8304-14

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by HQ)
6	TX 9971

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 Task Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Precision National Corp.

B. STREET (or other identifier): 333 So. Valley Mills Drive P.O. Box 7157

C. CITY: Waco TXD056363708

D. STATE: TX

E. ZIP CODE: 76710

F. COUNTY NAME: McClennan

G. SITE OPERATOR INFORMATION

1. NAME: W.P. Mathews - Regional Manager

2. TELEPHONE NUMBER: 817/772-8370

3. STREET:

4. CITY:

5. STATE:

6. ZIP CODE:

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

1. NAME: Same

2. TELEPHONE NUMBER:

3. CITY:

4. STATE:

5. ZIP CODE:

I. SITE DESCRIPTION: Machine shop which repairs large crankshafts and large I.D. and O.D. rods and cylinders by chrome plating and grinding.

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: Mark Riforgiat - FIT

2. TELEPHONE NUMBER: 214/742-6601

3. DATE (*mo., day, & yr.*): 8/19/83

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME: Mark Riforgiat

2. TITLE: FIT - Biologist

3. ORGANIZATION: Ecology and Environment, Inc., 1509 Main St., Dls, TX 75201

4. TELEPHONE NO. (*area code & no.*): 214/742-6601

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
Mark Riforgiat	Ecology & Environment, Inc.	214/742-6601
Gerard Gallagher	Ecology & Environment, Inc.	214/742-6601

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

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
William Mathews	Regional Manager 817/772-8370	Precision National Corp. Waco, TX

90067099

SUPERFUND FILE

JAN 19 1993

REORGANIZED

REVIEWED BY (SIGN) DATE 9.8.81

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Precision Nat'l Corp	817/772-8370	333 So. Valley Mills Drive Waco, TX 76710	Treatment sludge from chrome plating operation

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
N/A			

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
Municipal Landfill		City of Waco, Tx

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
6/20/83	1345	[X] 1. PERMISSION [ ] 2. WARRANT

J. WEATHER (describe)
Clear 85°F

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	X (1)	EPA Lab, 6608 Hornwood Dr. Houston, TX 77074	8/16/83
h. VEGETATION			
i. OTHER (specify)			

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: [X] a. GROUND [ ] b. AERIAL
2. PHOTOS IN CUSTODY OF: EPA Region VI (Attached)

D. SITE MAPPED?

[X] YES. SPECIFY LOCATION OF MAPS: EPA Region VI (Attached) USGS Map & Site Sketch

E. COORDINATES

1. LATITUDE (deg.-min.-sec.) 31°30'40" N
2. LONGITUDE (deg.-min.-sec.) 97°09'20" W

V. SITE INFORMATION

A. SITE STATUS

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

[ ] 2. INACTIVE (Those sites which no longer receive wastes.)

[X] 3. OTHER (specify): Plant currently in operation (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)
- no wastes disposed onsite

B. IS GENERATOR ON SITE?

[ ] 1. NO [X] 2. YES (specify generator's four-digit SIC Code): 3471, 3519, 3599

C. AREA OF SITE (in acres): 3

D. ARE THERE BUILDINGS ON THE SITE?

[ ] 1. NO [XX] 2. YES (specify): 1 building - chroming and machine shop and offices

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	X	1. FILTRATION	X	1. LANDFILL *
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE	X	3. DRUMS *		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND	X	4. RECYCLING/RECOVERY		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
			* One 55-gal drum to store waste treatment sludge	X	8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		*Municipal landfill

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 form.

[X] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [ ] 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

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

B. WASTE CHARACTERISTICS

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

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

[ ] 9. OTHER (specify):

C. WASTE CATEGORIES

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

N/A

Continue On Reverse

Continued From Front

VII. 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 300	AMOUNT None	AMOUNT None	AMOUNT None	AMOUNT None	AMOUNT None
UNIT OF MEASURE lbs/yr	UNIT OF MEASURE	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.
X (2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(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):
Wastewater treatment sludge containing bound Cr^{3+} from plating operations.			(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') a. SOLID	b. LIQ.	c. VAPOR	3. TOXICITY (mark 'X') a. HIGH	b. MED.	c. LOW	d. NONE	4. CAS NUMBER	5. AMOUNT	6. UNIT
Chromium	X							7440-47-3	*2100	ppm
Lead	X							7439-92-1	*1380	ppm
Mercury	X							7439-97-6	*6.7	ppm
Copper	X							7440-50-8	*278	ppm

* Concentrations from analysis of offsite sample taken during the inspection.

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

Based on sample analysis, significant levels of chromium, lead, mercury, and copper present in soils near facility.

☐ M. PROPERTY DAMAGE

Continue On Page 7

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

XX U. OTHER (specify):

In 1977 a wastewater treatment process was installed at the plant to treat wastewaters containing Cr^{6+} from grinding operations. The process flocculates and reduces to Cr^{3+}, which is recovered as a dry sludge material and stored in a 55 - gallon drum. Prior to installation of the treatment process, wastewaters were disposed via the City of Waco sanitary sewer. Solvents are reused in the plating process.

Previous records of the plant indicated the presence of a landfill on site. The area in question was examined and it was discerned that the "landfill" was an outflow duct from the plants' air conditioning system. This duct has since been removed and particle precipitators installed to recover this material through the wastewater treatment process.

Review of the results of a sample collected during the inspection show that concentrations of chromium, copper, mercury and lead are all very significantly elevated when compared to mean ambient background levels. Further sampling should be conducted to more completely assess the site seriousness.

(See attachment A)

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	3200	3200	>800	1 mile
2. IN COMMERCIAL OR INDUSTRIAL AREAS	1000	1000	40	1 mile
3. IN PUBLICLY TRAVELLED AREAS	>1000	>1000	2 major Hwys	1 mile
4. PUBLIC USE AREAS (parks, schools, etc.)	1500	1500	3	1 mile

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
Approx 30-35 ft.* >800 ft.+	S-SE * S-SE +	Unknown * Domestic +
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)**	**F. DIRECTION TO DRINKING WATER SUPPLY**
<10 GPM* up to 1000 gpm +	4 mi.	West (Lake Waco)

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY <15 CONNECTIONS X 2. COMMUNITY (specify town): City of Waco, TX >15 CONNECTIONS

XX 3. SURFACE WATER ☐ 4. WELL

 Continue On Page 9

*Shallow watertable
+Deep Trinity Sands Aquifer - Reference: TWDB Report #98. USGS Prof. Paper 813-F

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.

