1260 red-lined because the gas chromatograph peak in one column was outside the calculated retention time window: BK804RE(Pest/PCB).

In order for a BNA compound to be identified and quantified, the gas chromatograph must show a peak and it must have a mass spectrograph which can be compared to a reference.

The following samples had 3-nitroaniline red-lined because it was not present: BK805.

When two or more surrogates for the blank are below contract QC requirements red-line all positive values, but not detection limits, for the associated samples, if sample surrogates are within or above QC limits; but if two or more sample surrogates are below contract QC limits, red-lined all sample data (Detection limits and positive data).

When two or more surrogates for the blank exceed contract QC requirements, validate sample data considering sample surrogate recoveries alone.

	YES	NO	N/A
3.6 Was one or more VOA surrogates outside of contract specifications for any samples?	___	[✓]	___
Blanks?	___	[✓]	___
If yes, were samples reanalyzed?	[___]	___	✓
Were blanks reanalyzed?	[___]	___	✓

MMB ACTION: If initial analysis and reanalysis both have one or more surrogate recoveries below contract QC requirements red-line all detection limits (u's) and flag all positive values (hits) with a J.

If initial analysis and reanalysis both have one or more surrogate recoveries above contract QC requirements do not red-line detection limits but flag all positive values with a J.

When one or more surrogate recoveries for the blank are below contract QC requirements red-line all positive values but not the detection limits for the associated samples if sample surrogates are within or above contract QC limits; but if one or more sample surrogate recoveries are below QC limits red-line all data (Detection limits and positive values).

When one or more surrogate recoveries for the blank exceed contract requirement validate data for the associated samples considering sample surrogate recoveries alone.

3.7 Was pesticides/PCB surrogate outside of contract specifications for any samples?	___	[✓]	___
Method Blanks?	___	[✓]	___

MMB ACTION: If recoveries are below contract requirement flag all associated positive results with a J and red-line all detection limits. If the recoveries are above contract requirement do not red-line the detection limits but flag all positive value with a J. However professional judgement should be used to determine whether a high bias exists due to coeluting interferences.

Sample Number
BK804

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: [illegible] Technologies Corp.
Lab Sample ID No: 53568
Sample Matrix: Soil
Data Release Authorized By: A. Dogue

Case No: 7732
QC Report No: 7732
Contract No: 68-01-7145
Date Sample Received: 7/29/87

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: N/A
Date Analyzed: 8/5/87
Conc/Dil Factor: 5grams pH 7.4
Percent Moisture: (Not Decanted) 2.2

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	13
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	
75-34-3	1,1-Dichloroethane	
156-60-5	Trans-1,2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1,2-Dichloroethane	
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	5 U
10061-02-6	Trans-1,3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1,1,2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1,3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name: ALLIANCE Technologies Corp.

Case No: 7732

Sample Number: BK 804

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 7/31/87

Date Analyzed: 8/31/87

Conc/Dil Factor: 2.00

Percent Moisture (Decanted) 2.2

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/L or ug/Kg (Circle One)
108-95-2	Phenol	590J
111-44-4	bis(-2-Chloroethyl)Ether	650u
95-57-8	2-Chlorophenol	
541-73-1	1, 3-Dichlorobenzene	
106-46-7	1, 4-Dichlorobenzene	
100-51-6	Benzyl Alcohol	
95-50-1	1, 2-Dichlorobenzene	
95-48-7	2-Methylphenol	
39638-32-9	bis(2-chloroisopropyl)Ether	
106-44-5	4-Methylphenol	77J
621-64-7	N-Nitroso-Di-n-Propylamine	650u
67-72-1	Hexachloroethane	
98-95-3	Nitrobenzene	
78-59-1	Isophorone	360J
88-75-5	2-Nitrophenol	650u
105-67-9	2, 4-Dimethylphenol	650u
65-85-0	Benzoic Acid	570J
111-91-1	bis(-2-Chloroethoxy)Methane	650u
120-83-2	2, 4-Dichlorophenol	
120-82-1	1, 2, 4-Trichlorobenzene	
91-20-3	Naphthalene	130J
106-47-8	4-Chloroaniline	650u
87-68-3	Hexachlorobutadiene	
59-50-7	4-Chloro-3-Methylphenol	
91-57-6	2-Methylnaphthalene	150J
77-47-4	Hexachlorocyclopentadiene	650u
88-06-2	2, 4, 6-Trichlorophenol	650u
95-95-4	2, 4, 5-Trichlorophenol	3300u
91-58-7	2-Chloronaphthalene	650u
88-74-4	2-Nitroaniline	3300u
131-11-3	Dimethyl Phthalate	650u
208-96-8	Acenaphthylene	650u
99-09-2	3-Nitroaniline	3300u

CAS Number		ug/L or ug/Kg (Circle One)
83-32-9	Acenaphthene	650u
51-28-5	2, 4-Dinitrophenol	3300u
100-02-7	4-Nitrophenol	3300u
132-64-9	Dibenzofuran	650u
121-14-2	2, 4-Dinitrotoluene	
606-20-2	2, 6-Dinitrotoluene	
84-66-2	Diethylphthalate	
7005-72-3	4-Chlorophenyl-phenylether	
86-73-7	Fluorene	
100-01-6	4-Nitroaniline	3300u
534-52-1	4, 6-Dinitro-2-Methylphenol	3300u
86-30-6	N-Nitrosodiphenylamine (1)	650u
101-55-3	4-Bromophenyl-phenylether	
118-74-1	Hexachlorobenzene	
87-86-5	Pentachlorophenol	3300u
85-01-8	Phenanthrene	650u
120-12-7	Anthracene	
84-74-2	Di-n-Butylphthalate	
206-44-0	Fluoranthene	
129-00-0	Pyrene	
85-68-7	Butylbenzylphthalate	
91-94-1	3, 3'-Dichlorobenzidine	1300u
56-55-3	Benzo(a)Anthracene	650u
117-81-7	bis(2-Ethylhexyl)Phthalate	2300
218-01-9	Chrysene	650u
117-84-0	Di-n-Octyl Phthalate	
205-99-2	Benzo(b)Fluoranthene	
207-08-9	Benzo(k)Fluoranthene	
50-32-8	Benzo(a)Pyrene	
193-39-5	Indeno(1, 2, 3-cd)Pyrene	
53-70-3	Dibenz(a, h)Anthracene	
191-24-2	Benzo(g, h, i)Perylene	

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number BK804

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 8/27/87

Date Analyzed: 8/29/87

Conc/Dil Factor: 5

Percent Moisture (decanted) 2.2

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	~~25u~~
319-85-7	Beta-BHC	—
319-86-8	Delta-BHC	—
58-89-9	Gamma-BHC (Lindane)	~~25u~~
76-44-8	Heptachlor	—
309-00-2	Aldrin	—
1024-57-3	Heptachlor Epoxide	—
959-98-8	Endosulfan I	~~25u~~
60-57-1	Dieldrin	~~50u~~
72-55-9	4, 4'-DDE	—
72-20-8	Endrin	—
33213-65-9	Endosulfan II	—
72-54-8	4, 4'-DDD	—
1031-07-8	Endosulfan Sulfate	—
50-29-3	4, 4'-DDT	~~50u~~
72-43-5	Methoxychlor	~~280u~~
53494-70-5	Endrin Ketone	~~50u~~
57-74-9	Chlordane	~~280u~~
8001-35-2	Toxaphene	~~500u~~
12674-11-2	Aroclor-1016	~~280u~~
11104-28-2	Aroclor-1221	—
11141-16-5	Aroclor-1232	—
53469-21-9	Aroclor-1242	—
12672-29-6	Aroclor-1248	—
11097-69-1	Aroclor-1254	~~500u~~
11096-82-5	Aroclor-1260	~~180J~~

9/3/87

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 29.0g V_t 1000 ul V_i 5ul

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 804

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	–	FOUND NO COMPOUNDS FOUND	–	–	
2.					
3.					
4.					
5.					
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30.					

Laboratory Name: ALLIANCE Technologies Corp.

Case No: 7732

Sample Number: BK804

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	AN ALKY/Benzene	BNA	224	1000 J
2. —	Trimethy/Benzene isomer		232	1000J
3. —	UNKnown		248	1000J
4. —	AN ALKY/Benzene		263	3000J
5. —	AN ALKY/Benzene		297	1000J
6. —	UNKnown		404	600J
7. —	HYDROCARBON		478	400J
8. —	HYDROCARBON		646	500J
9. —	HYDROCARBON		694	400J
10. —	HYDROCARBON		722	300J
11. —	HYDROCARBON		949	600J
12. 57-10-3	HEXADECANOIC ACID		1021	700J
13. 123-79-5	Hexanedioic Acid, Dioctyl ester		1251	~~[illegible]~~ B
14. —	UNKnown (only 1 match found)		1374	1000J
15. —	UNKnown (NO MATCH FOUND)		1388	2000J
16. —	UNKnown (NO MATCH FOUND)		1401	700J
17. —	HYDROCARBON	✓	1590	500J
18.				
19.				
20.				
21.				
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30.				

Sample Number
BK805

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: [illegible] Technologies Corp.
Lab Sample ID No: 53569
Sample Matrix: Soil
Data Release Authorized By: A. Deane

Case No: 7732
QC Report No: 7732
Contract No: 68-01-7145
Date Sample Received: 7/29/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: NA
Date Analyzed: 8/5/87
Conc/Dil Factor: 5 grams in 7.4
Percent Moisture: (Not Decanted) 7.0

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	11 U
74-83-9	Bromomethane	↓
75-01-4	Vinyl Chloride	↓
75-00-3	Chloroethane	↓
75-09-2	Methylene Chloride	15
67-64-1	Acetone	11 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	↓
75-34-3	1,1-Dichloroethane	↓
156-60-5	Trans-1,2-Dichloroethene	↓
67-66-3	Chloroform	↓
107-06-2	1,2-Dichloroethane	↓
78-93-3	2-Butanone	11 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	11 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	5 U
10061-02-6	Trans-1,3-Dichloropropene	↓
79-01-6	Trichloroethene	↓
124-48-1	Dibromochloromethane	↓
79-00-5	1,1,2-Trichloroethane	↓
71-43-2	Benzene	↓
10061-01-5	cis-1,3-Dichloropropene	↓
110-75-8	2-Chloroethylvinylether	11 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	11 U
591-78-6	2-Hexanone	11 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	↓
108-88-3	Toluene	↓
108-90-7	Chlorobenzene	↓
100-41-4	Ethylbenzene	↓
100-42-5	Styrene	↓
	Total Xylenes	↓

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

Laboratory Name: ALLIANCE Technologies Corp.

Case No: 7732

Sample Number: BK805

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 7/31/87

Date Analyzed: 9/2/87

Conc/Dil Factor: 2.00

Percent Moisture (Decanted) 7.0

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	610J
111-44-4	bis(-2-Chloroethyl)Ether	700u
95-57-8	2-Chlorophenol	
541-73-1	1, 3-Dichlorobenzene	
106-46-7	1, 4-Dichlorobenzene	
100-51-6	Benzyl Alcohol	
95-50-1	1, 2-Dichlorobenzene	
95-48-7	2-Methylphenol	
39638-32-9	bis(2-chloroisopropyl)Ether	
106-44-5	4-Methylphenol	
621-64-7	N-Nitroso-Di-n-Propylamine	
67-72-1	Hexachloroethane	
98-95-3	Nitrobenzene	↓
78-59-1	Isophorone	73J
88-75-5	2-Nitrophenol	700u
105-67-9	2, 4-Dimethylphenol	700u
65-85-0	Benzoic Acid	170J
111-91-1	bis(-2-Chloroethoxy)Methane	700u
120-83-2	2, 4-Dichlorophenol	
120-82-1	1, 2, 4-Trichlorobenzene	
91-20-3	Naphthalene	
106-47-8	4-Chloroaniline	
87-68-3	Hexachlorobutadiene	
59-50-7	4-Chloro-3-Methylphenol	↓
91-57-6	2-Methylnaphthalene	40J
77-47-4	Hexachlorocyclopentadiene	700u
88-06-2	2, 4, 6-Trichlorophenol	700u
95-95-4	2, 4, 5-Trichlorophenol	3500u
91-58-7	2-Chloronaphthalene	700u
88-74-4	2-Nitroaniline	3500u
131-11-3	Dimethyl Phthalate	700u
208-96-8	Acenaphthylene	700u
99-09-2	3-Nitroaniline	3500u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	700u
51-28-5	2, 4-Dinitrophenol	3500u
100-02-7	4-Nitrophenol	3500u
132-64-9	Dibenzofuran	700u
121-14-2	2, 4-Dinitrotoluene	
606-20-2	2, 6-Dinitrotoluene	
84-66-2	Diethylphthalate	
7005-72-3	4-Chlorophenyl-phenylether	
86-73-7	Fluorene	↓
100-01-6	4-Nitroaniline	3500u
534-52-1	4, 6-Dinitro-2-Methylphenol	3500u
86-30-6	N-Nitrosodiphenylamine (1)	700u
101-55-3	4-Bromophenyl-phenylether	
118-74-1	Hexachlorobenzene	↓
87-86-5	Pentachlorophenol	3500u
85-01-8	Phenanthrene	700u
120-12-7	Anthracene	
84-74-2	Di-n-Butylphthalate	
206-44-0	Fluoranthene	
129-00-0	Pyrene	
85-68-7	Butylbenzylphthalate	↓
91-94-1	3, 3'-Dichlorobenzidine	1400u
56-55-3	Benzo(a)Anthracene	700u
117-81-7	bis(2-Ethylhexyl)Phthalate	~~1400~~
218-01-9	Chrysene	700u
117-84-0	Di-n-Octyl Phthalate	
205-99-2	Benzo(b)Fluoranthene	
207-08-9	Benzo(k)Fluoranthene	
50-32-8	Benzo(a)Pyrene	
193-39-5	Indeno(1, 2, 3-cd)Pyrene	
53-70-3	Dibenz(a, h)Anthracene	
191-24-2	Benzo(g, h, i)Perylene	↓

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number BK805

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 8/27/87

Date Analyzed: 8/29/87

Conc/Dil Factor: 2

Percent Moisture (decanted) 7.0%

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	12u
319-85-7	Beta-BHC	12u
319-86-8	Delta-BHC	12u
58-89-9	Gamma-BHC (Lindane)	12u
76-44-8	Heptachlor	12u
309-00-2	Aldrin	12u
1024-57-3	Heptachlor Epoxide	12u
959-98-8	Endosulfan I	12u
60-57-1	Dieldrin	23u
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	23u
72-43-5	Methoxychlor	120u
53494-70-5	Endrin Ketone	~~23u~~
57-74-9	Chlordane	~~120u~~
8001-35-2	Toxaphene	~~230u~~
12674-11-2	Aroclor-1016	~~120u~~
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	~~230u~~
11096-82-5	Aroclor-1260	~~100.3~~

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s — or W_s 29.8g V_t 1000 ul V_i 5ul

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 805

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.		No Compounds Found	VOA		
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
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12.					
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Laboratory Name: Analytical Technologies Corp.

Case No: 7732

Sample Number: BK 805

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	AN Alky/Benzene	BNA	223	2000J
2. —	AN Alky/Benzene		232	2000J
3. —	AN Alky/Benzene		246	2000J
4. —	Trimethy/Benzene isomer		263	7000J
5. —	AN Alky/Benzene		297	3000J
6. —	AN Alky/Benzene		359	500J
7. —	HYDROCARBON		470	500J
8. 26471-62-5	1,3-Diisocyanatomethy/Benzene		614	2000J
9. —	HYDROCARBON		631	400J
10. —	HYDROCARBON		705	1000J
11. —	UNKnown (only 1 MATCH FOUND)		1150	500J
12. —	UNKnown		1351	300J
13. —	UNKnown (NO MATCH FOUND)		1374	1000J
14. —	UNKnown (NO MATCH FOUND)		1387	2000J
15. —	UNKnown		1390	400J
16. —	UNKnown		1400	1000J
17.				
18.				
19.				
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27.				
28.				
29.				
30.				

Sample Number
BK806

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: [illegible] Technologies Corp.
Case No: 7732
Lab Sample ID No: 53570
QC Report No: 7732
Sample Matrix: So.
Contract No: 68-01-7145
Data Release Authorized By: A. Demma
Date Sample Received: 7/24/87

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: NA
Date Analyzed: 8/5/87
Conc/Dil Factor: 5grams pH 7.3
Percent Moisture: (Not Decanted) 4.1

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	↓
75-01-4	Vinyl Chloride	↓
75-00-3	Chloroethane	↓
75-09-2	Methylene Chloride	8
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1, 1-Dichloroethene	↓
75-34-3	1, 1-Dichloroethane	↓
156-60-5	Trans-1, 2-Dichloroethene	↓
67-66-3	Chloroform	↓
107-06-2	1, 2-Dichloroethane	↓
78-93-3	2-Butanone	10 U
71-55-6	1, 1, 1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 U
10061-02-6	Trans-1, 3-Dichloropropene	↓
79-01-6	Trichloroethene	↓
124-48-1	Dibromochloromethane	↓
79-00-5	1, 1, 2-Trichloroethane	↓
71-43-2	Benzene	↓
10061-01-5	cis-1, 3-Dichloropropene	↓
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	↓
108-88-3	Toluene	↓
108-90-7	Chlorobenzene	↓
100-41-4	Ethylbenzene	↓
100-42-5	Styrene	↓
	Total Xylenes	↓

Data Reporting Guidelines

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name: ALLIANCE Technologies Corp.

Case No: 7732

Sample Number: BK806

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 7/31/87

Date Analyzed: 9/2/87

Conc/Dil Factor: 100

Percent Moisture (Decanted) 4.1

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	340u
111-44-4	bis(-2-Chloroethyl)Ether	
95-57-8	2-Chlorophenol	
541-73-1	1, 3-Dichlorobenzene	
106-46-7	1, 4-Dichlorobenzene	
100-51-6	Benzyl Alcohol	
95-50-1	1, 2-Dichlorobenzene	
95-48-7	2-Methylphenol	
39638-32-9	bis(2-chloroisopropyl)Ether	
106-44-5	4-Methylphenol	
621-64-7	N-Nitroso-Di-n-Propylamine	
67-72-1	Hexachloroethane	
98-95-3	Nitrobenzene	
78-59-1	Isophorone	
88-75-5	2-Nitrophenol	
105-67-9	2, 4-Dimethylphenol	↓
65-85-0	Benzoic Acid	1700u
111-91-1	bis(-2-Chloroethoxy)Methane	340u
120-83-2	2, 4-Dichlorophenol	
120-82-1	1, 2, 4-Trichlorobenzene	
91-20-3	Naphthalene	
106-47-8	4-Chloroaniline	
87-68-3	Hexachlorobutadiene	
59-50-7	4-Chloro-3-Methylphenol	
91-57-6	2-Methylnaphthalene	
77-47-4	Hexachlorocyclopentadiene	
88-06-2	2, 4, 6-Trichlorophenol	↓
95-95-4	2, 4, 5-Trichlorophenol	1700u
91-58-7	2-Chloronaphthalene	340u
88-74-4	2-Nitroaniline	1700u
131-11-3	Dimethyl Phthalate	340u
208-96-8	Acenaphthylene	340u
99-09-2	3-Nitroaniline	1700u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	340u
51-28-5	2, 4-Dinitrophenol	1700u
100-02-7	4-Nitrophenol	1700u
132-64-9	Dibenzofuran	340u
121-14-2	2, 4-Dinitrotoluene	
606-20-2	2, 6-Dinitrotoluene	
84-66-2	Diethylphthalate	
7005-72-3	4-Chlorophenyl-phenylether	
86-73-7	Fluorene	↓
100-01-6	4-Nitroaniline	1700u
534-52-1	4, 6-Dinitro-2-Methylphenol	1700u
86-30-6	N-Nitrosodiphenylamine (1)	340u
101-55-3	4-Bromophenyl-phenylether	
118-74-1	Hexachlorobenzene	↓
87-86-5	Pentachlorophenol	1700u
85-01-8	Phenanthrene	340u
120-12-7	Anthracene	
84-74-2	Di-n-Butylphthalate	
206-44-0	Fluoranthene	
129-00-0	Pyrene	
85-68-7	Butylbenzylphthalate	↓
91-94-1	3, 3'-Dichlorobenzidine	680u
56-55-3	Benzo(a)Anthracene	340u
117-81-7	bis(2-Ethylhexyl)Phthalate	~~280~~
218-01-9	Chrysene	340u
117-84-0	Di-n-Octyl Phthalate	
205-99-2	Benzo(b)Fluoranthene	
207-08-9	Benzo(k)Fluoranthene	
50-32-8	Benzo(a)Pyrene	
193-39-5	Indeno(1, 2, 3-cd)Pyrene	
53-70-3	Dibenz(a, h)Anthracene	
191-24-2	Benzo(g, h, i)Perylene	↓

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number
BK806

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 8/27/87

Date Analyzed: 8/29/87

Conc/Dil Factor: 1

Percent Moisture (decanted) 4.1

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	~~8.0u~~
319-85-7	Beta-BHC	~~8.0u~~
319-86-8	Delta-BHC	~~8.0u~~
58-89-9	Gamma-BHC (Lindane)	~~8.0u~~
76-44-8	Heptachlor	~~8.0u~~
309-00-2	Aldrin	~~8.0u~~
1024-57-3	Heptachlor Epoxide	~~8.0u~~
959-98-8	Endosulfan I	~~8.0u~~
60-57-1	Dieldrin	~~16u~~
72-55-9	4, 4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4, 4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4, 4'-DDT	~~16u~~
72-43-5	Methoxychlor	~~80u~~
53494-70-5	Endrin Ketone	~~16u~~
57-74-9	Chlordane	~~80u~~
8001-35-2	Toxaphene	~~160u~~
12674-11-2	Aroclor-1016	~~80u~~
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	~~160u~~
11096-82-5	Aroclor-1260	~~160u~~

[illegible] 9/3/87

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30g V_t 1000 ul V_i 5ul

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 806

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.		No Compounds Found	VOA		
2.					
3.					
4.					
5.					
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27.					
28.					
29.					
30.					

Case No: 7732

Sample Number
BK806

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 96-48-0	DIHYDRO-2(3H)-FURANONE	BNA	159	500J
2. —	UNKNOWN (ONLY 1 MATCH FOUND)	↓	315	400J
3. 123-79-5	HEXANEDIOIC ACID, DIOCTYL ESTER	↓	1250	~~1200J~~ 8
4.				
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29.				
30.				

