3012 Site

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by HQ)
VI	LA 01317

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition *(Section II)*. File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Tack Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Delta Shipyard

B. STREET *(or other identifier)*: 202 Industrial Boulevard

C. CITY: Houma

D. STATE: LA

E. ZIP CODE: 70361

F. COUNTY NAME: Terrebonne

G. SITE OPERATOR INFORMATION

1. NAME: Ralph Arceneaux, President, Delta Shipyard

2. TELEPHONE NUMBER: (504) 868-7450

3. STREET: P.O. Box 101

4. CITY: Houma

5. STATE: LA

6. ZIP CODE: 70361

H. REALTY OWNER INFORMATION *(if different from operator of site)*

1. NAME: Delta Services Industries

2. TELEPHONE NUMBER: (504) 868-7450

3. CITY: Houma (P.O. Box 101)

4. STATE: LA

5. ZIP CODE: 70361

I. SITE DESCRIPTION: see attachment

J. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE

II. TENTATIVE DISPOSITION *(complete this section last)*

A. ESTIMATE DATE OF TENTATIVE DISPOSITION *(mo., day, & yr.)*:

B. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☒ 4. NONE

C. PREPARER INFORMATION

1. NAME: Thomas Myers

2. TELEPHONE NUMBER: (201) 560-1650

3. DATE *(mo., day, & yr.)*: 9/12/84

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME: Thomas Myers

2. TITLE: Geologist

3. ORGANIZATION: The Earth Technology Corporation

4. TELEPHONE NO. *(area code & no.)*: (201) 560-1650

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
None		

C. SITE REPRESENTATIVES INTERVIEWED *(corporate officials, workers, residents)*

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Ralph Arceneaux	President (504) 868-7450	P.O. Box 101, Houma, LA 70361

SUPERFUND FILE

APR 30 1992

REORGANIZED

9418091

L Ad 058475419

Reviewed by 6AW-SC 12/2/94

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Delta Shipyard	(504) 868-7450	P.O. Box 101, Houma, LA 70361	oily waste-recovered and sold to recyclers

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
None			

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
None		

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
9/12/84	1:30-4:00	[X] 1. PERMISSION [ ] 2. WARRANT

J. WEATHER (describe)

sunny, high in the 90's

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER			
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify) None		see attachment	

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
None		

Continue On Page 3

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS: [XX] a. GROUND [ ] b. AERIAL
2. PHOTOS IN CUSTODY OF: see attachment

D. SITE MAPPED?

[XX] YES. SPECIFY LOCATION OF MAPS: see attachment

E. COORDINATES

1. LATITUDE (deg.-min.-sec.): 29° 34' 02" N
2. LONGITUDE (deg.-min.-sec.): 90° 42' 18" W

V. SITE INFORMATION

A. SITE STATUS

[ ] 1. ACTIVE (Those inductrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)

[X] 2. INACTIVE (Those sites which no longer receive wastes.) 2 closed oil pits

[ ] 3. OTHER (specify): _____ (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?

[ ] 1. NO [X] 2. YES (specify generator's four-digit SIC Code): None

C. AREA OF SITE (in acres): 36

D. ARE THERE BUILDINGS ON THE SITE?

[ ] 1. NO [X] 2. YES (specify): Office and administration building

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY	X	4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		(closed under LA DEQ supervision)

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

[ ] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [X] 4. SURFACE IMPOUNDMENT [ ] 5. DEEP WELL

[ ] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [ ] 8. OPEN DUMP [ ] 9. TRANSPORTER [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

[XX] 1. LIQUID [ ] 2. SOLID [ ] 3. SLUDGE [ ] 4. GAS

B. WASTE CHARACTERISTICS

[ ] 1. CORROSIVE [ ] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE

[XX] 5. TOXIC [ ] 6. REACTIVE [ ] 7. INERT [X] 8. FLAMMABLE

[ ] 9. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Yes, manifests.

Continue On Reverse

Continued From Front

WASTE RELATED INFORMATION (continued)

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT: None	AMOUNT: 125	AMOUNT: None	AMOUNT: None	AMOUNT: None	AMOUNT: None
UNIT OF MEASURE:	UNIT OF MEASURE: bbl /month	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE:
X (1) PAINT, PIGMENTS	X (1) OILY WASTES	X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	X (1) LABORATORY, PHARMACEUT.
(2) METALS SLUDGES	X (2) OTHER (specify): Leaded tank bottoms	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW	NOTE: all waste oil is sold to reclaimers	(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	(4) MUNICIPAL
(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (specify):
			(6) CYANIDE	(6) OTHER (specify):	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER (specify):		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X')			3. TOXICITY (mark 'X')				4. CAS NUMBER	5. AMOUNT	6. UNIT
	a. SOLID	b. LIQ.	c. VAPOR	a. HIGH	b. MED.	c. LOW	d. NONE			
Leaded tank bottoms	X	X		X				68476-53-9	62.5	bbl/mo
Slop oil		X			X			68477-26-9	62.5	bbl/mo

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☐ A. HUMAN HEALTH HAZARDS

Continue On Page 5

Continued From Page 4

VIII. HAZARD DESCRIPTION *(continued)*

☐ B. NON-WORKER INJURY/EXPOSURE

☐ C. WORKER INJURY/EXPOSURE

☐ D. CONTAMINATION OF WATER SUPPLY

☐ E. CONTAMINATION OF FOOD CHAIN

☐ F. CONTAMINATION OF GROUND WATER

☐ G. CONTAMINATION OF SURFACE WATER

Continue On Reverse

Continued From Front

VIII. HAZARD DESCRIPTION *(continued)*

☐ H. DAMAGE TO FLORA/FAUNA

☐ I. FISH KILL

☐ J. CONTAMINATION OF AIR

☐ K. NOTICEABLE ODORS

☐ L. CONTAMINATION OF SOIL

☐ M. PROPERTY DAMAGE

Continue On Page 7

Continued From Page 6

VIII. HAZARD DESCRIPTION *(continued)*

☐ N. FIRE OR EXPLOSION

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

☐ P. SEWER, STORM DRAIN PROBLEMS

☐ Q. EROSION PROBLEMS

☐ R. INADEQUATE SECURITY

☐ S. INCOMPATIBLE WASTES

Continue On Reverse

VIII. HAZARD DESCRIPTION *(continued)*

☐ T. MIDNIGHT DUMPING

☐ U. OTHER *(specify)*:

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE *(specify units)*
1. IN RESIDENTIAL AREAS	1,000	1,000	300	1 mile
2. IN COMMERCIAL OR INDUSTRIAL AREAS	2,500	2,500	25	1 mile
3. IN PUBLICLY TRAVELLED AREAS	0	0	0	1 mile
4. PUBLIC USE AREAS *(parks, schools, etc.)*	0	0	0	1 mile

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER *(specify unit)*	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
2 feet	South	None
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY** *(specify unit of measure)*	**F. DIRECTION TO DRINKING WATER SUPPLY**
Unknown	0.5 miles	West

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS ☒ 2. COMMUNITY *(specify town)*: > 15 CONNECTIONS Houma Water Dept. - Bayou Black

☒ 3. SURFACE WATER ☐ 4. WELL

Continue On Page 9

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COMMUNITY (mark 'X')	5. COMMUNITY (mark 'X')
None				

I. RECEIVING WATER

1. NAME: Houma Navigation Canal

☐ 2. SEWERS ☒ 3. STREAMS/RIVERS ☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

Secondary contact recreation and propagation of fish and wildlife.

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☒ C. 100 YEAR FLOOD PLAIN ☐ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	'X'	B. BEDROCK (specify below)	'X'	C. OTHER (specify below)
	1. SAND				
X	2. CLAY				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

☐ A. UNKNOWN ☐ B. VERY HIGH (100,000 to 1000 cm/sec.) ☐ C. HIGH (1000 to 10 cm/sec.)

☐ D. MODERATE (10 to .1 cm/sec.) ☐ E. LOW (.1 to .001 cm/sec.) ☒ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

H. DISCHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE: 0%

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.: South

J. OTHER GEOLOGICAL DATA

Fresh water may be contained in buried distributary channels along Bayou Lafourche but any development of these reservoirs would be very limited due to salt water encroachment. Pleistocene terrace deposits beneath these Holocene deltaic sequences are connected to surface waters and any contamination of these aquifers could reach surface reservoirs.

 Continue On Reverse

Continued From Front

XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X')		
					1. YES	2. NO	3. UNKNOWN
State	HWMP	GD 343I1	10/22/80	Interim	X		
RCRA	EPA	LAD 058473413	Unknown	None	X		

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

[XX] NONE [ ] YES (summarize in this space)

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition *(Section II)* information on the first page of this form.

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT SUPPLEMENT SHEET

LA 01317

Instruction - This sheet is provided to give additional information in explanation of a question on the form T2070-3.

Corresponding number on form	Additional Remark and/or Explanation
I., I.	This facility cleans and repairs oil barges. Two oil/water separator pits were utilized to recover the waste oil generated from the barge cleaning operations. Earlier this year the pits were drained and the bottom sludge was sampled. The test results from this sampling were reviewed by the LA DEQ Hazardous Waste Division, and closure of the pits by backfilling was approved. The oil sludge remaining in the pits was mixed with 30 cubic yards of sandy soil. An above ground steel tank separator has replaced the pits.
IV., A., i.	Since closure of the pits was approved by the State Hazardous Waste Division, no samples will be collected.

LA01317

ATTACHMENT B

REJECTION FORM

HAZSIT #	SITE NAME	FORM # and DATE COMPLETED by STATE
LA 1317	Delta Shipyard	2070-3 / 9/12/84

EXPLANATION FOR REJECTION:
(DEFICIENCIES)

* Report does not reflect the existence of the two monitoring wells other than a site map.
  - If well samples were taken during the time of the State-approved closure, provide this data and any other data pertinent to site closure. ⊙ Review State files.

* VICINITY MAP EXHIBIT "B" is very poor in quality.

SUGGESTED REMEDY FOR DEFICIENCIES:

As NOTED.

Provide a superior reproduction or a different map of sufficient quality. (must be able to read elevations)
⊙ Contact U.S.G.S. or L.G.S. for assistance.

SIGNATURE: Gary W. Gruner

NAME OF REVIEWER

DATE: 18DEC84

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT
(Supplemental Report) LA 01317

INSTRUCTION
Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT
Two secondary oil/water separator pits.

2. STABILITY/CONDITION OF EMBANKMENTS
The pits have been backfilled and closed.

3. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc.)*
☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE
☐ YES ☒ NO

5. ONLY COMPATIBLE WASTES ARE STORED OR DISPOSED OF IN THE IMPOUNDMENT
☒ YES ☐ NO

6. RECORDS CHECKED FOR CONTENTS AND LOCATION OF EACH SURFACE IMPOUNDMENT
☒ YES ☐ NO

7. IMPOUNDMENT HAS LINER SYSTEM
☒ YES ☐ NO located in clay soil

7a. INTEGRITY OF LINER SYSTEM CHECKED
☐ YES ☒ NO

7b. FINDINGS
Subsurface soils have a permeability of 10^{-7} to 10^{-8} cm/sec.

8. SOIL STRUCTURE AND SUBSTRUCTURE
Silty clay with traces of sand extend to a depth of 40-50 feet.

9. MONITORING WELLS
☒ YES ☐ NO 2 wells

10. LENGTH, WIDTH, AND DEPTH
LENGTH 75' (each) WIDTH 40' (each) DEPTH 5' (each)

11. CALCULATED VOLUMETRIC CAPACITY
15,000 cubic feet

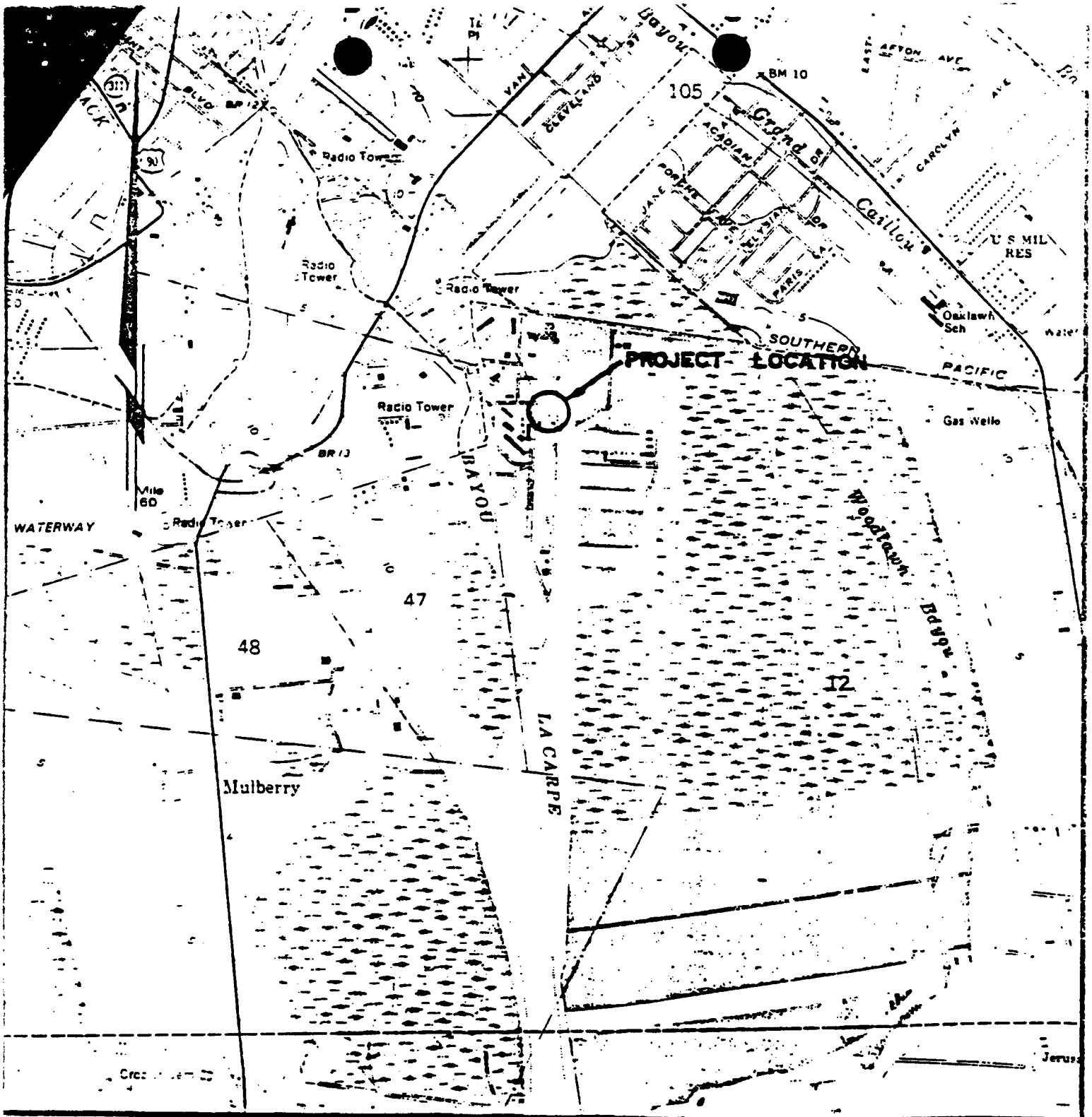
12. PERCENT OF CAPACITY REMAINING
Closed pits - N/A

13. ESTIMATE FREEBOARD
N/A

14. SOLIDS DEPOSITION
☒ YES ☐ NO Low solids deposited

15. DREDGING DISPOSAL METHOD
None

16. OTHER EQUIPMENT
None

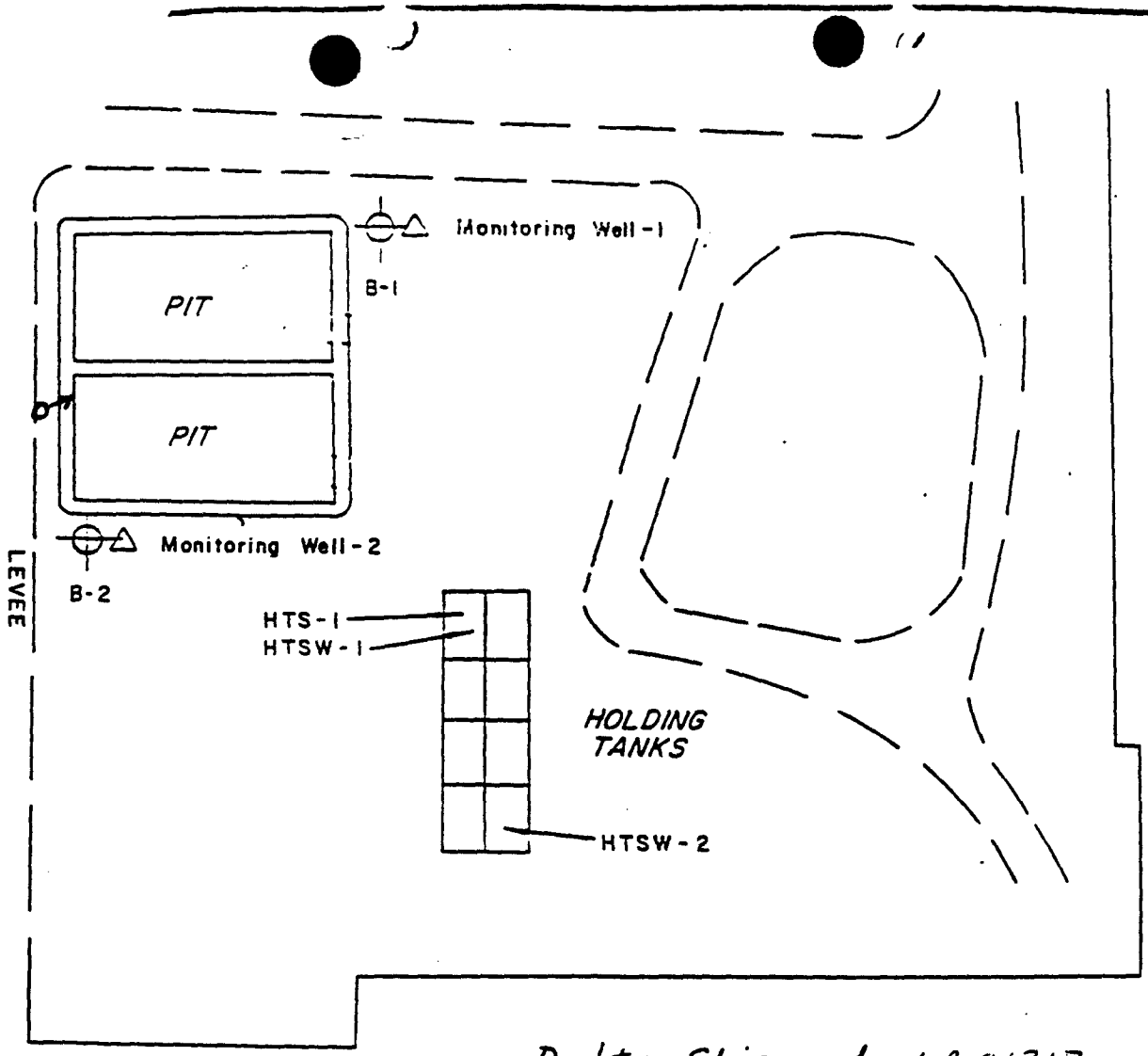


TAKEN FROM U.S.G.S. HOUMA, LA. QUADRANGLE MAP, 1963.

SCALE IN FEET

1000 0 1000 2000 3000 4000 5000 6000 7000

VICINITY MAP
EXHIBIT "B"



Delta Shipyard LA 01317

Site Map

MONITORING WELLS
B-1 (3" by 13')
B-2 (3" by 20')

3 Photograph Location and direction

Delta Shipyard
LA 013[illegible]

Photographer / Witness

Thomas [illegible]

Date / Time / Direction

9/3/[illegible] 3:[illegible]pm [illegible]

Comments: [illegible]

separator [illegible]

Photographer / Witness

Date / Time / Direction

Comments:

Photographer / Witness

Date / Time / Direction

Comments:

REFERENCE 3

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALTIY
OFFICE OF SOLID & HAZARDOUS WASTE
HAZARDOUS WASTE DIVISION
GENERAL INSPECTION

DATE April 16, 1986

COMPANY Delta Shipyards (Now owned by Elevating Boats, Inc.) **EPA #** LAD058475419

MAILING ADDRESS Rt. 1 Box 217, Braithwaite, La. 70040

MANAGER Lynn Dean **CONTACT** _____ **PHONE #** _____

OPERATION LOCATION Houma--Industrial Blvd. **PARISH** Terrebonne

TYPE OF OPERATION Inactive shipyard and gas free plant.