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
Solid Waste Generator	TDWR	30639			X		

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

[X] 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.

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

F. 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				

G. RECEIVING WATER

1. NAME: Brazos River

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

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

Contact recreation, noncontact recreation, propagation of fish & 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

Balcones FH. Zone approx. 2 miles east of site. Site lies on upthrown block.

☐ 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)
X	1. SAND	X	None observed		
X	2. CLAY Some				
	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.) to ☒ 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: <3%

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

J. OTHER GEOLOGICAL DATA The site lies on top of the Upper Cretaceous Austin Chalk which is comprised of chalk and marl and is approximately 150-300 feet thick. Although the Woodbine Formation is at depth beneath the site, this unit does not appear to be used for a major groundwater supply in the area. Rather, the Trinity Sands Aquifer consisting of alternating sand, shale, and limestone, is the major ground water source in the area. As a result of the Balcones fault zone the wells west of the site area yield groundwater from a depth greater than 800 feet whereas those east of Waco may be set at depths greater than 2,000 ft.

STORAGE FACILITIES SITE INSPECTION REPORT
(Supplemental Report)

INSTRUCTION
Answer and Explain as Necessary.

1. STORAGE AREA HAS CONTINUOUS IMPERVIOUS BASE
[X] YES [ ] NO

2. STORAGE AREA HAS A CONFINEMENT STRUCTURE
[ ] YES [X] NO

3. EVIDENCE OF LEAKAGE/OVERFLOW *(If "Yes", document where and how much runoff is overflowing or leaking from containment)*
[ ] YES [X] NO

4. ESTIMATE TYPE AND NUMBER OF BARRELS/CONTAINERS
1- 55 gallon drum

5. GLASS OR PLASTIC STORAGE CONTAINERS USED
[ ] YES [X] NO

6. ESTIMATE NUMBER AND CAPACITY OF STORAGE TANKS
N/A

7. NOTE LABELING ON CONTAINERS
N/A

8. EVIDENCE OF LEAKAGE CORROSION OR BULGING OF BARRELS/CONTAINERS/STORAGE TANKS *(If "Yes", document evidence. Describe location and extent of damage. Take PHOTOGRAPHS)*
[ ] YES [X] NO

9. DIRECT VENTING OF STORAGE TANKS
[ ] YES [ ] NO N/A

10. CONTAINERS HOLDING INCOMPATIBLE SUBSTANCES *(If "Yes", document evidence. Describe location and identity of hazardous waste. Take PHOTOGRAPHS.)*
[ ] YES [X] NO

11. INCOMPATIBLE SUBSTANCES STORED IN CLOSE PROXIMITY *(If "Yes", document evidence. Describe location and identity of hazardous waste. Take PHOTOGRAPHS.)*
[ ] YES [X] NO

12. ADEQUATE CONTAINER WASHING AND REUSE PRACTICES
[ ] YES [ ] NO N/A

13. ADEQUATE PRACTICES FOR DISPOSAL OF EMPTY STORAGE CONTAINERS
[ ] YES [ ] NO N/A

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT SUPPLEMENT SHEET

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
VIII. U.	Samples 1 through 8 (see attached sketch) will be grab soil samples to identify the lateral extent of contamination around the plant. Sample #1 will be taken from the ditch which runs parallel to the loop 369 service road; on the west side of Franklin avenue, and will serve as an upgradient sample. Samples 2 and 3 will be taken from the ditch on the upstream and downstream sides of a runoff path from the plant. Sample #4 will be taken at a location downstream (to be determined onsite) to define the extent of contaminant migration in this ditch. Samples 5 through 8 will be taken at or outside the perimeters of the plant and/or adjacent properties to the east and south of the plant. Samples 9 through 12 will be composite samples containing 3-5 aliquots from within a 25-35 foot radius from the sample location point. Sample #9 will be taken from the former air conditioning duct outfall within the plant fence. Sample #10 will be taken from the runoff path from the plant. Samples 11 and 12 will be taken from the field to the east of the plant. Grab samples 8 — Samples will be tested for metals Composite samples 4 — No water samples anticipated Background samples 2 Total 14 Soil samples will be taken from the surface to 6- inches depth, as conditions warrant. At some locations, 2 samples may be taken; at the surface, and also at a six inch depth. The decision for additional samples at each location will be made in the field. The minimum total number of soil samples anticipated is 14, but may be as high as 23. No water samples are anticipated.

TABLE I. INORGANIC ANALYSIS SUMMARY

CASE NUMBER: None (Houston)

SITE NAME/CODE: Precision National Corp. TX9971

CONCENTRATIONS (ppm)

	PARAMETER	EPA Sample Numbers								Mean Ambient Background 1.	
		6-1304								Western U. S. 2.	Eastern U. S. 2.
Task 1	Matrix Type									Soil	Soil
	Aluminum									54,000	33,000
	Chromium	2100								38	36
	Barium									560	300
	Beryllium									0.6	0.6
	Cobalt									8	7
	Copper	278								21	14
	Iron									20,000	15,000
	Nickel	22.9								16	13
	Manganese									390	290
	Zinc	84.2								51	36
	Boron									22	32
	Vanadium									66	46
	Silver									<.50	-
Task 2	Arsenic	4.06								6.1	5.4
	Antimony	0.68								<150	-
	Selenium	0.95								0.25	0.39
	Thallium									-	-
	Mercury	6.7								0.055	0.096
	Tin									<10	<10
	Cadmium									<1	<1
	Lead	1380								18	14
Task 3	Ammonia									-	-
	Cyanide									-	-
	Sulfide									-	-
Sample Station Number		1									
Sample Station Location		NE of plant property									

TXD054364708
SUPERFUND FILE
JAN 21 1993
REORGANIZED
Precision National Corp.

Ambient background concentrations apply only to soil matrix samples. Values obtained from "Geochemistry of Some Rocks, Soils, Plant and Vegetables in the Contermious United States" Geological Survey Professional Paper 574 F 1975.