Sample Number
BK807

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: [illegible] Technologies Corp.
Case No: 7732
Lab Sample ID No: 53571
GC Report No: 7732
Sample Matrix: Soil
Contract No: 68-01-7145
Data Release Authorized By: A. Deane
Date Sample Received: 7/29/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: NA
Date Analyzed: 8/5/87
Conc/Dil Factor: 5grams pH 7.2
Percent Moisture: (Not Decanted) 16.9

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	12U
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	18
67-64-1	Acetone	~~6U~~ 12U
75-15-0	Carbon Disulfide	6U
75-35-4	1,1-Dichloroethene	
75-34-3	1,1-Dichloroethane	
156-60-5	Trans-1,2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1,2-Dichloroethane	
78-93-3	2-Butanone	12U
71-55-6	1,1,1-Trichloroethane	6U
56-23-5	Carbon Tetrachloride	6U
108-05-4	Vinyl Acetate	12U
75-27-4	Bromodichloromethane	6U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	6U
10061-02-6	Trans-1,3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1,1,2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1,3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	12U
75-25-2	Bromoform	6U
108-10-1	4-Methyl-2-Pentanone	12U
591-78-6	2-Hexanone	12U
127-18-4	Tetrachloroethene	6U
79-34-5	1,1,2,2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

Laboratory Name: ALLIANCE Technologies Corp.

Case No: 7732

Sample Number: BK807

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 7/31/87

Date Analyzed: 9/2/87

Conc/Dil Factor: 1.00

Percent Moisture (Decanted) 16.9

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	360u
111-44-4	bis(-2-Chloroethyl)Ether	
95-57-8	2-Chlorophenol	
541-73-1	1, 3-Dichlorobenzene	
106-46-7	1, 4-Dichlorobenzene	
100-51-6	Benzyl Alcohol	
95-50-1	1, 2-Dichlorobenzene	
95-48-7	2-Methylphenol	
39638-32-9	bis(2-chloroisopropyl)Ether	
106-44-5	4-Methylphenol	
621-64-7	N-Nitroso-Di-n-Propylamine	
67-72-1	Hexachloroethane	
98-95-3	Nitrobenzene	
78-59-1	Isophorone	
88-75-5	2-Nitrophenol	
105-67-9	2, 4-Dimethylphenol	
65-85-0	Benzoic Acid	1800u
111-91-1	bis(-2-Chloroethoxy)Methane	360u
120-83-2	2, 4-Dichlorophenol	
120-82-1	1, 2, 4-Trichlorobenzene	
91-20-3	Naphthalene	
106-47-8	4-Chloroaniline	
87-68-3	Hexachlorobutadiene	
59-50-7	4-Chloro-3-Methylphenol	
91-57-6	2-Methylnaphthalene	
77-47-4	Hexachlorocyclopentadiene	
88-06-2	2, 4, 6-Trichlorophenol	
95-95-4	2, 4, 5-Trichlorophenol	1800u
91-58-7	2-Chloronaphthalene	360u
88-74-4	2-Nitroaniline	1800u
131-11-3	Dimethyl Phthalate	360u
208-96-8	Acenaphthylene	360u
99-09-2	3-Nitroaniline	1800u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	360u
51-28-5	2, 4-Dinitrophenol	1800u
100-02-7	4-Nitrophenol	1800u
132-64-9	Dibenzofuran	360u
121-14-2	2, 4-Dinitrotoluene	
606-20-2	2, 6-Dinitrotoluene	
84-66-2	Diethylphthalate	
7005-72-3	4-Chlorophenyl-phenylether	
86-73-7	Fluorene	
100-01-6	4-Nitroaniline	1800u
534-52-1	4, 6-Dinitro-2-Methylphenol	1800u
86-30-6	N-Nitrosodiphenylamine (1)	360u
101-55-3	4-Bromophenyl-phenylether	
118-74-1	Hexachlorobenzene	
87-86-5	Pentachlorophenol	1800u
85-01-8	Phenanthrene	360u
120-12-7	Anthracene	
84-74-2	Di-n-Butylphthalate	
206-44-0	Fluoranthene	
129-00-0	Pyrene	
85-68-7	Butylbenzylphthalate	
91-94-1	3, 3'-Dichlorobenzidine	730u
56-55-3	Benzo(a)Anthracene	360u
117-81-7	bis(2-Ethylhexyl)Phthalate	
218-01-9	Chrysene	
117-84-0	Di-n-Octyl Phthalate	
205-99-2	Benzo(b)Fluoranthene	
207-08-9	Benzo(k)Fluoranthene	
50-32-8	Benzo(a)Pyrene	
193-39-5	Indeno(1, 2, 3-cd)Pyrene	
53-70-3	Dibenz(a, h)Anthracene	
191-24-2	Benzo(g, h, i)Perylene	

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number BK807

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared: 8/27/87

Date Analyzed: 8/29/87

Conc/Dil Factor: 1

Percent Moisture (decanted) 16.9

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	~~8.0u~~
319-85-7	Beta-BHC	~~8.0u~~
319-86-8	Delta-BHC	~~8.0u~~
58-89-9	Gamma-BHC (Lindane)	~~8.0u~~
76-44-8	Heptachlor	~~8.0u~~
309-00-2	Aldrin	8.0u
1024-57-3	Heptachlor Epoxide	8.0u
959-98-8	Endosulfan I	~~8.0u~~
60-57-1	Dieldrin	~~16.0u~~
72-55-9	4, 4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4, 4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4, 4'-DDT	~~16u~~
72-43-5	Methoxychlor	~~80u~~
53494-70-5	Endrin Ketone	~~16u~~
57-74-9	Chlordane	~~80u~~
8001-35-2	Toxaphene	~~160u~~
12674-11-2	Aroclor-1016	~~80u~~
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	~~160u~~
11096-82-5	Aroclor-1260	~~160u~~

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30.3g V_t 1000 ul V_i 5ul

Lab Name : Alliance Tecn. Corp.
Case No : 7732

Sample Number
BK 807

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	No Compounds found	VOA		
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Laboratory Name: ALLIANCE Technologies Corp.

Case No: 7732

Sample Number: BK807

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 96-48-0	Dihydro-2(3H)-Furanone	BNA	159	500J
2. —	UNKnown (only 1 match found)	↓	207	400J
3. —	UNKnown (only 1 match found)	↓	316	500J
4. —	UNKnown (only 1 match found)	↓	595	500J
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Sample Number
BK 939

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Alliance Tech. Corp.
Lab Sample ID: >80970::L2 53572
Sample Matrix: Water
Data release Authorized by: A. Deane

Case No.: 7732
QC Report No.: 7732
Contract No.: 68-01-7145
Date Sample Received: 07/29/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/06/87 21:15
Conc/Dil factor: 1.0 pH : 0.0
Percent Moisture: (Not Decanted) 00.0

C.A.S. Number		ug/l or ug/Kg (Circle One)		C.A.S. Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.	U
74-83-9	Bromomethane	10.	U	10061-02-6	Trans-1,3-Dichloropropene	5.	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	5.	U
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.	U
75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichloroethane	5.0	U
67-64-1	Acetone	10.	U	71-43-2	Benzene	5.	U
75-15-0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethylvinylether	10.0	U
75-34-3	1,1-Dichloroethane	5.0	U	75-25-2	Bromoform	5.0	U
156-60-5	Trans-1,2-Dichloroethene	5.0	U	108-10-1	4-Methyl-2-Pentanone	10.0	U
67-66-3	Chloroform	5.0	U	591-78-6	2-Hexanone	10.0	U
107-02-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	5.0	U
78-93-3	2-Butanone	10.	U	79-34-5	1,1,2,2-Tetrachloroethane	5.	U
71-55-6	1,1,1-Trichloroethane	5.0	U	108-88-3	Toluene	4.2	J
56-23-6	Carbon Tetrachloride	5.0	U	108-90-7	Chlorobenzene	5.0	U
108-05-4	Vinyl Acetate	10.	U	100-41-4	Ethylbenzene	5.	U
75-27-4	Bromodichloromethane	5.0	U	100-42-5	Styrene	5.0	U
					Total Xylenes	5.0	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a conentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

OPTIONAL FLAGS

N - Compound not present in Calibration File.

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 939

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 07/31/87
Date Analyzed: 8/31/87 21:54
Conc/Dil Factor: 2.00000
Percent Moisture (Decanted) NA

GPC Cleanup __ Yes X No
Separatory Funnel Extraction X Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	4.3	J
111-44-4	bis(-2-Chloroethyl)Ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)Ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-Propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(-2-Chloroethoxy)Methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-Methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethyl Phthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.0	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)Phthalate	~~141.~~	
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl Phthalate	9.	J
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No ~~7767~~ 7732

Sample Number BK939

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 7/30/87

Date Analyzed: 8/20/87

Conc/Dil Factor: 5

Percent Moisture (decanted) —

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.25u
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	0.25u
60-57-1	Dieldrin	0.5u
72-55-9	4, 4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4, 4'-DDD	
1031-07-8	Endosulfan Sulfate	0.5u
50-29-3	4, 4'-DDT	0.5u
72-43-5	Methoxychlor	1.0u
53494-70-5	Endrin Ketone	0.5u
57-74-9	Chlordane	1.0u
8001-35-2	Toxaphene	2.0u
12674-11-2	Aroclor-1016	1.0u
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	2.0u
11096-82-5	Aroclor-1260	2.0u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000ml or W_s — V_t 10000ml V_i 5ul

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 939

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.		No Compounds Found	VOA		
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 939

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	123-79-5	Hexanedioic Acid, Dioctylester	BNA	1255	~~500 J~~
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
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21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Sample Number
BK 801

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Alliance Tech. Corp.
Lab Sample ID: >80969::L2 53567
Sample Matrix: Water
Data release Authorized by: A. Demo

Case No.: 7732
QC Report No.: 7732
Contract No.: 68-01-7145
Date Sample Received: 07/29/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/06/87 20:28
Conc/Dil factor: 1.0 pH : 0.0
Percent Moisture: (Not Decanted) 00.0

C.A.S. Number		ug/l or ug/Kg (Circle One)		C.A.S. Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.	U
74-83-9	Bromomethane	10.	U	10061-02-6	Trans-1,3-Dichloropropene	5.	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	3.	J
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.	U
75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichloroethane	5.0	U
67-64-1	Acetone	10.	U	71-43-2	Benzene	5.	U
75-15-0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethylvinylether	10.0	U
75-34-3	1,1-Dichloroethane	5.0	U	75-25-2	Bromoform	5.0	U
156-60-5	Trans-1,2-Dichloroethene	5.0	U	108-10-1	4-Methyl-2-Pentanone	10.0	U
67-66-3	Chloroform	5.0	U	591-78-6	2-Hexanone	10.0	U
107-02-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	5.0	U
78-93-3	2-Butanone	10.	U	79-34-5	1,1,2,2-Tetrachloroethane	5.	U
71-55-6	1,1,1-Trichloroethane	5.0	U	108-88-3	Toluene	3.1	J
56-23-6	Carbon Tetrachloride	5.0	U	108-90-7	Chlorobenzene	5.0	U
108-05-4	Vinyl Acetate	10.	U	100-41-4	Ethylbenzene	5.	U
75-27-4	Bromodichloromethane	5.0	U	100-42-5	Styrene	5.0	U
					Total Xylenes	5.0	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a conentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

OPTIONAL FLAGS

N - Compound not present in Calibration File.

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 801

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 07/31/87
Date Analyzed: 8/31/87 20:25
Conc/Dil Factor: 2.00000
Percent Moisture (Decanted) NA

GPC Cleanup __ Yes X No
Separatory Funnel Extraction X Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(-2-Chloroethyl)Ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)Ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-Propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(-2-Chloroethoxy)Methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-Methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethyl Phthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-Methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)Phthalate	~~2.~~ 1	JOU
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl Phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number BL801

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared: 7/30/87

Date Analyzed: 8/20/87

Conc/Dil Factor: 1

Percent Moisture (decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05u
319-85-7	Beta-BHC	↓
319-86-8	Delta-BHC	↓
58-89-9	Gamma-BHC (Lindane)	↓
76-44-8	Heptachlor	↓
309-00-2	Aldrin	↓
1024-57-3	Heptachlor Epoxide	↓
959-98-8	Endosulfan I	0.05u
60-57-1	Dieldrin	0.10u
72-55-9	4, 4'-DDE	↑
72-20-8	Endrin	↑
33213-65-9	Endosulfan II	↑
72-54-8	4, 4'-DDD	↑
1031-07-8	Endosulfan Sulfate	↓
50-29-3	4, 4'-DDT	0.10u
72-43-5	Methoxychlor	0.5u
53494-70-5	Endrin Ketone	0.10u
57-74-9	Chlordane	0.50u
8001-35-2	Toxaphene	1.0u
12674-11-2	Aroclor-1016	0.50u
11104-28-2	Aroclor-1221	↓
11141-16-5	Aroclor-1232	↓
53469-21-9	Aroclor-1242	↓
12672-29-6	Aroclor-1248	↓
11097-69-1	Aroclor-1254	1.0u
11096-82-5	Aroclor-1260	1.0u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000ml or W_s – V_t 10000ml V_i 5ul

Lab Name : Alliance Tecn. Corp.
Case No : 7732

Sample Number
BK 801

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.		No Compounds Found	VOA		
2.					
3.					
4.					
5.					
6.					
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26.					
27.					
28.					
29.					
30.					

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 801

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	—	NO COMPOUNDS FOUND	BNA	—	—
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
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26.					
27.					
28.					
29.					
30.					

Sample Number
BK 518

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Alliance Tech. Corp.
Lab Sample ID: >80949::L2 53562
Sample Matrix: WATER
Data release Authorized by: A. Deane

Case No.: 7732
QC Report No.: 7732
Contract No.: 68-01-7145
Date Sample Received: 07/29/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/05/87 17:54
Conc/Dil factor: 1.0 pH : 0.0
Percent Moisture: (Not Decanted) 00.0

C.A.S. Number		ug/L or ug/Kg (Circle One)		C.A.S. Number		ug/L or ug/Kg (Circle One)	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.	U
74-83-9	Bromomethane	10.	U	10061-02-6	Trans-1,3-Dichloropropene	5.	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	5.	U
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.	U
75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichloroethane	5.0	U
67-64-1	Acetone	10.	U	71-43-2	Benzene	5.	U
75-15-0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethylvinylether	10.0	U
75-34-3	1,1-Dichloroethane	5.0	U	75-25-2	Bromoform	5.0	U
156-60-5	Trans-1,2-Dichloroethene	5.0	U	108-10-1	4-Methyl-2-Pentanone	10.0	U
67-66-3	Chloroform	5.0	U	591-78-6	2-Hexanone	10.0	U
107-02-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	5.0	U
78-93-3	2-Butanone	10.	U	79-34-5	1,1,2,2-Tetrachloroethane	5.	U
71-55-6	1,1,1-Trichloroethane	5.0	U	108-88-3	Toluene	5.0	U
56-23-6	Carbon Tetrachloride	5.0	U	108-90-7	Chlorobenzene	5.0	U
108-05-4	Vinyl Acetate	10.	U	100-41-4	Ethylbenzene	5.	U
75-27-4	Bromodichloromethane	5.0	U	100-42-5	Styrene	5.0	U
					Total Xylenes	5.0	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a conentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

OPTIONAL FLAGS

N - Compound not present in Calibration File.

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 518

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	No Compounds Found	VOA		
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Sample Number
BK 519

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Alliance Tech. Corp.
Lab Sample ID: >80950::L2 53563
Sample Matrix: WATER
Data release Authorized by: A. Deane

Case No.: 7732
QC Report No.: 7732
Contract No.: 68-01-7145
Date Sample Received: 07/29/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/05/87 18:42
Conc/Dil factor: 1.0 pH : 0.0
Percent Moisture: (Not Decanted) 00.0

C.A.S. Number		ug/L or ug/Kg (Circle One)		C.A.S. Number		ug/L or ug/Kg (Circle One)	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.	U
74-83-9	Bromomethane	10.	U	10061-02-6	Trans-1,3-Dichloropropene	5.	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	5.	U
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.	U
75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichloroethane	5.0	U
67-64-1	Acetone	10.	U	71-43-2	Benzene	5.	U
75-15-0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethylvinylether	10.0	U
75-34-3	1,1-Dichloroethane	5.0	U	75-25-2	Bromoform	5.0	U
156-60-5	Trans-1,2-Dichloroethene	5.0	U	108-10-1	4-Methyl-2-Pentanone	10.0	U
67-66-3	Chloroform	5.0	U	591-78-6	2-Hexanone	10.0	U
107-02-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	5.0	U
78-93-3	2-Butanone	10.	U	79-34-5	1,1,2,2-Tetrachloroethane	5.	U
71-55-6	1,1,1-Trichloroethane	5.0	U	108-88-3	Toluene	1.6	J
56-23-6	Carbon Tetrachloride	5.0	U	108-90-7	Chlorobenzene	5.0	U
108-05-4	Vinyl Acetate	10.	U	100-41-4	Ethylbenzene	5.	U
75-27-4	Bromodichloromethane	5.0	U	100-42-5	Styrene	5.0	U
					Total Xylenes	5.0	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the prssence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a conentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

OPTIONAL FLAGS

N - Compound not present in Calibration File.

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 519

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.		No Compounds Found	VOA		
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Sample Number
BK 520

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Alliance Tech. Corp.
Lab Sample ID: >80951::L2 53564
Sample Matrix: WATER
Data release Authorized by: A. Deane

Case No.: 7732
QC Report No.: 7732
Contract No.: 68-01-7145
Date Sample Received: 07/29/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/05/87 19:29
Conc/Dil factor: 1.0 pH : 0.0
Percent Moisture: (Not Decanted) 00.0

C.A.S. Number		ug/l or ug/Kg (Circle One)		C.A.S. Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.	U
74-83-9	Bromomethane	10.	U	10061-02-6	Trans-1,3-Dichloropropene	5.	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	5.	U
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.	U
75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichloroethane	5.0	U
67-64-1	Acetone	44.		71-43-2	Benzene	5.	U
75-15-0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethylvinylether	10.0	U
75-34-3	1,1-Dichloroethane	5.0	U	75-25-2	Bromoform	5.0	U
156-60-5	Trans-1,2-Dichloroethene	5.0	U	108-10-1	4-Methyl-2-Pentanone	10.0	U
67-66-3	Chloroform	5.0	U	591-78-6	2 Hexanone	10.0	U
107-02-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	5.0	U
78-93-3	2-Butanone	24.		79-34-5	1,1,2,2-Tetrachloroethane	5.	U
71-55-6	1,1,1-Trichloroethane	5.0	U	108-88-3	Toluene	2.1	J
56-23-6	Carbon Tetrachloride	5.0	U	108-90-7	Chlorobenzene	5.0	U
108-05-4	Vinyl Acetate	10.	U	100-41-4	Ethylbenzene	5.	U
75-27-4	Bromodichloromethane	5.0	U	100-42-5	Styrene	5.0	U
					Total Xylenes	5.0	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a conentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

OPTIONAL FLAGS

N - Compound not present in Calibration File.

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 520

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 07/31/87
Date Analyzed: 8/31/87 18:09
Conc/Dil Factor: 2.00000
Percent Moisture (Decanted) NA

GPC Cleanup __ Yes X No
Separatory Funnel Extraction X Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(-2-Chloroethyl)Ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)Ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-Propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(-2-Chloroethoxy)Methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-Methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethyl Phthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-Methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butylphthalate	10.	U
206-44-0	Fluoranthene	~~1.~~ J	10U
129-00-0	Pyrene	~~1.~~ J	10U
85-68-7	Butylbenzylphthalate	~~1.~~ J	10U
91-94-1	3,3'-Dichlorobenzidine	~~85.~~	20U
56-55-3	Benzo(a)Anthracene	~~2.~~ J	10U
117-81-7	bis(2-Ethylhexyl)Phthalate	~~104.~~	
218-01-9	Chrysene	~~2.~~ J	10U
117-84-0	Di-n-Octyl Phthalate	11.	
205-99-2	Benzo(b)Fluoranthene	~~2.~~ J	10U
207-08-9	Benzo(k)Fluoranthene	~~3.~~ J	10U
50-32-8	Benzo(a)Pyrene	3.	J
193-39-5	Indeno(1,2,3-cd)Pyrene	3.	J
53-70-3	Dibenzo(a,h)Anthracene	~~3.~~ J	10U
191-24-2	Benzo(g,h,i)Perylene	~~3.~~ J	10U

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number
BK520

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 7/30/87

Date Analyzed: 8/21/87

Conc/Dil Factor: 1

Percent Moisture (decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l or ug/Kg) (Circle One)
319-84-6	Alpha-BHC	0.05u
319-85-7	Beta-BHC	↓
319-86-8	Delta-BHC	↓
58-89-9	Gamma-BHC (Lindane)	↓
76-44-8	Heptachlor	↓
309-00-2	Aldrin	↓
1024-57-3	Heptachlor Epoxide	↓
959-98-8	Endosulfan I	0.05u
60-57-1	Dieldrin	0.10u
72-55-9	4, 4'-DDE	↓
72-20-8	Endrin	↓
33213-65-9	Endosulfan II	↓
72-54-8	4, 4'-DDD	↓
1031-07-8	Endosulfan Sulfate	↓
50-29-3	4, 4'-DDT	0.10u
72-43-5	Methoxychlor	0.5u
53494-70-5	Endrin Ketone	0.10u
57-74-9	Chlordane	0.5u
8001-35-2	Toxaphene	1.0u
12674-11-2	Aroclor-1016	~~[illegible]~~ 0.5u
11104-28-2	Aroclor-1221	↓
11141-16-5	Aroclor-1232	↓
53469-21-9	Aroclor-1242	↓
12672-29-6	Aroclor-1248	↓
11097-69-1	Aroclor-1254	1.0u
11096-82-5	Aroclor-1260	1.0u

9/3/87

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 ml or W_s _____ V_t 10000 ul V_i 5 ul

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 520

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	No Compounds Found	VOA		
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 520

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	—	UNKNOWN (ONLY 1 MATCH FOUND)	BNA	1397	10 J
2.	—	UNKNOWN (ONLY 1 MATCH FOUND)		1407	40 J
3.	—	UNKNOWN (NO MATCH FOUND)		1433	70 J
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Organics Analysis Data Sheet
(Page 1)

Sample Number
BK 521

Laboratory Name: Alliance Tech. Corp.
Lab Sample ID: >80952::L2 53565
Sample Matrix: WATER
Data release Authorized by: A. Doma

Case No.: 7732
QC Report No.: 7732
Contract No.: 68-01-7145
Date Sample Received: 07/29/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/05/87 20:17
Conc/Dil factor: 1.0 pH : 0.0
Percent Moisture: (Not Decanted) 00.0

C.A.S. Number		ug/l or ug/Kg (Circle One)		C.A.S. Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.	U
74-83-9	Bromomethane	10.	U	10061-02-6	Trans-1,3-Dichloropropene	5.	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	5.	U
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.	U
75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichloroethane	5.0	U
67-64-1	Acetone	117.		71-43-2	Benzene	5.	U
75-15-0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethylvinylether	10.0	U
75-34-3	1,1-Dichloroethane	5.0	U	75-25-2	Bromoform	5.0	U
156-60-5	Trans-1,2-Dichloroethene	5.0	U	108-10-1	4-Methyl-2-Pentanone	10.0	U
67-66-3	Chloroform	5.0	U	591-78-6	2-Hexanone	10.0	U
107-02-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	5.0	U
78-93-3	2-Butanone	22.		79-34-5	1,1,2,2-Tetrachloroethane	5.	U
71-55-6	1,1,1-Trichloroethane	5.0	U	108-88-3	Toluene	2.7	J
56-23-6	Carbon Tetrachloride	5.0	U	108-90-7	Chlorobenzene	5.0	U
108-05-4	Vinyl Acetate	10.	U	100-41-4	Ethylbenzene	5.	U
75-27-4	Bromodichloromethane	5.0	U	100-42-5	Styrene	5.0	U
					Total Xylenes	5.0	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a conentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

OPTIONAL FLAGS

N - Compound not present in Calibration File.

