

Integrated Systems & Aerostructures Sector AEW & EW Systems
Northrop Grumman Corporation
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JAN 2 9 1999

BUREAU OF RADIATION & HAZARDOUS SITE MANAGEMENT DIVISION OF SOLID & HAZARDOUS MATERIALS

January 28, 1999 ETC99-030

Mr. Joseph Kaminski Industrial Facilities (GOCO)/Environmental Branch - AIR-8.0Y2D Bldg. 404, Suite 200 NAVAIRSYSCOMHQ 22145 Arnold Circle Unit 7 Patuxent River, MD 20670-1541

Subject:

Bethpage, New York 105-Acre Navy Site

Final Remediation Oversight Reports (Phase III)

Sulfuric Anodize Area (AOC#9) at Plant 3 Old Alodine Area (AOC#3) at Plant 3

Dear Mr. Kaminski:

Please find attached a copy of the Environmental Oversight Remediation and Restoration Reports for the Old Sulfuric Anodize Area (AOC#9) and the Old Alodine Area (AOC#3). Northrop Grumman has completed its obligations to the NAVY on this issue and considers the matter closed.

If you have any questions, please call me at 516-575-2333.

Very truly yours,

NORTHROP GRUMMAN CORPORATION

Drew B. Bennett, P.E., Manager

Environmental Technology and Compliance

516 575-6672

cc: w/enclosure

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J. Kushwara (USEPA); S. Kaminski, NYSDEC (Albany); S. Farkas, NYSDEC (Stony Brook); H. Wilkie, NYSDEC (Albany); B. Mackay, NCDH

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ENVIRONMENTAL OVERSIGHT

REMEDIATION AND RESTORATION OLD ALODINE AREA

Area of Concern # 3
Plant 3



Prepared for:

Northrop Grumman Corporation Bethpage, New York

Prepared by:

Radian International LLC

October 1998

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Executive Summary

Northrop Grumman conducted an environmental assessment of Plant 3 at the Bethpage, New York GOCO Facility. Many areas of concern were identified that required remediation based upon the results of soil samples collected. One such area was the Old Alodine Area.

Northrop Grumman retained Radian International LLC to perform environmental remediation and environmental oversight for the Old Alodine Area, Area of Concern (AOC) #3. Radian fully documented all field activities to insure that the remediation was conducted according to the defined scope of work. Radian performed this remediation and oversight from November 19, 1997 through April 29, 1998.

The Old Alodine area is located in the west-central portion of Plant 3 bounded approximately by columns D6-D9 and E6-E9. The remediation of this area included removing approximately 2,650 square feet of concrete and excavating approximately 2,890 tons of soil from an area approximately 1,885 square feet by 30 feet deep. The waste material, including soil and concrete, was transported to an approved hazardous waste landfill.

As part of the environmental oversight, Radian collected post-excavation soil samples from the excavated area. These samples were collected from the bottom and at three depths along the sidewalls of the excavation pit. The samples collected were sent to a New York State ELAP approved and ASP certified laboratory for analysis. The laboratory tested the samples for the presence of metals.

A No Further Action (NFA) letter has been written by New York State Department of Environmental Conservation (NYSDEC) Division of Solid and Hazardous Materials (DSHM), after review of sampling data and methodology. No further environmental investigation or remediation is warranted at this time. Certified clean fill material was used to fill the excavation pit and a concrete slab poured in place.

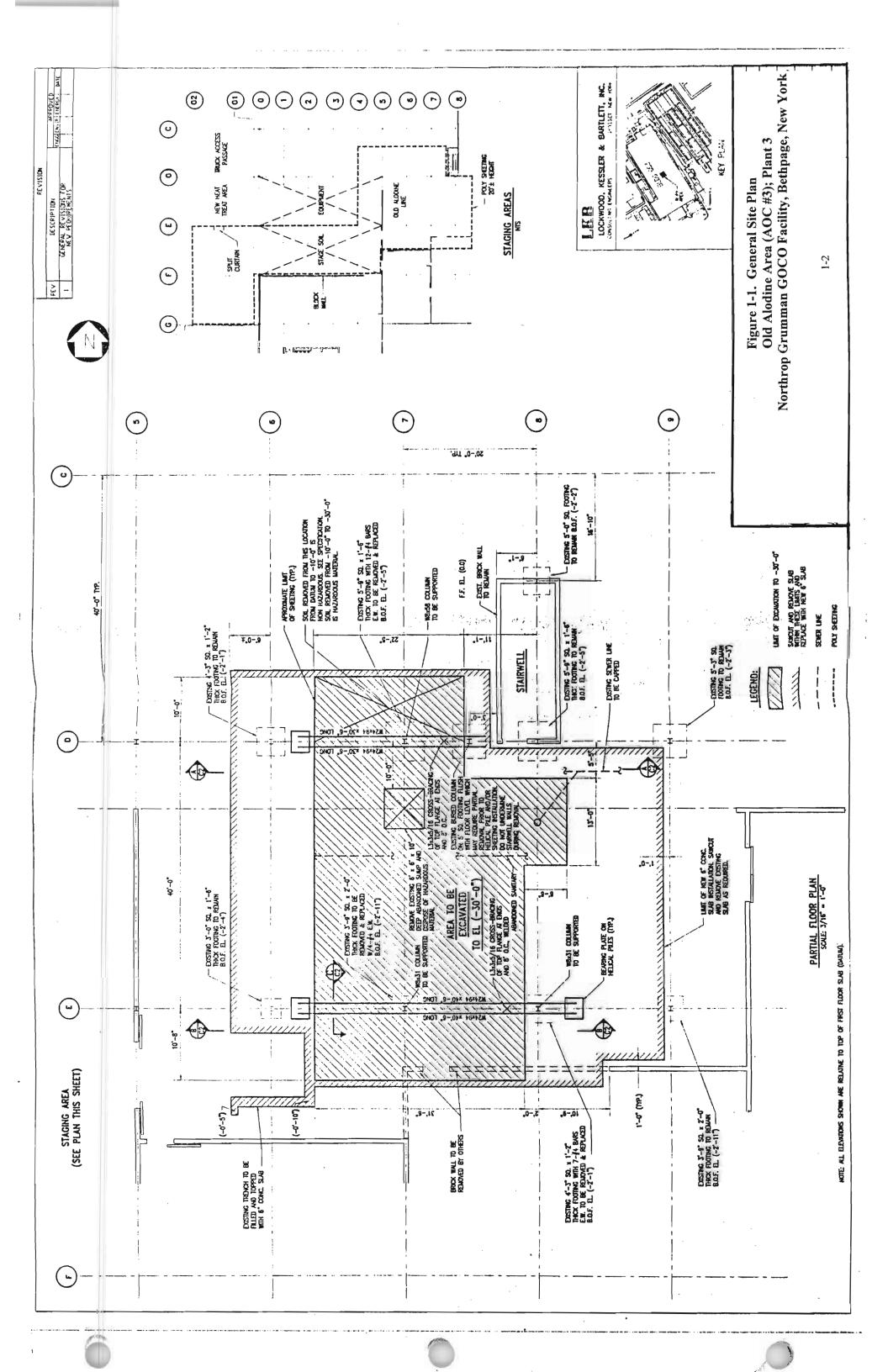
1.0 Introduction

As part of the deactivation of Plant 3, Northrop Grumman has undertaken an environmental assessment of the building. Many areas of concern were identified that required remediation based upon the results of soil samples collected. One such area, Area of Concern 3 (AOC #3) is the Old Alodine area, located in the west-central portion of Plant 3. Areas that have constituents at levels greater that the criteria presented in the New York State Department of Environmental Conservation (NYSDEC) Technical Administrative Guidance Memorandum (TAGM) 4046, Appendix A and the proposed revision for Cadmium and Chromium were remediated.

The Old Alodine process line operated from the late 1940s through the late 1980s. Alodine is a trade name for the chemical conversion coating of aluminum using chromate baths. Chromate conversion coatings are used to promote adhesion of paint and impart corrosion resistance on aircraft parts. A Geoprobe sampling device was used to collect soil samples and a concrete coring drill to collect concrete samples to determine if the soil and concrete beneath the Alodine Process Area were impacted. Both the concrete and soil under the process areas were found to contain significant levels of heavy metals. These metals included chromium, zinc, lead, cadmium, mercury, copper, antimony, and silver. In the ten primary samples collected, chromium appeared to be the primary constituent of concern. The highest concentration of chromium found in these samples was 4,190 mg/kg in the concrete and 15,000 mg/kg in the underlying soil. No metal was detected above the TAGM criteria in soil samples collected deeper than thirty feet below grade. Northrop Grumman selected to remediate this area by removing the contaminated concrete and underlying soil to a depth of 30 feet below grade. Northrop Grumman contracted Radian International LLC, who subcontracted Peter Scalamandre & Sons, Inc., to perform the excavating, shoring, and backfilling and activities. Northrop Grumman was responsible for all waste disposals.

The remediation of the old Alodine area occurred in two phases. The initial phase, not performed by Radian, consisted of the demolition and disposal of the concrete flooring. The second phase, performed by Radian, was the removal and disposal of the contaminated soil. See Figure 1-1 for General Plan of the remediation area.

Northrop Grumman also contracted Radian International LLC to perform environmental oversight during the remediation activities at the old Alodine area. These oversights included observation and documentation of the remediation work, collection and analysis of post-excavation soil samples from the walls and floor of the excavation pit.



2.0 Remediation Activities

The remediation activities for the old Alodine area consisted of two phases; a demolition phase and an excavation phase. The initial phase consisted of the demolition and disposal of the concrete flooring. The second phase removed and disposed the contaminated soil. Table 2-1 details the remediation activities and schedule of events:

Table 2-1: Schedule of Events

Event	Date
Begin Concrete Demolition	September 29, 1997
Complete Concrete Demolition including	October 3, 1998
hauling debris	
Begin Soil Excavation	November 14, 1997
Begin Pile Driving	November 18, 1997
Begin Timber Lagging	November 24, 1997
Begin Needle Beam Supports for Existing	November 26, 1997
Columns	
Complete Pile Driving	December 8, 1997
Complete Needle Beam Supports	December 10, 1997
Collect 8' depth Sidewall Samples	December 11 – 15, 1997
Collect 16' depth Sidewall Samples	December 16 – 22, 1997
Collect 24' depth Sidewall Samples	December 23, 1997
Complete Soil Excavation and Timber Lagging	December 29, 1997
Collect 30' depth Bottom Samples	December 29, 1997
Resample Bottom Samples	December 31, 1997
Complete Soil Hauling	December 8, 1997
Data Review/Discussions Recommendations	December 12, 1997
Backfill with Certified Clean Soil	February 18 – April 29, 1998
Pour Concrete Footers and Slab	March 4 – April 29, 1998
Submit Draft Report	July 1998
Submit Final Report	October 1998

2.1 Concrete Demolition

Demolition of the old Alodine area consisted of saw cutting the boundary of concrete and removing the concrete slab. Action Remediation, Inc. of Wantagh, NY was contracted by Northrop Grumman to perform the concrete demolition. Approximately 2,650 square feet of concrete was removed from the remediation area. The concrete was broken up using a backhoe with an air hammer attachment. The demolition of the concrete began on September 29, 1997 and was completed on October 3, 1997. The broken concrete and reinforcement was stockpiled and loaded into lined rolloffs using a bobcat. These lined rolloffs were used to transport the demolished concrete to SCA Chemical Waste Services, a licensed Hazardous Waste disposal landfill, located in Model City, New York. A total

of six (6) lined rolloffs were used to transport the contaminated concrete. The final load of debris was removed on October 3, 1997.

2.2 Sheeting and Shoring

Due to the depth of excavation a sheeting and shoring plan was required to perform the excavation in a safe manner. Scalamandre contracted Charles Vachris Consulting Engineers (Garden City, NY) to develop a sheeting and shoring plan for the excavation pit. The plan was submitted to LKB, Northrop Grumman's structural engineering consultant, for approval. Copies of the Approved Sheeting and Shoring Plan are presented in Appendix B.

The excavation process required for the remediation of the Old Alodine Area (AOC 3) consisted of four major activities: (1) pile driving, (2) column support (3) timber lagging and bracing or whalers, and (4) soil removal.

Pile driving consisted of placing a length of steel "H" beams vertically and using a vibrating device or plate that would clamp onto the pile with hydraulic pressure and vibrate to loosen or displace the soil under the beam. The weight of the vibrating plate, approximately 5 tons, and the vibrated soil would allow the steel beam to be driven into the soil 38 ft. below grade surface. The steel piles had to be driven 10 ft. at a time due to the low ceiling clearance. The steel piles were cut into smaller 20 ft sections. Small pieces of steel pile, approximately 2 ft. long, were welded halfway along the 20 ft. length. This would give the vibrating plate unit a surface to mount on to drive the pile. The pile was then driven into the ground this first 10 ft. and then the attached section was cut off and the vibrating plate was attached to the top of the 20 ft. section that was now driven into the soil 10 ft. The 20 ft. section of pile was driven the rest of the way down and then a second 20 ft. section was welded to the top of this first section. The second pile was driven the same way as the first section of pile was driven. This process continued around the excavation pit. A total of 42 piles were driven to support the excavation wall. A front-end loader was used to transport the steel piles from an outside welding and staging area to the excavation pit. This same loader was used to place the piles vertically in place to be temporarily supported or welded. The loader was also used to lift the vibrating plate driving unit and drive the pile to depth. The first pile section was driven on November 18, 1997 and the last pile section driven on December 8, 1997.

The piles were used to support the excavation wall and the existing roof columns that were located in the excavation area. The concrete foundations of the existing roof columns and the soil underneath had to be removed. The roof columns are supported by steel wide flange or "I" beams referred to as "Needle Beams" that span the excavation pit and are supported by pile caps that are attached to the piles driven by the vibrating plate device. The needle beams were placed in pairs to support the existing roof columns. The pile caps are short sections, approximately 10 ft in length, of steel "I" beams that are welded to the top of the vertical piles. Once the pile caps were placed and welded to the piles the needle beams were set in place and welded to the pile caps. The existing roof

columns were attached to the needle beam with special steel flanges that would allow the roof column to be raised with hydraulic jacks if needed.

Once the existing roof columns were braced, their foundations were demolished and removed. Excavation of the pit began with a small tracked dozer that was placed in the pit. As soon as two adjacent pile sections were exposed from the excavation, timber lagging was installed. The timber lagging consisted of 2"x10" or 2"x12" treated hardwood boards that were cut to fit between the two piles. Every timber lagging board was installed and cut by hand. The dozer was used to excavate the majority of the soil from the center of the pit, while the excavation along the walls was performed with hand shovels so the timber lagging could be placed. The timber lagging was placed at the top of the excavation pit and was placed as the depth of the pit increased. Approximately 2 ft to 3 ft of soil was removed along the wall before the timber lagging was placed between the piles. The timber lagging between the steel piles supported the soil behind the excavation pit.

As the depth of the excavation increased, steel bracing, or whalers, along the excavation wall were installed. These whalers are steel "I" beams that are welded to the front face of the piles of the excavation pit. Two levels of whalers are installed in the pit, at 5 ft below grade and 15 ft below grade. The whalers are used to support the piles from pressure created from the surrounding soil. Additional steel "I" beams are placed perpendicular to the whalers and span the excavation pit to support the whalers and vertical piles.

The soil from the pit was pushed, by the dozer, to a central location in the excavation pit where a hydraulic excavator removed the soil from the pit and placed it in a temporary stockpile. The front-end loader then removed this soil to a larger stockpile area. A crane, with clamshell bucket, was used to remove the last 10 ft of soil from the excavation pit.

Once the soil was stockpiled for removal, lined trucks were used to haul the excavated soil to a licensed waste disposal facility. Approximately 2,890 tons of soil were removed from the excavation pit of the Old Alodine Area.

2.3 Soil Excavation

Soil excavation of the Old Alodine area included removing 30 ft of soil over an area of approximately 1,885 square feet. A tracked excavator and clamshell bucket crane was used to remove the soil, which was stockpiled on site with a front end loader. The excavated soil was then loaded directly into lined trucks. The soil excavation with the track excavator began on November 14, 1997 and was completed on December 29, 1997. A total of 124 truckloads were required to remove the excavated soil. Approximately 2,890 tons of soil were excavated. Copies of the manifests are presented in Appendix C.

During the excavation, several operational delays were encountered. On December 11, 1997, a portion of a concrete block wall section along the excavated soil stockpile area failed. This wall was not a load bearing wall; however, several utilities including two water mains pass through the wall. No injuries were encountered. The apparent cause of the failure was due to the pressure along the bottom of the wall from the stockpiled soil. The debris was removed as well as the remaining wall section. At the completion of the project, a new sheet rock wall was erected in place. On December 17, 1997, a water line was damaged by the front end loader bucket. Water was released from the line, flooding the northwest corner of Plant 3 with approximately 1 to 2" of water. A berm was constructed underneath the damaged water line to contain some of the water. Water from the broken line entered the excavation pit and undermined the northwest corner of the pit wall and surrounding concrete floor behind the timber shored wall around Column D6. A concrete slurry was used to fill the voids left behind the wall under the surrounding concrete floor. Water samples were collected to determine if the water had transported any contamination to the surrounding areas of Plant 3. The damaged water line was repaired by Northrop Grumman personnel, whom also performed the cleanup of the Plant 3 flooded areas. During the excavation, a portion of a sanitary sewer line was also damaged. This sanitary sewer line passed through the excavation pit and was capped for the duration of the excavation. This portion of the sewer line was replaced at the end of the excavation during the backfill operations so that the affected portion of the sewer system was made operational.

Throughout the excavation process the building columns surrounding the excavation pit were closely monitored for settlement. A baseline elevation was established and marked on each column. The columns were monitored daily for settlement using a Surveyor's Level. Several columns (D-6, E-6, and E-8) located within the excavation area experienced differential settlement. Column settlement was monitored and noted during the entire excavation process. Table 2-2 summarizes the total settlements of the columns from the zero reading at the start of the excavation on December 5, 1997 to the readings made after backfilling on March 3, 1998. An evaluation was performed to determine the potential for detrimental effects to the structural framing of the building as a result of settlement. The results of the evaluation indicated that the differential settlement of the building columns were within allowable values for simple steel frame structures. However, Northrop Grumman's structural engineering consultant, LKB, did not concur with Radian's evaluation results and as a result the suspect columns (D-6, E-6, and E-8) were jacked to their original elevations. A copy of the memo on the evaluation of column settlement is presented in Appendix D.

Table 2-2: Total Column Settlement from December 5, 1997 to March 3, 1998

Column	Settlement (ft.)
D-6	0.07 ft.
D-7	0.00 ft.
E-6	0.02 ft.
E-7	0.00 ft.
E-8	0.01 ft.

2-4

2.4 Health and Safety

A Health and Safety Plan was prepared by Radian International, LLC and submitted to Northrop Grumman for approval prior to the initiation of remediation activities. The Health and Safety plan defined the scope of work to be performed, project health and safety requirements, emergency response notification, decontamination procedures, and waste disposal information.

Northrop Grumman required that all contractor and subcontractor personnel entering the exclusion or contamination reduction zones have received appropriate health and safety training in accordance with 29 CFR 1910.120. In addition, prior to entering the contamination zone, any personnel (including visitors) were provided with site specific training, and a copy of the approved health and safety plan/emergency response plan. Any other site personnel were to be familiar with use of safety and protective equipment, and with the health, safety, and security procedures for the site. In addition, a site safety officer was assigned by the subcontractor to assure the daily implementation and enforcement of the safety, health, and emergency response plan.

Personnel protective equipment (PPE) was provided to all on site personnel. The level of PPE required for the remediation activities performed at the Old Alodine area included Level D and Level C. These levels include the following PPE:

Level D:

Poly/cotton reusable coverall; chemical resistant gloves; safety glasses; steel toe/shank chemical resistant safety shoes or boots; chemical resistant boot cover; hard hat. Chemical resistant coveralls or Tyvek full body, hooded suits, and a face shield may be added.

Level C:

All items included in level D and full face respirator and a face shield air purifying respirator with appropriate high efficiency particulate and organic vapor/dust mist cartridges; Tyvek full body, hooded suits.

Prior to remediation activities polyethylene sheeting curtains were hung to contain any dust generated during the project. During the remediation activities, air circulation units were utilized to ensure proper air quality for both the ambient air inside the work area as well as adjacent areas. A mist spray of water was also used during the demolition and excavation activities to keep the dust to a minimum. Also, the entire work zone was swept daily to minimize the dust and the possibility of tracking potentially contaminated soil to other areas of the plant. Airborne particulate monitoring was also performed with a real-time particulate/aerosol monitor. A RAE brand MiniRAE monitor was used to monitor employee breathing zones during all invasive operations, including soil boring, excavating, loading and stockpiling. Additional air monitoring for carbon monoxide and

oxygen deficiency was performed due to the use of internal combustion engines in and around the work zone. Carbon Monoxide monitoring was performed with a Thermo Environmental Model 48 Carbon Monoxide Detector and oxygen monitoring performed with MSA Model 261 Combustible Gas Indicator (CGI) with a Lower Explosive Limit (LEL) meter and a oxygen meter. In addition, Northrop Grumman periodically inspected all work areas to assure ambient air quality.

All equipment used during the demolition and excavation was decontaminated using soap, water, and brushes. Heavy and large equipment was also decontaminated with high pressure water spray. The decontamination water and rinse water was disposed through the Northrop Grumman Industrial waste water treatment facility and PPE was collected and stored in approved containers and disposal provided by Northrop Grumman in accordance with their approved disposal policies.

3.0 Post-excavation Sampling

3.1 <u>Sampling Plan</u>

The objective of the post-excavation sampling was to confirm that all soil that exceeded the TAGM criteria by the operations in the old Alodine area was removed. The sampling was divided into two discrete areas: 1) the floor or bottom of the excavation samples; 2) the excavation sidewall samples. The excavation floor was divided into seven (7) areas and one grab sample was collected from each area. In general, post-excavation floor samples were taken every 250 square feet of excavated area. To provide assurance that the extent of contamination was removed horizontally, 30 sidewall samples were to be collected. The sidewall samples were to be collected at various depths of excavation. Ten (10) samples were to be collected from each of three depths (8', 16', and 24'). Specific sampling locations are outlined in Figure 3-1, Sampling Plan.

3.2 Sampling Procedure

The post-excavation samples were collected from December 11, 1997 through December 31, 1997. The 8' sidewall samples were collected from December 11-18, 1997. The 16' sidewall samples were collected from December 16 – 22, 1997. The 24' sidewall samples were collected on December 23, 1997. The 30' bottom samples were collected on December 31, 1997. However, one sidewall sample at the 16' level (03-03-02RW-2) was not able to be collected due to conflicts with an accelerated excavation schedule and oversight coverage during personnel transition.

The sidewall samples were collected at points around the excavation periphery, just beneath the timber lagging, using a stainless steel spoon and collecting the soil into laboratory precleaned 250 mL glass jars. Once the samples were collected and soil characteristics logged, they were packed for shipment to the lab. The bottom samples were collected from the surface of the excavation floor with a stainless steel spoon. The soil samples were placed into laboratory precleaned 250 mL glass jars. Ice was used to preserve the samples during shipment. The samples were sent to RECRA Environmental Inc., Lyonsville, PA, where they were analyzed for priority pollutant metals by EPA Method 6010.

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4.0 Data Analysis and Results

4.1 Analysis

To confirm that the New York State Department of Environmental Conservation (NYSDEC) TAGM criteria for metals were met, the samples were analyzed for priority pollutant metals by a New York State ELAP approved and ASP certified laboratory. All the samples collected were shipped, via FedEx, to RECRA Environmental Inc. laboratories, Lyonsville, PA, using Method 6010. The results of the laboratory analysis are found in Table 4-1. Copies of Analytical Results and Data Validation Reports are presented in Appendix E.

4.2 Results

Laboratory results from the post-excavation sampling indicated that a number of the endpoint and bottom samples exceeded the TAGM value for chromium of 50 mg/kg. As a result, Northrop Grumman instructed the laboratory to analyze the leachate of all the bottom samples and sidewall samples that had levels of chromium greater than 100 mg/kg after a toxicity characteristic leachate procedure (TCLP) extraction was performed. The TCLP extraction procedure attempts to measures relative leachability of a potentially hazardous compound. The higher the concentration of an analyte leached from a solid substance, i.e. soil, the more potentially harmful the contaminant is to the groundwater. The results indicate that there are no exceedances of the regulatory limit for chromium.

In addition, two of the original bottom samples with the highest level of chromium and the four highest sidewall samples be re-analyzed for hexavalent chromium. The results of the hexavalent chromium analysis are found in Table 4-2. Although three samples indicated hexavalent chromium levels greater than 50 mg/kg, the previous TCLP analysis demonstrates chromium does not leach at levels exceeding regulatory limits. The results of the TCLP analysis are found in Table 4-1. In addition, because of the extensive sheeting and shoring and column bracing that was performed for soil excavation, additional excavation would have threatened the structural integrity of Plant 3. Given the pragmatic limits of further excavation at the site, as well as limited migration potential of chromium contaminants, no further environmental remediation was recommended to the NYSDEC. Review of the completed remediation activities, TCLP results, and hexavalent chromium results were undertaken by NYSDEC DSHM. NYSDEC DSHM concluded that Northrop Grumman's backfilling and capping of the site with concrete was sufficient and that no further remedial action was warrented. A copy of Northrop Grumman's memorandom to NYSDEC is presented in Appendix F while the copy of NYSDEC's approval for No Further Action memorandum is presented in Appendix G.

Table 4-1: Summary of Analytical Results for the Post-excavation Sampling Old Alodine Area (AOC # 3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

Eastern USA (SB)	Ø/N	3 - 12	0.1 - 1.75	0.1 - 1.0	1 - 40	1 - 50	200 - 500	0.001 - 0.2	0.5 - 25	0.1 - 3.9	Ϋ́Χ	ΑX	9 - 50		N/A
NYSDEC Soil Cleanup Objective (a)	ä	7.5 or SB	0.16 or SB	10 (b)	20 (p)	25 or SB	SB	0.1	13 or SB	2 or SB	SB	SB	20 or SB		5.0
03-03-02RW-3 03 24 12/22/97		0.93 U	0.20 U	0.55	205	2.3	1.9	0.10 U	0.91	0.87 U	0.40 U	1.1 U	6.3		711
03-03-02RW-2 03 16	C	O C	NC	S	S	NC	SC	NC	SC	NC	NC	S	NC		ΑN
03-03-02RW-1 03 8 12/15/97	-	2.7	0.22 U	0.39	7.5	3.6	6.1	0.10 U	2.0	U 86.0	0.43 U	1.2 U	10.0		A A
03-03-01RW-3 03 24 12/22/97		0.92 U	0.20 U	0.28	5.1	3.2	2.6	0.10 U	1.2	0.86 U	0.40 U	1.1 U	7.4		NA
03-03-01RW-2 03 16 12/22/97	-	5.1.	0.20 U	0.43	114	2.3	1.9	0.10 U	4.3	0.87 U	0.41 U	1.1 U	7.7		320
Sample ID 03-03-01RW-1 AOC 03 Feet BGS) 8 Collected 12/15/97		3.0	0.21 U	0.21 U	3.0	9.1	1.8	0.10 U	1.7	U 68.0	0.42 U	1.2 U	15.0		NA
Sample ID AOC Depth (Feet BGS) Date Collected	Metals (mg/kg)	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	Metals, TCLP (mg/L)	Chromium

Table 4-1: Summary of Analytical Results for the Post-excavation Sampling Old Alodine Area (AOC # 3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

E (S)			2	75	0.	0		00	0.2	25	<u>.</u>			0		
Eastern USA (SB)		A/N	3-1	0.1 - 1.75	0.1-	1-4	1-5	200 - 500	0.001 -	0.5 - ;	0.1 - 3.9	N/A	A'N	9 – 20		N/A
NYSDEC Soil Cleanup Objective (a)		SB	7.5 or SB	0.16 or SB	10 (b)	(q) 09	25 or SB	SB	0.1	13 or SB	2 or SB	SB	SB	20 or SB		5.0
03-03-04RW-3 03 24 12/22/97		U 66.0	0.93 U	0.20 U	0.97	180	4.6	1.9	0.10 U	2.6	0.87 U	0.41 U	1.1 0	13.4		387
03-03-04RW-2 03 16 12/16/97		2.8	1.2	0.21 U	0.3	352	1.3	1.4	0.10 U	09.0	U 68.0	0.41 U	1.2 U	8.1		1620
03-03-04RW-1 03 8 12/11/97		1.3 U	1.2 U	0.20 U	0.14	2.2	1.4	0.7	0.10 U	0.46	U 86.0	0.20 U	1.2 U	10.5		A N
03-03-03RW-3 03 24 12/22/97		1.0 U	0.94 U	0.20 U	0.71	64.6	2.3	1.6	0.10 U	1.2	0.87 U	0.41 U	1.1 U	6.1		A N
03-03-03RW-2 03 16 12/17/97		1.6 U	1.4 U	0.45	9.1	160	3.2	1.7	0.12 U	8.	1.2 U	0.31	1.4 U	15.2		453
Sample ID 03-03-03RW-1 AOC 03 Feet BGS) 8 Collected 12/15/97		1.1	1.6	0.20 U	8.2	82.7	18.3	4.8	0.10 U	4.4	1.0	0.41 U	1.1 0	15.7		A N
Sample ID AOC Depth (Feet BGS) Date Collected	Metals (mg/kg)	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	Metals TCIP (mg/l)	Chromium

Table 4-1: Summary of Analytical Results for the Post-excavation Sampling Old Alodine Area (AOC # 3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

Sample ID AOC Depth (Feet BGS) Date Collected	Sample ID 03-03-05RW-1 AOC 03 Feet BGS) 8 Collected 12/11/97	03-03-05RW-2 03 16 12/16/97	03-03-05RW-3 03 24 12/23/97	03-03-06RW-1 03 8 12/11/97	03-03-06RW-2 03 16 12/16/97	03-03-06RW-3 03 24 12/23/97	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Metals (mg/kg)		, c		-				
Antimony	0 4: L	2.2	U 66.0	1.3 U	1.4 0.92 U	1.0 U 0.94 U	SB 7.5 or SB	N/A 3 – 12
Beryllium	0.20 U	0.21 U	0.20 U	0.20 U		0.20 U	0.16 or SB	0.1 – 1.75
Cadmium	0.22	0.31	0.32	0.22	0.20	0.27	10 (b)	0.1 – 1.0
Chromium	2.3	300	12.2	3.8	155	162	20 (p)	1 – 40
Copper	3.4	2.4	1.7	1.9	2.0	2.5	25 or SB	1 – 50
Lead	1.3	1.5	1.	1.4	1.0	1.2	SB	200 - 500
Mercury	0.10 U	0.10 U	0.10 U	0.098 U	O 660.0	0.10 U	0.1	0.001 - 0.2
Nickel	4.	0.73	<u></u>	92.0	08.0	0.86	13 or SB	0.5 - 25
Selenium	O 66.0	0.90 U	0.87 U		0.86 U	0.88 U	2 or SB	0.1 - 3.9
Silver	0.26	0.42 U	0.40 U	0.20 U	0.40 U	0.41 U	SB	A/N
Thallium	1.2 U	1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	SB	A/N
Zinc	5.8	6.7	5.7	19.8	10.7	5.9	20 or SB	9 - 50
Metals, TCLP (mg/L)								
Chromium	N.A.	1.41	NA	Y N	0.307	0.335	5.0	N/A

Table 4-1: Summary of Analytical Results for the Post-excavation Sampling Old Alodine Area (AOC # 3); Plant 3 Northrop Grumman GOCO Facility, Bethpage, New York

Sample ID AOC Depth (Feet BGS) Date Collected	Sample ID 03-03-07RW-1 AOC 03 Feet BGS) 8 Collected 12/11/97	03-03-07RW-2 03 16 12/16/97	03-03-07RW-3 03 24 12/23/97	03-03-08RW-1 03 8 12/11/97	03-03-08RW-2 03 16 12/16/97	03-03-08RW-3 03 24 12/23/97	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Metals (mg/kg)								
Antimony	1.3 U	1.0 U	U 66.0	1.3 U	4.1	0.98 U	SB	- ∀X
Arsenic	1.2 U	0.94 U	0.93 U	1.2 U	96.0	0.92 U	7.5 or SB	3 – 12
Beryllium	0.20 U	0.20 U	0.20 U	0.20 U	0.21 U	0.20 U	0.16 or SB	0.1 – 1.75
Cadmium	0:30	0.20 U	0.20	1.4	0.58	0.32	10 (b)	0.1 – 1.0
Chromium	2.3	24.1	107	8.69	168	54.6	20 (p)	1-40
Copper	2.0	1.0	2.1	₽	2.4	3.7	25 or SB	1 – 50
Lead	1.3	1.1	1.9	1.7	1.5	1.1	SB	200 - 500
Mercury	U 860.0	0.10 U	0.098 U	0.10 U	0.051 U	O.099 U	0.1	0.001 - 0.2
Nickel	1.0	1.3	0.79	1.5	1.1	1.8	13 or SB	0.5 - 25
Selenium	U 86.0	0.88 U	U 287 U	U 86.0	U 06:0	0.86 U	2 or SB	0.1 – 3.9
Silver	0.20 U	0.41 U	0.40 U	0.20 U	0.42 U	0	SB	A/N
Thallium	1.2 U	1.10	1.1 U	1.2 U	1.2 U	1.1 U	SB	A/N
Zinc	8.9	8.0	5.2	11.4	10.0	6.3	20 or SB	9 – 20
Metals, TCLP (mg/L)								
Chromium	NA	AN	0.510	AN	0.641	VA	5.0	N/A

Table 4-1: Summary of Analytical Results for the Post-excavation Sampling Old Alodine Area (AOC # 3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

Sample ID AOC Depth (Feet BGS) Date Collected	Sample ID 03-03-09RW-1 AOC 03 Feet BGS) 8 Collected 12/15/97	03-03-09RW-2 03 16 12/17/97	03-03-09RW-3 03 24 12/23/97	03-03-10RW-1 03 8 12/15/97	03-03-10RW-2 03 16 12/17/97	03-03-10RW-3 03 24 12/23/97	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Metals (mg/kg)								
Antimony	N 66.0	1.4 U	1.0 U	1.2	1.4 U	0.99 U	SB	ΑN
Arsenic	1.5	1.2 U	0.94 U	2.5	1.2 U	0.93 U	7.5 or SB	3 – 12
Beryllium	0.20 U	0.20 U	0.20 U	0.20 U	0.21 U	0.20 U	0.16 or SB	0.1 - 1.75
Cadmium	1.8	0.32	0.49	0.20	0.78	0.50	10 (b)	0.1 – 1.0
Chromium	40.6	132	125	2.1	147	177	20 (p)	1-40
Copper	9.1	1.9	3.6	1.8	1.7	2.3	25 or SB	1 – 50
Lead	2.4	0.85	1.2	1.9	1.	1.7	SB	200 - 500
Mercury	O 660.0	O 660.0	0.10 U	0.10 U	0.10 U	0.10 U	0.1	0.001 - 0.2
Nickel	6.1	0.85	1.4	0.8	0.82	0.91	13 or SB	0.5 - 25
Selenium	0.87	1.0 U	0.88 U	1.0	1.0 U	0.87 U	2 or SB	0.1 - 3.9
Silver	0.40 U	0.20 U	0.41 U	0.41 U	0.21 U	0.40 U		A/N
Thallium	1.1 U	1.2 U	1.1 U	1.1 U	1.2 U	1.10	SB	A/N
Zinc	8.1	8.7	6.4	8.6	7.0	8.4	20 or SB	9 – 50
Metals, TCLP (mg/L)								
Chromium	NA	0.662	0.363	AN	0.609	0.232	5.0	N/A

Table 4-1: Summary of Analytical Results for the Post-excavation Sampling Old Alodine Area (AOC # 3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

Sample ID AOC Depth (Feet BGS) Date Collected	03-03-01RB-1 03 30 12/31/97	03-03-02RB-1 03 30 12/31/97	03-03-03RB-1 03 30 12/31/97	03-03-04RB-1 03 30 12/31/97	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Metals (mg/kg)	70 O	98 0	EC U	11 90 0	a.	۵X
Arsenic	1.2	1.7	1.4	1.0	7.5	3 - 12
Beryllium	0.12	0.18	0.14	0.14	_	0.1 - 1.75
Cadmium	1.0 U	1.0 U	1.0 U	1.0 U	10 (b)	0.1 - 1.0
Chromium	5.8	22.2	17.8	87.9		1 - 40
Copper	2.3	2.9	2.3	3.2	25 or SB	1 - 50
Lead	1.6	3.3	1.8	1.9	SB	200 - 500
Mercury	0.096 U	0.010 U	0.096 U	0.098 U	0.1	0.001 - 0.2
Nickel	1.3	2.0	1.6	2.2	13 or SB	0.5 - 25
Selenium	0.22	0.16	1.0 U	1.0 U	2 or SB	0.1 - 3.9
Silver	0.079	0.12	0.14	0.039	SB	A/N
Thallium	0.43	0.24	0.15	0.31	SB	N/A
Zinc	5.7	13.2	13.5	8.6	20 or SB	9 - 50
Metals, TCLP (mg/L)						
Chromium	0.017	0.057	0.049	0.181	5.0	A/N

Table 4-1: Summary of Analytical Results for the Post-excavation Sampling Old Alodine Area (AOC # 3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

Sample ID AOC Depth (Feet BGS) Date Collected	Sample ID 03-03-04RB-1 (DUF) AOC 03 Feet BGS) 30 Collected 12/31/97	03-03-05RB-1 03 30 12/31/97	03-03-06RB-1 03 30 12/31/97	03-03-07RB-1 03 30 12/31/97	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Metals (mg/kg)						
Antimony	0.06 U	0.06 U	0.06 U	0.36	SB	A/N
Arsenic	1.2	0.93	1.2	0.91	7.5 or SB	3 - 12
Beryllium	0.14	0.12	0.12	0.12	0.16 or SB	0.1 - 1.75
Cadmium	1.0 U	1.0 U	1.0 U	1.0 U	10 (b)	0.1 - 1.0
Chromium	93.7	133	54.1	101	20 (p)	1 - 40
Copper	3.8	2.7	4.6	3.3	25 or SB	1 - 50
Lead	2.2	1.2	1.4	1.6	SB	200 - 500
Mercury	0.10 U	U 660.0	U 260.0	U 660.0	0.1	0.001 - 0.2
Nickel	2.5	2.4	1.8	4.4	13 or SB	0.5 - 25
Selenium	1.0 U	U 6200	1.0 U	1.0 U	2 or SB	0.1 - 3.9
Silver	0.10	0.04	0.18	90.0	SB	√N V
Thallium	90:0	0.02	0.06 U	0.06 U	SB	V/N
Zinc	12.2	18.9	11.6	8.5	20 or SB	9 – 50
Metals, TCLP (mg/L)						
Chromium	0.168	0.288	0.197	0.255	5.0	√Z V

Table 4-2: Summary of Analytical Results for the Post-excavation Sampling Hexavalent Chromium Analysis
Old Alodine Area (AOC # 3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

Sample ID: 03-03-02RW-3 03-03-04RW-2 03-03-04RW-3 03 03 03 03 03 03 03	Sample ID 03-03-02RW-3 03-03 AOC 03 Feet BGS) Sidewall (24) Sidev Collected 12/23/97 12/1	03-03-04RWI-2 03 Sidewall (16) 12/16/97	03-03-04RW-3 03 Sidewall (24) 12/23/97	03-03-05RB-2 03 Bottom (30) 12/31/97	3-04RWi-2 03-03-04RW-3 03-03-05RB-2 03-03-05RWi-2 03-03-07RB-2 03 03 03 03 03 03 03 03 03 03 03 03 03	03-03-07RB-2 03 Bottom (30) 12/31/97	NYSDEC Soil Cleanup Objective (a) USA (SB)	Eastern USA (SB)
Metals (mg/kg) Chromium (Total) Chromium (Hexavalent)	338	369	169	151	394	120	50 (b) 50 (b)	1 - 40

NOTES FOR TABLE 4-1 and 4-2

- (a) NYSDEC TAGM #4046 "Determination of Soil Cleanup Objectives and Cleanup Levels", dated January 24, 1994 (REVISED).
- (b) For cadmium and chromium, the proposed April 1995 cleanup objectives were used.
- SB Site background, according to TAGM #4046. The Eastern USA background values were used.
- N/A Not available, according to TAGM #4046.
- ## Shaded values indicate that the sample exceeded Eastern USA TAGM criteria.
- NC Not collected

Data Qualifiers:

U Analyzed for but not detected. The value is the sample specific detection limit

5.0 Backfill and Concrete Pad

Certified clean soil was used to backfill the excavation pit. The backfill activities were completed February 18, 1998. Backfill material was supplied by Custom Clay and Soil Company, Inc., Old Bethpage, NY. The backfill material was soil taken from Woodlawn Cemetary. Samples of the backfill material were sent to RECRA Environmental Inc. laboratories for analysis including Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), priority pollutant metals, pesticides, and PCBs. The results of the analysis were reviewed and approved by Northrop Grumman prior to placement of the backfill material. This material consisted of non-plastic, inorganic, granular soil having less than 10 percent material passing a No. 200 sieve with a moisture content within 2 percent of the optimum moisture content per ASTM 1557. The material was placed in loose lifts not exceeding 12" and compacted using vibratory equipment. Each lift was compacted and every third lift tested to verify that 95% of the Modified Proctor Maximum Dry Density (ASTM D 1557) was achieved. Compaction testing was performed by Materials Testing Lab Inc., New Hyde Park, NY. Copies of the Clean Fill Certification and Compaction Test Results are presented in Appendix H and Appendix I respectively.

Once the backfill material was compacted to specifications and the columns secured to the new column footers a concrete slab was poured. Welded wire fabric sheets with chair supports used to reinforce the new concrete slab. A 3000 psi (at 28 days) with water-reducing admixture concrete slab was poured over the clean, compacted backfill. Expansion joints around the perimeter were utilized to separate the new pad from the existing concrete flooring. Sawcut control joints were utilized to control cracking of the new slab. The concrete was poured on April 29, 1998. Column Footers that had been demolished during excavation were replaced prior to slab placement. However, after review and inspection by LKB, one (1) column footer was not poured correctly and settlement was noticed at building column E-8. The column footer was removed, the building column jacked to the original elevation, and a new footer poured in place. No structural damaged was observed to the building structure as a result of the column deflection. The concrete for the slab and column footers was inspected and tested by Materials Testing Lab, Inc. prior to placement. Concrete inspection and testing reports are presented in Appendix J.

After the concrete slab and footers were poured and had cured properly, the building columns within the work zone were re-painted and overhead fluorescent lights damaged during the remediation activities replaced.

6.0 Conclusions and Recommendations

Radian International LLC conducted the environmental remediation and oversight from November 19, 1997 through April 29, 1998. Radian collected post-excavation soil samples and reviewed analytical results to confirm that all soil and concrete that exceeded TAGM criteria by operations in the Old Alodine Area had been removed. Radian's conclusions and recommendations are:

- -- 2,650 square feet of concrete was demolished and removed from the Old Alodine Area.
- -- Approximately 2,890 tons of soil were excavated and removed from the Old Alodine Area.
- -- 36 post-excavation soil samples were collected. Seven (7) samples from the bottom and 29 from the sidewall. Ten (10)samples were collected from the 8' and 24' depths while only Nine (9) samples were collected at the 16' depth.
- Concrete slurry poured behind excavation wall to fill voids from collapsed soil and support surrounding concrete floor.
- -- Column settlement evaluation performed by Radian and recommends that settlement is within allowable values. However, LKB did not concur with Radian's evaluation results and as a result the suspect columns (D-6, E-6, and E-8) were jacked to their original elevations.
- -- Post-excavation sample data and methodology was sent to NYSDEC for review.
- -- Post-excavation sample data was reviewed by NYSDEC DSHM and indicated that No Further Action Status was warrented. Northrop Grumman proceeded with backfilling activities, as approved by the state.
- -- Approximately 2,100 tons of certified clean fill material placed in the excavation pit in compacted lifts no greater than 12".
- -- Concrete Slab poured in place to existing floor elevation.
- -- Building column footers were replaced and then inspected by LKB. One (1) building column (E-8) showed settlement, this column was jacked to the proper elevation and a new footer poured in place.

-- The damaged wall, water line, and sewer line repaired or replaced to the satisfaction of Northrop Grumman and the United States Navy. Building columns painted and fluorescent lights replaced.

Northrop Grumman sent the endpoint soil sample analysis data and methodology to the New York State Department of Environmental Conservation (NYSDEC) for review. After review by the NYSDEC Division of Solid and Hazardous Materials (DSHM) a No Further Action letter has been written for the Old Alodine Area, AOC #3. No further environmental investigation or remediation is warranted at this time.

Appendix A

Photographs

Photograph Log

Photograph Log-- Environmental Oversight for AOC # 3 Remediation

- 1. Installation of steel "H" piles with Vibro-Plate pile driving equipment.
- 2. Installation of steel "H" piles with Vibro-Plate pile driving equipment.
- 3. Excavation around Building Column Footer.
- 4. Demolition of Building Column Footer. Needle beam in place to support column.
- 5. Steel Whaler and timber lagging in place.
- 6. Installation of Timber Lagging.
- 7. Building Column Needle Beam supports above excavation pit.
- 8. Hydraulic Excavator removing soil from excavation pit.
- 9. Welding cross-bracing to whalers.
- 10. Welding, excavating, and timber lagging in progress.
- 11. Tracked dozer in pit excavating soil.
- 12. Timber lagging being measured and cut prior to installation.
- 13. Front End Loader stockpiling excavated soil.
- 14. Hydraulic Excavator loading excavated soil into truck for disposal.



Photo 1: Installation of steel "H" piles with Vibro-Plate pile driving equipment.



Photo 2: Installation of steel "H" piles with Vibro-Plate pile driving equipment.



Photo 3: Excavation around Building Column Footer.



Photo 4: Demolition of Building Column Footer. Needle beam in place to support column.

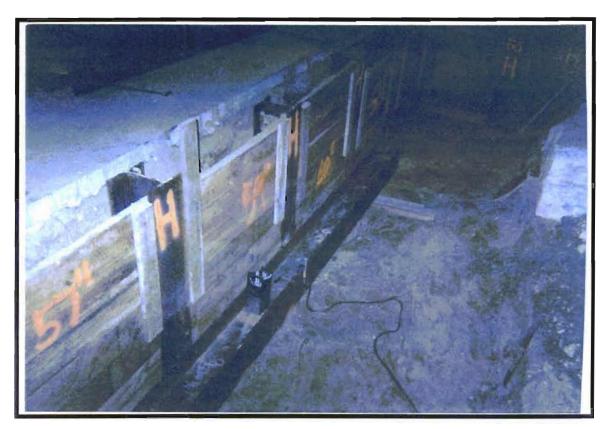


Photo 5: Steel Whaler and timber lagging in place.



Photo 6: Installation of Timber Lagging.

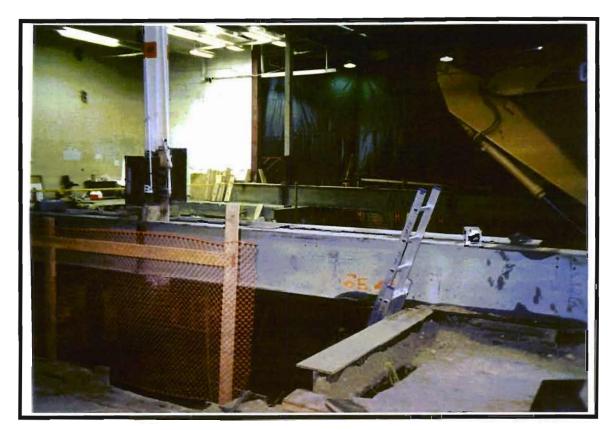


Photo 7: Building Column Needle Beam supports above excavation pit.

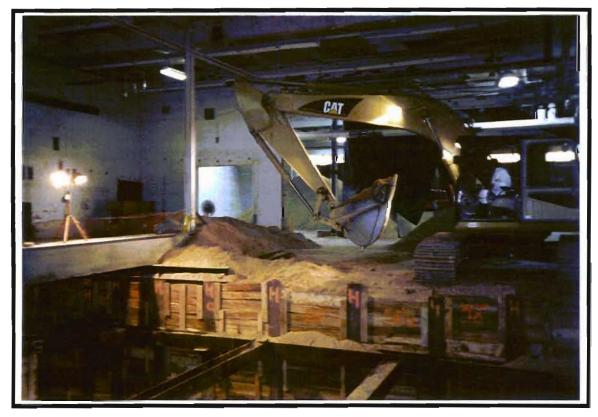


Photo 8: Hydraulic Excavator removing soil from excavation pit.



Photo 9: Welding of Cross Bracing to Whalers.

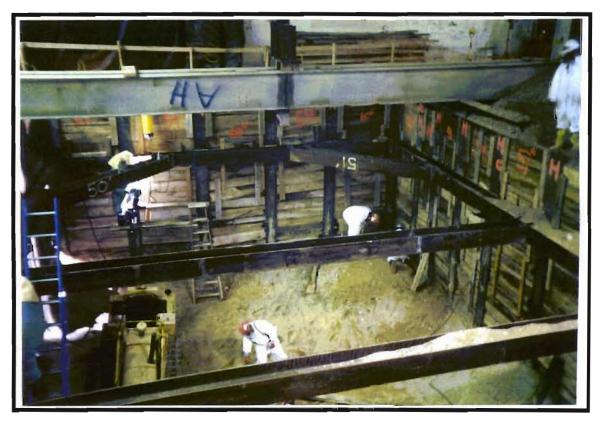


Photo 10: Welding, excavating, and timber lagging.



Photo 11: Tracked dozer in pit excavating.

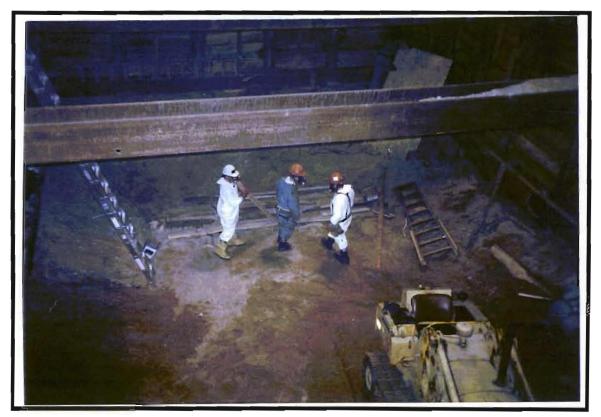


Photo 12: Timber lagging being measured and cut prior to installation.

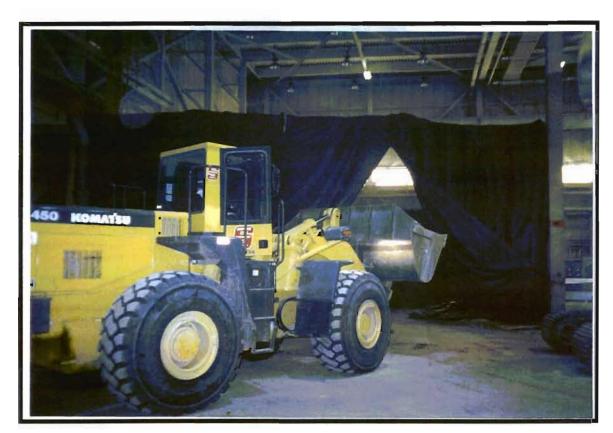


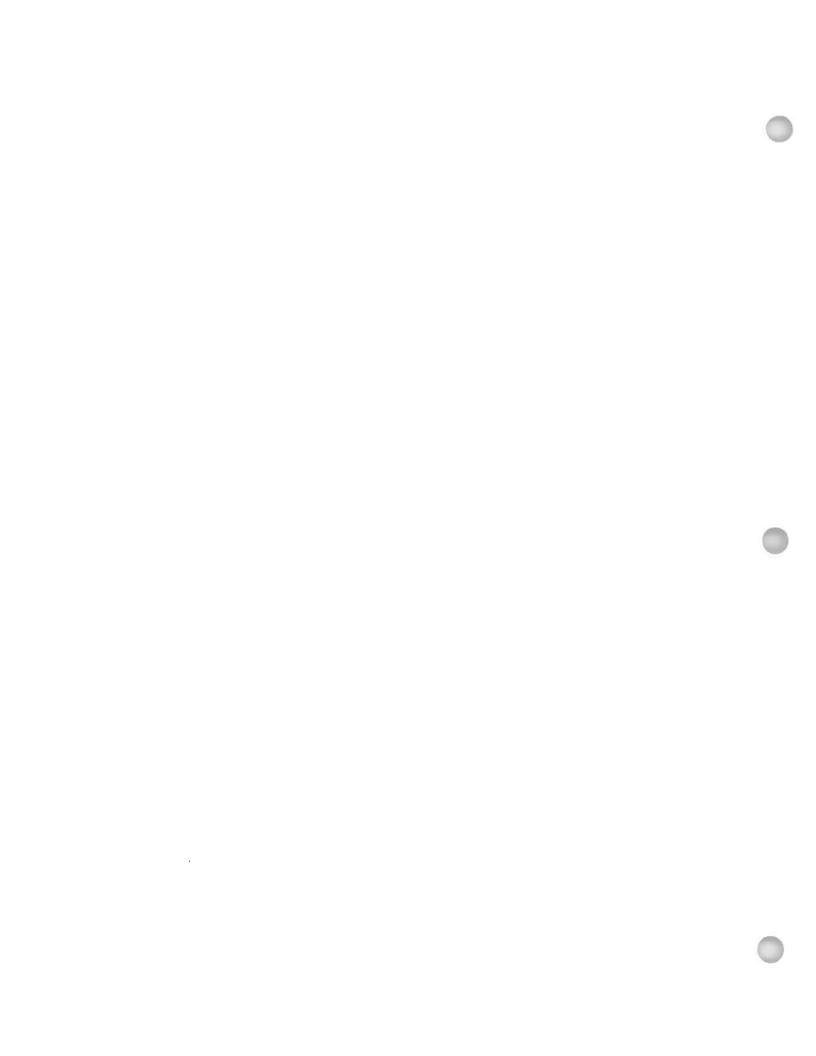
Photo 13: Front-End Loader stockpiling excavated soil.



Photo 14: Hydraulic Excavator loading excavated soil into truck for disposal.

Appendix B

Sheeting and Shoring Plan



PETER SCALAMANDRE CONCRETE

& SONS, INC. EST. 1923 CONTRACTORS

157 ALBANY AVENUE FREEPORT, N.Y. 11520

PHONE: (516) 868-300

TO:				DAT	re: 11-	19-9-1
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<u> </u>				☐ APPROVED AS NOTED		AT YOUR REQUEST
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SENT BY:

MAIL **MESSENGER** SEPARATE COVER

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

CONTRACT: N00019-94-E-0274
REMOVAL OF TANKS - OLD ALODINE LINE

SUBCONTRACT: 99-92142-003 SOIL REMOVAL

GRUMMAN AEROSPACE & ELECTRONICS BETHPAGE, NEW YORK

REVISED [1] DESIGN COMPUTATIONS

FOR

TEMPORARY SHEETING FOR SOIL REMOVAL

INCLUDING

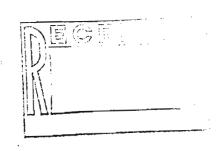
UNDERPINNING OF EXISTING COLUMNS

PREPARED FOR:

PETER SCALAMANDRE & SONS, INC. 157 ALBANY AVENUE FREEPORT, NEW YORK

NOVEMBER 18, 1997

CHARLES F. VACHRIS, P.E. CONSULTING ENGINEERS 370 OLD COUNTRY ROAD GARDEN CITY, NY 11530





REFERENCES

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- 10. New York City Department of Environmental Protection, <u>Minimum Loading Diagram for Watertight Sheeting Design</u>, NYCDEP, New York, New York, 1993.

PROPOSED SEQUENCE OF CONSTRUCTION

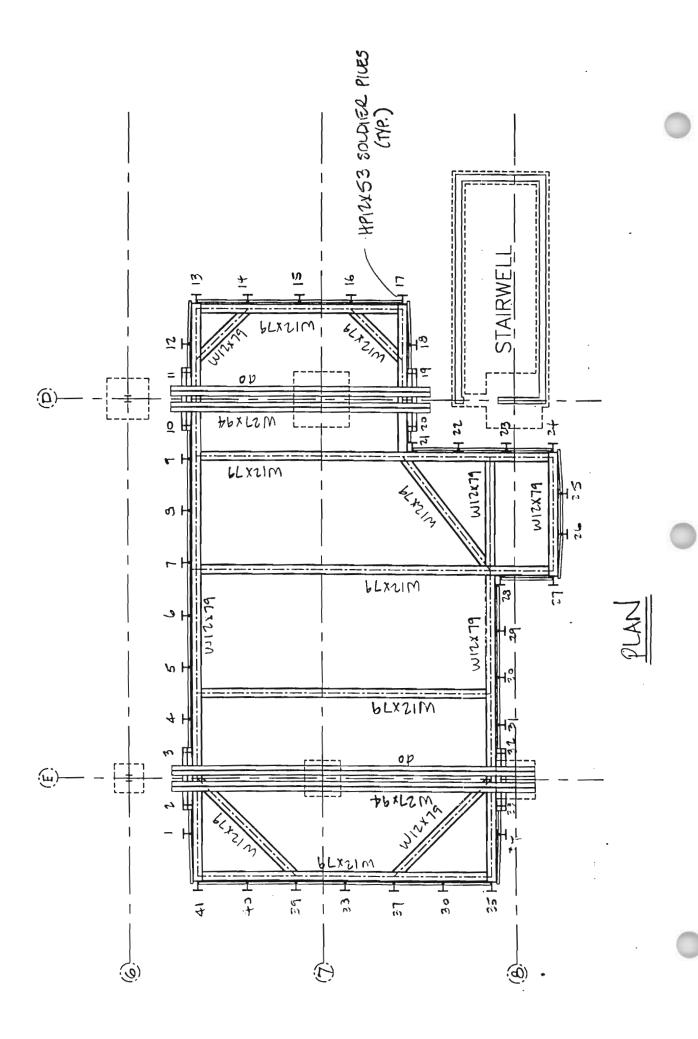
- 1. DRIVE STEEL SOME PILES (41 EACH) TO A TIP ELEVATION APPROXIMATELY (8) BELOW SUBGRADE.
- 2. INSTALL PILE CAPS TO SUPPORT NEEDLE BEAMS ABOVE PILES 2 AND 3, 10 AND 11, 19 AND 20, AND 32 AND 33.
- 3. INSTALL W27X94 NEEDLE BEAMS ON EITHER SIDE OF COLUMNS ON E LINE AND D LINE.
- 4. EXCAVATE TO THE BOTTOM OF THE EXISTING FOOTINGS OF THE COLUMNS TO BE SUPPORTED, AND TRANSFER THE LOAD FROM THE COLUMNS TO THE NEEDLE BEAMS USING HYDRAULIC JACKS. REMOVE CONCRETE FOOTINGS.
- 5. EXCAVATE AND XXSTALL TIMBER LAGGING TO THE A DEPTH OF APPROXIMATELY(7'-0)" BELOW EXISTING GRADE. THE LAGGING SHALL BE SPACED APPROXIMATELY 1-1/2" TO PERMIT THE CONTRACTOR TO FILL AND PACK THE SOIL BEHIND THE LAGGING SO THAT THERE IS NO LOSS OF SOIL FROM BEHIND THE LAGGING. -with straw?
 - 6. INSTALL THE TOP WALERS AND STRUTS WITH THE CENTERLINE OF THE WALERS 5'-0" BELOW THE EXISTING GRADE.
 - 7. ALL SOLDIER PILES SHALL BE TACK WELDED TO THE TOP WALERS.
 - 8. CONTINUE TO EXCAVATE AND INSTALL TIMBER LAGGING TO A DEPTH OF APPROXIMATELY (18'-6") BELOW EXISTING GRADE.
 - 9. INSTALL THE BOTTOM WALERS AND STRUTS WITH THE CENTERLINE OF THE WALERS APPROXIMATELY 17'-6" BELOW EXISTING GRADE. TACK WELD THE BOTTOM WALERS TO ALL OF THE SOLDIER PILES.
 - CONTINUE TO EXCAVATE AND INSTALL TIMBER LAGGING TO SUBGRADE, APPROXIMATELY 30'-0" BELOW EXISTING GRADE.
 - BACKFILL EXCAVATION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS.
 - 12. BACKFILL TO A DEPTH OF APPROXIMATELY 18'-6" BELOW EXISTING GRADE, COMPACTING BACKFILL AS SPECIFIED.
 - 13. REMOVE BOTTOM WALERS AND STRUTS.
 - 14. BACKFILL TO A DEPTH OF APPROXIMATELY 7'-0" BELOW EXISTING GRADE.
 - 15. REMOVE TOP WALERS AND STRUTS.
 - 16. BACKFILL EXCAVATION TO A DEPTH OF APPROXIMATELY 2'-11" BELOW EXISTING GRADE, AND INSTALL NEW FOOTINGS TO SUPPORT THE EXISTING COLUMNS.

measure elastic settlement, re-jad + shim as necessar

- 17. TRANSFER THE COLUMN LOADS FROM THE NEEDLE BEAMS ONTO THE NEW COLUMN FOOTINGS AND REMOVE NEEDLE BEAMS.
- 18. BACKFILL EXCAVATION TO A DEPTH OF APPROXIMATELY 2'-0" BELOW EXISTING GRADE AND CUT OFF SOLDIER PILES APPROXIMATELY 2'-0" 4' as per BELOW FINAL GRADE.
- 19. BACKFILL EXCAVATION TO FINAL GRADE.
- 20. ALL REQUIREMENTS OF THE NOTES FOUND ON SHEET S-2 OF THE CONTRACT DRAWINGS SHALL APPLY.

AS72-50 MATERIALS

- 1. ALL SOLDIER PILES SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION (A36) AND SHALL BE FURNISHED IN SECTION HP12X53, AND SHALL BE 38 LONG.
- 2. ALL WALERS, STRUTS AND DIAGONAL STRUTS SHALL BE CONTINUOUS AND SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A36 AND SHALL BE FURNISHED IN SECTION W12X79.
- 3. ALL TIMBER LAGGING SHALL BE SOUTHERN PINE OR MIXED OAK WITH AN ALLOWABLE EXTREME FIBER BENDING STRESS OF 1200 PSI. ALL LAGGING SHALL BE (3") FULL THICKNESS (NOT DRESSED).
- 4. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS "STRUCTURAL WELDING CODE STEEL D1.1" LATEST EDITION.
- 5. ALL SPLICES IN THE SOLDIER PILES AND WALERS SHALL BE FULL PENETRATION BUTT WELDS AND SHALL DEVELOP THE FULL STRENGTH OF THE SECTION.
- 6. BOLTS FOR LOAD TRANSFER SHALL BE (A) 225 HIGH STRENGTH BOLTS AND SHALL BE FURNISHED IN THE DIAMETER INDICATED.



DESIGN CEITELIA

Soile

8K= 40 PCF (AS PER CONTRACT DOC.)

8= 120 PCF

Ø = 30°

Ka-0.333

Kp: 3,000

STEEL

A36 * ATT -50 50 = 1.39

TIMBER

MIXED OAK (fo . 1200 PEI) **

SURCHHEGE

250 PSF

COL. FIG. WADS

2 TSF

* ALLOWARLE STRESSES INCCEASED 20% FOR TEMP.

CONDITIONS

* * ALLOWALLE STEESLEL INCCEPTED 50% FOR TEMP

CONJUTIONS.

STAGE	E 1		
TYPIC	AL PLE	457.38	
			· -
	7.00		
		2	<u>.</u>
	• • •	1997.88 19	,
	DP		
•••			
· ·	P. = SJECHXKa	Pile spacing 5:5	
	= 250 (0.333)		
	-83.25 PSF V		
	R = 40H		
	= 40(7)	· · · · · · · · · · · · · · · · · · ·	
	* 180 PSF V		
	ZP= 363,25 PSF	L.	
	(83.75)(7)(5.5	3,5	
	2 (20)(7)(1/2)(5.	·	
		ZF 8595.13 Les/pile	
		,	/
	ZMo+ (2703.13)(3.5)	+(5390.0)(2,333) = 23,792.81 FT-	· Cos pile
•	Y: EM/EF = 2.768	F	

STAGE 1
TYPICAL PILE PENETRATION = X
0·X+-82FX2-122FX-[22F]2
$0: x^{4} - \frac{8(8595.13)}{1040.4}x^{2} - \frac{12(23,772.81)}{1040.4}x^{2} - \left[\frac{2(8595.13)}{1040.4}\right]^{2}$
0: x4-66.091x2-274.43x-273.00
below excav X. 9.839 FT < 23 FT @
BENDING IN SOLDIER FILE
BM=MARCEV=O
8595,12=1040.47/2 AP= 8(3kp-ka)=1040.4 PSF/F+
Z. 4.065 FT below excavlevel
BM-8595.13(4,065+2,768)-1040.4(4.065)/6
47,081.5 FT-UBS/File

. . . . -

	STAGE 2 TYPICAL PILE		467, 88
	800		
	13,500		2
	B		4627,88
<u></u>	(1) (83.25)(18.5)(Sis		P.= 250 (0.333) = 83.05psf / P2 · 40 (8.5) · 740 psf / ZP · 823.25psf lt 70.69 cos/pile 425
	(745)(18.5)(1/2)(5.	s) = 37,0	047,50 vos/pile 7,333.

STAGE	2
	ZM-=0
	0 = 8470.69 (4.25) + 37647.50 (7.232)
	$-1040.4x^{2}/2(13.5+3/3x)$
	0.346.8x3+7022.7x2-312,069.55
_ below seca	X. 5.8695FT < 11.50FT @
	Pp. 1040,4 (5.8695)/2 - 17,921 43085
	T = 46118.19-17,921.42
<u></u>	- 23,196.8LBS/5.5ft
	BEIDING IN SOLDIER PILE
	EM=MAXOZV=O
	28,196.8 = (83.25)(55)Z + (40)(5,5)(=)/2
	2.15.612FT Firm top
·-····································	BIT- 28,196.8 (15.612-5.0) - (83.25)(55) (15.612)/2
• •	- (40)(5.5)(5.612)3/C
	1/03,901.06 FT-Les/File

STAGE	<u>3</u> AL PICE)		
(18814	ac vices		
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		S T	
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		\(\frac{\lambda}{\gamma} \)	
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STAGE 3 (TYPICAL PILE) P,= 250 (0.333) = 83.25ps -Pz = 0,65 KnH - 0,65(120)(0.333)(30) - 780 PSF / 29-863.25 PSF V ASSUME HINGES @ B AND @ 'R" ラMot=0 0: (863,25)(5,5)(17,5)/2 -T(12,5) T.58, 161.5 LES 5,5 Ft BT = (863.25)(5.5)(7.5) -T = 24,926.24 LES/5.5+ BV= /2(863.25)(5.5)(E.5)= 29.674.22 Les/5.54 R=29,674.22 Les/5.5++ B. 54,600,56UBS/5.5++ PENETRATION D. V 2 (291674.22) USE 3-07 = 7,553FT BENDING IN SOLDIER PILE BM=W2/2 - (863,25)(55)(12,5)/2

=(92731,93FT-10=)/pile

S = Mwax = 103.9 x 12 = 37.6 in = F6 33 HP12x5

TIMBER LAGGING

MAX P. 863.25 PSF 55' - 7BM: $\omega l^2/8$ $12'' < 5.0' \rightarrow 12$

= 2697.7 PT-LRS

0SE 3"(FULL)TIMBERS SXX=181N3/ fb= 2697.7X12/8- 1798,4ps1 < 1800ps160

$$S = \frac{bt^2}{6}$$

= $\frac{12 \times 3^2}{6} = 18 \text{ in}^3 \text{ for } 3\times12.$

as well as res on the d. T cal

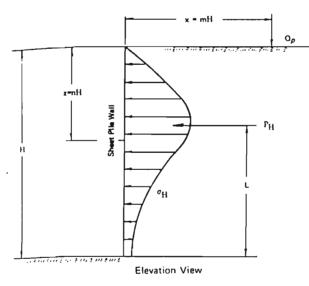
pressures

th pressure
theory of
taccurate
Teng¹ and

the surface, e surcharge of the soil. at depth h

as shown in

Point Loads — The lateral pressure distribution on a vertical line closest to a point load may be calculated as shown in Figure 8(a).



$$\sigma_{\rm H} = 0.28 \, \frac{\Omega_{\rho}}{{\rm H}^2} - \frac{{\rm n}^2}{(0.16 + {\rm n}^2)^3}$$
 (for m ≤ 0.4)

$$P_H = 0.78 \frac{Q_\rho}{H}$$
 (see Fig. 11)

$$\sigma_{\rm H} = 1.77 \; \frac{\Omega_{\rho}}{\rm H^2} \cdot \frac{\rm m^2 \, n^2}{(\rm m^2 + n^2)^3} \; (\text{for m} > 0.4)$$

$$P_H = 0.45 \frac{Q_\rho}{H}$$
 (see Fig. 11)

Fig. 8(a) - Lateral pressure due to point load (after Terzaghi²²)

Away from the line closest to the point load the lateral stress decreases as shown in the plan view of Figure 8(b).

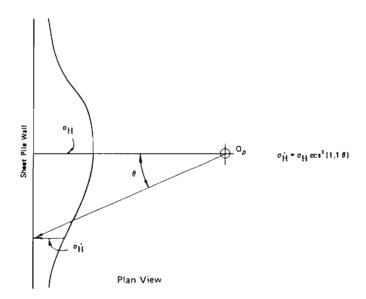


Fig. 8(b) — Lateral pressure due to point load (Boussinesq equation modified by experiment) (after Terzaghi²²)

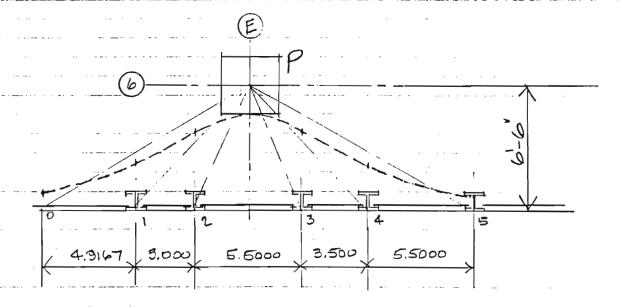
Line Loads — A continuous wall footing of narrow width or similar load parallel to a retaining structure may be taken as a line load. For this case the lateral pressure increases from zero at the ground surface to a maximum value at a given depth and gradually diminishes at greater depths. The lateral pressure distribution on a vertical plane parallel to a line load may be calculated as shown in Figure 9.