2. Reference for East/West Division is the 97° W longitudinal line which bisects Region VI.

02/20/83 SAMPLE MF 0304

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5437

CASE # 944F
QC REPORT # SAS-61

PROJECT-TASK 751.1290
BATCH NO. 1

RECEIVED

**** TASK 1 ****

MG/KG

CHROMIUM	< 0.500

**** TASK 3 ****

MG/KG

CR +6	<1.	CR +3	<1.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83

SAMPLE MF 0305

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5438

CASE # 944F
QC REPORT # SAS-61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	8.000 8.4 See QA Sheet q.c.

**** TASK 3 ****

	MG/KG		
CR +6	<1.	CR +3	8.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0306

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC. CASE # 944F
LAB SAMPLE # 5439 QC REPORT # SAS- 61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	6.000

**** TASK 3 ****

	MG/KG		
CR +6	<1. "S"	CR +3	6.

COMMENTS
1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0307

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5440

CASE # 944F
QC REPORT # SAS-61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	7.000

**** TASK 3 ****

	MG/KG		
CR +6	<1.	CR +3	7.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83

SAMPLE MF 0308

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5441

CASE # 944F
QC REPORT # SAS-61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	9.000

**** TASK 3 ****

	MG/KG		
CR +6	<5.[8]	CR +3	9.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE in extraction procedure caused dilution

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83

SAMPLE MF 0309

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5442

CASE # 944F
QC REPORT # SAS-61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	10.000

**** TASK 3 ****

	MG/KG		
CR +6	<5.[8]	CR +3	10.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/8" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE in extraction procedure caused dilution

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83

SAMPLE MF 0310

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5443

CASE # 944F
QC REPORT # SAS- 61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	7.500

**** TASK 3 ****

	MG/KG		
CR +6	<1.	CR +3	7.5

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0311

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5444

CASE # 944F
QC REPORT # SAS- 61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	16.000

**** TASK 3 ****

	MG/KG		
CR +6	<5. B	CR +3	16.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE in extraction procedure caused dilution

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0312

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5445

CASE # 944F
QC REPORT # SAS-61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	1130.000

**** TASK 3 ****

	MG/KG		
CR +6	35.	CR +3	1100.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83

SAMPLE MF 0313

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5446

CASE # 944F
QC REPORT # SAS- 61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	618.000

**** TASK 3 ****

	MG/KG		
CR +6	<5.[8]	CR +3	618.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE in extraction procedure caused dilution

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0314

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC. CASE # 944F
LAB SAMPLE # 5447 QC REPORT # SAS-61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	33.000

**** TASK 3 ****

	MG/KG		
CR +6	<10.B	CR +3	33.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE in extraction procedure caused dilution

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0315

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5448

CASE # 944F
QC REPORT # SAS- 61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	1070.000

**** TASK 3 ****

	MG/KG		
CR +6	36.	CR +3	1030.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0316

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5449

CASE # 944F
QC REPORT # SAS- 61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	3260.000

**** TASK 3 ****

	MG/KG		
CR +6	180.	CR +3	3080.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

02/20/83 SAMPLE MF 0317

INORGANICS ANALYSIS DATA SHEET

LAB NAME VERSAR INC.
LAB SAMPLE # 5450

CASE # 944F
QC REPORT # SAS- 61

PROJECT-TASK 751.1290
BATCH NO. 1

**** TASK 1 ****

	MG/KG
CHROMIUM	2460.000

**** TASK 3 ****

	MG/KG		
CR +6	10.	CR +3	2650.

COMMENTS

1. "C" - BLANK CORRECTED CONC.
2. "ND/B" - NOT DETECTED DUE TO BLANK
3. "S" - SAMPLES ANALYZED BY THE STD. ADDITION METHOD.
4. WITH A DETECTION LIMIT OF
5. WITH A DETECTION LIMIT OF
6. WITH A DETECTION LIMIT OF
7. INSUFFICIENT SAMPLE ALIQUOT
8. INTERFERENCE

ROBERT MAXFIELD, INORG. BRANCH MANAGER.

INORGANICS QUALITY ASSURANCE

QC REPORT KEY:

Case # 944F

Project # 751.129-1

Sample #			
	mF 0304	mF 0310	mF 0316
	0305	0311	0317
	0306	0312	
	0307	0313	
	0308	0314	
	0309	0315	

	CONTRACT REQUIRED DETECTION LIMITS (µg/l)	INSTRUMENTAL DETECTION LIMITS (µg/l)	INSTRUMENTAL CHECK STANDARD (µg/l)	SENSITIVITY RESPONSE	
TASK 1					
Al	200	15.	1000.	0.103	I.U.
Ba	100	1.	1000.	0.264	
Be	5	1.	1000.	0.362	
B	100	6.	1000.	—	
Cr	10	4.	1000.	0.151	
Co	50	10.	1000.	0.067	
Cu	50	4.	1000.	0.186	
Fe	50	2.	1000.	0.812	
Mn	15	1.	1000.	0.302	
Ni	40	15.	1000.	0.290	
Ag	10	3.	1000.	0.726	
V	200	4.	1000.	0.532	
Zn	10	3.	1000.	0.140	
TASK 2					
Sb	20	6.	100.	—	A.U.
As	10	8.	100.	—	
Cd	1	0.5	20.	—	
Pb	5	2.	50.	—	
Hg	0.2	0.2	5.	—	
Se	2	2.	50.	—	
Tl	10	2.	100.	—	
Sn	20	8.	100.	—	
TASK 3					
NH_3	100	10.	1000.	—	R.L.
CN^{-1}	10	4.	100.	—	
S^{-2}	50	10.	500.	—	

I.U. = Intensity Units (Al JA Software)

A.U. = Absorbance Units

R.L. = Response Lines

FOOTNOTES:

1) Detection limit raised due to sample matrix interference.
2) Sample interference precluded analysis.

INORGANICS QUALITY ASSURANCE

CASE # 944F QC REPORT # SAS-61

SAMPLES 14 DATE: 2-20-84

PROJECT 751.129-1

STANDARD SOURCE : EPA
SERIES : WP475

ELEMENT	BLANK VALUE (UG/L)	PREP. BLANK1 (UG/L)	INITIAL CALIBRATION VERIFICATION FOUND	TRUE	% RECOVERY
CR	< 4.	< 4.	248.	250.	99.