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 521

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 07/31/87
Date Analyzed: 8/31/87 18:55
Conc/Dil Factor: 2.00000
Percent Moisture (Decanted) NA

GPC Cleanup __ Yes X No
Separatory Funnel Extraction X Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		(ug/L) or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(-2-Chloroethyl)Ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)Ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-Propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(-2-Chloroethoxy)Methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-Methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethyl Phthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		(ug/L) or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-Methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)Phthalate	~~13.~~	
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl Phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number
BK521

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration Low Medium (Circle One)

Date Extracted/Prepared: 7/30/87

Date Analyzed: 8/20/87

Conc/Dil Factor: 1

Percent Moisture (decanted) —

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05u
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	0.05u
60-57-1	Dieldrin	0.10u
72-55-9	4, 4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4, 4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4, 4'-DDT	0.10u
72-43-5	Methoxychlor	0.5u
53494-70-5	Endrin Ketone	0.10u
57-74-9	Chlordane	0.5u
8001-35-2	Toxaphene	1.0u
12674-11-2	Aroclor-1016	0.5u
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	0.5u
11097-69-1	Aroclor-1254	1.0u
11096-82-5	Aroclor-1260	1.0u

[illegible] 9/3/87

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000ml or W_s — V_t 10000ul V_i 5ul

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 521

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.		No Compounds Found	VOA		
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 521

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	123-79-5	Hexanedioic Acid, Dioctyl ester (only 2 matches)	BNA	1253	~~207~~ 12
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Sample Number
BK 522

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Alliance Tech. Corp.
Lab Sample ID: >80953::L2 53566
Sample Matrix: WATER
Data release Authorized by: A. Deane

Case No.: 7732
QC Report No.: 7732
Contract No.: 68-01-7145
Date Sample Received: 07/29/87

Volatile Compounds
Concentration: Low Medium (Circle One)
Date Extracted: N/A
Date Analyzed: 8/05/87 21:04
Conc/Dil factor: 1.0 pH : 0.0
Percent Moisture: (Not Decanted) 00.0

C.A.S. Number		ug/l or ug/Kg (Circle One)		C.A.S. Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10.	U	78-87-5	1,2-Dichloropropane	5.	U
74-83-9	Bromomethane	10.	U	10061-02-6	Trans-1,3-Dichloropropene	5.	U
75-01-4	Vinyl Chloride	10.	U	79-01-6	Trichloroethene	5.	U
75-00-3	Chloroethane	10.	U	124-48-1	Dibromochloromethane	5.	U
75-09-2	Methylene Chloride	5.0	U	79-00-5	1,1,2-Trichloroethane	5.0	U
67-64-1	Acetone	53.		71-43-2	Benzene	5.	U
75-15-0	Carbon Disulfide	5.0	U	10061-01-5	cis-1,3-Dichloropropene	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U	110-75-8	2-Chloroethylvinylether	10.0	U
75-34-3	1,1-Dichloroethane	5.0	U	75-25-2	Bromoform	5.0	U
156-60-5	Trans-1,2-Dichloroethene	5.0	U	108-10-1	4-Methyl-2-Pentanone	10.0	U
67-66-3	Chloroform	5.0	U	591-78-6	2-Hexanone	10.0	U
107-02-2	1,2-Dichloroethane	5.0	U	127-18-4	Tetrachloroethene	5.0	U
78-93-3	2-Butanone	30.		79-34-5	1,1,2,2-Tetrachloroethane	5.	U
71-55-6	1,1,1-Trichloroethane	5.0	U	108-88-3	Toluene	4.1	J
56-23-6	Carbon Tetrachloride	5.0	U	108-90-7	Chlorobenzene	5.0	U
108-05-4	Vinyl Acetate	10.	U	100-41-4	Ethylbenzene	5.	U
75-27-4	Bromodichloromethane	5.0	U	100-42-5	Styrene	5.0	U
					Total Xylenes	5.0	U

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However the definition of each flag must be explicit.

Value - If the result is a value greater than or equal to the detection limit, report the value.

U - indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is < than the specified detection limit but > than zero (e.g. 10J). If limit of detection is 10 ug/L and a conentration of 3.0 ug/L is calculated, report as 3J.

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/uL in the final extract should be confirmed by GC/MS.

B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns data the user to take appropriate action.

Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report

OPTIONAL FLAGS

N - Compound not present in Calibration File.

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 522

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 07/31/87
Date Analyzed: 8/31/87 19:40
Conc/Dil Factor: 2.00000
Percent Moisture (Decanted) NA

GPC Cleanup __ Yes X No
Separatory Funnel Extraction X Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(-2-Chloroethyl)Ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)Ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-Propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(-2-Chloroethoxy)Methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-Methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethyl Phthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-Methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)Phthalate	~~[illegible]~~ 10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl Phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name Alliance

Case No 7732

Sample Number BK522

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 7/30/87

Date Analyzed: 8/20/87

Conc/Dil Factor: 1

Percent Moisture (decanted) —

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	~~0.05u~~
319-85-7	Beta-BHC	0.05u
319-86-8	Delta-BHC	↓
58-89-9	Gamma-BHC (Lindane)	↓
76-44-8	Heptachlor	↓
309-00-2	Aldrin	↓
1024-57-3	Heptachlor Epoxide	↓
959-98-8	Endosulfan I	0.05u
60-57-1	Dieldrin	0.10u
72-55-9	4, 4'-DDE	↓
72-20-8	Endrin	↓
33213-65-9	Endosulfan II	↓
72-54-8	4, 4'-DDD	↓
1031-07-8	Endosulfan Sulfate	↓
50-29-3	4, 4'-DDT	0.10u
72-43-5	Methoxychlor	0.5u
53494-70-5	Endrin Ketone	0.10u
57-74-9	Chlordane	0.5u
8001-35-2	Toxaphene	1.0u
12674-11-2	Aroclor-1016	↓
11104-28-2	Aroclor-1221	↓
11141-16-5	Aroclor-1232	↓
53469-21-9	Aroclor-1242	↓
12672-29-6	Aroclor-1248	↓
11097-69-1	Aroclor-1254	1.0u
11096-82-5	Aroclor-1260	1.0u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000ml or W_s — V_t 10000ul V_i 5ul

Lab Name : Alliance Tecn. Corp.
Case No : 7732

Sample Number
BK 522

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.		NO Compounds Found	VOA		
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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28.					
29.					
30.					

Lab Name : Alliance Tech. Corp.
Case No : 7732

Sample Number
BK 522

ORGANICS ANALYSIS DATA SHEET
(Page 4)

Tentatively Identified Compounds

	C.A.S. Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	–	NO COMPOUNDS FOUND	BNA	–	–
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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19.					
20.					
21.					
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26.					
27.					
28.					
29.					
30.					

REFERENCE NO. 8

02-8703-66

NUS CORPORATION

TELECON NOT.

CONTROL NO:	DATE: 8/27/87	TIME: 1500 HRS

DISTRIBUTION:
DAYTON. T. BROWN
TOD 02-8703-66

BETWEEN: R. SINGLE	OF: DAYTON T. BROWN	PHONE: 516-589-6300 (201)

AND: E. LEONARD

DISCUSSION: (NUS

RE: BACKGROUND INFO

(1) OWNERS: MR. D.T. BROWN JR
+/OR MRS. JANE BROWN

(2) - SOLVENT STORAGE TANKS
- MEK + TOLUENE
- TANK DO NOT LEAK, WERE LEAKED TESTED

(3) UNDERGROUND HOLDING TANKS - WASTE
- TO HIS KNOWLEDGE DO NOT LEAK, BUT WERE NOT LEAK TEST. NOT ABSOLUTELY SURE
- NO POLLUTION CONTROLL DEVICES.

ACTION ITEMS:

REFERENCE NO. 9

22-2703-06

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
$475N4Q9$1	3/24/87	1100

DISTRIBUTION:
file
E. Leonard
R. Dimmick

BETWEEN:	OF:	PHONE:
Pat Dugan	Suffolk Co. Water Authority (SCWA)	(516) 589-5200

AND:
Diane Trube.

DISCUSSION:
SCWA has public supply wells + distribution maps. For private well info, check S.C. Health Services or local water districts. SCWA also has sample results of some wells. wells tap Magothy - Glacial aquifers

All of Suffolk County is on public or private groundwater supplies

For Bohemia site: 2 of 3 wells (Public supply) across the street have been closed due to volatile + halogenated hydrocarbon contamination. Wells were closed in anticipation of new EPA regs due 6/9/87. Third well is still in use. There are 2 other well fields within 1 mile.

ACTION ITEMS:
For Bayport site: There are 3 well fields within 1 mile.
Send info request to: Pat Dugan c/o SCWA
Sunrise Hwy.
Oakdale, NY 11769
Directions - Southern State Hwy to Sunrise Hwy (exit 44 East)
Go through 2 lights (about 2 miles). past Toyota/Mitsubishi Building. SCWA is in brick building on right.

NUS 067 REVISED 0685

REFERENCE NO. 10

[illegible]

[illegible] PERMIT

Special Conditions (Part 1)

Industrial Code 9999
Discharge Class (CL) 08
Toxic Class (TX) 4
Major D.B. 17
Sub D.B. 01

Facility ID Number: NY- 0075809
UPA Tracking Number: 10-83-0898
Effective Date (EDP): June 1, 1985
Expiration Date (ExDP): June 1, 1990
Modification Date(s):
Attachment(s): General Conditions (Part II, 8/81)

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et. seq.) (hereinafter referred to as "the Act").

Attn: C.K. Morrelly, Vice President

Permittee Name: Dayton T. Brown, Inc.

Street: 555 Church Street

City: Bohemia State: N.Y. Zip Code: 11716

is authorized to discharge from the facility described below:

Facility Name: Dayton T. Brown, Inc.

Location (~~C~~ T,~~X~~): Islip County: Suffolk

Mailing Address (Street): 555 Church Street

Mailing Address (City) Bohemia State: N.Y. Zip Code: 11716

from Outfall No. 001 at: Latitude 40° 46' 00" & Longitude 73° 06' 00"

into receiving waters known as: Groundwater, Class GA

and: (list other Outfalls, Receiving Waters & Water Classification)

002, 003, 004, 005 - Groundwater, Class GA

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal as prescribed by Sections 17-0803 and 17-0804 of the Environmental Conservation Law and Parts 621, 752, and 755 of the Departments' rules and regulations.

PERMIT ADMINISTRATOR	DATE ISSUED	ADDRESS
Alternate David DeRidder		Bldg.40, Suny Stony Brook, NY 11794

Distribution:
A. Yerman
R. Hannaford
J. Maloney

[signature]
SIGNATURE

Final EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the Period Beginning June 1, 1985

and lasting until June 1, 1990

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations Daily Avg.	Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Lab Bldg					
001 - Photo rinse water					
Flow	500		GPD	Continuous	Recorded
Silver		0.1	mg/l	Monthly	Grab
Phenols		0.002	mg/l	Monthly	Grab
Nitrogen (total)		10.0	mg/l	Monthly	Grab
Lead		0.05	mg/l	Monthly	Grab
Copper		1.0	mg/l	Monthly	Grab
pH		6.5 - 8.5	SU	Monthly	Grab
002 - Sanitary Waste Only					
No industrial wastes allowed; No monitoring required					
003 - Non Contact Cooling Water					
No industrial wastes allowed; No monitoring required					
Manufacturing Bldg					
004 - Non Contact Cooling Water					
Flow	5000		GPD	Continuous	Recorded
Oil & Grease		15	mg/l	Monthly	Grab
pH		6.5 - 8.5	SU	Monthly	Grab
005 - Sanitary Waste Only					
No industrial wastes allowed; No monitoring required					

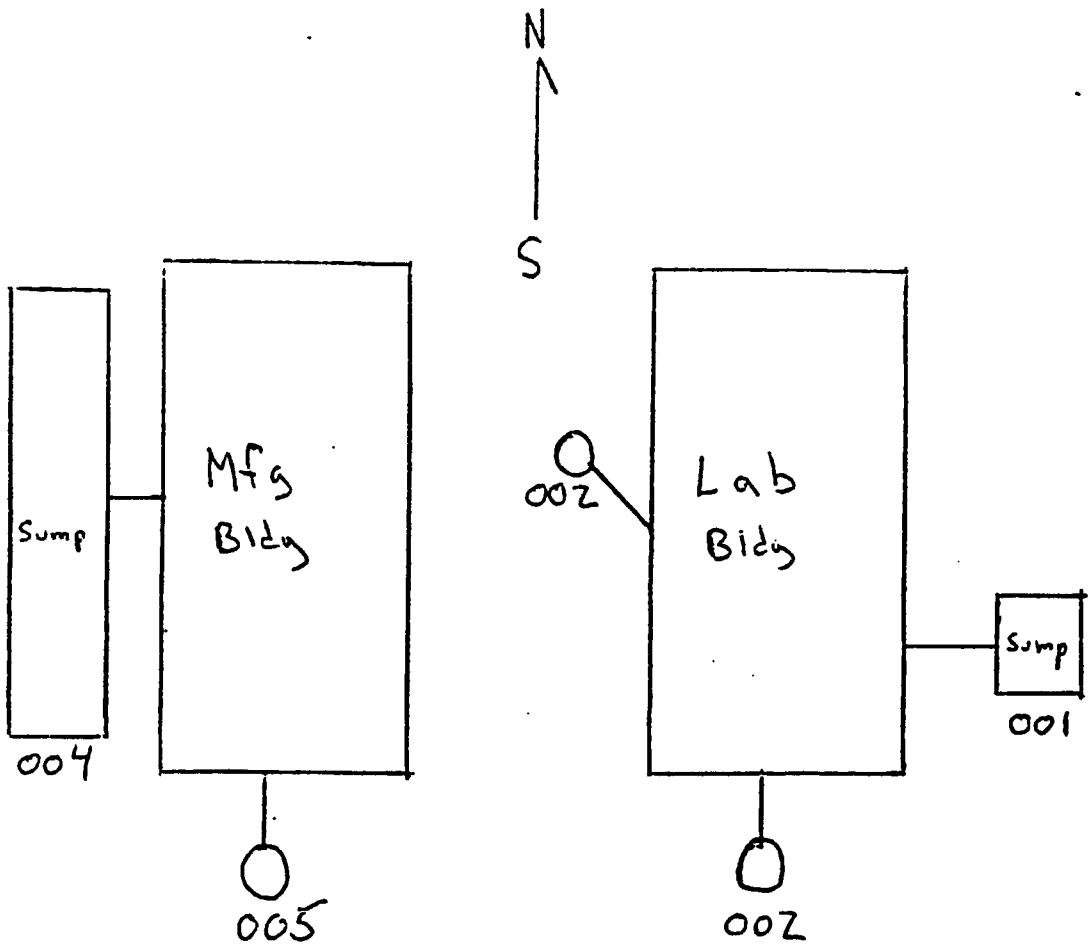
Definition of Daily Average and Daily Maximum

The daily average discharge is the total discharge by weight or in other appropriate units as specified herein, during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges in appropriate units as specified herein divided by the number of days during the calendar month when the measurements were made.

The daily maximum discharge means the total discharge by weight or in other appropriate units as specified herein, during any calendar day.

Monitoring Locations

Permittee shall take samples and measurements to meet the monitoring requirements at the location(s) indicated below: (Show locations of outfalls with sketch or flow diagram as appropriate).



MONITORING, RECORDING AND REPORTING

a) The permittee shall also refer to the General Conditions (Part II) of this permit for additional information concerning monitoring and reporting requirements and conditions.

b) The monitoring information required by this permit shall be:

☐ Summarized, signed and retained for a period of three years from the date of sampling for subsequent inspection by the Department or its designated agent.

☒ Summarized and reported by submitting completed and signed Discharge Monitoring Report forms once every 3 month(s) to the locations specified below. Blank forms available at department offices listed below.

The first report will be due no later than: September 28, 1985

Thereafter, reports shall be submitted no later than the 28th of the following month(s): December, March, June and September.

Department of Environmental Conservation
Regional Water Enginer
Building #40 SUNY
Stony Brook, NY 11794

Suffolk County Department of Health Services
15 Horseblock Place
Farmingville, NY 11738

Department of Environmental Conservation
Water Division
50 Wolf Road,
Albany, New York 12233

☐ (Applicable only if checked)

_____, Chief
Permit Administration Branch
Planning & Management Division
USEPA Region II, 26 Federal Plaza
New York, New York 10278

c) If so directed, Monthly Wastewater Treatment Plant Operator's Reports should be submitted to the Regional Engineer and County Health Department or County Environmental Control Agency specified above.

d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.

f) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.

h) On or after April 1, 1984, any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquires regarding laboratory certification should be sent to the Laboratory Certification/Quality Assurance Group, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

REFERENCE NO. 11

NUS CORPORATION AND SUBSIDIARIES 0075C 02-8703-66 **TELECON NOTE**

CONTROL NO:	DATE: 1/20/89	TIME: 1400 HRS

DISTRIBUTION: DAYTON T. BROWN
TDD # 02-8703-66
PAGE 1 OF 2

BETWEEN:	OF:	PHONE:
A. SPEISER	LK B ASSOC.	(516) 938-8600

AND: E. LEONARD (NUS CORP.)

DISCUSSION: RE: SI INFORMATION REQUEST

INFORMED MR. SPEISER OF FOLLOWING:

- TWO WASTE SOURCES ON SITE
  - RECHARGE BASIN SPDES PERMITTED TO RECEIVE PROCESS COOLING WATER & PHOTO WASTE. IN PAST VIOLATED PERMIT FOR SOLVENTS & METALS.
  - UNDERGROUND HOLDING TANKS USED TO HOLD PLATING WASTE. NO LONGER IN USE.

- DURING THE SI WE OBTAINED FOLLOWING
  - SAMPLES:
  - ONE GROUNDWATER
  - ONE EFFLUENT
  - TWO SOIL

ACTION ITEMS:

  - TWO SLUDGES
  - TWO SEDIMENTS (RECHARGE BASIN & SWALE).

- REVIEWED ANALYTICAL RESULTS
  - SOILS - LOW LEVELS PAH & PESTICIDES
  - TAP WATER - CLEAN

NUS 067 REVISED 0686

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO:	DATE: 1/20/84	TIME: 1400 HRS

DISTRIBUTION: DAYTON T. BROWN
TDD # 02-8703-66
PAGE 2 OF 2

BETWEEN:	OF:	PHONE:
A. SPEISER	LK B ASSOC	(516) 938-0600

AND: E. LEONARD (NUS CORP.)

DISCUSSION: RE: $I INFORMATION REQUEST

SLUDGE - LOW - MOD PAH

METALS IN SAMPLES NOT RELATIVELY HIGH

MR. SPEISER REQUESTED COPY OF SAMPLING TRIP, DRAFT 14-PG REPORT & FINAL REPORT. I TOLD HIM I WOULD INQUIRE & GET BACK TO HIM NEXT WEEK.

E R Leonard

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 12

GEMS> I

DAYTON T. BROWN
LATITUDE 40:46:15 LONGITUDE 73: 6: 0 1980 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	2082	3260	21657	30660	55105	112764
RING TOTALS	0	2082	3260	21657	30660	55105	112764

GEMS> I

DAYTON T. BROWN
LATITUDE 40:46:15 LONGITUDE 73: 6: 0 1980 HOUSING

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	686	1171	6125	9261	16338	33581
RING TOTALS	0	686	1171	6125	9261	16338	33581

# miles from site	Population	Housing
1	5,342	1,857
2	26,999	7,982
3	57,659	17,243
4	112,764	33,581

REFERENCE NO. 13

NUS CORPORATION
RARITAN PLAZA III, FIELDCREST AVENUE
EDISON, NEW JERSEY 08837
201-225-6160

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our 25th year

C-584-03-87-117

March 25, 1987

Mr. Pat Dugan
c/o Suffolk County Water Authority
Sunrise Highway
Oakdale, New York 11769

Dear Mr. Dugan:

In reference to our conversation of March 24, 1987, I am requesting groundwater use information for three locations in Suffolk County. Enclosed are maps showing the locations. The information I am requesting for each site is:

1. Locations of public supply wells within 3 miles.
2. Identifying numbers for these wells.
3. Well depth and aquifers used.
4. Population served by these wells (if wells are interconnected, an approximate total population served).
5. In the immediate area of each site, any known contamination of public supply wells, or wells closed due to contamination.

I would very much appreciate it if this information can be assembled for me to pick up on Wednesday, April 1.

Thank you for you assistance.