REASON FOR VISIT Sampling of impoundments and tanks. Complaint received by office stated impoundments held hazardous waste.

INVESTIGATORS Richard G. Goudeau, Vic Montelaro

PERSONS INTERVIEWED Wes Bozone, Elevating Boats

NARRATIVE:

Upon arrival at the site we were met by Mr. Bozone. He stated the site had been purchased by Mr. Lynn Dean who owned Elevating Boats, Inc. This information was not available to the inspectors prior to the effort. Subsequent to this, a purchase date of April 8, 1986 has been confirmed.

Samples were obtained from tanks and impoundments located on site. The tanks were utilized in the past in conjunction with a barge gasfreeing operation. Two closed pits also involved in this operation were sampled. Finally, samples were taken from a large open impoundment not associated with the gas free operation. (See Sketch).

Sampling went as follows:

1. Due to unforeseen presence of waste in tanks and the apparent similarity a composite was taken.

   Tanks 1, 3 and 5 only were sampled due to accessibility #20186041601 analysis requested: VOA, metals and PCB's.

2. North closed pit--20186041602--depth composite at two (2) locations. Analysis request: VOA, PCB, Metals

3. South Closed Pit--20186041603--same as 2.

(Continued on Back)

REPORT BY: Richard Goudeau
RICHARD GOUDEAU

REVIEWED BY: _____

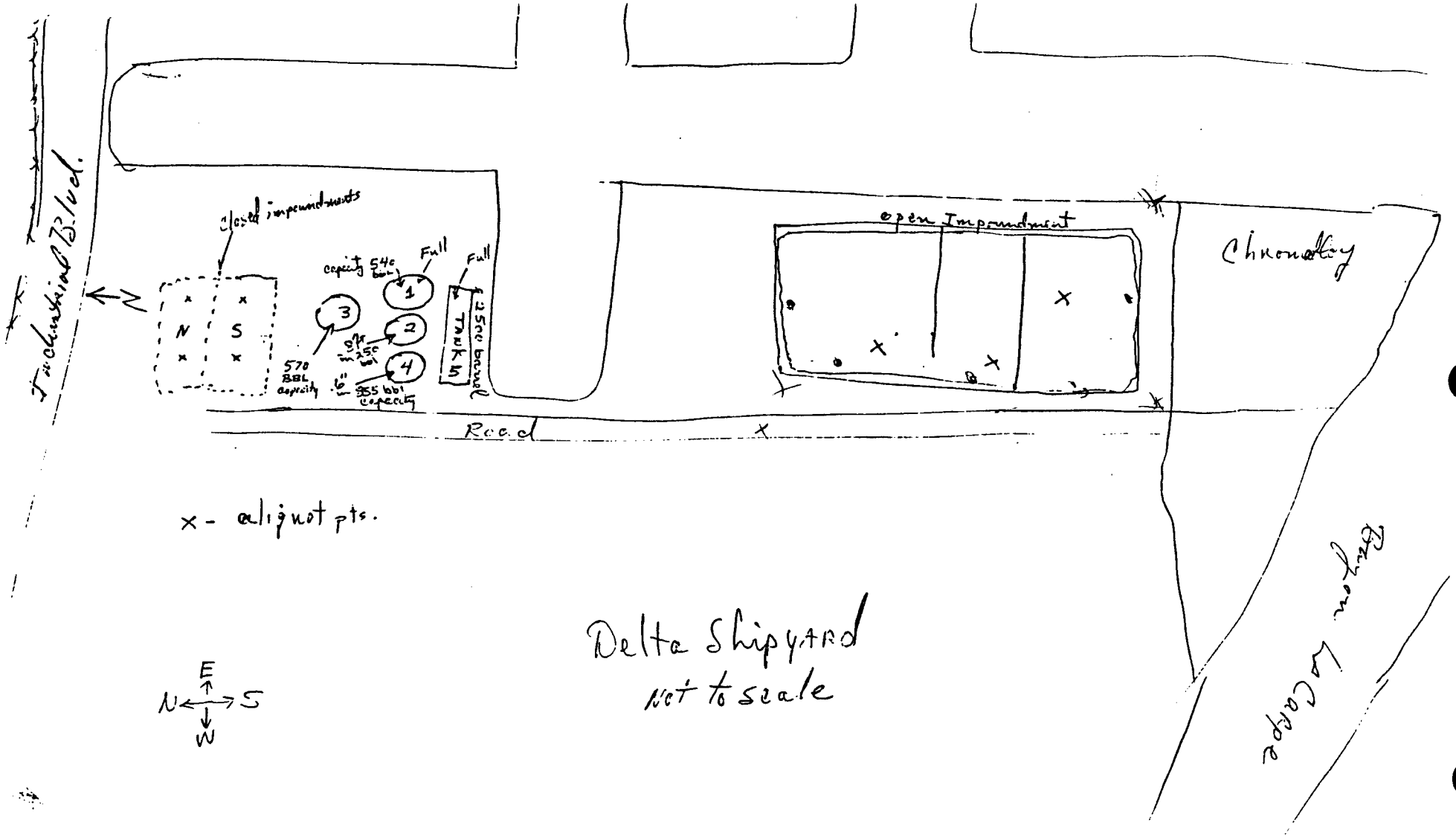
DATE: May 7, 1986

THOMAS H. PATTERSON
Enforcement Program Manager

4. Open Pit--difficulty in obtaining sample.

   3 aliquots taken and composited. 20186041604

   Analysis Request: VOA, Metals, PCB's


Tuckahoe Blvd.
closed impoundments
N
S
570 BBL capacity
capacity 546 bbls
Full
Full
1
2
3
4
Tank 5
2500 barrel
open Impoundment
Chromalloy
Dayton Garage
Road
x - alignment pts.
Delta Shipyard
not to scale
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WINK ENGINEERING
A DIVISION OF WINK INCORPORATED

MECHANICAL
CIVIL
ELECTRICAL
PROCESS
INSTRUMENT

7520 HAYNE BLVD. ■ NEW ORLEANS, LA. 70126-1899 ■ TELEPHONE: 504/246-7924

SEPTEMBER 20, 1985

MR. BILL DEVILLE
ADMINISTRATOR
LOUISIANA STATE DEPARTMENT OF ENVIRONMENTAL QUALITY
INACTIVE & ABANDONED WASTE SITES DIVISION
P.O. BOX 44307
BATON ROUGE, LA 70804

LETTER NO.: WM59-7
RE: DELTA SHIPYARD'S
WASTE SITES AT
HOUMA & DUSON, LA
JOB: 59-051484

DEAR MR. DEVILLE:

PLEASE FIND ATTACHED A COPY OF THE PACKAGE REPORTING AN INDEPENDENT LABORATORY ANALYSIS AND OUR OPINION AS TO CLASSIFICATION FOR THE ABOVE REFERENCED WASTE SITES. I HAVE BEEN INFORMED THAT YOUR OFFICE WILL REVIEW THE PACKAGE AND STIPULATE THE REQUIREMENTS FOR PROPER DISPOSITION AND CLASSIFICATION.

PLEASE ADVISE AS TO YOUR DECISION AT THE EARLIEST POSSIBLE DATE.

VERY TRULY YOURS,

Conrad Dussel

CONRAD A. DUSSEL, P.E.
PROJECT ENGINEER

CAD:MLV
CC: H. SEIFE (MILBANK, ET AL)
J. WINK
R. FEEMSTER
ATTACHMENT

RECEIVED
SEP 20 1985
LA. DEPT. OF
ENVIRONMENTAL QUALITY
IAS DIVISION

WINK ENGINEERING
A DIVISION OF WINK INCORPORATED

MECHANICAL
CIVIL
ELECTRICAL
PROCESS
INSTRUMENT

7520 HAYNE BLVD ■ NEW ORLEANS, LA 70126-1899 ■ TELEPHONE 504/246-7924

JULY 5, 1985

MR. GLENN A. MILLER
ADMINISTRATOR
LOUISIANA DEPARTMENT OF
ENVIRONMENTAL QUALITY
P.O. BOX 44066
BATON ROUGE, LA 70804

LETTER NO.: WM59-5
RE: DELTA SHIPYARD'S WASTE SITES AT HOUMA & DUSON, LOUISIANA
WINK JOB NO.: 59-051485

DEAR MR. MILLER:

THIS LETTER AND ITS ATTACHMENTS ARE PREPARED PURSUANT TO MY TELEPHONE CONVERSATIONS ON JUNE 5, 1985, WITH MESSRS. DUDLEY DEVILLE AND TOM PATTERSON OF YOUR OFFICE. WINK, INC., AN INDEPENDENT CONSULTING ENGINEERING FIRM, HAS BEEN RETAINED TO DETERMINE IF THE ABOVE REFERENCED SITES ARE HAZARDOUS.

~~THERE ARE CURRENTLY SIX (6) SURFACE IMPOUNDMENTS AT DELTA'S HOUMA YARD. THREE (3) ARE COVERED AND OVERGROWN WITH VEGETATION, WHILE THE REMAINING THREE (3) ARE EXPOSED AND FILLED WITH SLUDGE.~~ AT THE DUSON YARD THERE IS A SUBMERGED, UNCOVERED STEEL TANK FILLED WITH A LIQUID SUBSTANCE. ACCORDING TO OUR RESEARCH, ALL SITES WERE ONCE USED TO DISPOSE OF OIL FIELD DRILLING MATERIAL. THIS PRACTICE CEASED ABOUT 10 YEARS AGO; HOWEVER, IT APPEARS FROM OUR ANALYSIS DUMPING HAS OCCURRED INTERMITTENTLY SINCE THEN. SEVERAL SURFACE SPILLS WERE OBSERVED ON THESE PROPERTIES AND A CHEMICAL ANALYSIS WAS SUBSEQUENTLY MADE.

AT ONE TIME THE SURFACE IMPOUNDMENTS AT HOUMA WERE REGISTERED WITH THE DEPARTMENT OF ENVIRONMENTAL QUALITY AS HAZARDOUS WASTE SITES, BUT WERE RECOMMENDED BY YOUR ENFORCEMENT AGENCY IN JANUARY, 1984, TO BE REMOVED FROM THE HAZARDOUS WASTE SYSTEM. CURRENTLY, THESE IMPOUNDMENTS ARE IN THE INACTIVE CLASSIFICATION AS CONFIRMED BY TELEPHONE ON JUNE 5, 1985. TO DETERMINE THE SLUDGE AND LIQUID CHEMICAL COMPOSITION AND THEREFORE THE POTENTIALLY HAZARDOUS NATURE OF THESE SITES, NUMEROUS SAMPLES WERE COLLECTED AT RANDOM LOCATIONS AS INDICATED IN ATTACHMENTS 1, 2, 3, 4, & 5. IMPOUNDMENTS 1, 2, 3 IN HOUMA ARE COVERED WITH A THIN CRUST OF FILL WHILE NOS. 5, 6, 7 ARE EXPOSED. HOUMA AREA NO. 4 AND DUSON AREA NOS. 2 & 3 ARE ESSENTIALLY LOW SPOTS WHERE ACCUMULATIONS OF SLUDGE HAVE SETTLED. DUSON AREA NO. 1 CONSISTS OF A SUBMERGED STEEL TANK OF UNKNOWN DEPTH CONTAINING A LIQUID SUBSTANCE. SOIL SAMPLES WERE TAKEN AT VARIOUS DEPTHS APPROXIMATELY 8" FROM THE SUBMERGED TANK TO CHECK FOR LEAKAGE.

ALL INDIVIDUAL SAMPLES FROM EACH IMPOUNDMENT/AREA WERE THOROUGHLY MIXED TO FORM A COMPOSITE SAMPLE FOR EACH LOCATION. LABORATORY ANALYSES WERE PERFORMED BY WEST-PAINE OF BATON ROUGE, AND THE RESULTS ARE CONTAINED IN ATTACHMENT NO. 6.

THE FOLLOWING TESTS WERE PERFORMED ON EACH SAMPLE: VOA (VOLATILE ORGANIC AROMATICS), CYANIDE, PHENOL (TOTAL), FLASH POINT (BELOW 140^{0}F), PH, EP TOXICITY, AND OIL & GREASE. BASED ON THE ATTACHED ANALYSES, THE ~~EP TOXICITY CONSTITUENTS DO~~ NOT EXCEED THOSE LIMITS DESCRIBED IN CHAPTER 24, TABLE 5. NEITHER DO THE SUMMATION OF CONSTITUENTS LISTED IN PARAGRAPHS 24.1 (D) AND (E) AND CHAPTER 17 EXCEED 1000 PPM. IT IS OUR OPINION THAT THESE SITES ARE NOT TO BE CONSIDERED HAZARDOUS AND WILL NOT NOW OR IN THE FUTURE POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT.

IF YOUR OFFICE IS IN AGREEMENT THAT THESE FACILITIES ARE NOT HAZARDOUS, PLEASE FURNISH THE NECESSARY DOCUMENTS TO AUTHORIZE DECLASSIFICATION OR CONFIRM THAT YOU HAVE CLOSED OUT YOUR FILE.

VERY TRULY YOURS,

Conrad Dussel

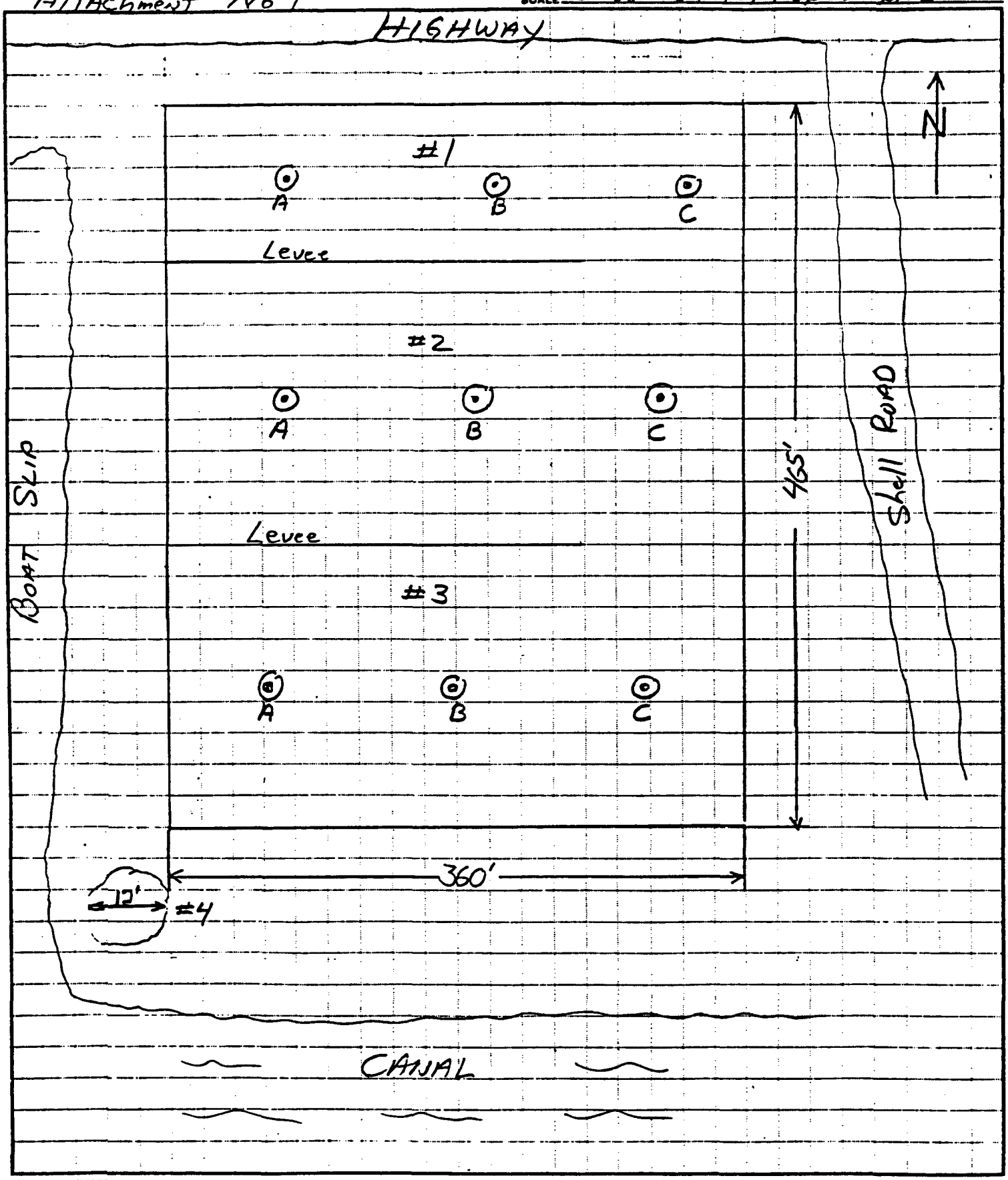
CONRAD A. DUSSEL, P.E.
PROJECT ENGINEER

CAD:MLV
ATTACHMENTS
CC: DUDLEY DEVILLE (DEQ)
TOM PATTERSON (DEQ)
HOWARD SEIFE (MILBANK, ET.AL.)

WINK ENGINEERING
A Division of Wink, Inc.
7520 Hayne Blvd.
New Orleans, Louisiana 70126-1899
(504) 246-7924

JOB: Delta Shipyard - Houma, LA
SHEET NO. 1 OF 1
CALCULATED BY: CAO DATE: 6/18/85
CHECKED BY: DATE:
SCALE: 3 Covered Pits / 1 open Spill

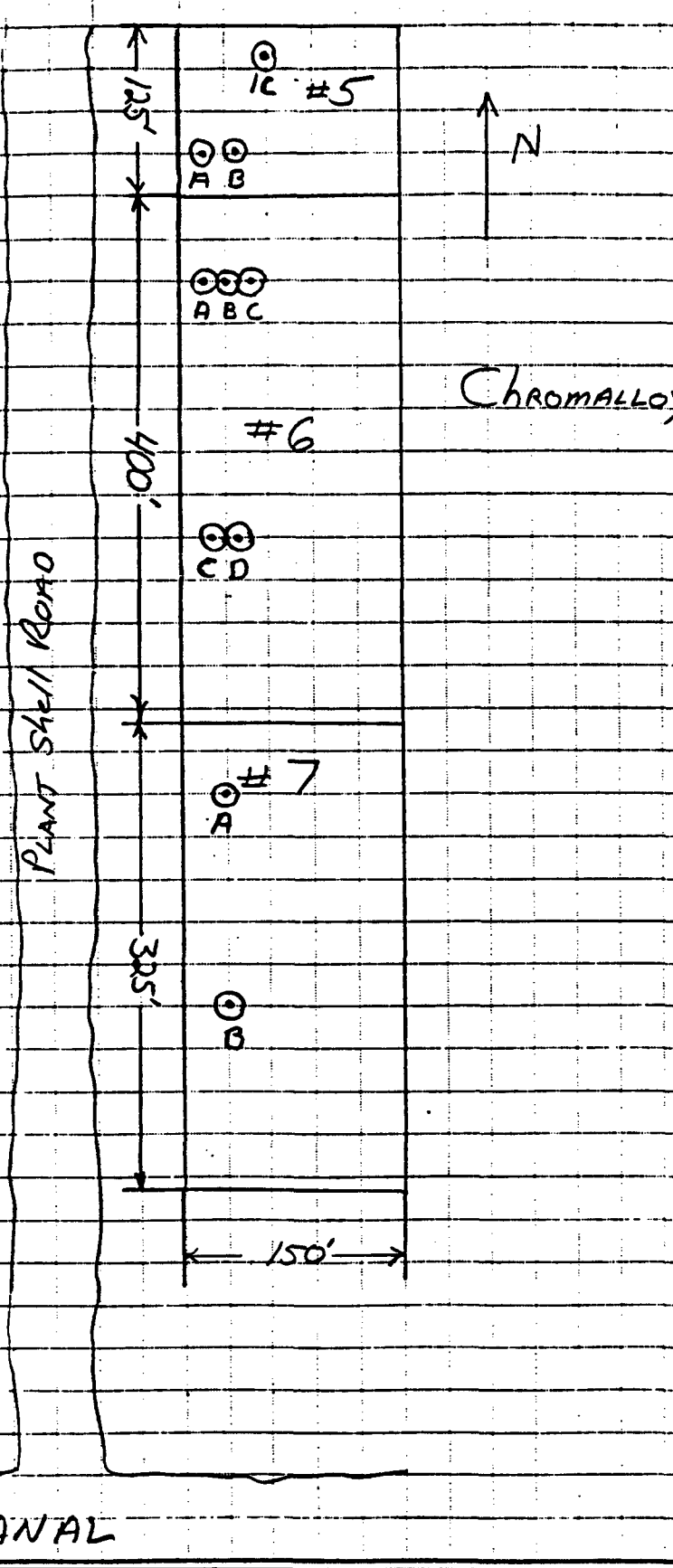
ATTACHMENT No 1



WINK ENGINEERING
A Division of Wink, Inc.
7520 Hayne Blvd.
New Orleans, Louisiana 70126-1899
(504) 246-7924