ICP INTEFERENCE CHECK

STANDARD SOURCE : EPA

UG/L

ELEMENT	INITIAL FOUND	INITIAL TRUE	INITIAL %REC.	FINAL FOUND	FINAL TRUE	FINAL %REC.
CR	284.	300.	95.	284.	300.	95.

CONTINUING CALIBRATION VERIFICATION UG/L

ELEMENT	STANDARD SOLUTION 1 FOUND	STANDARD SOLUTION 1 TRUE	STANDARD SOLUTION 1 % REC.	STANDARD SOLUTION 2 FOUND	STANDARD SOLUTION 2 TRUE.	STANDARD SOLUTION 2 % REC.
CR	252.	250.	101.	252.	250.	101.

DUPLICATE SAMPLE RESULT MG/KG

SAMPLE # MF 0305

	SAMPLE RESULT	DUPLICATE RESULT	% RPD
CR	8.400	8.400	0.

SPIKED SAMPLE RESULTS MG/KG

SAMPLE # MF 0305

ELEMENT	SAMPLE RESULT	SPIKE RESULT	SPIKE ADDED	% RECOVERY
CR	8.400	26.000	20.000	88.

INORGANICS QUALITY ASSURANCE

CASE # : 944E
OF SAMPLES: 14
LAB: Versar

QC REPORT # : SAS-61
DATE: 3-5-84
BATCH # : 751.129-1

TASK Flame Atomic Absorption

			Cr^{+6} (mg/l)
I. INITIAL CALIBRATION VERIFICATION	REFERENCE STANDARD SOURCE: Versar	FOUND	
		TRUE	
		% RECOVERY	
	BLANK VALUE	RESULTS	<0.1
II. CONTINUING CALIBRATION VERIFICATION	PREPARATION BLANK 1	RESULTS	<1. mg/kg
	PREPARATION BLANK 2	RESULTS	
	STANDARD SOLUTION 1 SOURCE: Versar	FOUND	1.9 mg/l
		TRUE	2.
		% RECOVERY	95
	STANDARD SOLUTION 2 SOURCE: Versar	FOUND	1.06 mg/l
		TRUE	1.
		% RECOVERY	106
	STANDARD SOLUTION 3 SOURCE:	FOUND	
		TRUE	
		% RECOVERY	
	STANDARD SOLUTION 4 SOURCE:	FOUND	
		TRUE	
		% RECOVERY	
III. DUPLICATE SAMPLE RESULTS	DUPLICATE 1 SAMPLE NO. MF 0305	SAMPLE RESULT	<1.
		DUPLICATE RESULT	<1.
		RPD %	—
	DUPLICATE 2 SAMPLE NO.	SAMPLE RESULT	
		DUPLICATE RESULT	
		RPD %	
IV. SPIKED SAMPLE RESULTS	SPIKE 1 SAMPLE NO. MF0306	SAMPLE RESULT	<1.
		SPIKE RESULT	5. mg/kg
		SPIKE ADDED	10. mg/kg
		% RECOVERY	50
	SPIKE 2 SAMPLE NO.	SAMPLE RESULT	
		SPIKE RESULT	
		SPIKE ADDED	
		% RECOVERY	

Versar INC.

VERSAR INC.
TRACE METALS SECTION
FLAME AA ANALYSIS LOG SHEET

ELEMENT: Cr This is Cr+6 Q.C. DATE: 2-29-84
PROJECT/BATCH: 775.005-7 / 751.129

INSTRUMENT: 5
WAVELENGTH: 357.9 nm SLIT: 0.7 H
LIGHT SOURCE: ___ EDL ✓ HCL
CURRENT/POWER: 25
BACKGROUND CORRECTION: ✓

FLAME TYPE:
Air-Acetylene ✓
Nitrous Oxide-Acetylene ☐
FUEL: 15
OXIDANT: 30

STANDARD PREP. DATE: 2-28-84

MODE: ABS ✓ CONC ☐
EXP. FAC: 1.

SPIKE = 1ppm = 5mL x 10ppm / 50mL

* Soil 10g / 100mL

CUP	LAB #	ABS	UNADJ. CONC. mg/l	D.F.	ADJ. CONC. mg/l	COMMENTS
1.	2ppm	342				r=0.9986
2.	1	187				
3.	0.5	85				
4.	0.2	33				
5.	BLK	-1				
6.	6372	0	<0.1		<0.1	
7.	6375	0	↓		↓	
8.	6377	0				
9.	6373 spk	0	↓		↓	0%
10.	2ppm	335	1.92		1.9	95% Rec
11.	D.B.	1	<0.1	*	<1. mg/kg	
12.	5437	1	↓	*	↓	
13.	5438	0		*		
14.	5438 dup	0		*		
15.	5438 spk	2	↓	*	↓	0% - Rerun

Samples 5441, 42, 44, 46, 47 need to be rerun because after centrifuging there was still no separation of layers

INITIALS CB

Versar INC.

VERSAR INC.
TRACE METALS SECTION
FLAME AA ANALYSIS LOG SHEET

ELEMENT: Cr. This is Cr the g.c.
PROJECT/BATCH: 751.129

CUP	LAB #	ABS	UNADJ. CONC. mg/l	D.F.	ADJ. CONC. mg/l	COMMENTS
16.	5439	0	<0.1	*	<1. mg/kg	
17.	5440	0	↓	*	↓	
18.	545343	0	↓	*	↓	
19.	545543	244	1.4	/2.5 *	35. mg/kg	
20.	545848	253	1.45	/2.5 *	36. ↓	
21.	543949	305	1.75	/10 *	175. ↓	
22.	5450	18	0.098	/10 *	9.8 ↓	
23.	1 ppm	184	1.06		1.06	106 % Rec
24.						
25.						
26.						
27.						
28.						
29.						
30.						
31.						
32.						
33.						
34.						
35.						

INITIALS CB

Versar INC.