K_ρ depending arge area. The at dead weight

lane on which dering that the he other hand, point, line and oution of shear cal methods of ments on rigid on ative for and the lateral

COL UNE E (SURCHAE	2GE)
6'-6'	· · · · · · · · · · · · · · · · · · ·
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DISTRIBUTION OF COLUMN WAD (LATERAL)



LATERAL PRESSURES DUE TO COLUMN LOAD E6 STAGES 1 & 2

Q X H	36000 6.5 18.5				
7	D/ 0 4)	D/m> 0			_
	P(m≤ 0.4)	•	•	m 0.254	n 0.000
0	0.00		00	0.351	0.000
1	19.90		28	0.351	0.054
2	68.02	108		0.351	0.108
3	119.78	180		0.351	0.162
4	155.80	217	94	0.351	0.216
5	169.98	221	29	0.351	0.270
6	166.12	202	28	0.351	0.324
7	151.32	173	62	0.351	0.378
8	131.82	143	65	0.351	0.432
9	111.68	116	47	0.351	0.486
10	93.07	93	53	0.351	0.541
11	76.88	74	87	0.351	0.595
12	63.27	60	00	0.351	0.649
13	52.04	48	26	0.351	0.703
14	42.88	39	02	0.351	0.757
15	35.45	31	73	0.351	0.811
16	29.43	25	98	0.351	0.865
17	24.54	21	41	0.351	0.919
18	20.57	17	75	0.351	0.973
19	17.33	14	.82	0.351	1.027

LATERAL PRESSURES DUE TO COLUMN E6 STAGES 3

36000

Q

X	6.5				
Н	30				
Z	P(m≤ 0.4)	P(m> 0		m	n
0	0.00		00	0.217	0.000
1	2.98		28	0.217	0.033
2	11.19	108		0.217	0.067
3	22.80	180		0.217	0.100
4	35.44	217		0.217	0.133
5	46.99	221		0.217	0.167
6	56.00	202		0.217	0.200
7	61.83	173		0.217	0.233
8	64.52	143		0.217	0.267
9	64.51	116		0.217	0.300
10	62.45		53	0.217	0.333
11	58.99	74	87	0.217	0.367
12	54.69		00	0.217	0.400
13	50.00		26	0.217	0.433
14	45.24		02	0.217	0.467
15	40.63		73	0.217	0.500
16	36.29		98	0.217	0.533
17	32.30		41	0.217	0.567
18	28.68		75	0.217	0.600
19	25.43		82	0.217	0.633
20	22.54		45	0.217	0.667
21	19.98		52	0.217	0.700
22	17.73		94	0.217	0.733
2 3	15.74		64	0.217	0.767
24	14.00		56	0.217	0.800
25	12.47		66	0.217	0.833
26	11.12		91	0.217	0.867
27	9.94		28	0.217	0.900
28	8.90	3		0.217	0.933
29	7.98		29	0.217	0.967
30	7.18	2	190	0.217	1.000

Н	NOMINAL	ACTIVE	FOOTING	FOOTING	EFFECTIVE	TOTAL
	SURCHARGE	SOIL	SURCHARGE	SURCHARGE	SPACING	LATERAL
	PRESSURES	PRESSURES	PRESSURES	PRESSURES		PRESSURES
		(TRIANGULAR)	ON D LINE	(FACTORED)		
		(,	FACTOR = 1	FACTOR = .489		
(83.25	0.00	0.00	0.00	3.96	329.50
	1 83.25	40.00	19.90	9.73	3.96	
	2 83.25	80.00	68.02	33.26	3.96	
;	3 83.25	120.00	119.78	58.57		
	4 83.25	160.00	155.80	76.18		
	5 83.25	200.00	169.98	83.12		
(83.25	240.00	166.12	81.23	3.96	
	7 83.25	280.00	151.32	74.00	3.96	
	83.25	320.00	131.82	64.46	3.96	1851.19
	9 83.25	360.00	111.68	54.61	3.96	1970.53
1	0 83,25	400.00	93.07	45.51	3.96	
1	1 83.25	440.00	76.88	37.60	3.96	2219.83
1.	2 83.25	480.00	63.27	30.94	3.96	2351.80
1	3 83.25	520.00	52.04	25.45	3.96	2488.39
1	4 83.25	560.00	42.88	20.97	3.96	2628.98
1	5 83.25	600.00	35.45	17.34	3.96	2772.92
1	6 83.25	640.00	29.43	14.39	3.96	2919.58
1	7 83.25	680.00	24.54	12.00	3.96	3068.45
1	8 83.25	720.00	20.57	10.06		
1	9 83.25	760.00	17.33			

Н		NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .818	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
	0	83.25	0.00	0.00	0.00	4.25	353.81
	1	83.25	40.00	19.90	16.28	4.25	592.99
	2	83.25	80.00	68.02	55.64	4.25	930.27
	3	83.25	120.00	119.78	97.98	4.25	1280.24
	4	83.25	160.00	155.80	127.44	4.25	1575.44
	5	83.25	200.00	169.98	139.04	4.25	1794.74
	6	83.25	240.00	166.12	135.89	4.25	1951.33
	7	83.25	280.00	151.32	123.78	4.25	2069.89
	8	83.25	320.00	131.82	107.83	4.25	2172.08
	9	83.25	360.00	111.68	91.35	4.25	2272.07
	10	83.25	400.00	93.07	76.13	4.25	2377.38
	11	83.25	440.00	76.88	62.89	4.25	2491.10
	12	83.25	480.00	63.27	51.75	4.25	2613.76
	13	83.25	520.00	52.04	42.57	4.25	2744.73
	14	83.25	560.00	42.88	35.08	4.25	
	15	83.25	600.00	35.45	29.00	4.25	3027.06
	16	83.25	640.00	29.43	24.07	4.25	3176.12
N.	17	83.25	680.00	24.54	20.08	4.25	3329.14
7	18	83.25	720.00	20.57	16.83	4.25	3485.33
	19	83.25	760.00	17.33	14.18	4.25	3644.06

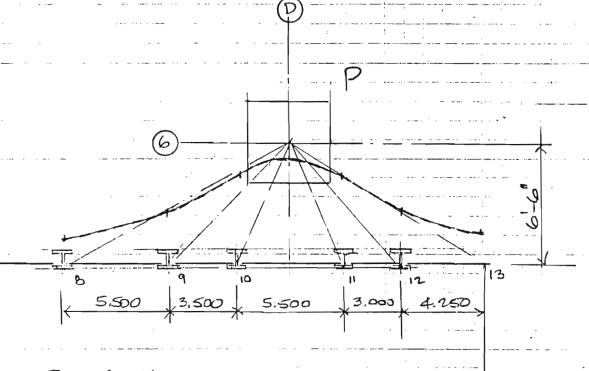
Н	NOMINAL	ACTIVE	FOOTING	FOOTING	EFFECTIVE	TOTAL
	SURCHARGE	SOIL	SURCHARGE	SURCHARGE	SPACING	LATERAL
	PRESSURES	PRESSURES	PRESSURES	PRESSURES		PRESSURES
		(TRIANGULAR)	ON D LINE	(FACTORED)		
	_	,	FACTOR = 1	FACTOR = .818		
0	83.25	0.00	0.00	0.00	4.50	374.63
1	83.25	40.00	19.90	16.28	4.50	
2	83.25	80.00	68.02	55.64	4.50	
3	83.25	120.00	119.78	97.98		
4	83.25	160.00	155.80	127.44		T
5	83.25	200.00	169.98	139.04	4.50	
6	83.25	240.00	166.12	135.89		
7	83.25	280.00	151.32	123.78	4.50	
8	83.25	320.00	131.82	107.83		
9	83.25	360.00	111.68	91.35	4.50	
10	83.25	400.00	93.07	76.13	4.50	
11	83.25	440.00	76.88	62.89		
12	83.25	480.00	63.27			
13	83.25	520.00	52.04	42.57	4.50	
14	83.25	560.00	42.88	35.08		
15	83.25	600.00	35.45	29.00	4.50	
16	83.25	640.00	29.43	24.07	4.50	
17	83.25	680.00	24.54	20.08	4.50	
18	83.25	720.00	20.57			
19	83.25	760.00				

Н		NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .443	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
	0	83.25	0.00	0.00	0.00	4.50	374.63
	1	83.25	40.00	19.90	8.82	4.50	594.30
	2	83.25	80.00	68.02	30.13	4.50	870.22
	3	83.25	120.00	119.78	53.06	4.50	1153.41
	4	83.25	160.00	155.80	69.02	4.50	1405.21
	5	83.25	200.00	169.98	75.30	4.50	1613.48
	6	83.25	240.00	166.12	73.59	4.50	1785.79
	7	83.25	280.00	151.32	67.03	4.50	1936.28
	8	83.25	320.00	131.82	58.40	4.50	2077.41
	9	83.25	360.00	111.68	49.47	4.50	2217.26
	10	83.25	400.00	93.07	41.23	4.50	2360.16
	11	83.25	440.00	76.88	34.06	4.50	2507.89
	12		480.00	63.27	28.03	4.50	2660.75
	13		520.00	52.04	23.05	4.50	2818.37
	14		560.00	42.88	19.00	4.50	2980.11
	15	83.25	600.00	35.45	15.70	4.50	3145.29
	16	83.25	640.00	29.43	13.04	4.50	3313.29
	17	83.25	680.00	24.54	10.87	4.50	3483.55
	18			20.57	9.11	4.50	3655.63
	19	83.25	760.00	17.33	7.68	4.50	3829.17

Н	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .151	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			PACTOR - 1	PACTOR151		
0	83.25	0.00	0.00	0.00	5.50	457.88
1	83.25	40.00	19.90	3.00	5.50	694.40
2		80.00	68.02	10.27	5.50	954.36
3	83.25	120.00	119.78	18.09	5.50	1217.36
4	83.25	160.00	155.80	23.53	5.50	1467.26
5		200.00	169.98	25.67	5.50	1699.04
6	83.25	240.00	166.12	25.08	-5.50	1915.84
7	83.25		151.32	22.85	5.50	2123.55
8	83.25	320.00	131.82	19.90	5.50	2327.35
9	83.25	360.00	111.68	16.86	5.50	2530.62
10			93.07	14.05	5.50	2735.17
11	83.25	440.00	76.88	11.61	5.50	2941.73
12			63.27	9.55	5.50	3150.42
13				7.86	5.50	3361.09
14			42.88	6.48	5.50	3573.49
15			35.45	5.35	5.50	3787.32
16		640.00	29.43	4.44	5.50	4002.32
17			24.54	3.71	5.50	4218.26
18				3.11	5.50	4434.96
19	83.25	760.00	17.33	2.62	5.50	4652.27

COLLINE D (SURCH	ARG	E)	
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DISTRIBUTION OF COLUMN LOAD (LATERAL)



Tg = 0.151

Ja = 0.443

Jo 2 0.318

J. = 0.818

Jiz . 0.439

0.211

P= (4.25 x 4.25), 4) - 72.25 ×

LATERAL PRESSURES DUE TO COLUMN LOAD D6 STAGES 1 & 2

Q X H	72250 6.5 18.5				
Z	P(m≤ 0.4)	P(m> 0	.4)	m	n
0	0.00		00	0.351	0.000
1	39.94	66.	79	0.351	0.054
2	136.51	218.	46	0.351	0.108
3	240.40	361	24	0.351	0.162
4	312.68	437	39	0.351	0.216
5	341.13	444	12	0.351	0.270
6	333.39	405	96	0.351	0.324
7	303.70	348	45	0.351	0.378
8	264.55	288		0.351	0.432
9	224.13	233		0.351	0.486
10	186.79	187	71	0.351	0.541
11	154.30	150		0.351	0.595
12	126.97	120	l	0.351	0.649
13	104.44		86	0.351	0.703
14	86.06	78		0.351	0.757
15	71.15		69	0.351	0.811
16	59.06	52	14	0.351	0.865
17	49.26	42	96	0.351	0.919
18	41.28	35	63	0.351	0.973
19	34.78	29	75	0.351	1.027

LATERAL PRESSURES DUE TO COLUMN D6 STAGES 3

Q X H	72250 6.5 30					
Z	P(m≤ 0.4)	P(m> 0	•		n -	n
0	0.00		00	0.21		0.000
1	5.97	66.		0.21		0.033
2	22.47	218.		0.21		0.067
3 4	45.75 71.12	361. 437.		0.21 0.21		0.100
5	94.30	444		0.21		0.133 0.167
6	112.39	405	_	0.21		0.107
7	124.10	348	_	0.21		0.233
8	129.49	288	ľ	0.21		0.267
9	129.47	233		0.21		0.300
10	125.33	187	ı	0.21		0.333
11	118.38	150	1	0.21		0.367
12	109.75	120	42	0.21	7	0.400
13	100.34	96	86	0.21	7	0.433
14	90.79	78		0.21	7	0.467
15	81.53		69	0.21	7	0.500
16	72.83		14	0.21	7	0.533
17	64.81		96	0.21		0.567
18	5 7.55		63	0.21		0.600
19	51.04		75	0.21		0.633
20	45.24		99	0.21		0.667
21	40.11		11	0.21		0.700
22	35.58	17	94	0.21		0.733
23	31.60		33	0.21		0.767
24 25	28.10 25.02		17 37	0.21 0.21		0.800 0.833
26			86 86	0.21		0.867
27			59	0.21		0.900
28			5 1	0.21		0.933
29			59	0.21		0.967
30			.81	0.21		1.000

Н	I	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .151	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
	0	83.25	0.00	0.00	0.00	5.50	457.88
	1	83.25		39.94	6.03		711.05
	2			136.51	20.61	5.50	
	2 3	83.25	120.00	240.40	36.30		1317.53
	4		160.00	312.68	47.21	5.50	1597.56
	5	83.25	200.00	341.13	51.51	5.50	1841.18
	6	83.25	240.00	333.39	50.34		2054.76
	7	83.25	280.00	303.70	45.86		2250.10
	8		320.00	264.55	39.95		2437.58
	9	83.25	360.00	224.13	33.84	5.50	2624.01
	10	83.25	400.00	186.79	28.21	5.50	2813.00
	11	83.25	440.00	154.30	23.30	5.50	3006.02
	12	83.25	480.00	126.97	19.17	5.50	3203.32
	13	83.25	520.00	104.44	15.77	5.50	3404.61
	14	83.25	560.00	86.06	13.00	5.50	3609.35
	15	83.25	600.00	71.15	10.74	5.50	3816.97
	16	83.25	640.00	59.06	8.92	5.50	4026.92
N.	17	83.25	680.00	49.26	7.44	5.50	4238.79
7	18		720.00	41.28	6.23	5.50	4452.16
	19	83.25	760.00	34.78	5.25	5.50	4666.76

Н	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .443	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
0	83.25	0.00	0.00	0.00	4.50	374.63
1	83.25	40.00	39.94	17.69	4.50	634.25
2	83.25	80.00	136.51	60.47	4.50	1006.76
3	83.25	120.00	240.40	106.50	4.50	. 1393.86
4	83.25	160.00	312.68	138.52	4.50	1717.95
5	83.25	200.00	341.13	151.12	4.50	1954.67
6	83.25	240.00	333.39	147.69	4.50	2119.24
7	83.25	280.00	303.70	134.54	4.50	2240.05
8	83.25	320.00	264.55	117.20	4.50	2342.01
9	83.25	360.00	224.13	99.29	4.50	2441.43
10	83.25	400.00	186.79	82.75	4.50	2546.99
11	83.25	440.00	154.30	68.35	4.50	2662.22
.12	83.25	480.00	126.97	56.25	4.50	2787.74
13	83.25	520.00	104.44	46.27	4.50	2922.83
14	83.25	560.00	86.06	38.12	4.50	3066.19
15	83.25	600.00	71.15	31.52	4.50	3216.46
16	83.25	640.00	59.06	26.16	4.50	3372.36
17	83.25	680.00	49.26	21.82	4.50	3532.82
18	83.25	720.00	41.28	18.29	4.50	3696.92
19	83.25	760.00	34.78	15.41	4.50	3863.96

1	I	NOMINAL SURCHARGE PRESSURES		FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .818	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
	0	83.25	0.00	0.00	0.00	4.50	374.63
	1	83.25	40.00	39.94	32.67	4.50	
	2		80.00	136.51	111.67	4.50	1237.12
	3	83.25	120.00	240.40	196.65	4.50	1799.54
	4	83.25	160.00	312.68	255.77	4.50	2245.60
	5	83.25	200.00	341.13	279.04	4.50	2530.32
	6	83.25	240.00	333.39	272.71	4.50	2681.83
	7	83.25	280.00	303.70	248.43	4.50	2752.54
	8	83.25	320.00	264.55	216.40	4.50	2788.43
	9	83.25	360.00	224.13	183.34	4.50	2819.65
	10	83.25	400.00	186.79	152.79	4.50	2862.20
	11	83.25	440.00	154.30	126.22	4.50	2922.60
	12	83.25	480.00	126.97	103.86	4.50	3002.00
	13	83.25	520.00	104.44	85.43	4.50	3099.07
	14		560.00	86.06	70.40	4.50	3211.41
	15		600.00	71.15	58.20	4.50	3336.53
	16		640.00	59.06	48.31	4.50	3472.02
ĸ.	17	83.25	680.00	49.26	40.29	4.50	3615.95
1	18		720.00	41.28	33.77	4.50	3766.58
	19	83.25	760.00	34.78	28.45	4.50	3922.65

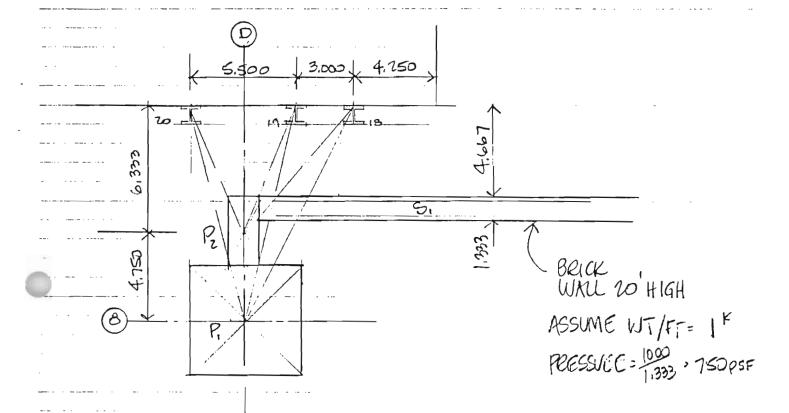
Н	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .818	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
0	83.25	0.00	0.00	0.00	4.25	353.81
1	83.25	40.00	39.94	32.67	4.25	
2	83.25	80.00	136.51	111.67	4.25	
3	83.25	120.00	240.40	196.65	4.25	
4	83.25	160.00	312.68	255.77	4.25	
5	83.25	200.00	341.13	279.04	4.25	
6	83.25	240.00	333.39	272.71	4.25	
7	83.25	280.00	303.70	248.43	4.25	
8	83.25	320.00	264.55	216.40	4.25	
9	83.25	360.00	224.13	183.34	4.25	
10	83.25	400.00	186.79	152.79	4.25	•
11	83.25	440.00	154.30	126.22	4.25	
12	83.25	480.00	126.97	103.86	4.25	
13	83.25	520.00	104.44	85.43	4.25	
14	83.25	560.00	86.06	70.40	4.25	
15	83.25	600.00	71.15	58.20	4.25	
16	83.25	640.00	59.06	48.31	4.25	
17	83.25	680.00	49.26	40.29	4.25	
18	83.25	720.00	41.28	33.77	4.25	
19	83.25	760.00	34.78	28.45	4.25	3704.73

COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 12

Н	SU	OMINAL JRCHARGE RESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .211	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
	0	83.25	0.00	0.00	0.00	3.63	301.78
	1	83.25	40.00	39.94	8.43	3.63	477.33
	2	83.25	80.00	136.51	28.80	3.63	696.19
	3	83.25	120.00	240.40	50.72	3.63	920.66
	4	83.25	160.00	312.68	65.98	3.63	1120.94
	5	83.25	200.00	341.13	71.98	3.63	1287.70
	6	83.25	240.00	333.39	70.35	3.63	1426.78
	7	83.25	280.00	303.70	64.08	3.63	1549.07
	8	83.25	320.00	264.55	55.82	3.63	1664.13
	9	83.25	360.00	224.13	47.29	3.63	1778.21
1	0	83.25	400.00	186.79	39.41	3.63	1894.65
1	1	83.25	440.00	154.30	32.56	3.63	2014.80
1	2	83.25	480.00	126.97	26.79	3.63	2138.90
-	3	83.25	520.00	104.44	22.04	3.63	2266.66
•	4	83.25	560.00	86.06	18.16	3.63	2397.61
	5	83.25	600.00	71.15		3.63	2531.20
	6	83.25	640.00	59.06		3.63	2666.95
	7	83.25	680.00	49.26	10.39	3.63	2804.46
	8	83.25	720.00	41.28	8.71	3.63	2943.36
1	9	83.25	760.00	34.78	7.34	3.63	3083.38

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DISTRIBUTION OF COLUMN LOADS (LATERAL)



<u>-F</u>			P2
	T20	0.930	0.810
	Jig	0.930	0.810
· · ·	Jis	0.748	0.475
	J,	0.478	0,200

$$P_1 = 132.75^{2} \pm (5.75^{2} \times 4)$$
 $P_2 = 4.0^{2} \pm (1.333 \times 4.0 \times 0.75)$
 $5 = .75^{2} \times /5F$

LATERAL PRESSURES DUE TO COLUMN LOAD D8 STAGES 1 & 2

Q	132250
X	11.083
Н	18.5

Z	P(m≤ 0	.4)	P(m> 0.4)	m	n
0	0	00	0.00	0.599	0.000
1	73	10	15.14	0.599	0.054
2	249	87	56.37	0.599	0.108
3	440	04	112.94	0.599	0.162
4	572	34	171.92	0.599	0.216
5	624	43	222.49	0.599	0.270
6	610	26	258.32	0.599	0.324
7	555	91	277.69	0.599	0.378
8	484	25	282.17	0.599	0.432
9	410	27	275.01	0.599	0.486
10	341	92	259.86	0.599	0.541
11	282	44	239.99	0.599	0.595
12	232	42	217.94	0.599	0.649
13	191	18	195.51	0.599	0.703
14	157	54	173.88	0.599	0.757
15	130	23	153.73	0.599	0.811
16	108	11	135.39	0.599	0.865
17	90.	16	118.96	0.599	0.919
18	75.	57	104.42	0.599	0.973
19	63.	66	91.64	0.599	1.027

LATERAL PRESSURES DUE TO COLUMN 8D STAGES 3

Q	132250
Χ	11.0833
Н	30

z	P(m≤ 0.4)	P(m> 0.4)	m	n
0	0.00	00.0	0.369	0.000
1	10.93	15114	0.369	0.033
2	41.12	56 36	0.369	0.067
3	83.75	112,93	0.369	0.100
4	130.18	171.90	0.369	0.133
5	172.61	222.47	0.369	0.167
6	205.72	258.31	0.369	0.200
7	227.15	277.67	0.369	0.233
8	237.02	282.15	0.369	0.267
9	236.99	275 00	0.369	0.300
10	229.42	25985	0.369	0.333
11	216.69	239398	0.369	0.367
12	200.90	217 93	0.369	0.400
13	183.67	195 51	0.369	0.433
14	166.19	173388	0.369	0.467
15	149.24	153,73	0.369	0.500
16	133.31	135339	0.369	0.533
17	118.64	118 97	0.369	0.567
18	105.34	10442	0.369	0.600
19	93.42	91165	0.369	0.633
20	82.81	80 48	0.369	0.667
21	73.41	70 74	0.369	0.700
22	65.13	62 28	0.369	0.733
23	57.84	54 92	0.369	0.767
24	51.43	48 53	0.369	0.800
25	45.80	42{97	0.369	0.833
26	40.86	38 13	0.369	0.867
27	36.52	33 91	0.369	0.900
28	32.69	30,23	0.369	0.933
29	29.33	27 01	0.369	0.967
30	26.36	24.18	0.369	1.000

LATERAL PRESSURES DUE TO WALL LOAD COLUMN D8 STAGES 1 & 2

Q	4000
Χ	6.3333
Н	18.5

Z	P(m≤ 0.4)	P(m> 0	.4)	m	n
0	0.00	•	00	0.342	0.000
1	2.21	4	09	0.342	0.054
2	7.56	13	23	0.342	0.108
3	13.31	21	58	0.342	0.162
4	17.31	25.	72	0.342	0.216
5	18.89	25	72	0.342	0.270
6	18.46	23	19	0.342	0.324
7	16.81	19	67	0.342	0.378
8	14.65	16	11	0.342	0.432
9	12.41	12	95	0.342	0.486
10	10.34	10	32	0.342	0.541
11	8.54	8	22	0.342	0.595
12	7.03	6	55	0.342	0.649
13	5.78	5	25	0.342	0.703
14	4.76	4	23	0.342	0.757
15	3.94	3	43	0.342	0.811
16	3.27	2	80	0.342	0.865
17	2.73	2	30	0.342	0.919
18	2.29	1	91	0.342	0.973
19	1.93	.1	59	0.342	1.027

LATERAL PRESSURES DUE TO WALL LOAD COLUMN LOAD D8 STAGE 3

Q X H	4000 6.333 30				
z	P(m≤ 0.4)	P(m> 0	.4)	m	n
0	0.00	0,	[00	0.211	0.000
1	0.33	4	09	0.211	0.033
2	1.24	13	24	0.211	0.067
3	2.53	21.	58	0.211	0.100
4	3.94	25	72	0.211	0.133
5	5.22	25	72	0.211	0.167
6	6.22	23	19	0.211	0.200
7	6.87	19	67	0.211	0.233
8	7.17	16.	11	0.211	0.267
9	7.17	12.	95	0.211	0.300
10	6.94	10.		0.211	0.333
11	6.55	8.	22	0.211	0.367
12	6.08	6	55	0.211	0.400
13	5.56	5,	25	0.211	0.433
14	5.03		23	0.211	0.467
15	4.51	3	43	0.211	0.500
16	4.03	2	80	0.211	0.533
17	3.59	2	30	0.211	0.567
18	3.19	1	91	0.211	0.600
19	2.83	1,	59	0.211	0.633
20	2.50	1	33	0.211	0.667
21	2.22	1	12	0.211	0.700
22	1.97	0	95	0.211	0.733
23	1.75	0	81	0.211	0.767
24	1.56		70	0.211	0.800
25	1.39	0	60	0.211	0.833
26	1.24	0	52	0.211	0.867
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LATERAL PRESSURES DUE TO WALL FOOTING STAGES 1, 2 & 3

Q X W	750 5.333 1.333
H 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	P 0 42.37 69.56 78.05 73.66 63.57 52.42 42.33 33.95 27.26 21.99 17.87 14.65 12.11 10.09 8.48 7.18 6.13 5.27 4.55 3.96 3.46 3.05 2.69 2.39 2.13 1.91 1.71 1.54 1.40
30	1.27

COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 18

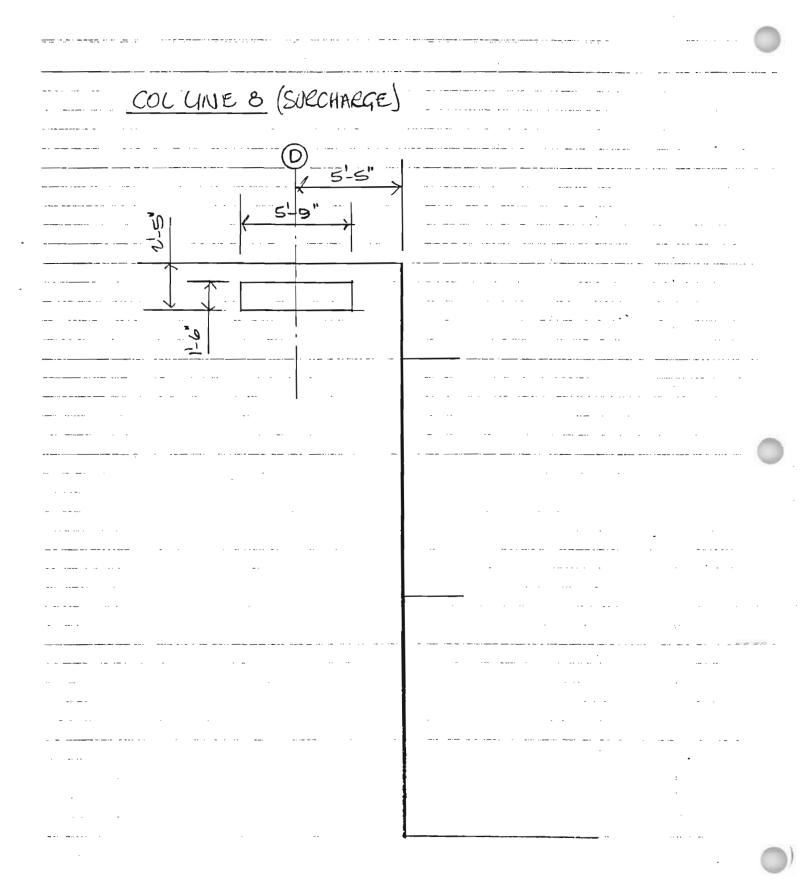
TOTAL LATERAL PRESSURES	301.78	004.00 1159.63 1518.84	1843.36	2320.81	2591.61	2751.08	2815.96 2880.11	2947.56	3020.59 3100.26	3186.87	3280.28	3380.00
SPACING F	3.63 3.63	3.63 3.63 3.63	3.63	3.63	3.63	3.63	3.63 3.63	3.63	3.63 3.63	3.63	3.63	3.63
WALL FOOTING STRIP SURCHARGE	0.00 42.67	78.05 73.66	63.57	42.33	27.26	17.87	14.65 12.11	10.09	8.48 7.18	6.13	5.27	4.55
WALL FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.475	0.00	4.67 8.23 10.70	11.67	10.39	7.67	5.28	3.57	2.94	2.43	1.69	1.41	1.19
WALL FOOTING SURCHARGE PRESSURES ON LINE FACTOR = 1 F	0.00	13.31 17.31	18.89	16.81	12.41	8.54 8.54	7.03	4.76	3.94	2.73	2.29	1.93
COLUMN FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.748	0.00	34.12 108.42 165.04	213.59	266.58	264.01	230.39	209.22	166.92	147.58 129.97	114.20	100.24	87.97
COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE FACTOR = 1	0.00	36.37 112.94 171.92	222.49	277.69	275.01	239.86 239.99	217.94	173.88	153.73 135.39	118.96	104.42	91.64
ACTIVE SOIL PRESSURES (TRIANGULAR)	0.00	80.00 120.00 160.00	200.00	280.00	360.00	400.00	480.00	560.00	600.00	680.00	720.00	760.00
NOMINAL SURCHARGE PRESSURES	83.25 83.25	83.25 83.25 83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25 83.25	83.25	83.25	83.25
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COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 19

TOTAL LATERAL PRESSURES	353.81 591.26	942.63 1356.03	1772.92 2148.22	2458.36	2699.26	2879.51	3013.51	3116.51	3201.78	3279.42	3356.47	3437.48	3524.99	3620.20	3723.39	3834.40	3952.65
EFFECTIVE SPACING	4.25	4.25 4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
WALL FOOTING STRIP SURCHARGE	0.00	69.56 78.05	73.66	52.42	42.33	33.95	27.26	21.99	17.87	14.65	12.11	10.09	8.48	7.18	6.13	5.27	4.55
WALL FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.810	0.00	6.12 10.78	14.02	14.95	13.62	11.86	10.05	8.38	6.92	5.69	4.68	3.86	3.19	2.65	2.21	1.85	1.50
WALL FOOTING SURCHARGE PRESSURES ON LINE FACTOR = 1 F	0.00	7.56	17.31	18.46	16.81	14.65	12.41	10.34	8.54	7.03	5.78	4.76	3.94	3.27	2.73	2.29	1.93
COLUMN FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.930	0.00	52.42 105.03	159.89	240.24	258.25	262.42	255.76	241.67	223.19	202.68	181.82	161.71	142.97	125.91	110.63	97.11	85.23
COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE FACTOR = 1	0.00	56.37 112.94	171.92	258.32	277.69	282.17	275.01	259.86	239.99	217.94	195.51	173.88	153.73	135.39	118.96	104.42	91.64
ACTIVE SOIL (PRESSURES (TRIANGULAR)	0.00	80.00	160.00	240.00	280.00	320.00	360.00	400.00	440.00	480.00	520.00	260.00	00.009	640.00	680.00	720.00	760.00
NOMINAL SURCHARGE PRESSURES	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25
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COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 20

TOTAL LATERAL PRESSURES	340.08 562.80 887.20	1270.21 1660.95 2017.76	2316.93 2552.57	27.31.22 2865.59 2969.75 3056.19	3134.58 3211.75 3292.15	3378.32 3471.50 3572.04 3679.84 3794.39
EFFECTIVE SPACING	4.09 4.09 4.09	4.09 4.09	4.09	90.4 4 4 90.00.4 4	60.4 4.09 60.4 60.4	4.09 4.09 4.09 4.09
WALL FOOTING SURCHARGE PRESSURES FACTORED FACTORED	0.00 0.44 1.51	2.66 3.46 3.78	9.36 9.36 9.36	2.93 2.48 2.07 1.71	1.41 1.16 0.95	0.79 0.65 0.55 0.46 0.39
WALL FOOTING SURCHARGE PRESSURES ON LINE FACTOR = 1	0.00 2.21 7.56	13.31 17.31 18.89	18.46	14.65 12.41 10.34 8.54	7.03 7.03 5.78 4.76	3.94 3.27 2.73 2.29 1.93
COLUMN FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.930	0.00 14.08 52.42	105.03 159.89 206.92	240.24 258.25	255.76 255.76 241.67 223 19	202.68 202.68 181.82 161.71	142.97 125.91 110.63 97.11 85.23
COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE FACTOR = 1	0.00 15.14 56.37	112.94 171.92 222.49	258.32 277.69	282.17 275.01 259.86 239.99	217.94 195.51 173.88	153.73 135.39 118.96 104.42 91.64
ACTIVE SOIL PRESSURES (TRIANGULAR)	0.00 40.00 80.00	120.00	240.00 280.00	320.00 360.00 400.00	480.00 520.00 560.00	600.00 640.00 680.00 720.00 750.00
NOMINAL SURCHARGE PRESSURES	83.25 83.25 83.25	83.25 83.25 83.25	83.25 83.25 83.25	83.25 83.25 83.25 83.25	83.25 83.25 83.25	83.25 83.25 83.25 83.25 83.25
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DISTRIBUTION OF COLUMN CO	A-O (LATEOM)
P2 P	
CC 288.2 124	
F. (5.4167)	P ₂
	0.367
$\sigma_{z_3} = 0.960$ $\sigma_{z_4} = 0.607$	0.618
$P_1 = (5.75 \times 5.75)(4) \cdot 132,75^k$ $P_2 \cdot (4.0 \times 1.33)(0.75) \cdot 4.0^k$	

LATERAL PRESSURES DUE TO COLUMN LOAD D8 STAGE 1

Q	132250
Χ	5.4167
Н	7

Z	P(m≤ 0.4)	P(m> 0.4)	m	n
0	0.00	0.00	0.774	0.000
1	2626 59	245.90	0.774	0.143
2	4372 75	741.27	0.774	0.286
3	3419 53	1096.74	0.774	0.429
4	2142 65	1178.95	0.774	0.571
5	1280 80	1070.05	0.774	0.714
6	775 25	886.32	0.774	0.857
7	484 15	699.96	0.774	1.000

LATERAL PRESSURES DUE TO COLUMN LOAD D8 STAGE 2

Q	132250
X	5.4167
Н	13.5

Z	P(m≤ 0.4)	P(m> 0.4)	m	n
0	0.∤00	0.00	0.401	0.000
1	246,00	245.90	0.401	0.074
2	740,35	741.27	0.401	0.148
3	1093,05	1096.74	0.401	0.222
4	1172,41	1178.95	0.401	0.296
5	1062,00	1070.05	0.401	0.370
6	878 17	886.32	0.401	0.444
7	692,57	699.96	0.401	0.519
8	534 21	540.51	0.401	0.593
9	408,92	414.11	0.401	0.667
10	313 21	317.42	0.401	0.741
11	241 18	244.57	0.401	0.815
12	187,17	189.89	0.401	0.889
13	146,58	148.76	0.401	0.963
14	115.88	117.65	0.401	1.037
15	92,49	93.92	0.401	1,111
16	74. 51	75.68	0.401	1.185
17	60,56	61.53	0.401	1.259
18	49.64	50.44	0.401	1.333
19	41.02	41.69	0.401	1.407

LATERAL PRESSURES DUE TO COLUMN LOAD D8 STAGE 3

Q	132250
X	5.4167
Н	30

Z.	P(m≤ 0.4)	P(m> 0		m	n
0	0.00	0	00	0.181	0.000
1	10.93	245.	90	0.181	0.033
2	41.12	741	27	0.181	0.067
3	83.75	1096	74	0.181	0.100
4	130.18	1178	95	0.181	0.133
5	172.61	1070	05	0.181	0.167
6	205.72	886	32	0.181	0.200
7	227.15	699	96	0.181	0.233
8	237.02	540	51	0.181	0.267
9	236.99	414	11	0.181	0.300
10	229.42	317		0.181	0.333
11	216.69	244	57	0.181	0.367
12	200.90	189	89	0.181	0.400
13	183.67	148	76	0.181	0.433
14	166.19	117	65	0.181	0.467
15	149.24	93	92	0.181	0.500
16	133.31	75	68	0.181	0.533
17	118.64	61	53	0.181	0.567
18	105.34	50	44	0.181	0.600
19	93.42	41	69	0.181	0.633
20	82.81		71	0.181	0.667
21	73.41		11	0.181	0.700
22			57	0.181	0.733
23			87	0.181	0.767
24			83	0.181	0.800
25			32	0.181	0.833
26			23	0.181	0.867
27			48	0.181	0.900
28			01	0.181	0.933
29			76	0.181	0.967
30	26.36	7	70	0.181	1.000

LATERAL PRESSURES DUE TO WALL LOAD COLUMN D8 STAGES 1 & 2

Q	4000
X	6.4167
Н	18.5

Z	P(m≤ 0.4)	P(m> 0	.4)	m	n
0	0.00		00	0.347	0.000
1	2.21		89	0.347	0.054
2	7.56	12	65	0.347	0.108
3	13.31	20	77	0.347	0.162
4	17.31	24	96	0.347	0.216
5	18.89	25	15	0.347	0.270
6	18.46	22	83	0.347	0.324
7	16.81	19	48	0.347	0.378
8	14.65	16	04	0.347	0.432
9	12.41	12	95	0.347	0.486
10	10.34	10	36	0.347	0.541
11	8.54	8	27	0.347	0.595
12	7.03	6	61	0.347	0.649
13	5.78	5	31	0.347	0.703
14	4.76	4	28	0.347	0.757
15	3.94	3	48	0.347	0.811
16	3.27	2	84	0.347	0.865
17	2.73	2	34	0.347	0.919
18	2.29	1	94	0.347	0.973
19	1.93	.1	62	0.347	1.027

LATERAL PRESSURES DUE TO WALL LOAD COLUMN D8 STAGE 3

Q X H	4000 6.4167 30			
Z 0 1 2 3 4 5 6 7 8 9 10 11 2 13 14 15 16 17 18 19 20 21 22 23 24	P(m≤ 0.4) 0.00 0.33 1.24 2.53 3.94 5.22 6.22 6.87 7.17 7.17 6.94 6.55 6.08 5.56 5.03 4.51 4.03 3.59 3.19 2.83 2.50 2.22 1.97 1.75 1.56	0 00 3 89 12 65 20 77 24 96 25 15 22 83 19 48 16 04 12 95 10 36 8 27 6 61 5 31 4 28 3 48 2 34 1 94 1 52 1 36 1 15 0 97 0 83 0 71	m 0.214	n 0.000 0.033 0.067 0.100 0.133 0.167 0.200 0.233 0.267 0.300 0.333 0.367 0.400 0.433 0.467 0.500 0.533 0.567 0.600 0.633 0.667 0.700 0.733 0.767 0.800
25 26 27 28 29 30	1.39 1.24 1.10 0.99 0.89 0.80	0.52 0.53 0.47 0.41 0.36 0.31	0.214 0.214 0.214 0.214 0.214 0.214	0.833 0.867 0.900 0.933 0.967 1.000

COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 21

TOTAL LATERAL PRESSURES	201.19 372.32 619.78	826.36 950.81 1016.77	1058.89 1099.15	1204.30 1270.63 1344.22	1423.43 1506.86 1593.46	1682.40 1773.09 1865.11 1958.11 2051.88
EFFECTIVE SPACING	2.42 2.42 2.42	2.42	: 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	2 2 2 4 2 4 4 5 2 4 5 6	2.42 2.42 2.42 2.42	: 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2;
WALL FOOTING SURCHARGE PRESSURES FACTORED FACTORED	0.00 0.81 2.77	4.88 6.35 9.93	6.17 6.17 6.17	3.80 3.80 3.44 3.44	2.58 2.12 2.12	1.45 1.20 1.00 0.84 0.71
WALL FOOTING SURCHARGE PRESSURES ON LINE FACTOR = 1	0.00 2.21 7.56	13.31	18.46 16.81	12.41 10.34 8.54	7.03 5.78 4.76	3.94 3.27 2.73 2.29 1.93
COLUMN FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.122	0.00 30.00 90.43	133.80 143.83 130.55	108.13 85.40	50.52 38.73 38.73	23.17 23.17 18.15 14.35	11.46 9.23 7.51 6.15 5.09
COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE FACTOR = 1	0.00 245.90 741.27	1096.74 1178.95 1070.05	886.32 699.96	340.51 414.11 317.42	189.89 148.76 117.65	93.92 75.68 61.53 50.44 41.69
ACTIVE SOIL PRESSURES (TRIANGULAR)	0.00 40.00 80.00	120.00	240.00	320.00 360.00 400.00	440.00 480.00 520.00 560.00	600.00 640.00 680.00 720.00 760.00
NOMINAL SURCHARGE PRESSURES	83.25 83.25 83.25	83.25	83.25 83.25 83.25	83.25 83.25 83.25 83.25	83.25 83.25 83.25	83.25 83.25 83.25 83.25 63.25
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COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 22

TOTAL LATERAL PRESSURES	405.84	3051.92	3415.28 3419.00	3277.04	3018.95	2973.16	2982.32 3036.19	3124.51	3238.77	3372.35	3520.27	3678.92	3845.62	4018.36	4195.74
EFFECTIVE SPACING	4. 4. 88.4 88.8	88.4 88.88	4.88 4.88	4.88	4.88 4.88	4.88	4.88 88.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88
WALL FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.947	0.00	7.16 12.60	16.39 17.89	17.48	13.87	11.75	9.79	99.9	5.48	4.51	3.73	3.10	2.58	2.16	1.82
WALL FOOTING SURCHARGE PRESSURES ON LINE FACTOR = 1	0.00	7.56 13.31	17.31 18.89	18.46	14.65	12.41	10.34	7.03	5.78	4.76	3.94	3.27	2.73	2.29	1.93
COLUMN FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.374	0.00	277.23 410.18	440.93	331.48	202.15	154.88	118.72	71.02	55.64	44.00	35.13	28.30	23.01	18.86	15.59
COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE FACTOR = 1	0.00 245.90	741.27 1096.74	1178.95 1070.05	886.32	699.96 540.51	414.11	317.42	189.89	148.76	117.65	93.92	75.68	61.53	50.44	41.69
ACTIVE SOIL PRESSURES (TRIANGULAR)	0.00	80.00 120.00	160.00	240.00	320.00	360.00	400.00	480.00	520.00	560.00	00.009	640.00	680.00	720.00	760.00
NOMINAL SURCHARGE PRESSURES	83.25	83.25	83.25					83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25
I	0	3 6	5	9	~ ∞	6	0	- 0	l က	4	2	9	/	. 00	e e

COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 23

TOTAL LATERAL PRESSURES	405.84	1758.32	4287.76	6163.68	6755.48	6445.58	5779.43	5097.31	4539.56	4136.26	3872.53	3721.17	3655.71	3654.46	3700.80	3782.26	3889.88	4017.02	4158.79	4311.75
EFFECTIVE SPACING	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88
WALL FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.618	0.00	1.37	4.67	8.23	10.70	11.67	11.41	10.39	9.05	79.7	6:38	5.28	4.34	3.57	2.94	2.43	2.02	1.69	1.41	1.19
WALL FOOTING SURCHARGE PRESSURES ON LINE FACTOR = 1	0.00	2.21	7.56	13.31	17.31	18.89	18.46	16.81	14.65	12.41	10.34	8.54	7.03	5.78	4.76	3.94	3.27	2.73	2.29	1.93
COLUMN FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.960	0.00	236.06	711.62	1052.87	1131.79	1027.25	850.87	671.96	518.89	397.55	304.72	234.79	182.29	142.81	112.94	90.16	72.65	59.07	48.42	46.02
COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE FACTOR = 1	0.00	245.90	741.27	1096.74	1178.95	1070.05	886.32	96.669	540.51	414.11	317.42	244.57	189.89	148.76	117.65	93.92	75.68	61.53	50.44	41.69
ACTIVE SOIL PRESSURES (TRIANGULAR)	0.00	40.00	80.00	120.00	160.00	200.00	240.00	280.00	320.00	360.00	400.00	440.00	480.00	520.00	260.00	00.009	640.00	680.00	720.00	760.00
NOMINAL SURCHARGE PRESSURES	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25
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COMBINED LATERAL PRESSURES STAGES 1 & 2 SOLDIER PILE 24

TOTAL LATERAL PRESSURES	201.17	2125.41	3055.29	3348.64	3195.02	2864.82	2526.70	2250.22	2050.31	1919.58	1844.55	1812.11	1811.49	1834.46	1874.84	1928.18	1991.21	2061.48	2137.30
EFFECTIVE SPACING F	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42
WALL FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0.199	0.00	4.67	8.23	10.70	11.67	11.41	10.39	9.05	79.7	6.39	5.28	4.34	3.57	2.94	2.43	2.02	1.69	1.41	1.19
WALL FOOTING SURCHARGE PRESSURES ON LINE FACTOR = 1	0.00	7.56	13.31	17.31	18.89	18.46	16.81	14.65	12.41	10.34	8.54	7.03	5.78	4.76	3.94	3.27	2.73	2.29	1.93
COLUMN FOOTING SURCHARGE PRESSURES FACTORED FACTOR = 0607	0.00	711.62	1052.87	1131.79	1027.25	850.87	671.96	518.89	397.55	304.72	234.79	182.29	142.81	112.94	90.16	72.65	59.07	48.42	49.02
COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE FACTOR = 1	0.00	741.27	1096.74	1178.95	1070.05	886.32	699.96	540.51	414.11	317.42	244.57	189.89	148.76	117.65	93.92	75.68	61.53	50.44	41.69
ACTIVE SOIL PRESSURES (TRIANGULAR)	0.00	80.00	120.00	160.00	200.00	240.00	280.00	320.00	360.00	400.00	440.00	480.00	520.00	560.00	00.009	640.00	880.00	720.00	760.00
NOMINAL SURCHARGE PRESSURES	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25								
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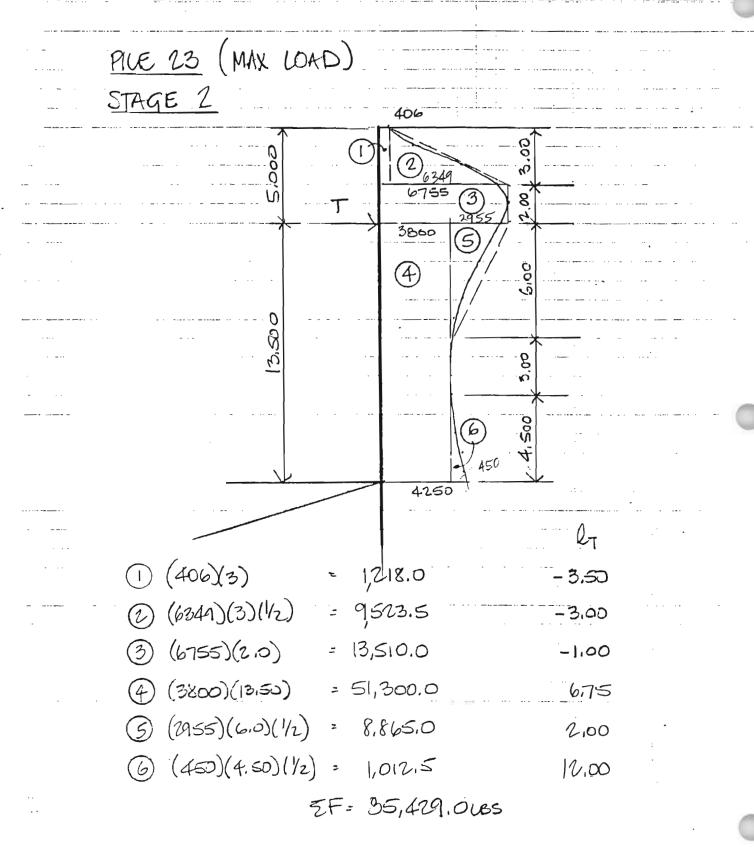
CC JINED LATERAL PRESSURES STAGE 3 SOLDIER PILE 23

TOTAL	LATERAL PRESSURES	4208.34	4260.49	4404.52	4607.92	4829.46	5031.89	5189.85	5292.10	5339.20	5339.06	5302.94	5242.19	5166.87	5084.67	5001.27	4920.37	4844.38	4774.39	4710.95	4654.08	4603.43	4558.59	4519.09	4484.31	4453.74	4426.88	4403.30	4382.57	4364.32	4348.29	4334.12
AMECINE		4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.38	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88	4.88
WALL	SURCHARGE SURESSURES FACTORED FACTOR = 0.618	00.00	0.20	0.77	1.56	2.43	3.23	3.84	4.25	4.43	4.43	4.29	4.05	3.76	3.44	3.11	2.79	2.49	2.22	1.97	1.75	1.55	1.37	1.22	1.08	96.0	0.86	0.77	0.68	0.61	0.55	0.49
WALL		0.00	0.33	1.24	2.53	3.94	5.22	6.22	6.87	7.17	7.17	6.94	6.55	6.08	5.56	5.03	4.51	4.03	3.59	3.19	2.83	2.50	2.22	1.97	1.75	1.56	1.39	1.24	1.10	0.99	0.89	0.80
COLUMN	SURCHARGE SURESSURES FACTORED FACTOR = 0.960	0.00	10.49	39.48	80.40	124.97	165.71	197.49	218.06	227.54	227.51	220.24	208.02	192.86	176.32	159.54	143.27	127.98	113.89	101.13	89.68	79.50	70.47	62.52	55.53	49.37	43.97	39.23	35.06	31.38	28.16	25.31
COLUMN	SURCHARGE PRESSURES ON 8 LINE FACTOR = 1 1	0.00	10.93	41.12	83.75	130.18	172.61	205.72	227.15	237.02	236.99	229.42	216.69	200.90	183.67	166.19	149.24	133.31	118.64	105.34	93.42	82.81	73.41	65.13	57.84	51.43	45.80	40.86	36.52	32.69	29.33	26.36
Living to the control of the control	ACTIVE SOIL 3 PRESSURES (RECT)	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00	780.00
(NOMINAL SURCHARGE PRESSURES	83.25		83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25	83.25
=	ı"	0	· -	. ~	ı n	4	2	9	7	ω	თ	10	=======================================	12	13	4	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

COMBINED LATERAL PRESSURES STAGES 1 & 2

PILE 24	201.2 871.6 2125.4 3055.3 3348.6 3195.0 2864.8 2526.7 2250.2 2050.3 1919.6 1811.7 1811.7 1834.5 1834.5 1834.5 1834.5 1928.2	
PILE 23	405.8 1758.3 4287.8 6163.7 6755.5 6445.6 6745.6 67779.4 5097.3 4539.6 3721.2 3655.7 36	
PILE 22	405.8 1059.4 1059.4 2182.3 3051.9 3415.3 3419.0 3124.7 3019.0 3019.0 3036.2 3124.5 312	
PILE 21	201.2 372.3 619.8 619.8 826.4 950.8 1016.8 1058.9 1146.9 1204.3 1204.3 1206.9 1506.9 1506.9 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4 1682.4	
PILE 20	340.1 887.2 887.2 887.2 270.2 270.2 661.0 661.0 1316.9 131	
PILE 19	353.8 591.3 942.6 1356.0 1772.9 2458.4 2699.3 3013.5 3201.8 3201.8 3356.5 3437.5 3525.0 3620.2 3633.4 3834.4	
PILE 18	301.8 804.9 804.9 804.9 159.6 1518.8 843.4 1212.1 2476.5 2591.6 2591.6 2679.3 2751.1 2751.1 2880.1 2880.1 2947.6 300.0 3186.9	
PILE 12	353.8 301.8 662.7 477.3 1168.4 696.2 1699.6 920.7 1210.8 1120.9 12389.8 1287.7 12599.6 1549.1 2663.0 1778.2 2703.2 1894.7 2760.2 2014.8 2235.2 2138.9 2926.9 2266.7 3033.0 2397.6 2345.1 2667.0 3415.1 2804.5 3357.3 2943.4 3357.4 7 3083.4 33704.7 30	
PILE 11	353.8 662.7 1168.4 1699.6 2120.8 2389.8 2532.8 2532.8 2533.5 2703.2 2760.2 2760.2 2760.2 2760.2 3151.2 3279.1 3415.1 3557.3	
PILE 10	374.6 701.6 1237.1 1739.5 1739.1 1739.5 22530.3 22530.3 2252.5 2819.7 2819.7 3800.0 3002.0 3336.5 3336.5 33766.6	
PILE 9	374.6 634.3 1006.8 1393.9 1718.0 1718.0 2240.1 2342.0 2240.1 2247.0 2662.2 2787.7 2922.8 3066.2 3372.4 3532.8	>
PILE 8	457.9 711.1 1011.3 1317.5 14841.2 2054.0 2054.0 22624.0 3006.0 3203.3 3404.6 3817.0 3817.0 465.8)
PILE 5	457.9 694.4 1217.4 1217.4 1467.3 1699.0 1915.8 2327.4 2530.6 2735.2 2735.2 3750.4 3361.1 3573.5 3787.3 4435.0	2001
PILE 4	374.6 594.3 870.2 1153.4 1405.2 1613.5 1785.8 1936.3 2217.3 2217.3 2217.3 2217.3 2360.2 2980.1 3145.3 3313.3 3483.6	3023.6
PILE 3	374.6 627.9 985.0 1355.6 1668.1 1900.3 2299.9 2405.7 2517.2 2517.2 2517.2 2517.2 3052.5 3205.1 33630.4	r. 0000
PILE 2	353.8 593.0 930.3 1280.2 1575.4 1794.7 1951.3 2069.9 2772.1 2272.1 2277.1 2882.9 3027.1 3329.1 3329.1	1 1 1 2
PILE 1	329.5 526.3 777.8 1036.3 1264.3 1450.1 1600.9 1730.6 1851.2 2092.8 2219.8 2219.8 2219.8 2772.9 3068.5	
PILE	457.9 677.9 897.9 1117.9 11337.9 1557.9 2217.9 2217.9 2657.9 3317.9 3537.9 3537.9 3537.9 4197.9	
I	0 - 7 6 4 6 9 7 8 6 0 1 7 7 7 7 9 7 9 7 9 7 9 7 9 7 9 7 9 7 9	מ

COMBINED LATERAL PRESSURES STAGES 1 & 2



DUE 0	<u> </u>
PILE 23	
SIAGE	2 typically warst condition
	ZM_=0
	0=(1218.0)(-3.50)+(9523.5)(-3.00)+(13510.0)(-1.0)
	+(51300)(6.75)+(8865.0)(2.00)+(1012.5)(12.00) - $10404(x)^{2}/(13.5+40x)$
	0=346.8 x3+7022.7x2-329,811.5
below crear	X=6.0171 FT <17.5 FT (1)
levei	Pp= (1040.4)(6.071)/2 = 18,834.10 cs
	T. 85,429.0-18,834.1 - 66,594.9 uss at File
BENDIN	G MOMBNT
	BM=MAXCZV=O
	66,5949 = 1218.0+9523.5+13,510.0+8865.0
	+ 3800=
ii	Z.8.810 PT
	BM2 665949 (8.810) - (1218.0) (3.5+8.810) - (9523.5) (5.0+8.810)
	-(13510.0)(9.810) - (865.0)(6.810) - 3800(8.810)/2
	-118,860.6 FT-LOS a- sie
	S= 1000 = 118.86x 12 = 43.2 in

PILE 23 STAGE 3 T B 6340 R

All all all and all all all all all all all all all al		·, · · ·
PLE	<u>23</u>	
STAG	E3	
	MAXP = 5340 PSF	
	FOR TYPICAL PILE MAXP = (86	63.26)(5,5) ~ 4747,88 PCF
extrapolate	D= 1.125	
From Hypical	T= 58161.5x1.125 = 65,	415.04 USS
	B. 54600.6x1.125 = 61,	410.04 ces
	P. 39,674.22×1.125 = 35,	375.0 UBS
	BM = 92,731.93 ×1.125 = 104,	, 296.87 FT- Les
	D= \\ \frac{2(33375)}{1040.4}	
	= 8,00 PT	
	·	•

- -----

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frowl E.S SUMMARY OF WALER LOADS PILE SURCH SPACING SURCHARGE STAGE 2 SURCHARGE STAGE 3 **FACTOR FACTOR** Ţ **FACTOR** T В 1 Υ 0.720 0.472 31.4 16.642 53.9 50.5 2 Y 0.773 0.532 35.4 22,500 62.4 58.5 3 Y 0.818 0.563 37.5 18.517 62.8 58.9 4 Υ 0.818 0.532 35.4 10.028 55.8 52.4 5 Υ 1.000 0.621 41.4 1.133 59.3 55.7 N 6 1.000 28.2 58.2 54.6 7 Ν 1.000 28.2 58.2 54.6 8 1.000 0.636 42.4 1.133 59.3 55.7 9 Υ 0.818 0.569 37.9 10.028 55.8 52.4 10 Y 0.818 0.632 42.1 18.517 62.8 58.9 11 Υ 0.773 0.597 39.7 22.500 62.4 58.5 12 <u>Y</u> 0.659 0.428 28.5 9.017 44.3 41.6 13 Ν 0.485 13.7 28.2 26.5 14 Ν 0.973 27.4 56.6 53.1 15 Ν 0.977 27.6 56.8 53.4 16 Ν 0.973 27.4 56.6 53.1 17 N 0.485 13.7 28.2 26.5 18 Υ 0.659 0.543 36.2 31.966 59.4 55.8 19 Υ 0.773 0.633 42.2 25.580 64.8 60.8 20 Υ 0.742 0.603 40.2 28.959 64.7 60.7 21 Y 0.439 0.297 19.8 11.519 30.6 28.7 22 Y 0.886 0.724 33.7 6.070 57.0 53.4 23 Υ 0.886 1.000 66.6 15.582 65.4 61.4 24 0.439 0.496 33.0 57.310 50.8 47.6 25 Ν 0.788 22.2 45.8 43.0 26 Ν 0.788 22.2 45.8 43.0 27 N 0.500 14.1 29.1 27.3 28 Ν 0.500 14.1 29.1 27.3 29 N. 0.894 25.2 52.0 2 48.8 30 N 0.909 25.6 52.9 49.6 31 N. 0.727 20.5 42.3 39.7 32 N. 0.773 21.8 45.0 42.2 33 N. 0.773 21.8 45.0 42.2 34 N. 0.720 20.3 41.9 39.3 35 N 0.462 13.0 26.9 25.2 36 N 0.924 26.1 53.8 50.5 37 Ν 0.924 26.1 53.8 50.5 38 Ν 0.924 26.1 53.8 50.5

26.1

26.1

13.0

53.8

53.8

26.9

50.5

50.5

25.2

39

40

41

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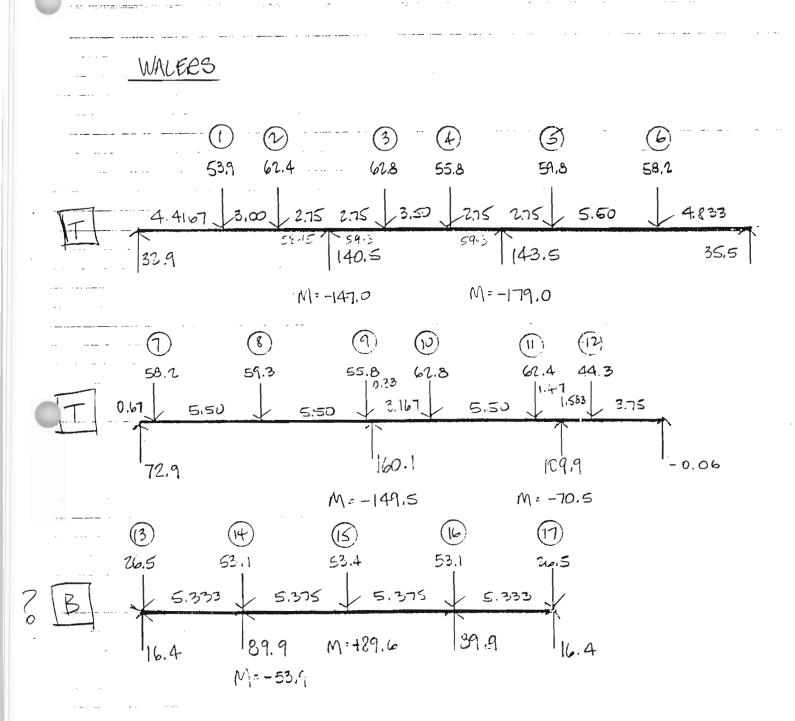
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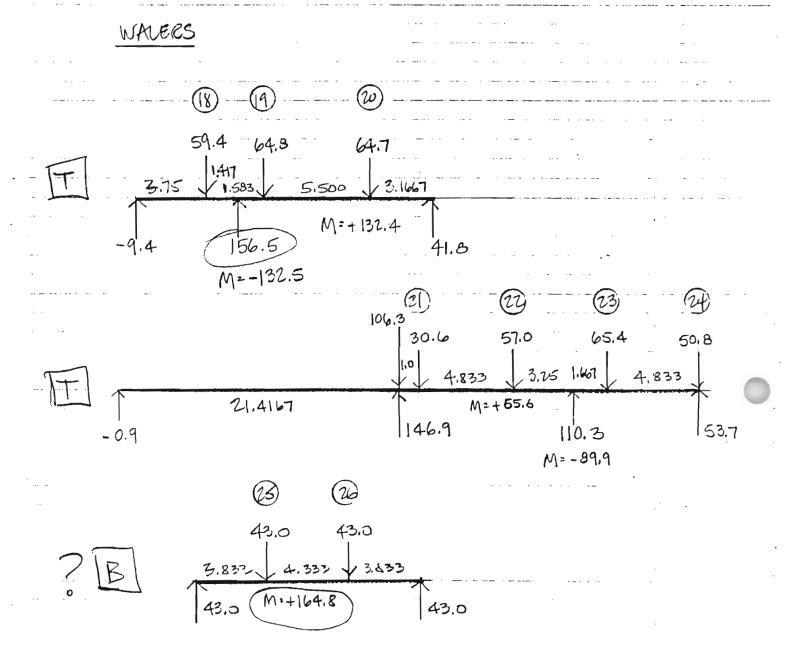
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0.924

0.924

0.462





	WAVEES		
7	17.3 27.3 B 5.5	30,500	
· :	30.9 23.8 110.3 146.9 M2+19.9 657.2		- 0.1 .
•	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	17 103.7	(34) 41.9 50, 4.4107 252
7 -		39 (39) (40) 0.5 50.5 50.5 5.063 5.063	(41 CE.L E.093 42.9
	· · · · · · · · · · · · · · · · · · ·	M=-77.0	

WALER	S 4 STRUTS	
	MAX MOMENT = 164	, & FT-KIPS V
	MAX AXIAL LOAD:	56 K
	USE W 12x 79	As: 23.21N2
		Sxx , 107 W3
		W . 3.05 W
actur	fa: 15923.2 - 6.72	KSI
	Ke/ : (1.0)(5.5)(12)/3.05:21.64
allow	able Fa = 20,502 KSI	
	fa/fa, 6.72/10.502	0.328 >0.15
actual	fb: 164.8x12/107 =	18.482 KSI
aliqual	le Fb: 23.76KSI for	r ABG size!
	Kl/rx = (10)(Fx)(1) Fe : 977,565 F	2)/5,34 = 12,360
	Fe, 977,565 F	5)
	fo/(1-fa)Fb,	18.482/ (1-6.72) 23.76 - 0.783
	fa/fa + fb/(1-fg	3-1/11 < 12(0)
	The state of the s	

DETERMINE COLUMN LOAD FOR COL D7

(BASED ON CONTEACT DINGS.) P0-7 15,50 16:50 MAXIMUM BENDING MOMENT FOR 2-W24x94(GD 50) SXX = 222 IN3/BEAM Pb: 33ksi for fy = 50 ks; BM: 2(222)(33)/12=1221.0 FT-KIPS BMp1 = (0.094)(2)(15.5) = - (0.094)(2)(26.5)/2(15.5) = 16.027 FT-K BM LL. 124.0-16.027 = 1204.97 FT-KIPS

ZMe : 0

D= 11P-26,5R,

R1. 0.4151P

BMu= R((15,5) - (0,415)P)(15,5)= 6.434P 6.43P = 120417

P. 187. 3 KIPS (INCL. CONC. FTG)

MAX ALLOWARDE ANALLOAD FOR UJBX58 WTH KE= 20'

USE187,3K

DETERMINE COLUMN WADS FOR COLE-7 \$ E-8

 $A_{F} = 14.063 F7^{2}$ P_{E7} P_{E8} P_{E8} P_{E8} P_{E8} P_{E9} P_{E8} P_{E9} P_{E8} P_{E9} P_{E

MAXIMUM BEHOING MOMENT FOR 2-W24x94 (GO 50)

BM = 1221.0 FT-KIPS

BMDL · (0.094)(2)(15.5)/2 - (0.094)(2)(37.5)/2(15.5) · 32.054 FT-K

BML = 1221,0-32.054 - 1188.95 FT-KIPS

ASSUME COL. LOADS PEOPORTIONAL TO FTG. AREA

ZM_{R2}=0. P(2) + 14.063 P(22.0) - 37.5P, R=0.510P

BM = R, (15.5) = (0.510)(P)(15.5) = 7.907P

7,907P=1188.95

P. 150.4 KIPS (COL E.3) (INCL. CONC. FTG)

P. 14.063 (150.4) = 117, 1 KIPS (COL E-7) (INCL. CONC. FTG)

MAX ALLOWABLE AXIALLOAD FOEW 3×31 WITH Ke = 20'

1SE PEB: 95+3.17: 98,17 K

Pen = 95+ 4.22 · 99.22 ×

NEE	DUE BEAMS COLLINE D
	, 14.00 9.4167
	187,3x PD7 DB1W27x94 (30')
	S _{XX} = 2431N ³ EACH
	PILE 19/20 (23,4167)
	Ra = 2,82 × Rol = 2,82 ×
	Ru=73.32* Ru-111.98*
	ZR -76.14 ZR -114.80 F
	BM. (16.14) (14) - (188) (14)/2 - 1047, 54 FT-KIPS
	fo: 1047,54x12/ -25.87K51 < 25.5K51 (2x243) 1.2x Fb for A36
	(CX 440)
	DICE LOADS (AXIAC)
	PILE 10 39,1 K
	38.1 K
	19 57.4 ×
	20 57.4K

and the second s

NEEDLE BEAMS COLUNE E PEB 98.17 F W27×94 (40') -2 PILES 2/3 5,5 PICES 32/33 32,50 Por 3.36K Roc: 4.16" Ru 145.44K Eu . 51.95 K EP. 55.31 ER: 149,60 × BM - (55.31)(14) - (.188)(14) /2 = 755.72 FT-FIPC 1 = 755.92 x 12/(2x243) · 18.66 x 51 < CB. 5 x 51 (0) (2x243) (2x243) for A36 PILE LOADS (AXIAL) PILE 2 27.7K 27.7× 33 74.8 K

	SUPPORT PILES		 	
A	" D 1 d "		 	
	<u>Pue</u>	AXIAL U		
	2	27.7	 	
		27.7	 	
	10	38.1	 	
	1)	38.1		
	19	57.4	 · · · · · · · · · · · · · · · · · · ·	
and the contract of the contra	20	57.4	ug ω/10 p	and tratter o
	32	74.8	ng w/10' p	-vation
<u></u>	33	74.8	 7/10	

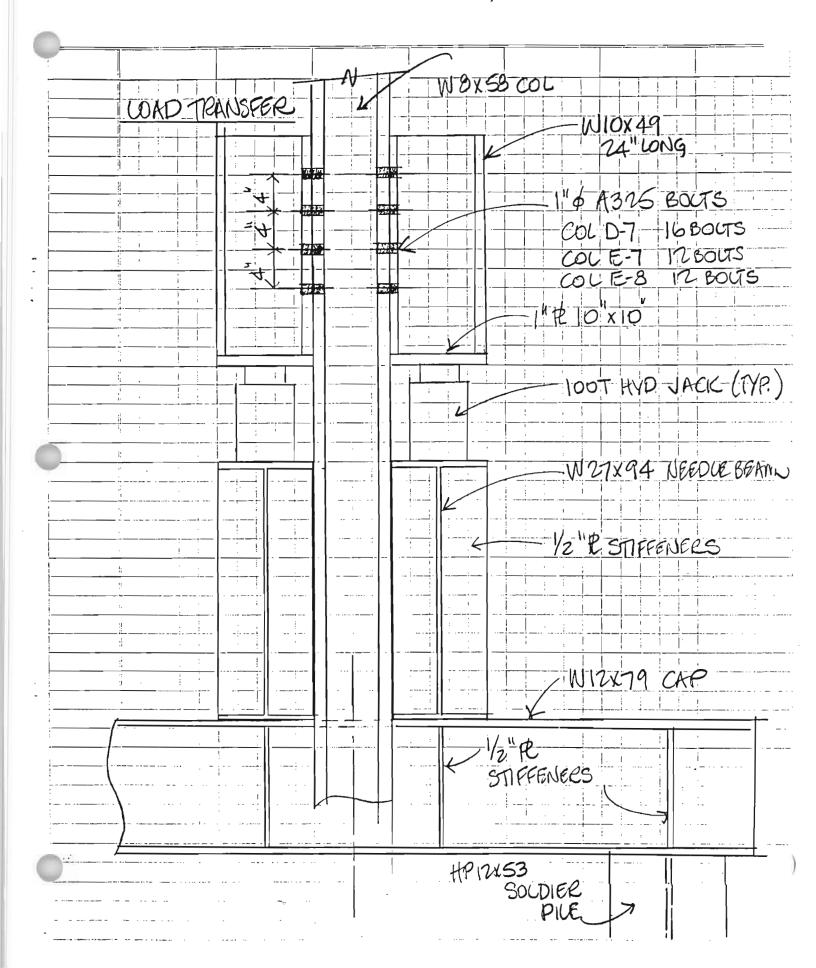
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		<u> </u>			* *********** =	
SINO	-DILEC					
Surrae	PILES					
	COMPUNEC	DIRESSI	=5			
	PILE 32	: 				
	BM= 10'	3.9 FT-KI	PS (STAGE	2)		
	PAXAL =	74.8 K		····· ··· ··· <u></u>		
	USE HP	12x53	Ä	45-15,51)²	
			(Sxx = 66.8	W ₃	
				Px · 5:03	ĺnı	
	fa? MA:	74.8/15.5	4.826 K	S 1		
	Ke/r: (1.0)(13.5)(1	2/5,03	32,207		
	Fa = 10	1.786 ESI				
	fa/Fa	4.626/978	0,244	1 >0.15		
		39x12/				
	Fe . 1	43,96 KS	T.			
	Fb?	20.76KSI				<u>-</u>
		- fa) Fo	= 18.66	4.826	12376	0,813
		ے ،	`	1 4 7 1 1 2		
	ta/Fa	+ 6/(1- 1=	÷)Fo ≤1	.2		
	0.20	44 +0,81	3.10	57 < 1	NOO	
				-		

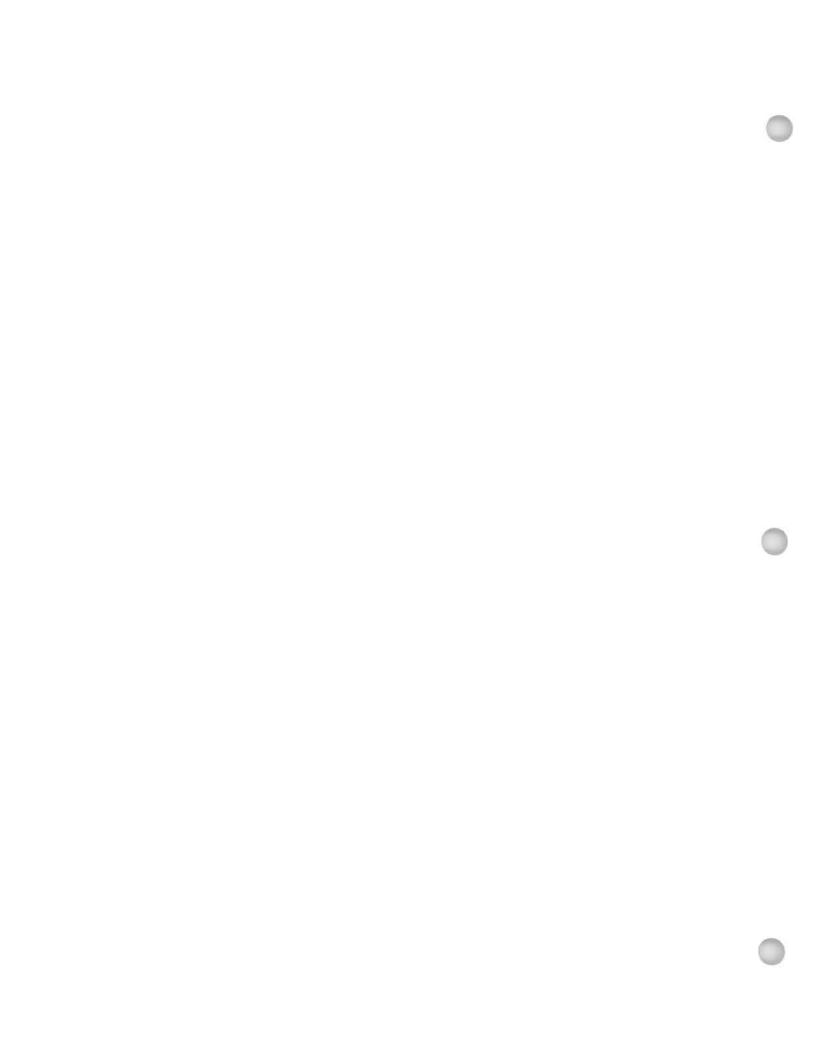
SUG	PPORT PICES
	COMBINEO STRESSES
	PILE 19
	BM = 118.9 FT-625 (STAGE 2 PLE 23)
	PAXAL: 57,4 Les
	USE HP12X53 As: 15,51N2
	Sx > 66.8 in 3
	Cy : 5.03M
	fa- P/A=57.4/5.5= 3.703KSI
	Fa=19.786 KS1
	ta/Fa = 0,187 >0.15
	fo= 118.9 x 12/66.8 = 21,359 KSI
	Fe = 14396 xs1
	Fb + 23.76 KSI
	fb/(1-fa)E = 21.359/ (1-3703) 23.76 0,923
	$-\frac{f_0}{F_0} + \frac{f_0}{(1 - \frac{f_0}{F_0})F_0} \leq 1.2$
.	0.187 +0.922 = 1.109 < 1.20

LOAD TRANSFER MAX COLLIDAD = 1873 * COLD-7 = 99.2 * OCLE-7 : E-8 USE A325 H.S. BOCTS FOR 197.3 * LOAD USE 16-1" & BOCTS (A305) FOE 99.2 * LOAD USE 12-7" & BOCTS (A305) 1" & BOCT (A305) ALLOW SHOPE : 11.8 */eoct 75 & EDCT (A305) FLOW SHOPE : 9.00 */eoct 2" WOX58 COL 2" ** ** ** ** ** ** ** ** **	***		
MAX COL. COAD = 187.3 * COLD-7 = 99.2 * OUE-7: E-8 USE A325 H.S. BOCTS FOR 197.3 * LOAD USE 16-1 " Ø BOCTS (A325) FOR 99.2 * LOAD USE 12-7 " Ø BOCTS (A325) " Ø BOCT (A325) ALOW SHOPE · 11.8 */eoct 7/5 DEDIT (A325) KLOW SHOPE · 9.00 */eoct 2"	:	;	
## 197.2 OCE-7 (E-8) ## 197.3 LOND USE 16-1 Ø BOUTS (A325) FOR 197.3 LOND USE 12- 3 PROUTS (A325) "O BOUT (A325) ALLOW SHOPE . 11.8 PROUT 75 DE ROUT (A325) FLOW SHOPE . 9.00 PROUT WOXSO 1	LOAD	TRANCFER	
USE A325 H.S. BOCTS FOR 197.3 LOND USE 16-1" & BOCTS (A325) FOR 99.2 LOND USE 12-3" & BOCTS (A325) 1" & BOCT (A325) ALLOW SHEFE. 11.8 F/EDG 7/3 DEDGT (A225) ALLOW SHERE. 9.02 F/EDG 2" Long Long		MAX COL. LOAD = 187.34	COLD-7
FOR 197.3 * LOAD USE 16-1" & BOLTS (ABCS) FOR 99.2 * LOAD USE 12-3" & BOLTS (ABCS) 1" & BOLT (ABCS) ALLOW SHEEC. 11.8 */EDLT 75 & EDLT (ABCS) ALLOW SHEAR: 9.02 */EDLT 2"		= 99.2 K	ωι Ε-7 : Ε-8
FOR 197.3 * LOND USE 16-1" & BOLTS (ABCS) FOR 99.2 * LOND USE 12-3" & BOLTS (ABCS) 1" & BOLT (ABCS) ALLOW SHEEC. 11.8 */EDLT 75 & EDLT (ABCS) FLOW SHEAR: 9.02 */EDLT 2" > LOND SHEAR: 9.02 */EDLT WOX58			
FOR 99.2 LOND USE 12-3" PROUTS (1325) 1" O BOLT (1325) ALLOW SHEEC. 11.8 F/COUT 75 DEDGT (1225) FLOW SHEEC. 9.02 F/COUT 2" X 2" X 2" W8X58		USE A325 H.S. BOCTS	
1" O BOLT (ABOS) ALLOW SHEAR: 9.00 / POUT 2" L L L L L L L L L			
7/3 DEDOT (NECES) KULOW SHEARE: 9.02 1/604 2"		FOR 99.2 LOAD USE Y	L-3" & BOUTS (1315)
$\begin{array}{c} 2^{"} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$		1" & BOUT (A325) ALLOW) SHEFE - 11.8 M/eout
W8 x53		7/3 DEDGT (NECS) KULOW	1. SHEARE 9.02 (604
		2" \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2"
		1 - 1	4
			2"
W 9 x 3]			W 5 x 3]
COL			COL



Appendix C

Waste Removal Manifests



out) 424-0002 and the NYS Department of Environmental Conservation (518) 457-7362

case or considering or opin miniculately ball the National Mespolise Cerry

DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

	UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's	S US EPA No.	Manifest Doc. No.		mormati		heavy bold line Federal Law.
ľ	3. Generator's Name and Mailing Address		STOP D08-001	1 1 1 1	Α.	1700	0 [0	000
۹	NORTHROP-GRUMMAN CORPORATI	ON SOUTH	OYSTER BAY ROAD)	l L	IYB88	853	Ubb
١	4. Generator's Telephone Surc ber (346–816) 5. Transporter 1 (Company Name)	30 BETHPA	GE NY 11714-358	0	B. Genera			
	4. Generator's Telephone 51.6 ber (345-810	ATT		V	SAME			D B
		, , ,	6. US EPA ID Number	عاما ملحا	<u></u>	ransporter's	—a	15952
	HORWITH TRUCKS, INC.			1 4 8 7		orter's Telep		261-2220
1	7. Transporter 2 (Company Name)		8. US EPA ID Number	1111		ransporter's		
1	Designated Facility Name and Site Address				G. State	orter's Telep	hone ()
	CWM CHEMICAL SERVICES, INC				G. State	acility 10		N/A
	1550 BALMER ROAD	•	10. US EPA ID Number		H Facility	Telephone (()	
	MODEL CITY, NY 14107		1	3 6 6 7			8231	
			101	12. Cor	ntainers 1	3. Total	14.Unit	
	11. US DOT Description (Including Proper Shipp	_		Number	Туре	Quantity	Wt/Vol	I. Waste No.
	a. RQ HAZARDOUS WASTE, SOL							EPA D007
	X (CHROMIUM) 9,NA3077,III	(D007)		001	CM	00020	Y	STATE
					\bot		\longmapsto	OTATE
1	b.						1 1	EPA
				1 1	1 + 1 +	1 1 1	t	STATE
	c.						├	EPA
de	c.						L	LFA
					$ \cdot $		 	STATE
	d.				 		$\vdash \vdash \vdash$	EPA
					1.1.			07.475
			· ジ~	·				STATE
	J. SAMERICO REPORTED S W/ CHRIST THE AD	ove				g Codes for	Wastes Li	isted Above
	a				1. /- L		l c	
				Ť				
					_		'.	
	15. Special Handling Instructions and Additional	Information		•	1 0		1 0	
٠	- XD 59521 PA	PUST	728 WO 4	10675	(G	4M 9	۲ معر ۴	75 220
	PACKING SLIPS ATTACHED FOR	•		CY PHONE		•	70	72,340
	Inoming built milmoned for	OLEMCII I ON	ERG # /3/	OI INOME	000 000	2001		32,680
	16. GENERATOR'S CERTIFICATION: 1 he		e contents of this consignment					
	classified, packed, marked and labeled, and are regulations and state laws and regulations.	e in all respects in	proper condition for transport	by highway acco	rding to applica	ible internation	nai and na	ational government
	If I am a large quantity generator, I certify that I have selected the practical							
	health and the environment; OR if I am a small ge me and that I can afford.	enerator, I have made	e a good faith effort to minimize	my waste and se	lect the best wa	ste manageme	ent method	that is available to
	Printed/Typed Name ON BEHALF O	* NGC	Signature		ed :		M	o. Day Year
	1. Maise	SP4's	NGC 37	. ()	44			2020
	17. Transporter 1 Acknowledgement of Receipt	of Materials			1			
	Printed/Typed Name		Signature	1/	1, 7,		M	o. Day Year
5	RICHAIC KA			4/		1	/	20257
í	18. Transporter 2 Acknowledgement of Receipt Printed/Typed Name	of Materials	Signature				М	o. Day Year
			Signature				1 "	
_	19. Discrepancy Indication Space							
		,	<i></i>	<u>ر</u>				
ľ	Wednest J	With the	- 3× 200/				<u>-</u>	
	D. Facility Owner or Operator: Certification of re	eceipt of hazardous	and the second s	nanifact avcont	es noted in Ite	m 19.		
4.	Printed/Typed Name		Signature	narmest except	as noted in he		М	o. Day Year

out 424-0002 and the NYS Department of Environmental Conservation (516) 45/-/362

X

b.

d.

TRANSPORTER

Printed/Typed Name

DI RAU

Additional Doceriations for Materials licing Above

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



EPA STATE **EPA** STATE

EPA

K. Handling Codes for Wastes Listed Above

MYEL

STATE

Day

Pleasitype or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212 Generator's US EPA No. Manifest Doc. No. 2. Page 1 of UNIFORM HAZARDOUS Information within heavy bold line VDalala is not required by Federal Law. **WASTE MANIFEST** 3. Generator's Name and Mailing Address MAIL STOP D08-001 NYB8853093 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD B. Generator's ID BETHPAGE NY 11714-3580 SAME 4. Generator's Telephone Number (346 Transporter 1 (Company Name) US EPA ID Number C. State Transporter's ID A D 1 4 HORWITH TRUCKS, INC. D. Transporter's Telephone 7. Transporter 2 (Company Name) US EPA ID Number E. State Transporter's ID F. Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID CWM CHEMICAL SERVICES, INC. N/A 10. US EPA ID Number 1550 BALMER ROAD H. Facility Telephone (MODEL CITY, NY 14107 N Y D 0 4 9 8 3 6 6 7 9 716 754-8231 13. Total 14.Unit 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Wt/Vol 1. Waste No. Quantity RQ HAZARDOUS WASTE, SOLID, n.o.s. EPA D007 (CHROMIUM) 9,NA3077,III (D007) 001 CM00020 Y STATE

b d d		Ь	d	
15. Special Handling Instructions and Additional Information 60.	3728 813	355042	growship Tied	72,540
PACKING SLIPS ATTACHED FOR CLARIFICAT	'ION EMERGENCY	PHONE 888 353	3-2387 ** **	25,00
16. GENERATOR'S CERTIFICATION: I hereby declare that the classified, packed, marked and labeled, and are in all respects in pregulations and state laws and regulations.				
If I am a large quantity generator, I certify that I have a program in place practicable and that I have selected the practicable method of treatmer health and the environment; OR if I am a small generator, I have made a me and that I can afford.	it, storage, or disposal currently a	vailable to me which minimi	zes the present and futur	re threat to human
Printed/Typed Name and Starter OF NGL	Signature	Mes	see V	O. Day Year
17. Transporter 1 Acknowledgement of Receipt of Materials				
Printed/Typed Name	Signature		M	o. Day Year
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18. Transporter 2 Acknowledgement of Receipt of Materials				
Printed/Typed Name	Signature		M	o. Day Year
19. Discrepancy Indication Space				
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20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Signature

COPY 5-Generator-mailed by TSD facility

900) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type print. Do not staple.