Very truly yours,

Diane Trube

Diane Trube

Reviewed and Approved: _____

DT/jm

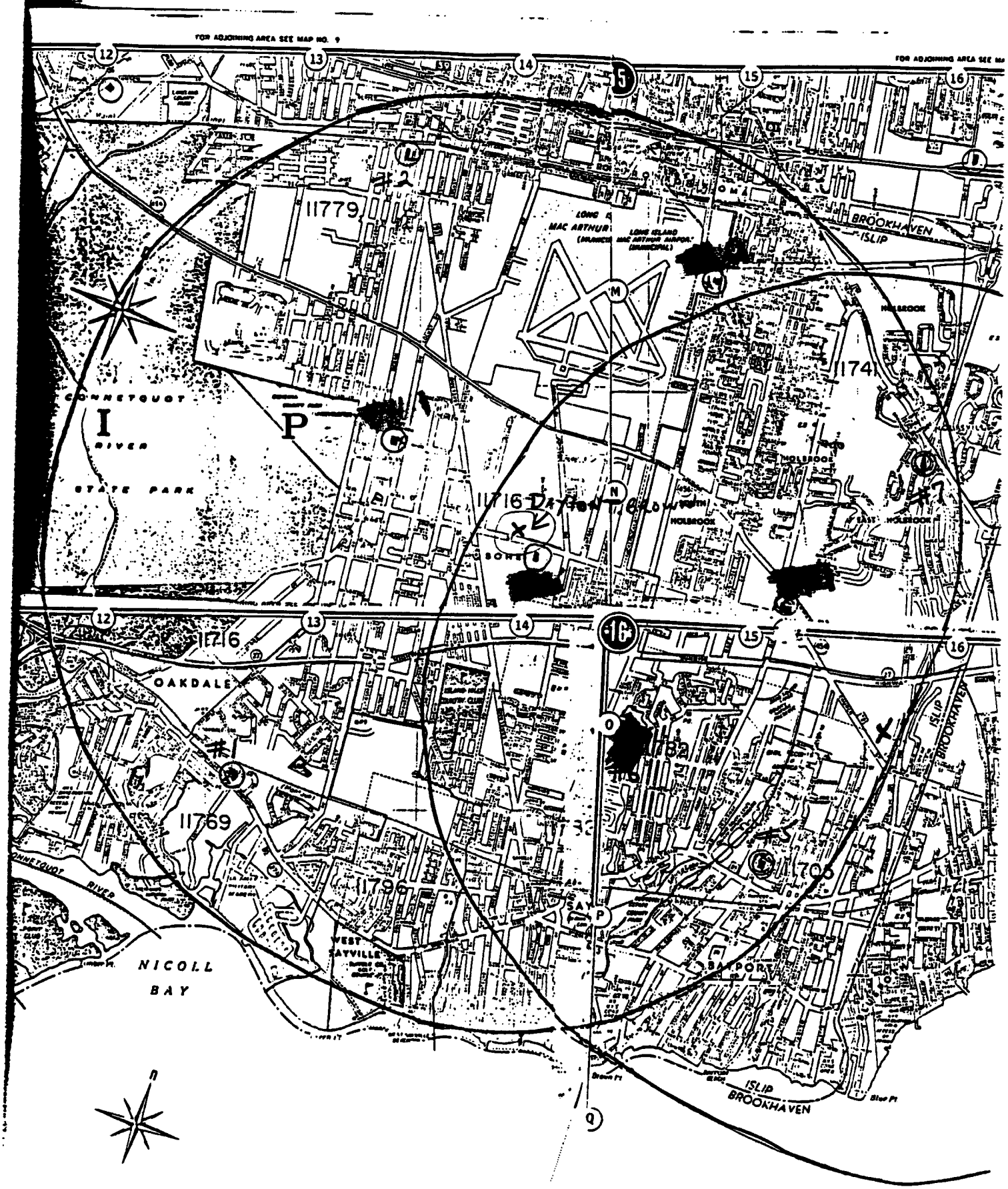
Enclosure

Population Served in this area approximately 200,000

Station + Well	NYS Number	Depth	Aquifer	OUT OF SERVICE
Montauk Hwy.				
Well #1	S-03813	89.00	112GLCLU	
Well #2	S-03815	83.00	112GLCLU	
Well #3	S-03814	96.00	112GLCLU	
Well #4	S-37963	292.00	211MGTY	
Well #5	S-50630	245.00	211MGTY	
Easton St.				
Well #1	S-40982	150.00	112GLCLU	
Well #2	S-43641	706.00	211MGTY	
Well #3	S-51609	730.00	211MGTY	
Lincoln Ave.				
Well #1	S-38701	202.00	112GLCLU	ORGANICS
Well #2	S-47453	444.00	211MGTY	
Well #3	S-54305	313.00	211MGTY	
Church St (HOL)				
Well #1	S-27259	164.00	112GLCLU	
Well #2	S-31913	160.00	112GLCLU	
Well #3	S-47035	580.00	112GLCLU	

Station + Well	NYS Number	Depth	Aquifer
5) Lakeview Ave.			
Well #1	S-00872	107.00	112GLCLU
Well #2	S-00871	110.00	112GLCLU
Well #3	S-09893	103.00	112GLCLU
Well #4	S-28408	341.00	211 MGTY
6) China Rd.			
Well #1	S-60812	489.00	211MGTY
Well #2	S-73492	480.00	211MGTY
7) Greenbelt Pkwy.			
Well #1	S-54730	259.00	211MGTY
Well #2	S-59744	302.00	211MGTY
Well #3	S-66183	532.00	211 MGTY
Well #4	S-66184	384.00	211MGTY
8) Blue Point Rd.			
Well #1	S-38320	172.00	112GLCLU
Well #2	S-38321	303.00	211MGTY
Well #3	S-42761	334.00	211MGTY
Well #4	S-53074	169.00	112GLCLU

Station + Well	NYS Number	Depth	OUT OF SERVICE	Aquifer
9) Barton Ave.				
Well #1	S-21247	145.00		112GLCLU
Well #2	S-28767	139.00		211MGTY
Well #3	S-37494	313.00		211MGTY
Well #4	S-62022	313.00		112GLCLU
10) Waterworks Rd.				
Well #1	S-60486	363.00		211MGTY
11) Locust Ave.				
Well #1	S-20045	140.00		112GLCLU
Well #2	S-22711	140.00	ORGANICS	112GLCLU
Well #3	S-34522	149.00		112GLCLU
Well #4	S-67074	830.00		211MGTY
Well #5	S-68690	824.00		211MGTY
12) Church St (BOH)				
Well #1	S-52126	156.00	ORGANICS	112GLCLU
Well #2	S-57871	158.00		112GLCLU
Well #3	S-68552	838.00		211MGTY


FOR ADJOINING AREA SEE MAP NO. 9
FOR ADJOINING AREA SEE MAP
12
13
14
15
16
11779
#2
LONG ISLAND MAC ARTHUR AIRPORT (MUNICIPAL)
BROOKHAVEN
ISLIP
HOLBROOK
1174
CONNETQUOT
I
P
RIVER
STATE PARK
11716
Dayton Brown
HOLBROOK
EAST HOLBROOK
#7
11716
OAKDALE
#1
11769
11796
CONNETQUOT RIVER
NICOLL BAY
WEST SAYVILLE
BAYPORT
ISLIP
BROOKHAVEN
ISLIP
BROOKHAVEN
Blue Pt
Brown Pt
n

FOR ADJOINING AREA SEE MAP NO. 14
BROOKHAVEN
ISLIP
HOLTSVILLE
MEDFORD
HOLBROOK
NORTH PATCHOGUE
SOUTH HOLBROOK
EAST HOLBROOK
BOHEMIA
BAYPORT
ISLIP
BROOKHAVEN
PATCHOGUE
BAY
#3
#4
#7
#8
#9
#6
1741
1742
1763
1716
1782

REFERENCE NO. 14

LONG ISLAND WATER RESOURCES

LONG ISLAND WATER RESOURCES BULLETIN NO. 1

RESULTS OF SUBSURFACE EXPLORATION IN THE MID-ISLAND AREA of WESTERN SUFFOLK COUNTY

Long Island, New York

by

JULIAN SOREN

U.S. GEOLOGICAL SURVEY

PUBLISHED BY

SUFFOLK COUNTY WATER AUTHORITY

1971

LONG ISLAND WATER RESOURCES
BULLETIN NUMBER 1

RESULTS OF SUBSURFACE EXPLORATION IN THE MID-ISLAND AREA OF WESTERN SUFFOLK COUNTY, LONG ISLAND, NEW YORK

BY
JULIAN SOREN
U. S. GEOLOGICAL SURVEY

WITH A SECTION ON
POTENTIAL DEVELOPMENT OF GROUNDWATER
IN THE MID-ISLAND AREA

BY
PHILIP COHEN
U. S. GEOLOGICAL SURVEY

PREPARED BY

U. S. GEOLOGICAL SURVEY

IN COOPERATION WITH

SUFFOLK COUNTY LEGISLATURE
SUFFOLK COUNTY WATER AUTHORITY

PUBLISHED BY

SUFFOLK COUNTY WATER AUTHORITY

1971

GEOHYDROLOGY

GEOLOGY AND AQUIFERS

Unconsolidated deposits, ranging in age from Late Cretaceous to Pleistocene, underlie the mid-island area. These deposits contain several major aquifers and constitute the ground-water reservoir. Thin surficial Holocene deposits of soil and some swamp accumulations occur from place to place, but these are of little significance to the ground-water reservoir. The unconsolidated deposits rest unconformably on crystalline bedrock consisting of Precambrian (?) schist and gneiss which is considered to be the bottom of the ground-water reservoir on Long Island.

The unconsolidated deposits, from the bedrock upward, include the Lloyd Sand Member and clay member of the Raritan Formation of Late Cretaceous age, the Matawan Group-Magothy Formation, undifferentiated, also of Late Cretaceous age, and glacial deposits of Pleistocene age. The major aquifers in the area are the deposits of sand and gravel in the Pleistocene and the Matawan-Magothy strata. The test drilling described previously was carried out mostly to the depth of the upper part of the clay member. Therefore, the drilling served to determine the base of the Matawan-Magothy deposits. The drilling also served to obtain information on the configuration of the top of the Matawan-Magothy deposits, which were deeply eroded during Tertiary and, probably, Pleistocene time.

BEDROCK OF THE PRECAMBRIAN (?) SYSTEM

The Precambrian (?) gneiss and schist which underlies Long Island is hard and dense. Virtually all the water in these rocks is found in joints, faults, and foliation planes. Because these openings are usually tight and poorly connected, the bedrock is practically impermeable, especially by comparison with the overlying unconsolidated formations. No wells are known to tap bedrock in the mid-island area.

The bedrock was eroded to a peneplain prior to the deposition of the Cretaceous strata. In the mid-island area, the bedrock surface dips gently southeast at an average slope of about 65 feet per mile (about two-thirds of a degree), and its altitude ranges from about 800 feet below sea level in the northwestern corner of the area to about 1,600 feet below sea level in the southeastern part (pl. 2).

UPPER CRETACEOUS SERIES

Raritan Formation

Lloyd Sand Member

The Lloyd Sand Member of the Raritan Formation comprises the Lloyd aquifer on Long Island. This unit consists mostly of beds and lenses of light- to medium-gray sand and gravelly sand, commonly containing small to large amounts of interstitial clay and silt, that are intercalated with beds and lenses of light- to dark-gray clay, silt, and clayey and silty sand.

Only two drill holes are known to have penetrated the Lloyd in the mid-island area. One hole partly penetrated the unit at the Pilgrim State Hospital, in Brentwood. The second hole, which is in the village of Lake Ronkonkoma, and which was one of the test holes drilled as part of this study, fully penetrated the unit. A log of the test hole describing lithology of the Lloyd is shown in table 1, S33379.

The surface of the Lloyd is roughly parallel to the bedrock surface. The Lloyd surface dips from an altitude of about 550 feet below sea level in the northwestern part of the area, to an altitude of about 1,250 feet below sea level in the southeastern part (pl. 2), and the unit's thickness ranges from about 260 feet to 360 feet from northwest to southeast, respectively. Plate 2 shows contours on the Lloyd surface. Plate 2 also shows contours on the bedrock surface; therefore, the Lloyd's thickness, in any part of the area, can be estimated by computing the local difference between the altitudes of the bedrock and Lloyd surfaces.

The Lloyd aquifer is moderately permeable. Its average horizontal permeability has been estimated by Lusczynski and Swarzenski (1966, p. 19), Isbister (1966, p. 20), and Soren (in press) to range between 400 and 500 gpd per sq ft (gallons per day per square foot) in Queens and Nassau Counties, west of the mid-island area. Warren and others (1968, p. 102) estimated the Lloyd's horizontal permeability to be 165 gpd per sq ft at the Brookhaven National Laboratory, about 12 miles east of the mid-island area. The section of Lloyd penetrated by the test well near Lake Ronkonkoma was fairly sandy and gravelly (table 1, S33379), and at this site the average horizontal permeability of the Lloyd probably is considerably more than 500 gpd per sq ft. Wells tapping the Lloyd in other parts of Long Island have been pumped at rates of as much as 1,600 gpm (gallons per minute), and the specific capacities of these wells (pumpage, in gallons per minute, divided by drawdown, in feet) have been reported to range from 3 to 40 gpm per foot of drawdown.

At present, there is no pumpage from the Lloyd aquifer in the mid-island area, mainly because of the great depth of the aquifer, and because more permeable aquifers are found at shallower depths. In addition to being at a greater depth, the water from the Lloyd commonly has undesirably high concentrations of iron.

Clay Member

The clay member of the Raritan Formation (commonly referred to as the Raritan clay) completely covers the underlying Lloyd aquifer in the mid-island area, and confines water in that aquifer. The Raritan clay consists mostly of beds and lenses of light- to dark-gray clay, silt, and clayey and silty fine sand (table 1). Thin to thick sandy beds commonly occur in the unit from place to place, but these beds do not have great lateral extent. Laminae and thin beds of lignite and pyrite and disseminated particles of these substances are common in the clay beds of the unit. The thickness of the Raritan clay increases to the southeast, and ranges from about 150 feet in the northwestern part of the mid-island area to about 200 feet in the southeastern part.

The surface of the Raritan clay is roughly parallel to that of the underlying Lloyd Sand Member. The altitude of the surface of the Raritan clay ranges from about 300 feet below sea level in the northwestern part of the mid-island area, to about 1,050 feet below sea level in the southeastern part (pl. 3).

Matawan Group-Magothy Formation, Undifferentiated

The Matawan Group-Magothy Formation, undifferentiated, comprises the Magothy aquifer of Long Island. Deposits in this unit consist of beds and lenses of light-gray fine to coarse sand, containing traces to large amounts of interstitial clay and silt, intercalated with thin to thick beds and lenses of light- to dark-gray clay, silt, and clayey and silty sand (table 1). The clay and silt beds commonly contain laminae and thin beds of lignite. Disseminated lignite and pyrite also are common in the sand beds of the aquifer. Gravelly coarse sand is commonly found in the basal part of the aquifer. This coarse zone ranges in thickness from 100 to 150 feet west of the mid-island area to 150 to 200 feet in the mid-island area. The basal zone also commonly contains abundant interstitial clay and silt and many thin to thick beds and lenses of clay, silt, and clayey and silty sand.

The surface of the Magothy aquifer (pl. 4) is not planar as are the surfaces of the underlying units. The Magothy surface was deeply eroded during Tertiary time, and probably was considerably eroded in Pleistocene time. Consequently, the depth to the Magothy aquifer and the aquifer's thickness cannot be predicted as accurately as the depths and thicknesses of the underlying units. Many control points in addition to those already known are needed to accurately map the upper surface of the Magothy aquifer.

The highly irregular character of the surface of the Magothy aquifer is shown in plate 4. The upper surface of the aquifer ranges in altitude from as high as about 200 feet above sea level to as low as about 500 feet below sea level. The Magothy was completely removed by erosion in a buried valley near the South Huntington area, and in that area upper Pleistocene deposits lie directly on the Raritan clay. This buried valley was called the "Huntington buried valley" by Lubke (1964, pl. 3), and as mapped by Lubke, the valley extended about 2-1/2 miles south of the Northern State Parkway.

Information from wells drilled after Lubke's investigation indicates that the Huntington buried valley continues southeastward, joining another buried valley in the Deer Park area. From Deer Park, the valley appears to extend southeastward across Long Island to the Fire Island Pines area of Fire Island, about 10 miles southeast of Deer Park, where the Magothy surface was shown to be about 350 feet below sea level by Perlmutter and Todd (1965, pl. 8).

The Huntington and Deer Park buried valleys are separated by a divide across the buried valley system in the Deer Park area. The Huntington buried valley slopes steeply northwestward from the divide; the Deer Park buried valley has a gentle southward slope toward the Fire Island Pines area. The divide across the valley approximately coincides with the southern margin of the Ronkonkoma terminal moraine. (See the following section, "Pleistocene Series.") The steeper Huntington buried valley was probably overdeepened by scouring action of Pleistocene glaciation. Other buried valleys in the northern part of the mid-island area (pl. 4) are not as deep nor as extensive as the Huntington and Deer Park buried valleys.

A large depression in the Magothy surface is apparent in the St. James-Ronkonkoma area. Lubke (1964, pl. 3) showed the Magothy surface to be more than 200 feet below sea level in this area. More recent information indicates that the Magothy surface in this area is more than 500 feet below sea level (pl. 4). This large depression is here called the Ronkonkoma basin (pls. 4-5). The precise origin of this basin is not known, but it probably was at least partly a result of Pleistocene glacial scouring of a pre-existing valley system. The depression appears to have had no outlet, and its southernmost end coincides approximately with the southern margin of the Ronkonkoma terminal moraine.

Representative thicknesses of the Magothy aquifer are shown in geologic sections in plate 5. In these sections, the thickness of the Magothy ranges from about 300 to 800 feet. The estimated thickness of the Magothy aquifer in any part of the mid-island area can be computed by determining the difference between altitudes of the Magothy and Raritan surfaces as shown in plates 3 and 4. The Magothy aquifer is thickest (about 950 feet) in the southeastern corner of the project area, and it is thinnest in the bottom of the buried valleys. As previously noted, the aquifer is completely missing in part of the buried valley near South Huntington (pl. 4).

The permeability of the Magothy aquifer ranges widely. The estimated average horizontal permeability of the aquifer is about 500 gpd per sq ft in Nassau and Queens Counties (Lusczynski and Swarzenski, 1966, p. 19; Isbister, 1966, p. 23-24; and Soren, in press); however, the permeabilities of some beds in the aquifer may be as high as 2,000 gpd per sq ft (Isbister, 1966, p. 23). Public-supply wells screened in the Magothy aquifer of the mid-island area have yielded as much as 1,700 gpm, with specific capacities ranging from about 14 to 85 gpm per ft of drawdown.

PLEISTOCENE SERIES

Upper Pleistocene deposits

Pleistocene deposits of glacial origin mantle the surface of the mid-island area (pl. 1) and range in thickness from a few tens of feet in some localities to more than 600 feet in buried valleys. The approximate thickness of Pleistocene deposits at any place generally can be computed by determining the difference between the altitude of the land surface and the altitude of the surface of the Magothy aquifer.

Most and perhaps all the glacial materials on Long Island were deposited in Wisconsin time, and these materials generally are collectively termed upper Pleistocene deposits. The upper Pleistocene deposits in the mid-island area include terminal moraines, outwash deposits, ground moraine, and lake deposits. The Harbor Hill and Ronkonkoma terminal moraines form the irregular ridges trending east-northeast across the area. Outwash deposits derived from melted glacial ice lie south of the Ronkonkoma terminal moraine. Glacial lake deposits, which apparently were formed between the Ronkonkoma and Harbor Hill advances of the glaciers, lie within outwash deposits below the land surface, and occur mostly between the terminal moraines in the eastern half of the area, most notably in the Smithtown-St. James-Ronkonkoma area.

Ronkonkoma Terminal Moraine

The Ronkonkoma terminal moraine marks the farthest advance of glaciation on Long Island. The moraine is composed largely of crudely stratified sand and gravel. It underlies the highest parts of the mid-island area, tapering from an irregular broad band in the western part, to an irregular narrow ridge in the eastern part. (See plate 1.) The unit lies mostly above the water table and is, therefore, practically of no significance as a source of ground water; however, it is a difficult unit to drill through because of the large amounts of gravel, cobbles, and scattered boulders that it contains.

Harbor Hill Terminal Moraine

Only a very small part of this moraine is found in the mid-island area, in the extreme northwest corner near South Huntington (pl. 1). Most of this moraine is north of the mid-island area. The moraine's lithology and water-bearing characteristics are similar to those of the Ronkonkoma terminal moraine.

Outwash Deposits

The outwash deposits, which are found south of the Ronkonkoma terminal moraine and between the Harbor Hill and Ronkonkoma terminal moraines (fig. 2), are beds of sand and gravel that were deposited by glacial melt water. The

source of the rock materials in the outwash deposits is manifold. As the glaciers moved southward to Long Island, they plucked the bedrock and soils of the surfaces they slid over. Rock materials were incorporated into the ice in contact zones and were also pushed along the glacial front. As the ice melted in late Pleistocene time, the various rock materials were carried away by broad coalescing streams and sheets of water. Consequently, the outwash deposits are stratified, and because of the varied materials carried by the glacier, these deposits consist of a heterogeneous suite of rock types. The great diversity of rock and mineral suites in the Pleistocene deposits, along with the chemically unstable (easily decomposed) rocks and minerals, commonly facilitates differentiation of glacial from the Cretaceous deposits on Long Island.

Outwash deposits underlie the plain in the mid-island area south of the Ronkonkoma terminal moraine, where the major source of glacial deposition was material from the Ronkonkoma ice advance. A readvance of the glacial front followed recession of the Ronkonkoma ice front and resulted in the formation of the Harbor Hill terminal moraine. Lakes were formed in depressions and valleys between the Ronkonkoma and Harbor Hill terminal moraines, and clayey materials were deposited in these lakes. The intermorainal areas also contain recessional deposits of outwash and ground moraine (see the following section, "Ground-Moraine Deposits") from the Ronkonkoma and Harbor Hill deglaciations, and these materials buried the clayey lake deposits.

The outwash deposits are thickest in the buried valleys and thinnest where the Cretaceous surface is closest to land surface (pl. 5). These deposits generally extend below the water table, and are a major source of ground water. Outwash deposits comprise most of the so-called upper glacial aquifer of Long Island, and because these deposits of sand and gravel contain virtually no interstitial clay and silt, the upper glacial aquifer is the most permeable aquifer on Long Island. The estimated average horizontal permeability of the outwash deposits is about 1,000 to 1,500 gpd per sq ft (Lusczynski and Swarzenski, 1966, p. 17; and Soren, in press). Warren and others (1968, p. 75) computed the horizontal permeability of outwash to be about 1,300 gpd per sq ft at the Brookhaven National Laboratory, east of the mid-island area. A horizontal permeability for outwash as high as about 2,500 gpd per sq ft has been reported in Nassau County, west of the project area (Isbister, 1966, p. 29).

Public-supply and other high-capacity wells screened in glacial outwash on Long Island have yielded as much as 1,700 gpm, and reported specific capacities of such wells range from less than 10 gpm per foot of drawdown to as much as about 200 gpm per foot of drawdown; however, the specific capacities range mostly from 50 to 100 gpm per foot of drawdown. (See section "Yields of Individual Wells.")

Ground-Moraine Deposits

Ground-moraine deposits commonly consist of unstratified and unsorted clay, silt, sand, gravel, cobbles, and boulders, deposited on the land surface as the glacial fronts receded. Ground-moraine deposits from the Ronkonkoma advance probably occur beneath the outwash in the area between the Ronkonkoma and Harbor Hill terminal moraines. Some ground-moraine deposits probably were partly reworked by glacial melt water from the Harbor Hill advance and probably appear similar to outwash in drilling samples.