VERSAR INC.
TRACE METALS SECTION
FLAME AA ANALYSIS LOG SHEET

ELEMENT: Cr^{+6}
PROJECT/BATCH: 751, 129
DATE: 3-1-84

INSTRUMENT: 5
WAVELENGTH: 3579 nm SLIT: 0.7 H
LIGHT SOURCE: ____ EDL ✓ HCL
CURRENT/POWER: 25
BACKGROUND CORRECTION: ✓

FLAME TYPE:
Air-Acetylene ✓
Nitrous Oxide-Acetylene ☐
FUEL: 15
OXIDANT: 30

STANDARD PREP. DATE: 3-1-84
MODE: ABS ✓ CONC ☐
EXP. FAC: 1

SPIKE = 1ppm = 5mL X 10ppm / 50mL

* soil 10g/100mL

CUP	LAB #	ABS	UNADJ. CONC. mg/l	D.F.	ADJ. CONC. mg/l	COMMENTS
1.	1ppm	180				r=0.9992
2.	0.5	84				
3.	0.2	33				
4.	BLK	1				
5.	1ppm	178	1.0		1.0	100 % Rec
6.	BLK	-1	<0.1			
7.	5441	-1		/5 *	<5.mg/kg	
8.	5442	0		/5 *		
9.	5444	-1		/5 *		
10.	5446	2		/5 *		
11.	5447	-1		/10 *	<10.mg/kg	
12.	5439sk	88	0.5	*	5mg/kg	(10mg/kg) 50% Rec
13.	1ppm	182	1.02		102	102 % Rec
14.	5441	0		*	—	yellow - flame didn't look like the sample was MIBK
15.	5442	0		*	—	

INITIALS SB

Versar INC.

VERSAR INC.
TRACE METALS SECTION
FLAME AA ANALYSIS LOG SHEET

ELEMENT: Cr^{+6}
PROJECT/BATCH: 751.129

CUP	LAB #	ABS	UNADJ. CONC. mg/l	D.F.	ADJ. CONC. mg/l	COMMENTS
16.	5444	0		*	—	Yellow flame - doesn't look like
17.	5446	0		*	—	sample was MI BK
18.	5447	0		*	—	↓
19.	1ppm	171	0.96		0.96	96
20.						
21.						
22.						
23.						
24.						
25.						
26.						
27.						
28.						
29.						
30.						
31.						
32.						
33.						
34.						
35.						

INITIALS

2-~~20~~19-84 ICP Spike 751.129-1

Soil # 5438, 2g/100ml, 5ml diluted to 10ml then spiked.

Element	ml spike soln used	Spike soln conc (ppm)	Spike Conc (mg/L)	Spike Conc (mg/kg)
Cr	0.02	100.	0.4	20.

Colleen Connolly
2-20-84

This Document Contained Material Which Was Not Filmed/Scanned

Title Oversized Document for Precision Nat'l Corp.

Please Refer to the File in Superfund Records Center

ACT C

UNITS = MG/L ********* 751.129-1 *********

LINE	CLASS	SAMPLE	BURN	MODE	DATE	TIME	AG	AL	AS	B	BA
1	WP475	EPA6	001	CO	84/ 2/19	16:53	-1.0763E-03	7.9424E-01	3.5056E-01	3.1009E-02	2.1789E-02
2	5+18	INTER	001	CO	84/ 2/19	16:55	2.8208E-01	9.7147E+01	5.6320E-01	1.3534E-02	2.8975E-01
3	/10.	INTER	001	CO	84/ 2/19	16:57	3.0020E-02	9.9607E+00	9.4879E-02	-1.3461E-03	2.9344E-02
4	1.X	AR	001	CO	84/ 2/19	17: 0	1.4314E-03	4.1278E-03	3.0146E-03	-5.6054E-03	-2.3107E-04
5	/50.	DB	001	CO	84/ 2/19	17: 2	-7.8481E-04	1.3560E-02	9.0764E-03	-2.4471E-03	7.7000E-05
6	/50.	5437	001	CO	84/ 2/19	17: 4	2.7997E-04	8.0592E-03	1.0858E-02	-3.4136E-03	-7.7025E-05
7	/100.	5438	001	CO	84/ 2/19	17: 7	-1.1195E-03	8.4957E+01	1.5658E-01	2.9333E-02	6.0857E-01
8	/100.	5438DP	001	CO	84/ 2/19	17: 9	-9.7079E-04	9.1512E+01	1.3937E-01	3.2840E-02	6.1589E-01
9	/100.	5439	001	CO	84/ 2/19	17:12	-2.3027E-03	6.3089E+01	8.4120E-02	3.0003E-02	5.0386E-01
10	/500.	5439	001	CO	84/ 2/19	17:14	-1.3313E-03	1.2624E+01	3.2962E-02	1.5766E-03	1.0264E-01
11	/100.	5440	001	CO	84/ 2/19	17:16	-1.7640E-03	5.0078E+01	7.1310E-02	1.0804E-02	6.3245E-01
12	/500.	5440	001	CO	84/ 2/19	17:18	3.0212E-04	1.0182E+01	1.7944E-02	-2.3668E-03	1.3090E-01
13	/100.	5441	001	CO	84/ 2/19	17:20	-5.5023E-04	7.5928E+01	9.1018E-02	2.0644E-02	8.2835E-01
14	/100.	5442	001	CO	84/ 2/19	17:22	1.4998E-03	9.1858E+01	9.6922E-02	2.7762E-02	7.5050E-01
15	/50.	5443	001	CO	84/ 2/19	17:24	-3.0341E-04	1.0293E+02	1.3794E-01	1.3199E-02	1.2099E+00
16	/100.	5444	001	CO	84/ 2/19	17:26	-7.1964E-05	5.1986E+01	9.8540E-02	1.7060E-02	4.8044E-01
17	WP475	EPA6	001	CO	84/ 2/19	17:28	-5.4293E-04	8.0348E-01	3.2599E-01	3.1245E-02	2.2713E-02
18	/100.	5445	001	CO	84/ 2/19	17:30	-1.6070E-04	7.0787E+01	4.4032E-02	4.9538E-03	1.0582E+00
19	/100.	5446	001	CO	84/ 2/19	17:32	7.0466E-02	7.8095E+01	9.3092E-02	1.1282E-02	8.0110E-01
20	/100.	5447	001	CO	84/ 2/19	17:34	1.1877E-02	8.1603E+01	6.1318E-02	1.3510E-02	9.3562E-01
21	/100.	5448	001	CO	84/ 2/19	17:37	-1.6791E-03	5.9376E+01	1.1282E-01	4.7343E-03	8.5468E-01
22	/100.	5449	001	CO	84/ 2/19	17:39	2.5559E-04	5.8887E+01	1.3629E-01	2.3709E-02	5.6182E-01
23	/100.	5450	001	CO	84/ 2/19	17:41	-4.3376E-02	3.4040E+01	-2.2618E+00	5.0006E-01	3.5501E+00
24	/100.	5438SP	001	CO	84/ 2/19	17:45	-7.3076E-04	8.3003E+01	5.6848E-02	3.0212E-02	5.9331E-01
25	WP475	EPA6	001	CO	84/ 2/19	17:48	-1.2445E-03	7.9454E-01	3.1548E-01	2.7606E-02	2.2104E-02
26	5+18	INTER	001	CO	84/ 2/19	17:50	2.8242E-01	9.6960E+01	5.3830E-01	1.5777E-02	2.8618E-01
27	/10.	INTER	001	CO	84/ 2/19	17:52	3.0547E-02	9.9265E+00	6.4961E-02	-2.8150E-03	2.9568E-02