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manifest Doc. N	is not required by Federal Law.
1	3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD	^ NYB8853561
	5.35.4680 BETHPAGE NY 11714-3580 4. Generator's Telephone Number 346-81999 A 9-774 T (05-74)	B. Generator's ID SAME
	5. Transporter 1 (Company Name) 6. US EPA ID Number HORWITH TRUCKS, INC. P A D 1 4 6 7 1 4 8 7	C. State Transporter's ID
	7. Transporter 2 (Company Name) 8. US EPA ID Number	D. Transporter's Telephon 20 351-2220 E. State Transporter's ID
		F. Transporter's Telephone (\)
	9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC.	G. State Facility ID
	1550 EALMER ROAD	H. Facility Telephone () 9 716 754-8231
:	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	ntainers 13. Total 14.Unit
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.	EPA D007
	X (CHROMIUM) 9,NA3077,III (D007) 001	CM 00020 Y STATE
	b.	EPA
ATOF		STATE
GENERATOR	C.	EPA
		STATE
	d.	EPA
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	J. SAdditional Percriptions for Materials light Above	K. Handling Codes for Wastes Listed Above
	a > / • 0 0 c	a c
	b	b
	15. Special Handling Instructions and Additional Information 3 U 3729	General 32 ()
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE	888 353-2387 TARE 45400
	TACKING SELFS ATTACHED FOR CLARIFICATION EMERGENCI PHONE	688 353-2381 NET 27,200
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and acclassified, packed, marked and labeled, and are in all respects in proper condition for transport by highway accregulations and state laws and regulations.	
	If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste goneraticable and that I have selected the practicable method of treatment, storage, or disposal currently available to health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and small generator.	ne which minimizes the present and future threat to human
	Printed/Typed Name ON NOC Signature	Mo. Day Year
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TER	Printed/Typed Name Signature	Mo. Day Year
TRANSPORTER	18. Transporter 2 Acknowledgement of Receipt of Materials	y ab372
TRAN	Printed/Typed Name Signature	Mo. Day Year
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Pacility	Discrepancy Indication Space Recility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except Printed/Typed Name Signature Signa	as noted in Item 19. Mo. Day Year

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Hazaroous Waste Manifest 4/97)

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•	UNIFORM HAZARDOUS 1. Generator's US EPA No. Manife WASTE MANIFEST N Y D 0 0 2 0 4 7 9 6 7 0	est Doc. No.	1	informatio		heavy bold line Federal Law.
,	3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD	Ä.	NYB88	353	498	
1	575 4680 BETHPAGE NY 11714-3580			enerator's ID		
	4. Generator's Telephone Subser (345 3105 to ATTU: J. Corner 5. Transporter 1 (Company Name) 6. US EPA ID Number			AME tate Transporter's	ID T	277/05 KA
	HORWITH TRUCKS, INC. FAD14671	4878		ransporter's Telep		
	7. Transporter 2 (Company Name) 8. US EPA ID Number	1 1 1		tate Transporter's ransporter's Telepi		
	Designated Facility Name and Site Address			tate Facility ID	ione (
	CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD 10. US EPA ID Number		ļ			N/A
	1550 BALMER ROAD 10. US EPA ID Number MODEL CITY, NY 14107 NY D 0 4 9 8 3 6	6679		acility Telephone (716 754-		
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Cont		13. Total	14.Unit	
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.	Number	Туре	Quantity	W t∕Vol	I. Waste No. EPA D007
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	d.					EPA
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	J. Syditional Pescriptional Softer pars listed Above		K.H	andling Codes for	Wastes	Listed Above
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	15. Special Handling Instructions and Additional Information 5 · R 407760-1	<u> </u>	b		d	
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	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY	PHONE	888	353-2387	6	RG#17/
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are classified, packed, marked and labeled, and are in all respects in proper condition for transport by h					
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity practicable and that I have selected the practicable method of treatment, storage, or disposal currently a health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my versions.	available to me	which	minimizes the prese	nt and fu	ture threat to human
	me and that I can afford. Printed/Typed Name ON GAMES OF NGC Signature	0.1	11	· ·		Mo. Day Year
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THANSPORTER	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature			<u> </u>		Mo. Day Year
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	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this mani	ifest except a	s noted	I in Item 19.		/
7	Cinner (Cinner)	1_ /	1.	1	L	MS Day Year
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Managalawa Manda Mandara 4/97)

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A STATE OF THE PARTY OF THE PAR	4. Generator's Telephone 516 per 346-5100 / 1770: 7. Colored			ienerator's ID		
	5. Transporter 1 (Company Name) 6. US EPA ID Number			tate Transporter's	DXD	65990 (P4)
	HORWITH TRUCKS, INC. FAD146714	8 7 8	D. T	ransporter's Telepi	none $\hat{a}1$	0 261-2226
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	MODEL CITY, NY 14107 NY D 0 4 9 8 3 6	679	п. г	acility Telephone (716 754-	8231	
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Cont		13. Total	14.Unit	
	a. RQ HAZARDOUS WASTE, SULID, n.o.s.	Number	Туре	Quantity	Wt/Vol	I. Waste No. EPA D007
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	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY	PHONE	888	353-2387		ERG#121
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are ful classified, packed, marked and labeled, and are in all respects in proper condition for transport by high	lly and accur	rately de	escribed above by pro applicable internation	oper ship al and n	ping name and are ational government
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STATE OF NEW YORK. DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's U		o 3 k	lo. 2. Pa	Informati		h heavy bold line Federal Law.		
3. Generator's Name and Mailing Address A. A.							254		
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	3ET	HPAGE NY 11714-	3550	В. С	ienerator's ID	A 4E	İ		
		tt: J. Cofman					300 dade		
- 1	or management (company) manage	6. US EPA ID Number	ما : طـــما				396474(4)		
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1	9. Designated Facility Name and Site Address	11101111			State Facility ID	1016 (2	010 1601 6660		
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	15. Special Handling Instructions and Additional Information			, , , C	- 19				
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,	20. Facility Owner or Operator: Certification of receipt of hazardous	materials covered by this manife	st excep	t as noted	d in Item 19.				
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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ORTHROP—SILDMAN CORPORATION SUPPLY OTSTER LAY 2000 ORTHROP—SILDMAN CORPORATION SUPPLY OTSTER LAY 2000 SUPPLY OTSTE	UNIFORM HAZARDOUS WASTE MANIFEST	and the second s	est Doc. No.	2. Pa	- Informatio		n heavy bold line Federal Law.		
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NYB8853318

9) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

case of emergency or spill immediately call the National Response Cente:

DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Manifest Doc. No. 2. Page 1 of Generator's US EPA No. **UNIFORM HAZARDOUS** Information within heavy bold line 001032 is not required by Federal Law. **WASTE MANIFEST** 3. Generator's Name and Mailing Address 4AIL 5TOP D08-001 NYB8853318 CAOR YAS RETEYO HTUOC MORTHROP-GRUPPAN CORPORATION B. Generator's ID BETHPAGE 11714-3580 Y Generator's Telephone Number (575 C. State Transporter's ID XD73433 (4 5. Transporter 1 (Company Name) b 1 4 5 7 1 D. Transporter's Telephone (610)261-222 DESCRIPTION OF THE TRUE TO THE Transporter 2 (Company Name) US EPA ID Number E. State Transporter's ID F. Transporter's Telephone (G. State Facility ID 9. Designated Facility Name and Site Address CMM CHEMICAL SERVICES. INC. 10. US EPA ID Number 1550 BALMER ROAD H. Facility Telephone (4 |Y |O |O |4 |9 |8 |3 |6 |6 |7 |9 MODEL CITY, .JY 14107 716~754-8231 13. Total 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number Type Quantity Wt/Vo I. Waste No. EPA⊃00<u>7</u> RO HAZARDOUS WASTE, BOLID, n.c.s. STATE (CHROMIUM) 9, MA3077, III (D007) 47920 X STATE STATE **EPA** STATE K. Handling Codes for Wastes Listed Above Additional Descriptions for Materials listed Above as/e soil h/chromium/ 15. Special Handling Instructions and Additional Information 141178 かこす じい 3フジン 5 X 6 PACRING SLIPS ATTACHED FOR CLARIFICATION 388 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Printed/Typed Name Year Signature 4/1159 Transporter 1 Acknowledgement of Receipt of Materials Day Year Printed/Typed Name Signature 97 18. Transporter 2 Acknowledgement of Receipt of Materials Mo. Day Year Printed/Typed Name Signature Discrepancy Indication Space Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Day Printed Typed Name Signature

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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DIVISION OF SOLID & HAZARDOUS MATERIALS

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4. Generator's Telephone Number () 75-4500
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X Mail in 1/60 6 1/60 - 1/2/15/9/2
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Mo. Day Year
18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Mo. Day Year
19. Discrepancy Indication Space
1500 1 461200 2tm X-17
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name Signature Signature On the Indian Day Year Indian Day Year

7) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

in case of emergency of spill immediately call the National Response Come

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No.	Manifes			2. Pa	Infogmation		n heavy bold line y Federal Law.		
	3. Generator's Name and Mailing Address AIL STOP 308-001			T	A. 1	NYB88	353	309		
	VORTHROP-GRUMMAN CORPORATION COUTH DYSTER BAY ROAD BETHPAGE BY 11714-35					B. Generator's ID				
	4. Generator's Telephone Number (546) 575-4580 6. US EPA ID Number (6. US EPA ID Numb			+	C. S	tate Transporter's		15908 (m)		
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	7. Transporter 2 (Company Name) 8. US EPA ID Number			"		tate Transporter's ransporter's Telept	טו) 261-2220		
	Designated Facility Name and Site Address			1		tate Facility ID				
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	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment									
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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7. Transporter 2 (Company Name)	8.	US EPA ID Number			ate Transporter's I		2220
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11. US DOT Description (Including Proper Shippi	ng Name. Hazard Clas	ss and ID Number)	Number	Type	Quantity	Wt/Vol	I. Waste No.
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J. Additional Descriptions for Materials listed Abo	ve			K, Ha	ndling Codes for V	Vastes L	isted Above
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19. Discrepancy Indication Space			(TL	em k	(a - P)	<u></u> _	
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20. Facility Owner or Operator: Certification of re	ceipt of hazardous ma	iterials covered by this m	anifest except a	s noted i	in Item 19		

40) 424-8602 and the NYS Department of Environmental Conservation (518) 457-7362

case or enrergency or spill infinediately call the National Response Centi-

DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Manifest Doc. No. 2. Page 1 of **UNIFORM HAZARDOUS** Information within heavy bold line is not required by Federal Law. WASTE MANIFEST Generator's Name and Mailing Address NYB8853246 AIL STOP 008-001 TORTHROP-GRUMMAN CORPORATION DAOS YAS STERY DAY SOAD BETHPAGE :N 11714-3580 4. Generator's Telephone Number (575-4680 AttaJus EPATO Number C. State Transporter's ID 5. Transporter 1 (Company Name) D. Transporter's Telephone PORRITE TRIXING. INC US EPA ID Number 7. Transporter 2 (Company Name) E. State Transporter's ID F. Transporter's Telephone (G. State Facility ID 9. Designated Facility Name and Site Address CHA CHEMICAL MERVICES, INC. H. Facility Telephone (10. US EPA ID Number 1550 BALMER ROAD 2049338 5 7 9 MODEL CITY, AY 14107 12. Containers 13. 10ta - 14.Unit 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Quantity Wt/Vol Waste No. 20 Hazardous Waste, Golid, n.o.b. STATE (CHROMIUM) 9, MA3077, III (0007) **FPA** STATE FPA STATE **EPA** STATE Additional Descriptions for Materials listed Above K. Handling Codes for Wastes Listed Above 3/8 SOIL W/CHROMIUM 15. Special Handling Instructions and Additional Information PACKING SLIPS ATTRCHED FOR CLARIFICATION ETERGENCY PHONE 888 353-2387 Pr-# BU3120 SR11409390 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Mο Signature Day Discrepancy Indication Space Item Ka Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19,

7) 424-6602 and the NYS Department of Environmental Conservation (518) 457-7362

minicalately call the National Response Center

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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(Hazardous Waste Manifest 4/9)

Please type or print. Do not staple.

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's U 2 2 2 2	SEPANO.		St Doc. No		Intorma		in heavy bold line y Federal Law.
ſ	Generator's Name and Mailing Address	A.	NVDO	ÓΕ.	2055			
1	FORTHROP-GRUMMAN CORPORATION COUTH CYSTER DAY ROAD DETHPAGE BY 11714-358					<u>NYB8</u>	833	3255
						B. Generator's ID		
ļ	4. Generator's Telephone Number (318 575-4680 \t	ـــــ	SAME					
1	, , , , , , , , , , , , , , , , , , , ,	6. US EPA ID Numbe	1 1	l		tate Transporter		TV 4776MA
		8. US EPA ID Numbe		8 7 8				610)261-222
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١	OWN CHEMICAL SERVICES, INC.				13/			
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	11. US DOT Description (Including Proper Shipping Name, Hazard C	lass and ID Number)		Number	Туре	Quantity	Wt/Vol	I. Waste No.
	a. RQ MAZARDOUS WASTE, SOLID, n.o.s.							EPA
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-	J. Additional Descriptions for Materials listed Above				K. H	andling Codes fo	r Wastes	Listed Above
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	16. GENERATOR'S CERTIFICATION: I hereby declare that the c	contents of this consignment	ent are fu	lly and acc	urately de	scribed above by	proper sh	ipping name and are
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2	18. Transporter 2 Acknowledgement of Receipt of Materials							
=	Printed/Typed Name	Signature					1	Mo. Day Year I
4	19. Discrepancy Indication Space					77	<u>E</u>	
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ج	20. Facility Owner or Operator: Certification of receipt of hazardous n	naterials covered by thi	is manife	st except	as noted	in Item 19.		
-	Printed/Typed Name	Signature	1	.1	//			Mo. Day Year
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u) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

Comment can the National Neeponse Cent.

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardoue Waste Manifest 4/97

UNIFORM HAZARDOUS WASTE MANIFEST	The state of the s	St Doc. No.	2. Page 1 o	Informatio	n within heavy bold line uired by Federal Law.			
3. Generator's Name and Mailing Address DRTHROP—GRUMMAN CORPORATION	MAIL CTOP DOS-001	Ha base	A. 1	YB88	353264			
4. Constitute Telephone Number (RETHRASE NY 11714-3		B. Generator's ID					
5. Transporter 1 (Company Name) ORWITH TRUCKS 1NC	6. US EPATO NUMBER			ansporter's li orter's Teleph				
7. Transporter 2 (Company Name)	8. US EPA ID Number	3 7 4	E. State Tr	ansporter's II	D 510 251-222			
Designated Facility Name and Site Address			G. State F		UNB ()			
THE CHEMICAL SERVICES, INC. 1550 BALMER ROAD RODEL CITY, RY 14107	10. US EPA ID Number	5 7 9		Telephone ()			
11. US DOT Description (Including Proper Shipping Name	, Hazard Class and ID Number)	12. Conta			14.Unit Wt/Vol I. Waste No.			
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J. Additional Descriptions for Materials listed Above	с		K. Handling	Codes for W	c Listed Above			
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19. Discrepancy Indication Space	1110 21		1-1	R. K	c[T]			
20. Facility Owner or Operator: Certification of receipt of h	azardous materials covered by this manifes	st except as	noted in Item	J19.				
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** "Y24-8602 and the MYS Department of Environmental Conservation (518) 457-7362

in case of energency of spill milhediatery call the National Response Center

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212



Hazanious Waste Manifest 4/97)

3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 4. Generator's Telephone Number 346-3108 5. Transporter 1 (Company Name) HORWITH TRUCKS, INC. 7. Transporter 2 (Company Name) 8. US EPA ID Number 8. US EPA ID Number	A					
4. Generator's Telephone Stugber 346-3108 5. Transporter 1 (Company Name) 6. US EPA ID Number HORWITH TRUCKS, INC. PAD 1 4 6 7 1 4 8 7 8	NYB8804349					
4. Generator's Telephone Stugber 346-3106 5. Transporter 1 (Company Name) 6. US EPA ID Number HORWITH TRUCKS, INC. PAD 1 4 6 7 1 4 8 7 8						
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HORWITH TRUCKS, INC. PAD 146714878	SAME					
	C. State Transporter's ID 7 Z 47345 P4					
	D. Transporter's Telephone 10 \$\frac{1}{200}\$ E. State Transporter's ID					
	F. Transporter's Telephone ()					
9. Designated Facility Name and Site Address	G. State Facility ID					
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11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						
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15. Special Handling Instructions and Additional Information	730 81479863					
1545	130 81419800					
KING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387						
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'800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

in case of emergency or spill miniculately call the National Response Cen-

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



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	WASTE MANIFEST Ny pla 2 4 7 8	6 7 00 000		informati	ion within heavy bold line quired by Federal Law.				
0	Generator's Name and Mailing Address MAIL: STOP D08-001		A.	NYRAS	804304				
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	11. US DOT Description (including Proper Shipping Name, Hazard Class and its Number	Number	Туре	Quantity	Wt/Vol I. Waste No.				
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	PACKING SLIPS ATTACHED FOR CLARIFICATION EMP	ERGENCY PHONE	888	353-2387	PG#121				
	 GENERATOR'S CERTIFICATION: I hereby declare that the contents of this conclassified, packed, marked and labeled, and are in all respects in proper condition for the content of the content								
	regulations and state laws and regulations.		_		_				
	If I am a large quantity generator, I certify that I have a program in place to reduce the volun practicable and that I have selected the practicable method of treatment, storage, or dispo	sal currently available to m	e which i	minimizes the preser	nt and future threat to human				
	health and the environment; OR if I am a small generator, I have made a good faith effort to me and that I can afford.	minimize my waste and se	ect the b	est waste manageme	ent method that is available to				
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). Facility Owner or Operator: Certification of receipt of hazardous materials covered	by this manifest except	s noted	in Item 19.					
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COPY 5-Generator-mailed by TSD facility

งบ0) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

In case of emergency or spull immediately call the National Response Central

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

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Please type or print Oo not staple.

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's		est Doc. No.	2. Page 1	Innoman		n heavy bold line y Federal Law.	
3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD NYB8804313							
NORTHROP-GRUMMAN CORPORATION SOUTH			<u> </u>	3U4	313		
BETHPA	B. Gene	rator's ID					
4. Generator's Telephone 51 for 346 9106 /177/1.	SAM	E		40			
5. Transporter 1 (Company Name)	6. US EPA ID Number	1 1 1		Transporter's		596988 (A)	
HORWITH TRUCKS, INC.		1878		porter's Telep		0 261-2220	
7. Transporter 2 (Company Name)	8. US EPA ID Number	1 1 1		Transporter's			
0.00		porter's Telepi	hone (
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CWM CHEMICAL SERVICES, INC.	10. US EPA ID Number		II F-aii	t. Talaahaan		N/A	
1550 BALMER ROAD		م اما ما ما		ty Telephone (,	
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 GENERATOR'S CERTIFICATION: I hereby declare that the classified, packed, marked and labeled, and are in all respects in 	he contents of this consignment are f	ully and accu	rately descri	bed above by p	roper shi	ipping name and are	
regulations and state laws and regulations.			_				
If I am a large quantity generator, I certify that I have a program in pla practicable and that I have selected the practicable method of treatr	ment, storage, or disposal currently a	vailable to me	which minir	nizes the prese	nt and fu	ture threat to human	
health and the environment; OR if I am a small generator, I have made me and that I can afford.	de a good faith effort to minimize my w	vaste and sele	ct the best w	aste managem	ent meth	od that is available to	
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20. Facility Owner or Operator: Certification of receipt of hazardou	us materials covered by this manif	fest except a	s noted in I	tem 19.			
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Manifest Doc., No. 2. Page 1 of **UNIFORM HAZARDOUS** Information within heavy bold line is not required by Federal Law. WASTE MANIFEST Generator's Name and Mailing Address MAIL STOP D08-001 NYB8804331 SOUTH OYSTER BAY ROAD NORTHROP-GRUMMAN CORPORATION B. Generator's ID BETHPAGE NY 11714-3580 C. State Transporter's ID 6. US EPA ID Number Transporter 1 (Company Name) D. Transporter's Telephone. HORWITH TRUCKS INC US EPA ID Number 7. Transporter 2 (Company Name) E. State Transporter's ID F. Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID CWM CHEMICAL SERVICES, INC. N/A 10. US EPA ID Number H. Facility Telephone (1550 BALMER ROAD MODEL CITY NY 13. Total 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Wt/Vol I. Waste No. Quantity RQ HAZARDOUS WASTE, SOLID, n.o.s. EPA D007 X (CHROMIUM) 9, NA3077, III (D007) 001 STATE b. **EPA** STATE **EPA** C. STATE EPA d. STATE K Handing Codes for Wastes Listed Above Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM 15. Special Handling Instructions and Additional Information 81479883 2X 4 427 400-5 17-17 OU 3 130 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 266-171 GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Printed/Typed Name Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature__ 18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Year 19. Discrepancy Indication Space 42500 P Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name 2.04

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Conservation (518) 457-7362

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212



(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's UNIFORM NOTE OF THE PROPERTY	JS EPA No. Manifes	st Doc. No.	2. Pa	" Information		n heavy bold line Federal Law.
3. Generator's Name and Mailing Address MAIL ST	NYB88	$0 \cap \lambda$	200			
NORTHROP-GRUMMAN CORPORATION SOUTH O			304	322		
SIS-11-10 BETHPAG		enerator's ID		·		
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7. Transporter 2 (Company Name)	8. US EPA ID Number		E. S	tate Transporter's	ID	
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CWM CHEMICAL SERVICES, INC.	10. US EPA ID Number		H. F	acility Telephone		N/A
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15. Special Handling Instructions and Additional Information	P: 1	127	101	·)		
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PACKING SLIPS ATTACHED FOR CLARIFICAT	CION EMERGENCY	PHONE	888	353 - 23 87	ER	c#121
16. GENERATOR'S CERTIFICATION: I hereby declare that the	contents of this consignment are fu	illy and accu	rately de	escribed above by p	roper shi	pping name and are
classified, packed, marked and labeled, and are in all respects in p regulations and state laws and regulations.			_			
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health and the environment; OR if I am a small generator, I have made me and that I can afford.	a good faith effort to minimize my wi	aste and sele	ect the b	est waste managem	ent meth	od that is available to
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20. Facility Owner or Operator: Certification of receipt of hazardous		est except a	s noted	l in Item 19.		1432197
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST



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P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Mea	nilest 4/97)
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	WASTE MANIFEST 1. Generator's US EPA No. Manife N V D G G 2 G 4 7 9 6 7	est Doc. No.	2. Pa	ge 1 of			heavy bold line Federal Law.
J	3. Generator's Name and Mailing Address MAIL STOP D08-001	A.	NI V	/ D Ó (2 0 4	205	
q	NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD					<u> </u>	295
	572-1450 BETHPAGE NY 11714-3580		enerato	rs ID			
ŀ	4. Generator's Telephone Name (346–8105 ATTAL:). Correct 5. Transporter 1 (Company Name) 6. US EPA ID Number		AME tate Tra	nsporter's	ID 7%	4 48689 194	
HORWITH TRUCKS, INC. PAD 1 4 6 7 1 4 8 7 8					er's Telep		
ı						ID	0 707 7770
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1	9. Designated Facility Name and Site Address		G. S	tate Fac	ality ID		
-	CWM CHEMICAL SERVICES, INC.		н Е	acility T	elephone (N/A
	1550 BALMER ROAD MODEL CITY, NY 14107 N Y D 0 4 9 8 3 6	3 6 7 9	l ''' '	•	754~		'
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	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	Number	Туре		uantity	Wt/Vol	I. Waste No.
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	15. Special Handling Instructions and Additional Information $Bu3730$	5	14	79	86-2		
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY		•				* ,•,
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fu					oner shir	poing name and are
	classified, packed, marked and labeled, and are in all respects in proper condition for transport by his regulations and state laws and regulations.						
1	If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity practicable and that I have selected the practicable method of treatment, storage, or disposal currently as						
	health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my w me and that I can afford.						
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	17. Transporter 1 Acknowledgement of Receipt of Materials						
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NA N	18. Transporter 2 Acknowledgement of Receipt of Materials						
	Printed/Typed Name Signature						Mo. Day Year
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1	Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manife	est except a	s noted	in Item	19.		
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and the trib Department of Environment Canservation (518) 45/-7362

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST

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Please type of print. Do not staple. P.O. Box 12820, Albany, New York 12212 Generator's US EPA No. Manifest Doc. No. 2. Page 1 of **UNIFORM HAZARDOUS** Information within heavy bold line is not required by Federal Law **WASTE MANIFEST** 3. Generator's Name and Mailing Address MAIL STOP D08-001 NYB8804277 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD B. Generator's ID BETHPAGE NY 11714-3580 4. Generator's Telephone North SAME 5. Transporter 1 (Company Name) 6. US EPA ID Number C. State Transporter's ID HORWITH TRUCKS, INC n 1 4 D. Transporter's Telephone 1 7. Transporter 2 (Company Name) US EPA ID Number E. State Transporter's ID F. Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID CWM CHEMICAL SERVICES, INC. N/A 10. US EPA ID Number 1550 BALMER ROAD H. Facility Telephone (MODEL CITY, NY 14107 12. Containers 13. Total 14.Unii 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Wt/Vol I. Waste No. Quantity EPA RQ HAZARDOUS WASTE, SOLID, n.o.s. D007 (CHROMIUM) 9, NA3077, III (D007) 001 b. STATE **EPA** STATE d. STATE K. Handling Codes for Wastes Listed Above Additional Descriptions for Materials listed Above Special Handling Instructions and Additional Information

(0 543)30 SF 4094001 81479746 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to Printed/Typed Name Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Day 19. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of hazardous materials overed by this manifest except as noted in Item 19

DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

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Generator's US EPA No. Manifest Doc. No. 2. Page 1 of UNIFORM HAZARDOUS Information within heavy bold line is not required by Federal Law. WASTE MANIFEST Generator's Name and Mailing Address MAIL STOP D08-001 NYB8804286 SOUTH OYSTER BAY ROAD MORTHROP-GRUMMAN CORPORATION B. Generator's ID BETHPAGE NY 11714-3580 12-16-10 4. Generator's Telephone நடிகுber டூ48 = நடிக்க ATTAL J. C. FINEN 6. US EPA ID Number Transporter 1 (Company Name) C. State Transporter's ID/ --6 D. Transporter's Telephone Ы D 4 HORWITH TRUCKS, INC Α 261-2220 US EPA ID Number E. State Transporter's ID 7. Transporter 2 (Company Name) F. Transporter's Telephone (G. State Facility ID 9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. N/A 10. US EPA ID Number H. Facility Telephone (1550 BALMER ROAD וח 0 4 9 MODEL CITY, NY 14107 13. Total 12. Containers 14.Unit 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Quantity Wt/Voi I. Waste No. EPA D007 RQ HAZARDOUS WASTE, SOLID, n.o.s. (CHROMIUM) 9,NA3077,III (D007) Х 001 Ρ STATE b. FPA STATE FPA C. STATE **EPA** d. STATE Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM K. Handling Codes for Wastes Listed Above 15. Special Handling Instructions and Additional Information 81479853 409400-4 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR If I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford BEHALF OF NGC : Printed/Typed Name 917 Transporter 1 Acknowledgement of Receipt of Materials Day Year Printed/Typed Name Signature Mo. Transporter 2 Acknowledgement of Receipt of Materials Мо Dav Year Printed/Typed Name Signature Discrepancy Indication Space Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 d/Typed Name Signature Day

STATE OF NEW YORK

DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

oous aca oous and the NYS Department of Environmental Conscivation (518) 457-7362

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HAZARDOUS WASTE MANIFEST

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P.O. Box 12820, Albany, New York 12212 Please type or print. Do not staple. Generator's US EPA No. Manifest Doc. No. 2. Page 1 of **UNIFORM HAZARDOUS** Information within heavy bold line is not required by Federal Law. **WASTE MANIFEST** 3. Generator's Name and Mailing Address MAIL STOP D08-001 NYB8804268 SOUTH OYSTER BAY ROAD NORTHROP-GRUMMAN CORPORATION B. Generator's ID BETHPAGE NY 11714-3580 4. Generator's Telephone 5 Lindber 346-8106 SAME 5. Transporter 1 (Company Name) 6. US EPA ID Number C. State Transporter's ID V/ HORWITH TRUCKS, INC. P A D 1 4 6 7 1 4 8 7 8 D. Transporter's Telephon 6(10) 7. Transporter 2 (Company Name) US EPA ID Number E. State Transporter's ID Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID CWM CHEMICAL SERVICES, INC. N/A 1550 BALMER ROAD 10. US EPA ID Number H. Facility Telephone (MODEL CITY, NY 14107 Y D 0 4 9 8 3 6 6 7 9 716 754-8231 13. Total 14.Uni 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Wt/Vol I. Waste No. Quantity RQ HAZARDOUS WASTE, SOLID, n.o.s. D007 a. EPA X (CHROMIUM) 9,NA3077,III (D007) 001 DTP STATE **EPA** STATE **EPA** STATE EPA STATE J. Additional Pescriptions for Materials listed Above K. Handling Codes for Wastes Listed Above 15. Special Handling Instructions and Additional Information 8147784 . 725 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Printed/Typed Name Year Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Mo. Year Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Mo. Discrepancy Indication Space Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

COPY 6-TSD Facility-retained by TSD facility

Signature

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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Environmental Coriservation (516) 457-7 504

424-8802 and the NYS Department of

in case of emergency or spul immediately call the National Response Center

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212 1. Generator's US EPA No. Manifest Doc. No. 2. Page 1 of UNIFORM HAZARDOUS Information within heavy bold line N Y D 0 0 2 0 4 7 9 6 7 is not required by Federal Law. WASTE MANIFEST MAIL STOP DO8-001 Generator's Name and Mailing Address NYB8853579 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD **EETHPAGE NY 11714-3580** B. Generator's ID ATTNI: T. COFAKIN SAME C. State Transporter's ID /50% 6. US EPA ID Number Transporter 1 (Company Name) HAZMAT ENVIRONMENTAL GROUP INC N Y D 9 8 0 7 6 9 9 4 D. Transporter's Telephone (16 US EPA ID Number 7. Transporter 2 (Company Name) E. State Transporter's ID F. Transporter's Telephone (G. State Facility ID Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. N/A 10. US EPA ID Number 1550 BALMER ROAD H. Facility Telephone (MODEL CITY, NY N Y D 0 4 9 8 3 6 6 7 9 14107 716 754-8231 14.Unit 13. Total 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Wt/Vol I. Waste No. Number | Type Quantity RQ HAZARDOUS WASTE, SOLID, n.o.s. EPA D007 X (CHROMIUM) 9, NA3077, III (D007) 001 DT STATE b. EPA GENERATOR STATE **EPA** STATE STATE K. Handling Codes for Wastes Listed Above J. Additional Pescriptions for Meterials listed Above Special Handling Instructions and Additional Information - 1 = U PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Transporter 1 Acknowledgement of receipt of Materials Printed/Typed Name 51 Transporter 2 Acknowledgement of Receipt of Matenals Printed/Typed Name Signature Discrepancy Indication Space 42320 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Taped Mame

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STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



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Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION	SOUTH OYSTER BAY ROAD		Ā.	NYB88	853	507
Jn	BETHPAGE NY 11714-3580		B. G	ienerator's ID		
4. Generator's Telephone Surfacer	ATTAL J. GOSMON			AME		
5. Transporter 1 (Company Name)	6. US EPA ID Number					1-28647 (PA
HORWITH TRUCKS, INC.		878		ransporter's Telep		0 261-2220
7. Transporter 2 (Company Name)	8. US EPA ID Number			tate Transporter's		
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11. US DOT Description (Including Proper Shipping N	lame, Hazard Class and ID Number)	12. Conta	ainers	13. Total	14.Unit	
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15. Special Handling Instructions and Additional Inform	d d	<u>• </u>	<u>ь</u>		d	
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16. GENERATOR'S CERTIFICATION: I hereby of classified, packed, marked and labeled, and are in a	declare that the contents of this consignment are full	lly and accur	ately de	escribed above by p	roper ship	pping name and are
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18. Transporter 2 Acknowledgement of Receipt of Ma	aterials			and the contract of the contra		
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Printed/yped Name	Signature/	A		1		Moa Daya Year
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In case of emergency or spill Immediately call the National Response Centrary 30) 424-8802 and the 11YS Department of Environmental Conservation (518) 457-7362

STATE OF NEW YORK ▶ DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0	fest Doc. No.	l .	ige 1 of			n heavy bold line Federal Law.
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NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD			IN.	IRS	553	489
575-4680 BETHPAGE NY 11714-3580		B. G	lene rato	r's ID		
4. Generator's Telephone Wirther 216 8196 1	4		AME			·
Transporter 1 (Company Name) 6. US EPA ID Number		C. S	State Tra	nsporter's	ID Y	23455/P4
	4878	D. T	ransport	ter's Teler	hone	<u>0 261-2220</u>
7. Transporter 2 (Company Name) 8. US EPA ID Number	1 1 1	_		nsporter's		
				ter's Telep	hone ()
9. Designated Facility Name and Site Address		G. S	State Fac	cility ID		1
CWM CHEMICAL SERVICES, INC.						N/A
1550 BALMER ROAD 10. US EPA ID Number	ماماطم			elephone	•)
MODEL CITY, NY 14107 NY D 0 4 9 8 3			716		_	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Conta			Total	14.Unit	
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15. Special Handling Instructions and Additional Information	~~+		/A			
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY	SK#	-4	077	160	2	
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY	PHONE	888	353-	2387		#
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are f	fully and passes	-		have by a	_61	6 /7/
classified, packed, marked and labeled, and are in all respects in proper condition for transport by hi	nighway accord	ing to a	applicable	internation	nal and n	ational government
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practicable and that I have selected the practicable method of treatment, storage, or disposal currently a health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my w	available to me	which r	ninimizes	the presen	nt and futi	ure threat to human
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Printed/Typed Name Signature	-		-	_		No. Day Year
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20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manif	fest except as	noted	in Item 1	19.		
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manife Printed/Typad Name Signature	fest except as	noted	in Item 1	19.		No. Day Year

COPY 5-Generator-mailed by TSD facility

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION **DIVISION OF SOLID & HAZARDOUS MATERIALS**



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

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(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's U	S EPA No. Manife	st Doc. No.	2. Page 1 of	informati		h heavy bold line Federal Law.
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	STER BAY ROAD E NY 11714-3580		B. Generat		704	
4. Generator's Telephone Stumber 846-8196	C. WI III/14-3300		SAME		14	
,	6. US EPA ID Number		C. State Tr	<u> </u>		7
HORATIN TROOMS, THO.	P A D 1 4 6 7 1 4 8. US EPA ID Number	<u> </u>	D. Transpo			0 <u>261-222</u> 0
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J. Additional Descriptions for Materials listed Above	1.	I I	~Y=4	Codes for		Listed Above
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15. Special Handling Instructions and Additional Information	81477566		شد دوا	_A();; "	4	3 400
PACKING SLIPS ATTACHED FOR CLARIFICAT	ION EMERGENCY	PHONE :	388 353-	2387	BU	3726
16. GENERATOR'S CERTIFICATION: I hereby declare that the classified, packed, marked and labeled, and are in all respects in pro-						
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18. Transporter 2 Acknowledgement of Receipt of Materials	2 Person 2 to 182 1980		مين ا	_		
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20. Facility Owner or Operator: Certification of receipt of hazardous r	materials covered by this manife	est except a	s noted in ten	1 19.		12
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w00) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7562

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's N Y D 0 0	US EPA No. Manifes		2. Page 1 of	Information with	in heavy bold line y Federal Law.	
Generator's Name and Mailing Address MAIL S	TOP D08-001	V 2 2	A. M	VDOOE	111	
	OYSTER BAY ROAD		B. Generato	YB8853	9444	
	4. Generator's Telephone Support 316-81000 AFT J. Co. Co.					
Generator's Telephone authority Transporter 1 (Company Name)	6. US EPA ID Number		SAME C. State Tra	insporter's ID	W26447(M)	
HORWITH TRUCKS, INC.	PAD146714	8 7 8	D. Transpor	ter's Telephone	10 261-2220	
7. Transporter 2 (Company Name)	8. US EPA ID Number		E. State Tra	nsporter's ID		
			F. Transpor	ter's Telephone ()	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC.			G. State Fac		N/A	
1550 BALMER ROAD	10. US EPA ID Number		H. Facility T	elephone ()	
MODEL CITY, NY 14107	NYD049836	679	716		<u>L</u>	
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15. Special Handling Instructions and Additional Information		,		7/	<u> </u>	
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PACKING SLIPS ATTACHED FOR CLARIFICA	TION EMERGENCY	PHONE	888 353-	2387	121	
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health and the environment; OR if I am a small generator, I have made me and that I can afford.						
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18. Transporter 2 Acknowledgement of Receipt of Materials	1-1-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			4.5	
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In case of emergency or spill immediately call the National Response Center (

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

		fest Doc. No.	2. Page 1	Imomian		heavy bold line Federal Law.
	3. Generator's Name and Mailing Address MAIL STOP D08-001	0 4 2	A. 1	YB88	304	421
	NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		B. Genera			164
l	4. Generator's Telephone Nyraber 346-8106		SAME			1170,10
	5. Transporter 1 (Company Name) 6. US EPAID Number HORWITH TRUCKS INC PAID 1 4 6 7 1 4	1070		ransporter's orter's Telep		V 4776/(T)
	7. Transporter 2 (Company Name) 8. US EPA ID Number	1 1 1 4 0 7 0	E. State 1	ransporter's	ID DI	<u> </u>
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	MODEL CITY, NY 14107 NIVIDI01419181316	6 6 7 9 12. Cont		€ 754- 3. Total	9221 14.Unit	
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	Number	Туре	Quantity	Wt/Vol	I. Waste No.
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.	004	777	_	_	EPA D007
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	J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM		K. Handlig	g Codes for	Wastes I	Listed Above
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			:	. 7096	40-	<i>i</i>
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY					RG 17/
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are to classified, packed, marked and labeled, and are in all respects in proper condition for transport by his regulations and state laws and regulations.	fully and accuracy	rately describe ding to applica	d above by puble internation	roper ship nal and r	oping name and are national government
	If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity practicable and that I have selected the practicable method of treatment, storage, or disposal currently a					
	health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my vime and that I can afford.	waste and sele	ect the best wa	ste managem	ent metho	d that is available to
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ANSP(18. Transporter 2 Acknowledgement of Receipt of Materials					
Ħ	Printed/Typed Name Signature				1	Mo. Day Year
	19. Discrepancy Indication Space			Alen	K	77
	actual secul 45680P					
1	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manif	ifest except a	s noted in Ite	m 19.		Mo Day Very
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---- mailed by TSD facility

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DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



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(Hazardous Waste Manifest

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	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manifes	st Doc. No	2]	age 1 of Information is not recommendate.	on within Juired by	n heavy bold line v Federal Law.			
ĺ	Generator's Name and Mailing Address MAIL STOP D08-001	-0-0-	A.	NYB88	<u> </u>	376			
1	NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD		B. C	Generator's ID	704	310			
١	4. Generator's Telephone Number 846-8106 BETHPAGE NY 11714-3580	9	SAME	_	111116-3 100				
	5. Transporter 1 (Company Name) 6. US EPA ID Number	l I I	_	C. State Transporter's ID					
	HORWITH TRUCKS INC. PI AI DI 11 41 61 71 11 41 7. Transporter 2 (Company Name) 8. US EPA ID Number	8 7	4	Transporter's Telep State Transporter's		<u> 261-222</u> 0			
ı			_	ransporter's Telep)			
	Designated Facility Name and Site Address		G. 8	State Facility ID					
1	CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD 10. US EPA ID Number		H. F	Facility Telephone (N/A			
	MODEL CITY, NY 14107 NY D 0 4 9 8 3 6	6 7		716 754-					
1	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Co		13. Total	14.Unit	l			
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.	Number	r Type	Quantity	Wt/Vol	I. Waste No.			
	X (CHROMIUM) 9,NA3077,III (D007)	001	DT	48460	Р	STATE			
			<u> </u>	7076	-				
اً	b.	1				EPA			
						STATE			
	c.					EPA			
		111		1111		STATE			
	d.		+-	,		EPA			
		1 , ,		1		STATE			
۹	Additional Descriptions for Materials listed Above		K H	andling Codes for	Wastes	Listed Above			
	J. Additional Descriptions for Materials listed Above	[·]	^·	/-	ı				
	a	₽	a		С				
	b		Ь		. d	· 🔲			
	15. Special Handling Instructions and Additional Information	34 /	373	0 6147	79-	76			
		\$	K #	• •		. %			
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY	PHONE	888	353-2387	•	171 PA			
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are ful classified, packed, marked and labeled, and are in all respects in proper condition for transport by high	lly and acc	curately de	escribed above by pr	oper ship	pping name and are			
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of					, .			
	practicable and that I have selected the practicable method of treatment, storage, or disposal currently ave health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my wa	ailable to n	ne which	minimizes the preser	nt and fut	ture threat to human			
	me and that I can afford. Printed/Typed Name Signature Signature		12/		:	Mo Daye Hear			
	Printed/Typed Name Minist Sur Signature 5,	1	M	ne su	*//	14/8/9/4			
•	17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Signature			<u> </u>		Mo Day - Year-			
5	When H Colons				· 1	747877			
	18. Transporter 2 Acknowledgement of Receipt of Materials								
-	Printed/Typed Name Signature				۱ ۱ -	Mo. Day Year ─ 			
-	19 Discrepancy Indication Space		11.		1-1-				
	ACTUITE 1 48800P				•				
	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest	st except	as noted	in Item 19.					
	Printed Typed Name Signature	<u></u>				Mo. Day Year			
	I coleen M I wallen I / I I	un	. / `	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	17	12195			

800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

In case of emergency or splll immediately call the National Response Cer

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDQUSMATERIALS



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UNIFORM HAZARDOUS WASTE MANIFEST UNIFORM HAZARDOUS UNIFORM HAZARDOUS UNIFORM HAZARDOUS UNIFORM HAZARDOUS		st Doc. No.	2. Pag	Informati		heavy bold line Federal Law.
Generator's Name and Mailing Address MAIL ST	OP D08-001	0 0 0	A.	MVDO	2 N 1	250
1	YSTER BAY ROAD		B Ge	NYB88	<u> 5U4</u>	330
4. Generator's Telephone 5146-8106	E-NY 11714-3580			AME		4
5. Transporter 1 (Company Name)	6. US EPA ID Number		C. St	ate Transporter's		0771961
7. Transporter 2 (Company Name)	P A D 1 4 6 7 1 4 8. US EPA ID Number	8 7 8		ansporter's Telep ate Transporter's		0 ¥61-2220
7. Transporter 2 (Company Name)			_	ansporter's Telep		.)
Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC.			G. St	ate Facility ID		N/A
1550 EALMER ROAD MODEL CITY, NY 14107	10. US EPA ID Number N Y D 0 4 9 8 3 6	6 7 9		icility Telephone ()
11. US DOT Description (Including Proper Shipping Name, Hazard 0		12. Cont	ainers	13. Total	14.Unit	,
a. RQ HAZARDOUS WASTE, SOLID, n.o.s.		Number	Туре	Quantity	Wt/Vol	I. Waste No. EPA D007
X (CHROMIUM) 9,NA3077,III (D007)		001,	DT	11.1000	P	
				44760		STATE
b.						EPA
						STATE
c.					М	EPA
		1 1				STATE
d.						EPA:
						STATE
J. SAdeitional Pescriptions for Materials listed Above			K. Ha	ndling Codes for	Wastes	Listed Above
a > / O C c			a	/	С	
b d			b		d	
15. Special Handling Instructions and Additional Information		BU	37	3909W	40-	6
PACKING SLIPS ATTACHED FOR CLARIFICAT	TION EMERGENCY				Ē4	15#171
 GENERATOR'S CERTIFICATION: I hereby declare that the classified, packed, marked and labeled, and are in all respects in pregulations and state laws and regulations. 	contents of this consignment are full oper condition for transport by high	lly and accur hway accord	ately des	scribed above by p pplicable internation	roper ship	oping name and are
If I am a large quantity generator, I certify that I have a program in place practicable and that I have selected the practicable method of treatments	nt. storage, or disposal currently ava	allable to me	which m	inimizes the presen	nt and fut	ure threat to human
health and the environment; OR if I am a small generator, I have made a me and that I can afford.		iste and sele	ct the bes	st waste managem	ent metho	d that is available to
Printed/Typed Name ON Permit VI	Signature 6		M	1250	ا م[:عان	Mo. Day Year
17. Transporter 1 Acknowledgement of Receipt of Materials	7000		W.W		<u>~ / </u>	12// 2//
Printed/Typed Name	Signature	E R.	lar		 -	Mo. Day Year 7
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name	Signature			7	<u> </u>	Mo. Day Year
19 Discrepancy Indication Space		1+		K - 17		
H1, L1 1 45	200 <u>P</u>					
20. Facility Owner or Operator: Certification of receipt of hazardous Print AT/Typed Name	T	st except a	s noted i	n Item 19.		Mo Con Varia
Dieen M. Drum	Signature	Mh.		Jun		Mo. Day Year

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or mint. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Javanious Waste Manifest 4/97

	2.00						
	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manife N V D G G 2 G 4 7 G 6 7	est Doc. No.	2. Pa			heavy bold line Federal Law.	
	Generator's Name and Mailing Address MAIL STOP D08-001	<u> </u>	A.	NYB8	R N 4	367	
	NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580	B. Generator's ID					
	4. Generator's Telephone 引ゅの 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本	SAME					
	5. Transporter 1 (Company Name) 6. US EPA ID Number PAD146714	1878	_	tate Transporter's ransporter's Telep	-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	04771 (CA)	
	7. Transporter 2 (Company Name) 8. US EPA ID Number	HOLLIO	_	tate Transporter's		<u>a 251-222</u> 0	
	Designated Facility Name and Site Address			ransporter's Telep State Facility ID	hone ()	
	CWM CHEMICAL SERVICES, INC.		G. 3	state Facility ID		NZΑ	
	1550 BALMER ROAD 10. US EPA ID Number	1 1 1	H. F	acility Telephone	[)	
	MODEL CITY, NY 14107 NY D9 4 9 8 3 6	6 7 9 12. Conta		716 754-	8231 14.Unit		
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	Number	_	Quantity	Wt/Vol	I. Waste No.	
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.					EPA D007	
	X (CHROMIUM) 9,NA3077,III (D007)	001	DT	46760	P	STATE	
	b.					EPA	
RATOR						STATE	
GENER	C.					EPA .	
5	·					STATE	
	d.		<u> </u>			EPA	
		111	1			STATE	
	J. Additional Descriptions for Materials listed Above		K. H	andling Codes for	Wastes	Listed Above	
	a > / 1 0 0 c	,	a A)	С		
I		F I					
	b d 15. Special Handling Instructions and Additional Information	N 272	b RA	<u> </u>	d 174	469	
		SR#	40	814	4	107	
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY					e . #131	
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are full	ully and accur	ately de	escribed above by p	roper ship	oping name and are	
	classified, packed, marked and labeled, and are in all respects in proper condition for transport by hig regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of		_			144	
	practicable and that I have selected the practicable method of treatment, storage, or disposal currently av health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my w	vailable to me	which r	minimizes the preser	nt and fut	ure threat to human	
	me and that I can afford. Printed/Typed Name	1	11			Mo. Day Year	
_	Mack com NGC By	1/1	115	AH		121897	
Ĭ	17. Transporter 1 Acknowledgement of Receipt of Materials Printed Typed Name Signature	11				Mo. Day Year	
PORTE	Peter Wittmann Heter W	AL.		<u> </u>		121151912	
HAN	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature				N	Mo. Day Year	
_							
	19. Discrepancy Indication Space		_		_1		
	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manife	net eveent a	- noted	in Item 10			
1	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manife Printed/Typed Name Signature	asi avcahi as				Mo. Day Year	
_	L'oloen M Turkan // N. n	<u> </u>		M-	_/	21/191917	
	OORY 5 Congretor mailed by TSD 6	1000				,	

In case of emergency or spill immediately call the National Response Center (%) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7502

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Hazardous Waste Manifest 4/97)

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US		nifest Doc. N	lo. 2.	Page 1	Imorrage		heavy bold line Federal Law.
7		OP D08-001		1	١.	NYB88	n ₄	412
-	NORTHROP-GRUMMAN CORPORATION SOUTH OY BETHPAGE	-	3. Gen	erator's ID	70 7	716		
	4. Generator's Telephone 1460er 1346-8106	SAN			- 30			
-	(3. US EPA ID Number	ا ما ما جا	_		e Transporter's I	<u>, , , </u>	38/90(
ł	HORWITH TRUCKS, INC. 7. Transporter 2 (Company Name)	7 A D 1 4 6 7 1 B. US EPA ID Number	4 8 7	_		sporter's Teleph Transporter's I	- 77	0 261-2220
				f	. Tran	sporter's Teleph	one ()
	Designated Facility Name and Site Address			(3. Stat	e Facility ID		
	CWM CHEMICAL SERVICES, INC.	10. US EPA ID Number		\perp		Uh . Talaah aa		N/A
1	1550 BALMER ROAD MODEL CITY, NY 14107		6 6 7			lity Telephone (716 754–	0001)
	11. US DOT Description (Including Proper Shipping Name, Hazard Cla	<u>,, ,,</u> 1,2, 0, 1, 0, 0, 0	12. Co	_	_	13. Total	14.Unit	
		ass and ib Number)	Numbe	er T	/ре	Quantity	Wt/Vol	I. Waste No.
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.		004	_	_	, ,	_	EPA D007
	X (CHROMIUM) 9,NA3077,III (D007)		001		T 4	17240	P.	STATE
	b.			_	-	1		EPA
GENERATOR							1	STATE
ENER	C.		 	\top				EPA
5					П			STATE
	d.				+			EPA
								STATE
	J. Additional Descriptions to Materials listed Above			1	Hage	lling Codes for V	Vastes	Listed Above
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	b d		↓	l			d	
	15. Special Handling Instructions and Additional Information	(B4	Į 3	13	0		
	7147/1				E.P.	pt-		
	PACKING SLIPS ATTACHED FOR CLARIFICATI	ION EMERGENC	Y PHONE	88	8 35	53-2387 	Ž	E05#171
	 GENERATOR'S CERTIFICATION: I hereby declare that the co- classified, packed, marked and labeled, and are in all respects in project. 	ontents of this consignment ar per condition for transport by	re fully and a highway ac	curate	ly desci	ribed above by pro- licable internation	opership ad and r	oping name and are national government
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to							
	practicable and that I have selected the practicable method of treatment, health and the environment; OR if I am a small generator, I have made a group that I have from the control of th							
	me and that I can afford. Printed/Typed Name ON SerMer Or NSC	Signature	$\overline{\Lambda}$	111				Mo. Day <u>Year</u>
	J. Mone Stee	NGC. By	- Sel 1	H	<u></u>	SHEE		121897
~	17. Transporter 1 Acknowledgement of Receipt of Materials		<u>// </u>					No. Box Vose
TRANSPORTER	Printed/Typed Name H A i ii y i j i j i j i j i j i j i j i j	Signature	hann	م مسن			1	Mo. Day Year 7 7 7
NSPC	18. Transporter 2 Acknowledgement of Receipt of Materials	- 1 1	<i>y</i> 1 <i>y</i> 2 <i>y</i> 3	•				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
TRA	Printed/Typed Name	Signature					ı	Mo. Day Year
_	19. Discrepancy Indication Space				j	<u> </u>	1-	
-	111111111111111111111111111111111111111	Same Same			/	· · · · · · · · · · · · · · · · · · ·		
Ę	20. Facility Owner or Operator: Certification of receipt of hazardous m	natoriale covered by this ma	nifeet eveer	taen	oted in	item 19		
T.	Printed/Typed Name	Signature /	mest excep					Mo. Day Year
		/ /	1111		,	×	- 1	14/11/11

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

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	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manifest	st Doc. No.	2. Pa	Information		n heavy bold line Federal Law.		
) .	3. Generator's Name and Mailing Address MAIL STOP D08-001		A.	NYRR	3 N /	39/1 ~		
	NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD		NYB8804394 B. Generator's ID					
	4. Generator's Telephone Number 648-8106		SAMR					
	5. Transporter 1 (Company Name) 6. US EPA ID Number	1 1 1	C. S	tate Transporter's		215908(m)		
	HORWITH TRUCKS, INC PAD 1 4 6 7 1 4 7. Transporter 2 (Company Name) 8. US EPA ID Number	8 7 8	_	ransporter's Telep	D.T	0 261-222 0		
				ransporter's Telepi)		
	Designated Facility Name and Site Address		G. 5	tate Facility ID				
	CWM CHEMICAL SERVICES, INC.			acility Telephone (N/A		
	MODEL CITY, NY 14107 NY D 0 4 9 8 3 6	6 7 0	П. Г	71.6 75.4				
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Cont	ainers	13. Total	14.Unit			
		Number	Type	Quantity	Wt/Vol	I. Waste No.		
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.	004			_	EPA D007		
	X (CHROMIUM) 9,NA3077,III (D007)	001	Dir	44200	Р	STATE		
	b					EPA		
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GENERATOR	C.					EPA		
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						STATE		
	J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM,		K,H	andling Codes for \	Vastes i	Listed Above		
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	b d 15. Special Handling Instructions and Additional Information	<i>2</i> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	b	74	d			
	15. Operational mistractions and Additional mistraction	134	37	10 409640 -	•	ľ		
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY					# . . .		
					< R	5 = 171		
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are ful classified, packed, marked and labeled, and are in all respects in proper condition for transport by high regulations and state laws and regulations.	hway accord	ling to a	applicable internation	nal and r	national government		
	If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of practicable and that I have selected the practicable method of treatment, storage, or disposal currently available.							
	health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my wa me and that I can afford.							
	Printed/Typed Name (as 2 Arks) Signature	////	,			Mo. Day Year		
_	17. Transporter 1 Acknowledgement of Receipt of Materials	m	_لــ	Die-		61877		
TER	Printed/Typed Name Signature					do. Day Year		
SPORTER	KOKEGT KESTER with Kuc		-			21897		
HAN	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature					Mo. Day Year		
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9	19. Discrepancy Indication Space			11 . K		1-7		
5	111 1 8 1 1 4 2 14 0 1					<u> </u>		
ľ	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest	st except as	noted	in Item 19.				
	Printed/Typad Name Signature		1	1 4	I .	No. Day Year		
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In case of emergency or spill immediately call the National He

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or prior. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA		st Doc. No.				n heavy bold line y Federal Law.
Generator's Name and Mailing Address MAIL STOP D	08-001		A.	NYB8	<u> </u>	4 03
NORTHROP-GRUMMAN CORPORATION SOUTH OYSTE	R BAY ROAD 11714-3580		B. G	Generator's ID	004	1403
4. Generator's Telephone Street Section 1777				AME.		200
	EPA ID Number		C. S	tate Transporter's		13509(M)
HORWITH TRUCKS, INC. PA	D 1 4 6 7 1 4 EPA ID Number	8 7 8	_	ransporter's Telep		<u>9 261-2220</u>
7. Transporter 2 (Company Name) 8. US			-	tate Transporter's		<u> </u>
Designated Facility Name and Site Address				State Facility ID		
CWM CHEMICAL SERVICES, INC.						N/A
1550 BALTER ROAD	S EPA ID Number	م اما ما		acility Telephone	•)
MODEL CITY NT THEY	D 0 4 9 8 3 6	12. Cont		716 754-	-8231 14.Unit	1
11. US DOT Description (Including Proper Shipping Name, Hazard Class at	id ID Number)	Number		Quantity	Wt/Voi	I. Waste No.
a. RQ HAZARDOUS WASTE, SOLID, n.o.s.	_				1.	EPA D007
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J. Additional Descriptions to Materials listed Above	1		K. H	andling Codes for	Wastes	Listed Above
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15. Special Handling Instructions and Additional Information		199	121	130 R # 40	96	40-1
	CAPDOMICA				· —,	Ť
PACKING SLIPS ATTACHED FOR CLARIFICATION	EMERGENCY	PHONE	888	353-2387		
16. GENERATOR'S CERTIFICATION: I hereby declare that the content classified, packed, marked and labeled, and are in all respects in proper co	of this consignment are fundition for transport by his	ully and accu	rately d	escribed above by papelicable internation	proper shi	ipping name and are national government
regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to redu						
practicable and that I have selected the practicable method of treatment, store health and the environment; OR if I am a small generator, I have made a good	ge, or disposal currently as	vailable to me	e which	minimizes the prese	ent and fu	iture threat to human
me and that I can afford.		7 H		<u> </u>	· .	Mo. Day Year
Printed/Typed Name Sign	KSC - 50		١)	T. Carrier	". I	1211897
17. Transporter 1 Acknowledgement of Receipt of Materials		110		-		
	ature A	R	1 44	Jan. 1.	<u>,</u>	Mo. Day Year
WAVID B. LKIFUCALE	4.CVCC/~	1/4/	7	myrec		1 47 1/ 7
Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Sign	ature					Mo. Day Year
19. Discrepancy Indication Space		71 .		± 1	· ·	
1 1 2 1 1 2 1 1 2 1 1 2	5 7			1		
20. Facility Owner or Operator: Certification of receipt of hazardous materia	ils covered by this manif	est except a	as noted	d in Item 19.	_	
Printed/Typed Name Sign	ature	W. 1				Mo. Day, Year

NYB.8804385

עיט ייביריסטע מווע נוופ NYS Department of Environmental Conservation (518) 457-7362

GENERATOR

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STATE OF NEW YORK

· DEPARTMENT OF ENVIRONMENTAL CONSERVATION **DIVISION OF SOLID & HAZARDOUS MATERIALS**



HAZARDOUS WASTE MANIFEST

se the or print. Do not staple.	The state of the s	20, Albany, New	York 1221:	2		(Hazardous Waste Manifest 4/97)
UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US E	No. of the last of	anifest Doc. No.	2. Pag	inic		nin heavy bold line by Federal Law.
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATIO	MAIL STOP	0.4.0.1.0		A.			4385
4. Generator's Telephone Stumber 540-8106	ATTON TO) 	S	enerator's II		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.	6. p	US EPA ID Number A D 1 4 6 7 1	4 8 7 8		tate Transporter's	orter's ID	C 58822 (4)
7. Transporter 2 (Company Name)	8.	US EPA ID Number			tate Transporter's	orter's ID Telephone ()
Designated Facility Name and Site Address		-		G. S	tate Facility	ID	
CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107	1 1	US EPA ID Number	16672	H. F	acility Telep	hone () N/A
11. US DOT Description (Including Proper Shippin	ng Name, Hazard Class	s and ID Number)	12. Cont		13. Tota Quan	I	1 1
a. RQ HAZARDOUS WASTE, SOLI X (CHROMIUM) 9,NA3077,III	•		001	DT	459	P.	EPA D007 STATE
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c.							STATE
d.							EPA
							STATE
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM	/e ⊘ c		1		andling Code	es for Waste	s Listed Above
						7	
15. Special Handling Instructions and Additional In	nformation	179937	BUS	173 <i>6</i>	<u> </u>	d_	
PACKING SLIPS ATTACHED FOR		•	SA CY PHONE (#c.	4091	640 -3	3 'ac. # 131
16. GENERATOR'S CERTIFICATION: I here classified, packed, marked and labeled, and are							
regulations and state laws and regulations. If I am a large quantity generator, I certify that I hav practicable and that I have selected the practicable health and the environment; OR if I am a small genme and that I can afford.	e method of treatment, st	torage, or disposal currentl	ly available to me	which n	ninimizes the	present and	luture threat to human
Printed/Typed Name IN BLANT OF NO.		ignature NGC 64	ML	· 	Sta	<i>E</i>	Mo. Day Year / 24/8/8/3
17. Transporter 1 Acknowledgement of Receipt of Printed/Typed Name		ignature		سوني		·	Mo. Day Year
18. Transporter 2 Acknowledgement of Receipt of	E Materiale	- Marian	son 1	1 1/4	-		1211897
18. Transporter 2 Acknowledgement of Receipt of Printed/Typed Name	1	ignature					Mo. Day Year
19. Discrepancy Indication Space	4571	カア		X		K -	
20. Facility Owner or Operator: Certification of rec	eipt of hazardous mate	erials covered by this ma	anifest except as	noted	in Item 19.		
Printed Typed Name	1144_	Signature	M	7	Va-		Mo. Day Year

COPY 5-Generator-mailed by TSD facility

201 121 0002 and the NYS Department of Environmental Conservation (518) 457-7362

GENERATOR

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or pript Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

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(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		st Doc. No.	,	Informatio		heavy bold line Federal Law.
Generator's Name and Mailing Address AII	A.	NYB88	304	808		
	M CYSTER RAY ROA		B. G	enerator's ID		
4. Generator's Telephone Number (PAGE TZ 11714-3	3380			ake 	
5. Transporter 1 (Company Name)	US EPAID NUMBER	1 1 1	_	tate Transporter's		+5 h
7. Transporter 2 (Company Name)	3. US EPA ID Number	1373		ransporter's Telepi ate Transporter's		0 261-2220
, and the same of				ansporter's Teleph)
Designated Facility Name and Site Address			G. S	tate Facility ID		
CHA CHEMICAL SERVICES, INC.	10. US EPA ID Number			4.		
1300 SAGMEN ROMO		6 7 9	n. r	acility Telephote (1231	'
11. US DOT Description (Including Proper Shipping Name, Hazard Cl	 	12. Cont	ainers	13. Total	14.Unit	
		Number	Туре	Quantity	Wt/Vol	I. Waste No.
a. RO, HAZAROXUS MASTE, BOLID, n.o.	.3.	Ì				EPA 2007
X (CHROMIUM) 9,NA3077,III (D002/)		0 0 1	DT	49440	₽	STATE
b. 7	DA 12/23/97					EPA
•						STATE
c.						EPA
			$ \cdot $			STATE
d.						EPA
		1	,			STATE
J. Additional Descriptions for Materials listed Above			КН	andling Codes for V	Vastes i	isted Above
1/2 SOTE 3/CHRYATIM		1 1			ı	
a > /1.00 c		•	a	445	c	
	1	1 1	Ь		_	
b d 15. Special Handling Instructions and Additional Information (2)		•	ь	C 1/1/C .		, ,
3	4104641-1			C1480		
FACKINI SLIPS ATTACHED FOR CLARIFI	CATION STERGER	CX 280	42 #	: 333 351	-2387	4.5
16. GENERATOR'S CERTIFICATION: I hereby declare that the co	ontents of this consignment are fu	illy and accu	rately de	secribed shows by n	oper ship	pring name and are
classified, packed, marked and labeled, and are in all respects in pro regulations and state laws and regulations.						
If I am a large quantity generator, I certify that I have a program in place of practicable and that I have selected the practicable method of treatment						
health and the environment; OR if I am a small generator, I have made a me and that I can afford.						
Printed/Typed Name ON SENTER NEC	Signature	1	/// _		, ,	Mo. Day Year
17. Transporter 1 Acknowledgement of Receipt of Materials	1000	1	CAL	714		121/17/2
Printed/Typed Name 1-11, 1/1/c. Ido do	Signature	1/11/	11			Mo. Day Year
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name	Signature				1	Mo. Day Year
19. Discrepancy Indication Space						
Act 11 Koul 495201						
20. Facility Owner or Operator: Certification of receipt of hazardous m	naterials covered by this manife	est except a	s noted	in Item 19.		
Printed/Typed Name	Signature 4		1.	4	!	Mo. Day Year

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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ase type or print. Do not staple.

NIFURM HAZARDUUS	rator's US EPA No. Manife	かっと	2. Pa	Informati is not rec	on within	n heavy bold line y Federal Law.
Generator's Name and Mailing Address	MAIL STOP DUDE-UD	1	A.	NVDO	204	770
CURTAROP-CAREFFAN CURTORATION	DOUTH DYSTER DAY I			NYB88	<u>3U4</u>	112
	STHPAGE SY 11714	1-3580	B. C	enerator's ID	AME	
4. Generator's Telephone Number (516) 575-4580						5
5. Transporter 1 (Company Name)	6. US EPA ID Number	1 L 1				n 84346(a)
DEMINA TRUCKS, INC.		3 7 3				10 261 2220
7. Transporter 2 (Company Name)	8. US EPA ID Number	 		state Transporter's		
				ransporter's Telep	hone ()
Designated Facility Name and Site Address			G. S	State Facility ID		
LIM CHEMICAL SERVICES, INC.	10. US EPA ID Number			- 4		
1550 BALISER ROAD		1 11		acility Telephone	•)
ONCLICITY OF 14107		12. Cont		16_751_:327	14.Unit	
11. US DOT Description (Including Proper Shipping Name, H	lazard Class and ID Number)				I .	1
a. vc. 14 24 2000/10 114 2000 107 70		Number	туре	Quantity	Wt/Vol	I.'Waste No. EPA
C , CLINCE CHECKED COUNTRY OF THE CO	ر فرد نام	1		11/2		<u>ະທົງ007</u>
X (СЕРОМІЦЯ) 9, НАЗО77, III (DOO)	7	13 b) 1	2 5	75000	2	STATE
b. 7	DA 12/23/97					EPA
'	20.1 1-11.	1		1		
		.		1		STATE
C.						EPA
			16			STATE
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d						EPA
		1	17	l , , , ,		STATE
						SIAIE
J. Additional Descriptions for Materials listed Above			K. H	andling Codes for	Wastes	Listed Above
a 3/2 -XOIL A/CHBOXIEUM / G O .			l a	4	l c	
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b d	1	•	b	()	d	~
15. Special Handling Instructions and Additional Information	BU373	30		81480	106	1
PACKLING JELPS APPACKED FOR CLA	RIFICATION CERCEN	Y PHON	T 4:	388 351	_238	7 .
	the second secon		AL N B	000 331	- 2.JU	171
16. GENERATOR'S CERTIFICATION: I hereby declare t	hat the contents of this consignment are fu	illy and accur	rately de	escribed above by n	nner shir	oring name and are
classified, packed, marked and labeled, and are in all respectively. The classified in all respectively.						
If I am a large quantity generator, I certify that I have a program						
practicable and that I have selected the practicable method of health and the environment; OR if I am a small generator, I have	treatment, storage, or disposal currently ave made a good faith effort to minimize my w	ailable to me aste and sele	which r	ninimizes the present est waste manageme	it and fut int metho	ure threat to human d that is available to
me and that I can afford.						
Printed/Typed Name	Signature	,		570	,, 	Mo. Day Year
17. Transporter 1 Acknowledgement of Receipt of Materials	7/03	7	_	- acm		1541117
Prince/Typed Name	Signature		7			Mio. Day Year
TOM Denne	- July	15	-			121/957
18. Transporter 2 Acknowledgement of Receipt of Materials						1-11//
Printed/Typed Name	Signature					Mo. Day Year
1° Discrepancy Indication Space						
Dartied & Day	11110011	11				
arma receid	47780	10				
20. Facility Owner or Operator: Certification of receipt of haza	ardous materials covered by this manife	est except as	noted	in Item 19.		
Printed Typed Name	Signature	11		// //		do. Day Year
105411 - 1-1-18KAKIK	100 11			no ha	_/	MXXV3

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIAL'S



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ase type or print. Do not staple.		2020, Albany, New 10				(Ha	zardous Waste Manifest 4/9/)
UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's Us		st Doc. No.		Imomai		h heavy bold line Federal Law.
Generator's Name and Mailing Address		L STOP 2008-001	_	A.	NYB8	R∩4	799
DRIEROP-TRUMMAN CORPORATIO		ith Oyster Ray Rob Hpage By 11714-		B. G	enerator's ID	007	755
4. Generator's Telephone Number (519 5		ct: J. Cotmann	-3300	-6.	WE		
5. Transporter 1 (Company Name)		6. US EPA ID Number			tate Transporter's		73450(14)
DRWITH TRUCKS, INC.	د.		8 7 3		ransporter's Telep		610 261-222
7. Transporter 2 (Company Name)	'	8. US EPA ID Number			tate Transporter's		
Designated Facility Name and Site Address					tate Facility ID	TIONE (
UMM CHEMICAL SERVICES, IN	3.	•			1-		
1550 RALATER ROAD		10. US EPA ID Number	ادا جاما		acility Telephone)
CDEL CITY NY 14107		1 2 3 4 9 3 3 6			716-757-32	_	
11. US DOT Description (Including Proper Shippin	ng Name, Hazard C	lass and ID Number)	12. Conta		Quantity	14.Unit	I. Waste No.
a. RO, MAZARDOUS HASTE, SOL	—————————————————————————————————————			- 77-			EPA
A (CHROMIUM) 9, NA3077, III			ა 8 1	2 4	47520	75	STATE
b.	· , ,		0 0 1	2 -	77946	1.	
b.	7 da	12/23/97					EPA
		,					STATE
c.							EPA
			1 1 1	1			STATE
d.						+	EPA
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							STATE
J. Additional Descriptions for Materials listed Abo	ve ·			K. Ha	andling Codes for	Wastes	Listed Above
2/3 SOIR A/CHROMINM > / LO	<i>O</i> c		•	a	<u></u>	С	
l							
b	d		<u> </u>	b		d	
15. Special Handling Instructions and Additional I	nformation				8148a	140	
PACKING SLIPS ATTACHED IN	OP CLARIFIC	CHICA DERGENCY	SHOME	# \$	888 351-	-2387	. ,,
- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							Cas = 171
GENERATOR'S CERTIFICATION: I her classified, packed, marked and labeled, and are regulations and state laws and regulations.							
If I am a large quantity generator, I certify that I have practicable and that I have selected the practicable health and the environment; OR if I am a small ger	le method of treatmen	t, storage, or disposal currently av	ailable to me	which r	minimizes the prese	ent and fu	ture threat to human
me and that I can afford. Printed/Typed Name	or side	Signature	, ,	711	/ 		Mo. Day Year
Mice =	der.	16c h	2		LS Si	he	121942
17. Transporter 1 Acknowledgement of Receipt of	f Materials						
Printed Typed Name BOII IN 6	ER	Signature N 13	all	ling	es		Mo. 1 Day 9 Year 7
18. Transporter 2 Acknowledgement of Receipt of	f Materials	Signature		-			Mo. Day Year
Printed/Typed Name		Signature				1	Mo. Day Year
19. Discrepancy Indication Space	1 47	460 P					
20. Facility Owner or Operator: Certification of re-			est except a	s noted	in Item 19.	· -	
Printed/Typed Name		Signature					Mo. Day Year
FILAGO CARM	TIC	Julian Tille	ے سے	ar	ll_	L	1222497

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST

lease type or print po not staple.

P.O. Box 12820, Albany, New York 12212

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's	JS EPA No.	Manif	est Doc. No.	2. Pa	intormat	ion within	n heavy bold line v Federal Law.
Generator's Name and Mailing Address	4 2 3 0 t)	L STOP ,	0008-001		A.	NVDO	0 0 4	702
JATHROW-JRUMMAN CORPORATIO		TH OYSTER		0		NYB8	004	163
		SPAGE NY	11714-		B. G	ienerator's ID		
		6. US EPA IL			-			7/2
5. Transporter 1 (Company Name)		b. US EPAIL		1 1 1	_	tate Transporter's		V3024M
7. Transporter 2 (Company Name)		8. US EPAID	Number	با بيا 7 ا ج	 	ransporter's Teler	•	อาอ⁷ 261-22 2
7. Hansporter 2 (company Name)						ransporter's Teler)
Designated Facility Name and Site Address					-	tate Facility ID		
					l			•
CAR CHEMICAL SURVICES, INC.		10. US EPA	ID Number		H. F	acility Telephone	()
1550 BALMER ROAD						4		
11. US DOT Description (Including Proper Shipping		Class and ID Nu		\$ \$2. Com	tainers	6-43-5 Auto 2	3 1 4.Unit	1
The Bo Bo F Besser plant (moderning violent empping				Number	Туре	Quantity	Wt/Vol	
a. BC, HAZARDOUS WASTE, SO	LID. n.o.						1	EPA
X (CHROMIUM) 9,NA3077,III	(200X)			0 0 1	0 3	47546	5	STATE 2007
b.		1 122/02		1010	~ -	1197	-	EPA
J	1 DA	9 1423/97					1	
								STATE
C.					-		+	EPA
				1	١. ا			CTATE
								STATE
d.								EPA
				1	١.	l , , , ,		STATE
								51A1L
J. Additional Descriptions for Materials listed Above					K. Ha	andling Codes for	Wastes	Listed Above
ave soil weirenium / 10) 。			ļ	a	4	l c	.
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15. Special Handling Instructions and Additional Inf	ormation		0.	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7 1			
15. Opecial Flatialing modelions and Flatialian in	omation		154	137:	30	91	48	0047
PACKING SLIPS ATTACHED FO	R (TARTE	יים גדוניים	Contracted to the	The speak	Marie di sa			_
	The second of the second of		MERGILA		E #1	ಕ88 35	1-238	CAS#171
16. GENERATOR'S CERTIFICATION: I hereb	y declare that the	contents of this of	consignment are	fully and accu	rately de	escribed above by	proper shi	pping name and are
classified, packed, marked and labeled, and are in regulations and state laws and regulations.	ail respects in p	roper condition for	or transport by h	ighway accor	ding to a	applicable internation	onal and i	national government
If I am a large quantity generator, I certify that I have practicable and that I have selected the practicable								
health and the environment; OR if I am a small generate and that I can afford.								
Printed/Typed Name Of a Mile of No.		Signature			111			Mo. Day Year
V. Mun ? que		1160	4	A	III.	- 20	- L	1215197
17. Transporter 1 Acknowledgement of Receipt of I	Materials		7	11				
Printed/Typed Name		Signature	· سـ هـ	, de .	<i>y</i> :			Mo. Day Year
JERRY L. MHORE	/	No.	7	- 6	<u> </u>			12/1997
18. Transporter 2 Acknowledgement of Receipt of	Materials	1000						
Printed/Typed Name		Signature						Mo. Day Year
10 Disgrangey Indication Space								
19. Discrepancy Indication Space	1		1					
actual reve	1 4	7700 /						
20. Facility Owner or Operator: Certification of rece	ipt of hazardous	materials cover	ed by this manif	est except a	s noted	in Item 19.		
Printed/Typed Name								Mo. Day Year
EILEEN CAKT	Z - /	1/	1/11	1	11	Atu	V	12121 7 47 4

2007 - 124-0002 and the NTS Department of Environmental Conservation (318) 45/-/352

שבייבן בי בציים היייוב ביותרבו במון ווים ושמוטוומו חפקבסוואם כבוי

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

WASTE MANIFEST 1. Generator's U	S EPA No. Manife	st Doc. No.	2. Pa	Informati		heavy bold line Federal Law.
	L 370P 0008-001		Α.	NYB88	2 ∩ <i>1</i>	710
	iti oyster bay rox		В. С	IN I DO	304	110
4. Generator's Telephone Number (516 575-4680	MPAGE & 11714.	-3580	5. 6	enerator's ID SA	ME	_ (]
5. Transporter 1 (Company Name)	6. US EPA ID Number		C. S	tate Transporter's	ID 7	Z15906(A)
PORWITH TRUCKS, INC.	A D 1 4 5 7 1 4	3 7 3	D. T	ransporter's Telep		
7. Transporter 2 (Company Name)	8. US EPA ID Number			tate Transporter's		
Designated Facility Name and Site Address			_	ransporter's Telep	hone ()
DAM CHEMICAL GERVICES, INC.	•		J	nate racinty ID		
1550 BALMER ROAD	10. US EPA ID Number		H. F	acility Telephone (()
CODEL CITY TY 14107	1 2 0 0 4 9 8 3 8	6 7 9		716-754-8	231	
11. US DOT Description (Including Proper Shipping Name, Hazard C	class and ID Number)	12. Cont		13. Total	14.Unit	l.
a. 20. (AZASOOHS WASSEL SOUD. 0.0.3		Number	Type	Quantity	Wt/Vol	I. Waste No.
a RQ, HAZARDOUS WASTE, JOLID, n.o.a	•			1-1-		D007
K (CHROMIUM) 9, RA3077, III (D007)		0 0 1	o T	47420	7 ₂	STATE
b.						EPA
		1 1	١,			STATE
C.						
						EPA
}						STATE
d.						EPA
		1	١,			STATE
J. Additional Descriptions for Materials listed Above	1		K. Ha	andling Codes for	Wastes I	Listed Above
a > / 0 0 c		<u> </u>	а		_ c	
					·	- I
b d		<u> </u>	b		d	
15. Special Handling Instructions and Additional Information	11/11/1-8	į.		n		
PACRING SLIPS ATTACHED FOR CLARIFI	Cation Emergence	PHONE	ž #	888 353-	2387	
· · · · · ·	1272)			\$1480	04	9
16. GENERATOR'S CERTIFICATION: I hereby declare that the control of the control o	contents of this consignment are fu	illy and accur	ately de	scribed above by p	roper ship	pping name and are
classified, packed, marked and labeled, and are in all respects in pre regulations and state laws and regulations.						· [
If I am a large quantity generator, I certify that I have a program in place practicable and that I have selected the practicable method of treatmen	it, storage, or disposal currently av	ailable to me	which r	ninimizes the preser	nt and fut	ure threat to human
health and the environment; OR if I am a small generator, I have made a me and that I can afford.	i good faith effort to minimize my wa	aste and sele	ct the be	est waste manageme	ent metho	d that is available to
Printed/Typed Name 2021/11/20 106	Signature	DIL				Day Year 2
J. MARK Stik	1000 54	100cm		Shote		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name	Sigmat0re	7	_			Mo. Day Year
Charles Stecker	Charles 1	く ◇	سدار	hi_	1	741997
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name	Signature					Mo. Day Year
19. Discrepancy Indication Space						
of the state of th	11-11-1	//	•			1200
actual record of	17600-	4				
20. Facility Owner or Operator: Certification of receipt of hazardous r	materials covered by this manife	est except a	s noted	in Item 19.	_	
Printed/Fyped Name	Signature	711				Mo. Day Year

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's	US EPA No. Manife.	st Doc. No.	2. Page 1 of		thin heavy bold line by Federal Law.
	Generator's Name and Mailing Address	i a.	YB880	4655		
		TH OYSTER BAY YOAK HPAGE BY 11714-1		B. Generate		
	4. Generator's Telephone Number (415) 375-4530					
	5. Transporter 1 (Company Name)	6. US EPA ID Number	م ا حدا برا		ansporter's ID 🗸	/ W36793 (M)
		8. US EPA ID Number	3 7 3		nter's Telephone ansporter's ID	610) 261-222
	7. Transporter 2 (Company Name)	. USEFATO Number			rter's Telephone	()
	Designated Facility Name and Site Address			G. State Fa		`
	THE CHEMICAL SERVICES, INC.					
	1550 CALMER ROAD	10. US EPA ID Number	1.1.1	H. Facility)
	SODEL CIPY MY 14107	17004936	5 7 9 12. Cont		54-8231 Total 14.U	Init
	11. US DOT Description (Including Proper Shipping Name, Hazard	Class and ID Number)	Number		Quantity Wt/V	1
	a. NO, MAZARDOUS WASTE, BOLID, n.o.	ವ •	1			EPA ⊃007
	The second control of the second seco		001	~ × 47	060	STATE
	х (сирочтин) 9, мазолл, III (5007)		91811	<u> </u>		EPA
JR.			l , ,	, ,		STATE
GENERATOR						
GENE	C.					EPA
						STATE
	d.		<u> </u>			EPA
				$ \cdot \cdot $		STATE
100	J. Additional Descriptions for Materials listed Above		<u> </u>	K Handling	Codes for Waste	es Listed Above
	3/E SOIL A/CEROMIUM / O O		I I	_		
	a		<u>•</u>			
	b	Ι.	1 1	,		
	15. Special Handling Instructions and Additional Information		e	4 373	2/1	180060
	PACKING SLIPS APTACHED FOR CLARIFI	CATION EMERGENC				, 1
	Transactor Galacia Fila socialista Con Constituta	5		164-14	, 22.5~e.c.	CRG# 171
	16. GENERATOR'S CERTIFICATION: I hereby declare that the					
	classified, packed, marked and labeled, and are in all respects in p regulations and state laws and regulations.		30			
	If I am a large quantity generator, I certify that I have a program in place practicable and that I have selected the practicable method of treatments health and the environment: OR if I am a small generator. I have made	nt, storage, or disposal currently ava	ailable to me	which minimize	s the present and	future threat to human
	me and that I can afford.	a good taith effort to minimize my we	aste and sere	ct the best wast	e management me	MINOCIDAL IS AVAILABLE TO
	Printed/Typed Name	Signature	XIS	M.C.	Ster	Mo. Day Year
_	17. Transporter 1 Acknowledgement of Receipt of Materials	7002 29	1100		<i>,,,</i> .	
EB	Printed/Typed Name	Signature / /	1			Mo. Day Year_
PORT	Jeff Wertman	Left hier	h	-		1/2/5/77
TRANSPORTER	18. Transporter 2 Acknowledgement of Receipt of Materials	. /				
۴	Printed/Typed Name	Signature				Mo. Day Year
-	19. Discrepancy Indication Space					
1	actual Fired &	17100 De				ĺ
J.	20. Facility Owner or Operator: Certification of receipt of hazardous	materials covered by this manife	st except as	noted in Item	19, ,	
7-2	Printed Typed Name	Signature	111		///	Mo. Day Year
	105AN 11/ JARAHAN	1		-	ah	VZZZZZZ

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212 Generator's US EPA No. Manifest Doc. No. 2. Page 1 of UNIFORM HAZARDOUS Information within heavy bold line is not required by Federal Law **WASTE MANIFEST** 3. Generator's Name and Mailing Address GAIL STOP DOOZ-CO1 NYB8804664 XORTHROP CRUMMAN CORPORATION CAOR YAC RETEXO ITUOU B. Generator's ID ETUPAGE :X 11714-3580 4. Generator's Telephone Number (US EPA ID Number 5. Transporter 1 (Company Name) C. State Transporter's ID D. Transporter's Telephone (610) 261-22k0 US EPA ID Number 7. Transporter 2 (Company Name) E. State Transporter's ID F. Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID TWM CHAMICAL SERVICES, INC. 10. US EPA ID Number H. Facility Telephone (1550 BALMER ROAD *OSEE CITY W 14107 13. Total *** 14.Unit 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Wt/Vol I. Waste No. Quantity MG, HAZARDOUS MASTE, SOLID, A.O.S. 1667 6 0 1 D T STATE (CHROMIUM) 9, JA3077, III (0907) 511120P STATE **EPA** STATE STATE J. Additional Descriptions for Materials listed Above K. Handling Codes for Wastes Listed Above S/D SOIL M/CROMIUM 81480061 15. Special Handling Instructions and Additional Information Ru 3730 PACKING SLIPS ATTACHED FOR CLARIFICATION AMERGENCY PHONE # 353-2387 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable International and national government regulations and state laws and regulations if I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to Printed/Typed Name 97 Transporter 1 Acknowledgement of Receipt of Materials Dav Year Printed/Typed Name Signature 1191912 SWAGE + Transporter 2 Acknowledgement of Receipt of Materials Dav Year Printed/Typed Name Signature 19. Discrepancy Indication Space Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed yped Name Signature Mo. Day Year

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Manifest Doc. No. 2. Page 1 of UNIFORM HAZARDOUS Information within heavy bold line is not required by Federal Law. WASTE MANIFEST 3. Generator's Name and Mailing Address 1311 STOP CO03-001 NYB8804736 CONTERCED ARABASSACION CONTROLLA CON WITH OYSTER BAY TOAL B. Generator's ID ALDEPACE SY 11714-3580 4. Generator's Telephone Number (116) 375-4550 Abr: J. Correann C. State Transporter's ID Transporter 1 (Company Name) 6. US EPA ID Number DRWITH TRUCKS, I.K. 기시기14 6 7 1 4 6 7 3 D. Transporter's Telephone (+>10) 251 US EPA ID Number 7. Transporter 2 (Company Name) E. State Transporter's ID F. Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID Durk Chemical Dervices, Inc. 10. US EPA ID Number H. Facility Telephone (1550 SALMER ROAD CVD5 a 9 3 3 6 SODEL CITY BY 14107 13. Total 14.Unit 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Quantity Wt/Vol I. Waste No. RO, HAZARDOUS HAUTE, BOLID, n.o.s. 500**7** STATE (CHROMIUM) 3, MA3077, III (000%) DA 12/23/97 b. STATE **EPA** STATE d. **EPA** STATE J. Additional Descriptions for Materials listed Above K. Handling Codes for Wastes Listed Above S/D BOIL //GREATION 15. Special Handling Instructions and Additional Information 169641-10 たじこんご 388 353-2387 **449** CALKING SLIPS ATTACHED FOR CLARIFI CHERGENCY PHONES 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. 166 Printed/Typed Name 17. Transporter 1 Acknowledgement-of Receipt of Materials Printed/Typed Name Signature JENTREH 18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19. Discrepancy Indication Space Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Signature

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212 Please type or prior. Do not staple. Generator's US EPA No. Manifest Doc. No. 2. Page 1 of Information within heavy bold line **UNIFORM HAZARDOUS** is not required by Federal Law. WASTE MANIFEST Generator's Name and Mailing Address "AIL STOP 0008-001 NYB8804745 LICH OYSIER BAY ROAD JOHN PROPERTIES AN ADRESSATION B. Generator's ID 11714-3530 Y 4. Generator's Telephone Number (316) 375-4050 US EPA ID Number C. State Transporter's ID 5. Transporter 1 (Company Name) D. Transporter's Telephone (OPATIN CRUCRO, CNO 7. Transporter 2 (Company Name) US EPA ID Number E. State Transporter's ID F. Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID CHEM CHEMICAL CERVICES, INC. H. Facility Telephone (10. US EPA ID Number 1550 BALMER ROAD CODEL CITY AY 14107 14.Unit 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Quantity Wt/Vol I. Waste No. EPA a. RO, HAZARDOUS HASTE, BOLID, n.O.S. 0007 (CHROMIUM) 9, NAJO77, III (DOUX) STATE 7. DA 12/23/97 **EPA** STATE **EPA** c. STATE FΡΔ d. STATE K. Handling Codes for Wastes Listed Above J. Additional Descriptions for Materials listed Above as/S soil W/Chromium. 15. Special Handling Instructions and Additional Information PACKING GLIPS ATTACHED FOR CLARIFICATION 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper ships classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to Year Printed/Typed Name 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature 1/ 18. Transporter 2 Acknowledgement of Receipt of Materials Mo. Day Printed/Typed Name Signature

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		st Doc. No.		iniormatic	on withir uired by	heavy bold line Federal Law.		
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il region de la companya de la compa	19403 of 11714-35		B. Generator's ID					
5. Transporter 1 (Company Name)	6. US EPA ID Number	111:	tate Transporter's	s ID XA6093 (44)				
7. Transporter 2 (Company Name)	8. US EPA ID Number	US EPA ID Number E. State Transporter's ID						
Designated Facility Name and Site Address				ransporter's Teleph tate Facility ID	none (
DET CHEMICAL DERVICES, ENC.	10. US EPA ID Number		НЕ	acility Telephone (<u> </u>			
DDEL CITY OF 14167 - 716-754-823								
11. US DOT Description (Including Proper Shipping Name, Hazard 0	Class and ID Number)	12. Cont Number		13. Total Quantity	14.Unit Wt/Vol	I. Waste No.		
a. 82, MARAGUS WASTE, SOLIO, n.o.3.						EPA		
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b. 7 Di	n 12/23/97					EPA		
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c.		1				STATE		
d.		\vdash				EPA		
		1 1	,		,	STATE		
J. Additional Descriptions for Materials listed Above			К. Н	andling Codes for	Wastes	Listed Above		
a A SOIL A CHROMINA 100 0		 	a	4	С			
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b d 15. Special Handling Instructions and Additional Information		3437	73 (^) <u> </u>	d			
PACKING SLIPS ATTACTED FOR CHARIFFE	•	•	色油	288 35 3-2 :	387	_		
16. GENERATOR'S CERTIFICATION: I hereby declare that the	contants of this consistement are fu	814	800	144 c	-QG	72/		
classified, packed, marked and labeled, and are in all respects in p regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place practicable and that I have selected the practicable method of treatment health and the environment; OR if I am a small generator, I have made me and that I can afford.	roper condition for transport by high e to reduce the volume and toxicity ont, storage, or disposal currently av	ghway accord of waste general vailable to me	ding to a erated to which r	applicable internation the degree I have d minimizes the preser	nal and i etermine nt and fur	national government d to be economically ture threat to human		
Printed/Typed Name on Buthin on NGC	Signature	M	1		ı	Mo. Day Year		
17. Transporter 1 Acknowledgement of Receipt of Materials	MGC in	- Jul	0	- Hori	<u>:</u>	1/1/1/1/		
Printed typed Name /////LTIM CHACH	Signatur	chic	L			Mo. Day Year		
Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature					Mo. Day Year		
19. Discrepancy Indication Space	6960P	-						
20. Facility Owner or Operator: Certification of receipt of hazardous		est except a	s noted	in Item 19.	<u> </u>			
Printed/Typed Name E1 13570 (\$12.1972)	Signature	_ (tu	tu		Mo. Day Year		

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212 1. Generator's US EPA No. Manifest Doc. No. 2. Page 1 of **UNIFORM HAZARDOUS** Information within heavy bold line 120020479576998 **WASTE MANIFEST** is not required by Federal Law. 3. Generator's Name and Mailing Address 100-6000 GOTE LIAN NYB8804673 Yorihnof Grumman Corporation SOUTH CYSTEER HAY ROAD STTHPAGE BY 11714-3580 B. Generator's ID 34 4. Generator's Telephone Number (515) 575-4680 Act: J. Cofman 6. US EPA ID Number 5. Transporter 1 (Company Name) C. State Transporter's ID 17 N N 15 7 N N 15 7 HORNITH PROCKS, INC. D. Transporter's Telephone (510) 7. Transporter 2 (Company Name) 8. US EPA ID Number E. State Transporter's ID F. Transporter's Telephone (G. State Facility ID Designated Facility Name and Site Address Jam Chemical Services, Inc. 1550 BALMER ROAD 10. US EPA ID Number H. Facility Telephone (ODEL CITY 의 게 의 이 4 의 의 의 6 6 7 9 716-754-3231 13. Total 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Wt/Vol I. Waste No. Quantity EPA 2007 NO, HAZARDOUS HASTE, SOLID, n.o.s. STATE (CHROMIUM) 3, MA3077, III (0007) STATE **EPA** STATE **EPA** . 8 STATE Additional Descriptions for Materials listed Above K. Handling Codes for Wastes Listed Above DIE COIL WICHROMIUM 15. Special Handling Instructions and Additional Information PACILIES JLIPS ATTACHED FOR CLARIFICATION CAESCENCA 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to Printed/Typed Name Day 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19. Discrepancy Indication Space Hemk-T 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Signature DIGON

In case of emergency or spill immediately call the National Response Center

VYB8804835

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Hazardova Wasta Manifest 4/07

Ţ		Doc. No.		ge 1 of	Information is not req	on within uired by	heavy bold line Federal Law.		
	3. Generator's Name and Mailing Address MAIL STOP DOUB-U01 WORTHROF-GRUSSAAN CORPORATION SOUTH DYSIGR WAY JOAN		A.				835		
	4. Generator's Telephone Number (1775-4080 17 17 14 1 17 17 1 1 18 1 17 17 1 1 18 1 18	7 3	D. Transporter's Telephone (510) 261-222						
	7. Transporter 2 (Company Name) 8. US EPA ID Number 9. Designated Facility Name and Site Address		E. St	ate Trar	nsporter's er's Telepi	ID)		
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	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully classified, packed, marked and labeled, and are in all respects in proper condition for transport by highwregulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of w practicable and that I have selected the practicable method of treatment, storage, or disposal currently availa health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste me and that I can afford.	ay accord aste genu	ding to a erated to e which m	pplicable the degre ninimizes	e I have d	nal and retermined to the termined to the term	national government of to be economically ture threat to human		
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2	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by his manifest Printed Typed Name Signature	except a	s noted	in Item 1	19.	<u> </u>	Mo. Day Year		
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STATE OF NEW YORK 1 4 P
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Haverlous Wests Mandast 4/07)

100000	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manife	est Do	c. No.	2. Pa	ige 1 of			h heavy bold line Federal Law.	
	3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD			^ NYB8804502					
	BETHPAGE NY 11714-3580			В. С	B. Generator's ID				
	4. Generator's Telephone Number (75-47)80 5. Transporter 1 (Company Name) 6. US EPA ID Number			C. S	AMF State Tran	nsporter's	ID XO	73455 (4)	
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	7. Hansporter 2 (Company Name)					sporter's er's Telepi)	
	9. Designated Facility Name and Site Address			G. 8	State Faci	ility ID			
	CWM CHEMICAL SERVICES. INC. 1550 BALMER ROAD MODEL CITY, NY 14107 NY D 0 4 9 9 7 4	-	, ,	H. F	•	lephone (•	N/A	
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hezarrious Waste Menifest 4/97)

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	4. Generator's Telephone Number (6. US EPA ID Number					7			
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Ì	7. Transporter 2 (Company Name)	8. US EPA ID Number	والإلجا		ansporter's IC		251-2225			
					rter's Telepho)			
	Designated Facility Name and Site Address			G. State Fa	acility ID					
	CARA CHEMICAL SERVICES, TAXI.									
	1550 BALMER ROAD	10. US EPA ID Number		H. Facility	l elephone ()				
			12. Cont	ainers 713	Total -U	14.Unit				
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

UNIFORM HAZARDOUS WASTE MANIFEST Generator's Name and Mailing Address ALL STOP XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	iea	se type or print? Do not staple.			Total Control	(,,42	zardous Waste Manifest 4/97)
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97

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In case of emergency or spill immediately call the National Response Centy (90) 424-6802 and the NYS Department of Environmental Conservation (518) 457-7362

DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST



Please type or print. Do not staple.