Lake Deposits

A large lake apparently existed between the Ronkonkoma and Harbor Hill terminal moraines in the previously described Ronkonkoma basin. Deposits of light- to dark-brown and gray clay and silt of lacustrine origin, with some included beds of sand and gravel, occur between deposits of outwash in this area. The deposits are informally known as the Smithtown clay unit or Smithtown clay, and they were mapped and described by Lubke (1964, p. 22 and 26) as the "clay unit of Smithtown." Thin to significant thicknesses of this unit were penetrated at four of the test-drilling sites in the eastern half of the mid-island area. (See plate 5 and table 1, S22577, S22910T, S24769, and S24772). Apparently, it is thickest near the community of Lake Grove (not shown in plate 1) about 2.5 miles north of Lake Ronkonkoma, where about 300 feet of Pleistocene clay beds were penetrated in a drilled test hole (Jensen, H. M., oral commun., 1969).

Smaller glacial lakes probably also existed in other parts of the intermorainal area. Many drilling logs from localities in the area indicate thin intercalated clay and fine sand beds between sand and gravel deposits. The extent of these lakes is not fully known, and they were probably small compared to the lake in which the Smithtown clay was deposited.

Veatch and others (1906, p. 61) suggested that present Lake Ronkonkoma, in the eastern part of the mid-island area, is in a depression made by a large ice block that was detached from the main glacial-front mass and buried by outwash deposits. Subsequent melting of the ice block presumably caused the depression in the land surface which then filled with water. Inasmuch as this study has shown that present Lake Ronkonkoma is in the Ronkonkoma basin, it seems possible that the location of the lake may merely reflect the fact that the ancient Ronkonkoma basin was not completely filled by glacial deposits.

The lake deposits do not yield significant quantities of water to wells because they are fine-textured and, accordingly, poorly permeable. However, the lake beds are hydrologically significant because they confine water in the underlying outwash deposits.

Miscellaneous Deposits

The Mannetto Gravel, of Pliocene age, and the Gardiners Clay, a Pleistocene interglacial marine deposit of pre-Wisconsin age, are two additional units of hydrologic signifiance in some parts of Long Island. However, their location and extent in the project area are poorly known, and they seem to occur in only a small part of the area.

The Mannetto Gravel was described and mapped by Fuller (1914, p. 80-85) from the western edge of the mid-island area to about as far east as the area between Wyandanch and Deer Park. The unit reportedly crops out at the tops of high hills, or near the crests of high hills capped by Ronkonkoma terminal moraine deposits. The author could not verify the location and extent of the Mannetto; consequently, the unit is not shown on the surficial geology map (pl. 1).

The Gardiners Clay is an interglacial marine deposit of Sangamon age. It is generally found in the south shore areas of Long Island where the depth to its surface is commonly 40 or more feet below sea level. The Gardiners Clay overlies Matawan-Magothy strata south of the mid-island area (Perlmutter and Todd, 1965, pl. 8), and some clay beds reported by well drillers in the southern part of the buried valley near Deer Park may be Gardiners Clay. However, this is uncertain, and the unit may not be present in the project area.

GROUND-WATER SYSTEM

SOURCE AND MOVEMENT OF GROUND WATER

The ground water on Long Island has its origin in precipitation that falls on the island. According to Cohen and others (1968, p. 36, 40, and 44), the precipitation on Long Island is disposed of as follows: nearly half returns to the atmosphere by evapotranspiration; a very small amount enters streams by direct runoff; and the remaining half percolates downward through the unconsolidated deposits to the water table and enters the ground-water reservoir.

The general ground-water movement on Long Island is from recharge areas near the center of the island to discharge areas at and near the shorelines. Ground water discharges by seepage into streams and by direct subsurface outflow into salty ground water, which in turn is hydraulically connected with bodies of salty surface water.

The horizontal components of the directions of ground-water flow in the upper glacial aquifer are shown in plate 6. In the vicinity of the major ground-water divide in the mid-island area (pl. 6), ground water generally moves downward from the upper glacial aquifer into the Magothy aquifer, and thence through the Raritan clay into the Lloyd aquifer. The vertical components of downward flow decrease with increasing distance both northward and southward of the divide. Beyond the northern and southern margins of the mid-island area, ground-water flow becomes virtually horizontal. Near

the shorelines, the direction of flow is reversed, and ground-water movement is upward from the deeper aquifers toward the surface. Thus, because of the character of the flow system, under natural conditions virtually all the recharge to the Magothy and Lloyd aquifers in western Suffolk County originated in the mid-island area, and all of that recharge ultimately discharged from the ground-water system near the shorelines.

The movement of ground water through Long Island's aquifers in the horizontal direction is generally more rapid than movement in the vertical direction because of the occurrence of interbedded fine- and coarse-grained layers, and because the largest dimensions of unevenly shaped particles in the individual layers tend to be oriented horizontally. Approximate rates of ground-water movement can be computed from hydraulic gradients and estimated coefficients of permeability and porosities of the aquifers. In 1968, water in the upper glacial aquifers in the project area was moving horizontally at rates from less than 0.5 foot per day at points distant from centers of pumping, to hundreds of feet per day near the screens of pumping wells. At the same time, water in the Magothy aquifer was moving horizontally at rates from less than 0.2 foot per day at points distant from pumping, to hundreds of feet per day near the screens of pumping wells.

HYDRAULIC INTERCONNECTION OF AQUIFERS

The aquifers of Long Island are hydraulically interconnected. Layers of clay and silt within an aquifer or between aquifers serve to confine water below them, but they do not completely prevent the vertical movement of water through them. Ground water moves downward readily through coarse outwash deposits in the upper glacial aquifer. Vertical movement of water through the Magothy aquifer is impeded by beds and lenses of clay and silt. Because the clay and silt strata in the Magothy are not continuous, some water may move around lenses of this material in addition to moving slowly through the fine-grained strata.

The contact between the upper glacial and Magothy aquifers is not regular either in attitude or in composition of the contact surfaces. Glacial deposits in buried valleys are in lateral contact with truncated sandy beds in the Magothy. In the buried valleys water can laterally enter the Magothy at great depth directly from the glacial deposits, rather than the water having to move vertically to the same depth through less permeable Magothy beds. In the Huntington buried valley, glacial deposits extend completely through the Magothy aquifer to the underlying Raritan clay. (See plate 4.) In addition to the good hydraulic continuity between the upper glacial and Magothy aquifers in the buried valleys, good hydraulic continuity occurs between the aquifers outside the buried valleys where glacial sand and gravel deposits lie directly on Magothy sand beds. Thus, a fairly good hydraulic connection exists between the upper glacial and Magothy aquifers over large parts of the mid-island area, and the configuration of the piezometric surface of the Magothy aquifer is generally similar to that of the water table. However, in the mid-island area hydraulic heads in the Magothy are lower than those in the upper glacial aquifer because of the downward component of ground-water movement in the area.

The thick areally persistent Raritan clay that lies between the Magothy and Lloyd aquifers impedes but does not prevent downward movement of ground water into the Lloyd aquifer, and water in the Lloyd is tightly confined between the Raritan clay and bedrock. Downward leakage into the bedrock is negligible.

Figures 2 and 3 show hydrographs of wells screened in the upper glacial aquifer and the Magothy aquifer at the test-drilling sites in Brentwood and Hauppauge. At both sites, the heads in the deepest wells in the Magothy aquifer are about 2.5 to 3 feet lower than the heads in the shallowest wells in the upper glacial aquifer. The loss of head downward reflects the downward movement of ground water in the mid-island area. The hydrographs in figures 2 and 3 show that the heads in these two aquifers in the project area decrease at a fairly uniform rate with increasing depth. In addition, water-level fluctuations in the two groups of wells were very similar. Both of these facts, the uniform decrease in head and the similar water-level fluctuations, reflect the high degree of hydraulic interconnection between the upper glacial and Magothy aquifers.

The average vertical permeability of the Magothy aquifer is only poorly known. Estimates range from less than 1 to about 30 gpd per sq ft. Assuming that it averages about 5 gpd per sq ft in the mid-island area, the computed amount of downward ground-water movement through the Magothy aquifer in the vicinity of the ground-water divide in 1968 was about 0.4 mgd (million gallons per day) per square mile, and the estimated velocity of the downward movement was about 0.006 foot per day.

Because of the low permeability of the Raritan clay, the hydraulic-head loss across this unit is very much larger than the head loss across a comparable thickness of the Magothy and upper glacial aquifers. At the easternmost test site in the village of Lake Ronkonkoma, wells were screened near the base of the Magothy and near the top of the Lloyd aquifers (pl. 5, section A-A', S33379-80). In 1968, the head near the base of the Magothy aquifer (about 45.5 feet above sea level) was about 11.5 feet higher than the head in the Lloyd aquifer (about 34 feet above sea level). Head losses across the Raritan clay at localities east and west of the Lake Ronkonkoma area differ considerably. At Upton, about 12 miles east of the mid-island area, the head loss across the clay was about 6 feet in 1968; and at Plainview (in Nassau County), about 3 miles southwest of Melville, the head loss across the clay was about 42 feet. The differences in head loss from place to place are largely a result of differences in the vertical permeability and thickness of the Raritan clay.

The head in the Lloyd aquifer at Lake Ronkonkoma in 1968 (about 34 feet above sea level) was higher than either of the heads in the Lloyd at Upton (about 30.5 feet above sea level) and at the Suffolk-Nassau boundary (about 27.5 feet above sea level). The head in the Lloyd at Terryville, about 7 miles northeast of the Ronkonkoma area was about 21 feet above sea level in 1968, and it was 19 feet above sea level at Fire Island State Park in 1968, about 13 miles to the southwest. These data suggest that water in the Lloyd aquifer is moving radially from the Lake Ronkonkoma area. The estimated rate of horizontal movement of water in the Lloyd aquifer in the project area in 1968, was on the order of 0.1 foot per day.

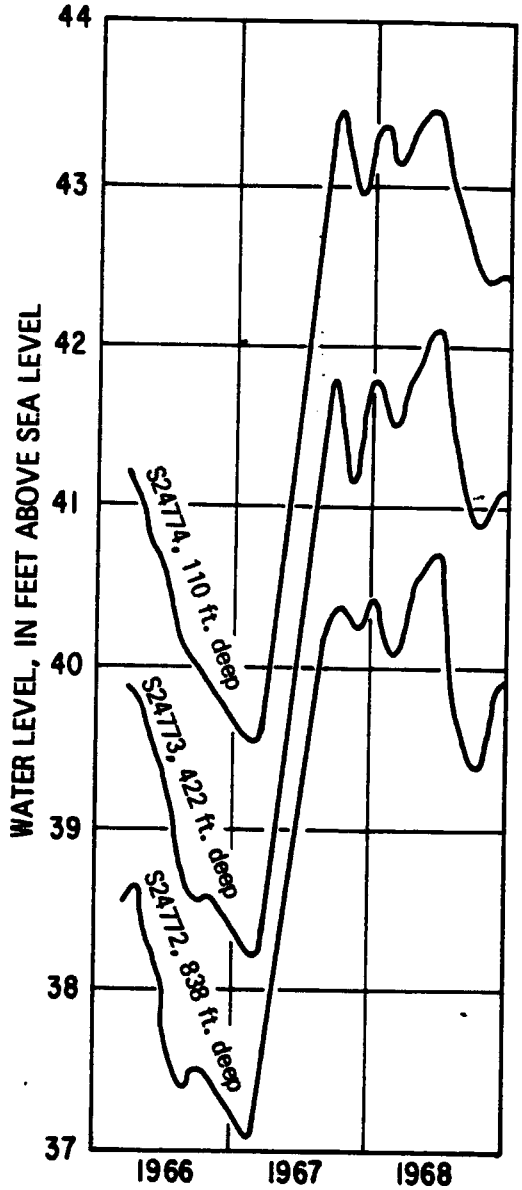


Figure 2.--Fluctuations of water levels in wells screened in the upper glacial aquifer and the Magothy aquifer at Brentwood, N. Y.

FLUCTUATIONS OF GROUND-WATER LEVELS

Fluctuations of water levels in the wells of the mid-island area reflect local variations in recharge to and discharge from the aquifers tapped by the wells. Therefore, changes in ground-water levels afford an insight into many aspects of the ground-water system. Furthermore, the information on water-level fluctuations can be used to help assess the impact of urbanization on the natural hydrologic system.

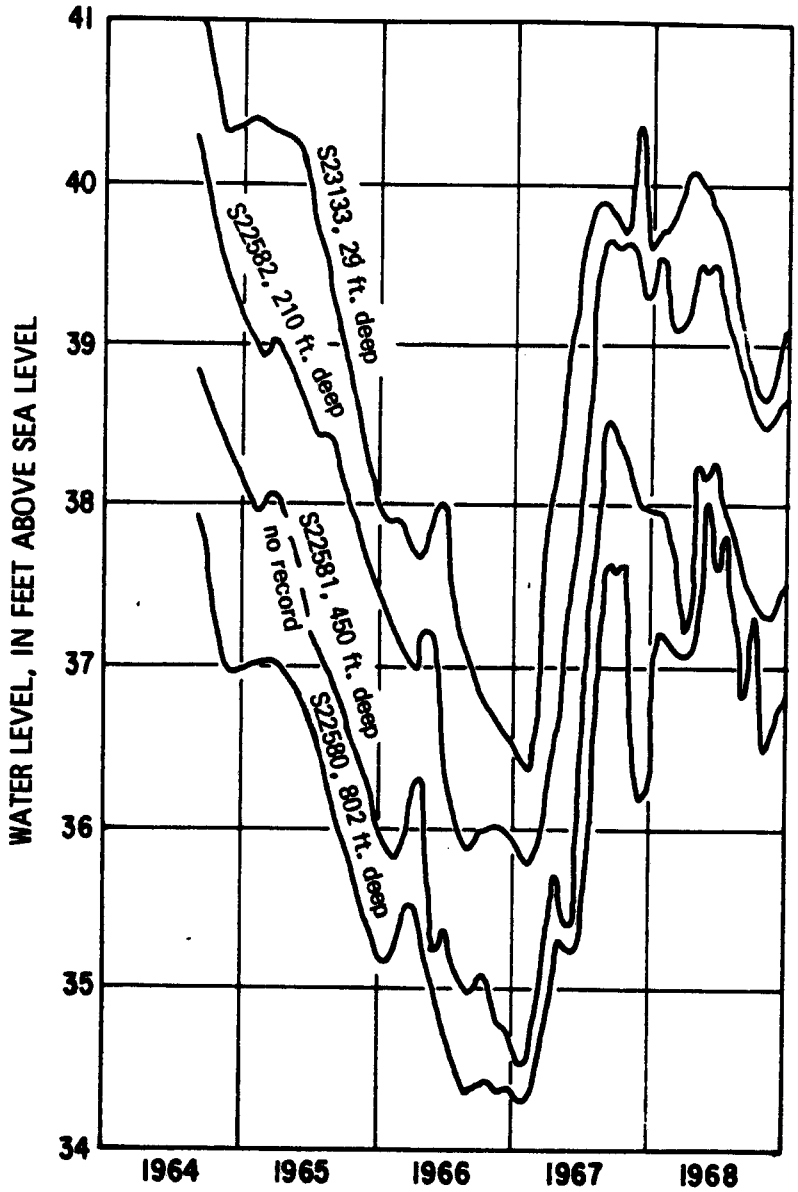


Figure 3.--Fluctuations of water levels in wells screened in the upper glacial aquifer and the Magothy aquifer at Hauppauge, N. Y.

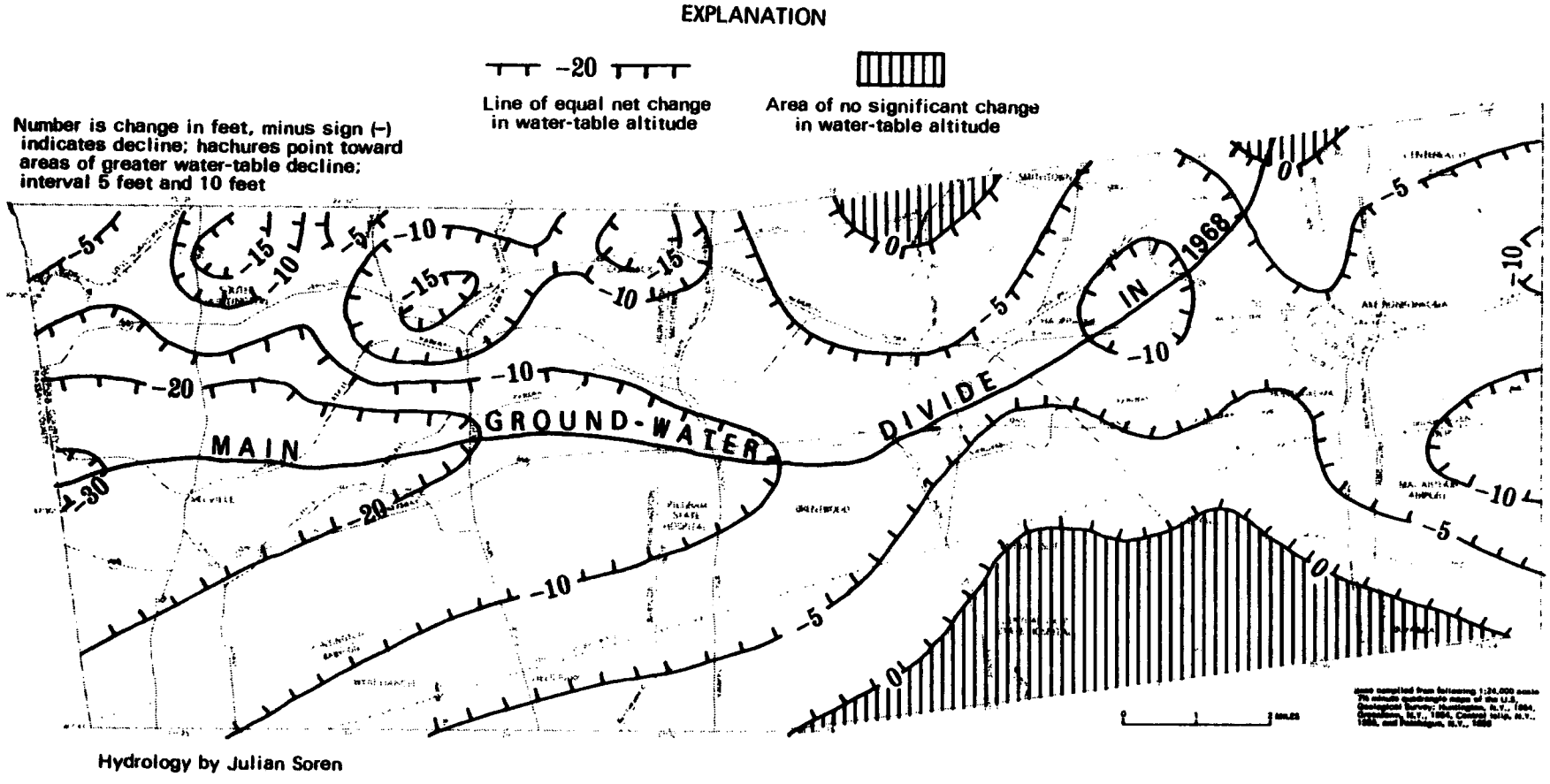
Under natural conditions and in relatively undeveloped areas of Long Island, the water table fluctuates over a range of several feet during the year. Under such conditions, the water table has a rhythmic seasonal pattern; the lowest levels are in late autumn and highest levels are in early spring. This pattern of decline and recovery of the water table reflects the greatest losses of water through evapotranspiration during the growing season and the least such losses between growing seasons. The hydrologic systems in such undeveloped areas are in equilibrium, with inflow balancing outflow. However, if large amounts of water are continually pumped out of a ground-water system, the water table declines until equilibrium is reestablished at a lower level, reflecting a loss of ground water from storage and decreased subsurface and stream outflow from the system.

In 1903, the altitude of the water table along the main ground-water divide of the mid-island area was about 100 feet above sea level near the western end of the project area; it was about 50 feet above sea level in the central part, and about 65 feet above sea level near the eastern end (Veatch and others, 1906, pl. 12). Water-table maps for the years 1943 and 1951, prepared by Jacob (1945, pl. 1) and Lusczynski and Johnson (1951, pls. 1-2), show that the altitude of the water table along the divide near the western end, middle, and eastern end of the project area was about 80, 45, and 65 feet above sea level, respectively. In 1968, the altitude of the water table along the ground-water divide in the mid-island area (pl. 6) was about 70 feet above sea level at the extreme western end, about 40 feet above sea level in the central part, and about 65 feet above sea level at the northeastern corner of the project area. Thus, from 1903 to 1968, the water table along the ground-water divide declined about 30 feet at the western end, and about 10 feet in the central area; no significant net decline of the water table occurred at the extreme northeastern end of the main ground-water divide from 1903 to 1968 (fig. 4).

Water-table fluctuations at the western end and near the eastern end of the ground-water divide in the mid-island area are shown in the hydrographs of wells N1246 and S1812, respectively (fig. 5). Well N1246 (not shown in pl. 1) is in Nassau County just to the west of the Suffolk-Nassau boundary, and just south of the Long Island Expressway. The hydrographs show no significant long-term change in level from 1945 to 1963. The earliest records of water levels in these wells (from 1940 at N1246, and from 1937 at S1812) show about the same range of fluctuations as that in the 1945-63 period. The decline shown in both hydrographs from 1963-66 is attributed mainly to drought conditions in 1962-66. Partial recovery from drought conditions is indicated for the years 1967-68. (See Cohen and others, 1969, p. 7, 10, and 17.)

Most of the decline of the water table in the mid-island area from 1903 to 1968 probably occurred in the last two decades. The 1962-66 drought conditions apparently caused about half the decline (fig. 5). Most of the remainder of the decline was caused by several factors related to urbanization, most notably increased ground-water pumpage for public-supply use and decreased recharge related to the construction of impervious surfaces such as streets and highways. Accordingly, the largest decline occurred in the western part of the area, where population increased most rapidly in the past decade or so. Many public-supply wells have been installed in the eastern half of the mid-island area (as well as in other parts of the area) in the past few years, and as pumpage continues to increase, additional water-level declines throughout the entire project area are to be expected.

The large loss of ground water in storage in the mid-island area can only be approximately computed. A volume of aquifer material on the order of 0.24 cubic mile was dewatered between 1903 and 1968. Assuming that the specific yield of the aquifer material ranges from 20 to 25 percent, the estimated total loss of ground water in storage during that period was roughly 50-70 billion gallons. This amount is small compared to the estimated total ground water in storage beneath the mid-island area. This storage consists of approximately 4.5 trillion gallons, of which about 2.5 trillion is in the upper glacial and Magothy aquifers, and about 2 trillion is in the Lloyd aquifer.