JOB DELTA SHIPYARD - HOUMA, LA
SHEET NO. 1 OF 1
CALCULATED BY CLAD DATE 6/18/85
CHECKED BY DATE
SCALE 3 EXPOSED SURF. IMPOUNDMENTS

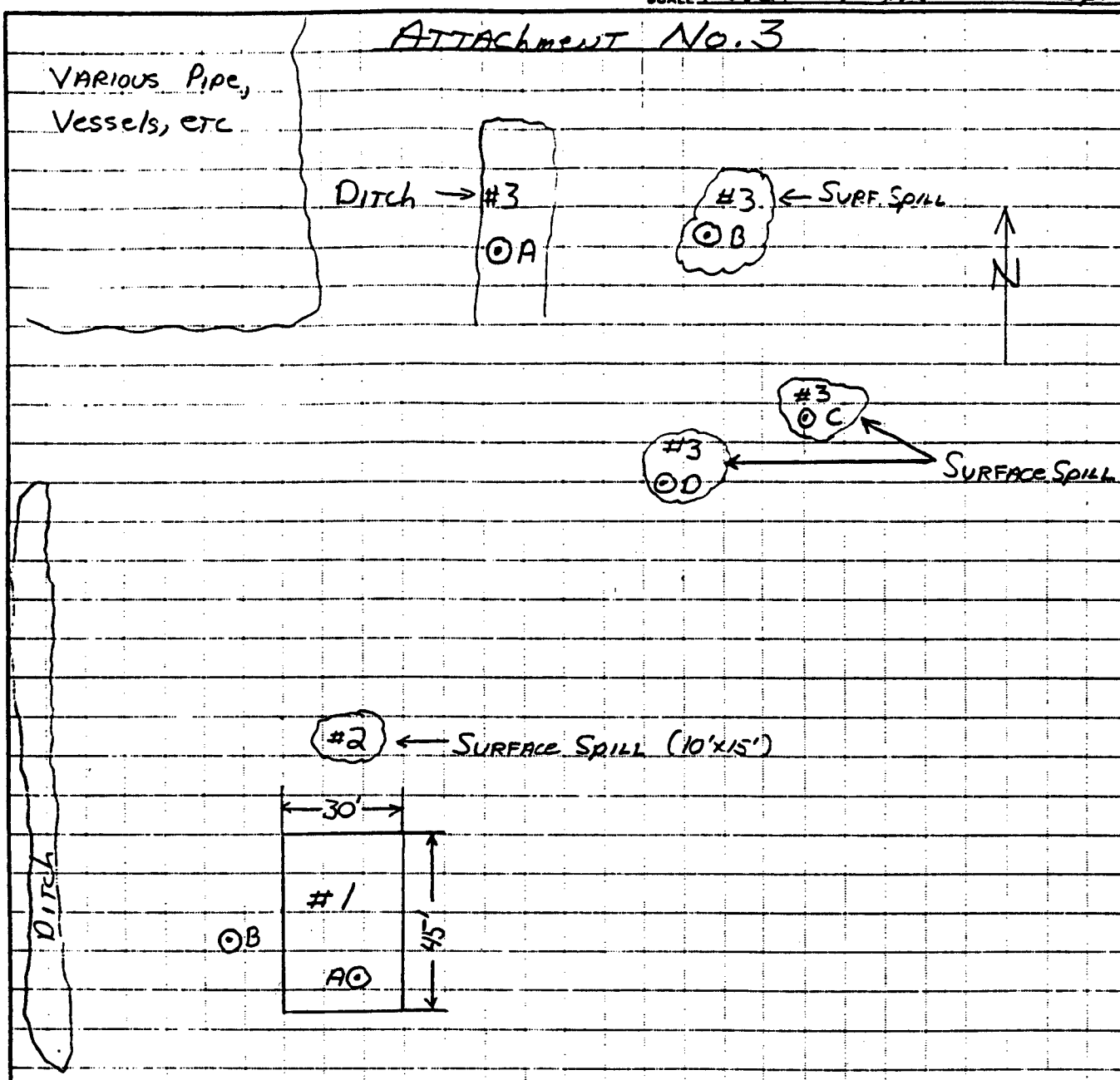
ATTACHMENT No. 2



WINK ENGINEERING
A Division of Wink, Inc.
7520 Hayne Blvd.
New Orleans, Louisiana 70126-1899
(504) 246-7924

JOB DELTA - SHIPYARD - DUSON, LA
SHEET NO. 1 OF 1
CALCULATED BY CAD DATE 6/18/85
CHECKED BY _____ DATE _____
SCALE 1 SUBMERGED TANK + MISC. SPILLS

ATTACHMENT No. 3



DUSON

ATTACHMENT NO. 4
DELTA SHIPYARD SLUDGE SAMPLING PROTOCOL
HOUMA, LA
MAY 20, JUNE 5 & JUNE 6, 1985

SAMPLE NO.	DEPTH	SAMPLE NO.	DEPTH
1A	1'-6"	5A	2'-0"
1A	2'-6"	5A	3'-0"
1A	4'-6"	5A	4'-0"
1A	5'-6"	5A	5'-6"
1B	1'-0"	5B	0'-6"
1B	3'-0"	5B	1'-6"
1B	5'-6"	5B	3'-6"
1C	SURFACE	5B	5'-0"
1C	2'-0"	5C	SURFACE
1C	3'-0"	5C	1'-0"
1C	4'-6"	5C	2'-0"
1C	5'-6"	5C	5'-6"
2A	1'-0"	6A	0'-6"
2A	3'-6"	6A	2'-0"
2A	5'-6"	6A	4'-0"
2B	0'-6"	6B	1'-0"
2B	2'-6"	6B	2'-6"
2B	4'-0"	6B	3'-6"
2C	1'-0"	6B 16	5'-6"
2C	3'-0"	6C	1'-0"
2C	5'-6"	6C	2'-0"
3A	0'-6"	6C	3'-0"
3A	1'-6"	6C	4'-0"
3A	3'-6"	6C	5'-0"
3A	4'-6"	6D	SURFACE
3B	1'-0"	6D	1'-6"
3B	3'-0"	6D	2'-6"
3C	0'-6"	6D	3'-0"
3C	2'-0"	7A	SURFACE
3C	4'-0"	7A	2'-0"
4	SURFACE SAMPLES	7A 6	3'-0"
		7B	0'-6"
		7B	2'-6"
		7B	4'-0"

ATTACHMENT NO. 5
DELTA SHIPYARD SLUDGE SAMPLING PROTOCOL
DUSON, LA
JUNE 5, 1985

SAMPLE NO.	DEPTH
1A	SURFACE (LIQUID)
1B	0'-6" (WITHIN 8" OF PIT)
1B	1'-0"
1B	3'-6"
1B	5'-0"
2	0'-6"
2	1'-0"
2	3'-0"
3A	SURFACE
3B	SURFACE
3C	SURFACE
3D	SURFACE

ATTACHMENT NO. 6

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

SAMPLE ANALYSES

for

WINK ENGINEERING
7520 Hayne Blvd.
New Orleans, Louisiana 70126-1899

ATTENTION: Mr. Conrad A. Dussel

June 11, 1985

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Samples collected by Wink Engineering as documented by the enclosed chain-of-custody form, were received at West-Paine Laboratories, Incorporated on June 5, 1985 and June 7, 1985. The samples were analyzed according to the Environmental Protection Agency protocol:

A. Test Methods for Evaluating Solid Waste, SW-846, July 1982:

Parameter	Method
Cyanide	9010
Ignitability	1010
EP Toxicity Extraction Procedure	1310
Arsenic	7060
Barium	7080
Cadmium	7130
Chromium	7190
Lead	7420
Mercury	7470
Selenium	7740
Silver	7760
Volatile Organic Fraction	8240
pH	9040

B. Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980:

Parameter	Method
Oil & Grease	503C

WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

C. Standard Methods for the Examination of Water and Wastewater, 14th Edition, 1979:

Parameter	Method
Phenol	510A, 510B

The results are on the following pages.

Victor J. Blanchard, III
Manager

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: DUSON #1 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.53	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	8.5	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	36,100	10.0/8.4	06-10/1600/RH

Duson

WEST·PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: DUSON #2 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.43	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.2	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	53,000	10.0/8.4	06-10/1600/RH

DUSON

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: DUSON #3 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.0	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	163,000	10.0/8.4	06-10/1600/RH

DUSON

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: [redacted]

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	<0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	7.7	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	4,650	10.0/8.4	06-10/1600/RH

Houma

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Sample Identification: HOUMA #2 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	<0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	8.2	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	2,980	10.0/8.4	06-10/1600/RH

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Sample Identification: HOUMA #3 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	<0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	7.4	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	150	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	3,100	10.0/8.4	06-10/1600/RH

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Sample Identification: [redacted]

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.69	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	7.8	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	311,000	10.0/8.4	06-11/0900/RH

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: HOUMA #5 Composite

Date Received: June 7, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	3.0	0.020/0.020	06-10/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.1	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	104,000	10.0/8.4	06-11/0900/RH

WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: HOUMA #6 Composite

Date Received: June 7, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	2.5	0.020/0.020	06-10/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.3	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	183,000	10.0/8.4	06-11/0900/RH

CORRECTED REPORT

WEST-PAINE Laboratories INC.
7676 GSRI AVE • BATON ROUGE LA 70820

WINK ENGINEERING
New Orleans, Louisiana
May 29, 1985

Sample Identification: #7 HOUMA COMPOSITE

Date Received: May 21, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	2.3	0.020/0.020	05-24/1630/BE
Cyanide (mg/kg CN)	<0.2	0.10/0.11	05-26/1100/RC
pH (Units) as 4% w/v	9.0	7.0/7.0	05-24/1300/RC
Flashpoint (^{o}F)	>200	------	Not Applicable
Oil & Grease (mg/kg)	331,000	10.0/9.2	05-23/2000/FT

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: DUSON #1, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.3	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.008	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 104.44 gm

DUSON

WEST-PAINE Laboratories INC.
7979 GSRI AVE • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: DUSON #2, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.2	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.64 gm

WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: DUSON #3, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.3	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	0.12	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.77 gm

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: ~~HOUMA #1, Composite~~

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	<0.1	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.012	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 100.84 gm

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #2, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.02	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.2	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.07 gm

WEST-PAINE Laboratories INC.
7979 GSRI AVE • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #3, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.1	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	<0.01	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	<0.005	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 102.30 gm

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #4, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.1	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.008	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.1	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	0.91	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.50 gm

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #5, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.04	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	2.6	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	0.48	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	1.5	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 107.50 gm

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #6, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.07	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	1.7	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	0.56	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	1.2	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 102.80 gm

CORRECTED REPORT

WEST-PAINE Laboratories INC.
7979 GSR AVE • BATON ROUGE LA 70807

WINK ENGINEERING
New Orleans, Louisiana
May 29, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Reoister, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: #7 HOUMA COMPOSITE

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.09	5.0	0.50/0.48	05-23/VM
Barium (mg/L Ba)	0.7	100	2.50/2.36	05-24/RM
Cadmium (mg/L Cd)	<0.005	1.0	0.250/0.250	05-23/VM
Chromium (mg/L Cr)	0.02	5.0	0.50/0.50	05-24/RM
Lead (mg/L Pb)	0.12	5.0	2.50/2.50	05-24/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0105	05-23/VM
Selenium (mg/L Se)	0.03	1.0	0.050/0.048	05-23/VM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	05-23/VM

Sample Weight: 102.06

WEST-PAINE Laboratories INC.
7979 GSRI AVE. • BATON ROUGE, LA 70806

Wink Engineering

New Orleans, Louisiana

060585-51-53

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

All results in milligrams per kilogra

	Duson #1	Duson #2	Duson #3
Benzene	<0.02	<0.02	<0.02
Bromoform	<0.02	<0.02	<0.02
Carbon tetrachloride	<0.02	<0.02	<0.02
Chlorobenzene	<0.02	0.27	<0.02
Chlorodibromomethane	<0.02	<0.02	<0.02
Chloroethane	<0.02	<0.02	<0.02
2-Chloroethylvinyl ether	<0.02	<0.02	<0.02
Chloroform	<0.02	<0.02	<0.02
1,2-Dichlorobenzene	<0.02	<0.02	<0.02
1,4-Dichlorobenzene	<0.02	<0.02	<0.02
1,3-Dichlorobenzene	<0.02	<0.02	<0.02
Dichlorobromomethane	<0.02	<0.02	<0.02
1,1-Dichloroethane	<0.02	<0.02	<0.02
1,2-Dichloroethane	<0.02	<0.02	<0.02
1,1-Dichloroethene	<0.02	<0.02	<0.02
trans-1,2-Dichloroethene	<0.02	<0.02	<0.02
1,2-Dichloropropane	<0.02	<0.02	<0.02
cis-1,3-Dichloropropene	<0.02	<0.02	<0.02
trans-1,3-Dichloropropene	<0.02	<0.02	<0.02
Ethylbenzene	0.06	0.65	<0.02
Methylbromide	<0.02	<0.02	<0.02
Methylchloride	<0.02	<0.02	<0.02
Methylene chloride	<0.02	<0.02	<0.02
1,1,2,2-Tetrachloroethane	<0.02	<0.02	<0.02
Tetrachloroethene	<0.02	<0.02	<0.02
Toluene	0.07	0.70	<0.02
1,1,1-Trichloroethane	<0.02	<0.02	<0.02
1,1,2-Trichloroethane	<0.02	<0.02	<0.02
Trichloroethene	<0.02	<0.02	<0.02
Trichlorofluormethane	<0.02	<0.02	<0.02
Vinyl chloride	<0.02	<0.02	<0.02
Total Xylene (semiquantitative)	0.46	6.7	<0.02
Date of Analyses	06-07-85	06-07-85	06-07-85

WEST-PAINE Laboratories INC.
7979 GSRI AVE • BATON ROUGE, LA 70806

Wink Engineering

New Orleans, Louisiana

060585-54-57

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

All results in milligrams per kilogram
ppm

	[redacted]	Houma #2	Houma #3	Houma #4
Benzene	<0.02	<0.02	<0.02	<0.02
Bromoform	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	<0.02	<0.02	<0.02	<0.02
Chlorobenzene	<0.02	<0.02	<0.02	<0.02
Chlorodibromomethane	<0.02	<0.02	<0.02	<0.02
Chloroethane	<0.02	<0.02	<0.02	<0.02
2-Chloroethylvinyl ether	<0.02	<0.02	<0.02	<0.02
Chloroform	<0.02	<0.02	<0.02	<0.02
1,2-Dichlorobenzene	<0.02	<0.02	<0.02	<0.02
1,4-Dichlorobenzene	<0.02	<0.02	<0.02	<0.02
1,3-Dichlorobenzene	<0.02	<0.02	<0.02	<0.02
Dichlorobromomethane	<0.02	<0.02	<0.02	<0.02
1,1-Dichloroethane	<0.02	<0.02	<0.02	<0.02
1,2-Dichloroethane	<0.02	<0.02	<0.02	<0.02
1,1-Dichloroethene	<0.02	<0.02	<0.02	<0.02
trans-1,2-Dichloroethene	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	<0.02	<0.02	<0.02	<0.02
cis-1,3-Dichloropropene	<0.02	<0.02	<0.02	<0.02
trans-1,3-Dichloropropene	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	<0.02	<0.02	<0.02	<0.02
Methylbromide	<0.02	<0.02	<0.02	<0.02
Methylchloride	<0.02	<0.02	<0.02	<0.02
Methylene chloride	<0.02	<0.02	<0.02	<0.02
1,1,2,2-Tetrachloroethane	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	<0.02	<0.02	<0.02	<0.02
Toluene	0.02	<0.02	<0.02	<0.02
1,1,1-Trichloroethane	<0.02	<0.02	<0.02	<0.02
1,1,2-Trichloroethane	<0.02	<0.02	<0.02	<0.02
Trichloroethene	<0.02	<0.02	<0.02	<0.02
Trichlorofluormethane	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	<0.02	<0.02	<0.02	<0.02
Total Xylene (semiquantitative)	<0.02	<0.02	<0.02	<0.02
Date of Analyses	06-07-85	06-07-85	06-07-85	06-07-85

WEST-PAINE Laboratories INC.
7979 USHI AVE • BATON ROUGE, LA 70808

Wink Engineering

New Orleans, Louisiana

060785-45-46

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

All results in milligrams per kilogra

ppm

	Houma #5	Houma #6
Benzene	<0.04	<0.04
Bromoform	<0.04	<0.04
Carbon tetrachloride	<0.04	<0.04
Chlorobenzene	~~0.20~~	~~0.05~~
Chlorodibromomethane	<0.04	<0.04
Chloroethane	<0.04	<0.04
2-Chloroethylvinyl ether	<0.04	<0.04
Chloroform	<0.04	<0.04
1,2-Dichlorobenzene	<0.04	<0.04
1,4-Dichlorobenzene	<0.04	<0.04
1,3-Dichlorobenzene	<0.04	<0.04
Dichlorobromomethane	<0.04	<0.04
1,1-Dichloroethane	<0.04	<0.04
1,2-Dichloroethane	<0.04	<0.04
1,1-Dichloroethene	<0.04	<0.04
trans-1,2-Dichloroethene	<0.04	<0.04
1,2-Dichloropropane	<0.04	<0.04
cis-1,3-Dichloropropene	<0.04	<0.04
trans-1,3-Dichloropropene	<0.04	<0.04
thylbenzene	~~0.99~~	~~0.57~~
Methylbromide	<0.04	<0.04
Methylchloride	<0.04	<0.04
Methylene chloride	<0.04	<0.04
1,1,2,2-Tetrachloroethane	<0.04	<0.04
Tetrachloroethene	<0.04	<0.04
Toluene	~~1.43~~	~~0.49~~
1,1,1-Trichloroethane	<0.04	<0.04
1,1,2-Trichloroethane	<0.04	<0.04
Trichloroethene	<0.04	<0.04
Trichlorofluormethane	<0.04	<0.04
Vinyl chloride	<0.04	<0.04
Total Xylene (semiquantitative)	~~10.6~~	~~0.2~~
Date of Analyses	06-07-85	06-07-85

WEST-PAINE Laboratories INC.
7979 GSRI AVE • BATON ROUGE, LA 70806

Wink Engineering
New Orleans, Louisiana
052185-45-46

All results in milligrams per kilogram.

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

	Houma #7 Composite
Benzene	<0.02
Bromoform	<0.02
Carbon tetrachloride	<0.02
Chlorobenzene	<0.02
Chlorodibromomethane	<0.02
Chloroethane	<0.02
2-Chloroethylvinyl ether	<0.02
Chloroform	<0.02
1,2-Dichlorobenzene	<0.02
1,4-Dichlorobenzene	<0.02
1,3-Dichlorobenzene	<0.02
Dichlorobromomethane	<0.02
1,1-Dichloroethane	<0.02
1,2-Dichloroethane	<0.02
1,1-Dichloroethene	<0.02
trans-1,2-Dichloroethene	<0.02
1,2-Dichloropropane	<0.02
cis-1,3-Dichloropropene	<0.02
trans-1,3-Dichloropropene	<0.02
Ethylbenzene	<0.02
Methylbromide	<0.02
Methylchloride	<0.02
Methylene chloride	<0.02
1,1,2,2-Tetrachloroethane	<0.02
Tetrachloroethene	<0.02
Toluene	<0.02
1,1,1-Trichloroethane	<0.02
1,1,2-Trichloroethane	<0.02
Trichloroethene	<0.02
Trichlorofluormethane	<0.02
Vinyl chloride	<0.02
Total Xylene (semiquantitative)	<0.02
Date of Analyses	05-27-85

REFERENCE 4

Louisiana SIP
Log Book

DIETZGEN

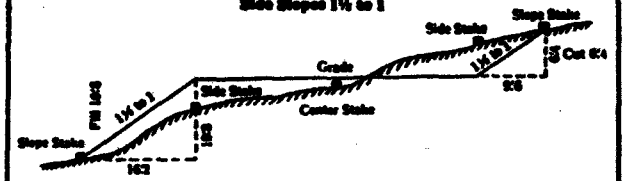
VOLUME 1

ENGINEERS'
FIELD BOOK
No. S-103VD

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width

Side Slopes 1½ to 1



In the figure above, Opposite 6 under "Cut or Fill" and under .4 read 9.6 the distance from the side stake to the slope stake at right. Opposite 10 under "Cut or Fill" and under .2 read 10.2, the distance from the side stake to the slope stake at the left.

Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

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This Field Book contains special paper which is impregnated with resin to make it substantially stronger as well as water resistant. Your field notes will come out sharp and clear even when the page is wet.

MADE IN U.S.A.

7/13/94 Delta Shipyard Peta Ruy

0920 Team arrives onsite. Team consists of Peta Ruy (PR) and Diane Williams (DW). Conditions outside are warm, cloudy, humid, with intermittent light and heavy rain. Held Health & Safety meeting.

0935 Meet Mr Kenneth Sirisue Delta Shipyard. ~~WE~~ S shortly in late 1980's Lynn Dean bought the property for the Elevated Boat Industry (EBI) during that time and manufactured boats out of the facility. Mr Dean bought 110 acres of the old facility. OLD Delta Shipyard actually encompasses alot more than the 110 acres owned by ~~EBI~~ (EBI). The site is surrounded by Tenants: Gonzo to the North, Christi Industries to the southeast, A ~~diving~~ Salvage dive company and a blasting

company to the west. EBI has 20 workers onsite.

DW Team & Mr Sirisue depart for pits. There is healthy vegetation all around the pits. Mr. Sirisue called in some people to cut a path back to the pits. Team calibrated OVA to 9% methane using 99ppm gas. North side of actually pit devoid of most vegetation. There appears to be some black staining upon the ~~Ar~~ biol black soils. Pit has no standing water. OVA breathing zone registered 1-3 ppm over background. Stained soils registered over 1000ppm background. Crusty ~~top~~ soil with seemingly softer and more liquid soils below it. 20x40' area devoid of most vegetation.

1041 Team moves to Southern pit

7/13/94 Delta Petroleum

entrance. This is the second pit in the 3 North to South series. 2nd pit is 80'x100' approximately and looks the same as #1. Black local soils stained with black stains, faint hydrocarbon odor (also present near #1), and mostly devoid of vegetation. Crusty top soils with soft, squishy soils underneath. Breathing zone OVA 1-3 above background. Stains soils and and small hole punched in received over 1000ppm on OVA. Sample

10:51 Move to Southern most pit #3. Can hear running water. DIMENSIONS ARE SAME AS #2. HOWEVER, WATER WAS STANDING ON PIT. ~~RUNNING DOW~~ WATER was running of the

top of the pond (standing water possibly from rain. There is an oily sheen on this water. Soils ~~were~~ are blackened & stained. OVA readings near the source are over 1000ppm. Water draining opposite pools into a drainage ditch between the pit & the road. Drainage ditch flows south towards Sulphur company

11:20 South east to pit #4 on the southern end. Stakeing into on pit, oily stains, blackened soils. Pit appears to be 150'x200' approximately.

11:40 Return to base to speak with Mr. Serigne. (Switch to black pen)

12:00 Two old separation pits are now a parking lot directly east of fabrication plant. One monitoring well (NE) is still apparent. This seems to be the

Pete Rey 8/22/94

Pit #1 Sample 1 Black stained clayey sand.

0945 Sed. collected

BZ continuously monitored - no above background reading

P-5 Sed-1 location

P-6 - Person OK

1000 PMR, DFH, & PGK go to take SED-5,6. SED-6 is a duplicate of SED-5. They are collected from drainage pathway south of overflow pipe from Pit 2. No OVA readings above background are recorded. Blackish silty clay 0-6 inches. Oily sheen on water in

drainage. OVA readings goto 20x above background. Breathing zone is clear.

P-7 SED-6

SED-5,6 taken on east side of drainage ditch.

1015 Take sample SED-2 from west corner of pit 2. Sludge material is located under hard black cover. Breathing zone OVA is clear, surface reading over 1000x above background.

P-8 - SED-3

Soil is black clayey sand, 0-6 inches. Sample is a composite

P-9, 10 SED-3

8/22/94 Peter Ry

1645 AOK & DFH take SED-3 at Pit 3. PMR & PJG take SS-2 at Pit 4. SS-2 is a black loam. 0-6 inches. SED-3 is a black stained silty clay. Breathing zone OVA clear. OVA at the surface is 8X background. 0-6 inches

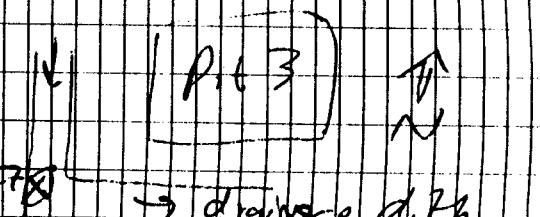
P-11 SED-3

P-12 SS-2

1100 DFH & AOK take SED-7. SED-7 is moved to southwest corner of drainage ditch since southeast corner is impossible to reach. MB approved this change. SED-7 taken on west side of ditch. Small

Peter Ry 8/22/94

fish are living in water. Sediment is a silty black clay. No OVA readings above background. 0-6 inches



P-13 - SED-7

P-14 - SED-7

1115 PMR, PJG, & MB take SS-3. Sample is covered to 2 ft. Soil is a black clay, stiff

P-15 - Auscring SS-3

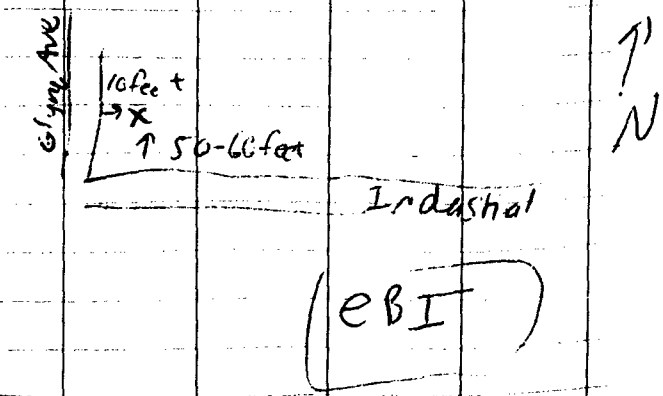
OVA in breathing zone is clear.

Pete Ray 8/22/94

OVA at 1.5 feet is 9X above background. Some black staining in soil is apparent. Sample collected at 1.5 feet level.

P-16 SS-3

1140 PMR & ~~PJQ~~ PJQ take SS-1. SS-1 is a background. Site is north of Industrial blvd, east of ~~Glen~~ Glyn Ave. Sample is brown sandy clay 0-6 inches. No readings on the OVA.



EBI

DFT and Rick fill out paperwork and tag bottles.

1230 PMR & PJQ return to van. Samples tagged and packed in coolers.

1400 Team departs site.

REFERENCE 5

U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, Secretary

WEATHER BUREAU
F. W. Reichelderfer, Chief

TECHINICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture

PREFACE

This publication is intended as a convenient summary of empirical relationships, working guides, and maps, useful in practical problems requiring rainfall frequency data. It is an outgrowth of several previous Weather Bureau publications on this subject prepared under the direction of the author and contains an expansion and generalization of the ideas and results in earlier papers. This work has been supported and financed by the Soil Conservation Service, Department of Agriculture, to provide material for use in developing planning and design criteria for the Watershed Protection and Flood Prevention program (P.L. 566, 83d Congress and as amended).

The paper is divided into two parts. The first part presents the rainfall analyses. Included are measures of the quality of the various relationships, comparisons with previous works of a similar nature, numerical examples, discussions of the limitations of the results, transformation from point to areal frequency, and seasonal variation. The second part presents 49 rainfall frequency maps based on a comprehensive and integrated collection of up-to-date statistics, several related maps, and seasonal variation diagrams. The rainfall frequency (isopluvial) maps are for selected durations from 30 minutes to 24 hours and return periods from 1 to 100 years.

This study was prepared in the Cooperative Studies Section (Joseph L. H. Paulhus, Chief) of Hydrologic Services Division (William E. Hiatt, Chief). Coordination with the Soil Conservation Service, Department of Agriculture, was maintained through Harold O. Ogrosky, Chief, Hydrology Branch, Engineering Division. Assistance in the study was received from several people. In particular, the author wishes to acknowledge the help of William E. Miller who programmed the frequency and duration functions and supervised the processing of all the data; Normalee S. Foat who supervised the collection of the basic data; Howard Thompson who prepared the maps for analysis; Walter T. Wilson, a former colleague, who was associated with the development of a large portion of the material presented here; Max A. Kohler, A. L. Shands, and Leonard L. Weiss, of the Weather Bureau, and V. Mockus and R. G. Andrews, of the Soil Conservation Service, who reviewed the manuscript and made many helpful suggestions. Caroll W. Gardner performed the drafting.

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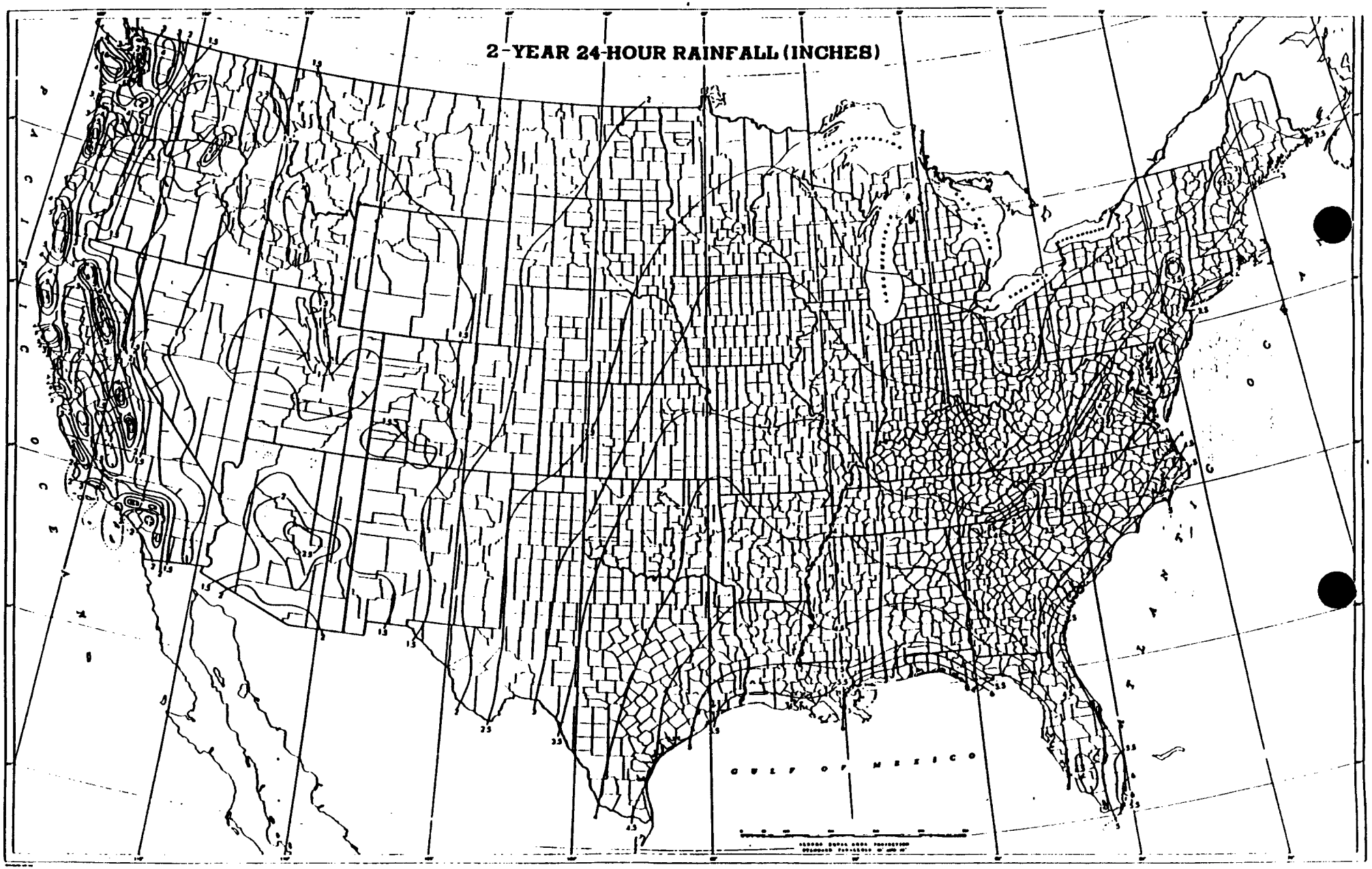
2-YEAR 24-HOUR RAINFALL (INCHES)
GULF OF MEXICO

REFERENCE 6

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

HOUMA QUADRANGLE
LOUISIANA
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW/4 HOUMA 15' QUADRANGLE

Mapped, edited, and published by the Geological Survey in cooperation with State of Louisiana Department of Public Works

Control by USGS, USC&GS, and Louisiana Geodetic Survey

Planimetry by photogrammetric methods from aerial photographs taken 1962. Topography by planetable surveys 1963

Polyconic projection. 1927 North American datum
10,000-foot grid based on Louisiana coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue

Red tint indicates areas in which only landmark buildings are shown

Where omitted, land lines have not been established

To place on the predicted North American Datum 1983 move the projection lines 20 meters south and 9 meters east as shown by dashed corner ticks

UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

There may be private inholdings within the boundaries of the National or State reservations shown on this map

All or part of this quadrangle lies within a subsidence area

SCALE 1:24 000

CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
AND STATE OF LOUISIANA, DEPARTMENT OF PUBLIC WORKS, BATON ROUGE, LOUISIANA 70804
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

GAYLORD STICKLE CO & ASSOC., INC.
AUTHORIZED AGENTS FOR U.S.G.S. MAPS
Houston, TX (713) 529-8471

LOUISIANA
QUADRANGLE LOCATION

Revisions shown in purple compiled in cooperation with

04603-027-022-2140

ROAD CLASSIFICATION
Heavy-duty — Light-duty
Medium-duty — Unimproved dirt
U. S. Route — State Route

HOUMA, LA.
SW/4 HOUMA 15' QUADRANGLE
29090-E6-TF-024

1963
PHOTOREVISED 1974 AND 1980
DMA 7843 II SW—SERIES V885

2140	Delta Shipyard	Houma, LA	LAD053475419	II

REFERENCE 7

Peter Rung

ORIGINATOR

WESTON
PHONE CONVERSATION RECORD

CONVERSATION WITH:

DATE: 11/9/94

NAME: Bryan Sampey-Plant Manager

TIME: 2:15 p.m.

COMPANY: Houma Water Plant #3

X ORIGINATOR PLACED CALL

ADDRESS:

ORIGINATOR RECEIVED CALL

PHONE: (504) 857-9633

W.O. NO.:

SUBJECT: Houma Water Supply

NOTES: The Houma public supply comes from the Intercoastal Canal and Bayou Black. The Plant is located at the intersection of Bayou Black and the Canal. The Canal is the main source of water while the bayou is used when saltwater intrusion becomes a problem. A 10 million gallon resevoir is used to hold water pumped in from the bayou or canal. The plant uses a sulfate treatment system on the water. The plant serves an estimated 30,000 people in the vicinity of Houma.

FILE:

TICKLE FILE:

FOLLOW-UP-BY:

COPY/ROUTE TO:

FOLLOW-UP-ACTION:

REFERENCE 8

Peter Rung

ORIGINATOR

WESTON
PHONE CONVERSATION RECORD

CONVERSATION WITH: DATE: 11/9/95

NAME: Gerald Adkins TIME: 10:15

COMPANY: Fisheries Biologist-Louisiana Department of Wildlife and FisheriesORIGINATOR PLAC
ED CALL X

ADDRESS: ORIGINATOR RECEIVED CALL

PHONE: (504) 765-2800 W.O. NO.:

SUBJECT: Fisheries near Delta Shipyard

NOTES: Mr. Adkins stated that the Intercoastal Highway and Bayou La Carpe are considered limited fisheries. Some freshwater catfish and crab fishing takes place, but it is limited by marine traffic and saltwater intrusion. There is a daily tiday influence which causes the coastal highway to flow backwards. There are also problems with an annual saltwater intrusion.

FILE:

TICKLE FILE:

FOLLOW-UP-BY:

COPY/ROUTE TO:

FOLLOW-UP-ACTION:

REFERENCE 9

DELTA SHIPYARD

COVERAGE

STATE	COUNTY	STATE NAME	COUNTY NAME
22	57	Louisiana	Lafourche Par
22	109	Louisiana	Terrebonne Par

CENTER POINT AT STATE : 22 Louisiana
COUNTY : 109 Terrebonne Par

REGION OF THE COUNTRY

Zipcode found: 70361 at a distance of 3.5 Km

STATE	CITY NAME	FIPSCODE	LATITUDE	LONGITUDE
LA	HOUMA	22109	29.5967	90.7167

CENSUS DATA

DELTA SHIPYARD
LATITUDE 29:34: 2 LONGITUDE 90:42:18 1990 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	15	3578	12872	16284	7739	40488
RING TOTALS	0	15	3578	12872	16284	7739	40488

STAR STATION

WBAN NUMBER	STATION NAME	LATITUDE	LONGITUDE	PERIOD OF RECORD	DISTANCE (km)
12916	NEW ORLEANS/MOISANT LA	29.9833	90.2500	1960-1964	63.7
12958	NEW ORLEANS/CALLENDER LA	29.8167	90.0167	1967-1971	72.0
13970	BATON ROUGE/RYAN LA	30.5333	91.1500	1975-1979	115.5
13976	LAFAYETTE LA	30.2000	91.9833	1954-1958	141.8
93919	MCCOMB/PIKE CO MS	31.2500	90.4667	1949-1954	188.3
13820	BILOXI/KEESLER MS	30.4167	88.9167	1960-1964	196.2
03937	LAKE CHARLES LA	30.1167	93.2167	1966-1970	249.6

U.S. SOIL DATA

STATE : LOUISANA

LATITUDE : 29:34: 2 LONGITUDE : 90:42:18
THE STATION IS INSIDE H.U. 8090302

GROUND WATER ZONE	:	10			
RUNOFF SOIL TYPE	:	3			
EROSION	:	1.7430E-04			CM/MONTH
DEPTH TO GROUND WATER BETWEEN	:	3.0480E+02	AND	1.5240E+03	
FIELD CAPACITY FOR TOP SOIL	:	8.0000E-02			
EFFECTIVE POROSITY BETWEEN	:	2.0000E-02	AND	3.0000E-01	
SEEPAGE TO GROUNDWATER BETWEEN	:	4.6330E+03	AND	1.3900E+04	CM/MONTH
DISTANCE TO DRINKING WELL	:	2.6000E+04			CM

U.S. CITY

STATE	PLACE NAME	FIPSCODE	LATITUDE	LONGITUDE
LA	HOUMA	22109	29.5967	90.7167

ATTACHMENT 3

SITE INSPECTION PRIORITIZATION REPORT

HOUMA, LOUISIANA
EPA CERCLA ID NO. LAD058475419

TABLE 1

SAMPLE LOCATION, DESCRIPTION, AND RATIONALE SUMMARY

STATION NUMBER	SAMPLE LOCATION AND DESCRIPTION	RATIONALE
SS-1	Low-concentration soil sample collected from north of site.	Sample to document background conditions of the soils in the area.
SS-2	Low-concentration soil sample collected from Pit 4 at the surface.	Sample for waste source characterization.
SS-3	Low-concentration soil sample collected from Pit 4 below cover soil.	Sample for waste source characterization.
SED-1	Low-concentration sediment sample collected from Pit 1.	Sample for waste source characterization.
SED-2	Low-concentration sediment sample collected from Pit 2.	Sample for waste source characterization.
SED-3	Low-concentration sediment sample collected from Pit 3.	Sample for waste source characterization.
SED-4	Low-concentration sediment sample collected from the drainage pathway.	Sample to document the background conditions of the sediments in the area.
SED-5	Low-concentration sediment sample collected from the drainage pathway 10 feet downstream of the overflow pipe at Pit 2.	Sample to document a release to the drainage pathway.
SED-6	Low-concentration sediment sample collected from the drainage pathway 10 feet downstream of the overflow pipe at Pit 2.	Sample collected as a blind field duplicate of SED-5.