P.O. Box 12820, Albany, New York 12212

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	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US		d 1 1	2. Page 1 of	Innonnation	n within heavy bold line ired by Federal Law.		
ń		OP D08-001	~ *	A.	V D O O	E 2 4 4 7		
9	NORTHROP-GRUMMAN CORPORATION SOUTH OF	YSTER BAY ROAD E NY 11714-3580	10	B. Generate		53417		
1	4. Generator's Telephone Subber (346-0106 7777)	T. Coffice N		SAME				
1		6. US EPA ID Number		C. State Transporter's ID X B 51785-1				
	HORWITH TRUCKS, INC.	PAD146714	878	D. Transpo	rter's Teleph	one 610 261-2226		
	7. Transporter 2 (Company Name)	8. US EPA ID Number		E. State Tra	ansporter's [[)		
					rter's Telepho	one ()		
١	9. Designated Facility Name and Site Address			G. State Fa	icility ID	37.74		
	CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD	10. US EPA ID Number		II. Facility 3		N/A		
1	MODEL CITY, NY 14107	N Y D 0 4 9 8 3 6	1 1 1 9	H. Facility 716) 9231		
	THOUSE CITY, HT 11107	1 1 4 4 1 4 9 9 9	12. Conta			14.Unit		
	11. US DOT Description (Including Proper Shipping Name, Hazard Cla	ass and ID Number)	Number		Quantity	Wt/Vol I. Waste No.		
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۹	J. Additional Descriptions to Materials listed Above			K. Handling	Codes for W	astes Listed Above		
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	PACKING SLIPS ATTACHED FOR CLARIFICAT	ION EMERGENCY	1 1 /200	,		11338-8		
						11330-0		
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900) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7562

In case of emergency or spill immediately call the National Response Cent.

STATE OF NEW YORK

QEPARIMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's UN Y D 0 0	1 1 1 1	Manife		2. Page 1 o	Information		heavy bold line Federal Law.				
3. Generator's Name and Mailing Address MATT STOP DAS-001 A.												
NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD						NYB8853435						
BETHPAGE NY 11714-3580					B. Generator's ID							
4. Generator's Telephone Subber (Total Allis J. Col. 10.1)					C. State Transporter's ID TW3.6777-							
5. Transporter 1 (Company Name)		6. US EPAID N		4999								
	HORWITH TRUCKS, INC. PAD 14671487						D. Transporter's Telephone 610 1261-2226					
7. Transporter 2 (Company Name) 8. US EPA ID Number					E. State Transporter's ID F. Transporter's Telephone ()							
Designated Facility Name and Site Address					G. State F) o non					
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1550 BALMER ROAD		10. US EPA ID	Number		H. Facility	Telephone (·)					
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15. Special Handling Instructions and Additional Information NYS Transactor Permit # 10130E (PA-263 BU3730												
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10) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

In case of emergency or spill immediately call the National Response Cent

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

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	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manifes	st Doc. N $\begin{vmatrix} 1 & 1 & 4 \end{vmatrix}$	lo. 2. Pa	Informati	ion within heavy bold line quired by Federal Law.				
7	3. Generator's Name and Mailing Address MAIL STOP D08-001	Α.	A						
1	NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD		NYB8847045						
1	BETHPAGE MY 11714-3580								
١				B. Generator's ID					
١	4. Generator's Telephon ອີ ເປັນການອະຊີ(75 - 46)ສີ0		SA	SAME					
1	5. Transporter 1 (Company Name) 6. US EPA ID Number		C. 8	State Transporter's	ID/ / MOUNT				
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-	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Co	ntainers	13. Total	14.Unit				
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	regulations and state laws and regulations.	ilway acc	ording to	applicable internation	rial and national government				
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1	practicable and that I have selected the practicable method of treatment, storage, or disposal currently ava health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my wa	iste and s	ple the	st waste manageme	ent method that is available to				
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	17. Transporter 1 Acknowledgement of Receipt of Materials				<u> </u>				
5	Printed/Typed Name Signature		6		Mo. Day Year				
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2	18. Transporter 2 Acknowledgement of Receipt of Materials		,	7					
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F	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifes	st except	as noted	in Item 19.					
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190) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

case or concriberory or spill immediately call the National Response Cent

TERIALS

Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212



UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's U	S EPA No.	Manif	fest Doc.		2. Pag	Informa		heavy bold line Federal Law.			
Generator's Name and Mailing Address ALL STOP DOOR-001						^ NYB8804709 P						
.iorthrop gruppan corporati	DRITHROP GRUMMAN CORPORATION SOUTH DYSTER BAY ROAD					B. Generator's ID						
Generator's Telephone Number ()												
5. Transporter 1 (Company Name) 2 0 275-4580 (SEPA(SAMILLAR))					, , }	C. St	ate Transporter's	hone (314 / 21-PA 10 261-2220			
7. Transporter 2 (Company Name)		8. US EPA ID		41 81 7			ate Transporter's		10 261-2220			
					Ц		ansporter's Tele	hone ()			
Designated Facility Name and Site Address							ate Facility ID		1			
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300EL CITY XX 14107	1330 Bridger 1942						716-754-8231					
11. US DOT Description (Including Proper Shipping	Name, Hazard C	lass and ID Nu	mber)	12. C		- I	13. Total	14.Unit) /			
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15. Special Handling Instructions and Additional Inf	formation	8/14	20255			A	2720					
15. Special Handling Instructions and Additional Information 8/4/20255 313730												
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 888 353-2387												
16. GENERATOR'S CERTIFICATION: I hereb	by declare that the c	contents of this c	onsignment are	fully and a	accura		scribed above by	proper shi	pping name and are			
classified, packed, marked and labeled, and are in regulations and state laws end regulations.		•				_			· 1			
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20. Facility Owner or Operator: Certification of rece	eipt of hazardous r	materials cover	ed by this man	nifest exce	pt as	noted	in Item 19.	4				
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NTS Department of Environmental Conservation (518) 457-7362

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

type or print. Do not staple.

	Doc. No.		Innoma		heavy bold line Federal Law.			
3. Generator's Name and Mailing Address	<u> </u>	^1 NYB8804682						
CACH YAR GRUMMAN CORPORATION SOUTH CYSTER BAY BOAD	B. Generator's ID							
4. Generator's Telephone Number (516) 375 4580 411 56. US EPA ID Number 6. US EPA ID Number	580	SAME						
	C. State Transporter's ID XA44675-P							
7. Transporter 2 (Company Name) 8. US EPA ID Number	8 7 8	D. Transporter's Telephone (\$10 \$21-2220) E. State Transporter's ID						
		F. Ti	ransporter's Telep)			
9. Designated Facility Name and Site Address G. State Facility ID								
THE CHEMICAL SERVICES, INC. 1550 BALGER ROAD 10. US EPA ID Number	[H. Facility Telephone ()						
	6 7 9		716-754-					
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J. Additional Descriptions for Materials listed Above		K. Ha	andling Codes for	Wastes I	isted Above			
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PACKING SLIPS ATTACHED FOR CLARIFICATION DAERGINGS		ie 3	388 353	-2387	7			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are full		ately de	scribed above by n	ELG	roing hame and are			
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Luvii oimientai Comservation (516) 457-7302

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DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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Printed/Typed Name

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Day

1. Generator's US EPA No. Manifest Doc. No. 2. Page 1 of **UNIFORM HAZARDOUS** Information within heavy bold line is not required by Federal Law. N Y D 0 0 2 0 4 7 9 6 **WASTE MANIFEST** 0 0 1 3. Generator's Name and Mailing Address MAIL STOP DO8-001 NYB8847117 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 B. Generator's ID 4. Generator's Telephone Sulphber 575-4680 SAME 5. Transporter 1 (Company Name) 6. US EPA ID Number C. State Transporter's ID HORWITH TRUCKS, INC. P A D 1 4 6 7 1 4 8 7 8 D. Transporter's Telephone 10 261-222 7. Transporter 2 (Company Name) US EPA ID Number E. State Transporter's ID F. Transporter's Telephone (Designated Facility Name and Site Address G. State Facility ID SUM CHEMICAL SERVICES, INC. N/A 1550 BALMER ROAD 10. US EPA ID Number H. Facility Telephone (N Y D 0 4 9 8 3 6 6 7 9 MODEL CITY, NY 14107 754-8231 716 12. Containers 13. Total 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Quantity Wt/Vol I. Waste No. RQ HAZARDOUS WASTE, SOLID, n.o.s. EPA DOO7 (CHROMIUM) 9,NA3077,III (D007) 001 DI STATE ħ **EPA** GENERATOR STATE C. EPA STATE d. , **EPA** STATE K. Handling Codes for Wastes Listed Above J. SAdditional Descriptions for Malerials listed Above 15. Special Handling Instructions and Additional Information

NISTER 12. TO PROPERTY OF A STATE OF PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my plaste and select the best waste management method that is available to me and that I can afford. Printed/Typed Name **6) L** Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature - AMES Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Day Year 19. Discrepancy Indication Space Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

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20) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

case of emergency or spull immediately call the National Response Cent

Printed Typed Name

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STATE OF NEW YORK DIVISION OF SOLID & HAZARDOUS MATERIALS

Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212 Manifest Doc. No. 2. Page 1 of Generator's US EPA No. Information within heavy bold line UNIFORM HAZARDOUS N Y D 0 0 2 0 4 7 9 is not required by Federal Law WASTE MANIFEST Generator's Name and Mailing Address MAIL STOP DO8-001 NYB8847135 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 B. Generator's ID 4. Generator's Telephone 51 Aber 575-4680 SAME 6. US EPA ID Number 5. Transporter 1 (Company Name) C. State Transporter's ID HORWITH TRUCKS, INC. A D 1 4 6 7 1 4 8 7 8 D. Transporter's Telephon 61 7. Transporter 2 (Company Name) US EPA ID Number E. State Transporter's ID Transporter's Telephone (9. Designated Facility Name and Site Address G. State Facility ID CWM CHEMICAL SERVICES, INC. N/A 1550 BALMER ROAD 10. US EPA ID Number H. Facility Telephone (0 4 9 8 3 6 6 7 9 MODEL CITY, NY 716 754-8231 12. Containers 13. Total 14.Unit 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Quantity Wt/Vol I. Waste No. RQ HAZARDOUS WASTE, SOLID, n.o.s. EPA DOO7 (CHROMIUM) 9,NA3077,III (D007) 001 STATE EPA STATE **EPA** STATE **EPA** STATE K. Handling Codes for Wastes Listed Above J. SAdditional Descriptions of Malerials listed Above 15. Special Handling Instructions and Additional Information W13 Transca Para 1 # 11/1000 PA-263 PACKING SLIPS ATTACHED FOR CLARIFICATION GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Printed/Typed Nam Day Year 309 Transporter 1 Acknowledgement of Receipt of Materials Printed/Tyned Name Day Year Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name 19. Discrepancy Indication Space Facility Owner or Operator: Certification of receipt of hazardous materials vered by this manifest except as noted in Item 19

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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US E	EPA No. Manifes	t Doc. No.	2. Pa	Informat		heavy bold line Federal Law.
Generator's Name and Mailing Address MAIL STOP	D08-001		A.	NYB8	0 <i>l</i> i 7	126
	TER BAY ROAD		B 6		041	120
BETHPAGE 4. Generator's Telephoned Number \$7504880	HY 11714-3580			Generator's ID		
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.0) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7352

In case of emergency or spill immediately call the National Response Centa

STATE OF NEW YORK

DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

1	UNIFORM HAZARDOUS WASTE MANIFEST	la la la la la la la la la la la la la l	1 2 3	2. Fa	Intornatio		heavy bold line Federal Law.
40	Generator's Name and Mailing Address MAIL ST	TOP D08-001	1 2 7	A.	NYB88	2/17	'n g 1
	NORTHROP-GRUMMAN CORPORATION SOUTH O	DYSTER BAY ROAD SE NY 11714-3580		В 6	in D O (741	001
	4. Generator's Telephone Num ber \$75-4680	JE NT 11714-3380			AME		10/13/21
1	5. Transporter 1 (Company Name)	6. US EPA ID Number			itate Transporter's	ID -	1477VM
	HORWITH TRUCKS. INC.	P A D 1 4 6 7 1 4	8 7 8	D. T	ransporter's Telep	hone (261-2220
	7. Transporter 2 (Company Name)	8. US EPA ID Number		_	tate Transporter's		
					ransporter's Telepi	none ()
	9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC.			G. 3	State Facility ID		N/A
	1550 BALMER ROAD	10. US EPA ID Number		H. F	acility Telephone ()
	MODEL CITY, NY 14107	NYD049836	6 7 2		716 - 754-		
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DEPARTMENT OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

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UNIFORM HAZARDOUS N Y D	.	st Doc. No.	2. Pa	- Iniomati	on within	n heavy bold line y Federal Law.
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	THPAGE NY 11714-3580		B. G	ienerator's ID		
4. Generator's Telephone Nindber 675-4880			S	AME		
5. Transporter 1 (Company Name)	6. US EPA ID Number			tate Transporter's		
HORWITH TRUCKS. INC.		8 7 8		ransporter's Telep		0 261-2220
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15. Special Handling Instructions and Additional Information PLATE # X# (51) 131 / V S 1/1	4 1 1 100				377/	\
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PACKING SLIPS ATTACHED FOR CLARIF	ICATION EMERGENCY	PHONE (200	757-2707	• 7	1-01 11 11
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 GENERATOR'S CERTIFICATION: I hereby declare classified, packed, marked and labeled, and are in all respective. 	that the contents of this consignment are ful	ally and accur	ately de	escribed above by p	roper shi	pping name and are
regulations and state laws and regulations.		-	-		•	· I
If I am a large quantity generator, I certify that I have a program practicable and that I have selected the practicable method of	treatment, storage, or disposal currently ava	ailable to me	whiah r	minimizes the presen	nt and fut	time threat to human
health and the environment; OR if I am a small generator, I have me and that I can afford.	ve made a good faith effort to minimize my wa	asta and sele	t Te b	t waste managem	ent metho	od that is available to
Printed/Typed Name	Signature	111	1			Mo. Day Year
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17. Transporter 1 Acknowledgement of Receipt of Materials				1		
Printed yped Name	Signature	-01	//~			Mo Day Year
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18. Transporter 2 Acknowledgement of Receipt of Materials	Simple			-		<u>,, , , , , , , , , , , , , , , , , , ,</u>
Printed/Typed Name	Signature					Mo. Day Year
19. Discrepancy Indication Space						
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actual reend 48	HOP		1	en K.		<u>† </u>
20. Facility Owner or Operator: Certification of receipt of haz	ardous materials covered by this manife	est except as	noted	in Item 19.		
Printed/Typed Name	Signature	11 5	_			Mo. Day Year
1 5 min M. Minim		/U '/			1	1122/1917

NYB8847162

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

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(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator	S US EPA No. Manife 2 0 4 7 9 6 7 0 0	1 1 0	2. Page 1 of 1	Information is not req	on within uired by	heavy bold line Federal Law.
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TOP D08-001		A. N	VDOC	17	160
	OYSTER BAY ROAD GE NY 11714-3580		B. Generato	YB88	04/	102
4. Generator's Telephonet Number \$75-4880			SAME			
5. Transporter 1 (Company Name)	6. US EPA ID Number		C. State Tra			52087 PA
HORWITH TRUCKS. INC.	P A D 1 4 6 7 1 4	8 7 8	D. Transpor			261-2220
7. Transporter 2 (Company Name)	8. US EPA ID Number		E. State Tra			
Designated Facility Name and Site Address			F. Transpor G. State Fa		ione (
CWM CHEMICAL SERVICES, INC.			G. State Fa	Cility ID		
1550 BALMER ROAD	10. US EPA ID Number		H. Facility T	elephone (N/A
MODEL CITY, NY 14107	NYD049836	6 7 9		754-8		-
11. US DOT Description (Including Proper Shipping Name, Hazar		12. Cont		Total	14.Unit	
		Number	Туре С	Quantity	Wt/Vol	I. Waste No.
a. RO HAZARDOUS WASTE, SOLID, n.o.s.						EPA DOO7
X (CHROMIUM) 9,NA3077,III (D007)		001	DT 48	400	Р	STATE
b.						EPA
•		1 , ,	1,1,		1	STATE
C			1			EPA
						STATE
d.						EPA
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J. S Additional Descriptions of Materials listed Above			K. Handling	Codes for V	Vastes L	sted Above
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15. Special Handling Instructions and Additional Information	· G. T	Profit	es Di	373	7 0.	
PACKING SLIPS ATTACHED FOR CLARIFICA	32 (911 36			387	18 - 4 180 - 4	* 2 d = 7
GENERATOR'S CERTIFICATION: I hereby declare that the classified, packed, marked and labeled, and are in all respects in	e contents of this consignment are fu	lly and accur	rately described	above by pro	oper shipp	oing name and are
regulations and state laws and regulations.	and the state of t		August and		*	, A river start
If I am a large quantity generator, I certify that I have a program in plate practicable and that I have selected the practicable method of treatmenth and the environment; OR if I am a small generator, I have mad me and that I can afford.	nent, storage, or disposal currently av	ailable to me	which minimizes	s the present	and futur	re threat to human
Printed/Typed Name	Signature	-/-	11/1		M	o. Day Year
Joe Susse for NGO	NI	A	115		- 17	71201017
17. Transporter 1 Acknowledgement of Receipt of Materials						7.7
Printed/Typed Name	Signature 11	1 0	۸٠		М	o. Day Year
Shappie Meckes	1 (Marke	- 2	mech	4		23097
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	S'tur					
	Signature				M	o. Day Year
19. Discrepancy Indication Space	2 · D		1	,) - <u>-</u>	1	
20. Lifty Owner or Operator: Certification of receipt of hazardou	s materials covered by this manife	st except as	noted in Item	19.	7	
Printed/Typed Name	Signature				М	o. Day Year
Coloen M. Dineau	1 ()	4/	V"=		4	23/19/7
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST



Please type or print. Do not staple.

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P.O. Box 12820, Albany, New York 12212

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(Hazardous Wa	ste Man ifes t 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manifest Doc. No.	Information within neavy bold line
3. Generator's Name and Mailing Address XAXL STOP D098-001	^ NYB8804925 🔘
FORTHROP-GRUMMAN CORPORATION SOUTH CYSTER BAY ROAD SETHPAGE BY 11714-3580	B. Generator's ID
4. Generator's Telephone Number (5. Transporter 1 (Company Name) 6. 105 EPAID Number 6. 1	C. State Transporter's ID XA 7350 (4)
7. Transporter 2 (Company Name) 8. US EPA ID Number	D. Transporter's Telephone (510)261 - 222) E. State Transporter's ID
Thaispoile 2 (company Hans)	F. Transporter's Telephone ()
9. Designated Facility Name and Site Address	G. State Facility ID
1550 SALVER SON 10. US EPA ID Number 1550 SALVER SON 10. US EPA ID Number	H. Facility Telephone ()
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) 12. Cont Number	.
a. SO ANADOVNIS WASTE COUTD 2 0 8	EPA
* (CIRCULUM 2.::A3077.III (COOK) 1227 0 0 1	STATE 3007
b. 1	EPA
	STATE
c.	EPA
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d.	EPA
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J. Additional Descriptions for Materials listed Above	K. Handling Codes for Wastes Listed Above
a 5/10 C	a Land C
b d	ь Ц а
15. Special Handling Instructions and Additional Information	409643-1 6:WAN
·	#: 388 351-2387
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurate classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to the contents of this consignment are fully and accurate classified.	erately described above by proper shipping name and are ding to applicable international and national government
regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generaticable and that I have selected the practicable method of treatment, storage, or disposal currently available to me	erated to the degree I have determined to be economically which minimizes the present and future threat to human
health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and seleme and that I can afford.	
Printed/Typed Name IN JUAN I NOU Signature	Mo. Day Year 1/2/2/2/97
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Rignature	Mo. Day Year
DAVID B. PRYFOCKE & MING B. B.	1/2/2/97
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature	Mo. Day Year
19. Discrepancy Indication Space	
actual him disme	Ì
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except a	as noted in Item 19.
Printed Typed Name Signature	Mo. Day Year
COPY 5-Generator-mailed by TSD facility	

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goup 424-bouz and the NYS Department of Environmental Conservation (518) 457-7362

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION OVERLINE OF SOLID & HAZARDOUS MATERIALS



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UNIFORM HAZARDOUS WASTE MANIFEST	Generator's US EPA	No.	anifest Doc. No		intormati	on within	n heavy bold line v Federal Law.
Generator's Name and Mailing Address		3702 0008		A. *	NYB88	R N 4	.907
HORTHROP-URLAMAN CORPORA		i oyster y			ienerator's ID		
Generator's Telephone Number ()			11714-35	_		AMES	
5. Transporter 1 (Company Name) 310 37	30 130 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EPA VO Manifebr	1 1 1 1	C. S	tate Transporter's	ID	W/261170
7. Transporter 2 (Company Name)	- 19	EPA ID Number	بلوارهايها	\	ransporter's Telep tate Transporter's	<u>`</u>	510⁾ 261-22
7. Transporter 2 (Company Harris)					ransporter's Telep)
9. Designated Facility Name and Site Address				-	tate Facility ID	-	,
DWN CHEMICAL SERVICES, IN	C.						
1550 BALMER ROAD	10. U	S EPA ID Number	1 1 1 1	H. F	acility Telephone)
PODEL CITY BY 14107		<u> </u>	3 5 5 7 5		716-751-		
11. US DOT Description (Including Proper Shippi	ng Name, Hazard Class an	d ID Number)	12. Con	_		14.Unit	L Woote No
a.			Number	Туре	Quantity	Wt/Vol	I. Waste No.
no, Jazardous Waste,	DOLID, a.o.s.	DA 2/24/97)	Ι.			3697
(CHIOMEUM) 9,143077,1	TT (D0016	12/2	واشاها	متادياة	54080	а	STATE
b. (CHOMIUM) 9, 43017, 1	1						EPA
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J. Additional Descriptions for Materials listed Abo	ve			K. Ha	andling Codes for \	Vastes I	Listed Above
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b	d			b		d	
15. Special Handling Instructions and Additional I		H EMERCE	HCY PHONT 814	8 4:	888 351-2	367	
16. GENERATOR'S CERTIFICATION: I here classified, packed, marked and labeled, and are regulations and state laws and regulations. If I am a large quantity generator, I certify that I had practicable and that I have selected the practicable health and the environment; OR if I am a small ger me and that I can afford.	in all respects in proper con /e a program in place to reduce e method of treatment, storag	e the volume and toxi e, or disposal current	y highway accor icity of waste gen ity available to m	ding to a erated to which n	applicable internation the degree I have de ninimizes the presen	al and naterined	ational government I to be economically ure threat to human
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Printed/Typed Name	Signat	ure	1 -	<u> </u>	7		o. Day Year
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18. Transporter 2 Acknowledgement of Receipt'o	Materials Signat						to Day Year
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19. Discrepancy Indication Space O. Facility Owner or Operator: Certification of rec	ceipt of hazardous materials	covered by this ma	anifest except a	s noted	in Item 19.		
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.edu) 424-6802 and the NYS Department of Environmental Conservation (518) 457-7362

or concentration of appropriately cartifle National Response Central

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION **DIVISION OF SOLID & HAZARDOUS MATERIALS**

HAZARDOUS WASTE MANIFEST

lea	se type or print. Do not staple.	P.O. Box 12	2820, Alban	•						(Ha	zardous Waste Manifest 4/97)
	UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's U	S EPA No.	6 A Manife	st Do	98	2. Pa	ge 1 of			heavy bold line Federal Law.
	Generator's Name and Mailing Address CORTINOP—CRUMMAN CORPORAT.		STOP DOO H DYSTER		,		A .			304	898
	4. Generator's Telephone Number (516 5	그로마 75-4680 <u> </u>	ti J. Cof		586	0		enerato		SAME	Addle con
	5. Transporter 1 (Company Name) HOWITH TRICKS, INC.	دء	6. US EPAID N	1 1	ા ક	7 ව					199668 (M) 510)261-222
Ī	7. Transporter 2 (Company Name)		8. US EPA ID N	lumber			E. State Transporter's ID F. Transporter's Telephone ()				
Ì	9. Designated Facility Name and Site Address							tate Fa			
	CMM CHEMICAL SERVICES, TAC 1550 BALMER ROAD	•	10. US EPA ID	Number			H. F	acility T	elephone	4)
	SODEL CITY NY 14107			3 3 5	6	7 9			116-75		1
	11. US DOT Description (Including Proper Shippi	ng Name, Hazard C	lass and ID Num	ber)	l	Conta mber			Total	14.Unit Wt/Vol	I. Waste No.
	a. GTEAN EUXXIRASAH , GR	COLID, n.o.	3. DA	124/97	١.			110	Olema .		EPA 0007
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בסוב	.	.1				ı					STATE
GENERATOR	C.										EPA
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	d.										EPA
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'	J. Additional Descriptions for Materials listed About 3/2 SOIL #/CIROMIUM a	оvе О с			ļ		K. Ha	andling	Codes for	Wastes c	Listed Above
	b . Special Handling Instructions and Additional	Information					b		/	d la	
	PACKING SLIPS ATTACHED		CATION	MERGE	CY.	280	me i	*: 8	188 35 ees 3	1-23	i7
	GENERATOR'S CERTIFICATION: I her classified, packed, marked and labeled, and are regulations and state laws and regulations.								above by p	roper shi	
	If I am a large quantity generator, I certify that I he practicable and that I have selected the practicable health and the environment; OR if I am a small ge me and that I can afford.	le method of treatmen	nt, storage, or dispo	sal currently av	ailable	e to me	which r	ninimize	s the prese	nt and fut	ture threat to human
	Printed/Typed Name J. Maix 314	× 60	Signature	5		14	lh		Sen-		Mo. 4 44 5 7
ا .	17. Transporter 1 Acknowledgement of Receipt	of Materials	Signetures A	A 6.	200						Mo Day Year
	Printed/Typed Name		Trywh	ed to	<u>£</u>						147457
HANSPORIER	18. Transporter 2 Acknowledgement of Receipt of Printed/Typed Name 11 1 1 H A F L THIRLE N	1	Signature	1. Il	_)	F.J.	al.			Mp. 1 Day 3 (Par)
LIIV	19. Discrepancy Indication Space		-> c . 0)b						<u> </u>	
1	20. Facility Owner or Operator: Certification of re	ceipt of hazardous r	materials covered	by this manife	st ex	cept a	s not ed	in Item	19.		
<u> </u>	Printed Types Name	KUM 1	Signature	1/1		/				,	Mo. Day Year

STATE OF NÉW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST

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P.O. Box 12820, Albany, New York 12212

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(Hazardous Waste Manifest 4/97)

	UNIFORM HAZARDOUS WASTE MANIFEST		stooc, No.	2. Page 1 o	monnauc		heavy bold line Federal Law.
	Generator's Name and Mailling Address	100-800G GOTE LIA		A.	VDOC	0 1	0.71
А	TORTHROP-GRUSHAM CORPORATION X	OUTH DYSTER BAY RO ETHPAGE HY 11714-			YB88		8/1
	4. Generator's Telephone Number (316 75-4580	itt: 7. Cofmann					<i>Wha</i>
	Transporter 1 (Company Nsame)	6. US EPA ID Number		C. State T	ansporter's I	DXC	-11415(14)
	DRAITH PROCKS, INC.	2 4 3 1 4 6 7 1 4	8 7 3	D. Transpo	rter's Teleph	none 1	0 361-2220
	7. Transporter 2 (Company Nsame)	8. US EPA ID Number		E. State Tr	ansporter's l	D	
			rter's Teleph	one ()		
	9. Designated Facility Name and Site Address	14		G. State F	acility ID		
	THE CHEMICAL SERVICES, INC.				4		
	1550 BALMER HOME	10. US EPA ID Number	s 7 3		Telephone (757-32 3	:4)
	PODEL CITY IN 14107	(I 3 3 4 3 3 3 3	 			14:Unit	
	11. US DOT Description (Including Proper Shipping Name, Hazard C	Class and iD Number)	12. Cont			- 1	I Marata Na
			Number	Type	Quantity	Wt/Vol	I. Waste No.
	a. W., MAZARDONS MASTE, JOLID, n.o.	DA Jan		_ ا	n		EPA 0007
	II (CHROMIUM) 9, NA3077, III (COOX)	DA 12/24/97	0 0 1	0 7 5	100	P	STATE
	b. 7						EPA
OR				+ +	I + I	ı	STATE
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	d.		1		- 1	.	EPA
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	J. Additional Descriptions for Materials listed Above			K. Handling	Codes for V	Vastes I	isted Above
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	15. Special Handling Instructions and Additional Information	BU37	130	ξ.	1480	ソ3	9
	SACKING SLIPS ATTACHED FOR CLARIFIC				351-2		·
	- ACMPILE SOLES ME PROMISE TOUR CONTRACTOR	प्याप्त कर्षा व्यवस्थात् । प्राप्त व्यवस्थात् विश्वति स्थापने विश्वति ।	;			Eng	4171
	16. GENERATOR'S CERTIFICATION: I hereby declare that the	contents of this consignment are fu	illy and accur	rately described	above by pro	per ship	ping name and are
	classified, packed, marked and labeled, and are in all respects in pregulations and state laws and regulations.	roper condition for transport by hig	hway accord	ling to applicat	ole internation	al and n	ational government
	if I am a large quantity generator, I certify that I have a program in place	nt, storage, or disposal currently av	aliable to me	which minimize	as the brasent	ing bog i	ire threat to human. I
	health and the environment; QR if I am a small generator, I have made me and that I can afford.	a good faith effort to minimize my wa	aste and sele	ct the best was	te manageme	nt method	d that is available to
	Printed/Typed Name	Signature	1	111		Ŋ	o. Day Year
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	17. Transporter 1 Acknowledgement of Receipt of Materials			1			
TER	Printed/Typed Name	Signature		and to	1	N 1 A	10.224 Sar
PoR	A VI Company of Receipt of Materials	2277	<u> </u>		<u>"ノ</u>	/	1777/
TRANSPORTER	18. Transporter 2 Acknowleduement of Receipt of Materials	Signature					fo. Day Year
۲	Printed/Typed Name					Ι.	
-	19. Discrepancy Indication Space		21				
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Ä	1	————	st except as	s noted in Item	19	1	to Day Year
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST

Please type or print. Do not staple.

P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)									
nation within heavy bold line required by Federal Law.									
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	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's		st Doc. No.	_	Imormanc		heavy bold line Federal Law.				
	AIL STOP DOOR-UO1					^ NYB8804889					
	- The state of the	Kouth Ovster bay ac Betipage by 11714-		B. Generator's ID							
	4. Generator's relephone number ()	6 US EPATO NUMBER		C. State	Transporter's		2009975 (44)				
	7. Transporter 2 (Company Name)	8. USEPA ID Number	ا وا ر ا قا	D. Trans	porter's Teleph Transporter's I	none (0 261-2220				
	7. Transporter 2 (company Name)	0. US EFA IB Iddinoer			porter's Teleph)				
	9. Designated Facility Name and Site Address			G. State	Facility ID						
	THE CHEMICAL SERVICES, INC. 1550 BALHER ROAD	10. US EPA ID Number		H. Facili	ty Telephone ()				
	HODEL CITY NY 14167	<u> </u>	5 7 3 12. Conta		15. 754 13. Total	14.Unit					
	11. US DOT Description (Including Proper Shipping Name, Hazard	Class and ID Number)	Number		Quantity	Wt/Vol	I. Waste No.				
	a. RQ, HAZARDOUS WASTE, SOLID, n.o	see saider					EPA				
	X (CEROMIUM) 9, NA3077, III (D001)	DAjela	0 0 1	0 r S	1880	P	STATE 2007				
~	b. 7						EPA				
GENERATOR							STATE				
GENE	c.						EPA				
							STATE				
	d.						EPA				
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	J. Additional Descriptions for Materials listed Above	1	1 1	K. Handl	ing Codes for V	Vastes I	isted Above				
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	b d		ļ	b		d.					
	15. Special Handling Instructions and Additional Information	KU3720			814	180	079				
	PACKING SHIPS ATTACHED FOR CLARIFIC	INTION PERGENCY	PHONE	#: 56	18 351-2		4				
	16. GENERATOR'S CERTIFICATION: I hereby declare that the	e contents of this consignment are fu	illy and accur	ately describ	ped above by pr	oper ship	poing name and are				
	classifled, packed, marked and labeled, and are in all respects in p regulations and state laws and regulations.		, ,		-						
	If I am a large quantity generator, I certify that I have a program in plac practicable and that I have selected the practicable method of treatme health and the environment; OR if I am a small generator, I have made me and that I can afford.	ent, storage, or disposal currently av	ailable to me	which minin	nizes the presen	it and fut	ure threat to human				
	Printed/Typed Name on the street of 16C	Signature	- M	11		1	Mo. Day Year				
	17. Transporter 1 Acknowledgement of Receipt of Materials	100	1/	u	- Tar-	!/ 	77				
TRANSPORTER	Printed/Typed Name	Signature	1/	In In	oten	1	Mo. Day Year				
ANSP	18. Transporter 2 Acknowledgement of Receipt of Materials					_					
TR	Printed/Typed Name	Signature				ı,	Mo. Day Year				
	19. Discrepancy Indication Space	an A			-						
ILITY	artual reund =	2800 52	680	26	6						
Ī	20. Facility Owner or Operator: Certification of receipt of hazardous Printed Typed Name	s materials covered by this manife	est except a	s noted in It	tem 19.		Mo. Day Year				
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



⊇lease type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

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(Hazardous Waste Manifest 4/97)

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US E	PA No.	Manifes	t Doc. No.	2. Page	Information		heavy bold line Federal Law.
	Generator's Name and Mailing Address AII	3705 9008	-001		A. 1	NYB88	304	862
		ni oyotor di ipage vy 11	1714-		B. Ger	nerator's ID		
	Generator's Telephone Number (518) 575-4530	US EPA ID Numbei	ne man	n	0.01-		10 -	
	5. Fransporter 1 (Company Name) 6.		1.1.1	. _		te Transporter's	/	215908 641
	7 Transporter 2 (Company Name) 8.	US EPA ID Númbe	 3 4 	3.17.13.		e Transporter's	· +	(19 /261-222)
						nsporter's Teleph	none ()
	Designated Facility Name and Site Address				G. Star	te Facility ID		
	DAM CHEMICAL SERVICES, INC.	. US EPA ID Numbe	er		H. Fac	ility Telephone (1)
	1350 RALMER ROAD 1350 RALMER ROAD 14107 15	ولولها دلواع	<u> </u>	ا وا جائ		715-75		1
	US DOT Description (Including Proper Shipping Name, Hazard Class	s and ID Number)		12. Conta		13. Total	14.Unit	
	4			Number	Туре	Quantity	Wt/Vol	I. Waste No.
	" A), HAZARDOUS HASTE, BOLID, N.O.A. Z (CHROMIUM) B.WALO77, TII (DAGM)	DA 22	197	5 0 1	 	44540	, I	STATE 2007
	"			1100	<u> </u>	.,, -,,-	32	EPA
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'	Additional Descriptions for Materials listed Above			1	K. Han	dling Codes for \	Vastes I	Listed Above
	3/2 SOIL WERCHICH / OO .			·	a		C ·	
	b			,	b		d	
	i'. Special Handling Instructions and Additional Information		0	U37.	21			<i>a</i> 4
	SR HMG 43-7 PACKING BLIPS ATTACHED FOR CLARIFICAN	n.e	L	<i>U</i> = 7.	90		LG"	#171
	SAUNTING BELLIPS ATTACHED FOR CERTIFICAL 8/48/	U89		CHESTO	ENCY	PHONE #1	388	351-2387
	 GENERATOR'S CERTIFICATION: I hereby declare that the control classified, packed, marked and labeled, and are in all respects in proper 	ents of this consignme r condition for transpo	ent are full ort by high	y and accur	ately desc ling to app	ribed above by prolicable internation	opership nal and n	oping name and are national government
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to repracticable and that I have selected the practicable method of treatment, si	reduce the volume and torage, or disposal cur	toxicity of	waste gene	rated to the	e degree i have de nimizes the presen	etermined	to be economically ure threat to human
	health and the environment; OR if I am a small generator, I have made a gome and that I can afford.	od faith effort to minimi	ze my wa	ste and sele	ct the best	waste manageme	nt metho	d that is available to
	I I Mail Sull S	ignature NGC A	6/1	Wh.	_	5/1.		Mo. Day Year
~	1/ Transporter 1 Acknowledgement of Receipt of Materials			**				
RTEF	Posted/Typed Name S	ignature	4/1	Z				Mo. Day Year
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TRA	Proted/Typed Name S	ignature						Mo. Day Year
	Discrepancy Indication Space	^						
-dLITY	ectual Sout 44.	7411						
-	20. Facility Owner or Operator: Certification of receipt of hazardous materials	enals covered by this	s manifes	st except as	noted in	Item 19.		
/-	Frinted/Typed Name S	Signature 9	1,			1	, l	Mo. Day Year
			11			1111		/M/ Chall > 1/

2067-739 (518) His min the man Department of Environmental Conservation (518) 457-7362

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manife	st Doc.	No.	2. Pa			n heavy bold line v Federal Law.		
	3. Generator's Name and Mailing Address MAIL STOP D08-001	-11	-	A.	NYB88	304	529		
	NORTHROP-GRUMMAN CORPORATION SOUTH DYSTER BAY ROAD BETHPAGE NY-11/714-3580	B. Generator's ID							
	4. Generator's Telephone Number 75-4680			SAME					
	5. Transporter 1 (Company Name) 6. US EPA ID Number	_B ₇	ا ا	_	tate Transporter's ransporter's Telep				
	HORWITH TRUCKS. INC. Plant 1 4 6 7 1 4 7. Transporter 2 (Company Name) 8. US EPA ID Number	<u> 18_17</u>	18	_	tate Transporter's		261-2220		
				F. T	ransporter's Telep	hone ()		
	Designated Facility Name and Site Address			G. S	tate Facility ID				
	CWM CHEMICAL SERVICES, INC.			н г	acility Telephone	,	, N/A		
	MODEL CITY, NY 14107 NY D 0 4 9 B 3 A	4 7	6	11. 1	716 754-8	•	'		
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. 0	Conta	ainers	13. Total	14.Unit			
		Numb	oer	Type	Quantity	Wt/Vol			
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.	201		n -			EPA DOO7		
	X (CHROMIUM) 9.NA3077.III (D007)	001		DT	46300	P	STATE		
	b.						EPA		
5							STATE		
	C.						EPA		
9							STATE		
	d.						EPA		
						. ,	STATE		
	J. Additional Descriptions for Materials listed Above			K. H	andling Codes for	Wastes	Listed Above		
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			-		[.				
	b d 15. Special Handling Instructions and Additional Information	•		1/	43020	_			
	Bu 3730			0 ,	, 5		,		
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY F	PHONE	8	88 3	353-2387·	EK	9#171		
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are full classified, packed, marked and labeled, and are in all respects in proper condition for transport by high								
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of								
	practicable and that I have selected the practicable method of treatment, storage, or disposal currently av health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my w me and that I can afford.								
	Printed/Typed Name Signature Signature	7				· ·	Mo. Day Year		
	J. Maria Star NGC 33			سد	- SLA'	/	22377		
r	17. Transporter 1 Acknowledgement of Receipt of Materials Printed Typed Name Signature Signature		_				Mo. Dav Year		
2	Finted yped Name	10	C.	11	do	1.	12143197		
L N	18. Transporter 2 Acknowledgement of Receipt of Materials								
Ì	Printed/Typed Name Signature :					ı	Mo. Day Year		
	19. Discrepancy Indication Space						1		
5	articl secul 46440 P		,	1	tous &	_ /T	=/		
5	20. Eacility Owner or Operator: Certification of receipt of hazardous materials covered by this manife	est exce	pt a	s noted	in Item 19.		J		
_	Printed/Typed Name Signature DIPPI OLIVIA	n	4	7		ı	Mo. Day Year 11212997		

STATE OF NEW YORK DEPARTMENT OF SOLID & HAZARDOUS MATERIALS

23 cour and the NYS Department of Environmental Conservation (518) 457-7362

100		o, Albany, New 10		_			(riaz	ardous Waste Manifest 4/97)
ſ	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US E		t Doc. No.	2. Pa	ge 1 of			heavy bold line Federal Law.
`	3. Generator's Name and Mailing Address MAIL STOP			A.	N/ V	/ D Q Q	$\Omega \cap A$	583
		ER BAY ROAD					304	505
		Y 11714-3580			ienerator	's ID		
	4. Generator's Telephon が出始mbe な 75 - 4580 ATTN: J. 5. Transporter 1 (Company Name) 6.	US EPA ID Number		_	ME		10	WE Call In
	i company trains,		8 7 8	_		nsporter's er's Telepi		40741 641
		US EPA ID Number	8 1/ 18			sporter's		261-2220
						er's Teleph)
	9. Designated Facility Name and Site Address			G. S	tate Fac	ility ID		
	CWM CHEMICAL SERVICES, INC.							N/A
	1000 BILLIER ROAD	US EPA ID Number		H. F	acility Te	lephone ()	
	MODEL CITY. NY 14107 N Y	D 0 4 9 8 3 6				754-8	_	
	11. US DOT Description (Including Proper Shipping Name, Hazard Class	and ID Number)	12. Conta		13.7		14.Unit	
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.		Number	Type	Q	uantity	Wt/Vol	I. Waste No.
	X (CHROMIUM) 9,NA3077,III (D007)		001	DT,				EPA D007
	(0.111.011) / (7.111.00) / (2.111.1.10)				4156	320		STATE
	b.							EPA
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RAT								JIAIL
GENERATOR	С.							EPA
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	d.							EPA
d								
à								STATE
1	J. Additional Descriptions for Materials listed Above			K. Ha	andling C	odes for \	Vastes L	isted Above
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	b			h		.	d	
	15. Special Handling Instructions and Additional Information			7/	(1)		,	
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	BACKTHO CLIDO ATTARHED COD OLABIETOATTON	5						
	PACKING SLIPS ATTACHED FOR CLARIFICATION						4	71
	 GENERATOR'S CERTIFICATION: I hereby declare that the conte classified, packed, marked and labeled, and are in all respects in proper 	nts of this consignment are full condition for transport by high	ly and accur	ately de	scribed a pplicable	bove by printernation	oper ship al and n	ping name and are ational government
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to re	duce the volume and toxicity of	waste gene	rated to	the deare	e I have de	etermined	to be economically
-	practicable and that I have selected the practicable method of treatment, sto health and the environment; OR if I am a small generator, I have made a goo	orage, or disposal currently ava	ilable to me	which n	ninimizes	the presen	t and futu	ire threat to human
	me and that I can afford.	18.		,,				
	Printed/Typed Name SN DENTILL OF NGC. Sig	gnature	111	// _		***	N	lo. Day Year
	17. Transporter 1 Acknowledgement of Receipt of Materials	NOC 3	The same	Sall.		JAM.		66377
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ORT	Toroll m Rosins	1.11/10	6.10	٠. بره				121213517
TRANSPORTER	18. Transporter 2 Acknowledgement of Receipt of Materials							
Ë	Printed/Typed Name Sig	gnature						lo. Day Year
-	19. Discrepancy Indication Space	 -						
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	actual level 45	080P			24	m L	1	7
F.	20. Facility Owner or Operator: Certification of receipt of hazardous mate	rials covered by this manifes	st except as	noted	in Item 1	9.	_	
	Printed/Typed Name Si	grature	14	_			M	lo. Day Year
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STATE OF NEW YORK QEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



clease type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator'S US EPA N	o. Manife	est Doc. No.	2. Pag	- I inioniau	on within Juired by	heavy bold line Federal Law.
	3. Generator's Name and Mailing Address MAIL STOP DOS	3-001		A.	NYB88	2 0 1	502
1	NORTHROP-GRUMMAN CORPORATION SOUTH DYSTER			2.0		304	332
	4. Generator's Telephone Number 75-4680	1714-3580			enerator's ID	_	
ł	4. delicities a respiration 12 2 2 4 980	PA ID Number			ME tate Transporter's	ID / K	29249 (9)
1	HORWITH TRUCKS, INC.	1 4 6 7 1 4	8 7 8		ransporter's Telep		2)41-2220
1		PA ID Number		E. St	tate Transporter's	ID	
١					ransporter's Telep	hone ()
-	Designated Facility Name and Site Address			G. S	tate Facility ID		
	CWM CHEMICAL SERVICES, INC.	EPA ID Number		1 6	acility Telephone		N/A
	1550 BALMER ROAD MODEL CITY, NY 14107 NIY D	0 4 0 0 7 4	14 7 9		714 754-		' l
	· · · · · · · · · · · · · · · · · · ·	10 14 17 18 1.3 1.3.	12. Conta		13. Total	14.Unit	
1	11. US DOT Description (Including Proper Shipping Name, Hazard Class and	Number)	Number	Туре	Quantity	Wt/Vol	I. Waste No.
	a RQ HAZARDOUS WASTE, SOLID, n.o.s.				,		EPA DOO7
l	X (CHROMIUM) 9,NA3077,III (D007)		001	DT _I	46280	Р	STATE
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GENER	C.						EPA
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	d.			L_			EPA
	d.						EPA
)							STATE
	J. Additional Descriptions for Materials listed Above			K. Ha	andling Codes for	Wastes I	isted Above
	A)S/E SOIL W/CHROMIUM		1	а	7	l c	
	a c		Y			+ -	
	b		1	h		1 4	, [
	15. Special Handling Instructions and Additional Information			C11	12071	7	
	15. Special Handling Instructions and Additional Information 81480212						
	PACKING SLIPS ATTACHED FOR CLARIFICATION	EMERGENCY	פאטאב פ	00 7	57_2707	a 9 0	* /2/
							177
	 GENERATOR'S CERTIFICATION: I hereby declare that the contents of classified, packed, marked and labeled, and are in all respects in proper cond 						
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce	the volume and toxicity	of waste gene	rated to	the degree I have o	determined	to be economically
	practicable and that I have selected the practicable method of treatment, storage health and the environment; OR if I am a small generator, I have made a good faith	, or disposal currently a h effort to minimize my v	ivailable to me waste and sele	which r	ninimizes the prese est waste managem	nt and fut ent metho	ure threat to human d that is available to
	me and that I can afford. Printed/Typed Name Signaty	ire. /	N MI				Mo. Day > Year
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	17. Transporter 1 Acknowledgement of Receipt of Materials						
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SPOR	18. Transporter 2 Acknowledgement of Receipt of Materials	4. <u>Janj</u>	Jan Jan	The state of		<u> </u>	17 19 /1
TRANSPORTER	Printed/Typed Name Signatu	ure	· ·				Mo. Day Year
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	19. Discrepancy Indication Space	<i>L</i>				/ >	
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نا	20. Facility Owner or Operator: Certification of receipt of hazardous materials	covered by this manif	fest except a	s noted	in Item 19.		
ı	Printed/Typed Name Signay	$\overline{}$. X				Mo. Day Year
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	CODV E-Congretor-		4001140				

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424-8802 and the NYS Department of Environmental Conservation (318) 437-7354

In case of emergency or spill immediately call the National Response Center (A

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

	UNIFORM HAZARDOUS	US EPA No. Manife	est Doc. No.	2. Pa	iniomati	on within	n heavy bold line y Federal Law.
Generator's Name and Mailing Address IAIL STOP D08-001					NVDO	2 0 4	E11
	NORTHROP-GRUMMAN CORPORATION SOUTH O	B 0	NYB8	5 U 4	OTT		
		E NY 11714-3580			AME		
	Transporter 1 (Company Name)	6. US EPA ID Number			State Transporter's	ID	960931em)
	HORWITH TRUCKS, INC.		8 7 8	D. T	ransporter's Telep	hon g 1 (261-2220
	7. Transporter 2 (Company Name)	8. US EPA ID Number	1 1	_	tate Transporter's		
	Designated Facility Name and Site Address				State Facility ID	none ()
	CWM CHEMICAL SERVICES, INC.						N/A
	1550 BALMER ROAD	10. US EPA ID Number		H. F	acility Telephone ()
	MODEL CITY. NY 14107	N Y D 0 4 9 8 3 6	6 7 9 12. Cont	inom	716 754-8	3231 14.Unit	
	11. US DOT Description (Including Proper Shipping Name, Hazard	Class and ID Number)	Number		Quantity	Wt/Vol	I. Waste No.
	a. RQ HAZARDOUS WASTE, SOLID, n.o.s.						EPA DOO7
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	J. Additional Descriptions to Materials listed Above	÷		K. H	andling Codes for t	Nastes !	Listed Above
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	b d 15. Special Handling Instructions and Additional Information		<u> </u>	b , :		d	
	. 2 3730	! . !			2141	702	7 P
	PACKING SLIPS ATTACHED FOR CLARIFICAT	ION EMERGENCY F	מעטאוב ס	00 7	ŕ		4.2
						6	19-171
	 GENERATOR'S CERTIFICATION: I hereby declare that the classified, packed, marked and labeled, and are in all respects in p 	contents of this consignment are fur proper condition for transport by hig	lly and accur hway accord	ately de ing to a	escribed above by prapplicable internation	opership alandr	pping name and are national government
	regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in plac	e to reduce the volume and toxicity o	of waste gene	rated to	the degree I have de	eterminec	to be economically
	practicable and that I have selected the practicable method of treatme health and the environment; OR if I am a small generator, I have made me and that I can afford.	ent, storage, or disposal currently ava a good faith effort to minimize my wa	ailable to me aste and sele	which r	ninimizes the present est waste manageme	t and fut nt metho	ure threat to human d that is available to
	Printed/Typed Name	Signature	AAI				Mo. Day Year
_	J MAN'L SLOTE	NGC 3	JAM.	<u>. </u>	Stee	. 1	1245191
	17. Transporter 1 Acknowledgement of Receipt of Materials Printed Typed Name	Signarda 4	/		<i></i>		Vo. Doy Your
SATE	Merch HOLD	Signatore	cho			1/	12 43 5°°5
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3	20. Facility Owner or Operator: Certification of receipt of hazardous	materials contared by this manife	et avecnt	noted	mUK-/	7	
FAC	Printed Typed Name	Signature Signature	St except as	noted	in item 19.		do. Day Year
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DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS

⊃lease type or print. Do not staple.

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(Hazardous	Waste	Manifes	(t 4/97)

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		est Doc. No.	2. Page	Informatio	on within	heavy bold line Federal Law.
5.	WASTE MANIFEST		—	is not req	uired by	rederal Law.
) ;	3. Generator's Name and Mailing Address WAIL STOP 5003-00	1	`A. '	NYB88	$\Lambda \cap \Lambda$	616
	CORTEROP CHUMMAN CORPORATION SOUTH OVERER HAY S			NIDOC	04	040
	DETUPAGE SV 1171		B. Gen	erator's ID	ME	-
	4. Generator's Telephone Number (, , ,) ,	3300	1	.34	242	
	5. Transporter 1 (Company Name) 6. OS EPA ID Number		C. Stat	e Transporter's	ID 🗸	A 725 A
			D. Trai	nsporter's Telepi	hon	4 3307 A
	7. Transporter 2 (Company Name) 8. US EPA ID Number	4 3 7	E. Stat	e Transporter's	ID 5	10 281-222p
			F. Tran	sporter's Teleph	none ()
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	Note the property of the property of the second		1			
	OMM CHEMICAL SERVICES, INC.		H. Fac	ility Telephone (
	1550 BALMER ROAD	J. J.	1	15_75A_9		
		12. Cont		13. Total	14.Unit	
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	Number	LType	Quantity	Wt/Vol	I. Waste No.
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1	RQ, HAZARDOUS WASTE, SOLID, n.o.s.		1 1			0007
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	b. (CHROMIUM) 9, MA3077, III (C907	1	1214	73146) " 	EPA
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	15. Special Handling Instructions and Additional Information					
		$-\mathcal{B}'$	1 37	130		
	PACKING SLIPS ATTACHED FOR CLARIFICATION SHEAGENCY	ע מעישום ע	n ad	250 767	2387	, '
	PARTIES SHIPS HINGHES FOR CLERKIF CHILDY CHEROME	a rmau	3 #	300 JJJ	-430 l	2/
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fu	ully and accu	rately desc	ribed above by pr	roper ship	ping name and are
	classified, packed, marked and labeled, and are in all respects in proper condition for transport by his regulations and state laws and regulations.	ghway accor	ding to app	plicable internation	naiand n	ational government
	If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity practicable and that I have selected the practicable method of treatment, storage, or disposal currently as	of waste gen	erated to th	e degree I have d	etermined	to be economically
	health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my w	aste and sel	ect the best	waste manageme	ent method	that is available to
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٦,	17. Transporter 1 Acknowledgement of Receipt of Materials					do. Day Year
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l og	DAVID BURGERS OF THE STATE OF T	. 23	11/1	220	- 4	
TRANSPORTER	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature		The state of			Mo. Day Year
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

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(Hazardous Waste Manifest 4/97)

d	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's U	The Prince of the Control of the Con	st Doc. No.	2. Page 1 0	HIIOHIIAG		heavy bold line Federal Law.
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	1100	TH DYSTER SAY HOAD HPAGE OY 11714—		B. Genera	tor's ID	ALLE	
	4. Generator's Telephone Number (15) 75=4660 5. Transporter 1 (Company Name)	6. US EPA ID Number		C. State T	ransporter's		12-4-2
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	7. Transporter 2 (Company Name)	8. US EPA ID Number			ransporter's		
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	CAM CHEMICAL SERVICES, INC.	10. US EPA ID Number		11 5 - 02-	7 .1		
Ì	1550 BALASS BOARD		د او انا	H. Facility	Telephone ()
	11. US DOT Description (Including Proper Shipping Name, Hazard C	Class and ID Number)	12. Conta	,	. Total	14.Unit	
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	J. Additional Descriptions for Materials listed Above			K. Handling	g Codes for	Wastes L	isted Above
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	15: Special Handling Instructions and Additional Information		B4 .	3730	81	480	270
١	PACKING SLIPS ATTACHED FOR CLARIF	ICATION MERGEN	CY PHO	VE 388	353-23	87	
	16. GENERATOR'S CERTIFICATION: I hereby declare that the c		ly and accur	ately describe	d shous by ne	mar ship	RG. #/2/
1	classified, packed, marked and labeled, and are in all respects in pre- regulations and state laws and regulations.	roper condition for transport by high	hway accord	ing to applica	ble internation	nal and n	ational government
	If I am a large quantity generator, I certify that I have a program in place practicable and that I have selected the practicable method of treatmen health and the environment; OR if I am a small generator, I have made a	nt, storage, or disposal currently ava	ilable to me	which midmiz	es the presen	it and futu	ire threat to human
	me and that I can afford. Printed/Typed Name	Signature		4			fo. Day Year
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	20. Facility Owner or Operator: Certification of receipt of hazardous n	materials covered by this manifes	st except as	noted in Item	19.	J	
	PrintedTyped Name D. P. C. M. T. T. T. T. T. T. T. T. T. T. T. T. T.	Signature		\ ,		M	lo. Day Year
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John miniculating tall the National Response Company 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION O' DIVISION OF SOLID & HAZARDOUS MATERIALS



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UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's		Manife	est Doc. No	2. Page	monnau	on within	h heavy bold line Federal Law.
3. Generator's Name and Mailing Address	HAIL	Jrop 200	08-001		Α.	NYB88	2 N Z	637
4. Generator's Telephone Number () 75-4680 St. 1. Colored								
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5. Transporter 1 (Company Name)		6. USEPAID	1 1 1 1	ماحاما		te Transporter's		W2640-1
7. Transporter 2 (Company Name)		8. US EPA ID	<u></u>	<u> </u>	E. Sta	te Transporter's	ID	10 261-2220
					F. Tra	nsporter's Telep	hone ()
Designated Facility Name and Site Address COM CONTROL SERVICES, I	X				G. Sta	te Facility ID		
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ODEL CITY 'W 14107		A Y D D A	1 9 8 3 6	5 7 9		16-754-82	•	<u></u>
11. US DOT Description (Including Proper Ship	ping Name, Hazard	Class and ID Nur	mber)	12. Con		13. Total	14.Unit	
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 GENERATOR'S CERTIFICATION: I h. classified, packed, marked and labeled, and a 	ereby declare that the re in all respects in p	contents of this co proper condition for	onsignment are for transport by his	ully and accu	rately desc ding to ap	cribed above by proplicable internation	roper shi	pping name and are national government
regulations and state laws and regulations. If I am a large quantity generator, I certify that I h practicable and that I have selected the practical	nave a program in place	e to reduce the vol	ume and toxicity	of waste gen	erated to the	e degree I have d	etermine	d to be economically
health and the environment; OR if I am a small g me and that I can afford.	enerator, I have made	a good faith effort	to minimize my w	aste and sek	oct the best	aste ma ageme	ent metho	d that is available to
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18. Transporter 2 Acknowledgement of Receipt	of Materials	· · · · · · · · · · · · · · · · · · ·						
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20. Facility Owner or Operator: Certification of I	eceipt of hazardous		ed by this manife	est except a	s noted in	Item 19.		
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

ease type print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Manifest Doc. No. 2. Page 1 of Generator's US EPA No. UNIFORM HAZARDOUS Information within heavy bold line is not required by Federal Law. WASTE MANIFEST e ruisa i Generator's Name and Mailing Address MAIL STOP DO8-001 NYB8804466 NORTHROP-GRUMMAN CORPORATION SOUTH DYSTER BAY ROAD B. Generator's ID BETHPAGE NY 11714-3580 4. Generator's Telephone Number (75-44)80 SAME 6. US EPA ID Number C. State Transporter's ID 5. Transporter 1 (Company Name) PAD1 4 6 7 1 4 8 7 8 D. Transporter's Telephone (n HORWITH TRUCKS, INC. 8. US EPA ID Number E. State Transporter's ID 7. Transporter 2 (Company Name) F. Transporter's Telephone (G. State Facility ID 9. Designated Facility Name and Site Address OWN CHEMICAL SERVICES, INC. NZA 10. US EPA ID Number H. Facility Telephone (1550 BALMER ROAD MODEL CITY, NY 14107 13. Total 14.Unit 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) I. Waste No. Number | Type Quantity Wt/Vol EPA DOO7 RQ HAZARDOUS WASTE, SOLID, a.o.s. (D007) (CHROMIUM) 9.NA3077.III 001 STATE **EPA** b. STATE **EPA** STATE d. STATE I. Additional Descriptions for Materials listed Above
A)S/E SUIL W/CHROMIUM K. Handling Codes for Wastes Listed Above Pr.F. 1c# BU3730 SRY11330-10 15. Special Handling Instructions and Additional Information N/1 Tragen in con +# 1/1000 PM-263 /888 353-2387 PACKING SLIPS ATTACHED FOR CLARIFICATION 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me-which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Year Printed/Typed Mame النحر J. -- - - (17. Transporter 1 Acknowledgement of Receipt of Materials Year Printed/Typed Name Winds 18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Day Year Signature 19. Discrepancy Indication Space 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Day Year 30 00

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In case of entergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7564

STATE OF NEW YORK

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazarious Waste Manifest 4/9)

UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's U		St Doc	2. Page 1	Imormau		heavy bold line Federal Law.		
	l stop 8808–801 FH Oyster Bay 802	n	A.	YB8	804	691		
SET	HPAGE NY 11714-		B. Generator's ID					
	6. US EPA ID Number		C. State Transporter's ID 77/1953-PA					
7. Transporter 2 (Company Name)	8. US EPA ID Number	3 7 2	D. Trans	orter's Telep	hone	0 261-2220		
7. Transporter 2 (Company Name)			E. State Transporter's ID F. Transporter's Telephone ()					
Designated Facility Name and Site Address			G. State	Facility ID				
CWM CHEMICAL SERVICES, INC. 1550 BALMER HOAD	10. US EPA ID Number		H. Facilit	y Telephone	()		
SOUTH OF 14107	<u>k b b h b b b b</u>	3 7 3	715	-754-8	231	,		
11. US DOT Description (Including Proper Shipping Name, Hazard C	lass and ID Number)	12. Cont		3. Total Quantity	14.Unit Wt/Vol	i. Waste No.		
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J. Additional Descriptions for Materials listed Above			K. Handli	ng Codes for	Wastes	Listed Above		
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b d 15. Special Handling Instructions and Additional Information		<u>•</u>	24373		d			
PACKING SLIPS ATTACHED FOR CLARIF	ICATION EMERGENO				-2387			
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GENERATOR'S CERTIFICATION: I hereby declare that the classified, packed, marked and labeled, and are in all respects in processing the control of the c	contents of this consignment are fu	ully and accu	rately describ	ed above by p	roper shi	pping name and are		
regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place	to reduce the volume and toxicity	of waste gen	erated to the	degree I have o	determine	d to be economically		
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actual record 50	700		2	Times	V - 1			
20. Facility Owner or Operator: Certification of receipt of hazardous r		est except a	s noted in It	em 19.		Mo. Day Year		
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III case of cincilgericy of spill miniediately call the National Hesponse Centil (but) 424. 1802 and the NYS Department of Environmental Conservation (5.18) 437-1.002

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/9

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UNIFORM HAZARDOUS WASTE MANIFEST	. Generator's US EPA No. Y		st Doc. No.	2. Pa	- I iniomati	ion within quired by	n heavy bold line r Federal Law.
Generator's Name and Mailing Address	MAIL STOP DO8-001	1		A.	NVDO	017	OE4
NORTHROP-GRUMMAN CORPORATION		NYB8	<u> </u>	U54			
54/. 575-4600	BETHPAGE NY 11714	4-3580			ienerator's ID		
4. Generator's Telephon Number \$75-46,80 5. Transporter 1 (Company Name)	6. US EPA ID	Number			tate Transporter's	ID X	314429-8
HORWITH TRUCKS, INC.		6 7 1 4	8 7 8		ransporter's Telep	_	261-2220
7. Transporter 2 (Company Name)	8. US EPA ID			_	tate Transporter's		
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Designated Facility Name and Site Address				G. S	state Facility ID		
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MODEL CITY, NY 14107	N Y D 0 4		₆ ₇ ₉	H. F	acility Telephone 716 754-	•)
			12. Cont	ainers	13. Total	14.Unit	Ī
11. US DOT Description (Including Proper Shipping	Name. Hazard Class and ID Nurr	nber)	Number		Quantity	Wt/Voi	I. Waste No.
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15. Special Handling Instructions and Additional Info	せ ルルリンピ (ア	A-263	•	6° 4° 1	FR K	ری ما	120
PACKING SLIPS ATTACHED FOR CL	ARIFICATION EME	ERGENCY P	HONE 8	88 3	53-23 87		6 F171
	No American Street		11 22 2				
16. GENERATOR'S CERTIFICATION: I hereby classified, packed, marked and labeled, and are in regulations and state laws and regulations.	declare that the contents of this co all respects in proper condition for	nsignment are full transport by high	lly and accur hway accord	rately de ting to a	escribed above by papplicable internation	roper shi	pping name and are national government
If I am a large quantity generator, I certify that I have a practicable and that I have selected the practicable in health and the environment; OR if I am a small genera me and that I can afford.	nethod of treatment, storage, or disp	osal currently ava	ailable to me	which r	minimizes the prese	nt and ful	ture threat to human
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20. Facility Owner or Operator: Certification of receip	ot of hazardous materials covere	d by this manife					
Print d/Typed Name	Signature			7			Mo. Day Year
11/2010/10/10		,	() (4	/ `		- 1	1717100

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53 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

in case or emergency or spul immediately call the National Response Centr

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's UNIVERSITY OF THE PROPERTY OF		Manifes	st Doc. N	- 1	2. Pa	ge 1 of			n heavy bold line y Federal Law.
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3. Generator's Name and Mailing Address MAIL STOP DO8-001 NORTHROP-GRUMMAN CORPORATION SOUTH DYSTER BAY ROAD						N,	YB88	847	018
BETHPAGE NY 11714-3580						enerato			
4. Generator's Telephone 5146ber 675-4880						AME			
5. Transporter 1 (Company Name)	6. US EPA ID Numbe	r		\top	C. S	tate Tra	nsporter's	ID 7	140491 PA
HORWITH TRUCKS, INC.	P A D 1 4 6 7	1 4	8 7	8			ter's Telep		
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11. US DOT Description (Including Proper Shipping Name, Hazard C	Class and ID Number)		12. Co	ntai	ners	13.	Total	14.Unit	
		_	Numbe	er	Туре		Quantity	Wt/Vol	I. Waste No.
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J. Additional Descriptions for Materials listed Above					K. Ha	andling	Codes for	Wastes	Listed Above
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15. Special Handling Instructions and Additional Information FLATT TV 40 491 PA	sporter for	(in , †	710			70	DY 3	45-	<i>y</i>
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16. GENERATOR'S CERTIFICATION: I hereby declare that the	contents of this consignme	ot are ful	ly and ac	cura	telv de	scribed	ahove by n	moer shi	and are
classified, packed, marked and labeled, and are in all respects in pr regulations and state laws and regulations.	roper condition for transpo	rt by hig	hway acc	ordin	ig to a	applicable	e internation	nal and i	national government
If I am a large quantity generator, I certify that I have a program in place	to reduce the volume and	toxicity of	f waste g	enere	ited to	the deg	ree i have d	etermine	d to be economically
practicable and that I have selected the practicable method of treatmer health and the environment; OR if I am a small generator, I have made a	nt, storage, or disposal cur a good faith effort to minimi	rently ava ze my wa	ilable to ste and s	me v elect	vhigehr bebet	ninimize: Ist waste	s the prese manageric	ift and fut ent metho	ture threat to human od that is available to
me and that I can afford.			4	1			_//		
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18. Transporter 2 Acknowledgement of Receipt of Materials	<u> </u>			, -	- C.A.			<u> </u>	
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19. Discrepancy Indication Space									
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20. Facility Owner or Operator: Certification of receipt of hazardous		s manife:	st excep	t as	noted	in Item	19.		
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

Manifest Doc. No. 2. Page 1 of Generator's US EPA No. UNIFORM HAZARDOUS Information within heavy bold line is not required by Federal Law. WASTE MANIFEST Generator's Name and Mailing Address STOP D08-001 NYB8847027 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 4. Generator's Telephone Number 575-4680 SAME 6. US EPA ID Number 5. Transporter 1 (Company Name) C. State Transporter's ID PAD146714878 HORWITH TRUCKS, INC D. Transporter's Telephone (1 8. US EPA ID Number 7. Transporter 2 (Company Name) E. State Transporter's ID F. Transporter's Telephone () 9. Designated Facility Name and Site Address G. State Facility ID CWM CHEMICAL SERVICES, INC. N/A 10. US EPA ID Number 1550 BALMER ROAD H. Facility Telephone (D 0 4 9 8 3 MODEL CITY, NY 14107 12. Containers 13. Total 14.Unit 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Quantity Wt/Vol I. Waste No. RO HAZARDOUS WASTE, SOLID. n.o.s. EPA DOO7 Х (CHROMIUM) 9,NA3077,III (D007) 001 DI 15700 STATE b. **EPA** STATE C. **EPA** STATE d **EPA** STATE K. Handling Codes for Wastes Listed Above Additional Descriptions for Materials listed Above S/E SUIL W/CHRUMIUM 15. Special Handling Instructions and Additional Information Profile # 3730 SERVICE REQUEST PLATE & XD 73450 PA NG SLIPS ATTACHED FOR CLARIFICATION PHONE 988 353-2387 GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Signature Year 3097 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Year 30 llingo Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Day Year Discrepancy Indication Space Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

ลูข) 424-ชชบ2 and the NYS Department of Environmental Conservation (518) 457-7362

in case of entergeticy or spill infinediately call the National Response Cerity

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

\prod	UNIFORM HAZARDOUS WASTE MANIFEST 1. Generator's US EPA No. Manifes	st Doc. No.	2. Pa	- Information		n heavy bold line y Federal Law.
1	3. Generator's Name and Mailing Address MAIL STOP D08-001		A.	NYB88	304	565 Y
-	NORTHROP-GRUMMAN CORPORATION SOUTH DYSTER BAY ROAD BETHPAGE NY 11714-3580	B. G	ienerator's ID			
	4. Generator's Telephone \$\frac{1}{2}\text{BO}\$ 5. Transporter 1 (Company Name) 6. US EPA ID Number			AMF tate Transporter's	10. 1	
	HORWITH TRUCKS, INC. Plad 1 4 6 7 1 4	8 7 8		ransporter's Telep		0 261-2220
ı	7. Transporter 2 (Company Name) 8. US EPA ID Number		_	tate Transporter's	-01	0 281-2220
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	9. Designated Facility Name and Site Address		G. S	state Facility ID		
	CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD 10. US EPA ID Number		H. F	acility Telephone (N/A
	MODEL CITY, NY 14107 NY DIO 4 9 8 3 6	6 7 9		714 754-		
	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Con		13. Total	14.Unit	
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		3 1 2		39600	<u> </u>	STATE
_	b.					EPA
GENERATOR						STATE
GENER	C.					EPA
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	d.					EPA
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	15. Special Handling Instructions and Additional Information PLAK # XC 72815-PA A DISSECTION	SÃ.	26	>		3730
	PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY			353-2387		777
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fur classified, packed, marked and labeled, and are in all respects in proper condition for transport by high	ully and acco	urately de	escribed above by p	roper shi	Ipping name and are national government
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STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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	4. Generator's Telephone Number 175-4/980	714-3580						
	5. Transporter 1 (Company Name) 6. US EPA			AME State Transporter's	10 XA 07727 (A)			
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	7. Transporter 2 (Company Name) 8. US EPA		E. State Transporter's ID					
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	CWM CHEMICAL SERVICES, INC.		J G.	State Facility ID				
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			per Type	Quantity	Wt/Voi I. Waste No.			
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	practicable and that I have selected the practicable method of treatment, storage, or health and the environment; OR if I am a small generator, I have made a good faith efficiency and that I can afford.	disposal currently available to ort to minimize my waste and	select the t	minimizes the preser sest waste manageme	nt and future threat to human ant method that is available to			
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In case of emergency or spill immediately call the National Response Center (.

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVÍSION OF SOLID & HAZARDOUS MATERIALS



Please type or print. Do not staple.

HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

/Maxambus Marks Manifest 4/07

ۇ	* UNIFORM HAZARDOUS WASTE MANIFEST	ors US EPA No. Ma	nifest Doc. No.	2. Page 1 of	information w	rithin heavy bold line d by Federal Law.	
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	CWM CHEMICAL SERVICES. INC.			G. State 12	acinty 1D	N/A	
	1550 BALMER ROAD	10. US EPA ID Number		H. Facility	Telephone ()	
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	11. US DOT Description (Including Proper Shipping Name, Haza	ard Class and ID Number)	Number		Quantity Wt/	Vol I. Waste No.	
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	classified, packed, marked and labeled, and are in all respects regulations and state laws and regulations.	in proper condition for transport by	highway accord	ding to applicat	ole international a	and national government	
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	18. Transporter 2 Acknowledgement of Receipt of Materials	Legen	Yan	<u></u>		12221	
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* DIVISION OF SOLID & HAZARDOUS MATERIALS

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12820, Albany, New York 12212	(Hazardous Waste Ma

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PICTTANOGROD NAMEWURD-GORPTRON	COUNTY OYSTER BAY I			ors ID		334
4. Generator's Telephone Number (516) 575-4630	BETHPAGE MY 117	14-3580	b. Genera	OLS ID 34	WIE	
5. Transporter 1 (Company Name)	6. US EPA ID Number		C. State T	ansporter's	ID X	0771904)
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7. Transporter 2 (Company Name)	8. US EPA ID Number		E. State To	ansporter's	ID	
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STATE OF NEW YORK DEBARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID & HAZARDOUS MATERIALS

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Day

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HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212 (Hezardous Waste Manifest 4/97) 1. Generator's US EPA No. Manifest Doc. No. 2. Page 1 of **UNIFORM HAZARDOUS** Information within heavy bold line 0 0 2 0 4 7 9 6 700076 WASTE MANIFEST is not required by Federal Law. MAIL STOP 2008-201 3. Generator's Name and Mailing Address NYB8804916 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD CETHPAGE '.Y 11714-3580 B. Generator's ID 4. Generator's Telephone Number (Cothann 516) 575-4680 Transporter 1 (Company Name) 6. US EPA ID Number C. State Transporter's ID 2 A D 1 4 S 7 1 4 8 7 8 WARTH TRUCKS, INC. D. Transporter's Telephone (610)261-222 US EPA ID Number 7. Transporter 2 (Company Name) State Transporter's ID F. Transporter's Telephone (G. State Facility ID 9. Designated Facility Name and Site Address JAM CHEMICAL JERVICES, INC. 10. US EPA ID Number H. Facility Telephone (1550 BALMER ROAD 4 2 0 0 4 9 8 3 5 6 7 8 HODEL CITY BY 14107 715-75%-8231 13. Total 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) Number | Type Wt/Vol I. Waste No. DA2/2497 RQ, HAZARDOUS WASTE, SOLID, n.o.s. 0007 STATE (CHROMIUM) 9, MA3077, III (DOQX) b. ' **EPA** STATE c. **FPA** STATE **FPA** STATE K. Handling Codes for Wastes Listed Above Additional Descriptions for Materials listed Above S/E GOIL B/CHROMIUM 15. Special Handling Instructions and Additional Information 909643 PARTICIPATE PHONE #1 886 351-2387 PACKING SLIPS ATTACHED FOR CLARIFICATION 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford. Printed/Typed Name 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Day 19. Discrepancy Indication Space

COPY 5-Generator-mailed by TSD facility

Signature

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

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In case of emergency or spill immediately call the National Response Center (802-124-8802 and the NYS Department of Environmental Couservation (310) 437-7302

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS



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Appendix D Column Settlement Evaluation

Memorandum



To:

Ken Kaufman

MEMORANDUM

From:

Ralph Fasano

Date:

March 11, 1998

Cc:

Subject:

Settlement of Columns

Old Alodine Area Northrop-Grumman

The following are conclusions made after reviewing the level readings on the columns around the excavation. The total settlements of the columns from the zero readings made at start of excavation on December 5, 1997 to the readings made after backfilling on March 3, 1998 are:

D6	0.07 ft
D7	0.00 ft
E6	0.02 ft
E7	0.00 ft
E8	0.01 ft

Differential settlements and angular distortions between adjacent columns in the line of the framing were calculated to evaluate the potential for detrimental effects to the structural framing of the building as a result of the settlement. Columns adjacent to each subject column, but away from the excavation (D5, C6, C7, D8, E9, F8, F7, F6, and E5) were also included in the evaluation. As these columns were not monitored for settlement during excavation, and it is assumed that they experienced no settlement.

The calculated differential settlements were compared with allowable differential settlements which are used in foundation design for simple steel frame structures (0.005 x column span). The angular distortions were compared with empirical data of performance of buildings undergoing settlement (cracking in walls and floors may appear at angular distortions between 0.002 and 0.0033). References from "Soil Mechanics" by Lambe and Whitman are attached.

The results of the evaluation are presented in the attached table. The results indicate that differential settlements are within allowable values for simple steel frame structures. Angular distortions in three spans (D6-D7, D6-D5, and D6-C6), however, are at limiting values where cracking may appear.

The floor slab between D6 and D7 was removed for the excavation and is being replaced. The floor slab between D6, D5, and C6 should be inspected, and an evaluation made as to whether any cracks which may be a result of the excavation need to be repaired. Also, if there is a roof slab in these spans, it should also be inspected for cracks, and whether repair is needed.



11 March, 1998 Page 2

			Allowable		Limiting
	Differential		Differential	Angular	Angular
	Settlement (ft)	Span (ft)	Settlement (ft)	Distortion	Distortion
D6-D7	0.07	20	0.1	0.0035	0.002
D6-E6	0.05	40	0.2	0.0013	0.002
D6-D5*	0.07	20	0.1	0.0035	0.002
D6-C6*	0.07	40	0.2	0.0018	0.002
D7-E7	0.00	40	0.2	0.00	0.002
D7-C7*	0.00	40	0.2	0.00	0.002
D7-D8*	0.00	20	0.1	0.00	0.002
E6-E7	0.02	20	0.1	0.0010	0.002
E6-F6*	0.02	40	0.2	0.0005	0.002
E6-E5*	0.02	20	0.1	0.0010	0.002
E7-E8	0.01	20	0.1	0.0005	0.002
E7-F7*	0.00	40	0.2	0.00	0.002
E8-E9*	0.01	20	0.1	0.0005	0.002
E8-F8*	0.01	40	0.2	0.0003	0.002
E8-D8*	0.01	40	0.2	0.0003	0.002

^{*} indicates columns which were not monitored and are assumed to have a settlement of zero.

Table 14.1 Allowable Settlement

Type of Movement	Limiting Factor	Maximum Settlement
Total settlement	Drainage	6–12 in.
	Access	12-24 in.
	Probability of nonuniform settlement:	
	Masonry walled structure	1-2 in.
	Framed structures	2-4 in.
	Smokestacks, silos, mats	3-12 in.
Tilting	Stability against overturning	Depends on
		height and width
	Tilting of smokestacks, towers	0.0041
	Rolling of trucks, etc.	0.01/
	Stacking of goods	0.01/
	Machine operation-cotton loom	0.0031
	Machine operation-turbogenerator	0.00021
	Crane rails	0.0031
	Drainage of floors	0.01-0.021
Differential movement	High continuous brick walls	0.0005-0.0011
	One-story brick mill building, wall cracking	0.001 <i>-</i> 0.002 <i>l</i>
	Plaster cracking (gypsum)	0.0011
	Reinforced-concrete building frame	0.0025-0.0041
	Reinforced-concrete building curtain walls	0.0031
	Steel frame, continuous	0.002/
	Simple steel frame	0.0051

From Sowers, 1962.

Note. l = distance between adjacent columns that settle different amounts, or between any two points that settle differently. Higher values are for regular settlements and more tolerant structures. Lower values are for irregular settlements and critical structures.

"dishing." Nonuniform settlement can result from:
(a) uniform stress acting upon a homogeneous soil; or
(b) nonuniform bearing stress; or (c) nonhomogeneous subsoil conditions.

As shown in Fig. 14.6, $\rho_{\rm max}$ denotes the maximum settlement and $\rho_{\rm min}$ denotes the minimum settlement. The differential settlement $\Delta \rho$ between two points is the larger settlement minus the smaller. Differential settlement is also characterized by angular distortion δ/l , which is the differential settlement between two points divided by the horizontal distance between them.

The amount of settlement a structure can tolerate—the allowable settlement or permissible settlement—depends on many factors including the type, size, location, and intended use of the structure, and the pattern, rate, cause, and source of settlement. Table 14.1 gives one indication of allowable settlements. It might seem that the engineer designing a foundation would have

seldom the case and the foundation engineer frequently finds himself "in the middle" between the structural engineer who wants no settlement and the client who wants an economical foundation. Thus a foundation engineer must understand allowable settlements.

In the following paragraphs some of the salient aspects of allowable settlement are discussed and illustrated. The last portion of this section presents general guides for estimating the allowable settlement for a particular situation.

Total Settlement

Generally the magnitude of total settlement is not a critical factor but primarily a question of convenience. If the total settlement of a structure exceeds 6 to 12 in. there can be trouble with pipes (for gas, water, or sewage) connected to the structure. Connections can, however, be designed for structure settlement. Figure 1.3

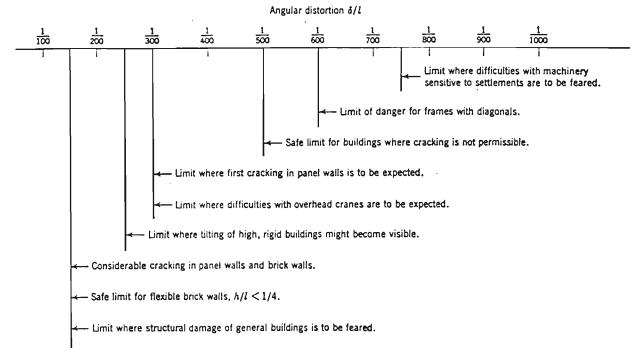


Fig. 14.8 Limiting angular distortions (From Bjerrum, 1963a).

general guidance that will suffice for routine jobs, each large project must receive additional careful study.

Relation of Total and Differential Settlement

As stated previously, it usually is the differential settlement (rather than the total settlement) that is of concern in the designing of a foundation. On the other hand, it is much more difficult to estimate differential settlement than it is to estimate the maximum settlement. This is because the magnitude of differential settlement is affected greatly by the nonhomogeneity of natural soil deposits, and also by the ability of structures to bridge over soft spots in the foundation. On a very important job, it usually is worthwhile to make a very detailed study of the subsoil to locate stronger and weaker zones, and to investigate comprehensively the relation between foundation movements and forces in the structures. On a less important job, it may suffice to use an empirical relationship between total settlement and differential settlement, and to state the design criterion in terms of an allowable total settlement.

Figure 14.9 presents results from actual buildings resting on granular soils. Part (a) gives observed values of angular distortion δ/l versus maximum differential settlement. Whereas δ/l is determined by the differential settlement between adjacent columns, the maximum differential settlement may well be between two columns which are far apart. The curve drawn on the figure gives the average for the observed points. Part (b) shows the relationship between maximum differential settlement

and maximum settlement. The line drawn as an upper envelope indicates that the maximum differential settlement can be equal to the maximum settlement; i.e., there may well be one column which has almost no settlement. Generally, the maximum differential settlement is less than the maximum settlement.²

The use of these relationships is illustrated in Example 14.1. From the nature of the building a permissible δl is

► Example 14.1

Given. A one-story reinforced concrete building with brick curtain walls.

Find. Allowable total settlement which will ensure no cracking of the brick walls.

Solution. From Fig. 14.8, maximum $\delta/l = 1/500 = 0.002$. Table 14.1 would give 0.003. Use $\delta/l = 0.002$.

From Fig. 14.9a, maximum allowable differential settlement is 2.5 cm.

From Fig. 14.9b, using the upper bound, the allowable total settlement is also 2.5 cm or 1 in.

chosen. Then the curves are used to find first the maximum differential settlement and then the maximum permissible total settlement. The settlement as predicted by the methods discussed in Sections 14.8 through 14.10 should then be less than this allowable settlement. An allowable total settlement of 1 in. is a typical specification for commercial buildings.

² Maximum differential settlement greater than maximum total settlement can result when one portion of the structure heaves while another settles. This situation is not uncommon in tanks on sand.

Appendix E

Analytical Results

And

Data Validation Reports



DATA VALIDATION REPORT

Northrop Grumman
Priority Pollutant Metals
Matrix: Soil

SDG No.: 31516W

This report documents the review of analytical data from the analyses of soil samples for priority pollutant metals by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in **Appendix A**. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the **Appendix A**.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

Technical Holding Times

Initial Calibration

Initial and Continuing Calibration Verification

Blanks (Method)

*CRDL standard

Laboratory Control Samples (LCS)

*Duplicate Sample

Spiked Sample Analysis

Interference Check Sample

ICP Serial Dilution (ICP only)

Sample Result Quantitation and Contract-Required Detection Limits (CRDL)

Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria. Qualified data are summarized in **Appendix B**.

CRDL STANDARD

In the CRDL standard for ICP analyses lead and silver had recoveries of less than 80%. All samples in SDG 31516W with lead and silver concentrations less than 2x the CRDL standard concentrations were qualified as (J-14/UJ-14).

DUPLICATE SAMPLE

The duplicate sample (03-15-16W-S-1) had RPD values greater than 20% for arsenic (200%), beryllium (200%), copper (128.1%), nickel (40.4%), and zinc (24.9%). However, the sample or duplicate result for these analytes were less than 5x there respective CRDL so no qualification was required.

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the laboratory sample/duplicate analysis. Accuracy was acceptable, as demonstrated by the laboratory control sample and spiked sample percent recovery values.

Qualification of soil sample results were required because of CRDL standard % recovery outliers.

The data, as qualified, are acceptable for use.

APPENDIX A

SAMPLE INDEX

SDG	Sample	Matrix	AOC	SVOC	PCB	TPH-	ТРН	Pesticides	PP	Cyanide
						Fuel	-Gas		metals	
331516W	03-03-01RW-1	soil						·	>	
331516W	03-03-02RW-1	soil							>	
331516W	03-03-03RW-1	soil							>	
331516W	03-03-04RW-1	soil							7	
331516W	03-03-04RW-2	soil							7	
331516W	03-03-05RW-1	lios							7	
331516W	03-03-05RW-2	soil							7	
331516W	03-03-06RW-1	soil							7	
331516W	03-03-06RW-2	soil							٨	
331516W	03-03-07RW-1	soil							7	
331516W	03-03-07RW-2	soil							7	
331516W	03-03-08RW-1	soil							7	
331516W	03-03-09RW-1	soil							٨	
331516W	03-03-10RW-1	soil							7	
331516W	03-15-16WW-S-1	soil							٨	
331516W	03-15-16WW-S-2	soil							٨	
331516W	03-15-16WW-S-3	lios							٨	
331516W	03-15-16WW-S-4	lios							٢	
;										

^{*}Indicates that level 4 validation was performed on this sample

APPENDIX B

SUMMARY OF QUALIFIED DATA

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
14 1 0 0 1 0		110

				01RW1	
Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-	163		
Lab Code: RECNY_	Case No.: 6702	_ SAS No.:	SD	G No.: 33	L516W
Matrix (soil/water):	SOIL_	Lab	Sample I	D: AD7212	209
Level (low/med):	LOM	Dat	e Receive	d: 12/17,	97
% Solids:	95.3				

CAS No.	Analyte	Concentration	C	Q	М
7429-90-5	Aluminum		-		$\frac{1}{NR}$
7440-36-0	Antimony	1.4	<u></u> ד		P
7440-38-2	Arsenic	3.0			P_
7440-39-3	Barium —		_		NR
7440-41-7	Beryllium	0.21	Ū		P_
7440-43-9	Cadmium	0.21	U		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	3.2	_		P_
7440-48-4	Cobalt		<u> </u>		NR
7440-50-8	Copper	1.6_	B	*	P_
7439-89-6	Iron		-		NR
7439-92-1	Lead	1.8_	-	J-14	NR
7439-95-4	Magnesium		-		NR
7439-98-5	Manganese Mercury	0.10	Ū		CV
7440-02-0	Nickel —	1.8	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	บิ		P
7440-22-4	Silver	0.42	U	45-14	P-
7440-23-5	Sodium		ĺ		NR
7440-28-0	Thallium_	1.3	Ū		P_
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	15.0	_		P_
	Cyanide		_		NR
			_	l	l

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B SAMPLE	ID:_A7469802-CGA LE_ID:_03-03-01F					

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABN	ET_INC Contract: N	02RW1 JY97-163
Lab Code: RECNY_	Case No.: 6702_ SAS No.	: SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample ID: AD721210
Level (low/med):	LOW	Date Received: 12/17/97
% Solids:	_92.4	

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.5	ਹ		P
7440-38-2	Arsenic'-	2.7			P_
7440-39-3	Barium -				NR
7440-41-7	Beryllium	0.22	ਹ		P
7440-43-9	Cadmium	0.39	В		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	8.0	_		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.6	$\overline{\mathtt{B}}$	*	P
7439-89-6	Iron				NR
7439-92-1	Lead	6.1	_		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10_	ן ±		CV
7440-02-0	Nickel	2.4_	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	1.1_	Ū		P_
7440-22-4	Silver	0.43	U	UJ-14	P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.3_	℧		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	10.0_	_		P_
	Cyanide		_		NR
			l	l	l

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B SAMPLE I	ID:_A7469803-CGA LE_ID:_03-03-02F					

l INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
--------	--------	----

	:	INORGANIC A	ANALYSES DATA S	SHE	ET		
		~	Contract. N	707	-163	03RW1	
Lab Name: RECRA							
Lab Code: RECN	Y_ Cas	se No.: 670	SAS No.:	: _		SDG No.:	31516W
Matrix (soil/wa	ater): SOIL	-		La	b Sampl	Le ID: AD72	1211
Level (low/med)	LOW_	_		Da	te Rece	eived: 12/1	7/97
% Solids:	_98.2	2					
Cor	ncentration	Units (ug,	/L or mg/kg dry	y w	eight):	: MG/KG	
	CAS No.	Analyte	Concentration	С	Q	M	
	7429-90-5	Aluminum		-		NR	
	l .	Antimony	1.4	ਹਿ		P_	
		Arsenic	1.6	В		P-	
		Barium		~		NR	
	i .	Beryllium	0.21	ਹਿ		P_	
		Cadmium	8.2			P	
	7440-70-2	Calcium		-		NR	
	7440-47-3	Chromium	91.3	-		P	
	7440-48-4	Cobalt				NR	
	7440-50-8	Copper	18.4	-	*	P	
	7439-89-6	Iron		-		NR	
	1	Lead	4.8	-		P	
	1	Magnesium		-		NR	
		Manganese		-		NR	
		Mercury	0.10	ן ט		cv	
		Nickel -	4.8	В		P	
	7440-09-7	Potassium				NR	
	7782-49-2	Selenium	1.0	ט		P_	
	7440-22-4	Silver	0.41	U	45-14	P_ P_	
	7440-23-5	Sodium		_		NR	
	7440-28-0	Thallium_	1.3	ט		P_	
	7440-62-2	Vanadium_		_		NR	
	7440-66-6	Zinc	15.7_	1_1		P_	
		Cyanide		-		NR .	
Color Before:	BROWN	Clarit	ty Before:	· ·		Texture:	MEDIUM
					_		
Color After:	COLORLESS	Clari	ty After: CLE	AR_	-	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP							

INORGANIC ANALYSES DATA SHEET

MYCDEC	CAMBIE	NTO
NISDEC	SAMPLE	NO

Main RECRA LABNET INC. Contract: NY97-163	ame: RECR	A LARNET INC		Contract: N	Y97	7-163	04F	RW1
Case Case							CDC N	
Clow/med): LOW	oae: RECN	r_ Cas	se No.: 670	JZ_ SAS NO.	: -		SDG NO).: 31516W
Cas No.	x (soil/wa	ater): SOIL	_		La	ab Sampl	le ID: A	AD720786
Cas No. Analyte Concentration C Q M \[\frac{7429-90-5}{7440-36-0} \] \[\frac{7429-90-5}{7440-38-2} \] \[\frac{7440-38-2}{4740-39-3} \] \[\frac{7440-39-3}{8arium} \] \[\frac{7440-41-7}{7440-43-9} \] \[\frac{7440-43-9}{7440-70-2} \] \[\frac{7440-70-2}{7440-70-2} \] \[\frac{7440-70-2}{7440-66-6} \] \[\frac{7440-8-4}{7439-99-6} \] \[\frac{7440-8-4}{7439-99-6} \] \[\frac{7439-99-6}{7440-22-4} \] \[\frac{7439-99-6}{7440-09-7} \] \[\frac{7439-99-6}{7440-22-4} \] \[\frac{7439-99-6}{7440-22-4} \] \[\frac{7440-22-4}{7440-22-4} \] \[\frac{7440-22-4}{5ilver} \] \[\frac{7440-22-4}{7440-22-2} \] \[\frac{7440-22-4}{5ilver} \] \[\frac{7440-22-4}{7440-22-2} \] \[\frac{7440-22-4}{5ilver} \] \[\frac{7440-22-4}{7440-22-2} \] \[\frac{7440-22-4}{5ilver} \] \[\frac{7440-22-6}{7440-22-2} \] \[\frac{7440-22-6}{7440-22-2} \] \[\frac{7440-22-6}{7440-22-2} \] \[\frac{7440-66-6}{5ilver} \] \[\frac{7440-28-0}{7440-66-6} \] \[\frac{7440-66-6}{5ilver} \] \[\frac{7440-28-0}{7440-66-6} \] \[\frac{7440-66-6}{5ilver} \] \[744	(low/med): LOW_	-		Da	ate Rece	eived: 1	2/13/97
CAS No.	ids:	_98.	9			•		
T429-90-5	Co	ncentration	Units (ug	/L or mg/kg dry	ум	veight)	: MG/KG	
7440-36-0		CAS No.	Analyte	Concentration	С	Q	M	
7440-36-0		7429-90-5	Aluminum		1-1		NR	
T440-39-3		1			- 1			
T440-39-3		7440-38-2		1.2	U		P_	
7440-43-9		I .		 	1. 1		NR	
7440-70-2				0.20	1 - 1		P_	
7440-47-3				0.20_	U			
7440-48-4		l .			_		<i>i</i> 1	
T440-50-8			_	2.2_	_		P_	
Ton		1			-		1)	
7439-92-1 Lead		1		1.4_	B	_*		
7439-95-4					-		, ,	
7439-96-5		1			-	7-14		
7439-97-6		1			-		1 1	
7440-02-0 7440-09-7 7782-49-2 7440-22-4 7440-23-5 7440-28-0 7440-66-6 Zinc Cyanide efore: BROWN Clarity Before: Texture: MEDIUM fter: YELLOW Clarity After: CLEAR SING CLEAR Texture: MEDIUM S: SAMPLE ID: A7466605-CGA00787		į					, ,	
7440-09-7							1 1	
7782-49-2		1			10			
7440-22-4)			177			
7440-23-5 7440-28-0 7440-62-2 7440-66-6 Zinc Cyanide efore: BROWN Clarity Before: Texture: MEDIUM fter: YELLOW Clarity After: CLEAR SAMPLE_ID:_A7466605-CGA00787					1 - 1	117-14	p-	
7440-28-0						MY		
7440-62-2 Vanadium		1		1.2	10			
7440-66-6 Zinc							NR	
efore: BROWN Clarity Before: Texture: MEDIUM fter: YELLOW Clarity After: CLEAR_ Artifacts: s: SAMPLE_ID:_A7466605-CGA00787				10.4	-		P	
efore: BROWN Clarity Before: Texture: MEDIUM fter: YELLOW Clarity After: CLEAR Artifacts: SAMPLE_ID:_A7466605-CGA00787			Cyanide		[-		NR	
fter: YELLOW Clarity After: CLEAR_ Artifacts: 5: SAMPLE_ID:_A7466605-CGA00787					1_1			
s: SAMPLE_ID:_A7466605-CGA00787	efore:	BROWN	Clari	ty Before:		-	Texture	e: MEDIUN
SAMPLE_ID:_A7466605-CGA00787	fter:	YELLOW	Clari	ty After: CLE	AR_	_	Artifac	ets:
SAMPLE_ID:_A7466605-CGA00787	2.							
		TD: 1746660	5-CGA00797					
11_0.2								
	T_DAME.		0 041/14-1					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

						04RW2	
Lab Name: RECRA	A_LABNET_INC	c	Contract: NY	797	-163	l	
Lab Code: RECN	Y_ Cas	se No.: 670	SAS No.:	_		SDG No.: 3	31516W
Matrix (soil/wa	ater): SOIL_	-		La	b Sampl	e ID: AD72:	1215
Level (low/med)): LOW	_		Da	te Rece	eived: 12/1	7/97
% Solids:	_97.2	2					
Cor	ncentration	Units (ug/	L or mg/kg dry	7 W	eight):	MG/KG	
	CAS No.	Analyte	Concentration	С	Q	М	
	7429-90-5 7440-36-0	Antimony_	2.8_	— Б		NR P_	
	7440-38-2 7440-39-3	Arsenic Barium	1.2_	ט		P_ NR	
	7440-41-7	Beryllium	0.21	ਹ			
	7440-43-9	Cadmium	0.28	В		P_ P_	
	7440-70-2	Calcium_		_		NR	
_	7440-47-3	Chromium_	(369)	1_		P_	
	7440-48-4	Cobalt	1 1	B		NR	
	7440-50-8	Copper	1.4_		^_	P_ NR	
	7439-89-6 7439-92-1	Iron Lead	1.4	-	J-14	P_	
	7439-92-1	Magnesium		-	3 17	NR	
	7439-96-5	Manganese		-		NR	
	7439-97-6	Mercury	0.10	Ū		CV	
	7440-02-0	Nickel	0.66	В		P_	
	7440-09-7	I		_		NR	
	7782-49-2	Selenium_	1.0_	Ū		P_	
	7440-22-4		0.42	ט	45-14	P	
	7440-23-5	Sodium		<u></u>		NR P	
	7440-28-0 7440-62 - 2	Vanadium	1.3_	١٠		NR	
	7440-62-2	Zinc	8.1_	-		P.	
	7440 00 0	Cyanide_		-		NR	
						<u> </u>	
Color Before:	BROWN	Clari	ty Before:			Texture:	MEDIUM
Color After:	COLORLESS	Clari	ty After: CLE	AR_	-	Artifacts:	

FORM I - IN

Comments:

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	05RW1
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD720782
Level (low/med):	LOW	Date Rece	ived: 12/13/97
& Solids:	98 2		

					_
CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	ਹ		P
7440-38-2	Arsenic	1.2	U		P-
7440-38-2	Barium		١٠		NR
7440-39-3	Beryllium	0.20	ਹ		P
	Cadmium		В		P-
7440-43-9		0.22_	В		NR
7440-70-2	Calcium_		-		ı
7440-47-3	Chromium_	2.3_	-		P_
7440-48-4	Cobalt		=		NR
7440-50-8	Copper	3.4_	B	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.3_	_	J-14	P
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	1.4_	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.99	$\overline{\mathtt{U}}$		P_
7440-22-4	Silver	0.40_	U	UJ-14	P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.2_	บิ		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	5.8_	_		P_
	Cyanide		_		NR

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Commental LAI	B SAMPLE	ID:_A7466601-CGA LE_ID:_03-03-05F	A00787 RW-1				= (

NYSDEC SAMPLE NO.

l INORGANIC ANALYSES DATA SHEET

	INORGANIC AN	ALYSES DATA SHEET	
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	05RW2
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD721216
Level (low/med):	LOW	Date Recei	ived: 12/17/97
% Solids:	_96.2		

			_		
CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	2.2	B		P
7440-38-2	Arsenic	1.3	В		P
7440-39-3	Barium -				NR
7440-41-7	Beryllium	0.21	Ū		P
7440-43-9	Cadmium	0.30	В		P-
7440-70-2	Calcium				NR
7440-47-3	Chromium	330	-		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.4	B	*	P
7439-89-6	Iron				NR
7439-92-1	Lead	1.5		J-14	P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	บิ		CV
7440-02-0	Nickel	0.94	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	1.0	Ū		P_
7440-22-4	Silver	0.42	U	45-14	P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.3	Ū		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	6.7	_		P_
	Cyanide		_		NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B SAMPLE	ID:_A7469809-CGA LE_ID:_03-03-05I					

1 INORGANIC ANALYSES DATA SHEET

0	0 0002 3	
NYSDEC	SAMPLE	NO.

Lab Name: RECR	A LABNET IN	C.	Contract: N	Y97	7-163	06RW1	
		_	D2_ SAS No.			SDG No.:	31516W
Matrix (soil/w	rater): SOIL	_		La	ab Samp	le ID: AD72	0783
Level (low/med	l): LOW_	_		Da	ate Rec	eived: 12/1	3/97
% Solids:	_98.	9					
Со	ncentration	Units (ug,	/L or mg/kg dr	y v	veight)	: MG/KG	
	CAS No.	Analyte	Concentration	С	Q	М	
	7440-41-7 7440-43-9 7440-70-2 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7 7782-49-2 7440-22-4	Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium Manganese Mercury_Nickel_Potassium_Selenium_Silver_Sodium_	0.22 3.8 1.9 1.5	G 8 G B B G	*	NR PPR NR PNR PNR PNR PNR PNR PNR PNR PNR PNR PNR PNR PNR	
Color Before:	BROWN	Clari	ty Before:		_	Texture:	MEDIUM
Color After:	YELLOW	Clari	ty After: CLE	AR_	_	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMF	ID:_A746660 LE_ID:_03-0	2-CGA00787 3-06RW-1					= (

INORGANIC ANALYSES DATA SHEET

MVCDEC	SAMPLE	NTO
MIDDEL	SHITELIE	INC

				06RW2
Lab Name: RECRA_LABN	ET_INC	Contract: N	NY97-163	
Lab Code: RECNY_	Case No.: 670	02_ SAS No.	.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_		Lab Sample	: ID: AD721213
Level (low/med):	LOW		Date Recei	ved: 12/17/97
% Solids:	_98.6			

				_	
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	B		P
7440-38-2	Arsenic	1.2	บ		P-
7440-39-3	Barium		•		NR
7440-41-7	Beryllium	0.20	ਹ		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	159	-		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.1	B	*	P
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.0		J-14	P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	บิ		CV
7440-02-0	Nickel	0.97_	В		P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.97	Ū	7.5	P_
7440-22-4	Silver	0.40_	Ū	45-14	P_
7440-23-5	Sodium Thallium		ਹ		NR
7440-28-0	Vanadium_	1.2_	U		P_ NR
7440-62-2	Zinc	10.6	-		P
7440-0020	Cyanide		-		NR
	- Juniuc_		-		111
	· —— ·				· — ·

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
Commer LAE CLI	SAMPLE I	ID:_A7469806-CGA LE_ID:_03-03-06F	\00787 \W-2				

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

					(07RW1		33
Lab Name: RECRA_LABNET_IN	IC	Contract: N	797	7-163				ĺ
Lab Code: RECNY_ Ca	se No.: 670	SAS No.:	: _		SDG	No.:	31516W	
Matrix (soil/water): SOII	' _		La	ıb Sampl	e ID	: AD7	20784	
Level (low/med): LOW_	_		Da	ite Rece	ived	: 12/	13/97	
% Solids: _98	7							
Concentration	Units (ug	/L or mg/kg dry	7 W	eight):	MG/I	KG		
7440-43-9 7440-70-2 7440-47-3 7440-48-4 7440-50-8 7439-89-6	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_	0.30 2.3 2.0		Q	M NR P NR P NR P NR P NR P NR P NR			
7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7	Magnesium Manganese Mercury_ Nickel	0.10_ 1.0_	— — П В	J-14	P_ NR NR CV P_ NR			

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE_I	D:_A7466603-CGA E_ID:_03-03-07F					=

7782-49-2

7440-22-4

7440-23-5

7440-28-0

7440-62-2

7440-66-6

Selenium

Thallium

Vanadium_

Cyanide

Silver

Sodium

Zinc

 $\overline{\mathtt{U}}$

U

 $\overline{\mathtt{U}}$

P P

NR

P NR

P

NR

0.98

0.40

8.9

1 INORGANIC ANALYSES DATA SHEET

	SAMPLE	NT/
NYSIIE.	SAMPLE	N:()

							07RW2
Lab Name: RECR	A_LABNET_IN	c	Contract: N	797	7-163		
Lab Code: RECNY_							
Matrix (soil/wa	ater): SOIL	_		La	ab Sampl	le 1	ID: AD721214
Level (low/med): LOW Date Received: 12/17/97							
% Solids:	_98.	7					
Con	ncentration	Units (ug,	/L or mg/kg dry	/ V	weight):	. MC	G/KG
	CAS No.	Analyte	Concentration	С	Q	M	
	7429-90-5	Aluminum		-		\overline{NR}	
	7440-36-0	Antimony_	1.4	บิ			
	7440-38-2	Arsenic	1.2	ש		P_P	
	7440-39-3	Barium —				NR	
	7440-41-7	Beryllium		บิ		P_	
	7440-43-9	Cadmium	0.20	U		P_	
	7440-70-2	Calcium		_		NR	
	7440-47-3	Chromium_	26.4	_		P_	
	7440-48-4	Cobalt		=		NR	
	7440-50-8	Copper	1.0_	B	*	P NR	
	7439-89-6	Iron	1.1	-			
•	7439-92-1	Lead_ Magnesium		-	J-14	P_NR	
	7439-95-4	Manganese		-		NR	
	7439-90-5	Mercury	0.10	ਹ		CV	
	7440-02-0	Nickel	1.5	В		P_	
	7440-09-7	Potassium		-		NR	
	7782-49-2	Selenium	1.0	Ū		P	
	7440-22-4	Silver	0.41	U	U5-14	P	
	7440-23-5	Sodium		_		NR	
	7440-28-0	Thallium_	1.2	Ū		P_	
	7440-62-2	Vanadium_		_		NR	

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B SAMPLE	ID:_A7469807-CGA LE_ID:_03-03-07F					

7440-66-6

Zinc____ Cyanide_

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NC

Lab Name: RECRA_LABNI	ET_INC Con	tract: NY97-163	08RW1
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD720785
Level (low/med):	LOW	Date Recei	ived: 12/13/97
% Solids:	_98.7		

			_		_
CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum_		_		$\overline{\mathtt{NR}}$
7440-36-0	Antimony_	1.3	Ū		P_
7440-38-2	Arsenic Barium	1.2_	U		P_ NR
7440-41-7	Beryllium	0.20	$\overline{\overline{U}}$	_ 	P
7440-43-9	Cadmium	1.4	Ľ		P
7440-70-2	Calcium_		_		NR
7440-47-3	Chromium_ Cobalt	69.8_	_		P NR
7440-50-8	Copper	4.9	B	*	P
7439-89-6	Iron				NR
7439-92-1	Lead	1.7	_	J-14	P_
7439-95-4	Magnesium Manganese		_		NR NR
7439-97-6	Mercury	0.10	$\overline{\overline{\mathtt{U}}}$		CV
7440-02-0	Nickel	1.5	В		P_
7440-09-7	Potassium		==		NR
7782-49-2	Selenium_ Silver	0.98_	Ü	117 111	P P
7440-23-5	Sodium			UJ-14	NR
7440-28-0	Thallium_	1.2_	$\overline{\mathtt{U}}$		P_
7440-62-2 7440-66-6	Vanadium_ Zinc		_		NR
/440-00-0	Cyanide	11.4_	_		P_NR
			_		***

Color :	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color :	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Commen LAB CLI	SAMPLE I	D:_A7466604-CGA JE_ID:_03-03-08F	00787 RW-1				= (

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	CAMPLE	NO
MIDDEC	DHMETE	$\mathcal{I}_{I}}}}}}}}}}$

			09RW1
Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721212
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Solids:	97.4		

CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum				NR
7440-36-0	Antimony -	1.4	Ū		P
7440-38-2	Arsenic	1.5	В		P_
7440-39-3	Barium		_		NR
7440-41-7	Beryllium	0.20	Ū		P_
7440-43-9	Cadmium	1.8	_		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	46.3	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	6.1	_	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	2.4_	_	J-14	P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		=		NR
7439-97-6	Mercury	0.10	Ū		CA
7440-02-0	Nickel	2.2_	В		P_
7440-09-7	Potassium	1.00	Ū		NR
7440-22-4	Selenium_ Silver		U	1 1 7 11	P-
7440-22-4	Sodium -	0.41_		UJ-14	NR
7440-23-3	Thallium	1.2	Ū		P
7440-62-2	Vanadium_		٦		NR
7440-66-6	Zinc	8.2	-		P
- 110 00 0	Cyanide		-		NR
			-		[```]
			I		1 1

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE I	ID:_A7469805-CGA LE_ID:_03-03-09F					
<i></i>							

INORGANIC ANALYSES DATA SHEET

<u>00000</u> ""

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABNI	ET_INC	Cont	ract: NY97	-163		
Lab Code: RECNY_	Case No.:	6702_	SAS No.: _		SDG No.:	31516W
Matrix (soil/water):	SOIL_		La	b Sample	e ID: AD72	21208
Level (low/med):	LOW		Da	te Recei	ived: 12/1	L7/97

_97.1 % Solids:

					ı
CAS No.	Analyte	Concentration	C	Q .	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony -	1.4	$\overline{\mathbf{U}}$		P
7440-38-2	Arsenic	2.5			P-
7440-39-3	Barium —		-		NR
7440-41-7	Beryllium	0.20	Ū		P
7440-43-9	Cadmium	0.20	Ŭ		P-
7440-70-2	Calcium				NR
7440-47-3	Chromium_	2.0	B		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	1.8_	B	*	P_
7439-89-6	Iron				NR
7439-92-1	Lead	1.9_	_	J-14	P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese	·	_		NR
7439-97-6	Mercury	0.10_	Ü		CV
7440-02-0	Nickel	1.0_	В		P_NR
7440-09-7	Potassium Selenium	1.0	-		P
7440-22-4	Silver	0.41	Ū	11-11	P-
7440-22-4	Sodium Sodium		١٠	UJ-14	NR
7440-28-0	Thallium	1.2	Ū		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	9.9	-		P
	Cyanide_		-		NR
			_		· —

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
Commen LAI CL:	B SAMPLE	ID:_A7469801-CGA LE_ID:_03-03-10F	A00787 RW-1				

DATA VALIDATION REPORT

Northrop Grumman Priority Pollutant Metals

Matrix: Soil SDG No.: 30308R

This report documents the review of analytical data from the analyses of soil samples for priority pollutant metals by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in **Appendix A**. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the **Appendix A**.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

Technical Holding Times

Initial Calibration

Initial and Continuing Calibration Verification

*Contract Required Detection Limit (CRDL) Standards

Blanks (Method and Continuing Calibration Blank)

Interference Check Sample (ICS)

- *Spiked Sample Analysis
- *Duplicate Sample

Laboratory Control Samples (LCS)

*ICP Serial Dilution (ICP only)

Sample Result Quantitation and Contract-Required Detection Limits (CRDL)

Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

CRDL STANDARDS

In SDG 30308R the CRDL standards did not meet the 80-120% recovery (%R) for antimony (67.3%), lead (9.0%), selenium (63.2%), silver (45.6%), and thallium (73.9). Of those, only lead, and selenium did not meet the minimum of 2X their respective CRDL standard concentrations in field samples and were qualified J-14.

30308Rme 1

SPIKED SAMPLE ANALYSIS

The matrix spike sample (03-03-08RW-2) recovered selenium at 71.7%, which was out of spike control limits of 75-125%. The only field sample listed selenium as a non-detect and was qualified UJ-8.

DUPLICATE SAMPLE

The laboratory sample/laboratory duplicate sample (03-03-08RW-2) had several analytes which were higher than the 20% RPD allowed. They were: antimony (44%), arsenic (200%), chromium (20.1%), nickel (31.1%), and zinc (35.2%). Chromium was the only analyte with a sample concentration greater than 5X the CRDL and the one sample was qualified as J-9.

ICP SERIAL DILUTION

The ICP serial dilution (03-03-08RW-2) percent difference (%D) values were greater than the QC limit of 10% for antimony (475.5%), cadmium (100%), copper (100%), lead (100%) and nickel (100%). However, none of the original sample concentrations were greater than 50X the instrument detection limits, so no qualification of data was required.

SAMPLE RESULTS QUANTITATION AND CRDLs

Instrument detection limits (IDLs) were compared to the NYSDEC contract required detection limits (CRDLs) and were less than the CRDLs.

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the laboratory sample/laboratory sample duplicate analysis, except as noted above. Accuracy was acceptable, as demonstrated by the laboratory control sample and spiked sample percent recovery values.

Qualification of field samples were required due to % recovery outliers for CRDL standards and % D outliers for ICP serial dilutions.

The data, as qualified, are acceptable for use.

SAMPLE INDEX

PP Cyanide	netals	*
Pesticides F	me	
TPH	-Gas	
TPH-	Fuel	
PCB		
SVOC		
VOC		
Matrix		lios
Sample		03-03-08RW-2
SDG		030308R

^{*}Indicates that level 4 validation was performed on this sample.

APPENDIX B SUMMARY OF QUALIFIED DATA

30308Rme

Metals Recalculation for SDG 30308R

(12/				Client ID	08RW
	2)				
	-0.000004	0.982388 slope	0.005475	ICP result:	0.00681
0.0	0.010497 0.097271	0.000479 Intercept	0.101037	Rep. Concentration:	1.40
	0.480095		0.477118	•	
	1.023120		1.010579	Recalc. Concentration:	1.4173
				Lab ID	A7470001
				Digest ID	AD721217 08RW
Chromium (12/24)	24)				
	0.000002	0.989658 slope	0.002881	ICP result:	0.87477
	0.010249	U.UUZ883 Intercept	0.013026	Rep. Concentration:	182
0.50	0.488737		0.486566	-	
	1.013930		1.006327	Recalc. Concentration:	182.0541
				Lab ID Digest ID	A7470001 AD721217
Zinc (12/22)					AA V 00
	0.000007	1.013703 slope	0.002229	ICP result:	0.04782
0.10	0.097948	U.UUZZ36 INTERCEPT	0.013073	Rep. Concentration:	10.0
	0.478357		0.487148		
	0.990220		1.006025	Recalc. Concentration:	9.9521
				Lab ID	A7470001
<i>:</i>				Digest ID Client ID	OBRIWS
Mercury (11/24)					
0.00	7	0.001860 slope	0.00375	CV result:	0.0986
0.05	26	0.000032 intercept	0.04839		
0.10	54 266		0.10047	Rep. Concentration:	0.4886
1.00	539		1.00258	Recalc. Concentration:	0.4886

000022

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA	A_LABNET_ING	E	Contract: NY	797-163	08RW			
Lab Code: RECNY	_ Cas	se No.: 670	SAS No.:	:	SDG No.: 303081			
Matrix (soil/wa	ater): SOIL	_		Lab Sampl	e ID: AD721217			
Level (low/med)	: LOW_	_		Date Rece	eived: 12/17/97			
% Solids:	_96.3	L						
Concentration Units (ug/L or mg/kg dry weight): MG/KG								
	CAS No.		Concentration	C Q	М			
	7429-90-5 7440-36-0	Aluminum_ Antimony	1.4	<u>B</u>	NR			

7440-38-2

7440-39-3

7440-09-7

7782-49-2

7440-22-4

7440-23-5

7440-28-0

7440-62-2

7440-66-6

Arsenic

Potassium

Selenium

Silver

Thallium

Vanadium -

Sodium

Zinc

Barium

0.21 Ū Р 7440-41-7 Beryllium P 7440-43-9 Cadmium 0.57 7440-70-2 NRCalcium J-9 P -7440-47-3 Chromium 182 NR7440-48-4 Cobalt P 7440-50-8 Copper 2.4 NR 7439-89-6 Iron P+J-14 7439-92-1 Lead 1.5 7439-95-4 NR Magnesium NR 7439-96-5 Manganese Ū 0.10 CV 7439-97-6 Mercury 7440-02-0 Nickel -1.4 P

0.96

0.89

0.42

10

 $\overline{\mathtt{U}}$

U

 $N\overline{R}$

NR

P_

NR

Ρ

NR

Ρ

P-15-3

Cyanide NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

LAB SAMPLE ID: A7470001-CGA00787

CLIENT_SAMPLE_ID: 03-03-08RW-2

DATA VALIDATION REPORT

Northrop Grumman Plant 3 Priority Pollutant Metals Matrix: Water

SDG No.: 303084

This report documents the review of analytical data from the analyses of water samples for priority pollutant metals by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in **Appendix A**. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the **Appendix A**.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method)
*CRDL standard
Laboratory Control Samples (LCS)
Duplicate Sample
Spiked Sample Analysis
Interference Check Sample
ICP Serial Dilution (ICP only)
Sample Result Quantitation and Contract-Required Detection Limits (CRDL)
Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria. Qualified data are summarized in **Appendix B**.

CRDL STANDARD

In the CRDL standard for ICP analyses lead and silver had recoveries of less than 80%. All samples in SDG 303084 with lead and silver concentrations less than 2x the CRDL standard concentrations were qualified as (J-14/UJ-14).

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the laboratory sample/duplicate analysis. Accuracy was acceptable, as demonstrated by the laboratory control sample and spiked sample percent recovery values.

Qualification of water sample results were required because of CRDL standard % recovery outliers.

The data, as qualified, are acceptable for use.

SAMPLE INDEX

SDG	Sample	Matrix	VOC	NOC SVOC	PCB	TPH-	TPH	Pesticides	PP	Cyanide
	•					Fuel	-Gas	Fuel -Gas	metals	
3084	03-03-W-1	water							7	
303084	03-03-W-2	water							*	
3084	03-03-W-3	water							>	
303084	03-03-W-4	water							>	

*Indicates that level 4 validation was performed on this sample

APPENDIX B

SUMMARY OF QUALIFIED DATA

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
MISDEC	SMILTE	TAO

	-	LITOROPHITC P	Lilling Dilling			
Lap Name: RECRA	A_LABNET_ING	c	Contract: NY	797-163	03-W-4	
Lab Code: RECNY	Y_ Cas	se No.: 670	SAS No.:		SDG No.: 303084	
Matrix (soil/wa	ater): WATE	3		Lab Sample ID: AD721424		
Level (low/med)): LOW_	_		Date Rece	eived: 12/19/97	
% Solids:	0.0)				
Con	ncentration	Units (ug/	L or mg/kg dry	weight)	: UG/L_	
	CAS No.	Analyte	Concentration	C Q	м	
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-96-5 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-02-0 7440-22-4 7440-23-5 7440-28-0 7440-66-6	Arsenic_Barium_Beryllium Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium Manganese Mercury_Nickel_Potassium_Selenium_	6.7 11.3 1.0 25.9 335 131 127 0.27 29.8 4.9 1.7 6.1 854	Б В В О	NR PPR PPR NR PRR PRNR PNR PNR PNR PNR P	
Color Before:	BROWN	Clarit	ty Before: CLO	ΣΥ	Texture:	
Color After:	COLORLESS	Clarit	ty After: CLEA	AR_	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP						

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

		INONOMIC I	MARIOLO DATA C			. —————	
Lab Name: RECR	A LABNET IN	С.	Contract: NY	Y97	-163	03-W-3	
			D2_ SAS No.			SDG No.:	303084
Matrix (soil/w			_			e ID: AD72	
Matrix (SOII/W	ater): WAIE	X		ша.	D Bampi	.e 1D. AD/2	1423
Level (low/med): LOW_	_		Da	te Rece	eived: 12/1	9/97
% Solids:	0.0	0					
Со	ncentration	Units (ug	/L or mg/kg dry	y w	eight):	UG/L_	
				П			
	CAS No.	Analyte	Concentration	C	Q	M	
	7429-90-5	Aluminum		-		NR	
		Antimony	6.7	ן שׁן			
		Arsenic	6.0	ן ט		P P	
	1	Barium —		}		NR	
	7440-41-7		1.0	טו		P	
		Cadmium	27.7			P_P	
	7440-70-2	Calcium		[]		NR	
	7440-47-3	Chromium	465	-		P	
	7440-48-4	Cobalt		-		NR	
	7440-50-8	Copper	132	-		P	
	7439-89-6	Iron				NR	
		Lead	126_	$\lfloor - \rfloor$		P_	
	7439-95-4	Magnesium		$\lfloor - \rfloor$		NR	
	7439-96-5	Manganese				NR	
		Mercury	1.00	$\lfloor - \rfloor$		CV	
		Nickel	30.4	$ \overline{\mathtt{B}} $		P_ NR	
		Potassium					
	7782-49-2		4.9	ט		P_ P	
	7440-22-4		1.0	ט	UJ-14	P_	
	7440-23-5			_		NR	
	7440-28-0	Thallium_	6.1_	ע		P_	
	7440-62-2	Vanadium_		_		NR	
	7440-66-6	Zinc	726_			P_	
		Cyanide		-		NR	
Color Before:	BROWN	Clari	ty Before: CLO	UDY		Texture:	
Color After:	COLORLESS	Clari	ty After: CLE	AR_		Artifacts	:
	ID:_A747460 LE_ID:_03-0						

INORGANIC ANALYSES DATA SHEET

NYSDEC	GAMDI.F	NO

Lab Name: RECR	A LABNET IN	C.	Contract: N	Y97-	-163	03-W-2
						SDG No.: 303084
Matrix (soil/wa						e ID: AD721422
Level (low/med)): LOW_	_		Dat	e Rece	eived: 12/19/97
% Solids:	0.0	0				
Con	CAS No. 7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7	Analyte Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium	6.7 9.9 1.0 13.4 1900 85.6 86.1	C	Q Q	M NR P NR P NR P NR P NR P NR P NR P NR
Color After: Comments: LAB SAMPLE:	ID: A7474602	SilverSodiumThallium_Vanadium_Zinc_CyanideClarit	4.9 1.0 6.1 200 cy Before: CLOU	UDY		P_ P_ NR P_ NR P_ NR Texture:

INORGANIC ANALYSES DATA SHEET

-		
NYSDEC	SAMPLE	NO

Lab Name: RECR	A LABNET IN	С.	Contract: N	197	7-163	03-W-1	
	_					SDG No.: 303084	
Matrix (soil/wa	ater): WATE	R		La	ab Sampl	e ID: AD721421	
Level (low/med)): LOW_	-		Da	ate Rece	eived: 12/19/97	
% Solids:	0.0	0					
Con	ncentration	Units (ug,	/L or mg/kg dry	y v	weight):	UG/L_	
	CAS No.	Analyte	Concentration	С	Q	M	
	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7 7782-49-2	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_ ————————————————————————————————————	6.7 13.0 1.0 28.6 3220 99.7 83.3 0.20 31.4 4.9 1.0 6.1 231	מו ממווווווו		NR	
Color Before:	YELLOW	Clari	ty Before: CLO	מסט	Z.	Texture:	<u>-</u>
Color After:	COLORLESS	Clari	ty After: CLEA	AR_	-	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP							

DATA VALIDATION REPORT

Northrop Grumman Priority Pollutant Metals

Matrix: Soil SDG No.: 303083

This report documents the review of analytical data from the analyses of soil samples for priority pollutant metals by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in **Appendix A**. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the **Appendix A**.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method and Continuing Calibration Blank)
*CRDL Standard
Laboratory Control Samples (LCS)
Duplicate Sample
Spiked Sample Analysis
Interference Check Sample
ICP Serial Dilution (ICP only)
Sample Result Quantitation and Contract-Required Detection Limits (CRDL)
Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria. Qualified data are summarized in **Appendix B**.

CRDL STANDARD

In the CRDL standard for ICP analyses antimony, lead, and silver had recoveries of less than 80%. All samples in SDG 303083 with antimony, lead, and silver concentrations less than 2x the CRDL standard concentrations were qualified as (J-14/UJ-14).

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the laboratory sample/laboratory sample duplicate analysis. Accuracy was acceptable, as demonstrated by the laboratory control sample and spiked sample percent recovery values.

Qualification of field samples were required due CRDL standard percent recovery outliers.

The data, as qualified, are acceptable for use.

SAMPLE INDEX

SDG	Sample	Matrix	NOC	VOC SVOC PCB	PCB	TPH-	TPH	Pesticides	PP	Cyanide
	•					Fuel	-Gas		metals	
303083	03-03-03RW-2	soil							*	
303083	03-03-09RW-2	soil							7	
303083	03-03-10RW-2	soil							>	

^{*}Indicates that level 4 validation was performed on this sample.

APPENDIX B

SUMMARY OF QUALIFIED DATA

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RW-2

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163_____

Lab Sample ID: AD721349

Matrix (soil/water): SOIL_

Date Received: 12/19/97

Level (low/med): LOW__

% Solids:

_83.4

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

CAS No.	Analyte	Concentration	С	Q	м
	N7		-		NR
7429-90-5	Aluminum_	1/5-14 1.6	์ ซิ		P
7440-36-0	Antimony_		ט		P-
7440-38-2	Arsenic	1.4_	١٠		NR
7440-39-3	Barium	0.46	B		P
7440-41-7	Beryllium		B		P-
7440-43-9	Cadmium	1.8_	-		_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	159_	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.2	B		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	J-14 1.7			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury_	0.11	Ū		CV
7440-02-0	Nickel	1.8	В		P
7440-09-7	Potassium		١.		NR
7782-49-2	Selenium	1.2	Ü		P
7440-22-4	Silver	U5-14 0.48	υ		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.4	บิ		P
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	15.2	-		P
1.110.00	Cyanide		-		NR
	0,4		-		
			' —		١

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CLI	S_SAMPLE_: EN'I SAMPI	ID:_A7474701-CGA LE_ID:_03-03-03F _NUMBER:_AD72167	₹W-2				

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INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163____

Matrix (soil/water): SOIL_

Lab Sample ID: AD721350

Level (low/med): LOW__

Date Received: 12/19/97

% Solids:

_97.2

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

CAS No.	Analyte	Concentration	С	Q	м
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony_	UJ-14 1.4	ប		P
7440-38-2	Arsenic	1.2	U		P_
7440-39-3	Barium		ľ		NR
7440-41-7	Beryllium	0.20	บิ		P
7440-43-9	Cadmium	0.32	В		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	132	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	1.9	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	J~14 0.86	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	Ū		cv
7440-02-0	Nickel	0.86	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.00	บิ		P
7440-22-4	Silver	U.T-14 0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	ีซี		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	8.7	_		P
	Cyanide_		_		NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CL:	B SAMPLE : IENT SAMPI	ID:_A7474702-CG/ LE_ID:_03-03-091 _NUMBER:_AD7216	RW-2				

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INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

10RW-2

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163_

Matrix (soil/water): SOIL_

Lab Sample ID: AD721351

Level (low/med): LOW__

Date Received: 12/19/97

% Solids:

_96.3

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

CAS No.	Analyte	Concentration	C	Q	М
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	UJ-14_1.4_	บิ		P_
7440-38-2	Arsenic	1.2	שׁ		P_
7440-39-3	Barium		ច		NR
7440-41-7	Beryllium	0.21_			P_
7440-43-9	Cadmium	0.78_	В	<u>-</u> -	NR
7440-70-2 7440-47-3	Calcium	147	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper_	1.7	B		P
7439-89-6	Iron		_		NR
7439-92-1	Lead	1-14 1.1	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		ច		NR CV
7439-97-6	Mercury	0.10_	В		P
7440-02-0	Nickel_ Potassium	0.82_	-		NR
7782-49-2	Selenium	1.0	ับิ		P
7440-22-4	Silver	15-14 0.41	U		P-
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	Ū		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	7.0_	-		P
	Cyanide		-	·	NR
			_		ـــــا

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CT:	S_SAMPLE_: ENT SAMP	ID: _A7474703-CGA LE_TD: _03-03-108 _NUMBER: _AD72168	W-2_				

FORM I - IN

DATA VALIDATION REPORT

Northrop Grumman Priority Pollutant Metals Matrix: Soil

SDG No.: 30308R

This report documents the review of analytical data from the analyses of soil samples for priority pollutant metals by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in **Appendix A**. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the **Appendix A**.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method and Continuing Calibration Blank)
*CRDL Standard
Laboratory Control Samples (LCS)
Duplicate Sample
Spiked Sample Analysis
Interference Check Sample
ICP Serial Dilution (ICP only)

Sample Result Quantitation and Contract-Required Detection Limits (CRDL) Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria. Qualified data are summarized in **Appendix B**.

CRDL STANDARD

In the CRDL standard for ICP analyses lead and silver had recoveries of less than 80%. All samples in SDG 30308R with lead and silver concentrations less than 2x the CRDL standard concentrations were qualified as (J-14/UJ-14).

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the laboratory sample/laboratory sample duplicate analysis. Accuracy was acceptable, as demonstrated by the laboratory control sample and spiked sample percent recovery values.

Qualification of field samples were required due CRDL standard percent recovery outliers.

The data, as qualified, are acceptable for use.

APPENDIX A

SAMPLE INDEX

_		_	_		_	_	_					_
Cyanide												
PP	metals	*	7	7	*	7	7	*	>	>	>	7
TPH Pesticides												
TPH	-Gas											
TPH-	Fuel											
PCB												
VOC SVOC PCB												
VOC												
Matrix		lios	lios	lios	soil	lios	soil	soil	lios	lios	lios	lios
Sample		03-03-01RW-2	03-03-01RW-3	03-03-02RW-3	03-03-03RW-3	03-03-04RW-3	03-03-05RW-3	03-03-06RW-3	03-03-07RW-3	03-03-08RW-3	03-03-09RW-3	03-03-10RW-3
SDG		30308R										

*Indicates that level 4 validation was performed on this sample.

APPENDIX B SUMMARY OF QUALIFIED DATA

600000

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RW-2	1
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							01RW-2
Lab	Name:	RECRA_	_LABNET_	INC	Contract:	NY97-163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.: 303082

Lab Sample ID: AD721695 Matrix (soil/water): SOIL_

Date Received: 12/34/97 Level (low/med): LOW___

\$ Solids: **_97.**5

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

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.70	ថ		P_
7440-38-2	Arsenic	0.80	В		P_
7440-39-3	Barium		_		NR
7440-41-7	Beryllium	0.20	บิ		P_
7440-43-9	Cadmium	0.43	В		P_
7440-70-2	Calcium				NR
7440-47-3	Chromium_	126	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.3	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	J-14 1.9	-		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	Ŭ		CV
7440-02-0	Nickel	4.3	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	1.0_	ਹ		P_
7440-22-4	Silver	UJ-14 0.29	บ		P
7440-23-5	Sodium		l_		NR
7440-28-0	Thallium_	1.3_	ਹ		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	3.6_	B		P_
	Cyanide		_		NR
			<u> </u>		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CT:	S_SAMPLE_: IENT_SAMPI	ID: A7480801-CGA LE_ID: 03-03-011 NUMBERS: AD7219	RW-2	00119			

000010

NYSDEC ASP

NYSDEC SAMPLE NO.

INORGANIC	ANALYSES DATA SHEET	1
	•	01RW-3
С.	Contract: NY97-163	1

Lab Name: RECRA_LABNET_INC.____ Contrac Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.: 303082

Matrix (soil/water): SOIL_

Lab Sample ID: AD721696

Level (low/med): LOW__

Date Received: 12/24/97

% Solids:

_97.9

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

			_		
CAS No.	Analyte	Concentration	С	Q	м
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony_	0.67	ี ซิ		P
	Arsenic	0.69	บ		p-
7440-38-2	Barium	 0.03-	~		NR
7440-39-3		0.20	ប៊		P
7440-41-7	Beryllium	0.28	В		p-
7440-43-9	Cadmium_	\U.28	₽	<u>_</u>	NR
7440-70-2	Calcium		-		P
7440-47-3	Chromium_	2.2_	_		
7440-48-4	Cobalt		<u> </u>		NR
7440-50-8	Copper	3.2	B		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	J-14 2.6	_		P_
7439-95-4	Magnesium		_	l <u></u>	NR
7439-96-5	Manganese		۱ <u> </u>		NR
7439-97-6	Mercury	0.10	บิ		CV
7440-02-0	Nickel	1.2	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	Ū		P
7440-22-4	Silver	UJ-14 0.28	U		p_
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	Ū		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	5.8	-		P
	Cyanide_		-		NR
	- ,		-		
	-		' —		·

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CLI	_SAMPLE_1 ENT_SAMPI	ID: A7480802-CGA LE_ID: 03-03-019 NUMBERS: AD7219	W-3	00120			

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000011

NYSDEC ASP

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
HIODEC	DULIE DE	NO

		02RW-3
Lab Name: RECRA LABNET INC.	Contract: NY97-163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303082

Lab Sample ID: AD721697 Matrix (soil/water): SOIL

Date Received: 12/24/97 Level (low/med): LOW___

% Solids: _97.4

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

			_		
CAS No.	Analyte	Concentration	С	Q	м
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.68	ซิ		P
7440-38-2	Arsenic	1.0	B		P-
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	0.20	ן ש		P
7440-43-9	Cadmium	0.55	В		p-
7440-70-2	Calcium				NR
7440-47-3	Chromium	233	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	2.3	B		P
7439-89-6	Iron		5		NR
7439-92-1	Lead	J-14 1.9	-		P
7439-95-4	Magnesium	\	-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	ซี		CV
7440-02-0	Nickel	0.91	В		P
7440-02-0	Potassium		6		NR
7782-49-2	Selenium	1.00	ีซ		P
7440-22-4	Silver	UJ-14 0.28	ŭ		p-
7440-23-5	Sodium	-WJ-19-0-20-	١٠		NR
7440-23-3	Thallium	1.2	ប៊		P
7440-28-0	Vanadium_		١٠		NR
7440-62-2	Zinc	4.0	\overline{B}		P
/440-00-0	Cyanide	4 ,0-	۵		NR
	Chamare—		-		MK
	· I	l	1	l	I

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM		
Color After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:			
Comments: LAB_SAMPLE_ID:_A7480803-CGA00787 CLIENT_SAMPLE_ID:_03-03-02RW-3 REDIGESTION_NUMBERS:_AD721949,_AD800121								

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1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO.

		03RW-3
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.: 303082

Lab Sample ID: AD721698 Matrix (soil/water): SOIL_

Date Received: 12/24/97 Level (low/med): LOW__

% Solids: _97.1

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

	CAS No.	Analyte	Concentration	С	Q .	М
-	7429-90-5	Aluminum		-		\overline{NR}
1	7440-36-0	Antimony	0.69	ប៊		P
1	7440-38-2	Arsenic	0.77	В		P_
	7440-39-3	Barium				NR
	7440-41-7	Beryllium	0.20	ซิ		P
	7440-43-9	Cadmium	0.71	В		P_
	7440-70-2	Calcium				NR
	7440-47-3	Chromium	83.1	-		P_
	7440-48-4	Cobalt		_		NR
	7440-50-8	Copper	2.3	B		P
1	7439-89-6	Iron				NR
	7439-92-1	Lead	7-14 1.6	_		P_
١	7439-95-4	Magnesium		_		NR
	7439-96-5	Manganese		_		NR
	7439-97-6	Mercury	0.10_	บิ		CV
١	7440-02-0	Nickel	1.2_	В		P
-	7440-09-7	Potassium		_		NR
-	7782-49-2	Selenium_	1.0_	ีซิ		P_
-	7440-22-4	Silver	UJ-14_0.29_	ט		P_
	7440-23-5	Sodium		 _		NR
	7440-28-0	Thallium_	1.3_	וּשׁ	<u> </u>	P_
-	7440-62-2	Vanadium_		 _		NR
	7440-66-6	Zinc	4.8_	1_		P_
		Cyanide		-	1	NR
				 _		١

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIU	
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:		
Comments: LAB_SAMPLE_ID: A7480804-CGA00787 CLIENT_SAMPLE_ID: 03-03-03RW-3 REDIGESTION_NUMBERS: AD721950, AD800122								

FORM I - IN

Lab Code: RECNY_

Case No.: 6702 SAS No.: ____ SDG No.: 303082

000013

NYSDEC ASP

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW-3

Lab Name: RECRA_LABNET_INC. ____ Contract: NY97-163_

Iab Sample ID: AD721699 Matrix (soil/water): SOIL_

Date Received: 12/24/97 Level (low/med): LOW

₹ Solids: _97.7

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

CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.68	ប៊		p
7440-38-2	Arsenic	0.92	В		P-
7440-39-3	Barium —		-		NR
7440-41-7	Beryllium	0.20	บิ		P
7440-43-9	Cadmium	0.97	В		P-
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	213	-		p
7440-48-4	Cobalt		[-		NR
7440-50-8	Copper	4.6	B		P
7439-89-6	Iron		-		NR
7439-92-1	Lead	J-14 1.9	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	_		-		NR
7439-96-5	Manganese	0.10	บั		CA
7440-02-0	Mercury Nickel		В		P
7440-02-0		2.6_	Б		NR
7782-49-2	Potassium Selenium	0.99	บิ	_	P NIK
7440-22-4	Silver		ט		P-
7440-23-5	Sodium	<u> 117-14</u> 0.28_	١٠	l——	NR
7440-23-5	Thallium	1.2	Ū	l——	P
7440-28-0	Vanadium_		١٠		NR
7440-62-2	Zinc	9.8	-	<u> </u>	P
/440-00-0	Cyanide	^{9.8} -	-	l ———	NR
	Cyanitue		-		IMA
l	I		۱_	l	١

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CL:	S SAMPLE :	ID:_A7480805-CG/ LE_ID:_03-03-041 NUMBERS:_AD721	RW-3	00123			

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000014

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

		05RW-3
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	li

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303082

Lab Sample ID: AD721700 Matrix (soil/water): SOIL_

Date Received: 12'24/97 Level (low/med): LOW__

% Solids: 97.6

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

			$\overline{}$		1
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-	<u> </u>	\overline{NR}
7440-36-0	Antimony	0.69	์ซิ		P
7440-38-2	Arsenic	1.3	В		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	ប៊		P
7440-43-9	Cadmium	0.32	В		P_
7440-70-2	Calcium		~		NR
7440-47-3	Chromium	13,7	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	1.7	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	T-14 1.1	-		P
7439-95-4	Magnesium		-		NR
7439-96-5			-		NR
	Manganese	0.10	ប៊		CV
7439-97-6	Mercury_		В	-	P
7440-02-0	Nickel	1.1_	B	ļ. 	NR
7440~09-7	Potassium		ีซ		P
7782-49-2	Selenium_	1.0	_		P-
7440-22-4	Silver	UJ-14_0.28_	ט		
7440-23-5	Sodium		==		NR
7440-28-0	Thallium_	1.2_	ប៊	l	P_
7440-62-2	Vanadium_		-		NR
7440-66-6	Zinc	4.3	_		P_
	Cyanide		-		NR
	l	l	۱_	l	

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CL:	S SAMPLE I	D:_A7480806-CGA LE_ID:_03-03-058 NUMBERS:_AD7219	₹₩-3	00124			

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000015

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO.

Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	06RW-3
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721701
Level (low/med):	LOW	Date Rece	ived: 12/24/97

% Solids: _97.8

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

CAS No.	Analyte	Concentration	С	Q	м
CAS No. 7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-47-3 7440-48-4 7440-50-8 7439-96-6 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7 7782-49-2	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium	0.69 0.75 0.20 0.27 124 2.3 3-14 1.2	C - IDB IDB IB IDB ID	Q	R L L R L R L R L R L R L R L R L R L R
7440-22-4 7440-23-5 7440-28-0 7440-62-2 7440-66-6	SilverSodiumThallium_Vanadium_ZincCyanide	1.3_ 4.7_	บ - -		P IR P IR P IR

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CT:	S SAMPLE I	ID:_A7480807-CGA LE_ID:_03-03-06F _NUMBERS:_AD7219	RW-3	00125			

10

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

MILL	MIADISES	DUIU	DIIBBA	. 1	1
					07RW-3
	Contr	act · 1	TV97-16	รจ ไ	!

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__ |

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303082

Matrix (soil/water): SOIL_

Lab Sample ID: AD721702

Level (low/med): LOW

Date Received: 12/24/97

% Solids:

_97.8

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

]				1
Analyte	Concentration	C	Q	М
Aluminum		-		NR
	0.70	Ū		P
				P
				NR
	0.20	īī		P
				p-
		ľ		NR
. —	146	-	-	P
_		-		NR
	1 8	ā		P
		"		NR
	- 10 1 0	-		P
		-		NR
_		-		NR
_		=		CV
		_		P
	0.80_	В		NR
		77		
		_		P_
	-11-14-0.29-	U		NR
		==		
_	1.2_	ľ		P
l . →		-		NR P
	4.7_			1~_
Cyanide		 _	<u> </u>	NR
	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Selenium Silver Sodium Thallium Vanadium Zinc 0.70 0.20 0.20 0.20 0.20 0.20 0.20 0.2	Aluminum	Aluminum

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUN
Color	After:	COLORLESS .	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE	ID:_A7480808-CG					
CLI	ENT_SAMPI	LE_ID:_03-03-07 NUMBERS:_AD721	RW-3	00126			
KEL	JIGESTION_	_NUMBERS:_AD/21	954,_AD8	00126			

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000017

NYSDEC ASP

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

UBDM-3

Lab	Name:	RECRA_LABNET_INC	Contract: NY97-163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.: 303082

Matrix (soil/water): SOIL_

Lab Sample ID: AD721703

Level (low/med): LOW

Date Received: 12/24/97

\$ Solids:

_97.7

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

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony_	0.68	ซิ		P
7440-38-2	Arsenic	0.81	В		p_
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	Ū,		P
7440-43-9	Cadmium	0.33	В		p_
7440-70-2	Calcium				NR
7440-47-3	Chromium	66.3	_		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.7	$\overline{\mathtt{B}}$		P
7439-89-6	Iron				NR
7439-92-1	Lead	5-14 1.1	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	บิ		CV
7440-02-0	Nickel	1.9	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	ប៊		P
7440-22-4	Silver	115-14 0.28	บ		P_
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	บิ		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	3.1	B		P_
	Cyanide		l		NR
			1_		

0-1 364 (
Color After: (COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CLIENT_SAMPLE	D:_A7480809-CGA E_ID:_03-03-08R NUMBERS:_AD7219	₹₩-3	00127			

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NYSDEC ASP

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
		410.

111011011111	111101000			1	ı
				09RW-3	Į
	C	N	TV07 163		١

Lab Name: RECRA_LABNET_INC. ____ Contract: NY97-163__ |

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.: 303082

10

Matrix (soil/water): SOIL_

Lab Sample ID: AD721704

Level (low/med): TOM__

Date Received: 12/24/97

% Solids:

_98.0

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

CAS No.	Analyte	Concentration	С	Q	м
7429-90-5	Aluminum		-	· 	NR
7440-36-0	Antimony	0.69	บิ		P
7440-38-2	Arsenic	0.71	U		P_
7440-39-3	Barium				NR
7440-41-7	Beryllium	0,20	บิ		P
7440-43-9	Cadmium	0.48	В		p-
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	106	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	3.5	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	J-14 1.2	_		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel -	1.4	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	บิ		P
7440-22-4	Silver	47-14 0.28	บ		p_
7440-23-5	Sodium		1		NR
7440-28-0	Thallium	1.3	ีซิ		P
7440-62-2	Vanadium	~			NR
7440-66-6	Zinc	5.5	-	\	P
	Cyanide_		_		NR
			1		l

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CL:	B_SAMPLE_: IENT_SAMPI	D:_A7480810~CGA LE_ID:_03-03-091 NUMBERS:_AD7219	RW-3	00128			

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000013

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

		10RW-3
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.: 303082

Lab Sample ID: AD721705 Matrix (soil/water): SOIL_

Date Received: 12/24/97 Level (low/med): LOW

% Solids: _97.6

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

					1
CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.68	ซิ		P
7440-38-2	Arsenic	0.70	ט		$ \mathbf{\hat{P}}^- $
7440-39-3	Barium		٦		NR
7440-41-7		0.20	ש		P
	Beryllium				P
7440-43-9	Cadmium	0.52	B		
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	137	_:		₽_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.1	B		P_
7439-89-6	Iron				NR
7439-92-1	Lead	7-14 1.8	_		P_
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	0.92	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	บิ		P
7440-22-4	Silver	117-14 0.28	Ū		- p
7440-23-5	Sodium	- - - - - - - - - - - - -	-		NR
7440-28-0	Thallium	1.2	ប៊		P
7440-62-2	Vanadium		٦		NR
7440-66-6	Zinc	5.9	-		P
/330-00-0		 5.9_	1-		NR
	Cyanide		l –		MK
			۱_	1	ا

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: Comments: LAB_SAMPLE_ID: A7480811-CGA00787 CLIENT_SAMPLE_ID: 03-03-10RW-3 REDIGESTION_NUMBERS: AD721957, AD800129	MEDIUM
LAB_SAMPLE_ID: A7480811-CGA00787CLIENT_SAMPLE ID: 03-03-10RW-3	

FORM I - IN

DATA VALIDATION REPORT

Northrop Grumman Plant 3 Priority Pollutant Metals Matrix: Soil

SDG No.: 30301R

This report documents the review of analytical data from the analyses of eight soil samples for priority pollutant metals by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in Appendix A. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the Appendix A.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

Technical Holding Times

Initial Calibration and Continuing Calibration Verification

*Contract Required Reporting Limit (CRDL) Standard

Blanks (Method and Continuing Calibration Blank)

Laboratory Control Samples (LCS)

*Duplicate Sample

Spiked Sample Analysis

Interference Check Sample

ICP Serial Dilution (ICP only)

Sample Result Quantitation and Contract-Required Detection Limits (CRDL)

Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria. Qualified data are summarized in **Appendix B**.

Contract Required Detection Limit (CRDL) Standard

Silver (37.4% and 32.7%) and lead (-3.2% and 5.3%) were recovered below the QC limits of 80% to 120% in the CRDL standard for this analytical batch. All samples were qualified as UJ-14 for silver and all samples except 03-03-01RB-2 were qualified as J-14 for lead.

Duplicate Sample

The laboratory sample/laboratory duplicate sample (03-03-01RB-S-2) relative percent difference (RPD) for zinc (91.2%) was greater than the QC limit of 20%. Both sample and duplicate were found at concentrations greater than five times the CRDL. All sample results were qualified as J-9.

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the LCS and MS/MSD analyses. Accuracy was acceptable, as demonstrated by the LCS and MS/MSD spiked sample percent recovery values.

Qualification of soil sample results were required for lead and silver because of CRDL standard recovery outliers.

The data, as qualified, are acceptable for use.

APPENDIX A

SAMPLE INDEX

ide									
Cyanide									
PP	metals	^ *	7	٨	*	7	7	٢	7
Pesticides									
TPH- Pe	Gas								
TPH-	Fuel								
PCB									
Matrix VOC SVOC PCB									
NOC									
Matrix		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample		30301R 03-03-01RB-2	03-03-02RB2	30301R · 03-03-03RB-2	03-03-04RB-2	03-03-04RBD-2	03-03-05RB-2	03-03-06RB-2	03-03-07RB-2
SDG		30301R	30301R	30301R '	30301R	30301R	30301R	30301R	30301R

^{*}Indicates that level 4 validation was performed on this sample.