Hydrology by Julian Soren

Figure 4.--Mid-island area showing approximate net change in altitude of the water table from 1903 to 1968. (Change in water levels based on data from Veatch and others, 1906, pl. 12, and pl. 6 of this report.)

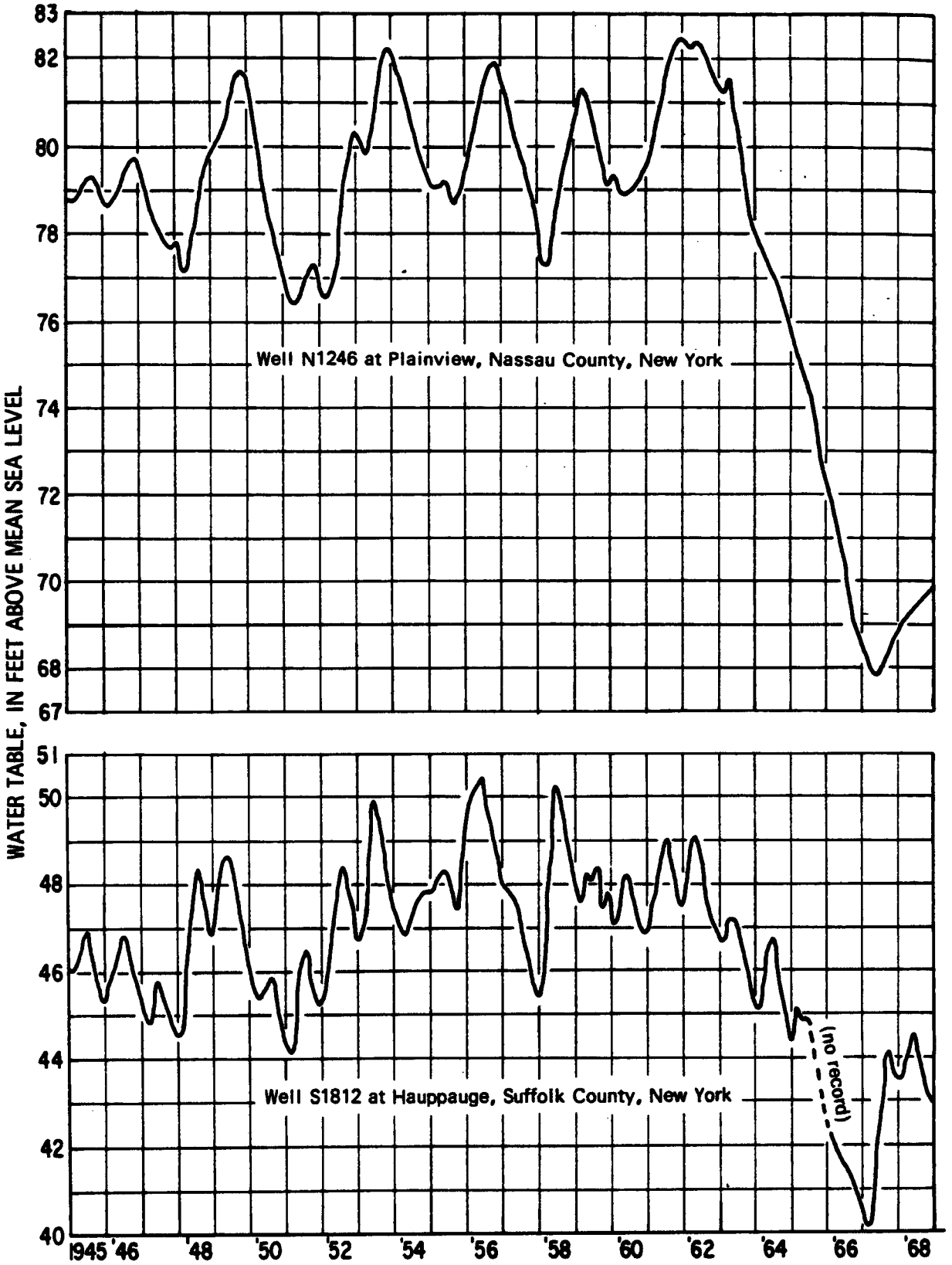


Figure 5.--Water-table fluctuations in the vicinity of the main ground-water divide, 1945-68.

UTILIZATION OF GROUND WATER

Ground water is presently the only source of fresh water in Suffolk County, and the estimated per capita use of water is on the order of 100 gpd. In addition to domestic use, ground water also is used for agricultural and industrial purposes, especially for air-conditioning and cooling.

In the mid-island area, pumpage in 1968 for all purposes was about 33 mgd, which was about 2.5 times the pumpage in 1958. Pumpage data for Suffolk County prior to 1958 are not adequate to estimate pumpage in the mid-island area before that date. However, total pumpage in the county was about 43 mgd in 1950 and about 138 mgd in 1968. Because population growth in western Suffolk was much greater than elsewhere in the county, pumpage in the mid-island area in 1968 doubtless was at least three times greater than pumpage in 1950.

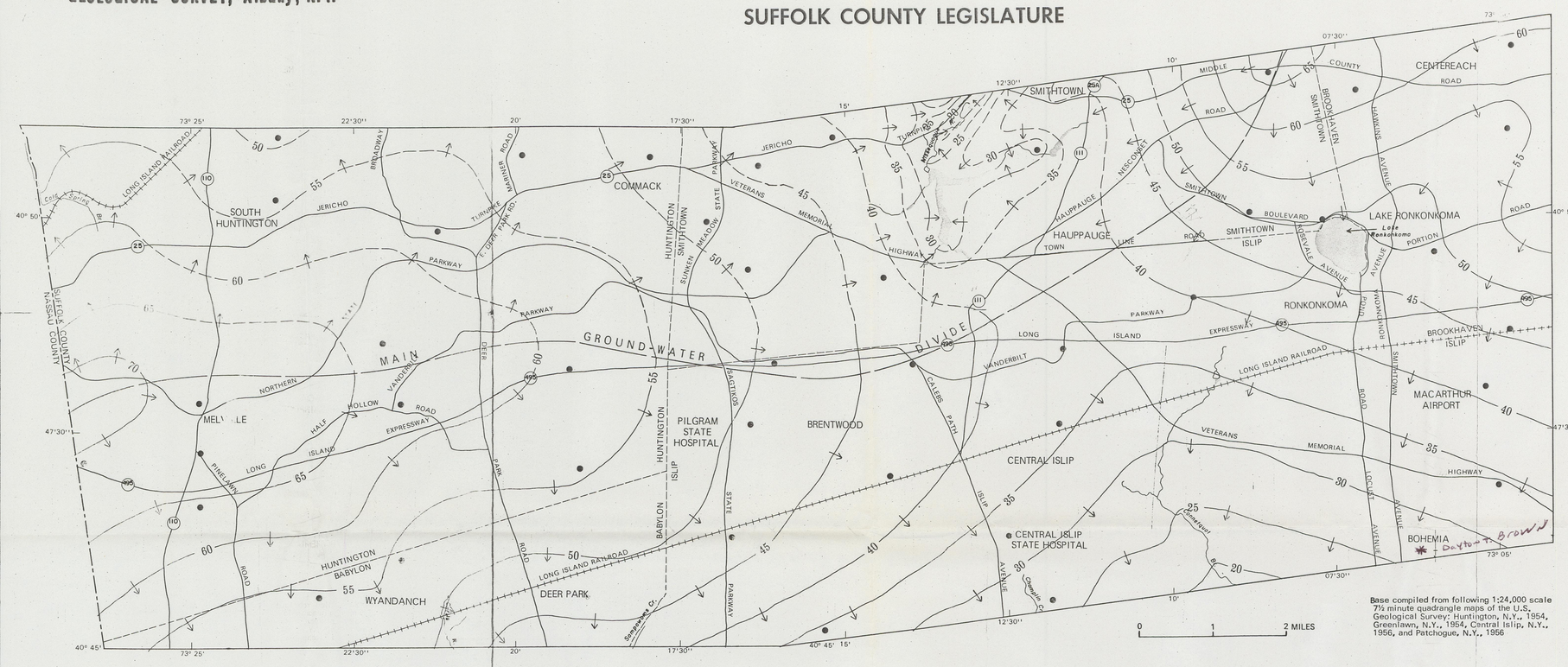
Most of the pumpage in the mid-island area is for public-supply use, and most of this water is supplied by private and public water companies including: Suffolk County Water Authority, Greenlawn Water District, South Huntington Water District, Dix Hills Water District, Brentwood Water District, and Parsnip Pond Water Co. Institutions that pump large amounts of water are: Pilgrim State Hospital, in Brentwood; Central Islip State Hospital, in Central Islip; and the New York State Department of Mental Hygiene School and Hospital, in Melville.

Many homes, especially those near the ground-water divide, have private small-capacity wells. However, the amount of water pumped from such wells is small compared to the total amount pumped by the water companies and the large institutions.

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY, Albany, N.Y.

IN COOPERATION WITH THE
SUFFOLK COUNTY WATER AUTHORITY
AND
SUFFOLK COUNTY LEGISLATURE

LONG ISLAND WATER RESOURCES BULLETIN NUMBER 1 PLATE 6
PUBLISHED BY SUFFOLK COUNTY WATER AUTHORITY



EXPLANATION

40

Approximate contour on water table

Shows altitude of water table in feet above mean sea level. Dashed where inferred. Contour interval, 5 feet. Arrow shows horizontal component of direction of water movement.

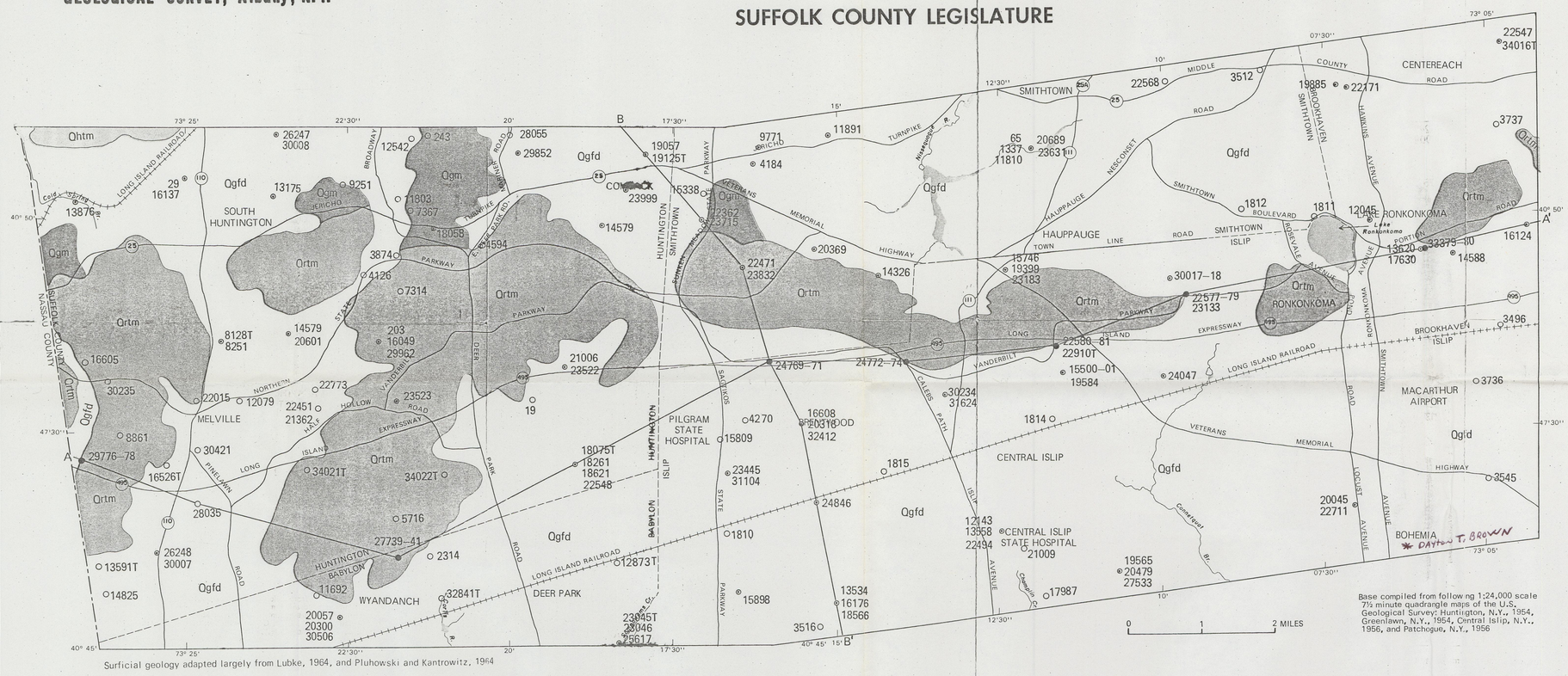
Water-level observation well

MAP OF MID-ISLAND AREA SHOWING CONTOURS ON THE WATER TABLE IN APRIL 1968

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY, Albany, N.Y.

IN COOPERATION WITH THE
SUFFOLK COUNTY WATER AUTHORITY
AND
SUFFOLK COUNTY LEGISLATURE

LONG ISLAND WATER RESOURCES BULLETIN NUMBER 1 PLATE 1
PUBLISHED BY SUFFOLK COUNTY WATER AUTHORITY



Surficial geology adapted largely from Lubke, 1964, and Pluhowski and Kantrowitz, 1964

EXPLANATION

PLEISTOCENE — QUATERNARY

Qhtm
Harbor Hill terminal moraine
Crudely stratified sand and gravel; some boulders and till

Qrtm
Ronkonkoma terminal moraine
Crudely stratified sand and gravel; some boulders and till

Qgm
Ground moraine and retreatal outwash
Till, some boulders, and some stratified sand and gravel

Qgfd
Glaciofluvial deposits
stratified sand and gravel in melt-water spillways and outwash plains

29852
Public-supply well
Number is well-identification number; Prefix "S" is omitted

29776–78
Test-drilling site and test well numbers

21009
Miscellaneous well (observation, industrial, or institutional) and number

A — A'
Geologic section
(see plate 5)

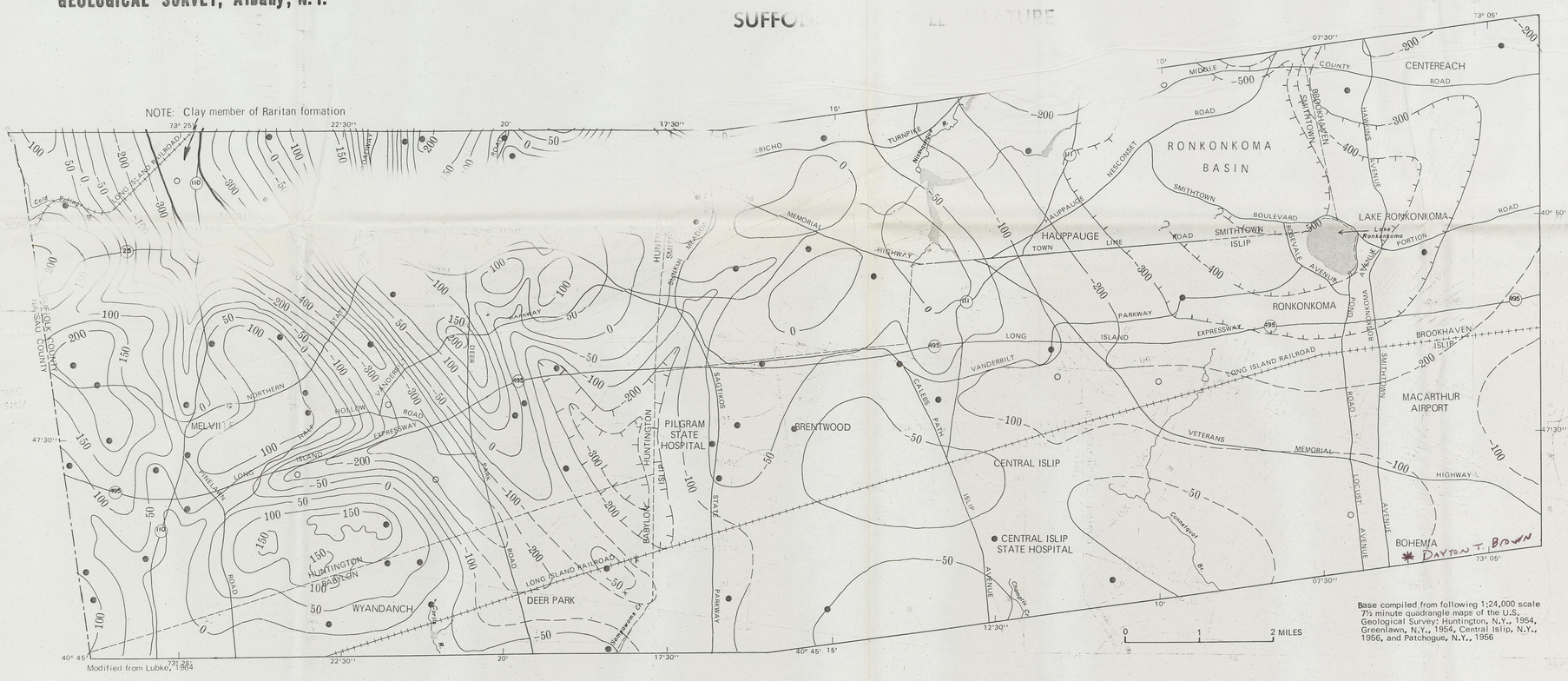
Geologic contact

MAP OF MID-ISLAND AREA SHOWING SURFICIAL GEOLOGY AND LOCATIONS OF SELECTED WELLS

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY, Albany, N.Y.

IN COOPERATION WITH THE
SUFFOLK COUNTY WATER AUTHORITY
AND
SUFFOLK COUNTY LEGISLATURE

LONG ISLAND WATER RESOURCES BULLETIN NUMBER 1 PLATE 4
PUBLISHED BY SUFFOLK COUNTY WATER AUTHORITY



Modified from Lubke, 1964

EXPLANATION

–100

Approximate contour on Matawan Group-Magothy Formation, undifferentiated surface

Shows altitude of erosion surface developed on Matawan Group-Magothy Formation undifferentiated. Dashed where inferred. Contour interval, 50 and 100 feet. Datum is mean sea level.

Well that penetrates Matawan Group-Magothy Formation, undifferentiated surface

Deep well that does not penetrate Matawan Group-Magothy Formation, undifferentiated surface

Approximate geologic contact

MAP OF MID-ISLAND AREA SHOWING CONTOURS ON THE SURFACE OF THE MATAWAN GROUP-MAGOTHY FORMATION, UNDIFFERENTIATED

REFERENCE NO. 15

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual

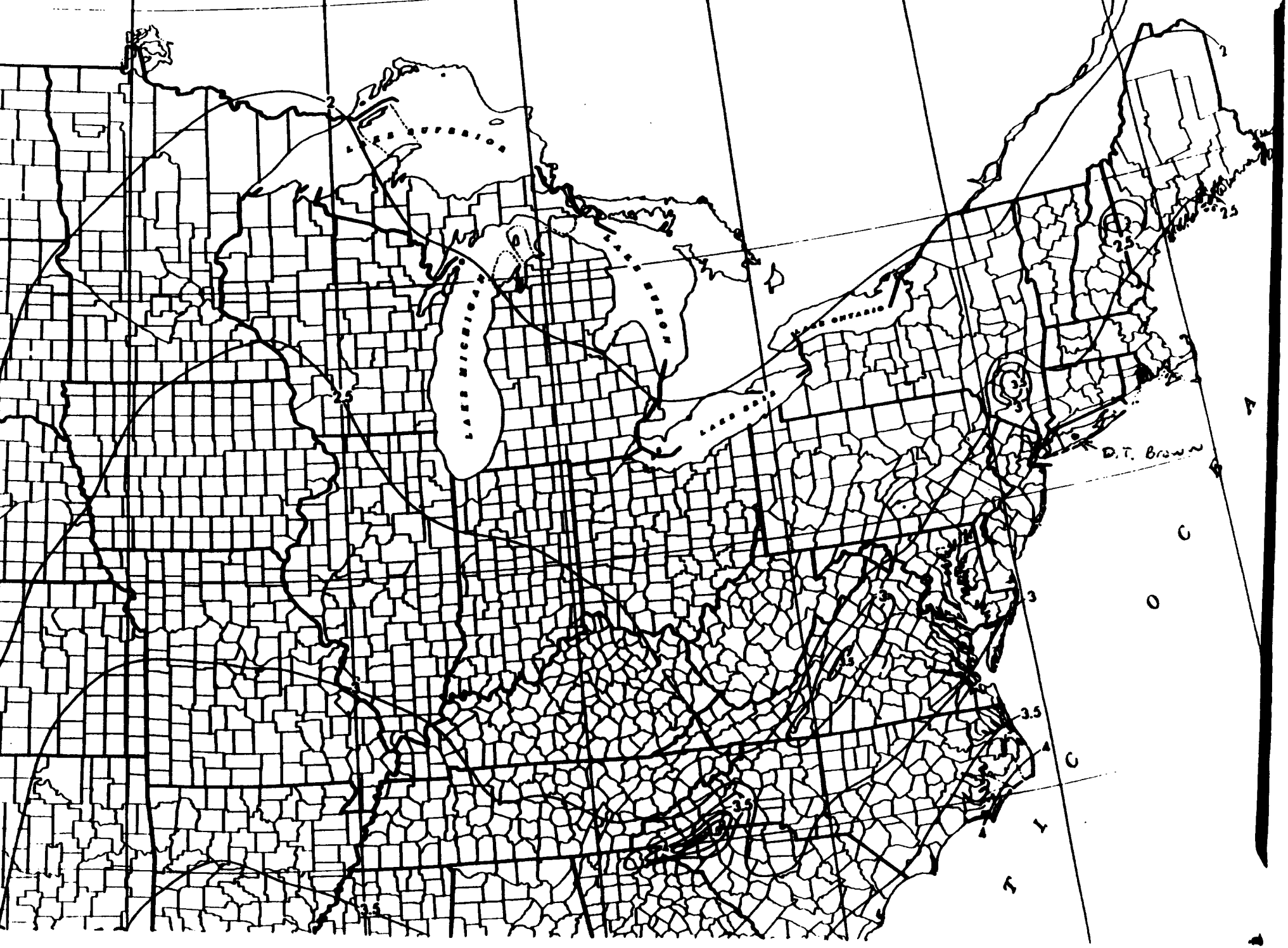
(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