SUPERFUND FILE
Precion Nat'l Corp.
JAN 21 1993
TXD056 363408
REORGANIZED

LINE	CLASS	SAMPLE	BE	CA	CD	CR	CU	FE
1	WP475	EPA6	9.2614E-01	5.0212E-03	7.0331E-02	5.9507E-01	2.4985E-01	3.5414E-01	9.2150E-01
2	5+18	INTER	1.0003E-01	1.9750E+02	2.8443E-01	2.8328E-01	2.8574E-01	2.9231E-01	1.6887E+02
3	/10.	INTER	1.0568E-02	2.1028E+01	2.8728E-02	2.9245E-02	3.0031E-02	2.9789E-02	2.0017E+01
4	1.X	AR	5.6076E-05	-1.1825E-03	1.4639E-04	3.0374E-04	2.6989E-04	1.0941E-04	3.5551E-03
5	/50.	DB	-1.3725E-07	7.2137E-02	-1.4659E-03	-6.0705E-04	-2.7121E-04	7.6677E-04	1.5467E-02
6	/50.	5437	1.6865E-04	2.5003E-02	-1.1727E-03	-2.4287E-03	8.0824E-03	7.6651E-04	4.5190E-03
7	/100.	5438	6.4088E-03	9.9527E+02	1.3193E-03	4.9351E-02	8.3166E-02	6.4126E-02	7.3991E+01
8	/100.	5438DP	6.4068E-03	9.9065E+02	-5.3691E-07	5.0224E-02	8.3865E-02	6.4679E-02	7.5607E+01
9	/100.	5439	5.2850E-03	1.0306E+03	1.7593E-03	3.8895E-02	6.3069E-02	5.0273E-02	5.7382E+01
10	/500.	5439	1.3482E-03	3.5589E+02	-7.1595E-07	6.2505E-03	1.4731E-02	8.6056E-03	1.2359E+01
11	/100.	5440	5.0017E-03	1.0162E+03	1.0253E-03	4.9876E-02	7.1080E-02	4.5434E-02	5.0679E+01
12	/500.	5440	1.6854E-03	3.1946E+02	-7.3340E-04	9.6020E-03	1.7566E-02	8.4299E-03	1.1035E+01
13	/100.	5441	7.4185E-03	5.1515E+02	-8.7983E-04	5.2767E-02	8.9134E-02	7.6583E-02	6.5151E+01
14	/100.	5442	7.5871E-03	4.9329E+02	1.0253E-03	5.9899E-02	9.7746E-02	7.6907E-02	8.0382E+01
15	/50.	5443	1.0115E-02	1.1343E+02	-1.4661E-03	8.1254E-02	1.5416E-01	1.9022E-01	9.9089E+01
16	/100.	5444	5.1703E-03	9.8696E+02	2.9256E-04	4.1984E-02	1.5002E-01	5.5618E-02	5.0787E+01
17	WP475	EPA6	9.2721E-01	1.0771E-01	7.0038E-02	6.0387E-01	2.5039E-01	3.5644E-01	9.3213E-01
18	/100.	5445	7.5324E-03	4.7701E+02	6.7422E-03	6.0603E-02	1.1289E+01	2.6387E-01	7.1576E+01
19	/100.	5446	6.8557E-03	8.3361E+02	2.4904E-03	5.4223E-02	6.1760E+00	1.1330E-01	7.0864E+01
20	/100.	5447	7.2506E-03	6.5572E+02	2.9276E-04	6.5421E-02	3.2534E-01	9.3499E-02	7.5005E+01
21	/100.	5448	6.5761E-03	5.7982E+02	-2.1988E-03	5.9506E-02	1.0737E+01	1.5959E-01	5.9357E+01
22	/100.	5449	5.7311E-03	9.8803E+02	2.4900E-03	4.3971E-02	3.2628E+01	3.0903E-01	6.3885E+01
23	/100.	5450	3.4276E-03	7.2361E+02	1.3181E-03	1.3130E-01	2.4594E+01	5.8928E+00	1.9294E+02
24	/100.	5438SP	6.3626E-03	9.9885E+02	-2.7905E-03	5.1586E-02	2.6064E-01	7.0152E-02	7.1882E+01

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27	/10.	INTER	1.9561E+01	3.3552E-02	3.8662E-02	-6.7270E-02	-7.5106E-01	-1.2884E-03	1.6198E-02