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SITE INSPECTION PRIORITIZATION REPORT

DELTA SHIPYARDS
HOUMA, LOUISIANA
EPA CERCLA ID NO. LAD058475419

TABLE 1 (Continued)

SAMPLE LOCATION, DESCRIPTION, AND RATIONALE SUMMARY

STATION NUMBER	SAMPLE LOCATION AND DESCRIPTION	RATIONALE
SED-7	Low-concentration sediment sample collected from the drainage pathway.	Sample to document a release to surface water.

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SITE INSPECTION PRIORITIZATION REPORT

DELTA SHIPYARDS
HOUMA, LOUISIANA
EPA CERCLA ID NO. LAD058475419

TABLE 2

SIP SEDIMENT ORGANIC LABORATORY ANALYTICAL RESULTS (SIGNIFICANTLY ABOVE BACKGROUND LEVELS)

ORGANIC CONSTITUENTS DETECTED	CRQL	BACKGROUND RESULTS (µg/kg)		SAMPLE LOCATIONS AND ANALYTICAL RESULTS (µg/kg)			
		STATION NO. SED-4		STATION NO. SED-1	STATION NO. SED-2	STATION NO. SED-5	STATION NO. SED-6
		Background	3 x Background	Concentration	Concentration	Concentration	Concentration
Benzene	10	ND	-	13 UJ	73	21 U	18 UJ
Ethylbenzene	10	ND	-	13 UJ	170	21 UJ	18 UJ
Xylenes	10	ND	-	13 UJ	240	21 UJ	18 UJ
2-Methylnaphthalene	330	69	207	430 U	47,000	690 U	580 U
Anthracene	330	ND	-	430 UR	540 JC-BSQL	1,300 JC-NA	83 JC-BSQL
Benzo(a)anthracene	330	ND	-	430 UJ	440 JC-BSQL	6,000 JC-NA	580 [illegible]A
Benzo(a)pyrene	330	ND	-	430 UJ	210 JC-BSQL	4,100 JC-NA	390 JC-BSQL
Benzo(b)fluoranthene	330	ND	-	300 Jv C-BSQL	450 JC-BSQL	6,100 JC-NA	840 JC-NA
Benzo(g,h,i)perylene	330	ND	-	430 UJ	4,500 U	2,500 JC-NA	430 JC-BSQL
Carbazole	330	ND	-	430 UR	4,500 U	690 C-NA	580 U
Chrysene	330	ND	-	1,200 Jv	460 JC-BSQL	5,300 J	710 J
Dibenz(a)anthracene	330	ND	-	430 UJ	4,500 U	1,300 JC-NA	180 JC-BSQL

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SITE INSPECTION PRIORITIZATION REPORT

DELTA SHIPYARDS
HOUMA, LOUISIANA
EPA CERCLA ID NO. LAD058475419

TABLE 2 (continued)

SIP SEDIMENT ORGANIC LABORATORY ANALYTICAL RESULTS (SIGNIFICANTLY ABOVE BACKGROUND LEVELS)

ORGANIC CONSTITUENTS DETECTED	CRQL	BACKGROUND RESULTS (µg/kg)		SAMPLE LOCATIONS AND ANALYTICAL RESULTS (µg/kg)			
		STATION NO. SED-4		STATION NO. SED-1	STATION NO. SED-2	STATION NO. SED-5	STATION NO. SED-6
		Background	3 x Background	Concentration	Concentration	Concentration	Concentration
Fluoranthene	330	ND	-	430 UR	4,500 U	13,000 JC-NA	1,000 JC-NA
Indeno(1,2,3-cd)pyrene	330	ND	-	430 UJ	4,500 U	3,000 JC-NA	390 J C-BSQL
Napthalene	330	ND	-	430 U	11,000	690 U	580 U
Phenanthrene	330	ND	-	430 UR	8,800	5,000 J	310 J C-BSQL
Pyrene	330	ND	-	430 UJ	740 J C-BSQL	12,000 JC-NA	570 J C-BSQL
4,4 DDD	0.10	ND	-	35	4.5 U	6.9 U	U
Methyoxychlor	0.50	ND	-	69 J	23 U	35 U	30 U

NOTES:
- U - Indicates that the compound was undetected at reported quantitation limit.
- ND - Indicates not detected.
- J - Indicates that the analyte was positively identified, but the numerical value is an estimate because method detection limits or QC criteria were not met.
- C-BSQL - Contractor Evaluation - below sample quantitation limit.
- C-NA - Contractor Evaluation - not attributable.
- CRQL - Contract-required quantitation limit.
- ▒ - Indicates sample result significantly above background concentration.

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SITE INSPECTION PRIORITIZATION REPORT

DELTA SHIPYARDS
HOUMA, LOUISIANA
EPA CERCLA ID NO. LAD058475419

TABLE 3

SIP SEDIMENT INORGANIC LABORATORY ANALYTICAL RESULTS (SIGNIFICANTLY ABOVE BACKGROUND LEVELS)

INORGANIC CONSTITUENTS DETECTED	CRDL	BACKGROUND RESULTS		SAMPLE LOCATIONS AND ANALYTICAL RESULTS (mg/kg)					
		STATION NO. SED-4		STATION NO. SED-1	STATION NO. SED-2	STATION NO. SED-3	STATION NO. SED-5	STATION NO. SED-6	STATION NO. SED-7
		Background	3 x Background	Concentration	Concentration	Concentration	Concentration	Concentration	Concentration
Aluminum	40	3,400	10,200	6,430	6,830	6,160	9,090	6,890	10,900 C-NA
Antimony	12	ND	NA	10.5 JC-BSQL	7.5 JC-BSQL	9.7 UJ	10.9 UJ	12.5 JC-BSQL	12 UJ
Arsenic	2	4.9	14.7	22.1 Jv	6.3 Jv	4.2 Jv	24.8 Jv	16.3 Jv	23.1 Jv
Barium	40	5,540	16,220	11,900	15,100	18,000	20,100	17,300	20,300
Beryllium	1	0.29	0.87	0.53	0.49	0.39	0.79	0.75	0.94 C-NA
Cadmium	1	ND	NA	4.9	1 U	1.8	1.5 U	1.7	1.6 U
Chromium	2	58.3	174	527	54.4	35.2	27.8	39.1	42.8
Lead	1	92	276	632	185	158	181	195	125

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SITE INSPECTION PRIORITIZATION REPORT

DELTA SHIPYARDS
HOUMA, LOUISIANA
EPA CERCLA ID NO. LAD058475419

TABLE 3 (continued)

SIP SEDIMENT INORGANIC LABORATORY ANALYTICAL RESULTS (SIGNIFICANTLY ABOVE BACKGROUND LEVELS)

INORGANIC CONSTITUENTS DETECTED	CRDL	BACKGROUND RESULTS		SAMPLE LOCATIONS AND ANALYTICAL RESULTS (mg/kg)					
		STATION NO. SED-4		STATION NO. SED-1	STATION NO. SED-2	STATION NO. SED-3	STATION NO. SED-5	STATION NO. SED-6	STATION NO. SED-7
		Background	3 x Background	Concentration	Concentration	Concentration	Concentration	Concentration	Concentration
Mercury	0.1	ND	-	1.3 J	0.22 J	0.23 J	0.29 J	0.3 J	0.21 UJ
Selenium	1	ND	-	0.37	0.18 U	0.31	0.27 U	0.25 U	0.29 U
Vanadium	10	9	27	24.4	18.7	14.9	25.4	19.5	30.1 C-NA

NOTES:
- U - Indicates that the compound was undetected at reported quantitation limit.
- ND - Indicates not detected.
- J - Indicates that the analyte was positively identified, but the numerical value is an estimate because method detection limits or QC criteria were not met.
- Jv - Indicates that the value is estimated and low biased. Actual concentration may be higher.
- C-NA - Contractor Evaluation - not attributable.
- CRDL - Contract-required detection limit.
- ▒ - Indicates sample result significantly above background concentration.

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SITE INSPECTION PRIORITIZATION REPORT

DELTA SHIPYARDS
HOUMA, LOUISIANA
EPA CERCLA ID NO. LAD058475419

TABLE 4

SIP SOIL INORGANIC LABORATORY ANALYTICAL RESULTS (SIGNIFICANTLY ABOVE BACKGROUND LEVELS)

INORGANIC CONSTITUENTS DETECTED	CRDL	BACKGROUND RESULTS (mg/kg)		SAMPLE LOCATIONS AND ANALYTICAL RESULTS (mg/kg)	
		STATION NO. SS-1		STATION NO. SS-2	STATION NO. SS-3
		Background	3 x Background	Concentration	Concentration
Antimony	12	8.1	24.3	7.5 UJ	7.8 UJ
Arsenic	2	7.7	23.1	29.7 Jv	20.7 Jv
Barium	40	4,920	14,760	18,900	14,700
Cadmium	1	ND	NA	2.6	1.5
Chromium	2	18.5	55.5	87.1	90.2
Lead	1	117	351	345	[illegible]
Mercury	0.1	ND	NA	0.77 J	0.39 J
Selenium	1	0.34	1.02	0.53	0.5
Zinc	4	206	618	666	367

NOTES:
- U - Indicates that the compound was undetected at reported quantitation limit.
- NA - Not applicable.
- ND - Indicates not detected.
- J - Indicates that the analyte was positively identified, but the numerical value is an estimate because method detection limits or QC criteria were not met.
- Jv - Indicates that the value is estimated and low biased. Actual concentration may be higher.
- CRDL - Contract-required detection limit.
- ▒ - Indicates sample result significantly above background concentration.

THIS DOCUMENT WAS PREPARED BY ROY F. WESTON, INC. EXPRESSLY FOR EPA. IT SHALL NOT BE RELEASED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE EXPRESS, WRITTEN PERMISSION OF EPA.

ATTACHMENT 4

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable): —

Case No.: 8e 5 22596

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
—	—	VI	WESTON	8/22/94	Federal Express

Regional Information: —

Sampler (Name): Pam Quackenbush

Airbill Number: 9878882996

Non-Superfund Program: —

Sampler Signature: P. Quackenbush

Site Name: Delta Shipyard

City, State: Houma LA

Site Spill ID: 22

3. Purpose*
- Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED
- Early Action: [ ] CLEM, [ ] PA, [ ] REM, [ ] RI, [X] SI, [ ] ESI
- Long-Term Action: [ ] FS, [ ] RD, [ ] RA, [ ] O&M, [ ] NPLD

5. Ship To
Keystone Lab
8300 WestPark Drive
Houston TX 77063
(713) 266-6800
ATTN: Dela Massoudi

6. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

7. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E RAS Analysis VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
FDB32	5	L	G	5	X	X	X		6-037729-31	SED-1	8/22/94 0945	MFDP04	PJQ	—
FDB33	5	L	G	5	X	X	X		6-037733-35	SED-2	8/22/94 1015	MFDP05	PJQ	—
FDB35	5	L	G	5	X	X	X		6-037737-39	SED-3	8/22/94 1050	MFDP06	PJQ	—
FDB36	5	L	G	5	X	X	X		6-037741-43	SED-4	8/22/94 0920	MFDP07	PJQ	—
FDB38	5	L	G	5	X	X	X		6-037745-47	SED-5	8/22/94 1000	MFDP08	PJQ	—
FDB39	5	L	G	5	X	X	X		6-024907-09	SED-6	8/22/94 1000	MFDP09	PJQ	D(FDB38)
FDB41	5	L	G	5	X	X	X		6-024911-13	SED-7	8/22/94 1100	MFDP10	PJQ	—
FDB27	5	L	G	5	X	X	X		6-037717-19	SS-1	8/22/94 1140	MFDP01	PJQ	—
FDB29	5	L	G	5	X	X	X		6-037721-23	SS-2	8/22/94 1051	MFDP02	PJQ	—
FDB30	5	L	G	5	X	X	X		6-037725-27	SS-3	8/22/94 1115	MFDP03	PJQ	—

Shipment for Case Complete? (Y/N): Y

Page 1 of 1

Sample(s) to be Used for Laboratory QC: FDB32

Additional Sampler Signatures: Dennis Hayes

Chain of Custody Seal Number(s): —

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
P. Quackenbush	8/22/94 1400	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

A21-012-3 REV. 3/93

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

355676

COVER SHEET
LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (Check One) ☒ Organic CCS ☐ Inorganic CCS

Response materials should be sent to the attention of the CCS Coordinator.

Labcode: Keytx

Response Date: 10-5-94

Date Screening Results Received at Laboratory: 10-5-94

EPA Contract No. 68-D2-0020

Case No. 22596

SDG No. FB327

Sample Nos. STDS

Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each SDG.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

Laboratory Response to Results of CCS

Criterion	Comments
1	please find Revised pg no 1271, 1273, 1275, 1277, 1279
2	the "Report number" on the chromatograms are due to the
	DATAstation's numbering of jobs in the print que as
	Long as the DATA filenames match everything is fine.

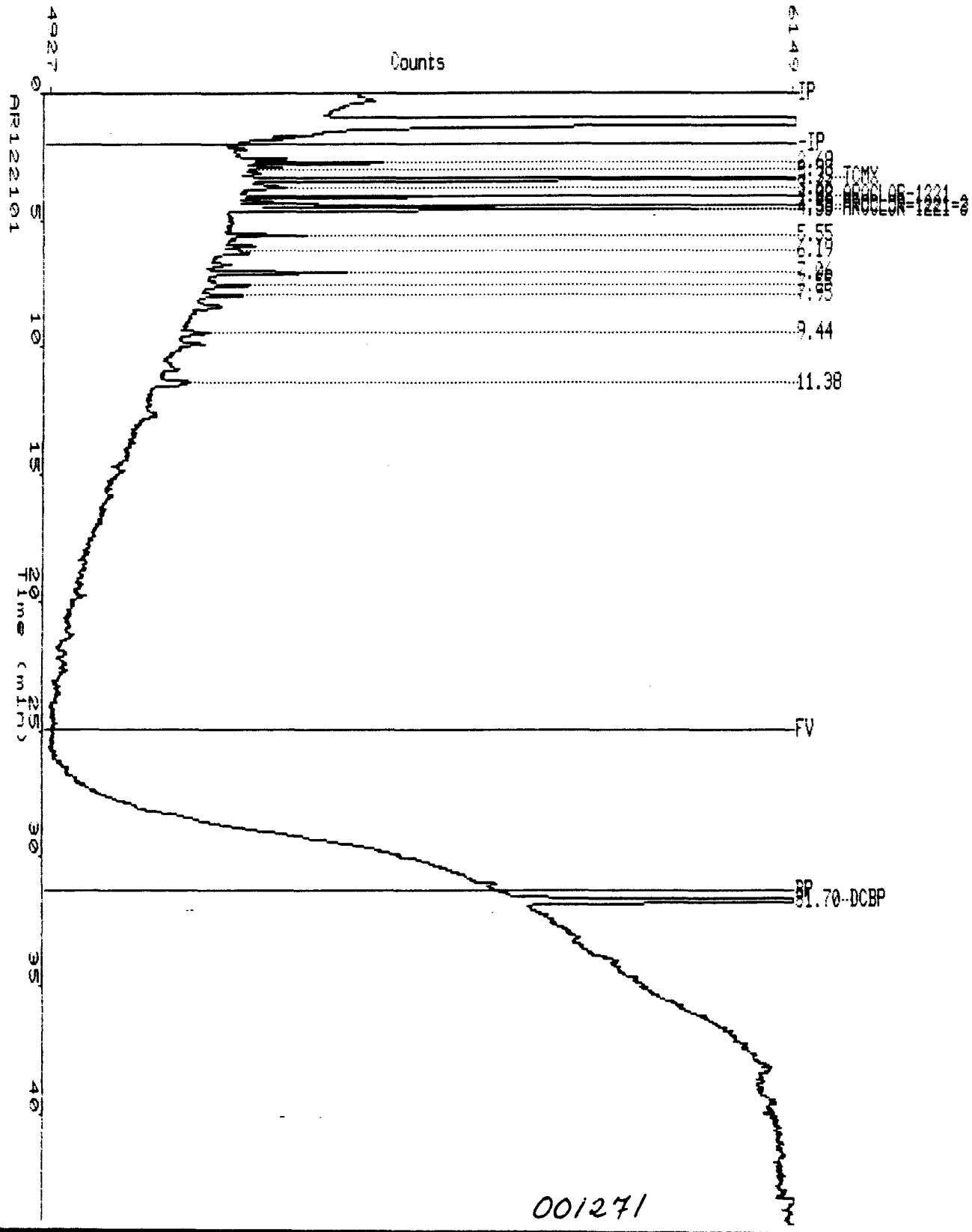
Data file: NAI$DIR:[NAI.BACKUP1]EAP0914-010

Report: 471964

Acquired: 14-SEP-1994 20:22:34

Time range: 0.00-44.48

REVISED



EVA30A, P, P

001271

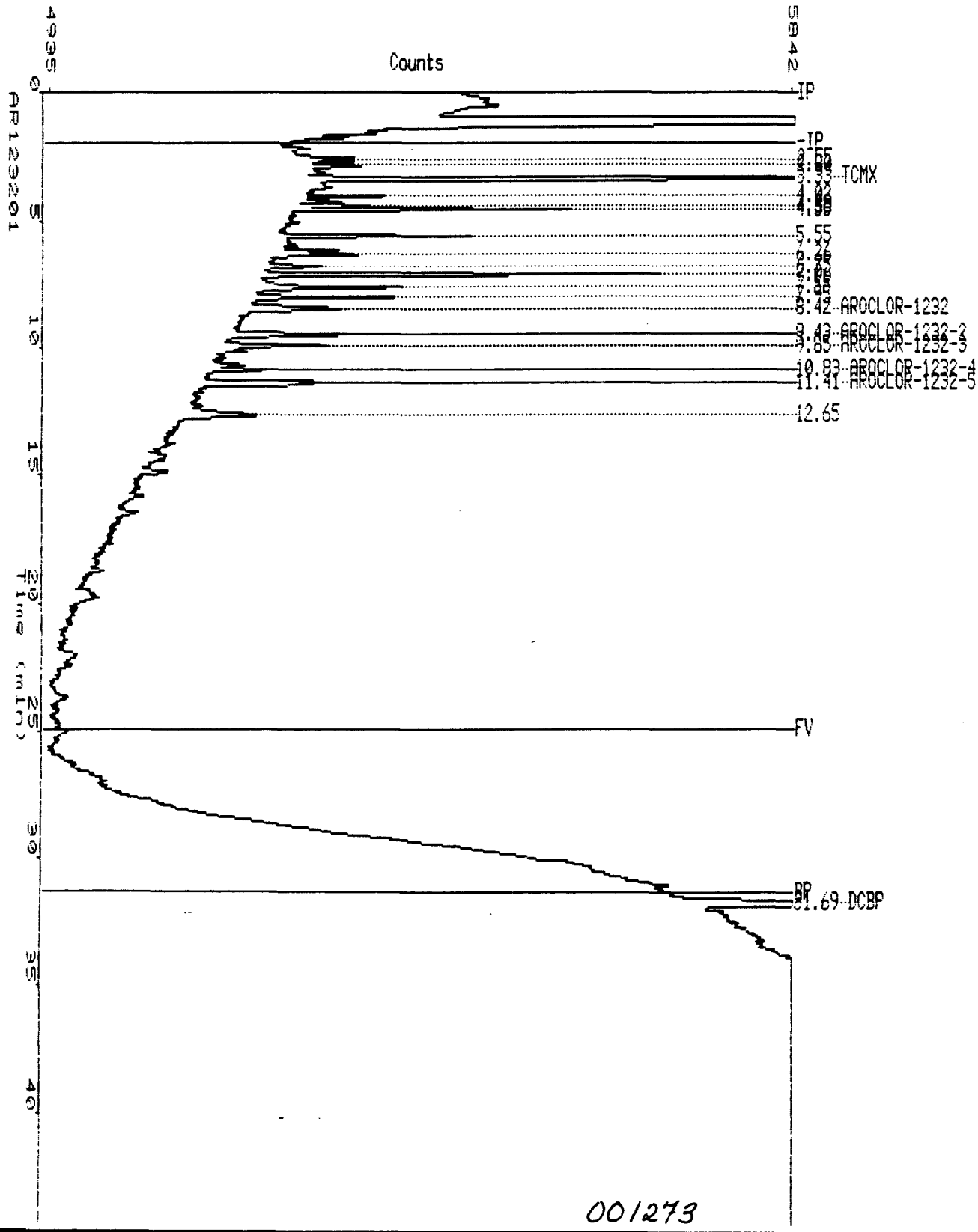
Data file: NAI$DIR:[NAI.BACKUP1]EAP0914-011