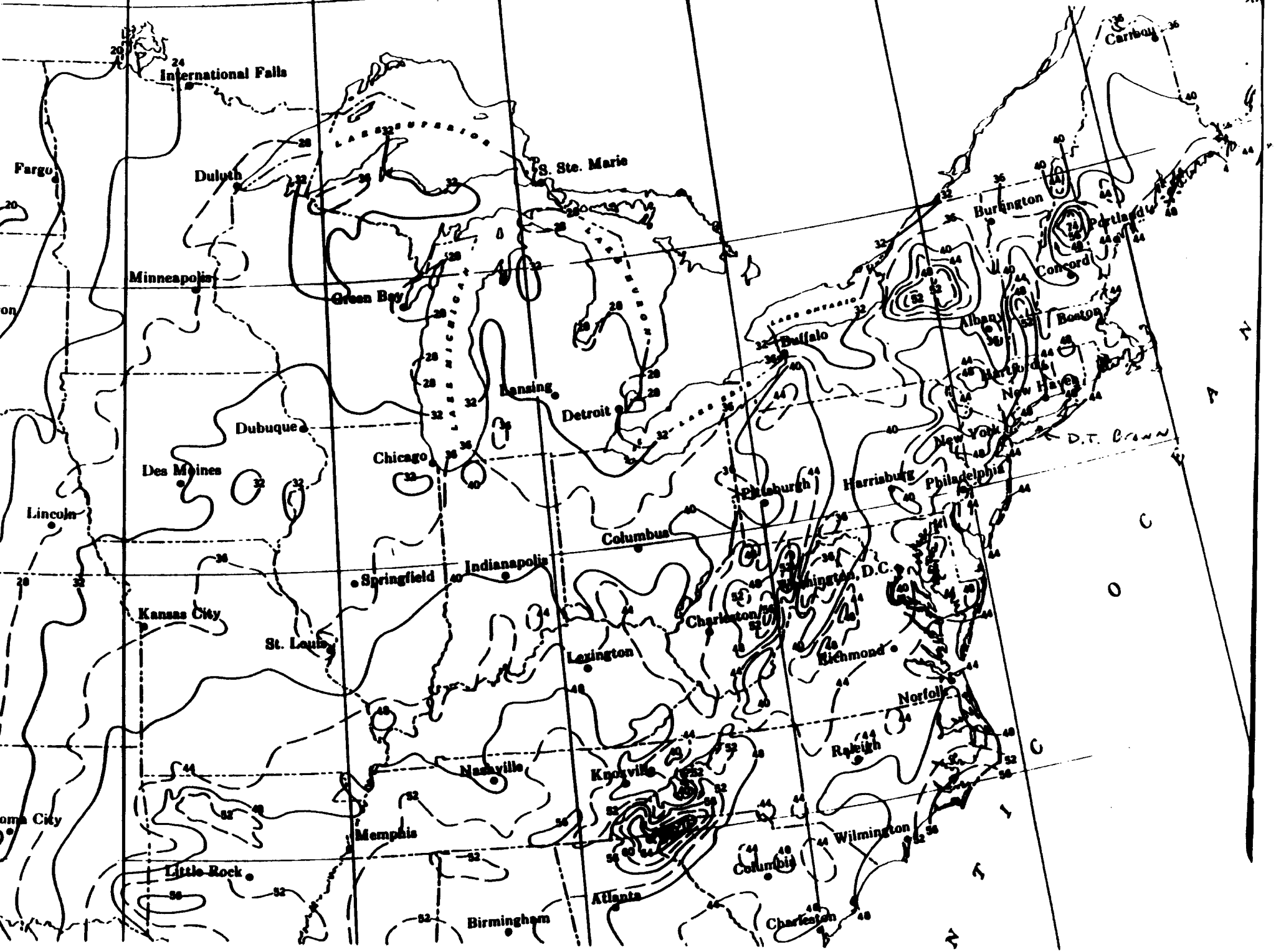
United States
Environmental Protection
Agency

1984

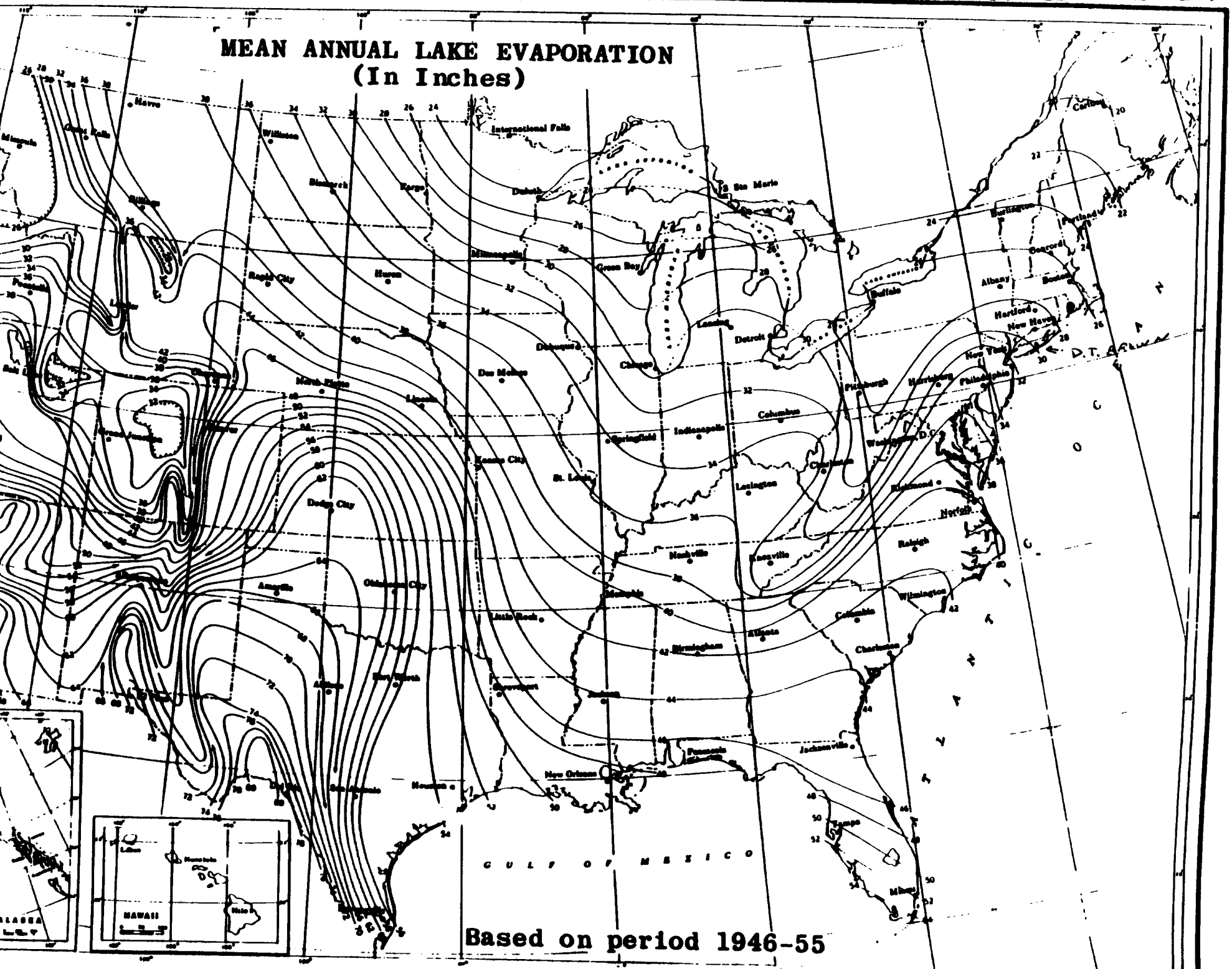
1 YEAR 24-HOUR RAINFALL (inches)



NORMAL ANNUAL TOTAL PRECIPITATION (inches)



MEAN ANNUAL LAKE EVAPORATION
(In Inches)



REFERENCE NO. 16

40072-A1-EI-250

New York

N. Y.—CONN.—N. J.

1:250 000-scale map of

Atlantic Coast Ecological Inventory

Produced by

U. S. FISH AND WILDLIFE SERVICE

1980

TERRESTRIAL ORGANISMS

Shown in BROWN; species with special status shown in RED-(F) or (S) indicates species protected by Federal or State Legislation (see text)

SYMBOL SPECIES

PLANTS (301-350)

- 301 Eastern hemlock
- 302 Spleenwort (S)
- 303 Spider lily (S)
- 304 Pond bush (S)
- 305 Watermilfoil (S)
- 306 Hooded pitcher plant (S)
- 307 Tree
- 308 Prickly pear cactus (S)
- 309 Trailing arbutus (S)
- 310 Eastern bumelia
- 311 Pitcher plant
- 312 Baldcypress
- 313 Redbay
- 314 Seaside alder
- 315 Box huckleberry
- 316 Purple fringeless orchid
- 317 Pink lady's slipper
- 318 Ebony spleenwort (S)
- 319 Orchids (S)
- 320 Golden club (S)
- 321 Florida beargrass
- 322 East-coast coontie
- 323 Fall-flowering ixia
- 324 Jackson-vine
- 325 Spoon-flower
- 326 Curtiss milkweed
- 327 Sea lavender
- 328 Hand fern
- 329 Needle palm
- 330 Yellow squirrel-banana
- 331 Beach creeper
- 332 Florida coontie
- 333 Four-petal pawpaw
- 334 Bird's nest spleenwort
- 335 Burrowing four-o'clock
- 336 Beach star
- 337 Silver palm
- 338 Dancing lady orchid
- 339 Tamaringillo
- 340 Fuch's bromeliad
- 341 Everglades peperomia
- 342 Buccaneer palm
- 343 Slender spleenwort
- 344 Pineland jacquemontia
- 345 Mahogany mistletoe
- 346 Florida thatch
- 347 Twisted air plant
- 348 Long's bittercress
- 349 Venus's flytrap

INVERTEBRATES (351-400)

- 351 Monarch butterfly
- 352 Zebra butterfly

BIRDS (401-600)

SHOREBIRDS (401-430)

- 401 Shorebirds
- 402 Terns
- 403 Gulls
- 404 Forster's tern
- 405 Arctic tern
- 406 Least tern (S)
- 407 Roseate tern (S)
- 408 Common tern
- 409 Great black-backed gull
- 410 Herring gull
- 411 Laughing gull
- 412 Black skimmer (S)
- 413 Turnstones
- 414 Plovers
- 415 Piping plover
- 416 American oystercatcher (S)

WADING BIRDS (431-460)

- 431 Wading birds
- 432 Herons
- 433 Egrets
- 434 Rails
- 435 Ibises
- 436 Bitterns
- 437 Great blue heron (S)
- 438 Wood ibis (S)
- 439 Anhinga
- 440 Little blue heron (S)
- 441 Yellow-crowned night heron (S)
- 442 Black-crowned night heron
- 443 Florida sandhill crane (S)
- 444 Louisiana heron (S)
- 445 Limpkin (S)
- 446 Roseate spoonbill (S)

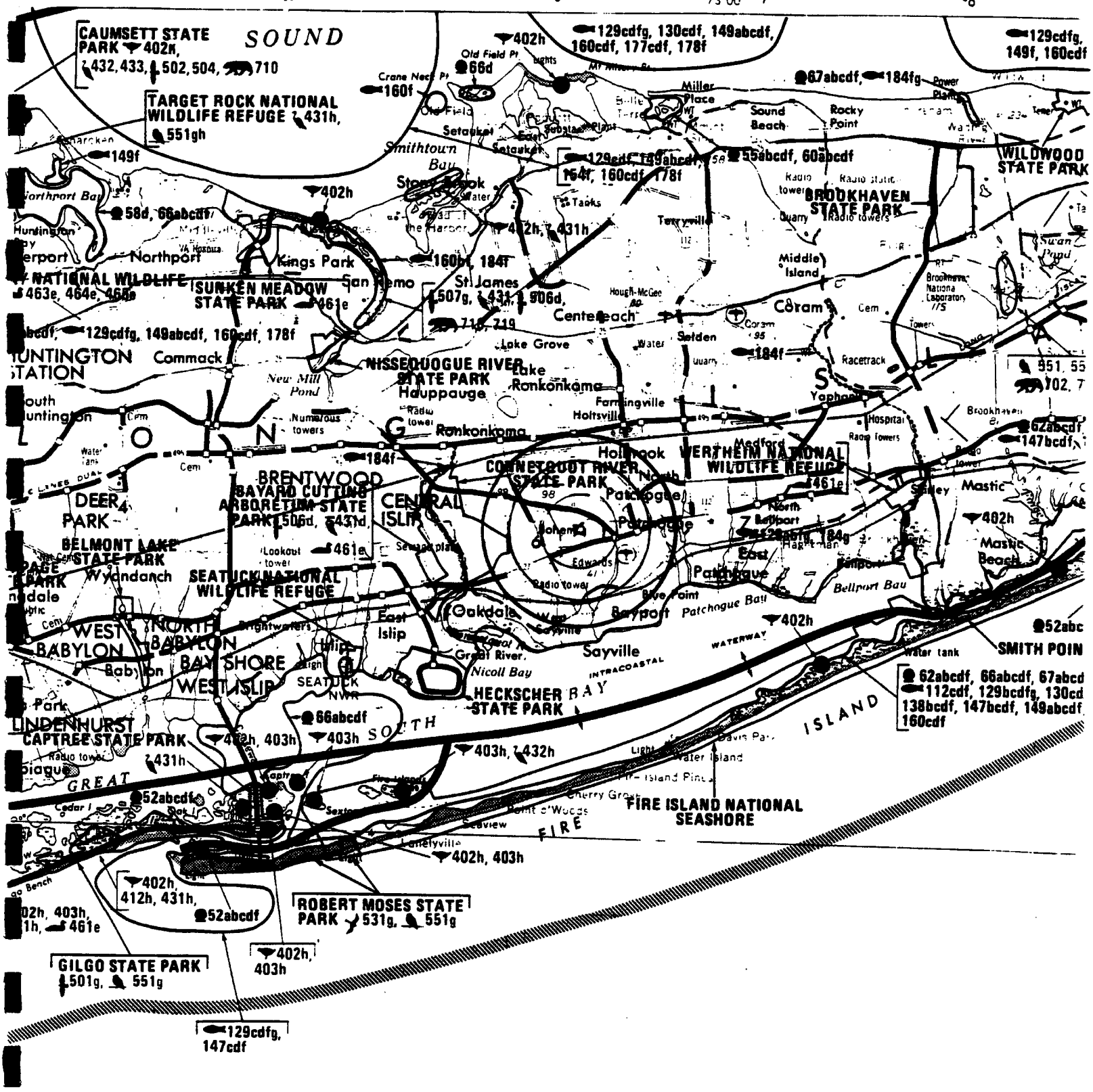
AQUATIC ORGANISMS

Shown in BLUE; species with special status shown in RED-(F) or (S) indicates species protected by Federal or State Legislation (see text)

SYMBOL SPECIES

PLANTS (1-50)

- 1 Irish moss
- 2 Rockweed



64
15'
65
66
73°00'
67
68
SOUND
CAUMSETT STATE PARK 402h, 432, 433, 502, 504, 710
TARGET ROCK NATIONAL WILDLIFE REFUGE 431h, 551gh
129cdfg, 130cdf, 149abcdf, 160cdf, 177cdf, 178f
129cdfg, 149f, 160cdf
402h
66d
160f
67abcdf, 184fg
Miller Place
Sound Beach
Rocky Point
Power Plant
Smithtown Bay
Setauket
Stony Brook
129cdf, 149abcdf, 154f, 160cdf, 178f
55abcdf, 60abcdf
WILDWOOD STATE PARK
BROOKHAVEN STATE PARK
149f
402h
58d, 66abcdf
Northport Bay
Huntington Bay
Northport
Kings Park
San Remo
St James
160bf, 184f
507g, 431, 506d, 718, 719
Terryville
Middle Island
Coram
Centereach
Selden
Lake Grove
Lake Ronkonkoma
Hauppauge
NATIONAL WILDLIFE 463e, 464e, 465e
SUNKEN MEADOW STATE PARK 461e
129cdfg, 149abcdf, 160cdf, 178f
HUNTINGTON STATION
Commack
New Mill Pond
NISSEQUOGUE RIVER STATE PARK
184f
Racetrack
Yaphank
Farmingville
Holtsville
Ronkonkoma
Holbrook
Medford
WERTHEIM NATIONAL WILDLIFE REFUGE 461e
CONNETQUOT RIVER STATE PARK
Patchogue
Bohemia
Edwards
Bellport
Mastic
Mastic Beach
Shirley
BRENTWOOD
BAYARD CUTTING ARBORETUM STATE PARK 506d, 431d
CENTRAL ISLIP
DEER PARK
BELMONT LAKE STATE PARK
Wyandanch
SEATUCK NATIONAL WILDLIFE REFUGE
Lookout tower
461e
Oakdale
East Islip
Bayport
Patchogue Bay
Bellport Bay
Blue Point
Sayville
Great River
Nicoll Bay
WEST BABYLON
NORTH BABYLON
BAY SHORE
WEST ISLIP
SEATUCK NWR
HECKSCHER STATE PARK
INTRACOASTAL WATERWAY
SMITH POIN
62abcdf, 66abcdf, 67abcd
112cdf, 129bcdfg, 130cd
138bcdf, 147bcdf, 149abcdf
160cdf
66abcdf
403h
SOUTH BAY
LINDENHURST
CAPTREE STATE PARK
431h
403h, 432h
GREAT
52abcdf
Davis Park
Water Island
Fire Island Pines
Cherry Grove
Point o'Woods
Seaview
Lanelyville
FIRE ISLAND
FIRE ISLAND NATIONAL SEASHORE
402h, 403h
402h, 412h, 431h,
52abcdf
ROBERT MOSES STATE PARK 531g, 551g
402h, 403h
GILGO STATE PARK 501g, 551g
129cdfg, 147cdf

REFERENCE NO. 17

02-8703-66

NUS CORPORATION
SUPERFUND DIVISION TDD # 02-8703-66 **PROJECT NOTES**

TO: D.T. BROWN FILE DATE: 4/9/87

FROM: E. LEONARD COPIES:

SUBJECT: BACKGROUND

REFERENCE: I. DOROSKI : INSPECTOR, SUFFOLK COUNTY DEPT. OF HEALTH, BUREAU OF ENV. POLLUTION

MR. DOROSKI STATED THAT D.T. BROWN PROPERTY IN BORDERED ON THREE SIDES (WEST, NORTH & EAST) BY OTHER INDUSTRIES.

NUS 443A 56 1182

REFERENCE NO. 18

NUS CORPORATION 0033 C 02 8703 66

TELECON NOTE

CONTROL NO:	DATE: 7/23/87	TIME: 1010 HRS

DISTRIBUTION:

DAYTON T. BROWN

TDD# 02-8703-66

BETWEEN: CLERK	OF: ASSESSOR'S OFFICE - ISLIP	PHONE: (516) 224-5584

AND: E. L. LEONARD (NUS)

DISCUSSION: RE: PROPERTY OWNER - PRESENT

REQUESTED PAST & PRESENT PROPERTY OWNERS.

- PRESENT OWNER
  DAYTON T. BROWN ~~INC~~ RII INC
  555 CHURCH ST
  BOHEMIA, NY
  AS OF JAN 1959
  MAILING ADDRESS: 555 CHURCH ST
  PROPERTY ADDRESS: 1195 CHURCH ST.
  DIST: 500
  SEC: 214
  BLOCK: 1
  LOT: 1

~~ACTION ITEMS:~~ RII

- PAST OWNER
  CALL: COUNTY CLERK
  RIVER HEAD, NY 516/548-3400

REQUEST LIBER: 4580
PAGE 283

NUS 067 REVISED 0581

REFERENCE NO. 19

NUS CORPORATION 3035.C 02.8703.66 **TELECON NOTE**

CONTROL NO:	DATE: 7/23/87	TIME: 1025 HRS

DISTRIBUTION:

DAYTON T. BROWN
TDD # 02-8703-66

BETWEEN:	OF:	PHONE:
CLERK	COUNTY CLERK OFFICE SUFFOLK COUNTY TITLE DIVISION	(516) 548-3400

AND: E. L. LEONARD (NUS)

DISCUSSION: RE: PROPERTY OWNER - PAST

J. M. GREENE
GREAT RIVER RD
GREAT RIVER, SUFFOLK CO. NY

NO YEARS OF OWNERSHIP.
SOLD JANUARY 1959.

ACTION ITEMS:

NUS 067 REVISED 0581

REFERENCE NO. 20

[6560-01]

[FRL 910-3]

AQUIFERS UNDERLYING NASSAU AND SUFFOLK COUNTIES, NEW YORK

Determination

Notice is hereby given that pursuant to Section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300f, 300h-3(e); 88 Stat. 1660 et seq.; Pub. L. 93-523) the Administrator of the Environmental Protection Agency has determined that the aquifer system underlying Nassau and Suffolk Counties, Long Island, New York, is the principal source of drinking water for these counties and that, if the aquifer system were contaminated, it would create a significant hazard to public health.

BACKGROUND

The Safe Drinking Water Act was enacted on December 16, 1974. Section 1424(e) of the Act states: "If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole of principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the FEDERAL REGISTER. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer."

On January 21, 1975, the Environmental Defense Fund petitioned the Administrator to designate the aquifers underlying Nassau and Suffolk Counties, Long Island, New York, as a sole source aquifer under the provisions of the Act. A notice of receipt of this petition, together with a request for comments, was published in the FEDERAL REGISTER, Thursday, June 12, 1975. Written comments were submitted by the Environmental Defense Fund (EDF) on August 7, 1975, supporting their petition. A letter from the Director of the Nassau-Suffolk Regional Planning Board, dated October 1, 1976, requested that designation be delayed until after the completion of the areawide waste management (208) planning process for Long Island.

Because of the limited response to the FEDERAL REGISTER notice, EPA issued a press release and mailed an information sheet to elected officials and environmental groups on Long Island in March 1977. In addition, a presentation was made to the Citizens Advisory Committee (CAC) of the 208 planning agency and to the executive committee of the Long Island Water Conference. In response to these activities EPA received three comments: a letter from EDF questioning why project review would exclude direct Federal projects, a letter from a member of the East Hampton Planning Board expressing support for the designation, and a letter from the CAC requesting that designation be delayed until after the completion and approval of the Long Island 208 plan.

In considering the comments received, we could not agree with the letters requesting further delay since we do not believe that the review process under Section 1424(e) will constrain the options of 208 planning.

On the basis of the information which is available to this Agency, the Administrator has made the following findings, which are the basis for the determination noted above:

(1) The aquifers underlying Nassau and Suffolk Counties are the sole or principal drinking water source for the area. They supply good quality water for about 2.5 million people. Current water supply treatment practice for public supplies is generally limited to disinfection for drinking purposes, with some plants capable of nitrate removal. There are also numerous private sources. There is no alternative source of drinking water supply which could economically replace this aquifer system.