LINE	CLASS	SAMPLE	SR	TI	TL	V	Y	ZN
1	WP475	EPA6	6.1431E-04	5.2522E-03	-3.5197E-02	8.5636E-01	1.4694E-39	4.1776E-01
2	5+18	INTER	2.2936E-02	1.9028E-02	-1.1220E+00	3.0466E-01	-2.3901E-04	2.9805E-01
3	/10.	INTER	2.5946E-03	1.6383E-03	-1.3492E-01	3.2866E-02	1.4694E-39	2.8459E-02
4	1.X	AR	-1.3656E-04	2.5365E-04	-4.3137E-02	1.6830E-03	1.4694E-39	-2.6140E-03
5	/50.	DB	6.8279E-05	1.1337E-02	-4.0385E-02	-1.5024E-04	-3.9877E-04	5.7761E-04
6	/50.	5437	1.4694E-39	1.1804E-02	-2.4237E-02	-3.4266E-04	-2.3928E-03	1.7412E-03
7	/100.	5438	1.7748E+00	1.3253E-01	-7.4669E-01	2.0233E-01	8.2054E-02	2.8961E-01
8	/100.	5438DP	1.7191E+00	2.2143E-01	-5.1573E-01	2.1514E-01	8.2532E-02	2.9315E-01
9	/100.	5439	2.3121E+00	2.0016E-01	-5.3904E-01	1.7245E-01	5.3913E-02	2.2180E-01
10	/500.	5439	4.7770E-01	4.0979E-02	-1.2982E-01	3.5481E-02	1.1960E-02	4.3826E-02
11	/100.	5440	2.1014E+00	6.9493E-02	-5.5334E-01	1.6280E-01	5.0803E-02	1.7795E-01
12	/500.	5440	4.3899E-01	1.3813E-02	-1.6082E-01	3.4131E-02	1.1960E-02	3.7069E-02
13	/100.	5441	5.2969E-01	3.4825E-01	-3.4255E-01	1.5532E-01	9.3198E-02	4.0020E-01
14	/100.	5442	7.0555E-01	1.1230E-01	-4.2399E-01	2.0130E-01	9.2500E-02	3.3797E-01
15	/50.	5443	2.6731E-01	7.8981E-01	-3.6845E-01	1.9771E-01	1.8150E-01	2.4580E-01
16	/100.	5444	1.6231E+00	5.3615E-02	-5.1239E-01	1.3959E-01	6.5587E-02	2.0300E-01
17	WP475	EPA6	9.5559E-04	5.3369E-03	-2.1654E-02	8.5697E-01	1.4694E-39	4.2022E-01
18	/100.	5445	6.6326E-01	1.7209E-01	-6.1241E-01	1.3283E-01	8.8328E-02	3.7565E-01
19	/100.	5446	1.1364E+00	2.4001E-01	-3.8650E-01	1.4962E-01	1.1043E-01	4.1076E-01
20	/100.	5447	9.0988E-01	2.7558E-01	-3.1846E-01	1.4649E-01	9.9685E-02	3.6382E-01
21	/100.	5448	1.2142E+00	8.7225E-02	-4.7048E-01	1.4240E-01	8.2439E-02	2.6454E-01
22	/100.	5449	1.4700E+00	8.4161E-02	-4.9036E-01	1.1335E-01	7.4247E-02	3.8118E-01
23	/100.	5450	1.2940E+00	1.9102E-01	-8.8901E+00	2.6027E-01	3.9967E-02	8.3726E-01
24	/100.	5438SP	1.7849E+00	1.2929E-01	-6.0936E-01	1.9627E-01	7.9395E-02	2.8444E-01
25	WP475	EPA6	6.8279E-04	5.2971E-03	-7.3005E-02	8.5677E-01	-5.9816E-04	4.1572E-01
26	5+18	INTER	2.3281E-02	1.8999E-02	-1.1535E+00	3.0361E-01	-4.9842E-04	2.9915E-01
27	/10.	INTER	3.2766E-03	1.3413E-03	-1.0948E-01	3.2476E-02	5.9801E-04	3.0916E-02

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25	WP475	EPA6	9.1953E-01	6.6185E-02	6.2879E-02	5.9679E-01	2.5222E-01	3.5568E-01	9.2894E-01
26	5+18	INTER	9.9432E-02	1.9777E+02	2.7876E-01	2.8726E-01	2.8204E-01	3.0730E-01	1.6988E+02
27	/10.	INTER	9.7781E-03	2.0960E+01	3.1505E-02	2.9846E-02	3.2987E-02	3.2736E-02	2.0022E+01

LINE	CLASS	SAMPLE	AU	PT	K	LI	MG	MN	MO
1	WP475	EPA6	1.0875E-03	2.4810E-01	3.8954E-01	1.5030E-03	1.0316E-03	5.0564E-01	-8.2584E-03
2	5+18	INTER	4.3089E+00	4.2862E+01	1.9665E+01	1.0740E-02	4.5339E+01	3.2609E-01	3.8383E-03
3	/10.	INTER	4.5340E-01	5.4097E+00	2.2951E+00	3.0702E-03	5.2069E+00	3.4596E-02	-7.1763E-03
4	1.X	AR	1.3973E-03	7.8551E-01	5.1010E-01	2.3009E-03	1.9109E-04	-1.3467E-03	-6.2949E-04
5	/50.	DB	-1.4029E-03	4.4877E-01	3.8115E-02	1.5316E-03	3.2114E-03	7.6801E-03	-3.1467E-03
6	/50.	5437	2.0971E-02	-2.5608E+00	-2.8836E-01	1.4694E-39	2.4088E-03	6.7365E-03	-1.0761E-02
7	/100.	5438	-4.5171E-02	9.7297E+00	1.1359E+01	6.6166E-02	1.8777E+01	6.8599E+00	8.0374E-03
8	/100.	5438DP	-3.5117E-02	1.0023E+01	1.2375E+01	7.0743E-02	1.9899E+01	6.8811E+00	9.0552E-03
9	/100.	5439	-6.0244E-02	7.8172E+00	9.8769E+00	6.1561E-02	1.5254E+01	5.7251E+00	8.1198E-04
10	/500.	5439	-4.6289E-03	2.4355E+00	1.8803E+00	1.9969E-02	3.3447E+00	1.2289E+00	-5.4825E-03
11	/100.	5440	-5.3566E-02	7.9076E+00	4.4147E+00	5.4591E-02	1.2728E+01	7.4076E+00	6.4695E-04
12	/500.	5440	-1.5076E-02	3.3331E+00	9.3830E-01	1.9969E-02	2.8192E+00	1.6090E+00	-9.8031E-03
13	/100.	5441	-2.0185E-02	1.0213E+01	1.4630E+01	5.4591E-02	1.5024E+01	5.9749E+00	5.6220E-03
14	/100.	5442	-3.7158E-02	1.4065E+01	1.5857E+01	5.6898E-02	1.9184E+01	7.1375E+00	1.6050E-02
15	/50.	5443	-2.3528E-02	1.7054E+01	2.2594E+01	6.4578E-02	1.8386E+01	8.0792E+00	1.1552E-02
16	/100.	5444	-5.3303E-02	8.0390E+00	6.6181E+00	5.4591E-02	1.3637E+01	6.2965E+00	-6.1713E-03
17	WP475	EPA6	1.0839E-03	-5.0664E-01	3.2949E-01	2.2721E-03	2.4457E-03	5.0900E-01	-3.8123E-03
18	/100.	5445	-6.7357E-03	1.0453E+01	8.0481E+00	5.2306E-02	1.4988E+01	7.2775E+00	1.4916E-02
19	/100.	5446	-2.3615E-02	1.2474E+01	1.5431E+01	6.3039E-02	1.7841E+01	6.5511E+00	1.2073E-02
20	/100.	5447	-3.4096E-02	1.0333E+01	1.9175E+01	5.6910E-02	1.8571E+01	8.0373E+00	1.8174E-03
21	/100.	5448	-2.2665E-02	8.1482E+00	7.4849E+00	4.9987E-02	1.3082E+01	7.5743E+00	5.3908E-03
22	/100.	5449	-2.6030E-02	1.3038E+01	6.5628E+00	5.6875E-02	1.3418E+01	5.7507E+00	3.2923E-03
23	/100.	5450	4.0248E-01	1.0705E+02	3.4538E+00	5.7656E-02	9.9970E+00	1.0058E+01	6.2958E-01
24	/100.	5438SP	-1.9937E-02	1.2543E+01	1.1309E+01	6.6248E-02	1.8566E+01	6.7179E+00	7.5701E-03
25	WP475	EPA6	2.4827E-03	6.4589E-01	5.8562E-01	3.0702E-03	1.5292E-03	5.0203E-01	-5.0810E-03
26	5+18	INTER	4.2633E+00	4.1607E+01	1.9807E+01	1.2294E-02	4.5825E+01	3.2571E-01	3.2583E-03
27	/10.	INTER	4.5120E-01	5.1330E+00	2.2990E+00	3.8175E-03	5.2332E+00	3.4318E-02	-8.4307E-03