Report: 471971

Acquired: 14-SEP-1994 21:10:54

Time range: 0.00-44.48

REVISED



EA30A, P,,P

001273

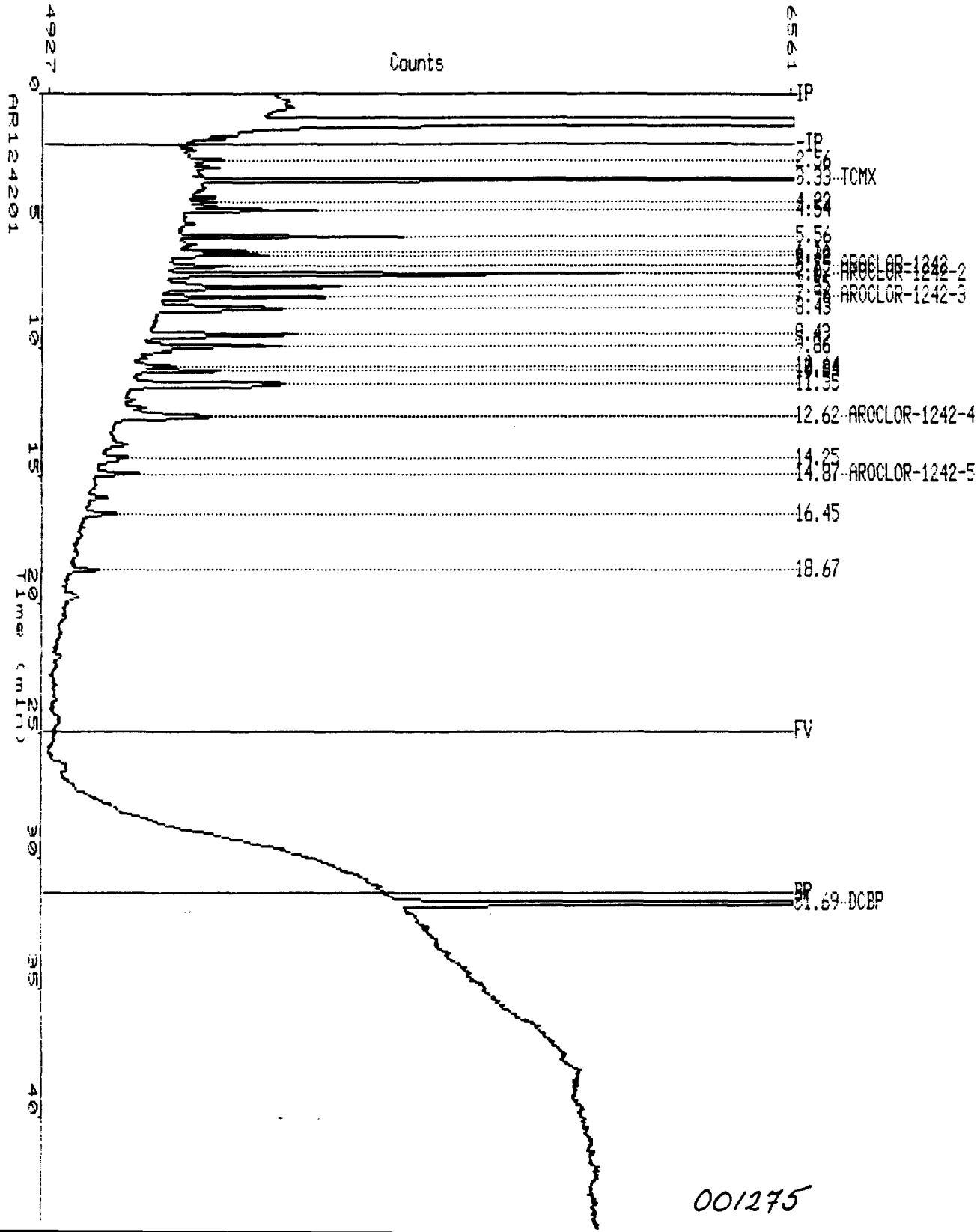
Data file: NAI$DIR:[NAI.BACKUP1]EAP0914-012

Report: 471975

Acquired: 14-SEP-1994 21:59:12

Time range: 0.00-44.48

REVISED



EUH30A P.P

001275

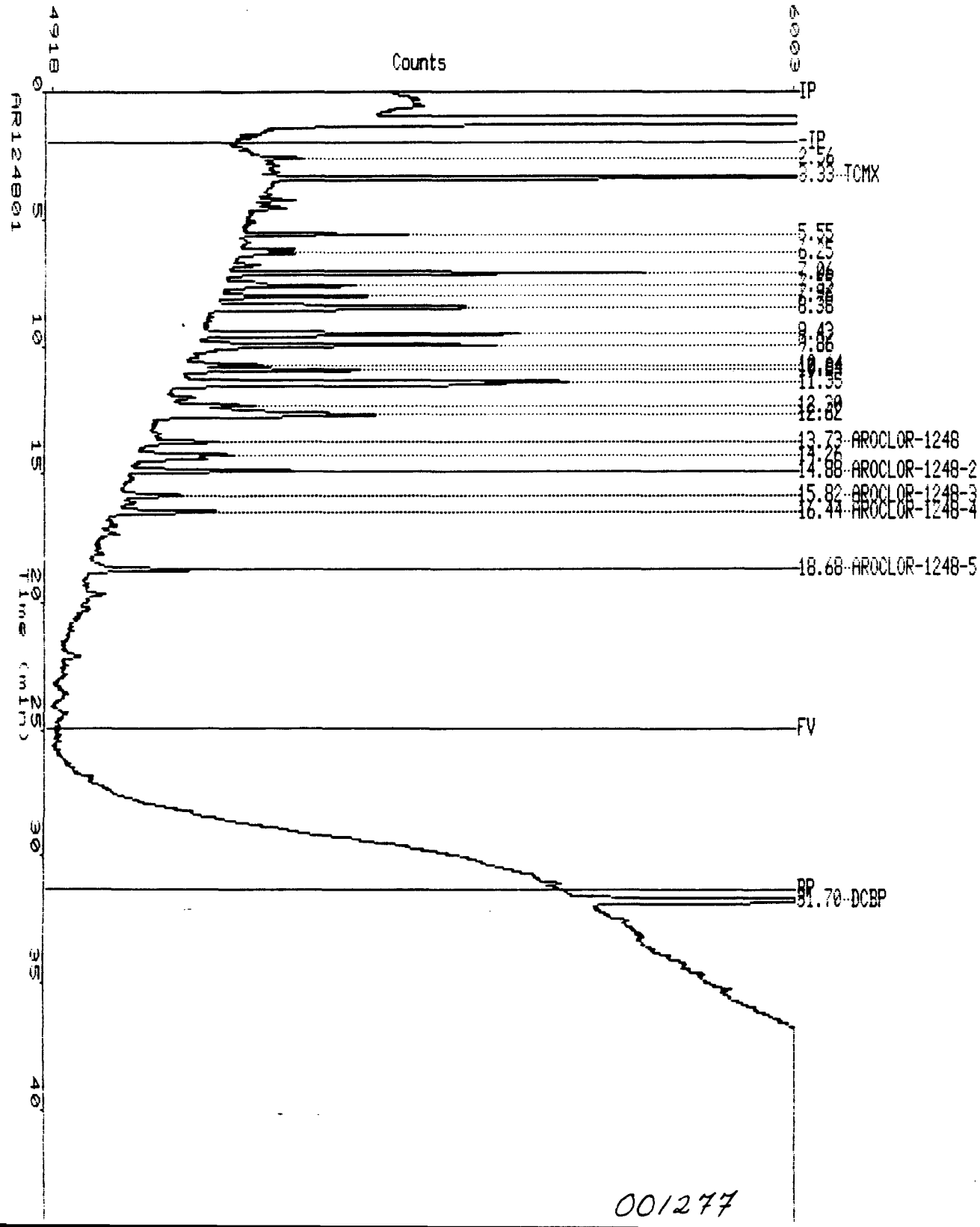
Data file: NAI$DIR:[NAI.BACKUP1]EAP0914-013

Report: 471979

Acquired: 14-SEP-1994 22:47:30

Time range: 0.00-44.48

REVISED



EVA30A, P, P

001277

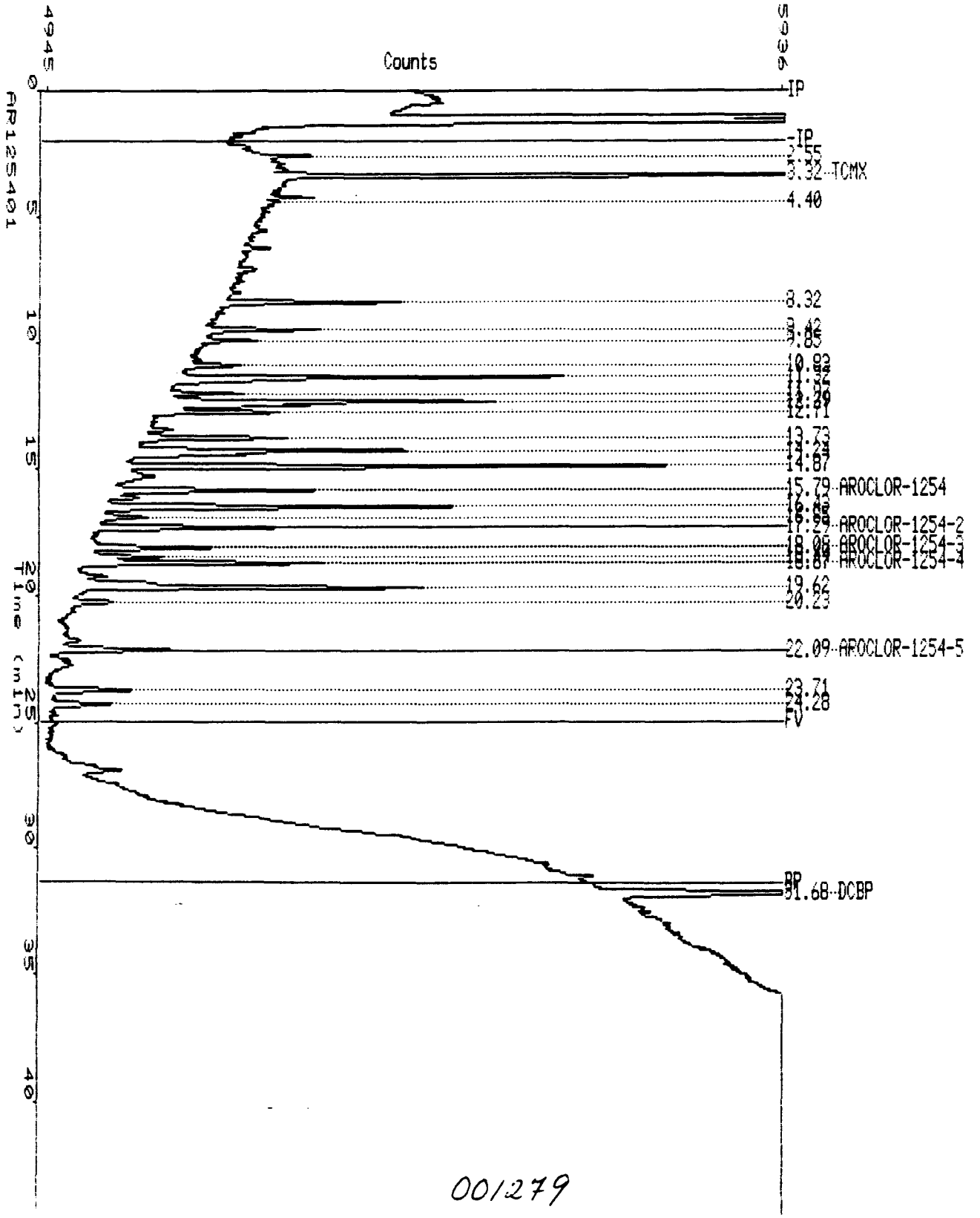
Data file: NAI$DIR:[NAI.BACKUP1]EAP0914-014

Report: 472035

Acquired: 14-SEP-1994 23:35:54

Time range: 0.00-44.48

REVISED



EVA30A, P, PP

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LABORATORY NAME KEYSTONE LAB-HOUSTON
CITY/STATE HOUSTON, TEXAS

CASE NO. 22596 SDG NO. FDB27 SDG NOS. TO FOLLOW _____
_____ _____ SAS NO. _____

CONTRACT NO. 68-D2-0020
SOW NO. 3-91

All documents delivered in the complete SDG file must be original documents where possible. (REFERENCE EXHIBIT B, SECTION II and SECTION III.)

	PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK EPA
Inventory Sheet (Form DC-2) (Do not number)			✓	✓
SDG Case Narrative	1	3	✓	✓
SDG Cover Sheet/Traffic Report	4	5	✓	✓
Volatiles Data				
a. QC Summary				
System Monitoring Compound Summary (Form II VOA)	6	—	✓	✓
Matrix Spike/Matrix Spike Duplicate Summary (Form III VOA)	7	—	✓	✓
Method Blank Summary (Form IV VOA)	8	9	✓	✓
GC/MS Instrument Performance Check (Form V VOA)	10	13	✓	✓
Internal Standard Area and RT Summary (Form VIII VOA)	14	15	✓	✓
b. Sample Data	16	144		
TCL Results - (Form I VOA)			✓	✓
Tentatively Identified Compounds (Form I VOA-TIC)			✓	✓
Reconstructed total ion chromatograms (RIC) for each sample			✓	✓
For each sample:				
Raw spectra and background-subtracted mass spectra of target compounds identified			✓	✓
Quantitation reports			✓	✓
Mass spectra of all reported TICs with three best library matches			✓	✓
c. Standards Data (All Instruments)	145	208		
Initial Calibration Data (Form VI VOA)			✓	✓
RICs and Quan Reports for all Standards			✓	✓
Continuing Calibration Data (Form VII VOA)			✓	✓
RICs and Quantitation Reports for all Standards			✓	✓
d. Raw QC Data				
BFB	209	220	✓	✓
Blank Data	221	234	✓	✓
Matrix Spike/Matrix Spike Duplicate Data	235	242	✓	✓

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET (Cont.)

CASE NO. 22596 SDG NO. FDB27 SDG NOS. TO FOLLOW _____
_____ _____ SAS NO. _____

	PAGE NOs FROM	TO	CHECK LAB	EPA
Semivolatiles Data				
a. QC Summary				
Surrogate Percent Recovery Summary (Form II SV)	243	—	✓	✓
MS/MSD Summary (Form III SV)	244	—	✓	✓
Method Blank Summary (Form IV SV)	245	—	✓	✓
GC/MS Instrument Performance Check (Form V SV)	246	250	✓	✓
Internal Standard Area and RT Summary (Form VIII SV)	251	258	✓	✓
b. Sample Data	259	876		
TCL Results (Form I SV-1, SV-2)				
Tentatively Identified Compounds (Form I SV-TIC)			✓	✓
Reconstructed total ion chromatograms (RIC) for each sample			✓	✓
For each sample:				
Raw spectra and background-subtracted mass spectra of target compounds			✓	✓
Quantitation reports			✓	✓
Mass spectra of TICs with three best library matches			✓	✓
GPC chromatograms (if GPC performed)			✓	✓
c. Standards Data (All Instruments)	877	1017 ~~1038~~ AA 9/26/94		
Initial Calibration Data (Form VI SV-1, SV-2)			✓	✓
RICs and Quan Reports for all Standards			✓	✓
Continuing Calibration Data (Form VII SV-1, SV-2)			✓	✓
RICs and Quantitation Reports for all Standards			✓	✓
Semivolatile GPC Calibration Data-UV detector traces			1515	✓
d. Raw QC Data				
DFTPP	1018	1038	✓	✓
Blank Data	1039	1050	✓	✓
Matrix Spike/Matrix Spike Duplicate Data	1051	1066	✓	✓
Pesticides				
a. QC Summary				
Surrogate Percent Recovery Summary (Form II PEST)	1067	—	✓	✓
MS/MSD Duplicate Summary (Form III PEST)	1068	✓		✓
Method Blank Summary (Form IV PEST)	1069	✓		✓

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET (Cont.)

CASE NO. 22596 SDG NO. FDB27 SDG NOS. TO FOLLOW _____
_____ _____ SAS NO. _____

	PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK EPA
6. Pesticides (cont.)				
b. Sample Data	1070	1157		
TCL Results - Organic Analysis Data Sheet (Form I PEST)			✓	✓
Chromatograms (Primary Column)			✓	✓
Chromatograms from second GC column confirmation			✓	✓
GC Integration report or data system printout			✓	✓
Manual work sheets			✓	✓
For pesticides/Aroclors confirmed by GC/MS, copies of raw spectra and copies of background-subtracted mass spectra of target compounds (samples & standards)			✓	✓
c. Standards Data	1158	1403		
Initial Calibration of Single Component Analytes (Form VI PEST-1 and PEST-2)			✓	✓
Initial Calibration of Multicomponent Analytes (Form VI PEST-3)			✓	✓
Analyte Resolution Summary (Form VI PEST-4)			✓	✓
Calibration Verification Summary (Form VII PEST-1)			✓	✓
Calibration Verification Summary (Form VII PEST-2)			✓	✓
Analytical Sequence (Form VIII PEST)			✓	✓
Florisil Cartridge Check (Form IX PEST-1)			✓	✓
Pesticide GPC Calibration (Form IX PEST-2)			✓	✓
Pesticide Identification Summary for Single Component Analytes (Form X PEST-1)			✓	✓
Pesticide Identification Summary for Multicomponent Analytes (Form X PEST-2)			✓	✓
Chromatograms and data system printouts A printout of retention times and corresponding peak areas or peak heights			✓	✓
Pesticide GPC calibration data - UV detector traces			✓	✓
d. Raw QC Data				
Blank Data	1404	1470	✓	✓
Matrix Spike/Matrix Spike Duplicate Data	1471	1490	✓	✓

ORGANICS COMPLETE SDC FILE (CSF) INVENTORY SHEET (Cont.)

CASE NO. 22596 SDC NO. FDB27 SDC NOS. TO FOLLOW _____
_____ _____ SAS NO. _____

	PAGE NOs FROM	TO	CHECK LAB	EPA
7. Miscellaneous Data				
Original preparation and analysis forms or copies of preparation and analysis logbook pages	1491	1511	✓	✓
Internal sample and sample extract transfer chain-of-custody records	1512	1514	–	✓
Screening records	NA		–	✓
All instrument output, including strip charts from screening activities (describe or list)	NA		–	✓
8. EPA Shipping/Receiving Documents				
Airbills (No. of shipments 1)	1516	–	–	✓
Chain-of-Custody Records	1517	1518	–	✓
Sample Tags	1520 ~~1519~~	1549	–	✓
Sample Log-In Sheet (Lab & DC1)	1519		–	✓
Miscellaneous Shipping/Receiving Records (describe or list)				
9. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
10. Other Records (describe or list)				
Telephone Communication Log				

11. Comments: _____

Completed by: (CLP Lab) [signature] (Signature) for JANIE GARZA/DC OFFICER /MK (Printed Name/Title) 9/26/94 (Date)

Audited by: (EPA) [signature] (Signature) Frank C. Stencer (Printed Name/Title) 10/3/94 (Date)

FORM DC-2-4

OLM01.7 7/91

ENVIRONMENTAL SERVICES DIVISION
RECEIVED
SEP 2 1994
ANALYTICAL SUPPORT BRANCH

SDG NARRATIVE

SECTION I

LABORATORY: CHESTER LAB-NET HOUSTON DOC. CONT NO: 22596

CASE NO.: 22596 SDG NO.: FDB27

LAB NO.: H94-08.216 CONTRACT NO.: 68-D2-0020

I. RECEIPT

A. DATE: 8-23-94.

B. NO. OF SAMPLES : Ten (10).

C. CLIENT SAMPLE IDs: FDB27, FDB29, FDB30, FDB32, FDB33, FDB35, FDB36, FDB38, FDB39, FDB41.

D. SAMPLE TYPE: Soil.

E. ANALYSIS REQUESTED: Full organics following the 3/91 CLP OLM01.9 SOW.

F. SHIPPING PROBLEMS: None.

G. DOCUMENTATION PROBLEMS: Original RS0830V* in Case 22589 BPD69.
Original FS0816C* in Case 22468 AAC76.
Original FS0902C* in Case 22600 AHS21.
Original FS0830C* in Case 22589 BPD69.