(2) The aquifer system is vulnerable to contamination through its recharge zone. Since contamination of a ground-water aquifer can be difficult or impossible to reverse, contamination of the the aquifer system underlying Nassau and Suffolk Counties, New York, would pose a significant hazard to those people dependent on the aquifer system for drinking purposes.

Among the determinations which the Administrator must make in connection with the designation of an area under Section 1424(e) is that the area's sole or principal source aquifer or aquifers, "if contaminated, would create a significant hazard to public health * * *" Obviously, threats to the quality of the drinking water supply for such a large population could create a significant hazard to public health. The EPA does not construe this provision to require a determination that projects planned or likely to be constructed will in fact create such a hazard: it is sufficient to demonstrate that approximately 2.5 million people depend on the aquifer system underlying Nassau and Suffolk Counties as their principal source of drinking water, and that the aquifer system is vulnerable to contamination through its recharge zone.

Section 1424(e) of the Act requires that a Federal agency may not commit funds to a project which may contaminate the aquifer system through a recharge zone so as to create a significant hazard to public health. The recharge zone is that area through which water enters into the aquifer system. Because of groundwater movement within these aquifers, the recharge zone is considered to be the entire area of Nassau and Suffolk Counties. However, both horizontal and vertical boundaries of the recharge zone are discussed in the background document under the section entitled "Area of Consideration."

The data upon which these findings are based are available to the public and may be inspected during normal business hours at the office of the Environmental Protection Agency, Region II, 26 Federal Plaza, New York, New York 10007. It includes a support document for designation of the aquifers underlying Nassau and Suffolk Counties, New York, and maps of the area within which projects will be subject to review.

A copy of the above documentation is also available at the U.S. Waterside Mall, Environmental Protection Agency, Public Information and Reference Unit, Room 2922, 401 M Street S.W., Washington, D.C. 20460.

The EPA has issued proposed regulations for the selective review of Federal financially assisted projects which may contaminate the aquifer system underlying Nassau and Suffolk Counties, New York, through the recharge zone so as to create a significant hazard to public health. These proposed regulations were published in the FEDERAL REGISTER issue of September 29, 1977, and public comments were requested. They will be used as interim guidance for project review until their promulgation during 1978.

EPA, Region II, is working with the Federal agencies which may in the near future fund projects in the area of concern to EPA to develop interagency procedures whereby EPA will be notified of proposed commitments for projects which could contaminate the bicounty area's sole source aquifer system. Although the project review process cannot be delegated, the Regional Administrator in Region II will rely to the maximum extent possible upon any existing or future State and local control mechanisms in protecting the ground-water quality of the aquifer system underlying Nassau and Suffolk Counties, New York. Included in the review of any Federal financially assisted project will be coordination with the State and local agencies. Their determinations will be given full consideration and the Federal review process will function so as to complement and support State and local mechanisms.

Dated: June 12, 1978.

DOUGLAS M. COSTLE,
Administrator.

[FR Doc. 78-17067 Filed 6-20-78; 8:45 am]

REFERENCE NO. 21

. X

In the Matter of the Alleged Violation of Part 228 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, by

DAYTON T. BROWN, INC.

(Suffolk County) Respondent

ORDER CONSENT

FILE # 1-1373

. X

WHEREAS, Part 228 of Title 6 of the Official Compilation of [illegible] Rules and Regulations of the State of New York provides the control requirements for surface coating processes; and

WHEREAS, this Department has documented an instance of Respondent having operated a surface coating process in non-compliance with the provisions of Part 228 of Title 6 of NYCRR and having failed to submit a schedule for the implementation of actions to achieve said compliance; and

WHEREAS, Respondent has affirmatively waived its right to a public hearing in this matter in the manner provided by law; (but only with respect to the issuance of this Order, and not with respect to any future contingencies which may arise hereunder as to which the parties hereby agree that there shall be a right to an administrative hearing if [illegible] for [illegible]) and having consented to the entering and issuing of this [illegible] pursuant to the provisions of Article 19 of the New York State Environmental Conservation Law, agrees to be bound by the terms and conditions contained herein;

NOW, having considered this matter and being duly advised, it [illegible]

ORDERED, that in the event there is non-compliance with Part 228 of Title 6 of NYCRR by Oct. 1, 1985, and Respondent continues to operate, Respondent shall be fined the sum of Five Thousand ($5,000) Dollars, due and payable on that date. In the event that such non-compliance continues until April 1, 1986, then Respondent shall be fined an additional sum of Ten Thousand ($10,000) Dollars, due and payable on that date. In the event that such non-compliance continues to Oct. 1, 1986, then Respondent shall be fined an additional Fifteen Thousand ($15,000) Dollars, due and payable on that date; and it is further

ORDERED, that in the event the submission of progress reports, as required by Schedule A of this Order, are not submitted by the dates indicated in the Schedule A, the Respondent shall be fined the sum of Five Hundred ($500) Dollars, due and payable fifteen (15) days after the progress report due date; and it is futher

RECEIVED
MAY 14 1985
SUFFOLK COUNTY
JOB NO.

[illegible] to the [illegible]
[illegible] of all Permits and Certi[illegible]
systems at Respondent's facility and refusal to issue fu[illegible] Permits [illegible]
Certificates to Operate; and it is further

ORDERED, that the provisions, terms and conditions of this O[illegible] shall be deemed to bind Respondent, its successors and assigns and all [illegible]sons, firms or corporations acting under or for it, including, but not [illegible]ted to those who may carry on any or all of the activities now being conduc[illegible] by Respondent, whether at the present location or at any other in this St[illegible] and it is further

ORDERED, that in those instances in which Respo[illegible] desires [illegible] any of the provisions, terms and conditions of this Order be [illegible], it [illegible] make written application, setting forth the grounds for the relief so[illegible] to the Commissioner, c/o Joan B. Scherb, Regional Attorney, [illegible] State Department of Environmental Conservation, Building #40, [illegible] University [illegible] New York, Stony Brook, NY, 11794; and it is further

[illegible] effective, except [illegible] set forth by written [illegible] Commissioner, such written order being made either upon [illegible] application of the Respondent, or upon the Commissioner's own findings.

Dated: Albany, New York
5/6 1985

HENRY G. WILL[illegible]
Commissioner of Environ[illegible]tal Cons[illegible]tion

BY [illegible]
HAROLD D. [illegible]RGER
Regional [illegible]ector

TO: Dayton T. Brown, Inc.
555 Church Street
Bohemia, New York 11716

Attention: Mr. Robert Single

CONSENT BY RESPONDENT

Respondent acknowledges the authority and jurisdi[illegible]tion of the Commissioner of Environmental Conservation of the State of [illegible]w York to [illegible]e the foregoing Order, waives public hearing or other proceeding in this [illegible]er, (but not with respect to any future contraversies which may [illegible]rise ther[illegible] as to which the parties expressly agree that there shall be [illegible] right to administrative hearing) provided for by law accepts the te[illegible] and condi[illegible]s set forth in the Order and consents to the issuance thereof.

BY [signature]
DAYTON T. BROWN

STATE OF NEW YORK)
s.s. :
COUNTY OF SUFFOLK)

On the 19th day of April 1985, before me personally came Robert C. Single to me known, who being duly sworn, deposed and said that he resides at Sayville, N.Y. that he is the Asst. Sec. of Respondent Dayton T. Brown Corporation and that he signed his name for and on behalf of said corporation with full authority so to do.

Constance M. Hahn
NOTARY PUBLIC

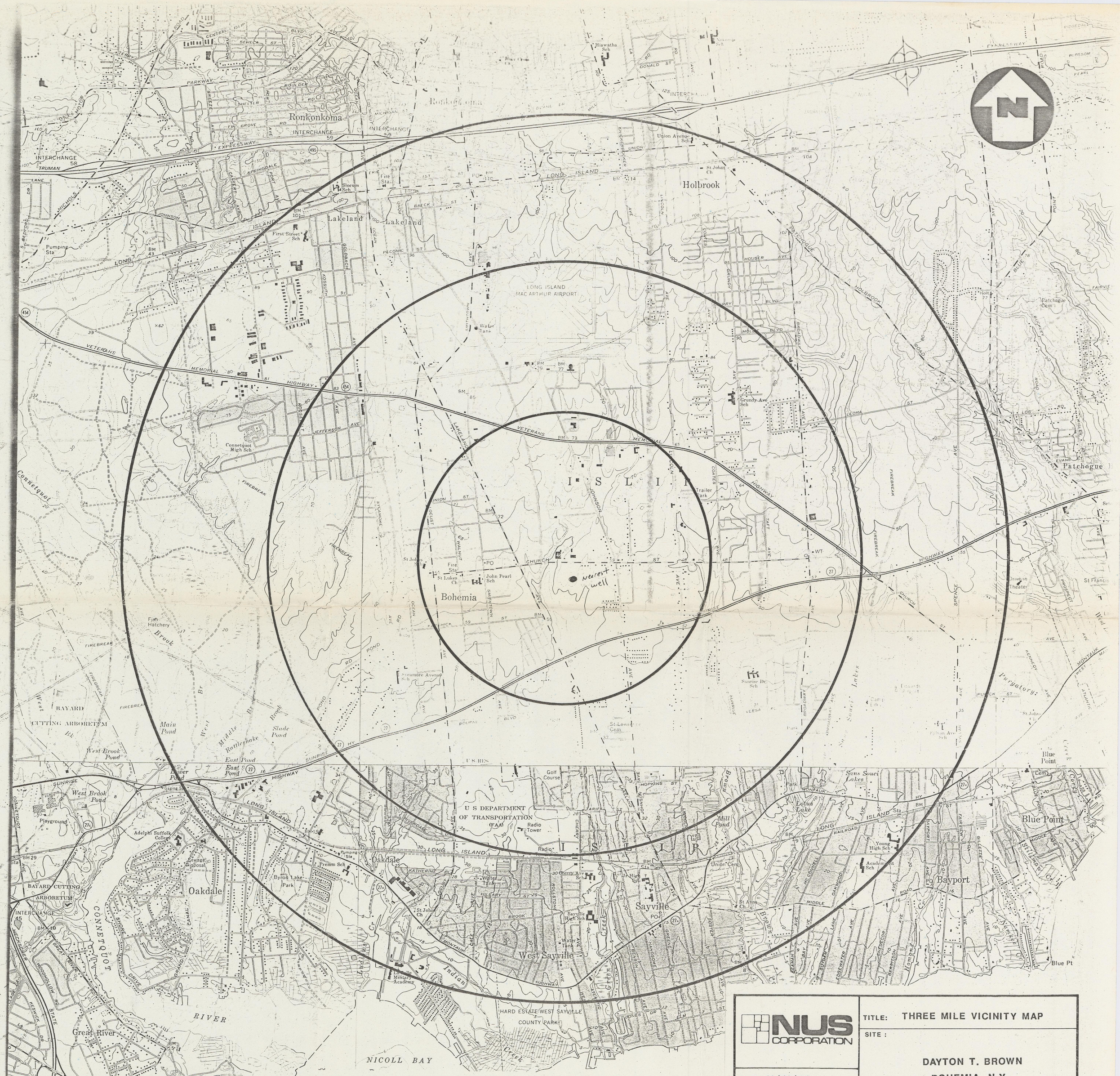
CONSTANCE M. HAHN
NOTARY PUBLIC, State of New York
No. 0559527
Qualified in Suffolk County
Commission Expires March 30, 1987

Compliance Schedule
for

DAYTON T. BROWN

July 1, 1985, Oct. 1, 1985, April 1, 1986	Respondent shall submit progress reports (quarterly) summarizing the actions taken and/or efforts.
On or before April 1, 1985,	Respondent shall demonstrate to the Department, that operations in toto at the Respondent's facility are in full compliance with the provisions of Part 228 of 6 NYCRR or pay the assessed $5,000 fine and demonstrate to the satisfaction of the Department, that he has firmly committed himself to the implementation of appropriate process changes and/or acquisition and installment of equipment which is considered necessary to achieve said compliance, which commitment shall be demonstrated by the presentation of properly executed purchase order(s) and/or contracts for service.
On or before Oct. 1, 1985,	Respondent shall demonstrate to the Department that operations in toto, at the Respondents's facility are in full compliance with the provisions of Part 228 of 6 NYCRR or pay the assessed $10,000 fine and demonstrate to the satisfaction of the Department, that he has firmly committed himself to the implementation of appropriate process changes and/or acquisition and installment of equipment which is considered necessary to achieve said compliance, which committment shall be demonstrated by the presentation of properly executed purchase order(s) and/or contracts for service.
On or before April 1, 1986, (Final Compliance Date)	Respondent shall demonstrate to the Department that operations in toto at the Respondent's facility are in full compliance with the provisions of Part 228 of 6 NYCRR or pay the assessed $15,000 fine and be subject to further legal actions by the Department

REFERENCE NO. 22



NUS CORPORATION

TITLE: THREE MILE VICINITY MAP

SITE:

DAYTON T. BROWN
BOHEMIA, N.Y.

DATE: 10/10/89

TDD: 02-8703-66

QUAD: PATCHOQUE, N.Y.

FIGURE NUMBER:

SCALE: 1"= 2000'

REFERENCE NO. 23

NUS CORPORATION 0040-C 02-8703-66

TELECON NOTE

CONTROL NO:	DATE: 7/21/87	TIME: 1205 HRS

DISTRIBUTION: DAYTON T. BROWN
TDD # 02-8703-66

BETWEEN:	OF:	PHONE:
R. SINGLE	DAYTON T. BROWN	(516)589-6300

AND: E. L. LEONARD

(NUS

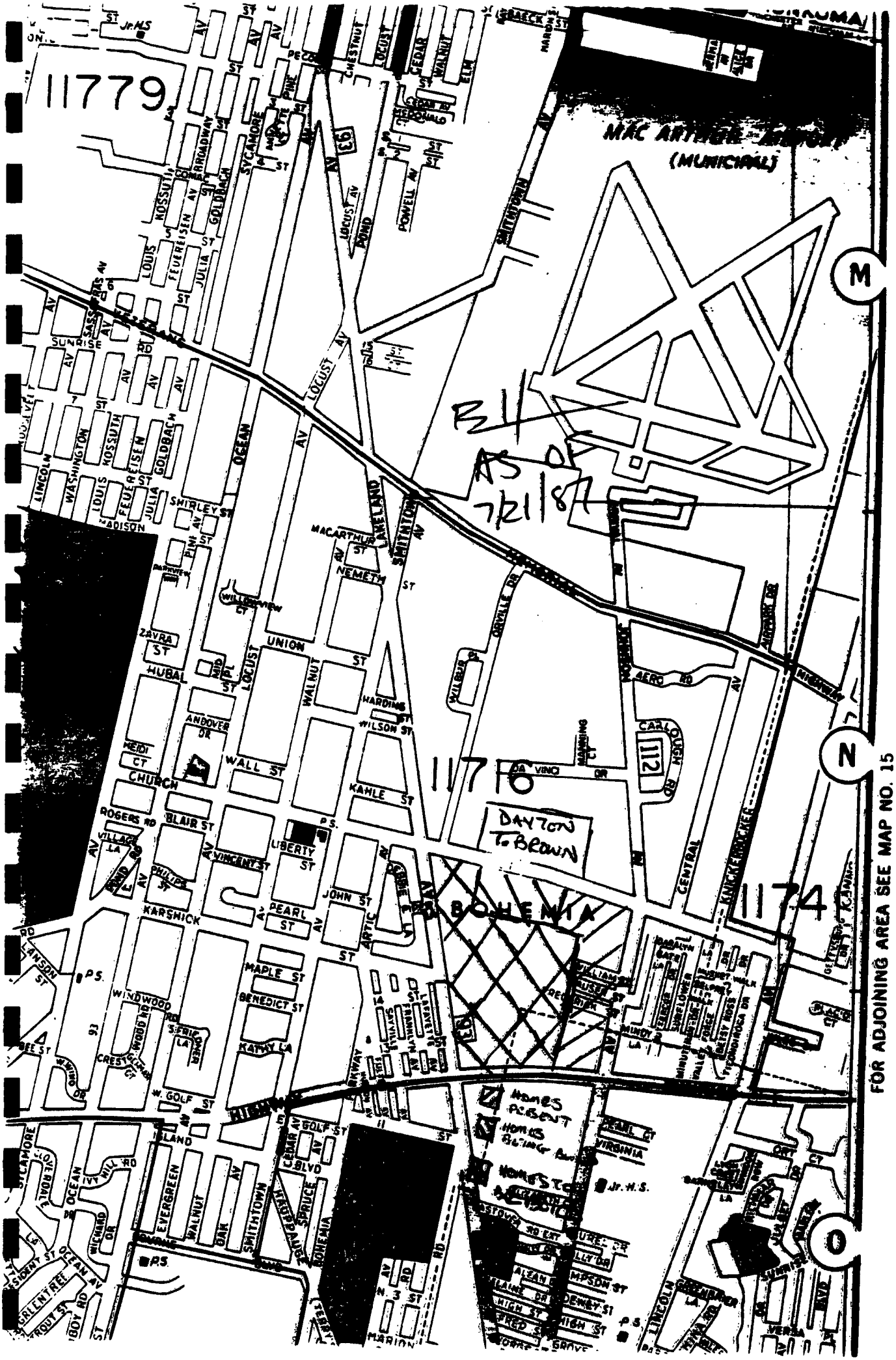
DISCUSSION:

SITE INFORMATION

- ALL PRODUCTION WELLS LOCATED IN ENGINEERING (LABORATORY BUILDING).
- HOUSES BEING BUILT OR TO BE BUILT ON PROPERTY ACROSS FROM D.T. BROWN. SEE ATTACHED MAP.

ACTION ITEMS:

NUS 067 REVISED 0581



FOR ADJOINING AREA SEE MAP NO. 15

REFERENCE NO. 24

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
ISLIP, NEW YORK
SUFFOLK COUNTY

PANEL 10 OF 40
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
365337 0010 C

MAP REVISED:
JULY 18, 1983

Federal Emergency Management Agency

KEY TO MAP

500-Year Flood Boundary	
100-Year Flood Boundary	ZONE B
Zone Designations* With Date of Identification e.g., 12/2/74	
100-Year Flood Boundary	ZONE B
500-Year Flood Boundary	
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7x
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (Zones A and V) [illegible] all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

Coastal base flood elevations shown on this map include [illegible] effects of wave action.

Coastal base flood elevations apply only landward of the shoreline shown on this map.

INITIAL IDENTIFICATION:
OCTOBER 17, 1970

FLOOD HAZARD BOUNDARY MAP REVISIONS
NONE

FLOOD INSURANCE RATE MAP EFFECTIVE:
NOVEMBER 17, 1972

FLOOD INSURANCE RATE MAP REVISIONS

July 1, 1974-to change zone designations.

March 26, 1976-to reflect curvilinear flood boundary and to add special flood hazard areas.

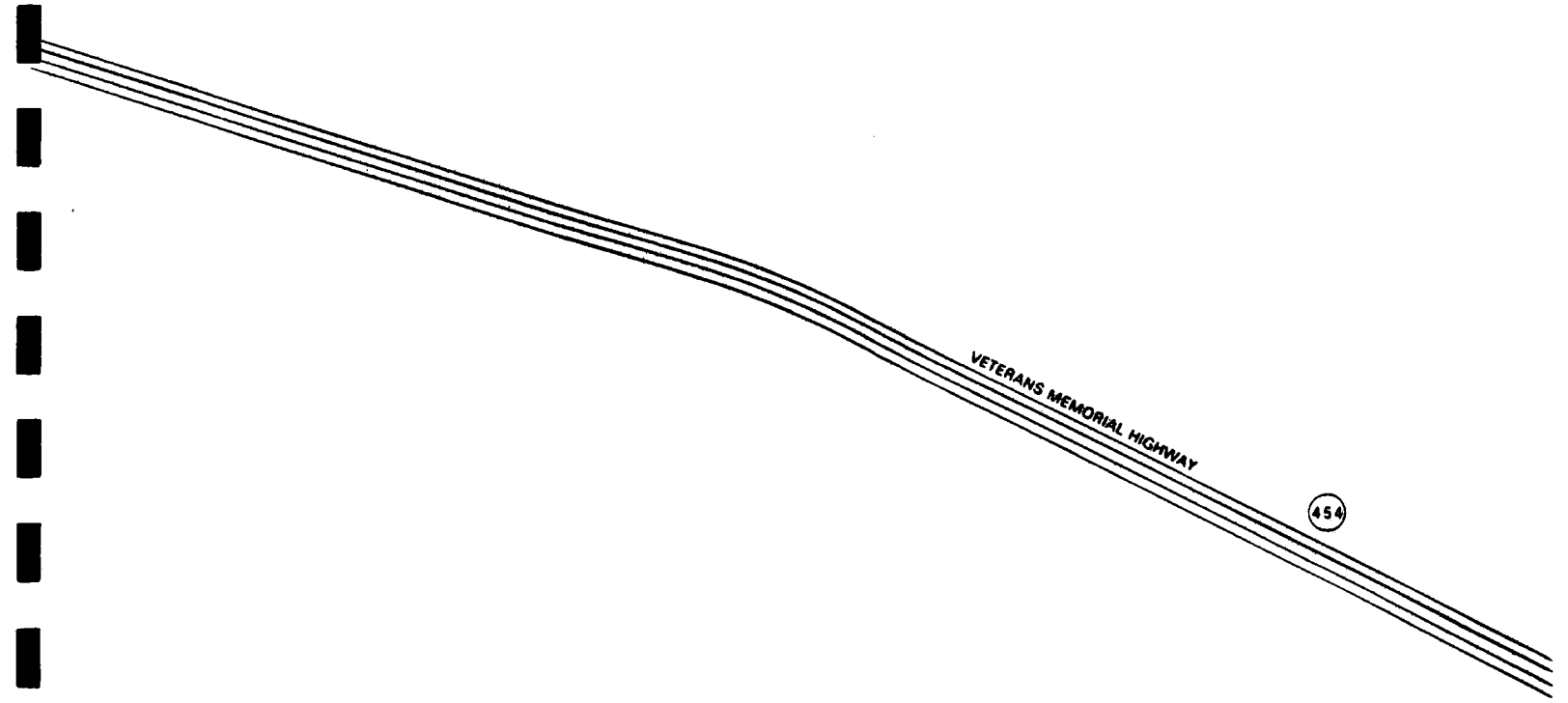
June 12, 1981-to add special flood hazard areas.

July 18, 1983-to include the effects of wave action.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE
1000 0 1000 FEET

ZONE C



Drayton T. Brown