LINE	CLASS	SAMPLE	NA	NI	PB	SB	SE	SI	SN
1	WP475	EPA6	6.2567E-01	2.9869E-01	4.1452E-01	-1.5448E-02	1.2781E+00	3.4075E-01	-1.7437E-02
2	5+18	INTER	1.9315E+02	2.9096E-01	6.1774E-01	-6.3229E-01	-1.6021E+01	3.3558E-02	2.9821E-01
3	/10.	INTER	1.9669E+01	3.1037E-02	6.5479E-02	-7.7850E-02	-1.3057E+00	2.5830E-03	2.5451E-02
4	1.X	AR	1.2902E-02	7.0489E-05	-1.6885E-02	1.2705E-03	1.5935E+00	3.1735E-04	2.7750E-03
5	/50.	DB	6.0403E-02	-7.7123E-04	-3.6639E-02	-1.5962E-02	1.7784E+00	3.2169E-02	3.6127E-02
6	/50.	5437	6.0459E-02	2.6621E-03	-1.3823E-02	3.7915E-04	-1.3852E-01	3.3462E-02	2.5143E-02
7	/100.	5438	1.0019E+00	1.1143E-01	1.5108E-01	6.2345E-02	-5.3075E+00	8.2569E+00	-2.0551E-03
8	/100.	5438DP	9.9718E-01	1.1105E-01	1.4752E-01	7.2674E-02	-4.8506E+00	7.2877E+00	-2.2837E-02
9	/100.	5439	1.1014E+00	9.2634E-02	3.9038E-02	4.1895E-02	-3.8432E+00	6.7130E+00	-2.1826E-02
10	/500.	5439	3.0199E-01	1.8932E-02	-4.1185E-02	-1.4478E-02	9.3869E-01	1.3630E+00	-1.5938E-02
11	/100.	5440	1.0404E+00	1.0203E-01	6.4634E-02	-4.2650E-02	-4.0158E+00	2.9505E+00	-2.1977E-02
12	/500.	5440	2.8904E-01	1.7914E-02	8.2912E-03	-3.0574E-02	7.1933E-01	5.9531E-01	-1.8098E-02
13	/100.	5441	5.0499E-01	9.7273E-02	1.6916E-01	5.7824E-02	-3.0113E+00	4.1481E+00	-1.8353E-02
14	/100.	5442	5.3521E-01	1.1852E-01	5.7485E-01	5.0305E-02	-5.5575E+00	5.6080E+00	-1.1005E-02
15	/50.	5443	4.7036E-01	1.7523E-01	2.3527E-01	-1.4426E-02	-8.4900E+00	2.8700E+00	-2.2515E-02
16	/100.	5444	9.7559E-01	1.0137E-01	1.0377E-01	-6.9317E-03	-3.2990E+00	2.8698E+00	-2.3252E-02
17	WP475	EPA6	6.2999E-01	2.9792E-01	4.0267E-01	1.0112E-03	1.1859E+00	3.4107E-01	-8.3066E-03
18	/100.	5445	1.5459E+00	1.2329E-01	1.1881E+00	-4.5517E-02	-4.4363E+00	2.9339E+00	1.3435E-02
19	/100.	5446	8.8912E-01	1.1360E-01	4.2772E-01	1.5691E-02	-4.4858E+00	3.6094E+00	1.4269E-03
20	/100.	5447	6.1303E-01	1.2538E-01	2.4173E-01	2.5418E-02	-4.0813E+00	4.0277E+00	-2.1438E-02
21	/100.	5448	9.5846E-01	1.0104E-01	2.6785E-01	-2.4166E-02	-5.6728E+00	3.0750E+00	-1.3280E-02
22	/100.	5449	1.4200E+00	1.1570E-01	4.3719E-01	-5.1661E-02	-4.5176E+00	2.9774E+00	-1.7024E-02
23	/100.	5450	1.3750E+01	2.3877E+00	2.4605E+01	-5.3163E+00	-6.1872E+01	9.8478E+00	-6.8447E-03
24	/100.	5438SP	9.8607E-01	1.0911E-01	1.3396E-01	3.8359E-02	-7.0311E+00	8.0469E+00	-9.7695E-03
25	WP475	EPA6	6.3040E-01	3.0194E-01	3.8883E-01	-1.2984E-02	5.6246E-01	3.3895E-01	-3.5335E-03
26	5+18	INTER	1.9239E+02	2.7595E-01	5.8453E-01	-6.3870E-01	-1.4653E+01	3.0354E-02	3.2227E-01

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