H. QC DISTRIBUTION (MS AND MSD):

LEVEL	MATRIX	VOA	SV	PEST/PCB	ORGANICS
LOW	SOIL			FDB32	

II. PREPARATION

A. ANALYTICAL LEVELS: Low level.

B. EXTRACTION PROBLEMS: All sample matrices were extremely complex it appears that several should have been classified as HIGH level this should be apparent from the elevated baseline incured from the semivolatile analysis. All the extracts were dark and viscous. Samples were run per the region's interpretation of the SOW therefore no initial dilution was preformed to account for the dark viscous nature of the extracts.

III. ANALYSIS

A. ANALYSIS PROBLEMS: Volatiles - No more than one compound on the initial calibration % RSD was outside of QC-limits. No more than one compound on the continuing calibration % D was outside of QC-limits. Sample FDB29, FDB29RE, FDB32, FDB32MS, FDB32MSD, FDB35, FDB35RE, FDB36, FDB36RE, FDB38, FDB38RE, FDB39, FDB39RE, FDB41, FDB41RE, all have internal standards outside of QC-Limits. Payment should be allowed for all the re-analysis.

Semivolatiles - No more than one compounds % RSD on the initial calibrations was outside of QC-limits. No more than two compounds % D on the continuing calibrations were outside of QC-limits. The MS/MSD % REC for 4-Nitrophenol, 2,4-Dinitrotoluene, Pentachlorophenol, and Acenaphthene on the MS were outside of QC-limits because of the sample matrix. The % RPD for Acenaphthene was also outside of the QC-limits. Internal standards were outside of QC-limits for sample FDB36, FDB36RE, FDB32, FDB32MS, FDB32MSD, FDB35, FDB35RE because of sample matrix. Payment should be allowed for the re-analysis. Sample FDB33 was diluted 1/10 FDB33DL 1/50 to bring 2-Methylnapthene within the calibration range.

Pest. - The % RSD for Methoxychlor on the initial calibration on the DB5 column was outside of QC-Limits. The RPD on the calibration verification for beta-BHC on DB1701 and DB5 09/09/94 1157 was outside of QC-limits. DCB was not recovered on sample FDB32MS and FDB32MSD therfore no retention times are reported on form 8D due to sample matrix. The MS/MSD % REC of 4,4'-DDT was 0 due the the sample matrix. Gamma-BHC's recovery was also outside of QC-limits for the MS. Dieldrin and Endrin % REC for the MSD were outside of QC-limits. The % RPD for Heptachlor, Dieldrin, Endrin, and 4,4-DDT were also outside of QC-limits.

B. SURROGATE PROBLEMS: Volatiles - None.

Semivolatiles - Sample FDB32, and FDB32MS have one surrogate outside of QC-limits, they were not re-analyzed because they are part of the QC-series.

Pest. - Several surrogates were outside of the advisory QC limit.

DOC NO: 22596

IV. COMMENTS

The latest revision of the NIST mass spectral library for the Finnigan NOVA 4X computers is not currently available. Finnigan has informed Keystone Lab - Houston that this software revision is currently in beta testing. Slight differences in values found on forms 1-10 and sample and standard quantitation reports may exist due to variations in rounding off procedures in the computers used. Manual edits were preformed to facilitate the processing of co-eluting peaks and incorrectly generated computer baselines. The edits are initialized and dated by the appropiate analyst. The GPC utilized at this facility does not lose half of the extract surrogate and spiking volumes are corrected accordingly.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions listed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Mark Fullerton

Mark Fullerton - Project Manager

September 26, 1994

Date

LABORATORY SAMPLE DELIVERY GROUP (SDG)
TRAFFIC REPORT (TR) COVER SHEET
ORGANICS

Laboratory Name: Keystone Lab-Houston

Laboratory Code: KEYTX

EPA Contract No.: 68-D2-0020

SAS No.:

EPA Case No.: 22546-16

EPA SDG No.: FDB-2

Full Sample Price: $775.00

SDG No./First Sample in SDG: FDB 27
(Lowest EPA Sample Number in first shipment of samples received under SDG)

Sample Receipt Date: 9-23-1994 (MM/DD/YY)

Last Sample in SDG: FDB 41
(Highest EPA Sample Number in last shipment of samples received under SDG)

Sample Receipt Date: 9-23-1994 (MM/DD/YY)

EPA Sample Numbers in the SDG (listed in alphanumeric order):

1	FDB 27	11	
2	29	12	
3	30	13	
4	32	14	
5	33	15	
6	35	16	
7	36	17	
8	37	18	
9	39	19	
10	41	20	

NOTE: There are a maximum of 20 samples in an SDG.

Attach Traffic Reports to this form in alphanumeric order (i.e., the order listed on this form).

[illegible] — Sample Custodian

9-23-94 — Date

SDG/TR Cover-CFS (3/92)

EPA United States Environmental Protection Agency Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable): —

Case No.: 22596

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

2. Region No.: V1
Sampling Co.: WESTON
4. Date Shipped: 8/22/94
Carrier: Federal Express
6. Date Received -- Received by: 08/23/94 D. Massoudi
Sampler (Name): Pam Quackenbush
Airbill Number: 9878882996
Laboratory Contract Number: 0020
Unit Price:
Sampler Signature: P. Quackenbush
5. Ship To: Keystone Lab, 8300 West Park Drive, Houston TX 77063, (713) 266-6800, ATTN: Dela Massoudi
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

3. Purpose*
Lead: [X] SF [ ] PRP [ ] ST [ ] FED
Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [X] SI [ ] ESI
Long-Term Action: [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases Solids	Water-Miscible Liq.	Water-Immis. Liq.
FDB32	5	L	G	5	X	X	X		6-037729-31	SED-1	8/22/94 0945	MFDP04	PJG			
FDB33	5	L	G	5	X	X	X		6-037733-35	SED-2	8/22/94 1015	MFDP05	PJG			
FDB35	5	L	G	5	X	X	X		6-037737-39	SED-3	8/22/94 1050	MFDP06	PJG			
FDB36	5	L	G	5	X	X	X		6-037741-43	SED-4	8/22/94 0920	MFDP07	PJG			
FDB38	5	L	G	5	X	X	X		6-037745-47	SED-5	8/22/94 1000	MFDP08	PJG			
FDB39	5	L	G	5	X	X	X		6-024907-09	SED-6	8/22/94 1000	MFDP09	PJG			
FDB41	5	L	G	5	X	X	X		6-024911-13	SED-7	8/22/94 1100	MFDP10	PJG			
FDB27	5	L	G	5	X	X	X		6-037717-19	SS-1	8/22/94 1140	MFDP21	PJG			
FDB29	5	L	G	5	X	X	X		6-037721-23	SS-2	8/22/94 1051	MFDP02	PJG			
FDB30	5	L	G	5	X	X	X		6-037725-27	SS-3	8/22/94 1115	MFDP03	PJG			

Shipment for Case Complete? (Y/N): Y
Page 1 of 1
Sample(s) to be Used for Laboratory QC: FDB32
Additional Sampler Signatures:
Chain of Custody Seal Number(s): —

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
P. Quackenbush	8/22/94 1400	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	
		D. Massoudi	8/23/94 0900 AM		

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SM

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIO

A21-012-4 REV. 3/93

000005

355516

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: KEYSTONE ENV. Contract: 68-D2-0020

Lab Code: KEYTX Case No.: 22596 SAS No.: _____ SDG No.: FDB27

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	FDB27	70	72	69	67	63	46	70	66	0
02	FDB29	69	64	55	71	76	57	75	75	0
03	FDB30	58	69	52	67	65	55	72	60	0
04	FDB32	76	64	46	68	70	13 *	66	65	1
05	FDB33	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
06	FDB33DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
07	FDB35	56	58	52	54	60	55	62	52	0
08	FDB35RE	39	49	42	42	40	44	41	39	0
09	FDB36	41	59	62	46	35	50	42	41	0
10	FDB36RE	53	100	115	61	51	61	59	50	0
11	FDB38	60	58	46	59	65	41	60	60	0
12	FDB38DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
13	FDB39	64	63	50	63	62	32	64	61	0
14	FDB41	65	68	58	63	62	37	66	63	0
15	FDB32MS	81	137 *	70	63	69	45	62	52	1
16	FDB32MSD	70	90	59	52	61	23	58	52	0
17	SBLK1	84	83	89	79	86	76	81	78	0

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: KEYSTONE ENV. Contract: 68-D2-0020

Lab Code: KEYTX Case No.: 22596 SAS No.: _____ SDG No.: FDB27

Matrix Spike - EPA Sample No.: FDB32 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	3250	0	1844	57	26- 90
2-Chlorophenol	3250	0	2109	65	25-102
1,4-Dichlorobenzene	2160	0	1357	63	28-104
N-Nitroso-di-n-prop.(1)	2160	0	2517	116	41-126
1,2,4-Trichlorobenzene	2160	0	1663	77	38-107
4-Chloro-3-methylphenol	3250	0	1238	38	26-103
Acenaphthene	2160	0	3066	142 *	31-137
4-Nitrophenol	3250	0	0	0 *	11-114
2,4-Dinitrotoluene	2160	0	0	0 *	28- 89
Pentachlorophenol	3250	0	0	0 *	17-109
Pyrene	2160	0	2182	101	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	3250	1712	53	7	35	26- 90
2-Chlorophenol	3250	1958	60	8	50	25-102
1,4-Dichlorobenzene	2160	1101	51	21	27	28-104
N-Nitroso-di-n-prop.(1)	2160	2104	97	18	38	41-126
1,2,4-Trichlorobenzene	2160	1337	62	22	23	38-107
4-Chloro-3-methylphenol	3250	1305	40	5	33	26-103
Acenaphthene	2160	834.6	39	114 *	19	31-137
4-Nitrophenol	3250	0	0 *	0	50	11-114
2,4-Dinitrotoluene	2160	0	0 *	0	47	28- 89
Pentachlorophenol	3250	0	0 *	0	47	17-109
Pyrene	2160	1731	80	23	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 7 out of 22 outside limits

COMMENTS:

EPA United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

SAS No. (if applicable): —
Case No.: 22596

1. Project Code: —
Account Code: —
2. Region No.: VI
Sampling Co.: WESTON
4. Date Shipped: 8/22/94
Carrier: Fed Express

Regional Information: —
Sampler (Name): Pam Quackenbush
Airbill Number: 9878883000

Non-Superfund Program: —
Sampler Signature: Pam Quackenbush
5. Ship To: Silver Valley Labs, INC.
One Government Gulch
Kellogg, ID 83837

Site Name: Delta Shipyard
3. Purpose*
Lead: [X] SF [ ] PRP [ ] ST [ ] FED
Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [X] SI [ ] ESI
Long-Term Action: [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

City, State: Houma LA
Site Spill ID: ZZ
ATTN: Kevin Booth

6. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (specify in Column A)

7. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaOH
4. H_2SO_4
5. $K_2CR_2O_7$
6. Ice only
7. Other (specify in Column D)
N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
MFDP04	5	L	G	6		X	X					6-037732	SED-1	8/22/94 0945	FDB32	PJQ	—
MFDP05	5	L	G	6		X	X					6-037736	SED-2	8/22/94 1015	FDB33	PJQ	—
MFDP06	5	L	G	6		X	X					6-037740	SED-3	8/22/94 1050	FDB35	PJQ	—
MFDP07	5	L	G	6		X	X					6-037744	SED-4	8/22/94 0920	FDB36	PJQ	—
MFDP08	5	L	G	6		X	X					6-037748	SED-5	8/22/94 1000	FDB38	PJQ	—
MFDP09	5	L	G	6		X	X					~~6-037777~~ 6-024910	SED-6	8/22/94 1000	FDB39	PJQ	D (MFDP08)
MFDP10	5	L	G	6		X	X					6-024914	SED-7	8/22/94 1100	FDB41	PJQ	—
MFDP01	5	L	G	6		X	X					6-037720	SS-1	8/22/94 1140	FDB27	PJQ	—
MFDP02	5	L	G	6		X	X					6-037724	SS-2	8/22/94 1051	FDB29	PJQ	—
MFDP03	5	L	G	6		X	X					6-037728	SS-3	8/22/94 1115	FDB30	PJQ	—

Shipment for Case Complete? (Y/N): Y
Page: 1 of 1
Sample(s) to be Used for Laboratory QC: MFDP04
Additional Sampler Signatures: Pete Ruy
Chain of Custody Seal Number(s): —

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Pam Quackenbush	8/22/94 1100	FED EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

A21-012-5 REV. 3/93

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

FULL INORGANICS
COMPLETE SDG FILE (CSF)
INVENTORY SHEET

Lab Name: SVL ANALYTICAL, INC. City/State: KELLOGG, IDAHO

Case No. 22596 SDG No. MFDP01 SDG Nos. to Follow: MFDP01 _____ _____

SAS No. _____ Contract No. 68-D20042 SOW No. ILM02.1

All documents delivered in the Complete SDG File must be original documents where possible. (Reference Exhibit B, Section II D and Section III V)

		Page Nos.		(Please Check:)	
		From	To	Lab	Region
1.	Inventory Sheet (DC-2) (Do not number)			X	
2.	Cover Page	1	1	X	
3.	Inorganic Analysis Data Sheet (Form I-IN)	2	11	X	
4.	Initial & Continuing Calibration Verification (Form IIA-IN)	12	17	X	
5.	CRDL Standards For AA and ICP (Form IIB-IN)	18	22	X	
6.	Blanks (Form III-IN)	23	26	X	
7.	ICP Interference Check Sample (Form IV-IN)	27	29	X	
8.	Spike Sample Recovery (Form VA-IN)	30	31	X	
9.	Post Digest Spike Sample Recovery (Form VB-IN)	32	32	X	
10.	Duplicates (Form VI-IN)	33	34	X	
11.	Laboratory Control Sample (Form VII-IN)	35	38	X	
12.	Standard Addition Results (Form VIII-IN)	39	39	X	
13.	ICP Serial Dilutions (Form IX-IN)	40	40	X	
14.	Instrument Detection Limits (Form X-IN)	41	47	X	
15.	ICP Interelement Correction Factors (Form XIA-IN)	48	49	X	
16.	ICP Interelement Correction Factors (Form XIB-IN)	50	55	X	
17.	ICP Linear Ranges (Form XII-IN)	56	57	X	
18.	Preparation Log (Form XIII-IN)	58	62	X	
19.	Analysis Run Log (Form XIV-IN)	63	80	X	
20.	ICP Raw Data	81	246	X	
21.	Furnace AA Raw Data	247	268	X	
22.	Mercury Raw Data	269	271	X	

	Page Nos. From	To	(Please Check:) Lab	Region
23. Cyanide Raw Data	272	275	X	
24. Preparation Logs Raw Data	276	280	X	
25. Percent Solids Determination Log	281	282	X	
26. Traffic Report	NA			
27. EPA Shipping/Receiving Documents				
Airbill (No. of Shipments 1)	283	283	X	
Chain-of-Custody Records	284	284	X	
Sample Tags	285	294		
Sample Log-In Sheet (Lab & DCl)	295	295	X	
SDG Cover Sheet	296	296	X	
28. Misc. Shipping/Receiving Records (list all individual records)				
Telephone Logs	NA			
NONCONFORMANCE MEMO	297	297	X	
COOLER RECEIPT CHECKLIST	298	298	X	
29. Internal Lab Sample Transfer Records & Tracking Sheets (describe or list)	NA			
	NA			
	NA			
30. Internal Original Sample Prep & Analysis Records (describe or list)				
Prep Records STANDARD PREP LOGS	299	306	X	
Analysis Records RUN LOGS	307	321	X	
Description	NA			
31. Other Records (describe or list)				
Telephone Communication Log	NA			
	NA			
	NA			

32. Comments:

DISK TO SMO

Completed by (CLP Lab):

(Signature)	(Print Name & Title)	(Date)
Melba Bencich	MELBA BENCICH DOCUMENT CONTROL OFFICER	SEPTEMBER 16, 1994

Audited by (EPA):

(Signature)	(Print Name & Title)	(Date)

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596 SAS No.: _____ SDG No.:MFDP01

SOW No.: ILM02.1

EPA Sample No.	Lab Sample ID
_MFDP01_____	_MFDP01_____
_MFDP02_____	_MFDP02_____
_MFDP03_____	_MFDP03_____
_MFDP04_____	_MFDP04_____
_MFDP04D_____	_MFDP04D_____
_MFDP04S_____	_MFDP04S_____
_MFDP05_____	_MFDP05_____
_MFDP06_____	_MFDP06_____
_MFDP07_____	_MFDP07_____
_MFDP08_____	_MFDP08_____
_MFDP09_____	_MFDP09_____
_MFDP10_____	_MFDP10_____

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Melba Bencich Name: MELBA BENCICH

Date: SEPTEMBER 15, 1994 Title: DOCUMENT CONTROL OFFICER

U.S. EPA - CLP

2

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP01

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP01

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _70.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	9330			P
7440-36-0	Antimony_	8.1	B	N	P
7440-38-2	Arsenic__	7.7		SN	F
7440-39-3	Barium___	4920			P
7440-41-7	Beryllium	0.70	B		P
7440-43-9	Cadmium__	1.1	U		P
7440-70-2	Calcium__	17300			P
7440-47-3	Chromium_	18.5			P
7440-48-4	Cobalt___	9.1	B		P
7440-50-8	Copper___	32.8		E	P
7439-89-6	Iron_____	16400			P
7439-92-1	Lead_____	117			F
7439-95-4	Magnesium	4200			P
7439-96-5	Manganese	467			P
7439-97-6	Mercury__	0.14	U	N*	CV
7440-02-0	Nickel___	27.2			P
7440-09-7	Potassium	1890			P
7782-49-2	Selenium_	0.34	B	W	F
7440-22-4	Silver___	1.9	B		P
7440-23-5	Sodium___	164	B		P
7440-28-0	Thallium_	0.53	B		F
7440-62-2	Vanadium_	23.7			P
7440-66-6	Zinc_____	206			P
_____	Cyanide__	0.71	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP02

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP02

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _75.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	8660			P
7440-36-0	Antimony_	7.5	U	N	P
7440-38-2	Arsenic__	29.7		N	F
7440-39-3	Barium___	18900			P
7440-41-7	Beryllium	0.59	B		P
7440-43-9	Cadmium__	2.6			P
7440-70-2	Calcium__	11100			P
7440-47-3	Chromium_	87.1			P
7440-48-4	Cobalt___	12.3	B		P
7440-50-8	Copper___	63.8		E	P
7439-89-6	Iron_____	18800			P
7439-92-1	Lead_____	345			P
7439-95-4	Magnesium	3460			P
7439-96-5	Manganese	530			P
7439-97-6	Mercury__	0.77		N*	CV
7440-02-0	Nickel___	16.5			P
7440-09-7	Potassium	1580			P
7782-49-2	Selenium_	0.53	B		F
7440-22-4	Silver___	2.9			P
7440-23-5	Sodium___	219	B		P
7440-28-0	Thallium_	0.60	B	W	F
7440-62-2	Vanadium_	24.3			P
7440-66-6	Zinc_____	666			P
	Cyanide__	0.66	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP03

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP03

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _72.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11500			P
7440-36-0	Antimony	7.8	U	N	P
7440-38-2	Arsenic	20.7	B	N	F
7440-39-3	Barium	14700			P
7440-41-7	Beryllium	0.86	B		P
7440-43-9	Cadmium	1.5			P
7440-70-2	Calcium	9230			P
7440-47-3	Chromium	90.2			P
7440-48-4	Cobalt	12.0	B		P
7440-50-8	Copper	46.9		E	P
7439-89-6	Iron	22000			P
7439-92-1	Lead	174			P
7439-95-4	Magnesium	4430			P
7439-96-5	Manganese	410			P
7439-97-6	Mercury	0.39		N*	CV
7440-02-0	Nickel	19.1			P
7440-09-7	Potassium	2180			P
7782-49-2	Selenium	0.50	B	W	F
7440-22-4	Silver	1.8	B		P
7440-23-5	Sodium	490	B		P
7440-28-0	Thallium	0.51	B		F
7440-62-2	Vanadium	29.1			P
7440-66-6	Zinc	367			P
	Cyanide	0.69	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP04