APPENDIX B SUMMARY OF QUALIFIED DATA POINTS

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAM	IPLE	NO
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			01RB2
Lab Name: RECRA_LABN	ET_INCCo	ntract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800103
Level (low/med):	LOW	Date Rece	ived: 01/02/9(
% Solids:	_99.0		
Concentr	ation Units (ug/L or	mg/kg dry weight):	MG/KG

	T		_			1
CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum_		-		NR	
7440-36-0	Antimony_	0.96	B		P _P	
7440-38-2	Arsenic Barium	1.2_	В		NR	
7440-39-3 7440-41-7	Beryllium	0.12	B	**	P	
7440-41-7	Cadmium	0.06	U		P-	
7440-70-2	Calcium				NR	
7440-47-3	Chromium	5.8	-		P	
7440-48-4	Cobalt		-		NR	
7440-50-8	Copper	2.3	B		P	
7439-89-6	Iron				NR	
7439-92-1	Lead	1.6	_		P_	J-14
7439-95-4	Magnesium		_		NR	
7439-96-5	Manganese		_		NR	
7439 - 97-6	Mercury	0.10_	U		CV	
7440-02-0	Nickel	1.1_	В		P_	
7440-09-7	Potassium		-		NR	
7782-49-2	Selenium_	0.85_	U		P_	
7440-22-4	Silver	0.28_	U		NR	D- : 7
7440-23-5	Thallium	0.53	ਹ		P	
7440-28-0	Vanadium_				NR	
7440-66-6	Zinc	5.8	-	*	P	1-9
	Cyanide		-		NR	-
			-			
			_			

Color Before	: BROWN	Clarity Befor	e:	Texture:	MEDIU
Color After:	YELLOW	Clarity After	: CLEAR_	Artifacts	:
	E_ID:_A8000401 MPLE_ID:_03-03			· · · · · · · · · · · · · · · · · · ·	

1 INORGANIC ANALYSES DATA SHEET

	NYSDEC	SAMPLE	NO
--	--------	--------	----

Lab Name: RECRA_LABN	ET_INC Co	ontract: NY97-163	02RB2
Lab Code: RECNY	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	⊇ ID: AD800106
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	_97.6		

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

			_		_	ı
CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum		-		\overline{NR}	
7440-36-0	Antimony_	0.87	B		P	
7440-38-2	Arsenic	1.7	В		P	
7440-39-3	Barium				NR	
7440-41-7	Beryllium	0.17	B		P	
7440-43-9	Cadmium	0.06	U		P_	
7440-70-2	Calcium				NR	
7440-47-3	Chromium	22.2	-		P	
7440-48-4	Cobalt				NR	
7440-50-8	Copper	2.9	B		P	
7439-89-6	Iron —				NR	
7439-92-1	Lead	3.3	-		P	
7439-95-4	Magnesium		-		NR	
7439-96-5	Manganese		_		NR	
7439-97-6	Mercury	0.10	Ū		CV	ļ
7440-02-0	Nickel	1.9	В		P	
7440-09-7	Potassium				NR	
7782-49-2	Selenium	0.86	Ū		P	
7440-22-4	Silver	0.28	U		$ P_{\perp}$	1-14
7440-23-5	Sodium				NR	
7440-28-0	Thallium	0.54	$\overline{\mathtt{U}}$		P	
7440-62-2	Vanadium_				NR	j
7440-66-6	Zinc	13.2	_	*	P	7-5
	Cyanide		_		NR	
			_			

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000402-CG. LE_ID:_03-03-02					=

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABNI	ET_INC Cor	ntract: NY97-163	03RB2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800107
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	_99.4		
Concentr	ation Units (ug/L or	mg/kg drv weight):	MG/KG

CAS No. Analyte Concentration | C 0 M \overline{NR} 7429-90-5 Aluminum $\overline{\overline{U}}$ P_ 0.66 Antimony 7440-36-0 p_ Arsenic__ 1.4 В 7440-38-2 $N\overline{R}$ Barium 7440-39-3 B Р Beryllium 0.14 7440-41-7 P_ 0.06 U Cadmium 7440-43-9 NR Calcium 7440-70-2 Р Chromium 17.7 7440-47-3 $N\overline{R}$ 7440-48-4 Cobalt 2.3 $\overline{\mathtt{B}}$ P Copper 7440-50-8 NR7439-89-6 Iron 1-14 P Lead 1.8 7439-92-1 $N\overline{R}$ Magnesium 7439-95-4 7439-96-5 Manganese NR $\overline{\overline{U}}$ CV 0.96 7439-97-6 Mercury P 7440-02-0 Nickel 1.5 В $N\overline{R}$ 7440-09-7 Potassium Ū Ρ 0.83 7782-49-2 Selenium P-7440-22-4 Silver 0.27 U $N\overline{R}$ 7440-23-5 Sodium \overline{U} Thallium 0.52 Р 7440-28-0 $N\overline{R}$ Vanadium 7440-62-2 و - ر Р Zinc 13.5 7440-66-6 NR Cyanide

_	Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
	Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	Comments: LAB_SAMPLE_ CLIENT_SAMP	ID:_A8000403-CG2 LE_ID:_03-03-031	A00787 RB-2				
	N						

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

			I
		04RBD2	20
Lab Name: RECRA_LABNET_INC	Contract: NY97-163		

Matrix (soil/water): SOIL_ Lab Sample ID: AD800109

Level (low/med): LOW__ Date Received: 01/02/98

% Solids: _99.3

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

CAS No. Analyte Concentration C Q M 7429-90-5 Aluminum 0.68 U P 7440-36-0 Antimony 0.68 U P 7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium NR NR 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-47-3 Chromium 93.9 NR 7440-48-4 Cobalt NR NR 7439-89-6 Iron NR NR 7439-95-4 Magnesium NR NR 7440-02-0 Nickel 2.0 B P 7440-02-0 Nickel 2.0 B P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR NR 7440-66-6 Zinc NR NR 7440-66-6 Zinc <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th> </th></t<>							
7440-36-0 Antimony 0.68 U P 7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium NR 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-47-3 Chromium 93.9 P NR 7440-48-4 Cobalt NR NR 7439-89-6 Iron NR NR 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 2.0 B P 7440-09-7 Potassium NR NR 7782-49-2 Selenium 0.28 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 12.2 ** P	CAS No.	Analyte	Concentration	C	Q	M	
7440-36-0 Antimony 0.68 U P 7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium NR 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-47-3 Chromium 93.9 P NR 7440-48-4 Cobalt NR NR 7439-89-6 Iron NR NR 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 2.0 B P 7440-09-7 Potassium NR NR 7782-49-2 Selenium 0.28 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 12.2 ** P				_			
7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium 0.13 B P 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-48-4 Cobalt NR 7440-50-8 Copper 3.8 B P 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 2.0 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.86 U 7440-22-4 Silver 0.28 U 7440-23-5 Sodium NR 7440-62-2 Vanadium NR 7440-66-6 Zinc 12.2 *							
7440-39-3 Barium 0.13 B P 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-48-4 Cobalt NR 7440-50-8 Copper 3.8 B P 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Marganese NR 7440-02-0 Nickel 2.0 B P 7440-09-7 Potassium 0.86 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR NR 7440-62-2 Vanadium NR NR 7440-66-6 Zinc 12.2 * P				- 1		ı –	
7440-41-7 Beryllium 0.13 B P 7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-47-3 Chromium 93.9 P 7440-48-4 Cobalt NR 7439-89-6 Iron NR 7439-92-1 Lead 2.2 P 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 2.0 B P 7440-09-7 Potassium NR NR 7782-49-2 Selenium 0.86 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 12.2 * P	1		1.3_	В		J	
7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-47-3 Chromium 93.9 P 7440-48-4 Cobalt NR 7440-50-8 Copper 3.8 B 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-95-5 Manganese NR 7440-02-0 Nickel 2.0 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.86 U 7440-22-4 Silver 0.28 U 7440-23-5 Sodium NR 7440-66-6 Zinc 12.2 P 7440-66-6 Zinc 12.2 P			l	_		l	
7440-70-2 Calcium 93.9 NR 7440-47-3 Chromium 93.9 NR 7440-48-4 Cobalt NR 7449-89-6 Copper 3.8 B 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 2.0 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.86 U 7440-22-4 Silver 0.28 U 7440-28-0 Thallium 0.54 U 7440-66-6 Zinc 12.2 * P	7440-41-7	-		. – 1			
7440-47-3 Chromium 93.9 P 7440-48-4 Cobalt NR 7440-50-8 Copper 3.8 B 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 2.0 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.86 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-62-2 Vanadium NR NR 7440-66-6 Zinc 12.2 * P	7440-43-9		0.06_	U		ı - —	
7440-48-4 Cobalt NR 7440-50-8 Copper 3.8 B P 7439-89-6 Iron NR NR NR 7439-95-4 Magnesium NR NR NR 7439-96-5 Manganese NR NR NR 7440-02-0 Nickel 2.0 B P 7440-09-7 Potassium NR NR NR 7440-22-4 Silver 0.28 U P I	7440-70-2			_		NR	
7440-50-8 Copper 3.8 B P 7439-89-6 Iron 2.2 P NR 7439-92-1 Lead 2.2 P NR 7439-95-4 Magnesium NR NR 7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 2.0 B P 7440-09-7 Potassium NR NR 7782-49-2 Selenium 0.86 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-62-2 Vanadium NR NR 7440-66-6 Zinc 12.2 * P	7440-47-3	Chromium_	93.9			ı ⁻	
7439-89-6 Iron NR NR P J-14- 7439-95-4 Magnesium NR	7440-48-4	Cobalt		_		NR	
7439-92-1 Lead 2.2 P J-14-14-14-14-14-14-14-14-14-14-14-14-14-	7440-50-8	Copper	3.8	B		P	
7439-95-4 Magnesium 7439-96-5 Manganese 7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 2.0 B P 7440-09-7 Potassium NR NR 7782-49-2 Selenium 0.86 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-62-2 Vanadium NR NR 7440-66-6 Zinc 12.2 * P	7439-89-6	Iron				NR	
7439-96-5 Manganese	7439-92-1	Lead	2.2	_		P	1-14
7439-97-6 Mercury 0.10 Ū CV 7440-02-0 Nickel 2.0 B P NR 7782-49-2 Selenium 0.86 Ū P P NR 7440-22-4 Silver 0.28 Ū P P NR 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 Ū P NR 7440-66-6 Zinc 12.2 P D NR	7439-95-4	Magnesium		_		NR	
7440-02-0 Nickel 2.0 B P NR 7440-09-7 Potassium 0.86 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 12.2 P	7439-96-5	Manganese		-		NR	
7440-02-0 Nickel 2.0 B P NR 7440-09-7 Potassium 7782-49-2 Selenium 0.86 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 12.2 P	7439-97-6	Mercury	0.10	$\overline{\overline{U}}$		CV	
7440-09-7 Potassium 7782-49-2 Selenium 7440-22-4 Silver 7440-23-5 Sodium 7440-28-0 Thallium 7440-62-2 Vanadium 7440-66-6 Zinc 12.2 * P	7440-02-0			В		P	}
7440-22-4 Silver 0.28 U P NR NR NR 7440-23-5 Sodium 0.54 U P NR P NR P NR 7440-66-6 Zinc 12.2 P J - 9	7440-09-7	Potassium				NR	}
7440-23-5 Sodium	7782-49-2	Selenium	0.86	Ū		P	
7440-23-5 Sodium	7440-22-4	Silver	0.28	U		P .	1-1-14
7440-28-0 Thallium 0.54 U PNR 7440-62-2 Vanadium 12.2 PD NR PD 9	7440-23-5	Sodium				NR	
7440-62-2 Vanadium	7440-28-0	Thallium	0.54	Ū		1	
7440-66-6 Zinc12.2 * P レーク	7440-62-2	Vanadium_				NR	
	7440-66-6	Zinc	12.2	-	*-	1	و - ر
, —————		Cyanide		-		NR	
				-			

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP	ID:_A8000405-CG	A00787 RBD-2				

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
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ab Name: RECRA_LABNI	ET_INC Contract: N	TY97-163	04RB2
Lab Code: RECNY_	Case No.: 6702_ SAS No	·:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD800108
Level (low/med):	LOW	Date Recei	ived: 01/02/98
% Solids:	_99.4		
Concentr	ation Units (ug/L or mg/kg d:	cy weight):	MG/KG

CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum		-		NR	ı
7440-36-0	Antimony	0.66	Ū		P_	1
7440-38-2	Arsenic	1.0	В		P_	
7440-39-3	Barium —				NR	
7440-41-7	Beryllium	0.14_	B		P_	
7440-43-9	Cadmium	0.06	U		P_	
7440-70-2	Calcium_		_		NR	
7440-47-3	Chromium_	88.1_	_		P_	
7440-48-4	Cobalt		_		NR	
7440-50-8	Copper	3.2	B		P_	
7439-89-6	Iron		_		NR	
7439-92-1	Lead	1.9_	_		P_	~1-14-
7439-95-4	Magnesium		_		NR	
7439-96-5	Manganese		_		NR	
7439-97-6	Mercury	0.10_	U		CV	
7440-02-0	Nickel	2.0_	В		P_	
7440-09-7	Potassium		_		NR	
7782-49-2	Selenium_	0.84_	Ū	· 	P_	
7440-22-4	Silver	0.27_	U		I ~	11-14
7440-23-5	Sodium				NR	
7440-28-0	Thallium_	0.53_	Ū		P_	
7440-62-2	Vanadium_			<u> </u>	NR	1-9
7440-66-6	Zinc	9.9_	_		P_	ر - ز_
	Cyanide		_		NR	
			_			

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIU
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000404-CG LE_ID:_03-03-04					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	05RB2
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD800110
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	_99.3		

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

						l
CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum		-		$\overline{\rm NR}$	
7440-36-0	Antimony -	0.67	ט		P	
7440-38-2	Arsenic -	0.93	В		P-	
7440-39-3	Barium —				NR	
7440-41-7	Beryllium	0.11	B		P	
7440-43-9	Cadmium	0.06	ט		P_	
7440-70-2	Calcium_				$N\overline{R}$	
7440-47-3	Chromium	133			P	
7440-48-4	Cobalt		-		NR	
7440-50-8	Copper	2.7	B		P	
7439-89-6	Iron				NR	
7439-92-1	Lead	1.2	-		P	J-1+
7439-95-4	Magnesium		_		NR	
7439-96-5	Manganese		_		NR	
7439-97-6	Mercury	0.10	บิ		CV	
7440-02-0	Nickel	2.3	В		P	
7440-09-7	Potassium				NR	
7782-49-2	Selenium_	0.85	Ū		P_	
7440-22-4	Silver	0.28	U		P_{-}^{-}	1-14
7440-23-5	Sodium		_		NR	
7440-28-0	Thallium_	0.53_	บิ		P_	
7440-62-2	Vanadium_		_		NR	_
7440-66-6	Zinc	18.8_	_		P_	و - د
	Cyanide		_		NR	
	l		_			

Color Before:	BROWN	Clarity	Before:	·	Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000406-CG LE_ID:_03-03-05					

1 INORGANIC ANALYSES DATA SHEET

b Name: RECRA_LABN	ET_INC	Contract: NY97-163	06RB2
Lab Code: RECNY_	Case No.: 6702	2_ SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Samp	le ID: AD800111
Level (low/med):	LOW	Date Rece	eived: 01/02/98
% Solids:	_99.2		
Concentr	ation Units (ug/I	or mg/kg dry weight)	: MG/KG

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum_		_		NR	
7440-36-0	Antimony_	0.69_	Ū		P_	
7440-38-2	Arsenic	1.2_	В		P_	
7440-39-3	Barium		_		NR	
7440-41-7	Beryllium	0.11_	B		P_	
7440-43-9	Cadmium	0.06_	U		P_	
7440-70-2	Calcium		_		NR	
7440-47-3	Chromium_	54.4_			P_	
7440-48-4	Cobalt		_		NR	
7440-50-8	Copper	4.7_	B		P_	
7439-89-6	Iron	8	_		NR	. 4
7439-92-1	Lead	1.4_	_		P_	1-14
7439-95-4	Magnesium		_		NR	
7439-96-5	Manganese		_		NR	
7439-97-6	Mercury	0.10_	Ū		CV	
7440-02-0	Nickel	1.4_	В		P	
7440-09-7	Potassium		_		NR	
7782-49-2	Selenium_	0.87	$\overline{\mathbf{U}}$		P_	
7440-22-4	Silver	0.28	U		P	1-14
7440-23-5	Sodium		l_		NR	
7440-28-0	Thallium	0.54	Ū		P	
7440-62-2	Vanadium_		_		NR	_
7440-66-6	Zinc	11.6_	_	*	P_	7-3
	Cyanide		_		NR	

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000407-CG. LE_ID:_03-03-06:					

INORGANIC ANALYSES DATA SHEET

TITODEC STATE DE NO	NYS	DEC	SAMPLE	NO
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Lab	Name:	RECRA_LABNET_	_INC	Contract:	NY97-163	07RB2	
Lab	Code:	RECNY_	Case No.: 6702	_ SAS N	···	SDG No.:	30301R
Mati	rix (so	oil/water): SO	DIL_		Lab Sample	e ID: AD80	0112

Level (low/med): L(W___

Date Received: 01/02/98

% Solids:

_99.0

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

CAS No.	Analyte	Concentration	С	Q	M	
7429-90-5	Aluminum		-		\overline{NR}	
7440-36-0	Antimony -	0.69	ਹ		P	
7440-38-2	Arsenic -	0.91	В		P_	
7440-39-3	Barium —				NR	
7440-41-7	Beryllium	0.12	$\overline{\mathtt{B}}$		P	
7440-43-9	Cadmium	0.06	U		P	
7440-70-2	Calcium_				NR	
7440-47-3	Chromium_	101	_		P	
7440-48-4	Cobalt				NR	
7440-50-8	Copper	3.3_	$\overline{\mathtt{B}}$		P_	
7439-89-6	Iron		_		NR	
7439-92-1	Lead	1.6_	_		P_	1-14
7439-95-4	Magnesium		_		NR	
7439-96-5	Manganese		_		NR	
7439-97-6	Mercury	0.10	ਹੋ		CV	
7440-02-0	Nickel	4.0_	В		P_	
7440-09-7	Potassium	.	_		NR	
7782-49-2	Selenium_	0.87	Ū		P_	_ د .
7440-22-4	Silver	0.28_	U		P	17-14
7440-23-5	Sodium	<u></u>	_		NR	
7440-28-0	Thallium_	0.55_	Ū		P_	
7440-62-2	Vanadium_		-		NR	, ,
7440-66-6	Zinc	8.5_	-		P_	ر - بـ
	Cyanide		-		NR	
l			l			

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000408-CG LE_ID:_03-03-07					

DATA VALIDATION REPORT

Northrop Grumman Plant 3 TCLP Chromium

Matrix: Leachate SDG No.: TCLPCR

This report documents the review of analytical data from the analyses of leachate samples for chromium by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in **Appendix A**. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the **Appendix A**.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method)
*CRDL standard
Laboratory Control Samples (LCS)
Duplicate Sample
Spiked Sample Analysis
Interference Check Sample
ICP Serial Dilution (ICP only)
Sample Result Quantitation and Contract-Required Detection Limits (CRDL)
Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria. No data required qualification based on these results.

CRDL STANDARD

In the CRDL standard for ICP analyses chromium had recoveries that were not within QC limits of 80%-120%. However, all samples in SDG TCLPCR have concentrations greater than 2x the CRDL standard concentrations and no qualification was required.

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the laboratory sample/duplicate analysis. Accuracy was acceptable, as demonstrated by the laboratory control sample and spiked sample percent recovery values.

The data are acceptable for use.

APPENDIX A

SAMPLE INDEX

											_		_			_					_	1
Cyanide																						
TCLP metals	*/	٨	7	٨	٨	٨	*^	*^	٨	٨	٨	٨	7	*>	7	7	*	7	7	7	*	
Pesticides																						
PCB																						
SVOC																						
VOC																						-
Matrix	soil	lios																				
Sample	03-03-01RB-2	03-03-01RW-2	03-03-02RB-2	03-03-02RW-3	03-03-03RB-2	03-03-03RW-2	03-03-04RB-2	03-03-04RW-2	03-03-04RW-3	03-03-05RB-2	03-03-05RW-2	03-03-06RB-2	03-03-06RW-2	03-03-06RW-3	03-03-07RB-2	03-03-07RW-3	03-03-08RW-2	03-03-09RW-2	03-03-09RW-3	03-03-10RW-2	03-03-10RW-3	*Indianton that land 1 and 1 and
SDG	TCLPCR	* 1- 1:0000																				

^{*}Indicates that level 4 validation was performed on this sample

DATA VALIDATION REPORT

Northrop Grumman Plant 3 Hexavalent Chromium Matrix: soil

SDG No.: 0304RW

This report documents the review of analytical data from the analyses of soil samples for hexavalent chromium by Recra Environmental, Inc. All samples which were analyzed in this SDG and for which data were evaluated are listed in **Appendix A**. The samples that received full validation including calculations, transcriptions, and compound identification are indicated in the **Appendix A**.

I. COMPLETENESS

All contract-required deliverables were submitted by the laboratory. The laboratory followed contract-required corrective action processes.

II. TECHNICAL DATA VALIDATION

The quality control (QC) requirements that were reviewed are listed below.

*Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method and Continuing Calibration Blank)
Laboratory Control Samples (LCS)
Duplicate Sample
Spiked Sample Analysis
Interference Check Sample
ICP Serial Dilution (ICP only)
Sample Result Quantitation and Contract-Required Detection Limits (CRDL)
Calculation and Transcription Checks

Those Items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria. No data required qualification.

Technical Holding Times

The holding time for analysis of hexavalent chromium (48 hrs) was exceeded. However permission was received by NYSDEC to allow samples to be analyzed and no data was qualified based on these information.

Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the laboratory sample/duplicate analysis. Accuracy was acceptable, as demonstrated by the laboratory control sample and spiked sample percent recovery values. The data are acceptable for use.

APPENDIX A

SAMPLE INDEX

yanide							
PP	metals	^	^	*^	7	^	7
VOC SVOC PCB TPH- TPH- Pesticides							
TPH.	Gas						
TPH-	Fuel						
PCB							
SVOC							
VOC							
Matrix		soil	soil	lios	soil	soil	soil
Sample		0304RW 03-03-02RW-3	0304RW 03-03-04RW-2	0304RW 03-03-04RW-3	0304RW 03-03-05RB-3	0304RW 03-03-05RW-2	0304RW 03-03-07RB-2
AOC SDG		0304RW	0304RW	0304RW	0304RW	0304RW	0304RW
AOC		3	3	3	3	3	3

*Indicates that level 4 validation was performed on this sample.



a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426 March 11, 1998

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

Matrix: Soil

Samples Received: 12/17 & 24/97; 01/02/98

Sample Dates: 12/16, 23 & 31/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

C Fox

Candace L. Fox Lex Program Manager

Laperk

Kenneth E. Kasperek Laboratory Director

CLF/KEK/ltb Enclosure

cc:

Ms. Kathie Easom, Ph.D.

Radian International LLC 8501 N. Mopac Blvd.

Austin, TX 78759

I.D. #A98-0166 #NY7A6702

This report contains $\frac{\partial \mathcal{L}}{\partial \mathcal{L}}$ pages, which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-02RW-3

03-03-04RW-2 03-03-04RW-3 03-03-05RB-2 03-03-05RW-2 03-03-07RB-2

<u>METHODOLOGY</u>

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

The Matrix Spike Blanks and Matrix Spike Blank Duplicates are reported as quality control for this job..

Due to a laboratory oversight, the Matrix Spike Blank and Matrix Spike Blank Duplicate were spiked at 100 ug/L., half the appropriate amount.



"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER	LABORATORY	ANALYTICAL REQUIREMENTS					
SAMPLE ID	SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
03-03-02RW-3	A8016603	-	-	-	-	ASP95	-
03-03-04RW-2	A8016601	ı	-	-	-	ASP95	-
03-03-04RW-3	A8016604	-	-	-	-	ASP95	-
03-03-05RB-2	A8016605	1	-	-	-	ASP95	-
03-05RW-2	A8016602	-	-	-	-	ASP95	-
03-03-07RB-2	A8016606	-	-	-	-	ASP95	-

NYSDEC-1



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-02RW-3	SOIL	S CR+6	12/24/97	01/21/98	01/22 - 01/28/98
03-03-04RW-2	SOIL	S CR+6	12/17/97	01/21/98	01/22 - 01/28/98
03-03-04RW-3	SOIL	S CR+6	12/24/97	01/21/98	01/22 - 01/28/98
03-03-05RB-2	SOIL	S CR+6	01/02/98	01/21/98	01/22 - 01/28/98
03-03-05RW-2	SOIL	S CR+6	12/17/97	01/21/98	01/22 - 01/28/98
03-03-07RB-2	SOIL	S CR+6	01/02/98	01/21/98	01/22 - 01/28/98

NYSDEC-5



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
03-03-02RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-04RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-04RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-05RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-05RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-07RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED

NYSDEC-7



INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic Data Qualifiers:

- B Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.
- U Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N Indicates spike sample recovery is not within the control limits.
- K Indicates the post digestion spike recovery is not within the control limits.
- * Indicates duplicate analysis is not within the control limits.
- S Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- M Indicates duplicate injection results exceeded control limits.
- W Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference.



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: RECRA_LABNET_INC	Contract: NY97-163_	_			
Lab Code: RECNY_ Case No.: 6	02_ SAS No.:	SDG No.:0304RW			
Protocol Version: ASP95					
NYSDEC Sample No.	Lab Sample IDAD800825 _AD800823 _AD800826 _AD800827 _AD800824 _AD800828 _AD800829 _AD800830				
Were ICP interelement corrections	applied?	Yes/No YES			
		Yes/No YES			
Were ICP background corrections of the second second in the second second is application of background contact the second second is a second s	rated before	Yes/No NO_			
Comments:					
	-				
I certify that this data package is in compliance with the terms and conditions of the Protocol, 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 diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.					
Signature:	Name: Kenneth_E.				
Date: $\frac{\sqrt{3/11/98}}{\sqrt{3/11/98}}$	Title: Laboratory	_Director			
	COVER PAGE - IN				

Lab Name: RECR	A LABNET IN	C.	Contract: NY	Y97-163	02RW3	
			02_ SAS No.			0304RW
Matrix (soil/w	ater): SOIL	_		Lab Samp	le ID: AD80	0825
Level (low/med): LOW_	_		Date Rec	eived: 12/1	.7/97
% Solids:	_97.	7				
Со	ncentration	Units (ug	/L or mg/kg dry	y weight)	: MG/KG	
	G2 G 32					
	CAS No.	Analyte	Concentration	C Q	M	
	7429-90-5	Aluminum		-	NR	
	7440-36-0	Antimony		-	NR	
	7440-38-2	Arsenic -		-	NR	
	7440-39-3	Barium		-	NR	
	7440-41-7	Beryllium			NR	
	7440-43-9	Cadmium		-	NR	
	7440-70-2	Calcium		-	NR	
	7440-47-3	Chromium	339		P	
	7440-48-4	Cobalt		-	NR	1
	7440-50-8	Copper			NR	1
	7439-89-6	Iron		-	NR	
	7439-92-1	Lead			NR	
	7439-95-4	Magnesium		-	NR	
	7439-96-5	Manganese		-	NR	
	7439-97-6	Mercury			NR	
	7440-02-0	Nickel			NR	
	7440-09-7				NR	
	7782-49-2				NR	
	7440-22-4				NR	
	7440-23-5			-	NR	
	7440-28-0	Thallium_		_	NR	
	7440-62-2	Vanadium_		l_l	NR	
	7440-66-6	Zinc		_	NR	
		Cyanide		- - 	NR	
Color Before:	BROWN	Clari	ty Before:		Texture:	MEDIUM
Color After:	YELLOW	Clari	ty After: CLEA	AR_	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP	ID:_A801660 LE_ID:_03-0	3-STA00084 3-02RW-3				

NYSDEC	SAMPLE	NO

0]	INORGANIC A	MALYSES DATA S	SHEET	04RW2	
Lab Name: RECRA	_LABNET_ING	c	Contract: NY	Y97-163		
Lab Code: RECNY	_ Cas	se No.: 670	SAS No.	:	SDG No.:	0304RW
Matrix (soil/wa	ter): SOIL_	-		Lab Sampl	Le ID: AD80	0823
Level (low/med)	: LOW_	-		Date Rece	eived: 12/1	7/97
% Solids:	_96.8	3				
Con	centration	Units (ug/	L or mg/kg dry	y weight):	MG/KG	
	CAS No.	Analyte	Concentration	C Q	М	
	7439-95-4	Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium	369_		NR NR NR NR NR NR NR NR NR NR NR NR NR N	
	BROWN		cy Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarit	y After: CLEA	AR_	Artifacts:	
Comments: LAB_SAMPLE_I CLIENT_SAMPI	ID:_A8016603 LE_ID:_03-03	L-STA00084_ B-04RW-2				

MYSDEC	SAMPLE	NO
NIDDEC	DHALLTE	INO

		IIIOICOINIIC I	HVILLIOND DITTI	711001		
Ish Name: DECD	אר די שיינוגרו או	C	Contract. W	707 1 <i>6</i> 2	04RW3	
Lab Name: RECR	TA_LABNEI_IN	·	Contract: N	197-163	<u> </u>	
Lab Code: RECN	IY_ Ca	se No.: 670	SAS No.	:	SDG No.:	0304RW
Matrix (soil/w	ater): SOIL	_		Lab Samp	pie ID: AD80	0826
Level (low/med	l): LOW_	_		Date Rec	ceived: 12/1	7/97
% Solids:	_98.	2				
Co	ncentration	Units (ug,	/L or mg/kg dry	y weight)	: MG/KG	
						
	CAS No.	Analyte	Concentration	C Q	M	
	7429-90-5	Aluminum		-	- <u>NR</u>	
	7440-36-0	_		-	NR	
	7440-38-2			-	- NR	
	7440-39-3	Barium —		-	- NR	
	7440-41-7	Beryllium		-	- NR	
	7440-43-9				- NR	
	7440-70-2	Calcium			- NR	
	7440-47-3	Chromium	169		- P	
	7440-48-4	Cobalt			$- N\overline{R} $	
	7440-50-8	Copper			NR	
	7439-89-6	Iron			- NR	
	7439-92-1	Lead			- NR	
	7439-95-4	Magnesium		-	NR	
	7439-96-5	Manganese			- NR	
	7439-97-6	Mercury			- NR	
	7440-02-0				- NR	
	7440-09-7	Potassium			- NR	
	7782-49-2	Selenium_			NR	
	7440-22-4				NR	
	7440-23-5				NR	
	7440-28-0	Thallium_			NR	
	7440-62-2	Vanadium_			_ NR	
	7440-66-6	Zinc			_ NR	
		Cyanide			_NR	
Color Before:	BROWN	Clarit	y Before:	· — · — — — — — — — — — — — — — — — — —	Texture:	MEDIUM
Color After:	AEPPOM .	Clarit	ty After: CLEA	AR	Artifacts:	
		02021	-, CDDF	-`-	III OLLUCID:	
Comments: LAB SAMPLE	ID: A801660	4-STA00084				
	LE_ID:_03-0					

MVCDEC	SAMPLE	NO
NIODEC	DAMPLE	MO

]	INORGANIC <i>I</i>	MALYSES DATA S	SHEET	05RB2	
Lab Name: RECRA	A_LABNET_ING	c	Contract: N	797-163 <u> </u>		
Lab Code: RECNY	_ Cas	se No.: 670	SAS No.:	:	SDG No.: (304RW
Matrix (soil/wa	ater): SOIL_	_		Lab Samp	le ID: AD800	827
Level (low/med)	: LOW_	_		Date Rece	eived: 12/17	7/97
% Solids:	_99.3	3				
Cor	ncentration	Units (ug/	'L or mg/kg dry	y weight)	: MG/KG	
	CAS No.	Analyte	Concentration	C Q	M	
	7429-90-5 7440-36-0 7440-38-2 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7 7782-49-2 7440-23-5 7440-28-0 7440-66-6	Selenium_	151		NR NR NR NR NR NR NR NR NR NR NR NR NR N	
Color Before:	BROWN		y Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarit	y After: CLEA	AR_	Artifacts:	
Comments: LAB_SAMPLE_I CLIENT_SAMPI	ID:_A8016605 LE_ID:_03-03	5-STA00084_ 3-05RB-2				

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO

Lab Name: RECR	A LABNET IN	c.	Contract: NY	Y97-1	63	05RW2	(
			D2_ SAS No.			SDG No.:	0304RW
Matrix (soil/w	ater): SOIL			Lab	Sample	e ID: AD80	0824
Level (low/med	LOW	_		Date	Recei	ived: 12/1	7/97
% Solids:	_96.	2					
Со	ncentration	Units (ug,	/L or mg/kg dry	y wei	ght):	MG/KG	
	CAS No.	Analyte	Concentration	С	Q	<u></u>	
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-96-5 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-02-0 7440-02-7 7782-49-2 7440-23-5 7440-28-0 7440-62-2 7440-66-6	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_	395			IR IR IR IR IR IR IR IR IR IR IR IR IR I	
Color Before:	BROWN	Clarit	ty Before:		J	Texture:	MEDIUM
Color After:	YELLOW	Clarit	ty After: CLEA	AR	Z	Artifacts:	

Color Before: BROWN Clarity Before: Texture: MEDI

Color After: YELLOW Clarity After: CLEAR Artifacts: LAB_SAMPLE_ID: A8016602-STA00084

CLIENT_SAMPLE_ID: 03-03-05RW-2

NYSDEC	SAMPLE	NO.

]	INORGANIC A	MALYSES DATA S	SHEET	1	
Lab Name: RECRA	_LABNET_ING	c	Contract: NY	797-163	07RB2	
Lab Code: RECNY	Cas	se No.: 670	SAS No.:	:	SDG No.: 0	304RW
Matrix (soil/wa	ater): SOIL	-		Lab Sampl	e ID: AD800	828
Level (low/med)	: LOW_	_		Date Rece	eived: 12/17	7/97
% Solids:	_99.3	3				
Cor	ncentration	Units (ug/	'L or mg/kg dry	y weight):	MG/KG	
	CAS No.	Analyte	Concentration	C Q	M	
	7429-90-5 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-92-1 7439-95-4 7439-95-4 7439-97-6 7440-02-0 7440-02-0 7440-22-4 7440-23-5 7440-28-0 7440-62-2 7440-66-6	Manganese Mercury Nickel Potassium	121		NR NR NR NR NR NR NR NR NR NR NR NR NR N	
Color Before:	BROWN	Clarit	cy Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarit	ty After: CLE	AR_	Artifacts:	
Comments: LAB_SAMPLE_: CLIENT_SAMP		3-07RB-2				

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name	: RECRA_LABI	NET_INC		_	Cont	ract:	NY97-163_	_		
Lab Code	: RECNY_	Case	No.:	6702_	SAS	No.:		SDG	No.:	0304RW
Initial (Calibration	Source:	VHO	G/INOR.V	JEN					

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium 500.0 496.45 99.3 500.0 496.01 99.2 507.85 101.6 Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc	Analyte	Initia True	l Calibra Found		True	Continui: Found	ng Cali %R(1)		%R(1)	M
Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium										NR NR
Beryllium Cadmium Calcium Calcium Sound 496.45 99.3 500.0 496.01 99.2 507.85 101.6 Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Vanadium Vanadium Calcium Copper Calcium										NR
Cadmium Calcium Chromium 500.0 496.45 99.3 500.0 496.01 99.2 507.85 101.6 Cobalt Copper Iron										NR
Calcium Chromium 500.0 496.45 99.3 500.0 496.01 99.2 507.85 101.6 Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium										NR
Chromium 500.0 496.45 99.3 500.0 496.01 99.2 507.85 101.6 Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium										NF
Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium										NK
Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium		500.0	496.45	$ _{-}^{99.3}$	500.0	496.01	$ _{-}^{99.2} $	507.85	101.6	P_ NR
Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium									·	1 1
Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium									·	NR NR
Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium									·	NR NR
Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium									·	NR
Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium										NR
Nickel Potassium Selenium Silver Sodium Thallium Vanadium										NR
Selenium Silver Sodium Thallium Vanadium	Nickel'									NR
Silver Sodium Thallium Vanadium										NR
Sodium Thallium Vanadium										NR
Thallium Vanadium					[NR
Vanadium United States										NR
									·	NR
	_									NR
Cyanide									·	NR NR

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

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name	: RECRA_LABI	NET_INC		_	Contract:	NY97-163_	_	
Lab Code	: RECNY_	Case	No.:	6702_	SAS No.:		SDG No.:	0304RW
Initial	Calibration	Source:	VH	G/INOR.V	/EN			

Concentration Units: ug/L

Continuing Calibration Source: VHG/INOR.VEN

A nalyte	Initial True	Calibr Found		True	Continui: Found	ng Cali %R(1)	bration Found	%R(1)	
Aluminum_						-			
Antimony						.			1
Arsenic						l <u></u>			1
Barium									1 1
Beryllium _									1
amium						.			
lcium						<u> </u>			
Chromium_				500.0	504.21	100.8	500.69	100.1	
Cobalt						-			
Copper						-			
Iron	-					-			
Magnesium -						-			
Manganese						-			
Mercury _						-			
Nickel -						-			
Potassium -						·			
Selenium -						-			
Silver						-			
Sodium						-			
Thallium -									1
Vanadium -									1 1
Zinc						-			1
Cyanide									1
						-			П

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

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab	Name:	RECRA_LABNET_IN	NC	Contract: NY97-163_	-
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 0304RW

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

		l Calibr	I		Continuir				
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum			 						\overline{NR}
Antimony									NR
Arsenic									NR
Barium -									NR
Beryllium									NR
Cadmium									NF
Calcium_									NR
Chromium_				500.0	495.45	_99.1	494.79	99.0	P_
Cobalt									NR
Copper									NR
Iron								l	NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury Nickel	-							l	NR
Potassium									NR
Selenium								[NR
Silver								l ———	NR NR
Sodium Sodium									NR
Thallium									NR
Vanadium									NR
Zinc						-			NR
Cyanide			l						NR

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

2B CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET	_INC	Contract: NY97-16	3
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 0304RW
AA CRDL Standard Sourc	e: INORG.VENT		
ICP CRDL Standard Sour	ce: VHG		

Concentration Units: ug/L

Analyte True Found %R True Found %R Found Aluminum Antimony Arsenic Barium Beryllium dmium lcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium		CRDL St	andard for	r AA		CRDL Star	ndard f	or ICP Final	1
Antimony Arsenic Barium Beryllium Icium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Selenium	lyte	True	Found	%R	True		%R		۲ 8
Antimony Arsenic Barium Beryllium Chromium Chromium Cobalt Copper Iron Gead Magnesium Manganese Mercury Vickel Potassium Gelenium	minum -	- -							
Barium Beryllium Idmium Icium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Jickel Potassium Gelenium									
Beryllium dmium	enic								
dmium lcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Vickel Potassium Selenium									
Icium Chromium 20.0 Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium					<u> </u>				
Chromium									
Cobalt Copper Co									
Copper Iron Iron Iron Iron Iron Iron Iron Iro					20.0	$ _{}^{20.79}$	104.0	20.89	_1
Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium		_							\ <u> —</u>
Lead Magnesium Manganese Mercury Nickel Potassium Selenium		-				l			
Magnesium Manganese Mercury Nickel Potassium Selenium			-						
Manganese Mercury Nickel Potassium Selenium		I-							
Mercury Nickel Potassium Selenium									
Nickel Potassium Selenium									
Potassium Selenium Selenium									
Selenium Sel									
Silver									
STIVEL	ver -								
Sodium									
Thallium_									
Vanadium									
Zinc	.c _								

2B CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET_1	INC.	Contract:	NY97-163_	_		
Lab Code: RECNY_ C	Case No.: 6702_	SAS No.:		SDG	No.:	0304RW
AA CRDL Standard Source:	: INORG.VENT					
ICP CRDL Standard Source	e: VHG					

Concentration Units: ug/L

	CRDL St	andard fo	r AA		CRDL Star	ndard :		
_	_			_	Initial		Fina	L
Analyte	True	Found	%R	True	Found	%R	Found	
Aluminum								Г
Antimony -								-
Arsenic Arsenic								-
Barium —								-
Beryllium								-
Cadmium								[-
Calcium_								-
Chromium				20.0			21.52	-
Cobalt -								-
Copper								-
Iron —								-
Lead								-
Magnesium								-
Manganese								-
Mercury								-
Nickel'—								-
Potassium								-
Selenium								-
Silver -								[-
Sodium								-
Thallium								-
Vanadium_								-
Zinc								-
								-
							l	١.

3 BLANKS

Lab Name:	RECRA_LABNE	T_INC	Contract: NY97-1	.63
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 0304RW
Preparati	on Blank Mat	rix (soil/water): SC	PIL_	
Preparati	on Blank Con	centration Units (ug	//L or mg/kg): MG/K	CG

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	ing Caliba ank (ug/L) 2	ion 3	С	Prepa- ration Blank	C	М
Aluminum_ Antimony_ Arsenic_ rium_ ryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_	1.4	<u></u>	1.4	 1.4			0.280		NR

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163_	_		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG	No.:	0304RW
Prep	paratio	n Blank	Matrix (soil/water):	_				
Prep	paratio	n Blank	Concentration Units (ug/	L or mg/kg):			

Analyte	Initial Calib. Blank (ug/L)	С	Cont		Calib (ug/L 2	cion 3	С	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			1.4		_1.4					NR NR NR NR NR NR NR NR NR NR NR NR NR N

4 ICP INTERFERENCE CHECK SAMPLE

Lab Name:	RECRA_LABNET		Contract:	NY97-16	3	
Lab Code:	RECNY_	Case No.: 6702_	SAS No: _		SDG No.:	0304RW
ICP ID Num	mber: SUPERTRA	ACE-2	ICS Source	: VHG		

Concentration Units: ug/L

Analyte	Sol. A	rue Sol. AB	Ini Sol. A	Sol. AB	d %R	Sol.	Final Found Sol. AB	d %R
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc	0	500	18	511.4	102.3	17	511.9	102.4

ICP INTERFERENCE CHECK SAMPLE

Lab Name:	RECRA_LABNET		Contract:	NY97-16	3	
Lab Code:	RECNY_	Case No.: 6702_	SAS No: _		SDG No.:	0304RW
ICP ID Num	nber: SUPERTRA	ACE-2	ICS Source	: VHG		

Concentration Units: ug/L

Analyte	Sol. A	rue Sol. AB	In: Sol. A	itial Found Sol. AB	d %R	Sol. A	Final Found Sol. AB	d %R
Aluminum_Antimony_Arsenic_Barium_Beryllium Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium Manganese Mercury_Nickel_Potassium Selenium_Silver_Sodium_Thallium_Vanadium_Zinc	0	500				18	516.4	103.3

5A SPIKE SAMPLE RECOVERY

MYCDEC	CAMDIE	MO
NISDEC	SAMPLE	MO

Lab Name: R	ECRA_LAE	BNET_INC	_	Contract:	NY	797-163	BLKSPK	(1	
Lab Code: R	ECNY_	Case No.:	67	702_ SAS No	o.:	S	DG No.:	: 030	4RW
Matrix (soi	l/water)	: SOIL				Level (1	.ow/med)	: LO	W
% Solids fo	r Sample	2: 100.0							
	Concentr	cation Units (ug	/L	or mg/kg dry	wei	ght): MG/K	:G		
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)		Spike Added (SA	\(\) \\ \%R	Q	
Cobalt	75-125_	21.3720_		0.2800		20.00		5.9	NR NR NR NR NR NR NR NR NR
Lead									NR NR NR NR NR NR NR NR NR NR NR NR
			_		<u>_</u>			_	_

Comments:
LAB_SAMPLE_ID:_A8B0042601-STA00084

FORM V (Part 1) - IN

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

Lab Name: R	RECRA LAE	BNET_INC		Contract:	NY	,	BLKSPK2		
	_	Case No.:					G No.: 0	30	4RW
Matrix (soi	.l/water)	: SOIL				Level (lo	w/med):	LO	W
Solids fo	or Sample	2: 100.0							
	Concentr	ation Units (ug	/L	or mg/kg dry w	wei	ght): MG/KG			
Analyte	Control Limit %R	Spiked Sample Result (SSR)		Sample Result (SR)		Spike Added (SA)	%R	Q	М
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium			-		_ _ _ _			-	NR NR NR NR NR NR
Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_	75-125_	21.1300_		0.2800	_ _ _ _ _	20.000	105.6	-	NR P_ NF NR NR NR
Magnesium Manganese Mercury Nickel Potassium Selenium					_ _ _ _				NR NR NR NR NR
SilverSodium Thallium_ Vanadium_ Zinc Cyanide			_ _ _ _ _		_ _ _ _				NR NR NR NR NR
ZincCyanide	PLE_ID:_A	A8B0042602-STA00	084	4				- - - - -	N

		POST DIGEST	SI	5B PIKE SAMPLE REC	207		DEC SAMPI	LΕ	NO.
Lab Name: R	RECRA_LAE	BNET_INC	_	Contract: N	Y97	7-163	05RW2A		
Lab Code: F	RECNY_	Case No.:	670	SAS No.	: _	SD	G No.: 6	304	RW
Matrix (soi	l/water)	: SOIL				Level (lo	w/med):]	LOV	V
	,	_	rat	tion Units: ug,	/L			C	rtl
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	М
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium			-						NR NR NR NR NR NR NR
Chromium Cobalt Coper In Lead Magnesium Manganese Mercury Nickel Potassium		2795.45		1921.00_		1000.0	87.4		P_NR NR NR NR NR NR NR NR
Selenium_ Silver Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide									NR NR NR NR NR NR
Comments:									

FORM V (PART 2) - IN

7 LABORATORY CONTROL SAMPLE

Lab Name	: RECRA_LABNE	T_INC	Contract:	NY97-163_	_		
Lab Code	: RECNY_	Case No.: 6702_	SAS No.:		SDG	No.:	0304RW
Solid LC	S Source: E	RA 227					
Aqueous	LCS Source:						

Analyte	Aque True	ous (ug/I Found	L) %R	True	Sol Found ((mg/kg) Limi	lts	%R
Aluminum_ Antimony_ Arsenic_ Barium Beryllium Cadmium_ Calcium Chromium Cobalt_ Copper_ Iron Lead Magnesium Manganese Mercury_ Nickel Potassium Selenium_ Silver_ Sodium Thallium_ Vanadium_ Zinc_ Cyanide				114.0	109.3	61.6	161.0	95.5

9 ICP SERIAL DILUTION

NTICODIC		NT/
M A Z DHILL	SAMPLE	1/1(1)

							05RW2	L
Lab	Name:	RECRA_LABNET_	INC		_	Contract: NY97-163		
Lab	Code:	RECNY_	Case	No.:	6702_	SAS No.:	SDG No.:	0304RW

Matrix (soil/water): SOIL_ Level (low/med): LOW__

Concentration Units: ug/L

Analyte Result (I) C Result (S) C ence Q M Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Initial Sample Result (I) C Result (S) C ence Q M Difference Q M Result (S) C once Q M Initial Sample Result (I) C Result (S) C once Q M Initial Sample Result (I) C Result (S) C once Q M Initial Sample Result (I) C once Q M Initial Sample Result (S) C once Q M Initial Sample Result (S) C once Q M Initial Sample Result (S) C once Q M Initial Sample Result (S) C once Q M Initial Sample Result (S) C once Q M Initial Sample Result (S) C once Q M Initial Sample Initial Sample Result (S) C once Q M Initial Sample Initial Sample Result (S) C once Q M Initial Sample Initial Sampl					
Analyte			Serial	%	
Analyte		Initial Sample	Dilution	Differ-	
Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Sodium Thallium Vanadium Vanadium NR NR NR NR NR NR NR NR NR NR NR NR NR	Analyte		Result (S) C	ence	0 M
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Sodium Thallium Vanadium NR NR NR NR NR NR NR	Imaryco	1100010 (1)			~
Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Sodium Thallium Vanadium NR NR NR NR NR NR NR	Aluminum				$ - _{\overline{MD}}$
Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium NR NR NR NR NR NR NR					
Barium NR Beryllium NR Cadmium NR Calcium NR Chromium 1921.00 Cobalt NR Copper NR Iron NR Lead NR Magnesium NR Manganese NR Mercury NR Nickel NR Potassium NR Selenium NR Sodium NR Thallium NR Vanadium NR					1 — 1
Beryllium Cadmium Calcium NR NR NR Cobalt NR NR NR NR NR NR NR N					1 — 1
Cadmium NR Calcium NR Chromium 1921.00 Cobalt NR Copper NR Iron NR Lead NR Magnesium NR Manganese NR Mercury NR Nickel NR Potassium NR Selenium NR Sodium NR Thallium NR Vanadium NR					
Calcium 1921.00 1927.20 0.3 P Cobalt NR Copper NR NR Iron NR NR Lead NR NR Magnesium NR NR Mercury NR NR Nickel NR NR Potassium NR NR Selenium NR NR Sodium NR NR Thallium NR NR Vanadium NR NR	Beryllium				
Chromium	Cadmium				NR
Chromium	Calcium —				$ - _{NR}$
Cobalt Copper NR Iron NR Lead NR Magnesium NR Manganese NR Mercury Nr Nickel Potassium Selenium Silver Sodium NR Thallium Vanadium NR		1921.00	1927.20	0.3	$ - _{P}$
Copper Iron					I-INR
Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium					
Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium					
Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium					1 1
Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium					1 — 1
Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium					1 — 1
Nickel		_			1 — 1
Nickel	Mercury				NR NR
Potassium Selenium Silver Sodium Thallium Vanadium	Nickel				NR
Selenium_Silver_Sodium_Thallium_Vanadium_NR					$ - _{NR}$
SilverSodium	I I				- NR
Sodium Thallium Vanadium NR			·		1 1
Thallium_Vanadium_ NR					
Vanadium					_
					1 — 1
Zinc _NR					I — I
	Zinc	_			_ NR
					_ _

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_	_INC	Contract:	NY97-163
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 0304RW
ICP ID Number:	JUPERTRACE-2	Date:	01/06/98
Flame AA ID Number :			
Furnace AA ID Number:			

omments:		

11A ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab	Name:	RECRA_LABNET_	INC	Contract:	NY97-163_		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG No.:	0304RV
ICP	ID Nur	mber: SUPERTRAC	CE-2	Date:	12/15/97		

	Wave-	I	nterelement (Correction 1	Factors for	:
Analyte	length (nm)	Al	Ca	Fe	Mg	CR
7.7	308.20	0.000000	0.0000000	0.000000	0.0000000	0.000000
Aluminum_		I —	-0.0000000	-0.0000000	-0.0000000	-0.0049090
Antimony_	_206.80_	_0.0000000	_	-0.0000000	-0.0000000	0.0000000
Arsenic	_189.00_	_0.0000000	_0.0000000_	_		
Barium	_493.40_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Beryllium	_313.00_	_0.0000000	_0.0000000_		_	
Cadmium	_226.50_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Calcium	_317.90_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Chromium_	_267.70_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
balt	_228.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
pper	_324.70_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Iron	271.40_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Lead	_220.30_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Magnesium	_279.00_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Manganese	_257.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Mercury						
Nickel	_231.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Potassium	_404.70_	_0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Selenium_	_196.00_	_0.0000000	_0.0000000_	-0.0002150	_0.0000000	_0.0000000
Silver	_328.00_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Sodium	_330.20_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Thallium_	_190.80_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Vanadium_	_292.40_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Zinc	_206.20_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000

Com	men	ts:							
			 -	 	 		 		

12 ICP LINEAR RANGES (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC. Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.: 0304RW

ICP ID Number: SUPERTRACE-2 Date: 12/26/97

	Integ.		
	Time	Concentration	
Analyte	(Sec.)	(ug/L)	M
Aluminum	15.00	900000.0	P_
Antimony_	15.00	50000.0	P_
Arsenic	15.00	20000.0	P_
Barium	15.00	100000.0	P_
Beryllium	15.00	10000.0	P_
Cadmium	15.00	20000.0	P_
Calcium	15.00	450000.0	P_
Chromium_	15.00	100000.0	P_
Cobalt	15.00	100000.0	P_
Copper	15.00	50000.0	P_
Iron	15.00	600000.0	P_
Lead	15.00	100000.0	P_
Magnesium		600000.0	P_
Manganese	15.00	20000.0	P_
Mercury			NR
Nickel	15.00	100000.0	P-
Potassium		400000.0	P_
Selenium_	-15.00	20000.0	P_
Silver Sodium	$-^{15.00}_{15.00}$	5000.0 500000.0	
Thallium	$-\frac{15.00}{15.00}$	100000.0	P_
Vanadium	$-\frac{15.00}{15.00}$	100000.0	P-
Zinc	$-\frac{15.00}{15.00}$	20000.0	P-
ZIIIC		20000.0	F-
		l	l

Comments:		
	·	

13 PREPARATION LOG

Lab	Name:	RECRA LABNI	ET INC	Contract:	NY97-163
Lab	Code:	RECNY_	Case No.:_6702	SAS No.:	SDG No.:0304RW

Method: P_

T WYGDEG			
NYSDEC Sample	Preparation	Weight	Volume
No.	Date	(gram)	(mL)
02RW3	01/21/98_	1.00 1.01	200_
04RW2	_01/21/98 _01/21/98	-1.01 1.03	200
05RB2	01/21/98	1.03	200
05RW2	_01/21/98 _01/21/98	1.01	200_
BLKSPK1_	01/21/98	1.00	200
BLKSPK2	01/21/98 01/21/98	1.00	200
PBS	01/21/98	1.00	200
	<u> </u>		
		·	
			l

FORM XIII - IN

14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:0304RW

Instrument ID Number: SUPERTRACE-2 Method: P_

Start Date: 01/28/98 End Date: 01/29/98

								_			_		_	7/ 2		1 2 24	ces											
NYSDEC														AI	ıa.	ιУι	_es	5										
Sample	D/F	Time	9	R	$ _{\overline{\mathbf{A}}}$	S	A	В	В	С	С	C	С	С	F	P	М	М	Н	N	K	S	A	N	Т	V	Z	Гē
No.	2,1	1 1 1 1 1 1 1	ľ	•	L	В	s	A	E	D	A	R	o	Ū	E	В	G	N	G	I	1	E	G	A	L	ľ	N	N
1.0.						_			_	_				١		~		-		-		_		• •	_	ĺ	``	`
S0	1.00	1754			-			-	-1	-	_	$\overline{\mathbf{x}}$			-		_	_	-	-	_	_	_			-	-	-
s	1.00	1759			-	-	-	-	-	-	_	Х	-	-		_	-	_	-	-	_	-	_		_	-	-	-
S	1.00	1804			-	_	-	_	-	_	_	Х	-	-	-	_	_	_	-	_	_	-	_			-		-
S	1.00	1809			-	_	-	- [-	_	_	Х	-	-	_	_	_	_	_	_	_	_	-	_	_		-	-
S	1.00	1814				-	-	-	-	-		Х	_	-	-	_	_	_	-	-	_	_	_		_	_	-	-
s	1.00	1819			-	-	-	_	_	-			_	-	_		_	_	-	_	_	_	_	-	_	_	-	-
S	1.00	1826			_					_	_	\overline{X}	_	_		_	_	_	_	_	_		_	-	_	_	-	-
S	1.00	1831				_						_	_			_	_	_	_	_	_	_	_	_	_	-	-	-
ICV	1.00	1837			_	_			\Box		_	\overline{X}	_	_	_								_	_	_	_	_	
ICB	1.00	1842			_	_		_ [_	Х	_	_	_		_		_	_		_	_			-		
CRI	1.00	1848			_	_	_					Х									_					_		
ZZZZZZ	1.00	1853			_	_	_	_	_	_	_	_	_	_	_	_	_	_								_		
ICSA	1.00	1858			_	_	_	_		_	_	\overline{X}	_				_	_							_	_	_	$\lfloor - \rfloor$
ICSAB	1.00	1904			l_	_	_	_]	_	_	_	Х	_		_	_		_	_	_	_	_	_		_	_	_	
CCV	1.00	1909			_	_	_	_	_	_	_	Х	_	_	_	_	_	_	_	_	_	_	_		_		_	-
CCB	1.00	1914			_	_	_	_	_	_	_	Х	_	_	_	_	_	_	_	_	_					_	_	-
ZZZZZZ	1.00	1920			_	_	_	_	_	_	_	_	_		_	_	_		_	_	_	_	_	_	_	_	_	$\lfloor - \rfloor$
ZZZZZZ	1.00	1925			l_	_	_		_	_	_	_	_	_	_	_	_		_	_	_	_	_	_	_		_	_
ZZZZZZ	10.00	1931			_	_		_	[_	_	_	_	_	_	_	_	_	_	_	_	_	_			_		_
ZZZZZZ	1.00	1936			_	_	_	_	_]	_	_	_	_	 _ ,	_	_	_	_	_	_	_	_	_	_	_	_		_
ZZZZZZ	1.00	1941			-	_	-	_	-	-	_	_	_			_	_	_	_	_	_	_	_	_	_	_	_	
ZZZZZZ	1.00	1947			-		-	-1	-	_	-	_			_	_	-	-	_	_	_	_	_	-1	_	-	-	_
ZZZZZZ	1.00	1952			_	_	-	-	_]		_	_	_	_	_	_	_	_		_	_	_	_	_	_	_	_	_
ZZZZZZ ZZZZZZ	1.00	1958 2003			_	-	-	-	-	-		_	_	-	_	_	-	_	-	-	-	_	_	_	_	_	_	i — l
CCV CCV	1.00	2003			-	-	-	-	-	-	_	\overline{X}	_	_	-	_	_	-	-	-	-	_	_	_	_	_	_	
CCV	1.00				-	 —	-			-	_		_	_	_	_	_	_	-	-	_	_	_	-	_	_	_	_
ZZZZZZ	1.00	2014			-		-	-	-	-	_	Х	_	-	_	-	_			_	_	_	_		_	-	-	-
ZZZZZZ	1.00	2019			-	-	-	-	-			-		-		_		_	-	_	_	_	_	-	_	_	-	_
	1.00	2025			-	-	-		-		-	-	_	-	_	_	_	_	-	_	_	_	_	-	_	 _	_	-
ZZZZZZ	1.00	2030			-	-	-[_	_		-	-	_	-	-	_	-	_	-	-	_	_	_	-	_	-	-	_
ZZZZZZ	1.00		l ——		-	-			-	[-	_	-	_	_		_	-	_	-	_	_	_	_	-	_	_	_	
ZZZZZZ	1.00	2041			-		-	-	-	-	_	-	_		-	_		_		_	_	_	_	_[_	_		_
		l	l		 	 _		_	_ [_	_	_	_		_	_	_	_	_	_	_	_	_	_	l	l _	 _	!

14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163___

Lab Code: RECNY_ Case No.: 6702__ SAS No.: ____ SDG No.:0304RW

Instrument ID Number: SUPERTRACE-2 Method: P_

Start Date: 01/28/98 End Date: 01/29/98

	_					_								Aı	na.	Lyt	ces	5										
NYSDEC	_ ,_	l	_	_	<u>ا</u> _	т_	_		_	-	-	-					1					_	T _			1		_
Sample	D/F	Time	8	R	A	S	A	В	В	C	C	C	C	C	F	P	M	М	H	N	K	S	A	N	Т	V	Z	С
No.					L	В	S	Α	Ε	D	A	R	0	U	Ε	В	G	N	G	Ι		Ε	G	A	L		N	N
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ZZZZZZ	1.00	2046			_	_	_	_	_	_		_	_	_	_	_	_	_	_	_	_	_	_	_	 _	_	_	_
ZZZZZZ	1.00	2052			_	_	_		_	_		_				-	-	_		_	-	_	_	_	 _	_	_	-
ZZZZZZ	1.00	2057			_		_	-	_	_	_	_	-	_	_	_	_	_	_	_	-	_	_	_	_	_	_	_
ZZZZZZ	1.00	2103			-	_	_	-	-	_	_	_	_	_	_	-	_	_	_		-	_	_	_	_	_	_	<u>_</u>
ZZZZZZ	1.00	2108			-	_	_		_	_	_	\overline{x}	_	_		_	-	_	_	_	-	_	_	_	_	_	_	
CCV	1.00	2114			_	_	_	_	_	_	_		_	_	_	_	_	_	_	_	_	_	_	_	 _	_	_	<u>_</u>
CCB	1.00	2119					_	_	_	_	_	X	_	_	_	_	-	_	_	_	_		_		_	_	_	_
ZZZZZZ_	1.00	2125			_	_	_	_	_	_	_	_	_	_	_	_	_		_	_	_	_	_	_		_	_	_
ZZZZZZ	1.00	2130			_	_	_	_	_	_	_		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
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ZZZZ	1.00	2141			_	_	_	_	_	_	_	_	_	_	_	_	_	_		_	_		_	_		_	_	_
ICSA	1.00	2147			_	_	_	_	_	_	_	\overline{X}	_	_	_	_	_	_	_	_	_		_	_	_	_	_	
ICSAB	1.00	2152			_	_		_	_	_	_	X	_	_	_	_	_	_	_	_	_	_		_			_	_
CCV	1.00	2159			_	_	_		_		_	X	_	_	_		_	_	_	_	_	_	_	_	_	_	_	_
CCB	1.00	2206			_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
PBS	1.00	2211			_	_	_	_	_	-	-	X	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
LCSS	1.00	2217			_	_	_	_			_	X		_	_	_	_	_	_			_		_		_	_	_
ZZZZZZ	1.00	2222			_	_	_	_	_	_	_	_	_	_	_	_				_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	2228			_	_	_	_	_	_	_	_	_	_		_	_	_	_	_	_	_	_	_	_	_		
BLKSPK1_	1.00	2233				_		_	_	_	_	$\overline{\mathbf{X}}$	_	_	_	_	_	_[_	_	_			_	_			
BLKSPK2_	1.00	2239			_		_	_	_	_		Х			_	_	_	_	_		_	_	_	_	_			
04RW2	1.00	2244			_	_	_	_	_	_	_	Х		_	_	_	_			_	_	_	_	_	_			
05RW2	1.00	2250			_	_	_	_	_	_		Х	_	_	_	_	_	_	_	_	_	_	_		_			
05RW2A	1.00	2255			_	_	_	_	_	_	_	Х	_	_	_	_	_	_	_	_	_	_	_		_	_	_	
05RW2L_	1.00	2301			_	_	_	_	_	_	_	X	_	_	_	_	_			_	_	_	_	_	_	_	_	
CCV	1.00	2306			_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
CCB	1.00	2311			_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_/	_	_	_	_
02RW3	1.00	2317			_	_	_	_	_	_	_	X	_	_	_		_	_	_	_	_			_	_		_	
04RW3	1.00	2322			_		_	_	_	_	_	X	_	_		_	_	_	_	_							_	_
05RB2	1.00	2328			_	_	_	_	_	_	_	X	_	_		_	_		_			_		_	_	-	-	-
07RB2	1.00	2333			_	_	_	_	_	_[_	X	_	_		_			_	_	_	_	-	-	_	-	-	-
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:0304RW

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 01/28/98 End Date: 01/29/98

																												<u> </u>
NYSDEC														Ar	ıa]	Lyt	es	5										-
Sample No.	D/F	Time	%	R	A L	S B	A S	B A	B E	C D	C A	C R	C 0	C	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	CN
ZZZZZZ	1.00	2344			-	-	_	-	-	-	-	_	-	-	-	_	_	_	-	-	-	-	-	-	_	-		_
IC S A	1.00	2350			_	-	_	_	_	_	_	$\overline{\mathbf{x}}$	<u> </u>	_	_	_		_	_	_	_	_	 -	-	_	 	_	
ICSAB	1.00	2355			-	-	-	_	-	-	_	X X	-	-	-	-	-		-	-	_	-	_	-	_	-	_	-
CCB	1.00	0009			_	_	_	_	_	_	_	X	-	_	_	_	_	_	-		_	_	_	_	_	_	-	
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SAMPLE DATA PACKAGE



SDG NARRATIVE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-02RW-3

03-03-04RW-2 03-03-04RW-3 03-03-05RB-2 03-03-05RW-2 03-03-07RB-2

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

The Matrix Spike Blanks and Matrix Spike Blank Duplicates are reported as quality control for this job..

Due to a laboratory oversight, the Matrix Spike Blank and Matrix Spike Blank Duplicate were spiked at 100 ug/L., half the appropriate amount.



"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.



CHAIN OF CUSTODY DOCUMENTATION



2455 Horsepen Road Suite 250.

Herndon, VA 20171-3426



FAX TRANSMISSION COVER SHEET

To:	
	Candace Fox
	RECRA Environmental. Inc.
	10 Hazelwood Drive
	Amherst. NY 14228-2298
Phone:	716/691-2600
Fax phone:	716/691-7991 (#44)
CC:	Mike Huston/FFD (#10)
	Jeff Lowe/ ATL (#)
	Bob Hearn/ DC

Date:	20 January 1998 1:20 PM	
Number	of pages including cover sheet:	1

From:	Steve Falatko
	Radian International LLC
	2455 Horsepen Road Suite 250
	Herndon, VA 20171-3426
Phone:	703/713-6408
Fax phone:	703/713-1512

REMARKS:	☐ Urgent	For your review	Reply ASAP	☐ Please comment
landy:				tweek

Please analyze the following six samples for total chromium and for hexavalent chromium (original total chromium concentration in parenthesis):

- 03-03-07RB-1 (101 mg/kg) collected on 12/31/97 in job no. A98-0004;
- 03-03-05RB-1 (133 mg/kg) collected on 12/31/97 in job no. A98-0004;
- 03-03-04RW-2 (352 mg/kg)- collected on 12/16/97 in job no. A97-4698;
- 03-03-05RW-2 (300 mg/kg)- collected on 12/16/97 in job no. A97-4698;
- 03-03-02RW-3 (205 mg/kg) collected on 12/23/97 in job no. A97-4808;
- 03-03-04RW-3 (180 mg/kg) collected on 12/23/97 in job no. A97-4808;

When preparing these samples, please composite and homogenize the two aliquots for the total and hexavalent analyses from each sample, then split for the individual leaching, digestion, etc., as we are trying to minimize the sample variability.

From our conversation, I should expect to receive the results on Thursday (1/22). Also, please fax to me a copy of the analytical method you will use for the Cr+6, and include the detection limit. The client received permission from NYSDEC to use these samples, even though they were collected in December and the hold time for hexavalent chromium is 48 hours from time of sample collection.

Call me if you have any questions.

Thanks,

Crava



a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

February 20, 1998

SDG #: TCLPCR Matrix: Soil

Samples Received: 12/17/97 - 01/02/98

Sample Date: 12/16/97 - 12/31/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

Candace L. Fox Program Manager

Kenneth E. Kasperek Laboratory Director

CLF/KEK/jmc Enclosure

cc: Ms. Kathie Easom, Ph.D. Radian International LLC

8501 N. Mopac Blvd. Austin, TX 78759 I.D. #A98-0027 #NY7A6702

This report contains

354

pages, which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications:	03-03-01RB-2	A8000401
-------------------------	--------------	----------

03-03-01RW-2	A7480801
03-03-02RB-2	A8000402
03-03-02RW-3	A7480803
03-03-03RB-2	A8000403
03-03-03RW-2	A7474701
03-03-04RB-2	A8000404
03-03-04RBD-2	A8000405
03-03-04RW-2	A7469808
03-03-04RW-3	A7480805
03-03-05RB-2	A8000406
03-03-05RW-2	A7469809
03-03-06RB-2	A8000407
03-03-06RW-2	A7469806
03-03-06RW-3	A7480807
03-03-07RB-2	A8000408
03-03-07RW-3	A7480808
03-03-08RW-2	A7470001
03-03-09RW-2	A7474702
03-03-09RW-3	A7480810
03-03-10RW-2	A7474703
03-03-10RW-3	A7480811

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

• 1991 New York State Analytical Services Protocol.



<u>COMMENTS</u>

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

Samples have been received previously by the laboratory under seperate COCs.

METALS DATA

All samples are TCLP extracts.

The second and fourth method blanks reported are TCLP extractor blanks. Total Chromium was detected in both extractor blanks. All sample concentrations are ten times greater than the amount detected in the blanks.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kepneth E. Kasperek Laboratory Director

Date



This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER LABORATORY		ANALYTICAL REQUIREMENTS							
SAMPLE ID	SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY		
03-03-01RB-2	A8000401					ASP91			
03-03-01RW-2	A7480801					ASP91			
03-03-02RB-2	A8000402					ASP91			
03-03-02RW-3	A7480803					ASP91			
03-03-03RB-2	A8000403					ASP91			
03-03-03RW-2	A7474701					ASP91			
)3-04RB-2	A8000404					ASP91			
03-03-04RBD-2	A8000405			_		ASP91			
03-03-04RW-2	A7469808					ASP91			
03-03-04RW-3	A7480805					ASP91			
03-03-05RB-2	A8000406					ASP91			
03-03-05RW-2	A7469809					ASP91			
03-03-06RB-2	A8000407					ASP91			
03-03-06RW-2	A7469806					ASP91			
03-03-06RW-3	A7480807	,				ASP91			
03-03-07RB-2	A8000408					ASP91			
03-03-07RW-3	A7480808					ASP91			
03-03-08RW-2	A7470001					ASP91			
03-03-09RW-2	A7474702					ASP91	_		
03-03-09RW-3	A7480810					ASP91			
03-03-10RW-2	A7474703					ASP91			
03-10RW-3	A7480811					ASP91			





SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-01RB-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98
03-03-01RW-2	SOIL	TC T CR	12/24/97	01/08/98	02/06/98
03-03-02RB-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98
03-03-02RW-3	SOIL	TC T CR	12/24/97	01/08/98	02/06/98
03-03-03RB-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98
03-03-03RW-2	SOIL	TC T CR	12/19/97	01/08/98	02/06/98
03-03-04RB-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98
03-03-04RBD-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98
03-03-04RW-2	SOIL	TC T CR	12/17/97	01/08/98	02/06/98
03-03-04RW-3	SOIL	TC T CR	12/24/97	01/08/98	02/06/98
03-03-05RB-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98
03-03-05RW-2	SOIL	TC T CR	12/17/97	01/08/98	02/06/98
03-03-06RB-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98



SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

03-03-06RW-2	SOIL	TC T CR	12/17/97	01/08/98	02/06/98
03-03-06RW-3	SOIL	TC T CR	12/24/97	01/08/98	02/06/98
03-03-07RB-2	SOIL	TC T CR	01/02/98	01/08/98	01/14/98
03-03-07RW-3	SOIL	TC T CR	12/24/97	01/08/98	02/06/98
03-03-08RW-2	SOIL	TC T CR	12/17/97	01/08/98	02/06/98
03-03-09RW-2	SOIL	TC T CR	12/19/97	01/08/98	02/06/98
03-03-09RW-3	SOIL	TC T CR	12/24/97	01/08/98	02/06/98
03-03-10RW-2	SOIL	TC T CR	12/19/97	01/08/98	02/06/98
03-03-10RW-3	SOIL	TC T CR	12/24/97	01/08/98	02/06/98

NYSDEC-5



SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
03-03-01RB-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-01RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-02RB-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-02RW-3	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-03RB-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-03RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-04RB-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-04RBD-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-04RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-04RW-3	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-05RB-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-05RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-06RB-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-06RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-06RW-3	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-07RB-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-07RW-3	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-08RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-09RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-09RW-3	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-10RW-2	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
03-03-10RW-3	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED



INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic Data Qualifiers:

В	-	Indicates a value greater than or equal to the instrument detection limit,
		but less than the contract required detection limit.

- U Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N Indicates spike sample recovery is not within the control limits.
- Indicates the post digestion spike recovery is not within the control limits.
- Indicates duplicate analysis is not within the control limits.
- S . Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- M Indicates duplicate injection results exceeded control limits.
- W Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference.



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: RECRA_LABNET_INC	Contract: NY	797-163 <u> </u>		(
Lab Code: RECNY_ Case No.: 6702_	SAS No.:	SDG	No.:TCI	LPCR
Protocol Version: SW846 3RD. EDITION				
NYSDEC Sample NoJ1RB2	Lab Sample _AD800345 _AD800346 _AD800347 _AD800333 _AD800348 _AD800334 _AD800330 _AD800351 _AD800351 _AD800352 _AD800352 _AD800352 _AD800353 _AD800353 _AD800354 _AD800354 _AD800329			
Were ICP interelement corrections app	lied ?	Ye	es/No Y	YES
Were ICP background corrections appli If yes - were raw data generated		Ye	es/No	YES
application of background correc	tions ?	Ye	es/No 1	40 <u> </u>
Comments:				
I certify that this data package is i conditions of the Protocol, both tech other than the conditions detailed ab in this hardcopy data package and in on diskette has been authorized by the designee, as verified by the followin Signature: Date: 2/20/98.	nically and for ove. Release the computer-set Laboratory is signature. Name: Kest Title: Laboratory	or completene of the data readable data Manager or th nneth_EKasp boratory_Dire	ess, for contain submit ne Manag	ned tted
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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: RECRA_LABNET_INC	Contract: NY97-163_	_
Lab Code: RECNY_ Case No.: 6702_	SAS No.:	SDG No.:TCLPCR
Protocol Version: SW846 3RD. EDITION		
NYSDEC Sample No09RW209RW310RW210RW3	Lab Sample IDAD800331 AD800338 AD800332 AD800339	
·		
Were ICP interelement corrections app	lied ?	Yes/No YES
Were ICP background corrections appli If yes - were raw data generated		Yes/No YES
application of background correc		Yes/No NO_
Comments:		
I certify that this data package is i conditions of the Protocol, both tech other than the conditions detailed ab in this hardcopy data package and in on diskette has been authorized by the designee, as verified by the followin	nically and for complove. Release of the the computer-readable Eaboratory Manager	eteness, for data contained data submitted
Signature: Kanpoel	Name: Kenneth_E.	_Kasperek
Date: () 2/20/98 -	Title: Laboratory	_Director
	COVER PAGE - IN	

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INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECR	A_LABNET_IN	c	Contract: N	Y97-	163	01RB2	
Lab Code: RECN	Y_ Ca	se No.: 67	02_ SAS No.	: _		SDG No. TCLPCR	ł
Matrix (soil/w	ater): WATE	R		Lab	Sampl	Le ID: AD800345	
Level (low/med): LOW_	_		Dat	e Rece	eived: 01/02/98	
% Solids:	0.	0					
Co	ncentration	Units (ug	/L or mg/kg dry	y we	ight):	UG/L_	
	CAS No.	Analyte	Concentration	C	Q	М	
	7429-90-5	Aluminum		- -		NR	
	7440-36-0	Antimony]-[-		NR NR	
	7440-38-2	Arsenic		- -		NR	
	7440-39-3	Barium —		-		NR	
	7440-41-7	Beryllium] - [-		NR	
	7440-43-9	Cadmium_		- -		NR	
	7440-70-2	Calcium_		_ _		NR	
	7440-47-3	Chromium_	17.5_			P_	
	7440-48-4	Cobalt		_ _		NR	- 1
	7440-50-8	Copper		_ _		NR	1
	7439-89-6	Iron		_ _		NR	
	7439-92-1	Lead		_ _		NR	
	7439-95-4	Magnesium		_ _		NR	
	7439-96-5	Manganese	l	_ _		NR	
	7439-97-6	Mercury		_ _		NR	
	7440-02-0	Nickel		_ _		NR	
	7440-09-7	Potassium		-		NR	
	7782-49-2	Selenium_	<u> </u>	- -		NR	
	7440-22-4	Silver		- -		NR	
	7440-23-5	Sodium Thallium		- -		NR	
	7440-28-0 7440-62-2			- -		NR	
	7440-62-2	Zinc		-	[NR NR	
	7440-88-8	Cyanide				NR NR	
				<u>-</u> -		NR	
Color Before:	COLORLESS	Clari	ty Before: CLE	AR_		Texture:	_
Color After:	COLORLESS	Clari	ty After: CLE	AR_		Artifacts:	
Commonte							
Comments:	TD. 3000040	1 00001420					
CLIENT SAMPLE_	TE TD. 02 0	7-2100T438					
TCLP EXTRAC		3-UIRB-Z					

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NYSDEC	SAMPLE	NO.