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP04

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _74.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	6430			P
7440-36-0	Antimony_	10.5	B	N	P
7440-38-2	Arsenic__	22.1		SN	F
7440-39-3	Barium___	11900			P
7440-41-7	Beryllium	0.53	B		P
7440-43-9	Cadmium__	4.9			P
7440-70-2	Calcium__	12000			P
7440-47-3	Chromium_	527			P
7440-48-4	Cobalt___	9.7	B		P
7440-50-8	Copper___	75.2		E	P
7439-89-6	Iron_____	21500			P
7439-92-1	Lead_____	632			F
7439-95-4	Magnesium	2850			P
7439-96-5	Manganese	480			P
7439-97-6	Mercury__	1.3		N*	CV
7440-02-0	Nickel___	18.9			P
7440-09-7	Potassium	1570			P
7782-49-2	Selenium_	0.37	B		F
7440-22-4	Silver___	4.1			P
7440-23-5	Sodium___	331	B		P
7440-28-0	Thallium_	0.61	B	W	F
7440-62-2	Vanadium_	24.4			P
7440-66-6	Zinc_____	835			P
	Cyanide__	0.67	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP05

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP05

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _76.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	6830			P
7440-36-0	Antimony_	7.5	U	N	P
7440-38-2	Arsenic__	6.3	B	N	F
7440-39-3	Barium___	15100			P
7440-41-7	Beryllium	0.49	B		P
7440-43-9	Cadmium__	1.0	U		P
7440-70-2	Calcium__	4030			P
7440-47-3	Chromium_	54.4			P
7440-48-4	Cobalt___	11.4	B		P
7440-50-8	Copper___	48.4		E	P
7439-89-6	Iron_____	43200			P
7439-92-1	Lead_____	185			P
7439-95-4	Magnesium	2100			P
7439-96-5	Manganese	231			P
7439-97-6	Mercury__	0.22		N*	CV
7440-02-0	Nickel___	25.2			P
7440-09-7	Potassium	1270	B		P
7782-49-2	Selenium_	0.18	U		F
7440-22-4	Silver___	3.3			P
7440-23-5	Sodium___	180	B		P
7440-28-0	Thallium_	0.40	B		F
7440-62-2	Vanadium_	18.7			P
7440-66-6	Zinc_____	302			P
_____	Cyanide__	0.65	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP06

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP06

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _58.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	6160			P_
7440-36-0	Antimony_	9.7	U	N	P_
7440-38-2	Arsenic__	4.2	B	N	F_
7440-39-3	Barium___	18000			P_
7440-41-7	Beryllium	0.39	B		P_
7440-43-9	Cadmium__	1.8			P_
7440-70-2	Calcium__	4810			P_
7440-47-3	Chromium_	35.2			P_
7440-48-4	Cobalt___	8.8	B		P_
7440-50-8	Copper___	33.6		E	P_
7439-89-6	Iron_____	10200			P_
7439-92-1	Lead_____	158			P_
7439-95-4	Magnesium	2470			P_
7439-96-5	Manganese	120			P_
7439-97-6	Mercury__	0.23		N*	CV
7440-02-0	Nickel___	12.9	B		P_
7440-09-7	Potassium	1140	B		P_
7782-49-2	Selenium_	0.31	B		F_
7440-22-4	Silver___	1.3	B		P_
7440-23-5	Sodium___	181	B		P_
7440-28-0	Thallium_	0.41	B		F_
7440-62-2	Vanadium_	14.9	B		P_
7440-66-6	Zinc_____	149			P_
	Cyanide__	0.85	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP07

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP07

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _74.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	3400			P_
7440-36-0	Antimony_	7.6	U	N	P_
7440-38-2	Arsenic__	4.9		SN	F_
7440-39-3	Barium___	5440			P_
7440-41-7	Beryllium	0.29	B		P_
7440-43-9	Cadmium__	1.0	U		P_
7440-70-2	Calcium__	86100			P_
7440-47-3	Chromium_	58.3			P_
7440-48-4	Cobalt___	5.0	B		P_
7440-50-8	Copper___	66.8		E	P_
7439-89-6	Iron____	23200			P_
7439-92-1	Lead____	92.0			P_
7439-95-4	Magnesium	5300			P_
7439-96-5	Manganese	245			P_
7439-97-6	Mercury__	0.13	U	N*	CV
7440-02-0	Nickel___	9.4	B		P_
7440-09-7	Potassium	703	B		P_
7782-49-2	Selenium_	0.19	U	W	F_
7440-22-4	Silver___	1.4	B		P_
7440-23-5	Sodium___	241	B		P_
7440-28-0	Thallium_	0.50	B	W	F_
7440-62-2	Vanadium_	9.0	B		P_
7440-66-6	Zinc____	805			P_
	Cyanide__	0.67	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP08

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP08

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _52.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9090			P
7440-36-0	Antimony	10.9	U	N	P
7440-38-2	Arsenic	24.8		SN	F
7440-39-3	Barium	20100			P
7440-41-7	Beryllium	0.79	B		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	9420			P
7440-47-3	Chromium	37.8			P
7440-48-4	Cobalt	13.5	B		P
7440-50-8	Copper	61.3		E	P
7439-89-6	Iron	19800			P
7439-92-1	Lead	181			P
7439-95-4	Magnesium	3740			P
7439-96-5	Manganese	280			P
7439-97-6	Mercury	0.29		N*	CV
7440-02-0	Nickel	24.4			P
7440-09-7	Potassium	1760	B		P
7782-49-2	Selenium	0.27	U		F
7440-22-4	Silver	2.2	B		P
7440-23-5	Sodium	289	B		P
7440-28-0	Thallium	0.76	B		F
7440-62-2	Vanadium	25.4			P
7440-66-6	Zinc	449			P
	Cyanide	0.95	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP09

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP09

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _56.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	6890			P
7440-36-0	Antimony_	12.5	B	N	P
7440-38-2	Arsenic__	16.3		SN	F
7440-39-3	Barium___	17300			P
7440-41-7	Beryllium	0.75	B		P
7440-43-9	Cadmium__	1.7	B		P
7440-70-2	Calcium__	14200			P
7440-47-3	Chromium_	39.1			P
7440-48-4	Cobalt___	10.5	B		P
7440-50-8	Copper___	55.2		E	P
7439-89-6	Iron_____	16400			P
7439-92-1	Lead_____	195			P
7439-95-4	Magnesium	3270			P
7439-96-5	Manganese	305			P
7439-97-6	Mercury__	0.30		N*	CV
7440-02-0	Nickel___	19.4			P
7440-09-7	Potassium	1420	B		P
7782-49-2	Selenium_	0.25	U		F
7440-22-4	Silver___	3.5	B		P
7440-23-5	Sodium___	253	B		P
7440-28-0	Thallium_	0.47	B		F
7440-62-2	Vanadium_	19.5			P
7440-66-6	Zinc_____	444			P
_____	Cyanide__	0.88	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFDP10

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Matrix (soil/water): SOIL_ Lab Sample ID: MFDP10

Level (low/med): LOW__ Date Received: 08/23/94

% Solids: _47.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	10900			P
7440-36-0	Antimony_	12.0	U	N	P
7440-38-2	Arsenic__	23.1		SN	F
7440-39-3	Barium___	20500			P
7440-41-7	Beryllium	0.94	B		P
7440-43-9	Cadmium__	1.6	U		P
7440-70-2	Calcium__	16400			P
7440-47-3	Chromium_	42.8			P
7440-48-4	Cobalt___	16.8	B		P
7440-50-8	Copper___	45.8		E	P
7439-89-6	Iron____	21400			P
7439-92-1	Lead____	125			F
7439-95-4	Magnesium	4610			P
7439-96-5	Manganese	509			P
7439-97-6	Mercury__	0.21	U	N*	CV
7440-02-0	Nickel___	28.4			P
7440-09-7	Potassium	1610	B		P
7782-49-2	Selenium_	0.29	U		F
7440-22-4	Silver___	3.3	B		P
7440-23-5	Sodium___	360	B		P
7440-28-0	Thallium_	0.62	B		F
7440-62-2	Vanadium_	30.1			P
7440-66-6	Zinc____	245			P
	Cyanide__	1.1	U		CA

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Initial Calibration Source: EPA-LV 692/1

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	1878.0	1892.97	100.8	2000.0	1906.07	95.3	1843.12	92.2	P
Antimony	1024.0	1058.51	103.4	2000.0	1902.92	95.1	1802.04	90.1	P
Arsenic	50.9	52.77	103.7	50.0	50.28	100.6	51.63	103.3	F
Barium	1891.0	2003.37	105.9	2000.0	1947.00	97.4	1940.42	97.0	P
Beryllium	478.0	454.89	95.2	2000.0	2088.59	104.4	2099.03	105.0	P
Cadmium	493.0	516.19	104.7	2000.0	1880.13	94.0	1827.24	91.4	P
Calcium	48810.0	49258.48	100.9	5000.0	4809.32	96.2	4671.61	93.4	P
Chromium	480.0	492.85	102.7	2000.0	1880.67	94.0	1871.59	93.6	P
Cobalt	487.0	490.40	100.7	2000.0	1913.30	95.7	1844.72	92.2	P
Copper	486.0	502.57	103.4	2000.0	1938.12	96.9	1963.49	98.2	P
Iron	1962.0	2002.89	102.1	2000.0	1998.76	99.9	1969.52	98.5	P
Lead	4739.0	4934.48	104.1	2000.0	1830.33	91.5	1811.72	90.6	P
Magnesium	23859.0	24250.50	101.6	5000.0	4687.33	93.7	4482.16	89.6	P
Manganese	474.0	493.70	104.2	2000.0	1916.61	95.8	1833.12	91.7	P
Mercury	4.9	4.92	100.4	2.0	2.04	102.0	2.08	104.0	CV
Nickel	488.0	486.24	99.6	2000.0	1899.23	95.0	1875.31	93.8	P
Potassium	49182.0	51565.77	104.8	20000.0	19041.41	95.2	18667.36	93.3	P
Selenium	50.7	54.67	107.8	50.0	47.72	95.4	50.57	101.1	F
Silver	478.0	509.35	106.6	2000.0	2008.84	100.4	1931.82	96.6	P
Sodium	46804.0	50305.07	107.5	5000.0	4751.94	95.0	4805.38	96.1	P
Thallium	100.7	104.52	103.8	50.0	50.31	100.6	51.95	103.9	F
Vanadium	482.0	491.32	101.9	2000.0	1915.85	95.8	1907.49	95.4	P
Zinc	2921.0	2957.53	101.3	2000.0	1892.98	94.6	1833.68	91.7	P
Cyanide	90.0	96.81	107.6	100.0	99.33	99.3	103.18	103.2	CA

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Initial Calibration Source: EPA-LV 692/1

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				2000.0	1875.71	93.8			P
Antimony				2000.0	1814.14	90.7			P
Arsenic				50.0	51.92	103.8			F
Barium				2000.0	1890.64	94.5			P
Beryllium				2000.0	2065.16	103.3			P
Cadmium				2000.0	1805.97	90.3			P
Calcium				5000.0	4671.61	93.4			P
Chromium				2000.0	1853.54	92.7			P
Cobalt				2000.0	1824.98	91.2			P
Copper				2000.0	1988.86	99.4			P
Iron				2000.0	1963.68	98.2			P
Lead				2000.0	1793.54	89.7			P
Magnesium				5000.0	4528.94	90.6			P
Manganese				2000.0	1815.87	90.8			P
Mercury				2.0	2.08	104.0	1.99	99.5	CV
Nickel				2000.0	1840.83	92.0			P
Potassium				20000.0	18597.77	93.0			P
Selenium	50.7	50.79	100.2	50.0	46.94	93.9	50.90	101.8	F
Silver				2000.0	1910.42	95.5			P
Sodium				5000.0	4731.90	94.6			P
Thallium				50.0	51.86	103.7	51.43	102.9	F
Vanadium				2000.0	1895.05	94.8			P
Zinc				2000.0	1816.32	90.8			P
Cyanide				100.0	104.72	104.7	102.00	102.0	CA

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Initial Calibration Source: EPA-LV 692/1

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	50.9	52.24	102.6	50.0	49.86	99.7	49.40	98.8	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	98.4	101.27	102.9	50.0	49.86	99.7	49.44	98.9	F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium				50.0	46.94	93.9			F
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide				100.0	110.33	110.3	110.74	110.7	CA

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Initial Calibration Source: EPA-LV 692/1

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				50.0	50.14	100.3			F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead				50.0	47.07	94.1			F
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide				100.0	112.18	112.2			CA

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Initial Calibration Source: EPA-LV 692/1

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic	50.9	52.00	102.2	50.0	51.20	102.4	51.33	102.7	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Initial Calibration Source: EPA-LV 692/1

Continuing Calibration Source: SPEX_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				50.0	49.87	99.7	51.47	102.9	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

AA CRDL Standard Source: EPA-LV_____

ICP CRDL Standard Source: SPEX 42394__

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic	10.0	11.56	115.6					
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	3.0	3.29	109.7					
Magnesium								
Manganese								
Mercury	0.2	0.24	120.0					
Nickel								
Potassium								
Selenium	5.0	5.00	100.0					
Silver								
Sodium								
Thallium	10.0	10.74	107.4					
Vanadium								
Zinc								

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

AA CRDL Standard Source: _____

ICP CRDL Standard Source: SPEX 42394__

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120.0	137.72	114.8	132.85	110.7
Arsenic								
Barium								
Beryllium								
Cadmium				10.0	13.26	132.6	12.54	125.4
Calcium								
Chromium								
Cobalt				100.0	99.75	99.8	100.79	100.8
Copper								
Iron								
Lead				125.0	90.32	72.3	90.35	72.3
Magnesium								
Manganese				30.0	31.76	105.9	31.76	105.9
Mercury								
Nickel								
Potassium								
Selenium								
Silver				20.0	24.44	122.2	24.82	124.1
Sodium								
Thallium								
Vanadium								
Zinc				40.0	41.82	104.6	40.83	102.1

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

AA CRDL Standard Source: EPA-LV_____

ICP CRDL Standard Source: SPEX 42394__

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic	10.0	10.93	109.3					
Barium								
Beryllium				10.0	9.19	91.9	9.57	95.7
Cadmium								
Calcium								
Chromium				20.0	21.34	106.7	19.79	99.0
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel				80.0	73.89	92.4	68.96	86.2
Potassium								
Selenium	5.0	4.02	80.4					
Silver								
Sodium								
Thallium								
Vanadium				100.0	99.43	99.4	98.16	98.2
Zinc								

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

AA CRDL Standard Source: EPA-LV_____

ICP CRDL Standard Source: SPEX 42394__

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum_								
Antimony_								
Arsenic__	10.0	11.82	118.2					
Barium___								
Beryllium								
Cadmium__								
Calcium__								
Chromium_								
Cobalt___								
Copper___								
Iron_____								
Lead_____								
Magnesium								
Manganese								
Mercury__								
Nickel___								
Potassium								
Selenium_								
Silver___								
Sodium___								
Thallium_								
Vanadium_								
Zinc_____								

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

AA CRDL Standard Source: _____

ICP CRDL Standard Source: SPEX 42394__

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum_								
Antimony_								
Arsenic__								
Barium___								
Beryllium								
Cadmium__								
Calcium__								
Chromium_								
Cobalt___								
Copper___				50.0	53.25	106.5	54.49	109.0
Iron____								
Lead____								
Magnesium								
Manganese								
Mercury__								
Nickel___								
Potassium								
Selenium_								
Silver___								
Sodium___								
Thallium_								
Vanadium_								
Zinc____								

3
BLANKS

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	30.0	B	30.5	B	26.5	B	46.4	B	4.260	U	P
Antimony	28.5	U	28.5	U	28.5	U	28.9	B	5.700	U	P
Arsenic	0.9	U	0.9	U	-1.1	B	0.9	U	0.180	U	F
Barium	1.0	U	1.0	U	3.3	B	1.0	U	0.200	U	P
Beryllium	0.4	U	0.4	U	0.4	U	0.5	B	0.080	U	P
Cadmium	3.9	U	3.9	U	3.9	U	3.9	U	0.780	U	P
Calcium	34.1	U	34.1	U	34.1	U	53.0	B	6.820	U	P
Chromium	3.8	U	3.8	U	3.8	U	3.8	U	0.760	U	P
Cobalt	4.1	U	-6.2	B	4.1	U	4.1	U	-1.039	B	P
Copper	3.0	U	3.0	U	3.0	U	3.0	U	0.742	B	P
Iron	22.1	U	22.1	U	22.1	U	22.1	U	4.420	U	P
Lead	61.7	U	61.7	U	61.7	U	61.7	U	12.340	U	P
Magnesium	31.7	B	29.7	U	29.7	U	44.8	B	5.940	U	P
Manganese	1.5	U	1.5	U	1.5	U	1.5	U	0.300	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	18.0	U	18.0	U	18.0	U	18.0	U	3.600	U	P
Potassium	451.0	U	451.0	U	451.0	U	451.0	U	90.200	U	P
Selenium	0.7	U	0.7	U	0.7	U			0.140	U	F
Silver	6.6	B	2.6	U	2.6	U	2.6	U	0.520	U	P
Sodium	44.4	U	44.4	U	44.4	U	44.4	U	8.880	U	P
Thallium	0.9	U	0.9	U	1.3	B	0.9	B	0.180	U	F
Vanadium	-2.2	B	-3.7	B	-2.2	B	2.1	U	-0.710	B	P
Zinc	2.0	U	2.0	U	-2.0	B	2.0	U	1.017	B	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	0.500	U	CA

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BLANKS

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Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	0.9	U	0.9	U	0.9	U	0.9	U			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	F
Magnesium											NR
Manganese											NR
Mercury			0.2	U							CV
Nickel											NR
Potassium											NR
Selenium	0.7	U	0.7	U	0.7	U	0.7	U			F
Silver											NR
Sodium											NR
Thallium			1.1	B							F
Vanadium											NR
Zinc											NR
Cyanide			10.0	U	10.0	U	10.0	U			CA

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BLANKS

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Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	0.9	U	1.0	B	0.9	U	-1.0	B			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide			10.0	U							CA

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3
BLANKS

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D20042_

Lab Code: SILVER Case No.: 22596_ SAS No.: _____ SDG No.: MFDP01

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			0.9	U							F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

ATTACHMENT 5

PHOTOGRAPH NO.: 1

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung PR
Witness:	Diane Williams DW
Date of Photograph:	12 July 1994
Description:	Photograph taken of area where the former pits were once located east of the fabrication building (monitoring well in bottom left corner). Area is now used as a parking lot by EBI employees.

arcs:46032722:delta.pic

PHOTOGRAPH NO.: 2

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung
Witness:	Diane Williams
Date of Photograph:	12 July 1994
Description:	Photograph of pit 3 from the west berm, looking southeast.

arcs:46032722:delta.pic

PHOTOGRAPH NO.: 3

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung
Witness:	Diane Williams
Date of Photograph:	12 July 1994
Description:	Photograph of pits 1 and 2. Pit 2 is in the foreground and pit 1 is in the background.

PHOTOGRAPH NO.: 4

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung
Witness:	Diane Williams
Date of Photograph:	12 July 1994
Description:	Photograph taken of rainwater pooled on pit 2 showing an oily sheen.

PHOTOGRAPH NO.: 5

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung PR
Witness:	Diane Williams DGW
Date of Photograph:	12 July 1994
Description:	Photograph taken of EBI employees cutting path through vegetation to pit 2. Employees are standing on top of the berm surrounds the pits.

PHOTOGRAPH NO.: 6

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung
Witness:	Diane Williams
Date of Photograph:	12 July 1994
Description:	Photograph shows Plant Shell road looking north. The pits are located behind the dense vegetation. The drainage ditch is located between the road and the vegetation.

PHOTOGRAPH NO.: 7

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung PR
Witness:	Dennis Hayes DFH
Date of Photograph:	22 August 1994
Description:	Photograph shows pit 1 being sampled by WESTON employees.

PHOTOGRAPH NO.: 8

Site Name:	Delta Shipyards
Site Location:	Houma, Terrebonne Parish, Louisiana
Cerclis I.D. No.:	LAD058475419
Weston Work Order No.:	04603-027-022-2140
Photographer:	Peter Rung
Witness:	Dennis Hayes DFH
Date of Photograph:	22 August 1994
Description:	Photograph shows location of pit 4 being sampled by WESTON employee.