	:	INORGANIC A	ANALYSES DATA S	SHEET	1
Lab Name: RECR	A_LABNET_ING	c	Contract: N	Y97-163	01RW2
Lab Code: RECN	Y_ Cas	se No.: 670	SAS No.	:	SDG No.: CLPCR
Matrix (soil/w	ater): WATE	3		Lab Samp	le ID: AD800333
Level (low/med): LOW_	_		Date Rec	eived: 12/24/97
% Solids:	0.0	0			
Co			L or mg/kg dry		
	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-70-2 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium	Concentration 320	C Q	M NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS	Clarit	y Before: CLE	AR_	Texture:
Color After:	COLORLESS	Clarit	cy After: CLEA	AR_	Artifacts:
	ID:_A7480803 LE_ID:_03-03				

NYSDEC	SAMPLE	NO

Lab Name: RECR	A LABNET IN	С.	Contract: N	Y97-163	02RB2
					SDG No.: TCLPCR
Matrix (soil/wa	ater): WATE	R		Lab Samp	le ID: AD800348
Level (low/med): LOW_	_		Date Rec	eived: 01/02/98
% Solids:	0.0	0			
Co	ncentration	Units (ug/	L or mg/kg dry	y weight)	: UG/L_
	CAS No.	Analyte	Concentration	C Q	M
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-02-0 7440-02-7 7782-49-2 7440-23-5 7440-28-0 7440-66-6	Antimony_Arsenic_Barium_Beryllium_Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Marsenium_Sodium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Manganese_Mercury_Nickel_Potassium_Selen	57.1		NR NR NR NR NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS		y Before: CLEA	-	Toxture
Color After:			y After: CLEA	_	Texture:
Comments:	ID:_A800040; LE_ID:_03-0;	2-ST001438_	.y Alter: CLEA		

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MVSDEC	SAMPLE	NIO

	:	INORGANIC A	ANALYSES DATA S	SHEET	
Lab Name: RECR	N T N D N I D T T N I /	7	Contract: N	7 07_163	02RW3
Lab Name: RECK	H_THENET_IN		Concract. N.		ll
Lab Code: RECN	Y_ Cas	se No.: 670	SAS No.	:	SDG No.: TCLPCR
Matrix (soil/w	ater): WATE	₹		Lab Samp	le ID: AD800334
Level (low/med): LOW	_		Date Rec	eived: 12/24/97
% Solids:	0.0)			
Con	ncentration	Units (ug	/L or mg/kg dry	y weight)	: UG/L_
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium	Concentration	C Q	M NR NR NR NR NR NR NR NR NR

711

 $N\overline{R}$

NR

NR

NR

NR

NR

NR NR

NR

NR

NR

7440-47-3 | Chromium

Cobalt

Magnesium

Manganese Mercury

Potassium

Selenium

Nickel

Silver

Copper

Iron

Lead

7440-48-4

7440-50-8

7439-89-6

7439-92-1

7439-95-4 7439-96-5

7439-97-6

7440-02-0

7440-09-7

7782-49-2

7440-22-4

7440-23-5 Sodium NR 7440-28-0 Thallium NR 7440-62-2 Vanadium_ NR 7440-66-6 Zinc NR Cyanide NR Color Before: COLORLESS Clarity Before: CLEAR Texture: Clarity After: CLEAR Artifacts: ____ Color After: COLORLESS

Comments:

TCLP EXTRACT

NYSDEC	SAMPLE	NO
NISDEC	OMMETE	\mathbf{I}

Lab Name: RECR	A LABNET IN	c.	Contract: NY	797-163	03RB2	
					SDG No.: TCLPCF	
Matrix (soil/w					e ID: AD800349	
Level (low/med): LOW	_		Date Rece	ived: 01/02/98	
% Solids:	0.0	0				
Co	ncentration	Units (ug,	/L or mg/kg dry	y weight):	UG/L_	
	CAS No.	Analyte	Concentration	C Q	M	
	7440-02-0 7440-09-7 7782-49-2 7440-22-4	Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium	49.1_		NR NR NR NR NR NR NR NR NR NR NR NR NR N	
Color Before:	COLORLESS	Clari	ty Before: CLE	AR_	Texture:	_
Color After:	COLORLESS	Clari	ty After: CLE	AR_	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP TLCP_EXTRAC	LE_ID:_03-0	3-ST001438 3-03RB-2				

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-		INORGANIC A	1 ANALYSES DATA S	SHEET	NYSDEC SAMPLE NO
					03RW2
Lab Name: REC	RA_LABNET_IN	c	Contract: N	¥97-163	·
Lab Code: REC	NY_ Ca	se No.: 670	SAS No.	•	SDG No.: TCLPCR
Matrix (soil/	water): WATE	R		Lab Sa	ample ID: AD800330
Level (low/me	d): LOW_	_		Date R	Received: 12/19/97
% Solids:	0.	0			
C	oncentration	Units (ug,	/L or mg/kg dry	y weigh	t) UG/L
	CAS No.	Analyte	Concentration	C Q	M
	7429-90-5	Aluminum			NR
	7440-36-0	Antimony_			NR
		Arsenic			NR
		Barium			NR
	7440-41-7				NR
	7440-43-9 7440-70-2	Cadmium		-	NR NR
	7440-70-2	Chromium Chromium	453	- -	
	7440-47-3	_		-	P NR
	7440-48-4	Copper		-	— NR
	7439-89-6	Iron		- -	NR
	7439-92-1	Lead		-	NR
	7439-95-4			-	
		Manganese		-	_{NR}
	7439-97-6	Mercury			NR
	7440-02-0	Nickel			NR NR
	7440-09-7	Potassium			NR NR
	7782-49-2	Selenium_		_	NR
	7440-22-4	Silver		_	NR
	7440-23-5	Sodium_		-	NR NR
	7440-28-0	Thallium_		-	NR
	7440-62-2	Vanadium_ Zinc		-	NR NR
	/440-66-6	Cyanide		-	NR
					NR
Color Before:	COLORLESS	Clari	ty Before: CLEA	AR_	Texture:
Color After:	COLORLESS	Clari	ty After: CLE	AR_	Artifacts:
	E_ID:_A747470 MPLE_ID:_03-0 ACT				

MISDEC SAMELE INC	NYSDEC	SAMPLE	NO
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Lab Name: RECRA	A LABNET INC	C	Contract: NY	Y97-	-163	04RBD2	
						SDG No.: TCLPCR	•
Matrix (soil/wa	ater): WATE	3		Lak	o Sampl	e ID: AD800351	
Level (low/med)): LOW_	_		Dat	te Rece	ived: 01/02/98	
% Solids:	0.0)					
Cor	ncentration	Units (ug,	/L or mg/kg dry	y we	eight):	UG/L_	
	CAS No.	Analyte	Concentration	C	Q	 M	
	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-95-4 7439-96-5 7439-97-6 7440-02-0	_	168			NR NR NR NR NR NR NR NR NR NR NR NR NR N	
	7440-62-2	Vanadium_ Zinc_ Cyanide				NR NR NR	
Color Before:	COLORLESS	Clarit	cy Before: CLE	AR_	ı	Texture:	_
Color After:	COLORLESS	Clarit	ty After: CLEA	AR_		Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP TLCP_EXTRAC	LE ĪD: 03-03						

NYSDEC	CAMPIE	M
NIDDEC	SHITPLE	INO

		rion o rmiro i				04RB2
Lab Name: REC	Name: RECRA_LABNET_INC Contract: NY97-163					ll
Lab Code: REC	NY_ Ca	se No.: 670	SAS No.	: _		SDG No.: TCLPCR
Matrix (soil/	water): WATE	R		Lab	Sampl	e ID: AD800350
Level (low/me	d): LOW_	_		Dat	e Rece	ived: 01/02/98
% Solids:	0.0	0				
C	oncentration	Units (ug	/L or mg/kg dry	y we	eight):	UG/L_
	CAS No.	Analyte	Concentration	С	Q	M
	7429-90-5	Aluminum		- -		NR
	7440-36-0	Antimony -		- -		NR
	7440-38-2	Arsenic		_ _		NR
	7440-39-3			_ _		NR
	7440-41-7			_ _		NR
	7440-43-9			_ _		NR
	7440-70-2			_ -		NR
	7440-47-3		181_	- -		P_ NR
	7440-48-4			- -		NR NR
	7440-50-8 7439-89-6	Copper		-		NR NR
	7439-83-8	Iron	· · · · · · · · · · · · · · · · · · ·	-		NR NR
	7439-95-4			- -		NR
	7439-96-5	1 -		- -		NR
	7439-97-6			- -		NR
	7440-02-0			- -		NR
	7440-09-7	Potassium		- -		NR
	7782-49-2	Selenium_		_ _		NR
	7440-22-4	Silver		_ _		NR
	7440-23-5			_ _		NR
	7440-28-0	Thallium_		_ -		NR
	7440-62-2	Vanadium_		- -		NR
	7440-66-6	Zinc		-		NR
		Cyanide		<u>-</u> -		NR
Color Before:	COLORLESS	Clarit	ty Before: CLEA	AR_		Texture:
Color After:	COLORLESS	Clarit	ty After: CLEA	AR_		Artifacts:
Comments: LAB_SAMPLE_ID:_A8000404-ST001438 CLIENT_SAMPLE_ID:_03-03-04RB-2 TLCP_EXTRACT						

NYSDEC S	SAMPLE	NO
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Lab Name: RECR	A LABNET IN	C.	Contract: N	Y97-	163	04RW2
						SDG No.: TCLPCR
Matrix (soil/w	ater): WATE	R		Lab	Sampl	e ID: AD800327
Level (low/med	l): LOW_	_		Dat	e Rece	ived: 12/17/97
% Solids:	0.	0				
Co	oncentration	Units (ug	/L or mg/kg dry	y we	ight):	UG/L_
				J		
	CAS No.	Analyte	Concentration	C	Q	M
	7429-90-5	Aluminum		- -	;	NR
	7440-36-0	Antimony		- -		NR
	7440-38-2			- -		NR
	7440-39-3			- -		NR
	1	Beryllium		- -		NR
	7440-43-9			- -		NR .
	7440-70-2	Calcium		- -		NR
	7440-47-3	Chromium	1620	- -		P
	7440-48-4	Cobalt		- -		NR
	7440-50-8	Copper		- -		NR
	7439-89-6	Iron		- -	[]	NR
	7439-92-1	Lead		$\lfloor - \rfloor -$		NR
	7439-95-4	Magnesium		[_[_		NR
	7439-96-5	Manganese		_ _		NR
	7439-97-6	Mercury		_ _		NR
	7440-02-0	Nickel		<u> </u>		NR
	7440-09-7	1]_ _		NR
	7782-49-2	_		ll_		NR
	7440-22-4			_ _		NR
	7440-23-5			_ _		NR
	7440-28-0	Thallium_		l_l_		NR
	7440-62-2]_ _		NR
	7440-66-6	Zinc Cyanide		- -		NR
		Cyanide		- -		NR
Color Before:	COLORLESS	Clarit	ty Before: CLE	AR_		Texture:
Color After:	COLORLESS	Clari	ty After: CLEA	AR_	2	Artifacts:
Comments: LAB_SAMPLE_ CLIENT_SAMP TCLP_EXTRAC	TE_ID: 02-0	8-ST001438 3-04RW-2				
_						

NYSDEC	SAMPLE	NO

	•	11,01,011,10 1		 -		
Lab Name: RECR	A_LABNET_IN	C	Contract: NY	797-163	04RW3	
					SDG No.: TCLPCR	
Matrix (soil/wa	ater): WATE	2		Lab Samp	le ID: AD800335	
Level (low/med): LOW	_		Date Rec	eived: 12/24/97	
% Solids:	0.0	0				
Concentration Units (ug/L or mg/kg dry weight): UG/L_						
	CAS No.	Analyte	Concentration	C Q	М	
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-96-5 7439-96-5 7439-96-5 7439-97-6 7440-02-0 7440-02-0 7440-23-5 7440-23-5 7440-28-0 7440-66-6	Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver	387		NR NR NR NR NR NR NR NR NR NR NR NR NR N	
Color Before:	COLORLESS	Clarit	y Before: CLEA	AR_	Texture:	
Color After:	COLORLESS	Clarit	ty After: CLEA	AR_	Artifacts:	
Comments: LAB_SAMPLE_ID:_A7480805-ST001438 CLIENT_SAMPLE_ID:_03-03-04RW-3 TCLP_EXTRACT						

Lab Name: RECR	A LABNET IN	C.	Contract: NY	Y97-163	05RB2
	-				SDG No.: TCLPCR
Matrix (soil/w	ater): WATE	R		Lab Samp	le ID: AD800352
Level (low/med): LOW_	_		Date Rece	eived: 01/02/98
% Solids:	0.	0			
Co.	ncentration	Units (ug	/L or mg/kg dry	y weight)	: UG/L_
	CAS No.	Analyte	Concentration	C Q	М
	7429-90-5	Aluminum	<u> </u>	-	NR
	7440-36-0	Antimony		-	NR
	7440-38-2	Arsenic		[-]	NR
	7440-39-3	Barium		-	NR
	7440-41-7	Beryllium		-	NR
	1	Cadmium			NR
	7440-70-2	Calcium			NR
	7440-47-3	Chromium	288	-	P_
	7440-48-4	Cobalt		[-]	NR
	7440-50-8	Copper		-	NR
	7439-89-6	Iron			NR
	7439-92-1	Lead		[-	NR
	7439-95-4	Magnesium		-	NR
	7439-96-5	Manganese		-	NR
	7439-97-6	Mercury		-	NR
	7440-02-0	Nickel —		-	NR
	1	Potassium		-	NR
	1	Selenium		-	NR
		Silver -		-	NR
	7440-23-5	Sodium		-	NR
	7440-28-0	Thallium		-	NR
	7440-62-2	Vanadium_			NR
	7440-66-6	Zinc			NR
		Cyanide			NR
Color Before:	COLORLESS	Clarit	ty Before: CLEA	AR_	Texture:
Color After:	COLORLESS	Clarit	ty After: CLEA	AR_	Artifacts:
C					
Comments:	TD 30000:	c amoos (5)			
LAB_SAMPLE_					
CLIENT SAME	me_τn:_03-0;	3-05KB-2			
TLCP_EXTRACT_					

	NYSDEC	SAMPLE	NO
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All Inc.	-	INORGANIC F	MALISES DATA :	oneer	
Lab Name: RECR	A LABNET IN	С.	Contract: NY	Y97-163	05RW2
	_				SDG No.: TCLPCR
Matrix (soil/w	_		_		ole ID: AD800328
Level (low/med): LOW			Date Rec	eived: 12/17/97
	_	_			
% Solids:	0.0				
Co	ncentration	Units (ug/	/L or mg/kg dry	y weight)	: UG/L_
	CAS No.	Analyte	Concentration	C Q	М
		Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_	1410_		NR NR NR NR NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS	Clarit	ry Before: CLEA	AR_	Texture:
Color After:	COLORLESS	Clarit	ty After: CLEA	AR_	Artifacts:
	ID:_A746980 LE_ID:_03-0 T				

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IVI A CLIDHIC	SAMPLE.	10()

Lab Name: RECR	A LABNET INC	С.	Contract: N	Y97-163	06RB2
					SDG No.: TCLPCR
Matrix (soil/w	ater): WATE	R		Lab Sampl	e ID: AD800353
Level (low/med	LOW	_		Date Rece	eived: 01/02/98
% Solids:	0.0	0			
Со	ncentration	Units (ug,	/L or mg/kg dry	y weight):	UG/L_
	CAS No.	Analyte	Concentration	C Q	M
	7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-95-4 7439-96-5 7439-96-5 7439-97-6 7440-02-0 7440-02-0 7440-22-4 7440-23-5 7440-28-0	Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium	197		NR NR NR NR NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS	Clari	ty Before: CLE	AR_	Texture:
Color After:	COLORLESS	Clari	ty After: CLE	AR_	Artifacts:
Comments: LAB_SAMPLE_ CLIENT_SAMP TLCP_EXTRAC	LE_ID:_03-0	3-06RB-2			

	-	INOROZMIC I			06RW2
Lab Name: RECRA	LABNET_ING	c	Contract: NY	797-163	
Lab Code: RECNY	_ Cas	se No.: 670	SAS No.:	:	SDG No.: TCLPCR
Matrix (soil/wa	ter): WATER	3		Lab Sampl	e ID: AD800326
Level (low/med)	: LOW_	_		Date Rece	eived: 12/17/97
% Solids:	0.0)			
Cor	ncentration	Units (ug/	L or mg/kg dry	y weight):	UG/L_
	CAS No.	Analyte	Concentration	C Q	М
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-92-1 7439-95-4 7439-95-4 7439-95-6 7440-02-0 7440-02-0 7440-02-0 7440-23-5 7440-28-0 7440-66-6	Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_	307_		NR NR NR NR NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS	Clarit	y Before: CLE	AR_	Texture:
Color After:	COLORLESS	Clarit	ty After: CLEA	AR_	Artifacts:
Comments: LAB_SAMPLE_1 CLIENT_SAMPI TCLP_EXTRACT	r_TD:_03-03	3-06RW-2			

NTYZOTOTO	SAMPLE	NT/
IXI Y S I J H. (SAMPLIE.	1/1()

Lab Name: RECR	A LABNET IN	C.	Contract: NY	Y97-163	06RW3	-
					SDG No.: TCLPCR	
Matrix (soil/w	ater): WATE	R		Lab Sampl	e ID: AD800336	
Level (low/med): LOW	_		Date Rece	ived: 12/24/97	
% Solids:	0.	0				
Со	ncentration	Units (ug	/L or mg/kg dry	y weight):	UG/L_	
	CAS No.	Analyte	Concentration	C Q	M	
	7440-41-7 7440-43-9 7440-70-2 7440-47-3 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7	Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_	335		NR NR NR NR NR NR NR NR NR NR NR NR NR N	
Color Before:	COLORLESS	Clari	ty Before: CLE	AR_	Texture:	_
Color After:	COLORLESS	Clari	ty After: CLEA	AR_	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP TCLP_EXTRAC	ID:_A748080 LE_ID:_03-0	7-ST001438 3-06RW-3				

Lab Name: RECRA	A_LABNET_ING	c	Contract: N	Y97-163	07RB2
Lab Code: RECNY	Y_ Cas	se No.: 670	SAS No.	:	SDG No.: TCLPCR
Matrix (soil/wa	ater): WATE	R		Lab Samp	ole ID: AD800354
Level (low/med)	LOW_	_		Date Rec	eived: 01/02/98
% Solids:	0.0	0			
Cor		Units (ug/	L or mg/kg dry Concentration		: UG/L_
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7 7782-49-2	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_			NR NR NR NR NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS	Clarit	y Before: CLE	AR_	Texture:
Color After:	COLORLESS	Clarit	y After: CLEA	AR_	Artifacts:
Comments: LAB_SAMPLE_T CLIENT_SAMPI TLCP_EXTRACT	LE_ID:_03-03				

MICABIA	(1 2 2 4 D T D	T.T.O.
MIN CHIEF	SAMPLE	1/11/1
NIDDEC		TAO

Lab Name: RECR	A LARNET IN	~	Contract: N	Y97-163	07R W 3	
					SDG No.: TCLP	' CR
Matrix (soil/w	ater): WATE	R		Lab Samp	ple ID: AD800337	
Level (low/med): LOW_	_		Date Red	ceived: 12/24/97	
% Solids:	0.	0				
Con	ncentration	Units (ug,	/L or mg/kg dr	y weight)): UG/L_	
	CAS No.	Analyte	Concentration	C Q	М	
	7429-90-5	Aluminum	_ 	-	$-\left \frac{1}{NR}\right $	
	7440-36-0	_		-	- NR	
	7440-38-2	Arsenic		-	- NR	
	1	Barium —			- NR	
	7440-41-7			-	- NR	
	7440-43-9			-	- NR	
	7440-70-2	Calcium		-	- NR	
	7440-47-3	Chromium	510	-	- P	
	7440-48-4	Cobalt		-	$-\left \frac{r}{NR}\right $	
	7440-50-8	Copper Copper		-	- NR	- 1
	7439-89-6	Iron		-	- NR	
	7439-83-8	Lead		-	- NR	
	7439-95-4	Magnesium		-	- NR	
	7439-96-5	Manganese		-	- NR	
	7439-98-5	Mercury		-	- NR	
	7440-02-0	Nickel —		-	- NR	
	7440-02-0	Potassium			- NR	
	7782-49-2	1		-	- NR	
	7440-22-4	_		-	- NR	
	7440-23-5	Sodium		-	- NR	
	7440-28-0			-	- NR	
	7440-62-2	Vanadium			- NR	
	7440-66-6	Zinc		[-]	- NR	
	7110 00 0	Cyanide		-	- NR	
				-	- 1111	
Color Before:	COLORLESS		ty Before: CLE	_	Texture:	
Color After:	COLORLESS	Clari	ty After: CLE	AR_	Artifacts:	
Comments:						
LAB SAMPLE	ID: A748080	8-ST001438				
CLIENT_SAMP	LE_ID:_03-0	3-07RW-3				
TCLP_EXTRAC	T					

	031155	370
NYSDEC	SAMPLE	NO

		INORGANIC A	ANALYSES DATA S	SHEET		TODEC SAL	TELE NO
Tala Nama	DECDA LADNEM IN	JC Contract: NY97-163				08RW2	
Lab Name:	RECRA_LABNET_IN	·	Contract: N	19/-16	,3 I.		
Lab Code:	RECNY_ Ca	se No.: 670	D2_ SAS No.	.		SDG No.:	TCLPCR
Matrix (so	oil/water): WATE	R		Lab S	ample	ID: AD80	00329
Level (low	w/med): LOW_	_		Date	Recei	ved: 12/1	17/97
% Solids:	0.	0					
	Concentration	Units (ug,	/L or mg/kg dry	y weig	(ht): 1	UG/L_	
	CAS No.	Analyte	Concentration	C Q	<u>M</u>		
	7429-90-5	Aluminum			N	$\frac{1}{R}$	
	7440-36-0			-	N	I	
	7440-38-2			-	N	I	
	7440-39-3			-	N	I	
	7440-41-7	Beryllium			N	R	
	7440-43-9	Cadmium			N	R	
	7440-70-2	Calcium			N	R	
	7440-47-3	_	641_	_ _	P	_	
	7440-48-4			<u>-</u>			
	7440-50-8	Copper			N	I	
	7439-89-6	Iron		_	N	1	
	7439-92-1	Lead		_	N	I	
	7439-95-4	Magnesium		_	N		
	7439-96-5	Manganese		_	N	I	
	7439-97-6	Mercury		_	N	I .	
	7440-02-0			_ _	N		
		Potassium		-	N	I .	
	7782-49-2	_		-	N		
	7440-22-4 7440-23-5	Silver Sodium		-	NI NI	4	
	7440-23-5	Thallium		-	NI	I	
	7440-62-2	Vanadium_		-	NI	I	
	7440-62-2	Zinc		-	$ _{NI}^{NI}$	1	
	1,440,00,0	Cyanide		-	NI	I .	
				_ _	_		
Color Befo	ore: COLORLESS	Clarit	y Before: CLEA	AR_	Te	exture:	
Color Afte	er: COLORLESS	Clarit	ty After: CLEA	AR_	A	rtifacts:	
	MPLE_ID:_A747000 SAMPLE_ID:_03-0 MTRACT						

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
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Lab Name: RECR	A LABNET IN	C.	Contract: NY	Y97-1	63	09RW2	1
			02_ SAS No.			SDG No.: TCI	LPCR
Matrix (soil/w	ater): WATE	R		Lab	Sampl	e ID: AD80033	31
Level (low/med): LOW_	_		Date	Rece	ived: 12/19/9	97
% Solids:	0.	0					
Со	ncentration	Units (ug,	/L or mg/kg dry	y wei	ght):	UG/L_	
	CAS No.	Analyte	Concentration	C	Q I	 M	
		·					
	7429-90-5	Aluminum_]_[_		NR	
	7440-36-0	Antimony_		_ _		NR	
	7440-38-2	Arsenic]_ _		NR	
	7440-39-3	Barium		-		NR	
	7440-41-7	Beryllium		-		NR	
	7440-43-9	Cadmium Calcium		-		NR	
	7440-70-2 7440-47-3	Chromium_	662	-		NR P	
	7440-47-3	Cobalt	⁶⁶² _	- -		NR	
	7440-48-4]-[-		I	
	7440-50-8	Copper		[- 		NR NR	
	7439-89-8	Lead		-		NR	
	7439-92-1	Magnesium		-[NR NR	
	7439-96-5	Manganese		[-] -		NR NR	
	7439-97-6	Mercury		-		NR	
	7440-02-0	Nickel		-(NR	
	7440-09-7	Potassium		[-]		NR	
	7782-49-2	Selenium		- -		NR	
	1	Silver		-		NR	
	7440-23-5	Sodium_		-		NR	
	7440-28-0			- -		NR	
	7440-62-2	Vanadium_		[- -		NR	
	7440-66-6	Zinc		-		NR	
		Cyanide		- -		NR	
Color Before:	COLORLESS	Clarit	ty Before: CLE	AR_		 Texture:	
Color After:	COLORLESS	Clari	ty After: CLEA	AR_	1	Artifacts: _	_
Comments: LAB_SAMPLE_ CLIENT_SAMP TCLP_EXTRAC	TE_ID: 03-0	2-ST001438 3-09RW-2					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC		NT/
INI V SI I H.U	SAMPLE.	IM()

		THOUGHHTC E	MADISES DATA :		· · · · · · · · · · · · · · · · · · ·
Lab Name: REC	RA_LABNET_IN	C	Contract: N	Y97-163	09R W 3
					SDG No.: TCLPCR
Matrix (soil/	water): WATE	R		Lab Samp	le ID: AD800338
Level (low/med	d): LOW_	_		Date Rec	eived: 12/24/97
% Solids:	0.	0			
Co	oncentration	Units (ug/	L or mg/kg dry	y weight)	: UG/L_
	CAS No.	Analyte	Concentration	C Q	М
	7439-97-6	Antimony_Arsenic_Barium_Beryllium_Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_			NR NR NR NR NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS	Clarit	ty Before: CLE	AR_	Texture:
Color After:	COLORLESS	Clarit	ty After: CLE	AR_	Artifacts:
	_ID:_A748081 PLE_ID:_03-0 CT				

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

		INORGANIC A	ANALISES DATA S	SHEEI	. —	
						10RW2
Lab Name: RECR	A_LABNET_IN	c	Contract: N	Y97-163_	_	
Lab Code: RECN	Y_ Ca	se No.: 670	O2_ SAS No.	:	SD	G No.: TCLPC
Matrix (soil/w	ater): WATE	R		Lab Sam	ple I	D: AD800332
Level (low/med	.): LOW_	_		Date Re	ceive	d: 12/19/97
% Solids:	0.	0				
Со	ncentration	Units (ug	/L or mg/kg dry	y weight	.): UG	/L_
	CAS No.	Analyte	Concentration	c Q	M	
	CAS NO.	Analyce	Concentracion		111	
	7429-90-5	Aluminum		-	NR	
	7440-36-0	Antimony_			_ NR	
	7440-38-2	Arsenic			NR	
	7440-39-3	Barium		l_l	_ NR	
	7440-41-7	Beryllium		ll	_ NR	
	1	Cadmium		l_	_ NR	
	7440-70-2	Calcium			_ NR	
	I	Chromium_	609_	_	_ P_	
	7440-48-4	Cobalt		Í_	_ NR	
	7440-50-8	Copper		_	_ NR	
	7439-89-6	Iron		_	_ NR	
	7439-92-1	Lead		[_]	NR	
	7439-95-4	Magnesium		_	_ NR	
	7439-96-5	Manganese			_ NR	
	7439-97-6	Mercury		-	_ NR	
	7440-02-0	Nickel		_	_ NR	
	7440-09-7]_[_ NR	
	7782-49-2			-	- NR	
	7440-22-4			l-l	_NR	
	7440-23-5		- 	-	NR NR	
	7440-28-0	Thallium_ Vanadium		[-]	_ NR	
	7440-62-2	Zinc		-	- NR NR	
	/440-66-6	Cyanide		-	$- \frac{NR}{NR} $	
				[_	_	
Color Before:	COLORLESS	Clari	ty Before: CLE	AR_	Tex	ture:
Color After:	COLORLESS	Clari	ty After: CLE	AR	Art	ifacts:
			-	_		
Comments:						
LAB SAMPLE	ID:_A747470	3-ST001438				
CLIENT_SAMP	LE_ID:_03-0	3-10RW-2				
TCLP_EXTRAC	T					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
MIDDEC		\mathbf{I}

		INORGANIC A	MALYSES DATA S	PHEEL	
Lab Name: RECRA	_LABNET_ING	c	Contract: N	Y97-163	10RW3
Lab Code: RECNY	Cas	se No.: 670	SAS No.	:	SDG No.: TCLPCR
Matrix (soil/wa	ater): WATE	3		Lab Sampl	le ID: AD800339
Level (low/med)	: LOW	_		Date Rece	eived: 12/24/97
% Solids:	0.0)			
Con	ncentration	Units (ug/	L or mg/kg dry	y weight):	: UG/L_
	7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-70-2 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5	Beryllium Cadmium_ Calcium Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury Nickel_ Potassium Selenium_ Silver	Concentration	C Q	M NR NR NR NR NR NR NR NR NR N
Color Before:	COLORLESS	Clarit	y Before: CLE	AR_	Texture:
Color After:	COLORLESS	Clarit	y After: CLEA	AR_	Artifacts:
Comments: LAB_SAMPLE_I CLIENT_SAMPI TCLP_EXTRACT	LE_\overline{\overline{I}}\overline{D}:_03-03				

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

Lab Name: F	RECRA LAE	BNET INC.		Contract: N	Y97-1	63		01RB2S		-
	_			702_ SAS No.			SDG	No.: T	CLI	PCR
Matrix (soi	l/water)	: WATER_			Le	vel (low	/med):	LO	N
% Solids fo	or Sample	e: 0.0								
	_		/т.	or mg/kg dry we	ight)	· UG/	Τ.			
					т					,
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR) C	S) Add	pike ed (S	SA)	%R	Q	M
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_										NR NR NR NR NR NR
Calcium_ Chromium_ Cobalt Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide	75-125_	224.8500_		17.5300		200.0		103.7		NR P NR NR NR NR NR NR NR NR NR NR NR NR NR
Comments: LAB_SAMI	PLE_ID:_ <i>1</i>	A8000401MS-ST001	.43	8					_ _ _	

5B POST DIGEST SPIKE SAMPLE RECOVERY

MACONIC	SAMPLE	NT/
NYSTE	SAMPLE	IM()

		01RB2A
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	l
Lab Code: RECNY_ Case No.: 6702	_ SAS No.:	SDG No.: TCLPCR
Matrix (soil/water): WATER	Level	(low/med): LOW

Concentration Units: ug/L

Aluminum Antimony — — — — — — — — — — — — — — — — — — —	Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Barium Beryllium Cadmium Calcium Chromium Cobalt pper con Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ pper on Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_									NR NR NR NR NR NR NR NR NR NR NR NR NR N

Comments:			

5B POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAM	IPLE	NO
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Lab Name: RECRA_LABNET_INC	Contract: NY97-163	01RW2A
Lab Code: RECNY_ Case No.:	6702_ SAS No.:	SDG No.: TCLPCR
Matrix (soil/water): WATER	Level	(low/med): LOW

Concentration Units: ug/L

			_					_	
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	М
Aluminum			Г		Γ			_	$\overline{\rm NR}$
Antimony_			_		_			_	NR
Arsenic			_		_			_	NR
Barium			_		_			_	NR
Beryllium			_		Í —			_	NR
Cadmium_			_		_			_	NR
Calcium_		1262.73		320.38	-	1000.0	94.2	\vee	NR P
Chromium_ Cobalt		1262.73	-	- ^{320.38} -	-		$ ^{94.2}$	1-	NR
Copper			-	-	-			-	NR
Iron			-		l –		-	-	NR
Lead			-		-			-	NR
Magnesium			-		-			-	NR
Manganese			_					_	NR
Mercury			_		l_			_	NR
Nickel			_		_			_	NR
Potassium			-		_			_	NR
Selenium_ Silver			-		 —			-	NR NR
Sodium Sodium			-		-		<u>-</u>	-	NR
Thallium			-		-	[-	NR
Vanadium			-		-			-	NR
Zinc			-		-		[-	NR
Cyanide			_		_			-	NR
			1_					-	

omments:			

6 DUPLICATES

NYSDEC SAMPL	Æ	NO
--------------	---	----

			01RB2D	
Lab Name: RECRA_LABNET_	_INC	Contract: NY97-163		
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: TCLPCR	
Matrix (soil/water): W	IATER	Level	(low/med): LOW_	_
% Solids for Sample: _	_0.0	% Solids for	Duplicate:0.0)
Concentrati	on Units (ug/L o	or mg/kg dry weight):	UG/L	

Analyte	Control Limit	Sample (S)	c	Duplicate (D)	С	RPD	Q	M
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_ ————————————————————————————————————	10.0_	17.5300						NR NR NR NR NR NR NR NR NR NR NR NR NR N

3 BLANKS

Lab	Name:	RECRA_LABNET_	INC	Contract:	NY97-163_			
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG	No.:	TCLPCR
Prep	paratio	on Blank Matrix	x (soil/water): WATE	ΞR				

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

Analyte	Initial Calib. Blank (ug/L)	С	Cont.		Calib: (ug/L)		ion 3		С	Prepa- ration Blank	С	1	M
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_	1.0				_1.0_			1.0_			B B	NE NE NE NE NE NE NE NE NE NE NE NE NE N	

3 BLANKS

Lab Name:	RECRA_LABN	ET_INC	Contract:	NY97-163		
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:	SD0	G No.:	TCLPCR
Preparation	on Blank Ma	trix (soil/water): WA	TER			
Preparation	on Blank Co	ncentration Units (ug	/L or mg/kg): UG/L_		

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	uing Calibr Lank (ug/L) 2	cion 3	С	Prepa- ration Blank C	M
Aluminum_ Antimony_ Arsenic_ rium_ ryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_		B	1.0		1.6			NR NR NR NR NR NR NR NR NR NR NR NR NR N

3 BLANKS

Lab	Name:	RECRA_LABNET_	INC	Contract:	NY97-163		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SD	G No.:	TCLPCR
Prep	paratio	on Blank Matrix	k (soil/water): WATE	ER			

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

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	uing Calibu ank (ug/L) 2	cion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_ Cyanide_ Cyanide_ Cometic co				 1.0_	1.0_		1.000 Ū	NR NR NR NR NR NR NR NR NR NR NR NR NR N

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163	-		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	S	DG	No.:	TCLPCR
Prep	paratio	n Blank	Matrix (soil/water): WAT	ER				
Pre	paratio	n Blank	Concentration Units (ug/	L or mg/kg): UG/L			

Analyte	Initial Calib. Blank (ug/L)	С	Cc	ontinui Bla C	ng Cal ank (ug 2	ibrati /L) C	on 3	С	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic_ rium_ ryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_				O					5.690	B	NR NR NR NR NR NR NR NR NR NR NR NR NR N

SAMPLE DATA PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-0	3-01RB-2 A8000401
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03-03-01RW-2	A7480801
03-03-02RB-2	A8000402
03-03-02RW-3	A7480803
03-03-03RB-2	A8000403
03-03-03RW-2	A7474701
03-03-04RB-2	A8000404
03-03-04RBD-2	A8000405
03-03-04RW-2	A7469808
03-03-04RW-3	A7480805
03-03-05RB-2	A8000406
03-03-05RW-2	A7469809
03-03-06RB-2	A8000407
03-03-06RW-2	A7469806
03-03-06RW-3	A7480807
03-03-07RB-2	A8000408
03-03-07RW-3	A7480808
03-03-08RW-2	A7470001
03-03-09RW-2	A7474702
03-03-09RW-3	A7480810
03-03-10RW-2	A7474703
03-03-10RW-3	A7480811

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

• 1991 New York State Analytical Services Protocol.



COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

Samples have been received previously by the laboratory under seperate COCs.

METALS DATA

All samples are TCLP extracts.

The second and fourth method blanks reported are TCLP extractor blanks. Total Chromium was detected in both extractor blanks. All sample concentrations are ten times greater than the amount detected in the blanks.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek
Laboratory Director

Date



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CHAIN OF CUSTODY DOCUMENTATION



2455 Horsepen Road Suite 250,

Herndon, VA 20171-3426



FAX TRANSMISSION COVER SHEET

	Candace Fox
	RECRA Environmental, Inc.
	10 Hazelwood Drive
	Amherst, NY 14228-2298
Phone:	716/691-2600
Fax phone:	716/691-7991 (#44)
CC:	

Date:	05 January 1998 4:43 PM	
Number	of pages including cover sheet:	1

From:	Steve Falatko
	Radian International LLC
	2455 Horsepen Road Suite 250
	Herndon, VA 20171-3426
Phone:	703/713-6408
Fax phone:	703/713-1512

REMARKS:	Urgent	For your review	Reply ASAP	Please comment

Candy:

For the samples below, please analyze for TCLP CHROMIUM. All of the total CHROMIUM results were greater than 100 mg/kg. Please analyze of the eight samples from Job No. A98-0004 which you received on 02 Jan 98 for TCLP CHROMIUM. You are currently analyzing these samples for total Metals. We would like the TCLP results ASAP. Please call me with your projected TAT, and send the SDG summary sheet for these 22 TCLP samples.

- 03-03-03RW-2 in jobno A97-4747 (A7474701)
- 03-03-09RW-2 in jobno A97-4747 (A7474702)
- 03-03-10RW-2 in jobno A97-4747 (A7474703)—
- 03-03-04RW-2 in jobno A97-4698 (A7469808)
- 03-03-05RW-2 in jobno A97-4698 (A7469809)
- 03-03-06RW-2 in jobno A97-4698 (A7469806)
- 03-03-08RW-2 in jobno A97-4700 (A7470001)
- 03-03-01RW-2 in jobno A97-4808 (A7480801)
- 03-03-02RW-3 in jobno A97-4808 (A7480803)
- 03-03-04RW-3 in jobno A97-4808 (A7480805)
- 03-03-06RW-3 in jobno A97-4808 (A7480807)
- 03-03-07RW-3 in jobno A97-4808 (A7480808) 03-03-09RW-3 in jobno A97-4808 (A7480810)
- 03-03-10RW-3 in jobno A97-4808 (A7480811)

- · 03-03-01RB-2 (A8000401)
- · 03-03-01 RB-2MD
- · 03-03-01 RB-2MS
- .03-03-02RB-2 (A800HOZ)
- · 03-03-03RB-2 (A8000403)
- ·03-03-04 RB-2 (A8000404)
- .03-03-64RBD-2 (A8000405)
- .03-03-05 RB-2 (A8000406)
- .03-03-06RB-2 (A8000407)
- · 03-03-07 RB-2 (A8000408)

Please call me if you have any questions.

Thanks.

Steve



Chemical and Environmental Measurement Information

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426 February 3, 1998

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

SDG #: 30301R Matrix: Soil

Samples Received: 01/02/98

Sample Date: 12/31/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC. Candace L'EX

Candace L. Fox Program Manager

Kenneth B. Kasperek Laboratory Director

CLF/KEK/ltb

Enclosure

cc: Ms. Kathie Easom, Ph.D.

Radian International LLC 8501 N. Mopac Blvd.

Austin, TX 78759

I.D. #A98-0004 #NY7A6702

This report contains $\frac{683}{9}$ pages, which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-01RB-2

03-03-01RB-2 MATRIX DUPLICATE

03-03-01RB-2 MATRIX SPIKE

03-03-02RB-2 03-03-03RB-2 03-03-04RB-2 03-03-04RBD-2 03-03-05RB-2 03-03-06RB-2 03-03-07RB-2

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.



The relative percent difference between results for sample 03-03-01RB-2 and the Matrix Duplicate performed on this sample exceeded the quality control limits for Zinc.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.



INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic Data Qualifiers:

- B Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.
- U Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N Indicates spike sample recovery is not within the control limits.
- K Indicates the post digestion spike recovery is not within the control limits.
- * Indicates duplicate analysis is not within the control limits.
- S Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- Indicates duplicate injection results exceeded control limits.
- W Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference.



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER	LABORATORY	ANALYTICAL REQUIREMENTS								
SAMPLE ID	SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY			
03-03-01RB-2	A8000401	-	-	-	-	ASP95	-			
03-03-02RB-2	A8000402	-	-	-	-	ASP95	-			
03-03-03RB-2	A8000403	-	-	-	-	ASP95	-			
03-03-04RB-2	A8000404	-	-	-	-	ASP95	-			
03-03-04RBD-2	A8000405	-	-	-	-	ASP95	-			
03-03-05RB-2	A8000406	-	-	-	-	ASP95	-			
03-03-06RB-2	A8000407	-	-	-	-	ASP95	-			
03-03-07RB-2	A8000408	-	-	-	-	ASP95	-			

NYSDEC-1



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-01RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
03-03-02RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
03-03-03RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
03-03-04RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
03-03-04RBD-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
3-03-05RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
U3-03-06RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
03-03-07RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98

NYSDEC-5





NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
03-03-01RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-02RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-03RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-04RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-04RBD-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-05RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-06RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-07RB-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED

NYSDEC-7



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: RECRA_LABNET_INC	Contract:	NY97-163_	
Lab Code: RECNY_ Case No.: 6702_	SAS No.:		SDG N6.:30301R
Protocol Version: ASP-95			
NYSDEC Sample No01RB2 _01RB2D _01RB2S _02RB2 _03RB2 _04RBD2 _04RB2 _05RB2 _06RB2 _07RB2	Lab Samp: AD8001AD8001AD8001AD8001AD8001AD8001AD8001AD8001	03 04 05 06 07 09 08 10 11	
Were ICP interelement corrections app	lied ?		Yes/No YES
Were ICP background corrections applied if yes - were raw data generated	before		Yes/No YES
application of background correc	tions ?		Yes/No NO_
Comments:			
			-
I certify that this data package is in conditions of the Protocol, both techn other than the conditions detailed about this hardcopy data package and in on diskette has been authorized by the designee, as verified by the following	nically and ove. Releas the computes e Laboratory	for compl se of the r-readable y Manager	eteness, for data contained data submitted
Signature: Kapauk	Name:	Kenneth_E.	_Kasperek
Date: (Title: 1	Laboratory	_Director
	COVER PAGE	- IN	

1 INORGANIC ANALYSES DATA SHEET

MYSDEC	SAMPLE	NO

Lab Name: RECRA_LABN	ET_INC C	ontract: NY97-163	01RB2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800103
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	99.0		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium	0.96	- В В		NR P_ P_ NR P
7440-43-9 7440-70-2 7440-47-3 7440-48-4	Cadmium_ Calcium_ Chromium_ Cobalt	0.06	 		P_ NR P_ NR
7440-50-8 7439-89-6 7439-92-1	Copper Iron Lead	2.3	B -		P_NR
7439-95-4 7439-96-5 7439-97-6	Magnesium Manganese Mercury	0.10	_ _ _		NR NR CV
7440-02-0 7440-09-7 7782-49-2	Nickel Potassium Selenium	1.1_	B		P NR P
7440-22-4 7440-23-5 7440-28-0	SilverSodiumThallium	0.28	ת ת		P_NR
7440-28-0	Vanadium_ Zinc_ Cyanide	5.8_	0	*	NR P NR

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000401-CGA LE_ID:_03-03-01E					

1 INORGANIC ANALYSES DATA SHEET

Lab Name: RECRA	_LABNET_INC	c	Contract: NY	197	7-163		02RB2
Lab Code: RECNY						SI	OG No.: 30301R
Matrix (soil/wa	ter): SOIL_	_		Lá	ab Sampl	.е :	ID: AD800106
Level (low/med)	: LOW	_		Da	ate Rece	eive	ed: 01/02/98
% Solids:	_97.6	5					
Con	centration	Units (ug/	L or mg/kg dry	7 V	veight):	MO	G/KG
	7429-90-5 7440-36-0 7440-38-2 7440-39-3	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_	Concentration0.871.70.170.06	С — <u>В</u> В <u>В</u> <u>В</u>		M NR P_ NR P_ NR P_ NR P_ NR	

Ρ 7440-47-3 Chromium 22.2 $N\overline{R}$ 7440-48-4 Cobalt $\overline{\mathtt{B}}$ 2.9 Ρ Copper 7440-50-8 NRIron 7439-89-6 3.3 Lead Ρ 7439-92-1 7439-95-4 Magnesium NR NR 7439-96-5 Manganese $\overline{\mathbf{U}}$ CV Mercury_ 0.10 7439-97-6 Ρ Nickel В 7440-02-0 1.9 $N\overline{R}$ 7440-09-7 Potassium P_ P Selenium 0.86 Ū 7782-49-2 7440-22-4 Silver 0.28 U NR7440-23-5 Sodium $\overline{\mathbf{U}}$ 7440-28-0 Thallium 0.54 Ρ $N\overline{R}$ 7440-62-2 Vanadium -7440-66-6 Zinc 13.2 Ρ $N\overline{R}$ Cyanide

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000402-CG LE_ID:_03-03-02		_			

1 INORGANIC ANALYSES DATA SHEET

NYSDEC :	SAMPLE	NO
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Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	03RB2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800107
Level (low/med):	LOW	Date Recei	ived: 01/02/98
% Solids:	_99.4		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.66	$\overline{\overline{U}}$		P
7440-38-2	Arsenic -	1.4	В		$ P^- $
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.14	B		P
7440-43-9	Cadmium	0.06	U		P
7440-70-2	Calcium_		_		NR
7440-47-3	Chromium_	17.7	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.3	В		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.8_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		=		NR
7439-97-6	Mercury	0.96	Ū		CA
7440-02-0	Nickel Potassium	1.5_	В		P_ NR
7440-09-7	Selenium	0.83	Ū		P
7440-22-4	Silver	0.83	U		P-
7440-22-4	Sodium Sodium	 0.2/-	٥		NR
7440-28-0	Thallium	0.52	ਹ		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	13.5	_	*	P
	Cyanide		-		NR
	_		_		
			_		'

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000403-CG LE_ID:_03-03-03I					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAM	PLE	NO
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			04RBD2
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	_ SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800109
Level (low/med):	LOW	Date Recei	ived: 01/02/98
° Colida.	99 3		

					_
CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.68	บิ		P
7440-38-2	Arsenic	1.3	В		$ \bar{P}^- $
7440-30-2	Barium		~		NR
7440-33-3	Beryllium	0.13	\overline{B}		P
7440-41-7	Cadmium	0.06	U		$ P^- $
7440-43-9	Calcium_		"		NR
		93.9	-		P
7440-47-3	Chromium_		_		NR
7440-48-4	Cobalt		\overline{B}		P
7440-50-8	Copper	3.8_	B		NR
7439-89-6	Iron		-		
7439-92-1	Lead	2.2_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		<u> </u>		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	2.0_	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.86_	บิ		P_
7440-22-4	Silver	0.28_	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	0.54_	℧		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	12.2_	_	*	P_
	Cyanide		_		NR
			_		

	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After: Y	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	D:_A8000405-CGA E_ID:_03-03-04R					

INORGANIC ANALYSES DATA SHEET

Lab Name: RECRA LABNI	ET INC. Cor	ntract: NY97-163	04RB2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800108
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	99.4		

					.
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.66	ีบิ		P
7440-38-2	Arsenic	1.0	В		$ P^- $
7440-39-3	Barium		_		NR
7440-41-7	Beryllium	0.14	B		P
7440-43-9	Cadmium	0.06	Ū		$ \bar{P}^- $
7440-70-2	Calcium				NR
7440-47-3	Chromium	88.1	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	3.2	\overline{B}		$ _{P}$
7439-89-6	Iron				NR
7439-92-1	Lead	1.9	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	$\overline{\mathbf{U}}$		CV
7440-02-0	Nickel	2.0	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.84	$\overline{\mathbf{U}}$		P
7440-22-4	Silver	0.27	Ū		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	0.53_	บิ		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	9.9	_	*	P_
	Cyanide		_		NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE :	ID:_A8000404-CGA LE_ID:_03-03-04F					

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
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			05RB2
Lab Name: RECRA_LABN	ET_INC Co	ntract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800110
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	99.3		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		_		\overline{NR}
7440-36-0	Antimony	0.67	$\overline{\mathbf{U}}$		P
7440-38-2	Arsenic	0.93	В		P-
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.11	\overline{B}		P
7440-43-9	Cadmium	0.06	U		P
7440-70-2	Calcium_				$ N\overline{R} $
7440-47-3	Chromium	133	-		P_
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.7	\overline{B}		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.2_			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10_	Ū		CV
7440-02-0	Nickel	2.3_	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.85_	บิ		P_
7440-22-4	Silver	0.28_	U		P_
7440-23-5	Sodium				NR
7440-28-0	Thallium_	0.53_	บิ		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	18.8_	 _	*	P_
	Cyanide		_		NR
			l_		<u> </u>

Color B	efore:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color A	fter:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Comments: LAB_SAMPLE_ID:_A8000406-CGA00787 CLIENT_SAMPLE_ID:_03-03-05RB-2							
							<u> </u>

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPL	E NC)
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			06RB2
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800111
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	99.2		

_99.2

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony -	0.69	บิ		P
7440-38-2	Arsenic -	1.2	В		P_
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.11	\overline{B}		P_
7440-43-9	Cadmium	0.06	U		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	54.4_			P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	4.7_	B		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.4_	l_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		=		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	1.4_	В		P_
7440-09-7	Potassium Selenium	0.87	$\overline{\overline{v}}$		NR P
7440-22-4	Silver	0.87	ט		P -
7440-22-4	Sodium Sodium		١٠		NR
7440-23-3	Thallium	0.54	Ū		P
7440-20-0	Vanadium_	 0.54-			NR
7440-66-6	Zinc	11.6	-	*	P
	Cyanide_		-		NR
			_		

Color Bef	ore:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color Aft	er:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Comments: LAB_SAMPLE_ID:_A8000407-CGA00787CLIENT_SAMPLE_ID:_03-03-06RB-2							

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE	NO
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			07RB2
Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD800112
Level (low/med):	LOW	Date Rece:	ived: 01/02/98
	00.0		

% Solids: _99.0

			_		
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum				\overline{NR}
7440-36-0	Antimony	0.69	บิ		P
7440-38-2	Arsenic	0.91	В		$ _{\rm P}^{-} $
7440-38-2	Barium		٦		NR
7440-33-3	Beryllium	0.12	\overline{B}		P
7440-41-7	Cadmium	0.06	บ		$ _{P}^{\perp}- $
	Calcium		١		NR
7440-70-2		101	_		P
7440-47-3	Chromium_				NR
7440-48-4	Cobalt		 		P
7440-50-8	Copper	3.3_	В		NR
7439-89-6	Iron		_		I .
7439-92-1	Lead	1.6_	<u> </u> _		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		==		NR
7439-97-6	Mercury	0.10_	Ū		CV
7440-02-0	Nickel	4.0_	В		P_
7440-09-7	Potassium		<u> </u>		NR
7782-49-2	Selenium_	0.87_	ਹੋ		P_
7440-22-4	Silver	0.28_	U	l	P_
7440-23-5	Sodium		<u> </u>	l	NR
7440-28-0	Thallium_	0.55_	ਹੋ	l	P_
7440-62-2	Vanadium_		 _		NR
7440-66-6	Zinc	8.5	_	*	P_
	Cyanide		_		NR

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE :	ID:_A8000408-CGA LE_ID:_03-03-07F					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAM	1PLE	NO
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Lab Name: RECRA_LABN	ET_INC Cor	ntract: NY97-163	01RB2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800103
Level (low/med):	LOW	Date Rece	ived: 01/02/98
Solids:	_99.0		

			_		
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony -	0.96	$\overline{\mathtt{B}}$		P
7440-38-2	Arsenic -	1.2	В		P
7440-39-3	Barium -				NR
7440-41-7	Beryllium	0.12	B		P
7440-43-9	Cadmium	0.06	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	5.8	_		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.3	$\overline{\mathtt{B}}$		P
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.6			P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	1.1_	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.85_	บิ		P_
7440-22-4	Silver	0.28_	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	0.53	บิ		P_
7440-62-2	Vanadium_		_	*	NR
7440-66-6	Zinc	5.8	_	*	P_
	Cyanide		_		NR
			l	l	ll

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	B SAMPLE	ID:_A8000401-CGA LE_ID:_03-03-01E					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC S	SAMPLE	NO
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			02RB2
Lab Name: RECRA_LABN	ET_INC Con	ntract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800106
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	97.6		

			_		
CAS No.	Analyte	Concentration	С	Q	M
	7.7		_		\overline{NR}
7429-90-5	Aluminum_		=		I - I
7440-36-0	Antimony_	0.87_	В		P_
7440-38-2	Arsenic	1.7_	В		ı – ı
7440-39-3	Barium		<u> </u>		NR
7440-41-7	Beryllium	0.17_	В		P_
7440-43-9	Cadmium	0.06_	U		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	22.2	_		P_
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.9_	\overline{B}		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	3.3	_		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	1.9	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.86	$\overline{\overline{U}}$		P
7440-22-4	Silver	0.28	U		$ P^- $
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.54	Ū		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	13.2	-	*	Р
	Cyanide		-		NR
			_		
· —	·		_	· —	· — ·

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Comments: LAB_SAMPLE_ID:_A8000402-CGA00787							
		ı					

1 INORGANIC ANALYSES DATA SHEET

			03RB2
Lab Name: RECRA_LABNI	ET_INC Con	tract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD800107
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	_99.4		

					_
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.66	$\overline{\overline{\mathbf{U}}}$		P
7440-38-2	Arsenic	1.4	В		P-
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.14	\overline{B}		P
7440-43-9	Cadmium	0.06	U		P-
7440-70-2	Calcium				NR
7440-47-3	Chromium	17.7	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	2.3	\overline{B}		P
7439-89-6	Iron —				NR
7439-92-1	Lead	1.8	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.96	Ū		CV
7440-02-0	Nickel	1.5	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.83	Ū		P
7440-22-4	Silver	0.27	U		P_
7440-23-5	Sodium				NR
7440-28-0	Thallium_	0.52	Ū		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	13.5_		*	P_
	Cyanide		_		NR
			_		l

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Commen LAI CL:	B SAMPLE	ID:_A8000403-CGA LE_ID:_03-03-03F	400787 RB-2				

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
MIDDIC		110

			04RBD2
Lab Name: RECRA_LABNE	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD800109
Level (low/med):	LOW	Date Rece:	ived: 01/02/98
% Solids:	_99.3		

					_
CAS No.	Analyte	Concentration	С	Q	М
7420 00 5	77		_		$\overline{\rm NR}$
7429-90-5	Aluminum_	0.68	ਹ		P
7440-36-0	Antimony_		В		P-
7440-38-2	Arsenic	1.3_	В		NR
7440-39-3	Barium		B		
7440-41-7	Beryllium	0.13_			P_
7440-43-9	Cadmium	0.06_	U		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	93.9	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.8_	B		P_
7439-89-6	Iron	<u> </u>	_		NR
7439-92-1	Lead	2.2_	_		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10_	Ū		CV
7440-02-0	Nickel	2.0_	В		P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.86_	Ū		P_
7440-22-4	Silver	0.28	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	0.54	\overline{U}		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	12.2		*	P
	Cyanide_		_		NR

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A8000405-CG LE_ID:_03-03-04		_			

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
MIDDEC	OFFILE TIP	INO

			04RB2
Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 670	02_ SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD800108
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	99.4		

					 .
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		$ \overline{NR} $
7440-36-0	Antimony -	0.66	บิ		P
7440-38-2	Arsenic -	1.0	В		P-
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.14	B		P
7440-43-9	Cadmium	0.06	U		P
7440-70-2	Calcium				$N\overline{R}$
7440-47-3	Chromium	88.1	-		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	3.2	$\overline{\mathtt{B}}$		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.9	_		P
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	$\overline{\mathbf{U}}$		CV
7440-02-0	Nickel	2.0	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.84	บิ		P_
7440-22-4	Silver	0.27_	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	0.53	Ū		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	9.9	_	*	P_
	Cyanide		_		NR
			_		ll

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	B_SAMPLE_	ID:_A8000404-CGA LE_ID:_03-03-04F					

INORGANIC ANALYSES DATA SHEET

MYCDEC	SAMPLE	$\nabla t \Lambda$
NIDDEC	SHILLIE	INO

			05RB2
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD800110
Level (low/med):	LOW	Date Rece	ived: 01/02/98
% Solids:	_99.3		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.67	ีซ		P
7440-38-2	Arsenic	0.93	В		$ P^- $
7440-39-3	Barium —	_			NR
7440-41-7	Beryllium	0.11	$\overline{\mathtt{B}}$		P
7440-43-9	Cadmium	0.06	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium_	133			P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.7_	B		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.2_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10_	U		CV
7440-02-0	Nickel	2.3_	В		P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.85_	Ū		P_
7440-22-4	Silver	0.28_	U		P_
7440-23-5	Sodium		=		NR
7440-28-0	Thallium_	0.53_	ਧੋ		P_
7440-62-2	Vanadium_	100			NR P
7440-66-6	Zinc Cyanide	18.8_	-	^-	NR
	Cyanitue—		-		MK
			_		I

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	S_SAMPLE_	ID:_A8000406-CGA LE_ID:_03-03-05F					
				_			

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	06RB2
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 30301R
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD800111
Level (low/med):	LOW	Date Rece	ived: 01/02/98

% Solids: _99.2

CAS No.						
7440-36-0 Antimony 0.69 U P 7440-38-2 Arsenic 1.2 B P 7440-39-3 Barium 0.11 B P 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-47-3 Chromium 54.4 P 7440-48-4 Cobalt NR 7439-89-6 Iron NR 7439-92-1 Lead 1.4 P 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 1.4 B P 7440-09-7 Potassium NR NR 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-62-2 Vanadium NR 7440-66-6 Zinc 11.6 * P	CAS No.	Analyte	Concentration	C	Q	M
7440-36-0 Antimony 0.69 U P 7440-38-2 Arsenic 1.2 B P 7440-39-3 Barium 0.11 B P 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-47-3 Chromium 54.4 P 7440-48-4 Cobalt NR 7439-89-6 Iron NR 7439-92-1 Lead 1.4 P 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 1.4 B P 7440-09-7 Potassium NR NR 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-62-2 Vanadium NR 7440-66-6 Zinc 11.6 * P	7429-90-5	Aluminum		<u> </u>		\overline{NR}
7440-38-2 Arsenic 1.2 B P 7440-39-3 Barium 0.11 B P 7440-41-7 Beryllium 0.06 U P 7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-48-4 Chromium 54.4 P 7439-89-6 Copper 4.7 B P 7439-95-4 Magnesium NR 7439-95-4 Magnesium NR 7440-02-0 Nickel 1.4 B P 7440-02-0 Nickel 1.4 B P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-62-2 Vanadium NR 7440-66-6 Zinc 11.6 * P	1	_	0.69	บิ		
7440-41-7 Beryllium 0.11 B P 7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium NR 7440-47-3 Chromium 54.4 P 7440-48-4 Cobalt NR 7439-89-6 Copper 4.7 B P 7439-92-1 Lead 1.4 P 7439-95-4 Magnesium NR NR 7439-96-5 Manganese NR 7440-02-0 Nickel 1.4 B P 7440-02-0 Nickel 1.4 B P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR NR 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P	7440-38-2		1.2	В		
7440-43-9 Cadmium 0.06 U P 7440-70-2 Calcium 54.4 P 7440-48-4 Cobalt NR 7440-50-8 Copper 4.7 B P 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Magnesium NR 7440-02-0 Nickel 1.4 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P	7440-39-3			_		
7440-70-2 Calcium 54.4 NR 7440-48-4 Cobalt NR 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Magnesium NR 7439-97-6 Mercury 0.10 U 7440-02-0 Nickel 1.4 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P		_		<i>i</i> –		1 - 1
7440-47-3 Chromium 54.4 P 7440-48-4 Cobalt NR 7440-50-8 Copper 4.7 B P 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 1.4 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P		. —	0.06_	U		
7440-48-4 Cobalt NR 7439-89-6 Iron NR 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7439-97-6 Mercury 0.10 U 7440-02-0 Nickel 1.4 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P	1			-		
7440-50-8 Copper 4.7 B P 7439-89-6 Iron 1.4 P 7439-92-1 Lead 1.4 P 7439-95-4 Magnesium NR 7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 1.4 B P 7440-09-7 Potassium NR NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P	1	_	54.4_	-		I I
7439-89-6 Iron NR 7439-92-1 Lead 1.4 P 7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7440-02-0 Nickel 1.4 B 7440-09-7 Potassium NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P			4.7	B		
7439-95-4 Magnesium NR 7439-96-5 Manganese NR 7439-97-6 Mercury 0.10 U 7440-02-0 Nickel 1.4 B P 7440-09-7 Potassium NR NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-66-6 Zinc 11.6 * P	7439-89-6			_		NR
7439-96-5 Manganese	7439-92-1	Lead	1.4	_		I I
7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 1.4 B P 7440-09-7 Potassium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-62-2 Vanadium NR 7440-66-6 Zinc 11.6 * P		•		_		
7440-02-0 Nickel 1.4 B P 7440-09-7 Potassium 0.87 U P 7782-49-2 Selenium 0.28 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-62-2 Vanadium NR 7440-66-6 Zinc 11.6 * P		_		==		
7440-09-7 Potassium 0.87 U NR 7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-62-2 Vanadium NR 7440-66-6 Zinc 11.6 * P	1			l		
7782-49-2 Selenium 0.87 U P 7440-22-4 Silver 0.28 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 0.54 U P 7440-62-2 Vanadium NR 7440-66-6 Zinc 11.6 * P	1			В		
7440-22-4 Silver			0.87	ਹ		
7440-28-0 Thallium 0.54 U P NR 7440-66-6 Zinc 11.6 P	7440-22-4	_	0.28	U		
7440-62-2 Vanadium	7440-23-5			_		NR
7440-66-6 Zinc - 11.6 - * P		_	0.54_	U		ı – – I
		I . —				
NK	/440-66-6			-	_ ~	
		Cyanitue		-		MK

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color .	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE_I	D:_A8000407-CGA E_ID:_03-03-06F					<u> </u>

1 TNORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
MISDEC	SHILLID	INO

_	I	NORGANIC A	MALYSES DATA S	SHE	ET			,
Lab Name: RECRA_I	LABNET_INC	£	Contract: NY	797	-163	07R	B2	
Lab Code: RECNY_	Cas	se No.: 670	SAS No.:	_		SDG No	.: 30	0301R
Matrix (soil/wate	er): SOIL_			La	b Sampl	le ID: A	D800	112
Level (low/med):	LOW	-		Da	te Rece	eived: 0	1/02	/98
% Solids:	_99.0)						
Conce	entration	Units (ug/	L or mg/kg dry	/ W	reight):	MG/KG		
CA	AS No.	Analyte	Concentration	С	Q	М		
 	400 00 5	71		-		NR		
I		Aluminum_ Antimony	0.69	ਹ				
· · · · · · · · · · · · · · · · · · ·		Arsenic	0.91	В		P_		
I		Barium		٦		NR		
I		Beryllium	0.12	\overline{B}		P_		
I	440-43-9	Cadmium	0.06	U		P		
	440-70-2	Calcium				NR		
	440-47-3	Chromium	101	-		P		
	440-48-4	Cobalt		-		NR		
	440-50-8	Copper	3.3_	\overline{B}		P		
The state of the s	439-89-6	Iron				P_ NR		
	I	Lead	1.6	_		P_		
l l	I	Magnesium		-		NR		
	I	Manganese		_		NR		
74		Mercury	0.10	$ \overline{U} $		CV		
74	440-02-0	Nickel	4.0	В		P_		
74	440-09-7	Potassium		_		NR		
77	782-49-2	Selenium_	0.87	ਹ		P_		
	440-22-4	Silver	0.28_	U		P_ P_ NR		
	440-23-5	Sodium		_				
,	440-28-0	Thallium_	0.55_	ਹ		P_		
	440-62-2	Vanadium_		_		NR		
74	440-66-6	Zinc	8.5_	-	*	P_		
		Cyanide				NR		
Color Before: BI	ROWN	Clarit	cy Before:		-	Texture	: 1	MEDIUM
Color After: Y	ELLOW	Clarit	ty After: CLEA	AR_		Artifac	ts:	
Comments: LAB_SAMPLE_ID CLIENT SAMPLE			_					

DUPLICATES

NYSDEC SAMPLE NO.

01RB2D

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Matrix (soil/water): SOIL

Level (low/med): LOW

% Solids for Sample: _99.0 % Solids for Duplicate: _99.0

Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	М
Aluminum_ Antimony_ Arsenic Barium_ Beryllium Cadmium_		0.9566 1.2418 0.1248 0.0594	B B U	0.6669 1.4828 0.1510 0.0588	U B U	17.7_ 19.0_	-	NR P P NR P P
Calcium_ Chromium_ Cobalt_ Copper_ Iron	2.0_	5.7853	- - B	5.5310	— — В	4.5_	- - -	NR P_ NR P_ NR
Lead Magnesium Manganese	0.6	1.5983	_ _ _ _ _	1.5711	_ _ _ _ _ _	1.7_	- - - -	P NR NR
Mercury Nickel Potassium Selenium_ Silver		0.0962 1.1091 0.8517 0.2773	B	0.0962 2.0379 0.8434 0.2746	B	59.0_	- - -	CV P_ NR P_ P
Sodium	4.0_	0.5348	υ - -	0.5296	<u>U</u>	91.2	*	NR P_ NR P
Cyanide			_		_		_	NR

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

		01RB2S
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	

Matrix (soil/water): SOIL___ Level (low/med): LOW____

% Solids for Sample: _99.0

								_	
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum								_	$ \overline{NR} $
	75-125	103.3500	-	0.9566	$\overline{\mathtt{B}}$	98.070	104.4	_	P_
Arsenic	75-125	407.4767	-	1.2418	В	392.270	103.6	_	P_
Barium —	_		-					[_	NR
	75-125	10.1697	-	0.1248	\overline{B}	9.810	102.4		P_
Cadmium	75-125	9.7029	-	0.0594	U	9.810	98.9		P_
Calcium	_		-					<u> </u>	NR
Chromium	75-125	44.6700	-	5.7853	_	39.230	99.1	_	P_
balt	_	-	-		_			<u> </u>	NR
pper	75-125	55.3869	-	2.3312	B	49.030	108.2	_	P_
Iron			-					_	NR
Lead	75-125	108.8595	-	1.5983		98.070	109.4		P_
Magnesium			_		-			_	NR
Manganese			-		-			<u> </u>	NR
Mercury	75-125	0.4897	-	0.0962	Ū	0.480	102.0		CV
Nickel -	75-125	104.9975	-	1.1091	В	98.070	105.9	l_	P_
Potassium	_	_	-					_	NR
Selenium	75-125	365.4369	-	0.8517	Ū	392.270	93.2	_	P
Silver	75-125	9.9010	-	0.2773	U	9.810	100.9	-	P_
Sodium	_	_	-	1				_	NR
Thallium	75-125	413.3020		0.5348	Ū	392.270	105.4	-	P
Vanadium	_		-					_	NR
Zinc	75-125	125.9723	-	5.7615	_	98.070	122.6	I_	P_
Cyanide	_				_	· .	<u> </u>	_	NR
								_	

Comments: LAB SAMPLE ID:	A8000401MS-CGA00787	

3 BLANKS

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		uing Calib Lank (ug/L) 2		cion 3	C	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic Barium	3.4 3.5	บ	3.4_ 3.5_	Ū U	3.4_ 3.5_	บ	3.4_ 3.5_	U U	0.680	U	NR_PP
Beryllium Cadmium Calcium	0.20.3	์ บ	0.2	B U	0.2	บ บ	0.2	บ	0.040	บิ บ	P P NR
Chromium_ Cobalt	1.4	<u></u>	1.4_	<u>u</u>	1.4_	<u>u</u>	1.4_	<u></u>	0.280	Ū	P NR_
Copper Iron Lead	0.9_	<u></u>	1.3	<u>u</u>	1.3	$\overline{\overline{U}}$	1.3	<u></u>	0.188	B U	P_NR_P
Magnesium Manganese Mercury	0.2	- -	0.2	_ U	0.2	_ 		-	0.100	_ U	NR_ NR_ CV
Nickel Potassium	1.3	บ	1.3	Ū	1.3_	Ū	1.3_	<u></u>	0.260	U	P_ NR_
Selenium_ Silver Sodium	4.3	U	4.3_ 1.4_	U	4.3 1.4	Ū	1.4_	Ū U		В	P P NR
Thallium_ Vanadium_ Zinc	2.7	ਹ	2.7	<u>u</u>	2.7_	U	2.7_	บิ บิ	0.540	ַ <u></u>	P_ NR_ P
Cyanide		-				-		_		_	NR_

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SD0	3 No.:	30301R
Prep	paratio	n Blank	Matrix (soil/water):				
Prep	paratio	n Blank	Concentration Units (ug/	L or mg/kg):		

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	ini Bl	ing Calib Lank (ug/L) 2	rat) C	tion 3	С	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic_ rium_ ryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide			3.4 3.5 0.2 0.3 1.4 1.2 1.3 1.3 2.7 0.7		1.3		1.3				NR

3 BLANKS

Lab	Name:	RECRA_LABNET	_INC	Contract:	NY97-163		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG	No.:	30301R
Prep	aratio	on Blank Matr	ix (soil/water):				
Pren	aratio	on Blank Conc	entration Units (ug	/L or ma/ka) <u>.</u>		

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	uing Calib Lank (ug/L) 2	tion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic_ Barium Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_ Cyanide_			4.3					NR NR NR NR NR NR NR NR NR NR NR NR NR N

SAMPLE DATA PACKAGE



SDG NARRATIVE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-01RB-2

03-03-01RB-2 MATRIX DUPLICATE

03-03-01RB-2 MATRIX SPIKE

03-03-02RB-2 03-03-03RB-2 03-03-04RB-2 03-03-04RBD-2 03-03-05RB-2 03-03-06RB-2 03-03-07RB-2

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.



The relative percent difference between results for sample 03-03-01RB-2 and the Matrix Duplicate performed on this sample exceeded the quality control limits for Zinc.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

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CHAIN OF CUSTODY DOCUMENTATION



RECRA LABNET, a division of Recra Environmental, Inc.	T, a divisi	on of Recra Environ	mental,	Inc.	CHAIN OF CUSTODY RECORD
PROJECT NO SOLITION 10	SITE NAME Northis	Northisp Grunnan Act 3			
SAMPLERS (SIGNATURE)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		NO OF CON- TAINERS	Trigological	REMARKS
¥		STATION LOCATION			
0011 1/18/11	1 03-03	07-03-01RB-2	ĺ		13 day Turnerous Tome
	/ 03-03	03-03-02RB-2	_	3	
	/ 63-03	63-03-03RB-2	1	\frac{1}{2}	
3	/ 03-03	03-03-04RB-2	_		
>	1 03-03	03-03-04480-2	_		
^	$\overline{}$	03-03-05RB-2)	/	
^		03-03-06 88-2	_	7	
) >	1 03-0	03-03-0788-2		7	>
Medwol J. Hort	DATE TIME	RECEIVED BY (SIGNATURE)	Œ	RELINQUISHED BY (SIGNATURE)	DATE/TIME RECEIVED BY (SIGNATURE)
JRE)	DATE/TIME	RECEIVED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)	DATE/TIME RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED FOR LABORATORY BY	ORY BY	DATE/TIME REMARKS	1
Distribution: O	Distribution: Original accompanies shipment	es shipment copy to coordinator field files	or field files	0000	
			90		



a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

January 20, 1998

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding this analysis is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

SDG #: 303083 Matrix: Soil

Samples Received: 12/19/97 Sample Date: 12/17/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

andace L. Jax

Candace L. Fox Program Manager

Kenneth E. Kasperek Laboratory Director

CLF/KEK/amk

Enclosure: Diskette

cc: Ms. Kathie Easom, Ph.D.

Radian International LLC 8501 N. Mopac Blvd. Austin, TX 78759

I.D. #A97-4747 #NY7A6702

This report contains <u>309</u> pages, which are individually numbered.

000001

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications:

03-03-03RW-2 03-03-09RW-2 03-03-10RW-2

METHODOLOGY

The specific methodology employed in obtaining the enclosed analytical results are indicated on the specific data table. The method number presented refers to the following reference:

• 1995 New York State Analytical Services Protocol.

COMMENTS

Comments pertain to data on one or more pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

Results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

Preliminary results were given via facsimile to Mr. Steve Falatko of Radian on December 23, 1997 by Recra personnel.



METALS DATA 000000

Sample identifications have been abbreviated due to the character limitations of the processing software.

The samples were re-digested and re-analyzed for Silver due to non-compliant Laboratory QC. All results were acceptable in the re-digestion.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E Kasperek Laboratory Director

Date

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER	LABORATORY		AN	ALYTICAL	REQUIRE	MENTS	
SAMPLE ID	SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
03-03-03RW-2	A7474701	ı	-	1	-	ASP95	1
03-03-09RW-2	A7474702	1	-	ı	-	ASP95	1
03-03-10RW-2	A7474703	-	-	-	-	ASP95	-

NYSDEC-1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-03RW-2	SOIL	PP METALS	12/19/97	12/22,24/97	12/21,22,27/97
03-03-09RW-2	SOIL	PP METALS	12/19/97	12/22,24/97	12/21,22,27/97
03-03-10RW-2	SOIL	PP METALS	12/19/97	12/22,24/97	12/21,22,27/97

NYSDEC-5

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
03-03-03RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-09RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-10RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED

NYSDEC-7

INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Jefined Inorganic Data Qualifiers:

- B Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.
- Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N Indicates spike sample recovery is not within the control limits.
- K Indicates the post digestion spike recovery is not within the control limits.
- Indicates duplicate analysis is not within the control limits.
- S Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- M Indicates duplicate injection results exceeded control limits.
- Post digestion spike for Furnace AA analysis is out of control limits
 (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference. -



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: RECRA_LABNET_INC	Contract: NY97-163	
Lab Code: RECNY_ Case No.: 6702_	SAS No.: SDG	No.(:303083)
Protocol Version: asp-95		
NYSDEC Sample No. _BLKSPK2BLKSPK103RW-209RW-210RW-2	Lab Sample IDAD721353 _AD721352 _AD721349 _AD721350 _AD721351	
· — — — — — — — — — — — — — — — — — — —		
Were ICP interelement corrections app.	lied ? Y	res/No YES
Were ICP background corrections applied		res/No YES
If yes - were raw data generated application of background correct		es/No NO_
Comments:		
I certify that this data package is in conditions of the Protocol, both techn other than the conditions detailed about this hardcopy data package and in this hardcopy data package and in the conditions detailed by the designee, as verified by the following	nically and for completen ove. Release of the data the computer-readable dat e Laboratory Manager or t	less, for contained a submitted
Signature: Stagenek	Name: Kenneth_EKas	perek
Date: //so/98	Title: Laboratory_Dir	ector
	COVER PAGE - IN	

INORGANIC ANALYSES DATA SHEET

NYSDEC S	AMPLE	NO
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Lab	Name:	RECRA_LABNET	INC	Contract: NY97-163	03RW-2	1
Lab	Code:	RECNY_	Case No.: 6702	_ SAS No.:	SDG No.: 303083	

Matrix (soil/water): SOIL

Lab Sample ID: AD721349

Level (low/med): LOW__

Date Received: 12/19/97

% Solids:

83.4

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-70-2 7440-47-3 7440-48-4 7440-50-8	Analyte Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper	Concentration	C - IUU IB IB	Q 	M NR P NR P NR P NR P
7440-30-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7 7782-49-2	Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium		UB		NR P NR NR CV P NR
7440-22-4 7440-23-5 7440-28-0 7440-62-2 7440-66-6	SilverSodium Thallium_ Vanadium_ Zinc Cyanide		<u>п</u> — —		P NR P NR P NR

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CL:	B_SAMPLE_I IENT_SAMPI	ID:_A7474701-CGA LE_ID:_03-03-03I _NUMBER:_AD72167	RW-2				

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO

			09RW-2
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-16	53
Lab Code: RECNY_	Case No.: 670	02_ SAS No.:	SDG No.: 303083
Matrix (soil/water):	SOIL_	Lab S	Sample ID: AD721350
Level (low/med):	LOW	Date	Received: 12/19/97
	0.7.0		

% Solids: _97.2

CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum_	1.4	 U		NR P
7440-36-0	Antimony_				P -
7440-38-2	Arsenic_	1.2_	U		$ _{NR}^{P} $
7440-39-3	Barium	0.20	Ū		P
7440-41-7	Beryllium Cadmium	0.32	В		P-
7440-43-9	Calcium_		Δ.		$ \bar{n}_{R} $
7440-70-2	Chromium_	132	-	l ———	P
7440-47-3	Cobalt		-		$ \bar{N}_{R} $
7440-50-8	Copper Copper	1.9	B		P
7439-89-6	Iron		-		NR
7439-92-1	Lead	0.86	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	ਹ		CV
7440-02-0	Nickel -	0.86	В		P
7440-09-7	Potassium		_		NR
7782-49-2	Selenium	1.00	ਹ		P
7440-22-4	Silver	0.41	U		$_{\rm P}^{-}$
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	Ū		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	8.7	_		P_
	Cyanide		_		NR

Color Bef	ore: B	ROWN	Clarity	Before:		Texture:	MEDIUM
Color Aft	er: Y	TELLOW	Clarity	After:	CLEAR_	Artifacts:	
$\mathtt{CLI}\overline{\mathtt{E}}\mathtt{NT}$	MPLE_ID '_SAMPLE	0:_A7474702-CGA :_ID:_03-03-09R :UMBER:_AD72167	W-2				

1 INORGANIC ANALYSES DATA SHEET

MVCDEC	SAMPLE	NO
NIODEC	SHIPLE	INO

Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	10RW-2
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 303083
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721351
Level (low/med):	LOW	Date Rece	ived: 12/19/97

% Solids: _96.3

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5 7440-36-0 7440-38-2	Aluminum_ Antimony_ Arsenic_	1.41.2	_ บ บ		NR P_ P_
7440-39-3 7440-41-7 7440-43-9 7440-70-2	Barium Beryllium Cadmium Calcium	0.21_ 0.78_	Ū B		NR P_ P_ NR
7440-47-3 7440-48-4 7440-50-8	Chromium_ Cobalt Copper	11.7	- B		P_NR P
7439-89-6 7439-92-1 7439-95-4	Iron Lead Magnesium	1.1_			NR P NR
7439-96-5 7439-97-6 7440-02-0 7440-09-7	Manganese Mercury Nickel Potassium	0.10_ 0.82_	Ū B		NR CV P_ NR
7440-03-7 7782-49-2 7440-22-4 7440-23-5	Selenium_ Silver Sodium	1.0_ 0.41_	Ū U		P_ P_ NR
7440-28-0 7440-62-2 7440-66-6	Thallium_ Vanadium_ Zinc_ Cyanide	1.3	_ _ _		P_NRP_NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CL]	B_SAMPLE_I ENT_SAMPI	ID:_A7474703-CGA LE_ID:_03-03-10F _NUMBER:_AD72168	RW-2				

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

		BLKSPK1
Lab Name: RECRA LABNET INC	Contract: NY97-163	

Matrix (soil/water): SOIL____ Level (low/med): LOW____

% Solids for Sample: 100.0

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

			_		_				
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum			_		\Box			_	\overline{NR}
Antimony	75-125	91.7040	_	1.3400	$\overline{\overline{U}}$	100.000	91.7	-	P
Arsenic	75-125	363.6260	_	1.2000	U	400.000	90.9	_	$ P^- $
Barium	'		_					_	NR
Beryllium	75-125	9.2560	_	0.2000	$\overline{\mathtt{U}}$	10.000	92.6	_	P
Cadmium	75-125	9.5400	_	0.1000	U	10.000	95.4	_	P_
Calcium	_		_						NR
Chromium	75-125	36.8380	_	0.2000	Ū	40.000	92.1	_	P_
alt	_		_		_			_	NR
opper_	75-125	47.5720	_	0.2000	$\overline{\mathtt{U}}$	50.000	95.1	_	P
Iron			_		_			_	NR
Lead	75-125_	96.3000_		0.5000	$\overline{\mathtt{U}}$	100.000	96.3	_	P_
Magnesium			_		_			_	NR
Manganese			_		_			_	NR
Mercury	75-125_	0.5120_	_	0.1000	ਹ	0.500	102.4	_	CV
Nickel	75-125_	93.8580_	_	0.3000	U	100.000	93.9	_	P_
Potassium			_		<u></u>				NR
Selenium_	75-125_	356.5700	_	0.9800	Ū	400.000	89.1	_	P_
Silver	75-125_	9.4300_	_	0.4000	U	10.000	94.3	_	P_
Sodium			_	1 2200	l _Ū	400 000	05.0	-	NR
Thallium_	75-125_	379.9280_	_	1.2200	١٠	400.000	95.0	-	P_ NR
Vanadium_	75-125	93.0760	_	0.2000	Ū	100.000	93.1	-	P
Zinc Cyanide	1,2-172		_		١			-	NR
Cyanitue			_		-			-	1111
1	l	ll	_	l	1 —			I	ا ــــــــــــــــــــــــــــــــــــ

Co	mm	an	+	C	
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LAB	SAMPLE	ID:	A7B1126101-CGA00787	

CLIENT SAMPLE ID: MATRIX SPIKE_BLANK_

REDIGESTION NUMBER: AD721681

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

					BTK25K7
Lab	Name:	RECRA LABI	ET INC.	Contract: NY97-163	
		_			

Matrix (soil/water): SOIL

Level (low/med): LOW

% Solids for Sample: 100.0

					_			_	
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	м
Aluminum								-	$ \overline{NR} $
Antimony	75-125	82.5540	-	1.3400	ਹ	100.000	82.6	_	P
Arsenic	75-125	356.7860	_	1.2000	U	400.000	89.2		P-
Barium -	_		_					-	NR
Beryllium	75-125	9.0560	_	0.2000	Ū	10.000	90.6	-	P
Cadmium	75-125	9.2960	_	0.1000	U	10.000	93.0	-	P
Calcium			_		_				NR
Chromium_	75-125	36.1020	_	0.2000	℧	40.000	90.3	_	P_
Cobalt			_		_			_	N.
Copper	75-125_	46.6720_	_	0.2000	Ū	50.000	93.3	_	P
Iron			_		<u> </u>			_	NR
Lead	75-125_	93.9580	_	0.5000	บิ	100.000	94.0	_	P_
Magnesium			_		_			_	NR
Manganese			_		_			_	NR
Mercury	75-125_	0.5120	_	0.1000		0.500	102.4	l_	CV
Nickel	75-125_	91.6200	_	0.3000	U	100.000	91.6	_	P_
Potassium			_		_			_	NR
Selenium_	75-125_	349.1740_	_	0.9800		400.000	87.3	_	P_
Silver	75-125_	9.2340_	_	0.4000	Ū	10.000	92.3	_	P_
Sodium	705		_	1 0000	==			_	NR
Thallium_	75-125_	372.2720_		1.2200	$\overline{\mathbf{U}}$	400.000	93.1	_	P_
Vanadium_	75 105	00 5000	 —	0.2000	ਹ	100 000		-	NR
Zinc	75-125_	90.5980_	_	0.2000	١٠	100.000	90.6	-	P
Cyanide			-		-				NR
l		l[l	I			I	اا

~ -				_	_	
Co	mr	nΔ	n	т	_	
\sim	LILL	\sim		_	_	

LAB_SAI	MPLE_ID:	_A7B	1126102	-CGA0(787					
CLIENT	SAMPLE	ĪD:	$\mathtt{MATRIX}_{}$	SPIKE	BLANK	DUP				
REDIGE	TION NO	MBER	: AD721	682	_					

3 BLANKS

Lab	Name:	RECRA LABNET	INC.	Contract:	NY97-163
		- -			

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		uing Calib Lank (ug/L) 2		cion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic rium	6.7 6.0	ָּ ֓ ֓ ֓	6.7_	Ū U	6.7_ 6.0_	บ	6.7_ 6.0_	บี บ	1.340 U	NR_P_P_NR
ryllium Cadmium Calcium	1.00.5	ָ ָ ָ ָ ט	1.0_0.5_	ซิ บ	1.0 0.5	ת ת	1.0_0.5_	 ט	0.200 U	P P NR
Chromium_ Cobalt	1.0	ָ 	1.0_	ਹ	1.0_	บิ	1.0_	บิ	0.200	P_NR
Copper	1.0	ט	1.0_	ีบิ	1.1_	B	1.0_	B	0.200	P NR_
Lead Magnesium	2.5	<u></u>	2.5_	<u></u>	2.5_	<u>u</u>	2.5_	U -	0.500 Ū	P NR
Manganese Mercury Nickel	0.2	Ū B	0.2_ 1.5_	บ บ	0.2_ 1.5_	ט ט	1.5_	_ ਹ	0.100 U	NR_CV_P_
Potassium Selenium_ Silver	4.9 2.0		4.9_ 2.0_	Ū U	4.9_ 2.0_	Ū U	4.9	บี บ	0.980 U	NR_P_P_
Sodium Thallium_ Vanadium	6.1	ַ	6.1_	ਹ	6.1_	ਹ	6.1_	ਹ	1.220 Ū	NR_P_NR
Zinc Cyanide	1.0	ប -	1.0_	<u>u</u>	1.0_	<u>u</u> -	8.1_	B -	0.200 Ū	P NR_

3 BLANKS

Lab Name:	RECRA_LABNET_	_INC	Contract: NY97-163	
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
Preparati	ion Blank Matri	x (soil/water):		
Preparati	ion Blank Conce	entration Units (ug/	'L or mg/kg):	

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	ini Bi	uing Calibr lank (ug/L) 2	rat C	tion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic_ Barium Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead Magnesium Manganese Mercury_ Nickel Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			6.76.0	עט עט ש ע עט עט עט א פון עט עט עט א פון ע			2.0			NR P P NF P NR P NR P NR P NR P NR P NR

SAMPLE DATA PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications:

03-03-03RW-2 03-03-09RW-2 03-03-10RW-2

METHODOLOGY

The specific methodology employed in obtaining the enclosed analytical results are indicated on the specific data table. The method number presented refers to the following reference:

1995 New York State Analytical Services Protocol.

COMMENTS

Comments pertain to data on one or more pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

Results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

Preliminary results were given via facsimile to Mr. Steve Falatko of Radian on December 23, 1997 by Recra personnel.



METALS DATA COOCES

Sample identifications have been abbreviated due to the character limitations of the processing software.

The samples were re-digested and re-analyzed for Silver due to non-compliant Laboratory QC. All results were acceptable in the re-digestion.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.



CHAIN OF CUSTODY DOCUMENTATION



DIAN

Chain of Custody Record

Return Original to Originator

Project No.	٥		Project Name	Name		\vdash			ANALYSES		
80111	1111		NaR	NORTH ROP GUMMAN	n AN						
Samplers (Name/Signature)	mplers (Name/Signa	ignature)	1 Juffory) Jaffang le Loure			574			Comments (Type of Container,	s iiner,
Field Number	Colle	Collection ate Time		Sample Name	No. of Bottles	$\overline{}$	SA V			Special Preservation, Special Handling, etc.)	ation, g, etc.)
16'0EPIH	16'0ETH 12-9-91	1515	03.03	03.03-03RW-L		×			Soic -	250 ml GLMSS	JAR
16/2017# 12-17-97 1000	12-17-97	1000	03-03	03-03-09RW-2		×			3 DAY	y TURNAROUND	
IL DEPTH	16'DEPTH 12-17-97 1515	1515	\rightarrow	03-03-10 EW-2	_	X			7	→	
	12-17-97 1751	175/	\rightarrow	03-03- W-1	-	×			WATER	2-3202. JAR	73
	12-17-91	12-17-97 1758		03-03- W-2	~	×			ź	NI TRIC ACID PRESERVATION	MOLTAVA
	12-17-91 1759	1759	03-03-	- w-3	-	×			48	48 HOUR TURN ARDUND	△ N MIC
	12-17-97 1802	1802	08-03-	4-m-4	_	×			\rightarrow	→	¥
Relinquished by: (Name/Signature)	ned by: (/	Vame/Sig	nature)	Date/Time	Received by: (Name/Signature)	me/Sign	sature)	Date/Time	Time	Carrier: (In ps. Jon, Fed X, UPS, etc.)	d X, UPS, etc.)
Jest L	JERT LONE / GABAGA Land	Alylar	X cond	5181/1681-21							
Relinquist	Relinquished by: (Name/Signature)	Name/Sig	nature)	Date/Time	Received by: (Na	(Name/Signature)	ature)	Date	Date/Time	Carrier: (In person, Fed X, UPS, etc.)	od X, UPS, etc.)
Relinquished by: (Mame/Signature)	ed by: (/	Vame/Sig	nature)	Dats/Time	Received by/ Na	Vame/Signature)	hature)	Date/Li	Date/Time	Carrier: (In person, Fed X, UPS, etc.)	d X, UPS, etc.)
General (General Comments		>EX [a	FEDEX TRACKING A	No: 470	00	4700 677	66			

Distribution: Original: Accompanies Samples (Return to Originator), Yellow Copy: Field Crew, Pink Copy: Laboratory Files

METALS DATA



INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE N	v.	,
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			03RW-2
Lab Name: RECRA_LABNE	ET_INC Cont	ract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721349
Level (low/med):	LOW	Date Recei	ved: 12/19/97
% Solids:	_83.4		

CAS No.	Analyte	Concentration	С	Q	м
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony -	1.6	บิ		P
7440-38-2	Arsenic	${1.4}^{-}$	U		P_
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.46	\overline{B}		P
7440-43-9	Cadmium	1.8	_		P_
7440-70-2	Calcium_				NR
7440-47-3	Chromium_	159_	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.2_	B		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.7_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11_	Ū		CV
7440-02-0	Nickel	1.8_	В		P_
7440-09-7	Potassium		ਹ		NR
7782-49-2	Selenium_	1.2_	-		P P
7440-22-4 7440-23-5	Silver	0.48_	U		NR
7440-23-5	Thallium	1.4	Ū		P
7440-28-0	Vanadium	1.4_	الا		NR
7440-62-2	Zinc	15.2	-		P
/ 110 00 0	Cyanide		-		NR
			-		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CLI	_SAMPLE_I ENT_SAMPI	ID:_A7474701-CGA LE_ID:_03-03-03F _NUMBER:_AD72167	₩-2	-			

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABNI	ET_INC Con	tract: NY97-163	09RW-2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721350
Level (low/med):	LOW	Date Rece	ived: 12/19/97
% Solids:	_97.2		

			_		 .
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		$\overline{\rm NR}$
7440-36-0	Antimony	1.4	ਹ		P
7440-38-2	Arsenic	1.2	U		$ P^- $
7440-39-3	Barium —		٦		NR
7440-41-7	Beryllium	0.20	ਹ		P
7440-43-9	Cadmium	0.32	В		$ P^- $
7440-70-2	Calcium				NR
7440-47-3	Chromium	132	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	1.9	B		P
7439-89-6	Iron	_ 	-		NR
7439-92-1	Lead	0.86	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	ีซิ		CV
7440-02-0	Nickel —	0.86	В		P
7440-02-0	Potassium		В		NR
7782-49-2	Selenium	1.00	ਹ	-	P
7440-22-4	Silver	0.41	U		$ P^- $
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	ਹ		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	8.7	-		P
-110 00 0	Cyanide	·'-	-		NR

I			I	l	ı —

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CL:	B_SAMPLE_1 IENT_SAMPI	ID:_A7474702-CGA LE_ID:_03-03-09E _NUMBER:_AD72167	RW-2				

INORGANIC ANALYSES DATA SHEET

			10RW-2
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 303083
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721351
Level (low/med):	LOW	Date Rece	ived: 12/19/97
e solide.	96 3		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	1.4	ਹਿ		P
7440-38-2	Arsenic _	1.2	Ū		P-
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	ਹ		P
7440-43-9	Cadmium	0.78	B		P-
7440-70-2	Calcium				NR
7440-47-3	Chromium	147	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	1.7	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	ਹ		CV
7440-02-0	Nickel -	0.82	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	ีซิ	l	P
7440-22-4	Silver	0.41	Ū		P_
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	1.3	บิ		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	7.0	-		P
	Cyanide		-		NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
CL:	B_SAMPLE_I ENT_SAMPI	ID:_A7474703-CGA LE_ID:_03-03-10F _NUMBER:_AD72168	₹W-2				

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initia True	al Calibra Found	ation %R(1)	True	Continuir Found	ng Cali %R(1)	ibration Found	%R(1)	М
Aluminum_ Antimony	500.0	469.56	93.9	500.0	469.98	94.0	471.43	94.3	NR P
Arsenic Barium	500.0	489.40	_97.9	500.0	491.30	_98.3	<u>492.75</u>	_98.6	P_ NR
Beryllium	500.0	489.71	97.9	500.0	489.59	97.9	490.39	98.1	P
Cadmium Calcium	500.0	481.23	_96.2	500.0	480.86	_96.2	<u>484.58</u>	_96.9	P NR
Chromium_ Cobalt	500.0	476.61	_95.3	500.0	475.82	_95.2	475.10	_95.0	P_ NR
Copper	500.0	498.12	_99.6	500.0	498.16	_99.6	499.15	_99.8	P_NR
Lead Magnesium	500.0	486.44	97.3	500.0	489.77	98.0	489.83	_98.0	P_ NR
Manganese						1000			NR
Mercury	8.0	8.10	101.2	8.0	8.00	100.0	8.10	101.2	CV
Nickel Potassium	500.0	<u>47</u> 6.99	_95.4	500.0	476.52	_95.3	477.22	_95.4	P_NR
Selenium_	500.0	485.42	_97.1	500.0	490.67	_98.1	491.07	_98.2	P_
Silver Sodium	500.0	521.90	104.4	500.0	498.78	_99.8	504.54	100.9	P NR
Thallium_ Vanadium	500.0	471.89	$-9\overline{4.4}$	500.0	473.08	_94.6	475.02	_95.0	P_NR
Zinc Cyanide	500.0	470.40	_94.1	500.0	468.23	_93.6	468.08	_93.6	P_ NR

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

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab N	ame:	RECRA	LABNET	INC.	Contract:	NY97-163
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Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

				T					
	Initia	al Calibr			Continui				
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum_]						$ \overline{NR} $
Antimony_				500.0	473.14	94.6		_95.1	P_
Arsenic				500.0	495.85	99.2	496.40	_99.3	P_
Barium —									$ N\overline{R} $
Beryllium				500.0	488.30	97.7	490.17	98.0	P
dmium				500.0	484.61	96.9	487.12	97.4	P
lcium						-			NR
Chromium				500.0	473.00	94.6	474.96	95.0	P
Cobalt -					_	-		_	NR
Copper				500.0	500.31	100.1	503.91	100.8	l P
Iron —							_		NR
Lead				500.0	487.98	97.6	491.71	98.3	P
Magnesium			 					_	NR
Manganese									NR
Mercury									NR
Nickel —				500.0	475.63	95.1	477.55	95.5	P
Potassium						-"		-"	NR
Selenium				500.0	491.20	98.2	493.47	98.7	P
Silver				500.0	509.93	102.0	503.37	$\frac{1}{100.7}$	P
Sodium								100.7	NR
Thallium				500.0	475.64	95.1	483.61	96.7	P
Vanadium						-'''		-'"	NR
Zinc				500.0	465.66	93.1	467.55	93.5	P
Cyanide						-'''		-""	NR
Cyanitae_									'''
		l				I			I I I

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

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab	Name:	RECRA LABNET	INC.	Contract:	NY97-163

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initia True	l Calibr Found	True	Continui: Found	ng Cali %R(1)		%R(1)	M
Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide			500.0	512.88	102.6	507.54	101.5	NR NR NR NR NR NR NR NR NR NR NR NR NR N

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

2B CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET_II	NC	Contract: Nig/-	163
Lab Code: RECNY_ Ca	ase No.: 6702_	SAS No.:	SDG No.: 303083
AA CRDL Standard Source:	INORG.VENT		
ICP CRDI. Standard Source	: VHG		

	CRDL St	andard fo	r AA		CRDL Star	ndard f	or ICP Final	-
Analyte	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120.0	87.96	73.3	86.52	72.
Arsenic				20.0	17.84	89.2	18.72	93.
Barium								
Beryllium				10.0	9.82	98.2	9.90	99.
dmium				10.0	9.92	99.2	9.95	99.
alcium						_		
Chromium				20.0	19.94	99.7	19.39	97.
Cobalt -						-		
Copper				50.0	48.26	96.5	47.10	94.
Iron —						-		_
Lead				6.0	0.37	6.2	-0.18	-3.
Magnesium								
Manganese								
Mercury	0.2	0.19	95.0					
Nickel —			_	80.0	79.34	99.2	78.84	98.
Potassium				I—				_
Selenium				10.0	7.26	72.6	8.34	83.
Silver -								
Sodium								
Thallium_				20.0	16.87	84.4	15.99	80.
Vanadium								
Zinc -				40.0	66.01	165.0	42.92	107.

2B CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET_	INC	Contract: NY97-16	3
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
AA CRDL Standard Source	e: INORG.VENT		
ICP CRDL Standard Source	ce: VHG		

	CRDL St	andard fo	r AA		CRDL Star	ndard i		
		_			Initial		Final	
Analyte	True	Found	%R	True	Found	%R	Found	
Aluminum								_
Antimony								
Arsenic -								_
Barium —								_
Beryllium								_
Cadmium								_
Calcium								
Chromium								_
Cobalt								_
Copper								
Iron —								_
Lead								_
Magnesium								_
Manganese								_
Mercury								_
Nickel								_
Potassium								_
Selenium								
Silver				20.0	9.94	49.7	9.99	_
Sodium						_		
Thallium								_
Vanadium _								_
Zinc -								_

2B CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LA	BNET_INC	Contract: NY97-1	63
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
AA CRDL Standard S	ource: INORG.VENT		
ICP CRDL Standard	Source: VHG		

Analyte			r AA		CRDL Sta		Final	
I	True	Found	%R	True	Found	%R	Found	%R
Aluminum	_ _							
Antimony								l
Arsenic						.		l
Barium —						_		l
Beryllium					l	_		ĺ
dmium						.		i
lcium						_		l
Chromium								l
Cobalt -						_		l
Copper				<u> </u>		.		l
Iron						.		
Lead						_		l
Magnesium						_		
Manganese						-		l
Mercury						-		
Nickel						.		
Potassium						-		
Selenium_						.		
Silver				20.0		-	9.92	49
Sodium						-		l
Thallium_						-		l ——
Vanadium_ Zinc						-		l ——

3 BLANKS

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		ling Calib Lank (ug/L) 2		cion 3	С	Prepa- ration Blank	С	м
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium	6.76.0	บ บ	6.7	ט ט	6.7	นิ	6.7 6.0 1.0	ט ט	1.340 1.200 0.200	น	NR_P_NI_P
Cadmium Calcium Chromium_	0.5	ָ ק	0.5	Ū	0.5_	ָ ק	0.5	ט	0.200	ם ק	P NR_ P
Cobalt Copper Iron Lead	1.0 2.5	<u>ប</u>	1.0	 <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>	1.1_		1.0_	$\overline{\overline{B}}$	0.200	์ บิ	NR_PNR_P
Magnesium Manganese Mercury Nickel	0.2 3.2	— Т В	0.2_ 1.5_	_ บี บ	0.2	_ บี	1.5_	_ _ 	0.100 0.300	_ บิ	NR_ NR_ CV_ P_
Potassium Selenium_ Silver Sodium	4.9 2.0	<u>u</u>	4.9_ 2.0_	Ū U	4.9_ 2.0_	ַ ָ ע	4.9 2.0_	Ū U	0.980	ם ט –	NR_P_NR_NR_
Thallium_ Vanadium_ Zinc_ Cyanide_	6.11.0	<u>u</u> u	6.1_	<u>u</u>	6.1_	<u>u</u>	8.1	Ū B −	1.220	บิ บิ –	P NR NR

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163			
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	S	DG	No.:	303083
Prep	aratio	on Blank	Matrix (soil/water):					
Prep	aratio	n Blank	Concentration Units (ug/I	L or mg/kg):			

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	inu Bl C	ing Calibr ank (ug/L) 2	cat	tion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic_ riumryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			-1.5 -1.5 -1.4		2.0					NR

ICP INTERFERENCE CHECK SAMPLE

Lab Name:	RECRA_LABNET	INC	Contract:	NY97-16	3	
Lab Code:	RECNY_	Case No.: 6702_	SAS No: _		SDG No.:	303083
ICP ID Num	ber: SUPERTRA	ΛCΞ	ICS Source	: VHG		

Analyte	Sol.	rue Sol. AB	In: Sol. A	itial Found Sol. AB	d %R	Sol.	Final Found Sol. AB	d %R
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc		1000			103.2		1076.4	107.6

4 ICP INTERFERENCE CHECK SAMPLE

Lab	Name:	RECRA_LABNET	_INC	Contract:	NY97-16	3	
Lab	Code:	RECNY_	Case No.: 6702_	SAS No: _		SDG No.:	303083
TCP	ID Numb	per: SUPERTRA	CE	ICS Source	: VHG		

Analyte	Sol. A	rue Sol. AB	In: Sol. A	itial Four Sol. AB	nd %R	Sol.	Final Found Sol. AB	d %R
Aluminum_Antimony_Arsenic_Barium_Beryllium Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium Manganese Mercury_Nickel_Potassium Selenium_Silver_Sodium_Thallium_Vanadium_Zinc_		1000					1019.6	102.0

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163___

ICP ID Number: SUPERTRACE-2 ICS Source: 'HG_____

	To Sol.	cue Sol.	Ini Sol.	itial Found	i	Final Found Sol. Sol.			
Analyte	A	AB	A	AB	%R	A	AB	%R	
Aluminum_									
Antimony_	0	1000	8	918.7	91.9	7	929.2	92.9	
Arsenic	0	1000	0	974.1	_97.4	1	973.2	97.3	
Barium								-	
Beryllium	0	500	0	477.5	95.5	0	475.6	95.1	
Cadmium	0	1000	9	903.8	_90.4	9	911.7	91.2	
Calcium								-	
Chromium_	0	500	17	477.4	95.5	18	473.4	94.7	
Cobalt									
Copper	0	500	3	542.9	108.6	2	543.4	108.7	
Iron								l	
Lead	0	1000		899.2	89.9		904.2	90.4	
Magnesium									
Manganese									
Mercury									
Nickel	0	1000	2	905.8	90.6	2	902.6	_90.3	
Potassium									
Selenium_	0	1000	7	938.5	_93.8	3	939.3	_93.9	
Silver									
Sodium									
Thallium_	0	1000	16	878.0	_87.8	17	887.9	_88.8	
Vanadium_									
Zinc	0	1000	6	819.4	_81.9	7	814.0	_81.4	
ll									

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

							BLKSPK1
Lab	Name:	RECRA_	LABNET_	INC	Contract:	NY97-163	

Matrix (soil/water): SOIL__ Level (low/med): LOW___

% Solids for Sample: 100.0

									$\overline{}$
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	C	Spike Added (SA)	%R 	Q -	M
Aluminum_			_		_			_	NR
Antimony_	75-125_	91.7040_	_	1.3400	Ū	100.000	91.7	_	P_
Arsenic	75-125_	363.6260_	_	1.2000	U	400.000	90.9		P_
Barium			_		=			_	NR
Beryllium	75-125_	9.2560_	_	0.2000	Ū	10.000	92.6	 _	P_
Cadmium	75-125_	9.5400_	_	0.1000	U	10.000	95.4		P_
Calcium			_		_				NR
Chromium_	75-125_	36.8380_	_	0.2000	$\overline{\mathtt{U}}$	40.000	92.1	_	P_
balt			_		_			 _	NR
pper	75-125_	47.5720_	_	0.2000	Ū	50.000	95.1	 _	P_
Iron			_		_			 _	NR
Lead	75-125_	96.3000	_	0.5000	บิ	100.000	96.3	 _	P_
Magnesium			_		_				NR
Manganese			_	<u> </u>	_			 _	NR
Mercury	75-125_	0.5120_	_	0.1000	Ū	0.500	102.4	 _	CV
Nickel	75-125_	93.8580_	_	0.3000	U	100.000	93.9	_	P_
Potassium			_					_	NR
Selenium_	75-125_	356.5700		0.9800	$\overline{\mathtt{U}}$	400.000	89.1	_	P
Silver	75-125_	9.4300_	_	0.4000	U	10.000	94.3	_	P_
Sodium			_		l			_	NR
Thallium_	75-125_	379.9280_	_	1.2200	ਹ	400.000	95.0	_	P_
Vanadium_			_		<u> </u>			_	NR
Zinc	75-125_	93.0760_	_	0.2000	ਹ	100.000	93.1	_	P_
Cyanide			_		 _			_	NR
			_		l_			 	l

Cc	 	-	_	

CLIENT SAMPLE ID: MATRIX SPIKE BLANK	
REDIGESTION_NUMBER:_AD721681	

5A SPIKE SAMPLE RECOVERY

אדערטאדער	SAMPLE	T.T.C.
N Y 25 J P. C	SAMPLE	10()

				DUNSPRZ
Lab Name:	RECRA_LABNET_	_INC	Contract: NY97-163	

Matrix (soil/water): SOIL___ Level (low/med): LOW___

% Solids for Sample: 100.0

			_						
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum			_						NR
Antimony	75-125	82.5540	_	1.3400	Ū	100.000	82.6	-	P
Arsenic	75-125	356.7860	_	1.2000	Ū	400.000	89.2	-	P
Barium —	_		_					-	NR
Beryllium	75-125	9.0560	_	0.2000	Ū	10.000	90.6	-	P
Cadmium	75-125	9.2960	_	0.1000	U	10.000	93.0	_	P_
Calcium			_		_			_	NR
Chromium_	75-125_	36.1020	_	0.2000	Ū	40.000	90.3	_	P
Cobalt			_		_			_	N
Copper	75-125_	46.6720_	_	0.2000	Ū	50.000	93.3	İ_	P
Iron			_		=			_	NR
Lead	75-125_	93.9580_	_	0.5000	Ū	100.000	94.0	_	P_
Magnesium			_		_				NR
Manganese	75-125	0.5120	-	0.1000	บิ	0.500	$-\frac{102.4}{}$	-	NR
Mercury Nickel	75-125_	91.6200	-	0.3000	U	100.000	$-\frac{102.4}{91.6}$	-	CV P
Potassium	/5-125_		_	0.3000			_{21.6}	_	NR
Selenium	75-125	349.1740	_	0.9800	Ū	400.000	87.3	-	P
Silver	75-125	9.2340	_	0.4000	U	10.000	92.3	-	$ P^- $
Sodium			_					-	NR
Thallium	75-125	372.2720	_	1.2200	บิ	400.000	93.1	-	P
Vanadium_			_					-	NR
Zinc	75-125_	90.5980	_	0.2000	Ū	100.000	90.6	_	P_
Cyanide			_		_			_	NR
	l		_		_			_	

Cor	nme	nt	· S
\sim			

LAB_SAMPLE_ID: A7B1126102-CGA00787	
CLIENT_SAMPLE_ID: MATRIX_SPIKE_BLANK_DUP	
REDIGESTION_NUMBER:_AD721682	

7 LABORATORY CONTROL SAMPLE

Lab Name:	RECRA_LABN	ET_INC		Contract:	NY97-163_	_		
Lab Code:	RECNY_	Case No.: 6702_		SAS No.:		SDG	No.:	303083
solid LCS	Source:	ERA 227_/235/NSI	*					
Δαμεομε I.	CS Source:			•				

Analyte	Aque True	eous (ug/I Found	⊆) %R	True	Sol Found (lic	d (mg/kg) Limi	its	%R
Aluminum_ Antimony					21.5	_	0.6	45.9	92.7
Arsenic				82.5	79.6	-	$\phantom{00000000000000000000000000000000000$	123.0	96.5
Barium						-			
Beryllium				159.0	146.7	-	102.0	223.0	92.3
Cadmium				128.0	116.7	_	66.6	184.0	_91.2
lcium						_			
romium				114.0	98.3		61.6	161.0	_86.2
Cobalt						_			
Copper				116.0	107.2	_	66.1	168.0	_92.4
Iron						_			
Lead				87.6	81.5	_	46.4	124.0	_93.0
Magnesium									
Manganese				2.3	2.6	-	1.1	3.6	113.0
Mercury				$\frac{2.3}{176.0}$	$\begin{bmatrix}2.6 \\ 161.7 \end{bmatrix}$	-	96.8	257.0	91.9
Nickel Potassium		<u> </u>		1/6.0		-		257.0	-91.9
Selenium]	107.0	97.9	-	55.6	159.0	91.5
Silver						-			
Sodium									
Thallium				130.0	159.5	_	47.6	212.0	122.7
Vanadium_									
Zinc				133.5	113.1		97.8	169.0	_84.7
Cyanide						_			
						_			

^{*} LCSS for Antimony uses Lot Number 235. LCSS for Zinc uses Lot Number NSI.

7 LABORATORY CONTROL SAMPLE

Lab Name:	RECRA_LABNET	_INC	Contract: 1	NY97-163_	_	
Lab Code:	RECNY_	Case No.: 6702_	SAS No.: _		SDG No.:	303083
Solid LCS	Source: ER	A 227				
Vancone I	ce cource:					

_		eous (ug/1		m			d (mg/kg)	·	0.70	
Analyte	True	Found	%R	True	Found	С	Limi	LTS	%R	
Aluminum_										_
Antimony_						_				
Arsenic						_				
Barium —										
Beryll <u>ium</u>										_
Cadmium]_				
Calcium						-				6
Chromium										1
Cobalt -						-				_
Copper						-				_
Iron —						-				_
Lead						-				_
Magnesium						-				_
Manganese						-				_
Mercury						-				_
Nickel						-				_
Potassium										_
Selenium_										_
Silver _				71.6	67.8	_	32.2	104.0	94.	7
Sodium										
Thallium_										_
Vanadium_										_
Zinc _						_				_
Cyanide						-				_

9 ICP SERIAL DILUTION

NYSDEC SA	MPLE 1	NO
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						03RW-2L
Lab	Name:	RECRA_LABNET_	_INC	Contract:	NY97-163	

Matrix (soil/water): SOIL_ Level (low/med): LOW___

		Serial Dilution		% Differ-		
Analyte Result (I)	С	Result (S)	С	ence	Q	M
Analyte Result (I) Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc	C	Result (S)	C	ence	Q	M NR NR NR NR NR NR NR NR NR NR NR NR NR

9 ICP SERIAL DILUTION

NYSDEC SAMPLE NO.

09RW-2L

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163___

Matrix (soil/water): SOIL

Level (low/med): LOW__

	T	$\neg \top$	Serial	\neg	%		
	Initial Sample		Dilution		Differ-		
Analyte	Result (I)	C	Result (S)	C	ence	ΙQ	M
Aluminum_						-	\overline{NR}
Antimony_	6.70	<u></u>	33.50	Ū		_	P_
Arsenic Barium	6.00_	ט	30.00_	ש		-	P_ NR
Beryllium	1.00	ਹ	5.00	ן ש		-	P
Cadmium	1.55	В	2.50	В	61.3_	_	P_
Calcium Chromium	647.71		643.05	-		-	NR P
Cobalt	647.71	-	643.05_	-	0.7	-	NR
Copper	9.27	B	6.15	\overline{B}	33.7	-	P
Iron		_		_		_	NR
Lead Magnesium	4.22_		12.50	ט	_100.0_	-	P_ NR
Manganese		-		-		-	NR
Mercury						-	NR
Nickel Potassium	4.24	B	7.50	Ū	_100.0_	-	P_ NR
Selenium	4.90	ਹ	24.50	ਹ		-	P
Silver						-	NR
Sodium Thallium		ਹ	30.50	=		_	NR
Vanadium_	6.10		30.50	ปิ		-	P_ NR
Zinc	42.71	_	40.70	B	4.7	-	P
				_			

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_	_INC	Contract:	NY97-163
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
ICP ID Number:	SUPERTRACE	Date:	11/14/97
Flame AA ID Number :			
Furnace AA ID Number :			

Com	ments:				
•					
			-		

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_	_INC	Contract:	NY97-163
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
ICP ID Number:	SUPERTRACE-2	Date:	10/06/97
Flame AA ID Number :			
Furnace AA ID Number :			

1	Wave-				
	length	Back-	CRQL	IDL	lí
Analyte	(nm)	ground	(ug/L)	(ug/L)	M
Aluminum_			200_		NR
Antimony_	206.80		60_	6.7	P_
Arsenic	_189.00		10_	6.0	P
Barium			200_		NR
Beryllium	_313.00		5_	1.0	P_
Cadmium	_226.50		5_	0.5	P_
Calcium_			5000		NR
Chromium_	_267.70		10	1.0	P
Cobalt	224 70		50_		NR
Copper	_324.70		25_ 100	1.0	P_ NR
Lead	220.30		3	${2.5}$	P
	$ -^{220.30} $		5000		NR
Magnesium Manganese		ļ	15		NR
Mercury			0.2		NR
Nickel	231.60		40	1.5	P
Potassium			5000		NR
Selenium	196.00		5	4.9	P
Silver			10		NR
Sodium			5000		NR
Thallium	190.80		10	6.1	P
Vanadium_	_		50		NR
Zinc	206.20		20_	1.0	P

Comments:			•		
		•			

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_	INC	Contract:	NY97-163_		
Lab Code: RECNY_	Case No.: 6702_	SAS No.:		SDG No.:	303083
ICP ID Number:		Date:	12/22/97		
Flame AA ID Number :	PE5000				
Furnace AA ID Number :					

. —					$\overline{}$
Analyte Aluminum_	Wave- length (nm)	Back- ground	CRQL (ug/L)	IDL (ug/L)	M NR
Antimony_			60_		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5_		NR
Calcium			5000_		NR
Chromium_			10_		NR
Cobalt			50_		NR
Copper			25		NR
Iron			100_		NR
Lead			3_		NR
Magnesium			5000		NR
Manganese			15_		NR
Mercury	_253.70		0.2	0.2	CV
Nickel			40_		NR
Potassium			5000		NR
Selenium_			5_		NR
Silver			10		NR
Sodium		l	5000_		NR
Thallium_			10		NR
Vanadium_			50_		NR
Zinc			20_		NR
		l			l

Commer	nts:					
			<u>-</u>			

11A ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-163
		_		-		

ICP ID Number: SUPERTRACE___ Date: 1/11/97

	Wave- length	Iı	nterelement	Correction	Factors for	:
Analyte	(nm)	Al	Ca	Fe	Mg	CR
Aluminum_Antimony_Arsenic_Barium_Beryllium Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium Manganese Mercury_Nickel_Potassium_Selenium_Silver_Sodium_	308.22 206.84 189.00 455.40 313.04 226.50 317.93 267.70 228.62 325.75 259.94 220.35 279.08 257.61 231.60 404.70 196.00 328.07 328.07 328.07 328.07 328.07	-0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000	-0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000	-0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000		
Thallium_ Vanadium_ Zinc	190.00_ 292.40_ 213.86_	_0.0000000 _0.0000000	_0.0000000 _0.0000000 _0.0000000	_0.0000000 _0.0000000	_0.0000000 _0.0000000	_0.0000000 _0.0000000

Comments:			

11A ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-	163	

ICP ID Number: SUPERTRACE-2 Date: 12/15/97

	Wave-	Iı	nterelement (Correction :	Factors for	:
Analyte	length (nm)	Al	Ca	Fe	Mq	CR
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Aluminum	308.20	0.0000000	0.0000000	0.000000	0.0000000	0.0000000
Antimony -	206.80	0.0000000	0.0000000	_0.0000000	0.0000000	-0.0049090
Arsenic	189.00	0.0000000	_0.0000000	_0.0000000	_0.0000000	0.0000000
Barium_	493.40	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Beryllium	313.00	_0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Cadmium	_226.50_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Calcium	317.90	_0.0000000	_0.0000000_	_0.0000000		<u>_</u> 0.0000000
Chromium_	_267.70_	_0.0000000	_0.0000000_	_0.0000000	water a second	_0.0000000
balt	_228.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
pper	_324.70_	_0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Iron	_271.40_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Lead	_220.30_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Magnesium	_279.00_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Manganese	_257.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Mercury						
Nickel	_231.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Potassium	_404.70_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Selenium_	_196.00_	_0.0000000	_0.0000000_	-0.0002150	_0.0000000	_0.0000000
Silver	_328.00_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Sodium	_330.20_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Thallium_	_190.80_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Vanadium_	_292.40_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Zinc	_206.20_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
		<u> </u>				

Com	Comments:											
•												

12 ICP LINEAR RANGES (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

ICP ID Number: SUPERTRACE___ Date: 11/19/97

Com	ments:							

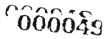
12 ICP LINEAR RANGES (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

ICP ID Number: SUPERTRACE-2 Date: 09/25/97

			_
Analyte	Integ. Time (Sec.)	Concentration (ug/L)	М
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium		900000.0 50000.0 100000.0 100000.0 20000.0 50000.0 100000.0 100000.0 600000.0 20000.0 100000.0 50000.0 20000.0 50000.0 100000.0 100000.0 100000.0	
Zinc	15.00	20000.0	P_

Comments	5 :			
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			,	



13 PREPARATION LOG

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-163
		_		_		

Method: P_

NYSDEC Sample No.	Preparation Date	Weight (gram)	Volume (mL)
03RW-2 09RW-2 10RW-2 BLKSPK1 BLKSPK2 LCSS LCSS LCSS PBS		1.01 1.01 1.01 1.00 1.00 1.02 1.01 1.02 1.00	200 200 200 200 200 200 200 200 200

FORM XIII - IN

13 PREPARATION LOG

Lab	Name:	RECRA_LABNE	ET_INC	Contract:	NY97-163
Lab	Code:	RECNY_	Case No.:_6702	SAS No.:	SDG No.:303083

Method: P_

NYSDEC Sample No.	Preparation Date	Weight (gram)	Volume (mL)
03RW-2 09RW-2 10RW-2 BLKSPK1 BLKSPK2 LCSS	12/24/97 12/24/97 12/24/97 12/24/97 12/24/97 12/24/97	0.99 1.01 1.01 1.00 1.00 1.00	200 200 200 200 200 200 200
LCSSPBS		1.00	200 200

FORM XIII - IN

13 PREPARATION LOG

Lab Name:	RECRA_LABNI	ET_INC	Contract: NY97-16	53
Lab Code:	RECNY_	Case No.:_6702	SAS No.:	SDG No.:303083
Method: CV	V		•	~ •

NYSDEC Sample No.	Preparation Date	Weight (gram)	Volume (mL)
03RW-2 09RW-2 10RW-2 BLKSPK1 BLKSPK2 LCSS PBS		0.21 0.21 0.20 0.20 0.20 0.06 0.20	100 100 100 100 100 100 100

FORM XIII - IN

14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163___

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303083

Instrument ID Number: SUPERTRACE-2 Method: P_

Start Date: 12/21/97 End Date: 12/21/97

NYSDEC			T											Ar	na.	lyt	ces	3	_		_							
Sample	D/F	Time	%	R	$\overline{\mathbf{A}}$	S	A	В	В	C	C	С	С	С	F	Р	М	М	Н	N	K	S	Α	N	Т	V	Z	C
No.	_,_				L	В	S	A	E	D	Α	R	0	Ū	E	В	G	N	G	I		E	G	A	Ĺ	•	N	N
S0	1.00	$\frac{1754}{1754}$			-	\overline{x}	$\overline{\mathbf{x}}$		\bar{x}	\overline{x}	_	\bar{x}	-	\overline{x}	-	\overline{X}	_	-	_	\overline{X}	-	\overline{x}	-	_	\overline{x}	-	\overline{x}	-
s	1.00	1800			-	X	X	-	X	X	-	X	-	X	-	X	—	-	-	X		x	-	—	X	-	X	-
S	1.00	1805			-	Х	X	-	X	X	_	X	-	X	-	X	-	-	-	X		X	-	-	X	-	x	-
s	1.00	1810			-	X	X	-	Х	Х	-	X	-	X	-	Х	-	-	-	X	-	X	-	-	Х	-	X	-
s	1.00	1815			1-	Х	Х	-	Х	X	-	Х	-	X	-	X	-	-	-	X	-	X	-	-	X	-	X	-
s	1.00	1820			-			-			_		-		-		-	-	-		-		-	-		-		-
ZZZZZZ	1.00	1827			-	-	_	-	-	-	_	_	-	-	-	-	-		-	-		-	-	_	-	-	-	_
ZZZZZZ	1.00	1833			-	-	_	-	_	-	_	_	-		-	-	-	_	-	-	-				-	-	-	-
TCV	1.00	1838			-	\overline{x}	$\overline{\mathbf{x}}$	_	$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	-	\overline{x}		\bar{x}	-	-	-	\overline{X}	-	\overline{X}	-	-	\overline{x}	-	\overline{X}	_
В	1.00	1844			-	Х	Х	-	Х	$ \mathbf{x} $	-	Х	-	X		X	_	_	-	Х	-	Х	-	_	x	-	Х	_
CRI	1.00	1849			-	Х	Х	-	Х	Х	_	Х		Х	_	Х	_	_	-	Х	-	Х	_	_	Х	-	Х	-
ZZZZZZ	1.00	1855			-			-			_		-		-			_	_		-		_	_		_		_
ICSA	1.00	1900			1	\overline{x}	\overline{X}		$\overline{\mathbf{x}}$	\overline{X}	_	\overline{X}		\overline{x}	_	\overline{X}		_	-	\bar{x}	_	\overline{X}	-	-	\overline{X}	-	\bar{x}	_
ICSAB	1.00	1906			-	X	Х	_	Х	Х		Х	-	Х	-	Х	_	_	_	Х	_	Х	-	_	Х	-	Х	_
CCV	1.00	1912			_	Х	Х	_	Х	Х	_	Х	_	Х	_	Х	_	_	_	Х	-	Х	-	_	Х	-	Х	_
CCB	1.00	1917			_	Х	Х	_	Х	Х		Х	-	X	-	Х	_	_	-	Х	-	Х	_	_	Х	_	Х	-
PBS	1.00	1923				Х	Х	_	Х	Х		Х	_	X	-	Х	-	-	_	Х	_	Х	_	_	Х	_	Х	<u> </u>
LCSS_	1.00	1928			_		Х	_	Х	Х	_	Х		x	_	Х	_	_	_	Х	_	Х	-	_	Х	_		_
LCSS	1.00	1934			1	\overline{X}									_		_	_	_		-		_	-		_	_	_
LCSS	1.00	1939			_		-	-	_	-	_	_	-	-	_	-	_	-	_	_	-	_	-	-	-	_	\overline{X}	_
BLKSPK1_	1.00	1945				\overline{X}	$\overline{\mathbf{x}}$		$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$		$\overline{\mathtt{X}}$	_	$ \overline{x} $	_	$\overline{\mathbf{x}}$	_		_	$\overline{\mathbf{X}}$	-	\overline{X}	-	-	$\overline{\mathbf{x}}$	-	Х	_ :
BLKSPK2_	1.00	1951			I_	Х	Х		Х	X		Х		Х		Х				X	_	X	_		X	-	X	_
03RW-2	1.00	1956			l_	Х	X		X	X		Х		X	_	Х				Х		X			X		X	_
09RW-2	1.00	2002			_	Х	X	_	X	Х	_	Х	_	X		X	_			X		X		_	X	_	X	_
09RW-2A_	1.00	2007			_	_	_	_	_	_	_	_	_	_	_	_	_			_		_						_
09RW-2L_	1.00	2013			_	\overline{X}	\overline{x}		\overline{X}	\overline{x}	_	$\overline{\mathbf{x}}$	_	\overline{x}	_	$\overline{\mathbf{x}}$	_	_		\overline{X}		\overline{x}			\overline{x}		\overline{X}	_
CCV	1.00	2018			_	Х	Х	_	X	X	_	Х	_	X	_	X	_	_	_	X	_	X	_		X		X	
CCB	1.00	2024			_	Х	Х	_	X	X	_	Х		x	_	X	_	_	_	X	_	X	_	_	X		X	
10RW-2	1.00	2030			_	Х	X	_	X	X	_	Х	_	X		X	_	_	_	Х	_	X		_	X		X	
ZZZZZZ_	1.00	2037			_	$ _ $	_	_		_	_	_			_	_	_	_	_1	_	_	_	_	_	_	_		_
ZZZZZZ	1.00	2042			_	_	_	_	_		_	_	_	_	_	_	_	_	_1	_			_	_	_	_		_
ZZZZZZ	10.00	2048			_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	-
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303083

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 12/21/97 End Date: 12/21/97

					,																							
NYSDEC														Αı	na]	Lyt	es	5										
Sample	D/F	Time	્ર	R	A	S	Α	В	В	С	С	С	С	С	F	P	M	M	H	N	K	S	Α	N	Т	V	Z	C
No.	2,2	1 20		••	L	В	s	A	E	D	A	R	o	Ū	Ē	В	G	N	G	I	1	E	G	A	L			N
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ZZZZZZ	1.00	2053			_	ĺ_	_	_	_	_	_	_	_	_	_		_			_	_	_	_	_	_		_	_
ZZZZZZ	1.00	2059			. _	_	_	_	_	_	_	_		_	_		_	_	_	_	_		_	_	_	_		_
ZZZZZZ_	1.00	2105			- -	_	-	_	_	_		_		_	_		_	_	_	_	_	_	_		l_	-	_[_
ZZZZZZ	1.00	2110			- -	 —	_	-	_	_	-	_		_	_	_	_	_	_	-	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	2116			- -	_			_	_	-	_	 —	-			-	_	-			_	_	_	 –		-	_
ZZZZZZ	1.00	2121			-	\overline{x}	\overline{x}	-	$\overline{\mathbf{x}}$	\bar{x}	-	\overline{X}	—	\overline{x}	-	$\overline{\mathbf{x}}$	_	-		$\overline{\mathbf{x}}$	_	\overline{x}	-	—	\overline{x}	-	\overline{x}	-1
CCB	1.00	2132			-	X	X	-	X	X	-	X	-	X	-	X	-	-	-	X	-	X	-	_	X	-	X	_
CRI	1.00	2138			-	X	X	-	X	X	-	X	-	X		X	-	-	-	X	-	X	-	-	X	-	X	-
ZZZZZZ	1.00	2144			-	*	1	-	11	21	-	21		1	-	11	-	-	-	1		71	-	-	1		7	The same
ICSA	1.00	2149			-	\overline{X}	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$	_	\overline{X}	-	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	-	-	-	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	-	-	\overline{X}	-	À,	-
ICSAB	1.00	2155		_	-	Х	Х		Х	Х		Х	-	Х	-	Х	-	-		Х	-	Х	-	-	Х	-	Х	-
CCV —	1.00	2200			-	X	Х	-	Х	Х	-	Х	-	X	-	Х	-	_		х	-	Х	_	-	Х	-	Х	-
CCB	1.00	2206				X	Х	_	Х	Х	_	Х	_	X	_	Х	_	-	-	Х	_	Х	-		Х	-	X	-
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Instrument ID Number: SUPERTRACE___ Method: P_

Start Date: 12/27/97 End Date: 12/27/97

NYSDEC														Ar	na.	Lyt	es	3										
Sample	D/F	Time	ુ	R	A	S	Α	В	В	С	С	С	С	C	F	Р	М	М	Н	N	K	S	Α	N	Т	V	Z	С
No.	2/2		ľ		L	В	s	B A	E	D	A	R	0	שׁ	E	В	G	N	G	Ī	- `	E	G	A	L	`	N	N
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S0	1.00	1502			- -	-	-	-	-	_	_	-	-	-	-	-	-	-		-	-	-	\overline{x}	-			-	-
s	1.00	1508			- -	-	-	-	-1	-		-	-		-	-	-	_	-	1-	_	-	Х	-	-	-	-]_
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s	1.00	1518			- -	-	-	-	-	-	_	_	-	-	-	-		-	-	-	-	-	X	-	-	-	-	-
s	1.00	1524			-	-		-	_	_	_	_	-	-	-	-	-	-	-	-	-	-	Х	-	-	-	-	-
s	1.00	1529			- -	-	-	-	-	-	_	_	-	-	-	-	-	-	_	-	-	_			-	-	-	-
ZZZZZZ	1.00	1536			- -	-	-	-	-	-	_	_	-	-	-		-	-	_	-		_		-	-	-	-	-
ZZZZZZ	1.00	1542			-1-	-	-	_	-	_	_	_	-	-		-	-	-	-	-	-	-		-	-	-		-
TCV —	1.00	1547			-1-	-	-	-	_	-	-	_	-	-		-	-	-		-	-	_	\overline{x}		-	-	-	-
В	1.00	1552			- -	-		-	-	-	-	_	-	-	-	-	-	-	_		-	_	Х	-	-	-	-	-
CRI	1.00	1558			-	-	-	-	_	-	-	_	-	-	-	-	-		_	_	-	_	Х	-	-	-	-	[-
ZZZZZZ	1.00	1603			-	-	-	-	-	-	-	_	-	-	_	-	-	-	-	_	-	_		-		-	-	i-
ICSA	1.00	1609			-1-	-	-	-		-	-	_	-	-	_	-	-	-	_		-	_	\overline{x}	-	-	_	-	-
ICSAB	1.00	1614			-1-		-	-	-	-	-	-	1-1	-	_	-	-	-	-	_		_	Х	-	-	-	-	-
ccv —	1.00	1619			-	-	-	-	-	-	-	-		-	_	-	-	-	-	-	-	-	Х	-	-	_		-
CCB	1.00	1625			- -	-	-	-	-	_	-	-	-	-	_	-	_	-	-	_	-	_	Х	-	-	_	-	-
ZZZZZZ	1.00	1630			-1-	-	-	-	-	-	-	_	-	-	-		-	-	_	-	-	_		-		-	-	-
ZZZZZZ	1.00	1636			1-		-	-	-	-1	-	-	-	-	_	-	-	-	-	_	-	_	-	-	-1	-	-	-
ZZZZZZ	1.00	1641			-	-	-	-1	-	-	-	-		-	_		-	-	-	_	-	-	-	-		-	-	-
ZZZZZZ	1.00	1647			-	-	-	-	-1	-	-	-	-	-	-	-	-	-	-		-	-		-	-	-	_	-
ZZZZZZ	1.00	1652			-	-	-	-	-	-	-	-	-	-	_	-	-		-	_	-	_	-	-	-		-	-
ZZZZZZ	1.00	1657			1-	-	-	-1	-	-	-	-	-	-	_	-	-	-	-	-		-	-	-	-	-	_	-
ZZZZZZ	1.00	1703			-	-	-	-	-	-	-	-	-	-	_	-	-	-	-	-		-	-		-		-	-
ZZZZZZ	1.00	1708			1-		-	-1	-	-	-	-	_	-	_	-	-	-	-	-	-	-	-	-	-	-	_	-
ZZZZZZ	1.00	1714			1-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1719			-	-	-	-	_	-		-	-	_	_	-	_	-		-	-	-	-	-	-	-	_	-
CCV	1.00	1725			1-	-	_	-	-	-1	-	-	-	-	-	-	-	-	-	-	-	-	\overline{x}	-	-	-	-	-
CCB	1.00	1730			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-[-	-	-	x	-		-	-	_
$ZZZ\overline{ZZZ}$	1.00	1735			1-	-	-	-	-	-	-	-	-	-	-1	-	-	-	-	-	-	-		-	-	-	-	_
ZZZZZZ	1.00	1741			-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	_
ZZZZZZ	1.00	1746			-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-1	-	-	-	-	-	_
ZZZZZZ	1.00	1752			-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163___

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303083

Instrument ID Number: SUPERTRACE___ Method: P_

Start Date: 12/27/97 End Date: 12/27/97

NYSDEC Sample No. A S A B B C C C C F P M M H N K S A N T V Z C C C C C T T M M T M M M M M						_					_																		
Sample No.	MYCDEC		}												Ar	ıa!	Lyt	ces	5										
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BLKSPK2	BLKSPK1	1.00	1946			-	_	-	-	-	-	_	-	-	-	_	_	-	-	-	_	_	_		-		-	-	-
03RW-2A	BLKSPK2	1.00	1951			-	-	_	_	-	_	_	_	_	-	_		_	_	_	_	_	-		-	-	_	_	-
03RW-2L	03RW-2	1.00	1956			-	-	-	-	-		_	_	_	-		_	_	-	_	_	_	-		-	-	_	_	-
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14 ANALYSIS RUN LOG

Lab	Name:	RECRA LABNET	INC	Contract:	NY97-16	53
			_			

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303083

Instrument ID Number: SUPERTRACE___ Method: P_

Start Date: 12/27/97 End Date: 12/27/97

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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303083

Instrument ID Number: PE5000 Method: CV

Start Date: 12/22/97 End Date: 12/22/97

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NYSDEC				_	\ <u> </u>	-	_		_	~	_	_	-	_		_						_			-			[
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BLKSPK2_	1.00	1402			 —	_	_	_		-[_	_	_	-	_	_	-	_	X	_	-	-	_	-	_	_] 	
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a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

January 19, 1998

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the sample recently submitted by your firm. The pertinent information regarding this analysis is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

SDG #: 303084 Matrix: Aqueous

Sample Received: 12/19/97 Sample Date: 12/17/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

Candace L. Fox

Program Manager

Kenneth E. Kasperek Laboratory Director

CLF/KEK/amk

Enclosure

cc: Ms. Kathie Easom, Ph.D.

Radian International LLC

8501 N. Mopac Blvd. Austin, TX 78759 I.D. #A97-4746 #NY7A6702

This report contains

341

pages, which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-W-1

03-03-W-2 03-03-W-3 03-03-W-4

METHODOLOGY

All analyses were performed in accordance with the 1995 New York State Analytical Services Protocol.

METALS DATA

Comments pertain to data on one or more pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

Sample identifications have been abbreviated due to the character limitations of the software.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.



060002

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER	LABORATORY	ANALYTICAL REQUIREMENTS											
SAMPLE ID	SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY						
03-03-W-1	A7474601	-	-	-	-	ASP95	-						
03-03-W-2	A7474602	-		-	-	ASP95	-						
03-03-W-3	A7474603	-	-		-	ASP95	-						
03-03-W-4	A7474604	-	-	-	-	ASP95	-						

NYSDEC-1



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-W-1	WATER	PP METALS	12/19/97	12/22/97	12/22,23,24/97
03-03-W-2	WATER	PP METALS	12/19/97	12/22/97	12/22,23,24/97
03-03-W-3	WATER	PP METALS	12/19/97	12/22/97	12/22,23,24/97
03-03-W-4	WATER	PP METALS	12/19/97	12/22/97	12/22,23,24/97

NYSDEC-5



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
03-03-W-1	WATER	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-W-2	WATER	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-W-3	WATER	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-W-4	WATER	ASP95	ASP95	AS REQUIRED	AS REQUIRED

NYSDEC-7



INDRGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic Data Qualifiers:

В	-	Indicates a value greater than or equal to the instrument detection limit,
		but less than the contract required detection limit.

- U Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N Indicates spike sample recovery is not within the control limits.
- Indicates the post digestion spike recovery is not within the control limits.
- Indicates duplicate analysis is not within the control limits.
- S Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- M Indicates duplicate injection results exceeded control limits.
- W Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference. -



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: RECRA_LABNET_INC	Contract: NY97-163	
Lab Code: RECNY_ Case No.: 6702_	SAS No.:	SDG No.:303084
Protocol Version: ASP-95		
NYSDEC Sample No03-W-103-W-203-W-303-W-4BLKSPK1BLKSPK2	Lab Sample IDAD721421 AD721422 AD721423 AD721424 AD721437 AD721438	
Were ICP interelement corrections app	lied ?	Yes/No YES
Were ICP background corrections appli If yes - were raw data generated application of background correc	before	Yes/No YES Yes/No NO_
Comments:		
I certify that this data package is i conditions of the Protocol, both tech other than the conditions detailed ab in this hardcopy data package and in on diskette has been authorized by th designee, as verified by the followin	nically and for compove. Release of the the computer-readable Laboratory Manager	oleteness, for e data contained e data submitted
Signature: Signature:	Name: Kenneth_E	Kasperek
Date: () //19/98.	Title: Laborator	ry_Director

INORGANIC ANALYSES DATA SHEET

•	14341510	-
NYSDEC	SAMPLE	NO.

						03-W-1
Lab Name: RECRA	A_LABNET_IN	C	Contract: N	797-	-163	
Lab Code: RECN	Y_ Cas	se No.: 670	SAS No.:	: _		SDG No.: 303084
Matrix (soil/wa	ater): WATE	₹		Lak	o Sampl	e ID: AD721421
Level (low/med)): LOW_	_		Dat	ce Rece	eived: 12/19/97
% Solids:	0.0	0				
Cor	ncentration	Units (ug	/L or mg/kg dry	y we	eight):	UG/L_
	CAS No.	Analyte	Concentration	С	Q	M
	7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-95-4 7439-96-5 7439-97-6 7440-02-0	Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium	28.6 3220 99.7 83.3 0.20 31.4			NR P NR P NR P NR P NR P NR NR CV NR P NR P NR P NR P NR P NR P NR P NR P NR P NR P NR P NR P NR
Color Before:	YELLOW	Clarit	ty Before: CLOU	JDY		Texture:
Color After:	COLORLESS	Clarit	ty After. CLE	ΔP		Artifacts.

Color	Before:	AETTOM	Clarity	Refore:	CLOODA	Texture:						
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	_					
LAE	omments: LAB_SAMPLE_ID:_A7474601-CGA00799CLIENT_SAMPLE_ID:_03-03-W-1											
0							-					

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO

Lab Name: RECRA	LARNET INC	7	Contract · N	795	7-163		03-W-2	2	-
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Lab Code: RECNY	_ Cas	se No.: 670	SAS No.	: _	<u> </u>	SD	G No.:	303084	
Matrix (soil/wa	ter): WATE	3		Lā	ab Sampl	e I	D: AD72	21422	
Level (low/med)	: LOW_	_		Da	ate Rece	ive	d: 12/1	9/97	
% Solids:	0.0)							
Con	centration	Units (ug/	L or mg/kg dry	/ V	weight):	UG	5/L_		
1						 1			
	CAS No.	Analyte	Concentration	С	Q	М			
	7400 00 5	27		-				,	
	7429-90-5 7440-36-0	Aluminum_	6.7	ਜੁ		NR			
	7440-38-0	Antimony_ Arsenic	9.9	В		P_			
	7440-38-2	Barium		₽		NR			
,	7440-33-3	Beryllium	1.0	ਗਿ					
	7440-43-9	Cadmium	13.4			P_P			
,	7440-70-2	Calcium		-		NR			
	7440-47-3	Chromium	1900			P			
	7440-48-4	Cobalt		-		NR			1
	7440-50-8	Copper	85.6	-		P			V
	7439-89-6	Iron —		-		NR			
	7439-92-1	Lead	86.1	$\left[-\right]$		P			
1	7439-95-4	Magnesium		-		$N\overline{R}$			
	7439-96-5	Manganese		-		NR			
	7439-97-6	Mercury	0.21	-		CV			
	7440-02-0	Nickel	19.7	$ \overline{B} $		P			
	7440-09-7	Potassium		_		$N\overline{R}$			
	7782-49-2	Selenium_	4.9	ซิ		P_			
j.	7440-22-4	Silver	1.0	ן ש		P_			
ı	7440-23-5	Sodium				NR			
	7440-28-0	Thallium_	6.1	บิ		P_			
	7440-62-2	Vanadium_		[_		NR			

Color	Before:	YELLOW	Clarity	Before:	CLOUDY	Texture:	
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B SAMPLE	ID:_A7474602-CGA LE_ID:_03-03-W-2					

7440-66-6

Zinc

Cyanide

Р

 $N\overline{R}$

1 INORGANIC ANALYSES DATA SHEET

			03-W-3
Lab Name: RECRA_LABNE	ET_INC Contract:	NY97-163	
Lab Code: RECNY_	Case No.: 6702_ SAS N	Jo.: SDG	No.: 303084
Matrix (soil/water):	WATER	Lab Sample ID	: AD721423
Level (low/med):	LOW	Date Received	: 12/19/97
% Solids:	0.0		

Concentration Units (ug/L or mg/kg dry weight): $UG/L_{_}$

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony_	6.7	ਹ		P
7440-38-2	Arsenic -	6.0	U		$ P^- $
7440-39-3	Barium —				NR
7440-41-7	Beryllium	1.0	Ū		P
7440-43-9	Cadmium	27.7			P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	(_465)	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	132_	_	l	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	126_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	1.00	<u> </u> _		CV
7440-02-0	Nickel	30.4_	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	4.9	บิ		P
7440-22-4	Silver	1.0_	U		P_
7440-23-5	Sodium		ਹ		NR
7440-28-0	Thallium_	6.1	ľ		P_
7440-62-2	Vanadium_	726	-		NR
7440-66-6	Zinc Cyanide		-		P_ NR
	Cyanitue		-		171/
l	l		l		I I

Color	Before:	BROWN	Clarity	Before:	CLOUDY	Texture:		
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts: _		
Comments: LAB_SAMPLE_ID:_A7474603-CGA00799CLIENT_SAMPLE_ID:_03-03-W-3								

1 INORGANIC ANALYSES DATA SHEET

MIDDEC DESIGNED INC	NYSDEC	SAMPLE	NO
---------------------	--------	--------	----

Lab Name: RECR	A LABNET IN	C.	Contract: N	Y97	-163	03-W-4	1
						SDG No.: 303084	'
Matrix (soil/w	ater): WATE	R		Lal	b Sample	e ID: AD721424	
Level (low/med): LOW_	_		Dat	te Rece:	ived: 12/19/97	
% Solids:	0.0	0					
Co	ncentration	Units (ug,	/L or mg/kg dry	y we	eight):	UG/L_	
	CAS No.	Analyte	Concentration	С	Q I	M	
	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4 7439-96-5	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel				NR P NR P NR P NR P NR P NR P NR P NR P	
Color Before:	7440-09-7 7782-49-2	Nickel Potassium Selenium_ Silver Sodium_ Thallium_ Vanadium_ Zinc Cyanide Clarit	29.8 4.9 1.7 6.1 854 Ty Before: CLOU	Ū		Personal Per	_
Color After:	COLORLESS	Clarit	y After: CLEA	AR	I	Artifacts:	

Comments:

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

		BLKSPK1					
Lab Name: RECRA_LABNET_INC	Contract: NY97-163						
Lab Code: RECNY_ Case No.: 6702_	SAS No.:	SDG No.: 303084					
Matrix (soil/water): WATER_	Level	(low/med): LOW					
% Solids for Sample:0.0							
Concentration Units (ug/L or mg/kg dry weight): UG/L_							

			_		_			-	
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum			_		Γ			-	NR
Antimony	75-125	519.7400	_	6.7000	บิ	500.000	103.9	-	Р
Arsenic	75-125	1957.8500	_	6.0000	U	2000.000	97.9	-	P_
Barium —	_		_					_	NR
Beryllium	75-125	49.6400	_	1.0000	บิ	50.000	99.3	_	P_
Cadmium	75-125	50.5600	_	0.5000	U	50.000	101.1	_	P_
Calcium			_		l_			_	NR
Chromium	75-125	207.0000		1.0000	บิ	200.000	103.5	l_	P_
balt			_		_			_	NR
copper	75-125_	258.9700_	_	1.0000	\overline{B}	250.000	103.2	_	P_
Iron			_		<u> </u>			<u> </u>	NR
Lead	75-125_	520.6100	_	2.5000	∣ਹ	500.000	104.1		P_
Magnesium			_		_			<u> </u>	NR
Manganese								<u> </u>	NR
Mercury	75-125_	1.0200	_	0.2000	Ū	1.000	102.0	_	CA
Nickel	75-125_	515.6100	_	1.5000	U	500.000	103.1	_	P_
Potassium			_		==			_	NR
Selenium_	75-125_	1820.1700_	_	4.9000	Ū	2000.000	91.0	_	P_
Silver	75-125_	50.1500_	_	1.0000	U	50.000	100.3	_	P_
Sodium	75 105	1050 0000	-	6.1000	ਹ	2000.000	98.0	-	NR P
Thallium_	75-125_	1959.8000_	_	6.1000	١٠		^{98.0}	-	NR
Vanadium_ Zinc	75-125	544.1300	_	1.0000	ਹ	500.000	108.8	-	P
Cyanide	1/3-123-	₂₄₄ .1300-	_		١		— _{100.0}	-	NR
Cyanitue_			_		-			-	INK
	l ————				l			l	I

Comments:		
LAB_SAMPLE_ID:_A7	B1126901-CGA00799	
CLIENT_SAMPLE_ID:	MATRIX_SPIKE_BLANK	

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

1 =		-
	BLKSPK2	-
	DENOTINE	

							BLKSPK2
Lab	Name:	RECRA_LAB	BNET_I	INC	Contract:	NY97-163	

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

					_			_	
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum			_		_			-	\overline{NR}
Antimony	75-125	545.4900	_	6.7000	ਹ	500.000	109.1	-	P
Arsenic	75-125	2092.1600	_	6.0000	Ū	2000.000	104.6	-	P-
Barium					-			-	NR
Beryllium	75-125	49.9000	_	1.0000	Ū	50.000	99.8	-	P
Cadmium	75-125	50.9700	_	0.5000	U	50.000	101.9	_	P
Calcium			_		_			_	NR
Chromium_	75-125	221.9400		1.0000	Ū	200.000	111.0	_	P_
Cobalt	l		_		_			_	NF
Copper	75-125_	259.5800_	_	1.0000	В	250.000	103.4	_	P_
Iron			_		_			_	NR
Lead	75-125_	526.1700		2.5000	ਹ	500.000	105.2	_	$ P_{-} $
Magnesium			_						NR
Manganese					_			<u> </u>	NR
Mercury	75-125_	1.0420		0.2000	Ū	1.000	104.2	 	CV
Nickel	75-125_	519.7000_	_	1.5000	U	500.000	103.9	_	P_
Potassium	75-125	1956.5300	_	4.9000	ਹ	2000.000	97.8	-	NR
Selenium_ Silver	75-125	49.3500	_	1.0000	U	50.000	$\left \right _{98.7}^{97.8}$	l —	P_ P
Sodium Sodium	1/3-123-	49.3500_	_		١٠	50.000	—— ^{98.} /	_	NR
Thallium	75-125	1976.5500	 —	6.1000	Ū	2000.000	98.8	-	P
Vanadium_	/3-123_		-	0.1000				-	NR
Zinc	75-125	549.7400	_	1.0000	ਹ	500.000	109.9	-	P
Cyanide			-		Ĭ			-	NR
-7			_		-			-	
	· — — —		_		_			_	· — ·

Comment	:s:			
7.75	CANADI	*	TD	7

LAB_SAI	WBPE_ID	:_A71	B1126902	2-CGA00	3799			
CLIENT	SAMPLE	ID:	MATRIX	SPIKE	BLANK	DUP		
_	_					_	 	

3 BLANKS

	~ 3			6500	03.0 II	and Ma	
Lab	Name:	RECRA_LABNET_	_INC		Contract:	NY97-163	

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		uing Caliba Lank (ug/L) 2		cion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic	6.7 6.0	บี	6.7_ 6.0_	Ū U	6.7_ 6.0_	Ū U	6.7_ 6.0_	<u>บี</u>	6.700 U	NR_P_P_NR
cium_ cryllium Cadmium_ Calcium	1.0 0.5	ט	1.0_ 0.5_	Ū	1.0_ 0.5_	Ū U	1.0_	บ บ	1.000 Ū 0.500 Ū	P P NR
Chromium_ Cobalt Copper	1.0_	ם	1.6	Ū B	1.0_	<u>U</u>	1.0	<u></u> 	1.000 Ū	P NR_ P
Iron Lead Magnesium	2.5	Ū	2.5_	Ū	2.5_	Ū	2.5_	ਹ		NR_P_NR
Manganese Mercury Nickel	0.2 1.5	ם ת	0.2	ם ת	0.2_ 1.5	_ ת	0.2	ת ט	0.200 Ū 1.500 U	NR_ CV_ P
Potassium Selenium_ Silver	4.9 1.0	ט	4.9 1.0_	Ū U	4.9 1.0	Ū U	4.9	บ บ	4.900 U	NR_ P P
Sodium Thallium_ Vanadium_	6.1	<u>u</u>	6.1_	U	6.1_	<u>u</u>	6.1_	<u></u>	6.100 Ū	NR_ P_ NR_
Zinc Cyanide	1.0	<u>U</u>	1.0_	<u>U</u>	1.0_	<u>U</u> -	1.0_	u -	1.000 Ū	P_NR_

3 BLANKS

Lab	Name:	RECRA_LABNE	T_INC	Contract: NY97	'-163 <u> </u>
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	_ SDG No.: 303084
Prep	aratio	on Blank Mat	rix (soil/water):		
Pren	aratio	n Blank Con	centration Units (up	/L or mg/kg):	

Analyte	Initial Calib. Blank (ug/L)	С	Conti	ling Calib Lank (ug/L) 2	cion 3	С	Prepa- ration Blank	С	М
Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide			6.7 6.0 1.0 0.5 1.0 2.5 0.2 1.5 1.1 6.1 1.0	6.7 6.0 1.0 0.5 1.1 2.5 0.2 1.5 1.0 1.1	6.7				NR

3 BLANKS

Lab Name:	RECRA_LABNET_	INC	Contract:	NY97-163		
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:	SD	G No.:	303084
Preparation	on Blank Matri	x (soil/water):				
Preparation	on Blank Conce	ntration Units (ug,	/L or mg/kg):		

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	inu Bl C	ing Cal: ank (ug, 2	ibrat /L) C	cion 3	С	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic_ rium_ ryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			0.2_								NR_NR_NR_NR_NR_NR_NR_NR_NR_NR_NR_NR_NR_N

SAMPLE DATA PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-W-1

03-03-W-2 03-03-W-3

03-03-W-4

METHODOLOGY

All analyses were performed in accordance with the 1995 New York State Analytical Services Protocol.

METALS DATA

Comments pertain to data on one or more pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

Sample identifications have been abbreviated due to the character limitations of the software.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth F. Kasperek

-//

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CHAIN OF CUSTODY DOCUMENTATION



8-91-34019

SADIAN SECTION

Chain of Custody Record

Return Original to Originator

Project No.	6		Project Name	Name					ANALYSES	
80111	1111		NoR	NORTHEOP GUMMAN	NAN					3
Samplers	Samplers (Name/Signature)	(eunature)	\	00.1.1.00			1			
したり	JER LOWE		1 746	3.77				\ \	(Type of	Type of Container,
Field Number	Collec Date	zton Time		Sample Name	No. of Bottles		1		Special Pr	Special Preservation, Special Handling, etc.)
16'04M4	16'04 PHY 10 97 1	1515	03.03	-03RW-7		×			Soil - 250 ML Gu	Ginss Jur
Me of Filk	12.17.97 1000	1000	03-03	03-03-09 RW-2		×			1 >	N P P
16' Pe 1711		1515	03.03	03-03-10 PW-2		×				→
	12.17.97 1751	175/	03-03-	1-M-		×			WATER - 3202 JA	JAR W/
	17.17 97 1758	1753	03-03	- W-2	_	×			NITRIC ACID PRI	PRESERVATION
	12.17.17.59	1759	03.03-	. w. 3		×			48 HOUR THEN	IMEN AROMINES
	12.17.97 1802	1802	02.03	. w. 4	_	×		-	→ →	→ .
					•					
						\exists				
Relinquist J∈≺	Relinquished by: (Name/Signature) Jeff Lowe/Qt(16.7. 4	ame/Sig	mature) X. (Date/Time 12 - 18 - 19 5	Received by: (Name/Signature)	ne/Signe	iture)	Date/Time		Carrier: (In person, Fed X, UPS, etc.)
Relinquist	Relinquished by: (Nama/Signature)	ame/Sig	mature)	Date/Time	Received by: (Nam	(Name/Signature)	nure)	Date	Date/Time Carrier: (In perso	Carrier: (In person, Fed X, UPS, etc.)
Relinquish	Relinquished by: (Name/Signature)	ame/Sign	nature)	Date/Time	Received by: Mam	(Name/Signature)	nture)	Date)	Satisfilme Carrier: (In personal A)	Carrier: (In person, Fed X, UPS, etc.)
General C	General Comments:		>Ex [a	FEDEN TRACKING &	No: 4700 67	0	1000 C	600		

Distribution: Original: Accompanies Samples (Return to Originator), Yellow Copy: Field Crew, Pink Copy: Laboratory Files

METALS DATA



I INORGANIC ANALYSES DATA SHEET

	-	INORGANIC F	MALISES DAIR C			1			
						C)3-W-1		
Lab Name: RECRA_LABNET_INC Contract: NY97-163									
Lab Code: RECNY	_ Cas	se No.: 670	SAS No.:	: _		SDG	No.: 303084		
Matrix (soil/water): WATER Lab Sample ID: AD721421									
Level (low/med): LOW Date Received: 12/19/97									
% Solids:	0.0)							
Con	ncentration	Units (ug/	/L or mg/kg dry	7 W	eight):	UG/I			
		Analyte Aluminum	Concentration	C -	Q	M NR			
	7440-36-0 7440-38-2	Antimony_ Arsenic_ Barium_ Beryllium Cadmium_	13.0_	บ - บิ		P_ NR P_ NR			

3220

99.7

83.3

0.20

31.4

4.9

1.0

6.1

231

 $\overline{\mathtt{U}}$

В

Ū

U

Ū

NR

Ρ

NR

Ρ

NR

NR

CV

Р

 $N\overline{R}$

Ρ

 P^{-}

 $N\overline{R}$

Р

 $N\overline{R}$

Ρ

NR

Chromium

Cobalt

Copper

Magnesium

Manganese

Potassium

Selenium

Thallium

Vanadium -

Cyanide

Mercury_

Nickel

Silver

Sodium

Zinc

Iron

Lead

7440-47-3

7440-48-4

7440-50-8

7439-89-6

7439-92-1

7439-95-4

7439-96-5

7439-97-6

7440-02-0

7440-09-7

7782-49-2

7440-22-4

7440-23-5

7440-28-0

7440-62-2 7440-66-6

Color Before: YELLOW___ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ____

Comments:

LAB_SAMPLE_ID:_A7474601-CGA00799______CLIENT_SAMPLE_ID:_03-03-W-l______

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA	א ז אסאזפיתי דאז/	7	Contract, N	797-163	03-W-2			
Lab Name: RECRA	TTABMET TIM		Contract: N.	. 9 / - 103	l			
Lab Code: RECNY	_ Cas	se No.: 670	SAS No.	·	SDG No.: 303084			
Matrix (soil/wa	ater): WATE	3		Lab Sampl	e ID: AD721422			
Level (low/med)	LOW_	_		Date Rece	ived: 12/19/97			
% Solids:	0.0)						
Cor	ncentration	Units (ug/	/L or mg/kg dry	y weight):	UG/L_			
								
	CAS No.	Analyte	Concentration	C Q	м			
	7429-90-5	Aluminum_		<u> </u>	NR			
	l	Antimony_ Arsenic	6.7		P_			
	1440-30-2	Wr Perrre	I	1 4 1 (<u> </u>			

CAD NO.	Midiyee	concentracton		×	1.4	ı
7429-90-5	Aluminum		-		\overline{NR}	
7440-36-0	Antimony -	6.7	Û		Р	
7440-38-2	Arsenic	9.9	В		P-	
7440-39-3	Barium —				NR	ı
7440-41-7	Beryllium	1.0	ซิ		Р	١
7440-43-9	Cadmium				P_	
7440-70-2	Calcium				NR	l
7440-47-3	Chromium	1900	_		Р	١
7440-48-4	Cobalt		_		NR	ĺ
7440-50-8	Copper	85.6	-		P	
7439-89-6	Iron		_		NR	Į
7439-92-1	Lead	86.1			P_	ı
7439-95-4	Magnesium				NR	ĺ
7439-96-5	Manganese		_		NR	
7439-97-6	Mercury	0.21	_		CV	
7440-02-0	Nickel	19.7_	B		P_	ĺ
7440-09-7	Potassium		_		NR	l
7782-49-2	Selenium_	4.9_	บิ		P_	١
7440-22-4	Silver	1.0_	U		P_	
7440-23-5	Sodium		_		NR	ĺ
7440-28-0	Thallium_	6.1	ਧ		P_	
7440-62-2	Vanadium_		_		NR	1
7440-66-6	Zinc	200_	_		P_	1
1	Cvanide		ı	l	NR	۱

Color Be	fore:	YELLOW	Clarity	Before:	CLOUDY	Texture:	
Color Af	ter:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE I	D:_A7474602-CGA E_ID:_03-03-W-2					

INORGANIC ANALYSES DATA SHEET

					03-W-3
Lab Name: RECRA	A_LABNET_ING	C	Contract: NY	797-163	
Lab Code: RECNY	Cas	se No.: 670	SAS No.	:	SDG No.: 303084
Matrix (soil/wa	ater): WATE	र		Lab Sampl	e ID: AD721423
Level (low/med)	: LOW	_		Date Rece	ived: 12/19/97
% Solids:	0.0)			
Cor	ncentration	Units (ug/	L or mg/kg dry	y weight):	UG/L_
	CAS No.	Analyte	Concentration	C Q	M
	1	Aluminum_ Antimony_ Arsenic_ Barium	6.7_		NR P_ P_ NR
	7440-41-7 7440-43-9	Beryllium Cadmium Calcium	1.0 27.7		P_ P_ NR

Cobalt

Iron

Lead

Copper

Magnesium

Manganese

Mercury_

Potassium

Selenium

Thallium

Vanadium -

Nickel

Silver

Sodium

Zinc

7440-48-4

7440-50-8

7439-89-6

7439-92-1

7439-95-4

7439-96-5

7439-97-6

7440-02-0

7440-09-7

7782-49-2

7440-22-4

7440-23-5

7440-28-0

7440-62-2

7440-66-6

Color Before: BROWN____ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

NR

Ρ

NR

Ρ

NR

NR

CV

Р

NR

Ρ

P

NR

Ρ

NR

Ρ

132

126

1.00

30.4

4.9

1.0

6.1

726

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1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA	A_LABNET_ING	C	Contract: NY	197	-163	03-W-4			
Lab Code: RECN		se No.: 670	SAS No.	: _		SDG No.: 303	084		
Matrix (soil/wa	ater): WATE	3		La	b Sampl	e ID: AD72142	4		
Level (low/med)): LOW	_		Date Received: 12/19/97					
% Solids:	0.0)							
Con	ncentration	Units (ug/	/L or mg/kg dry	y w	eight):	UG/L_			
	CAS No.	Analyte	Concentration	С	Q	M			
	7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1	Antimony_ Arsenic_ Barium_ Beryllium Cadmium_	6.711.3	_ _ _ _ _ _ _ _		NR P_ P_ NR P_ NR P_ NR P_ NR P_ NR P_ NR P_ NR			
	7439-95-4 7439-96-5 7439-97-6	Magnesium Manganese		- - -		NR NR CV			
	l -	laa. , a ——		1=1					

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Ρ NR

Ρ P_

NR

Ρ

 $N\overline{R}$

Р NR

29.8

4.9

1.7_

6.1

854

Color	Before:	BROWN	Clarity	Before:	CLOUDY	Texture:	
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE 1	ID:_A7474604-CGA LE_ID:_03-03-W-4					

7440-02-0

7440-09-7

7782-49-2

7440-22-4

7440-23-5

7440-28-0

7440-62-2

7440-66-6

Nickel

Silver

Sodium

Zinc

Potassium

Selenium

Thallium

Vanadium -

Cyanide

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

	Initia	al Calibra	ation		Continui		ibration		
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum_								Ī	NR
Antimony_	500.0	496.31	_99.3	500.0	528.70	105.7	531.76	106.4	
Arsenic_	500.0	488.50	97.7	500.0	517.50	103.5	520.43	104.1	P
Barium									NF
Reryllium	500.0	486.09	97.2	500.0		103.4	520.91	104.2	P_
lmium	500.0	477.07	95.4	500.0	506.35	101.3	511.93	102.4	P
calcium_									NE
Chromium_	500.0	490.03	_98.0	500.0	521.83	104.4	527.69	105.5	P_
Cobalt									NR
Copper	500.0	488.15	_97.6	500.0	516.74	103.3	516.80	103.4	P_
Iron									NR
Lead	500.0	482.99	96.6	500.0	515.05	103.0	522.29	104.5	P_
Magnesium									NR
Manganese									NR
Mercury	8.0	8.10	101.2	8.0	8.00	100.0	8.00	100.0	CV
Nickel	500.0	<u>48</u> 1.99	_96.4	500.0	<u>51</u> 2.66	102.5	519.35	103.9	
Potassium									NR
Selenium_	500.0	521.87	104.4	500.0		105.4	532.36	106.5	P_
Silver	500.0	483.58	_96.7	500.0	511.59	102.3	514.68	102.9	P_
Sodium									NR
Thallium_	500.0	472.73	_94.5	500.0	500.32	100.1	505.01	101.0	P_
Vanadium_									NR
Zinc	500.0	475.54	_95.1	500.0	510.43	102.1	518.41	103.7	
Cyanide									NR
									$ \ _{-}$

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-	163	

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

	Initia	ıl Calibr	ation		Continui	ng Cal:	ibration		
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum_									N.
Antimony_				500.0	533.10	106.6	536.63	107.3	'
Arsenic			l	500.0	523.93	104.8	528.58	105.7	!
Barium			.						` .
Beryllium				500.0	521.76	I	525.31	105.1	: _
Cadmium				500.0	515.14	103.0	518.23	103.6	
Calcium			.						.vR
Chromium_				500.0	528.03	105.6	532.21	106.4	
Cobalt									; NR
Copper				500.0	519.56	103.9	520.50	104.1	P
Iron							_		NR
Lead				500.0	524.91	105.0	528.57	105.7	P
Magnesium								}	NR
Manganese									NR
Mercury				8.0	8.10	101.2	8.20	102.5	CV
Nickel				500.0	521.57	104.3	523.22	104.6	P
Potassium									NR
Selenium_				500.0	532.00	106.4			P
Silver				500.0	515.12	103.0	518.94	103.8	P_
Sodium									NR
Thallium_				500.0	506.06	101.2	510.20	102.0	P
Vanadium_									NR
Zinc				500.0	516.81	103.4	517.42	103.5	P
Cyanide									NR
]									

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name:	RECRA LABNET INC.	Contract: N197-163

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Aluminum Antimony Arsenic Barium Beryllium Imium Antimony Beryllium Imiu		Initial	Calibr	ation		Continui	ng Cal:	ibration		
Antimony	Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Arsenic Barium	_ -							\		$ \overline{NR} $
Barium 500.0 529.49 105.9 532.78 106.6 Perpliam Imium 500.0 520.24 104.0 523.74 104.7 Perpliam Chromium 500.0 535.01 107.0 539.06 107.8 Perpliam Cobalt 500.0 524.49 104.9 524.62 104.9 Perpliam Copper 500.0 529.73 105.9 534.17 106.8 Perpliam Iron 100.0 529.73 105.9 534.17 106.8 Perpliam Magnesium 8.0 8.20 102.5 8.00 100.0 Contract Nickel 500.0 527.00 105.4 530.21 106.0 Perpliam Sodium 500.0 522.46 104.5 523.63 104.7 Perpliam Yanadium 500.0 521.72 104.3 526.20 105.2 Perpliam							l .		l	
Seryllium	i -				500.0	529.44	105.9	533.37	106.7	
imium 500.0 520.24 104.0 523.74 104.7 Part of the proper of							l			
Calcium										
Chromium					500.0	520.24	104.0	523.74	104.7	
Cobalt 500.0 524.49 104.9 524.62 104.9 P Iron 500.0 529.73 105.9 534.17 106.8 P Magnesium Magnesium NI	calcium									NR
Copper 500.0 524.49 104.9 524.62 104.9 P Iron 500.0 529.73 105.9 534.17 106.8 P Magnesium Manganese Mercury 8.0 8.20 102.5 8.00 100.0 CV Nickel 500.0 527.00 105.4 530.21 106.0 P Potassium Selenium Silver 500.0 522.46 104.5 523.63 104.7 P Sodium 500.0 511.59 102.3 515.81 103.2 P Vanadium Zinc 500.0 521.72 104.3 526.20 105.2 P		i_			500.0	535.01	107.0	539.06	107.8	
Iron	Cobalt									NR
Lead 500.0 529.73 105.9 534.17 106.8 P Magnesium Manganese 8.0 8.20 102.5 8.00 100.0 CV Nickel 500.0 527.00 105.4 530.21 106.0 P Potassium Selenium Selenium Silver 500.0 522.46 104.5 523.63 104.7 P Sodium Thallium Vanadium Zinc 500.0 521.72 104.3 526.20 105.2 P	Copper				500.0	524.49	104.9	524.62	104.9	
Magnesium Manganese 8.0 8.20 102.5 8.00 100.0 NH NH NH NH NH NH NH NH NH NH NH NH NH N	Iron									NR
Manganese 8.0 8.20 102.5 8.00 100.0 CV Nickel 500.0 527.00 105.4 530.21 106.0 P Potassium Selenium Silver 500.0 522.46 104.5 523.63 104.7 P Sodium Thallium 500.0 511.59 102.3 515.81 103.2 P Vanadium 500.0 521.72 104.3 526.20 105.2 P					500.0	529.73	105.9	534.17	106.8	
Mercury 8.0 8.20 102.5 8.00 100.0 CV Nickel 500.0 527.00 105.4 530.21 106.0 P Potassium Selenium NI Silver 500.0 522.46 104.5 523.63 104.7 P Sodium 500.0 511.59 102.3 515.81 103.2 P Vanadium 500.0 521.72 104.3 526.20 105.2 P	Magnesium									NR
Nickel_ Potassium 500.0 527.00 105.4 530.21 106.0 P NF NF NF NF NF NF NF NF NF NF NF NF NF							l			NR
Potassium Selenium NNF Silver 500.0 522.46 104.5 523.63 104.7 P Sodium Sodium NNF NN										CV
Selenium_ 500.0 522.46 104.5 523.63 104.7 P Sodium_ 500.0 511.59 102.3 515.81 103.2 P Vanadium_ 500.0 521.72 104.3 526.20 105.2 P					500.0	527.00	105.4	530.21	106.0	
Silver 500.0 522.46 104.5 523.63 104.7 P Sodium 500.0 511.59 102.3 515.81 103.2 P Vanadium 500.0 521.72 104.3 526.20 105.2 P	_									$ N\overline{R}$
Sodium										NR
Thallium_ Vanadium_ Zinc					500.0	522.46	104.5	523.63	104.7	1 1
Vanadium_										NR
Zinc500.0521.72 104.3 526.20 105.2 P				l	500.0	511.59	102.3	515.81	103.2	
										NR
Cyanide					500.0	521.72	104.3	526.20	105.2	I I
	Cyanide									NR
										$\prod_{i=1}^{n}$

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Nam	e: RECRA_LABI	NET_INC		_	Con	tract	: NY9/-163_	_		
Lab Cod	e: RECNY_	Case	No.:	6702_	SAS	No.:		SDG	No.:	303084
Initial	Calibration	Source:	VHO	g/INOR	.VEN					

Concentration Units: ug/L

Continuing Calibration Source: VHG/INOR.VEN

ĺ	Initial	Calibr	ation		Continui				
Analyte	True	Found	%R(1)	True	Found	%R(1)		%R(1)	
Aluminum									
Antimony_									N.
Arsenic			.			ll_		.	N.
Barium						l		.	N
Beryllium			. [ll_			N
Cadmium									N
Calcium			. [ĺl			N.
Chromium_						l [-		.	N
Cobalt			.			ll		.	I.
Copper								.]	
Iron			.			ll			
Lead						ll		.	N
Magnesium						l l .		.[]	
Manganese	_		.			ll.	<u> </u>	. [N
Mercury			·l	8.0	8.00	100.0		.	
Nickel	_		.					.	l N
Potassium			.			.		.	l N
Selenium_						[].		.	
Silver			.]			-		.	
Sodium			-			[]-		.	
Thallium_	-		-][.		.	
Vanadium_	[-		.		·	.		.	l I
Zinc			.					.	N
Cyanide			.					.	1

2B CRDL STANDARD FOR AA AND ICP

Lab Name:	RECRA_LABNET	_INC	Contract:	NY97-163_	_		
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG	No.:	303084
AA CRDL St	andard Source	e: INORG.VENT					
ICP CRDL S	Standard Sour	ce: VHG					

Concentration Units: ug/L

Analyte	CRDL St	andard for	AA %R	True	CRDL Star Initial Found	ndard i	for ICP Final Found	l %R
Aluminum_ Antimony_ Arsenic_ Barium_ Peryllium Imium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver		0.19	95.0		96.55 17.84 10.17 10.28 21.52 50.70 0.68 84.63 9.88	-80.5 -89.2 101.7	98.53 18.18 10.42 10.53 21.37 51.63 -0.43 85.84	82.1 90.9 104.2 105.3 106.8 103.3 7.2
Sodium_ Thallium_ Vanadium_ Zinc				20.0	19.56 43.46	97.8	19.97 51.36	99.8 128.4

2B CRDL STANDARD FOR AA AND ICP

Lab	Name:	RECRA LABI	ET INC	•	Contract:	NY97-163
			_			

AA CRDL Standard Source: INORG.VENT._

ICP CRDL Standard Source: VHG_____

Concentration Units: ug/L

	CRDL St	tandard fo			CRDL Sta Initial		Final	
Analyte	True	Found	%R	True	Found	%R	Found	%R
Aluminum_								
Antimony_				120.0		.	99.85	83
Arsenic				20.0		.	18.32	91
Barium				10.0			10.42	104
Cadmium				10.0		·	10.42	105
Calcium						-		
Chromium				20.0			21.41	107
Cobalt								
Copper				50.0		.	51.81	_103
Iron						.]		
Lead Magnesium				6.0		-	0.20	3
Manganese						·		
Mercury						·	i ———	
Nickel -				80.0		1	87.15	108.
Potassium								
Selenium_								
Silver				20.0		.	10.54	52
SodiumThallium				20.0		-	19.47	97
Vanadium						-	- 19.47	
Zinc				40.0			44.47	111

2B CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET_	_INC	Contract:	NY97-163
Lab Code: RECNY_	Case No.: 6702_	SAS No.: _	SDG No.: 303084
AA CRDL Standard Source	e: INORG.VENT		
ICP CRDL Standard Source	ce: VHG		

Concentration Units: ug/L

	CRDL St	andard fo	r AA		CRDL Star	CRDL Standard for ICP Initial Final		
Analyte	True	Found	%R	True	Found	%R	Found	_
Aluminum	ļ				1			Г
Antimony_	-							-
Arsenic	-							-
Barium	-							-
eryllium	-							-
dmium	-							-
calcium_								-
Chromium								-
Cobalt -								-
Copper								-
Iron								l _
Lead								
Magnesium								l_
Manganese								۱_
Mercury								_
Nickel	-]				_
Potassium					·			 _
Selenium_ Silver	-			10.0	10.87	108.7	10.22	_
Sodium	-				ļ			-
Thallium	-							—
Vanadium	-							-
Zinc	-							_

3 BLANKS

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		uing Calib Lank (ug/L) 2		cion 3	С	Prepa- ration Blank	C	М
Aluminum_ Antimony_ Arsenic_	6.7 6.0	ש	6.7_ 6.0_	U	6.7_ 6.0_	u	6.7_ 6.0_	ש		<u>u</u>	NR_P_P
Barium Beryllium Cadmium Calcium	1.0 0.5	บิ	1.0_ 0.5_	บ บ	1.0	บ บ	1.0	บ		U U	NR P P NR
Chromium_ Cobalt	1.0	ਹ	1.0_	บิ	1.0_	ีบิ	1.0_	ਹ	1.000	<u></u>	P_NR
Copper	1.0	ਹ	1.6_	B	1.2_	$\overline{\mathtt{B}}$	1.0_	ਹ	1.000	Ē│	P_NR
Lead Magnesium	2.5	Ū	2.5_	Ū	2.5_	Ū	2.5_	ਹ	2.500	Ū	P_NR
Manganese Mercury Nickel	0.2	ט	0.2_	Ū U	0.2_	Ū	0.2	Ū		<u>u</u>	NR_CV_P
Potassium Selenium_ Silver	4.9 1.0	ת ת	4.9_ 1.0	ָ ָ ע	4.9 1.0	Ū	4.9	Ū U	4.900	֓֞֞֞֞֜֞֟֓֓֓֟֟֓֓֓֟֓֓֟֓֓֟֟֓֓֟֟֓֓֟֓֟֓֟֓֟֓֟֓	NR_P_
Sodium Thallium_	6.1	ਹ	6.1_	Ū	6.1_	Ū	6.1	Ū		<u></u>	NR_ P
Vanadium_ Zinc Cyanide	1.0	บิ	1.0_	Ū	1.0_	Ū	1.0_	Ū	1.000	Ū	NR_P_NR
		_		_		_		_		_ [

3 BLANKS

Lab Name:	RECRA_LAB	NET_INC	Contract:	NY97-163		
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG	No.:	303084
Preparatio	on Blank M	Matrix (soil/water):				
Preparatio	on Blank C	Concentration Units (ug,	/L or mg/kg)):		

Analyte	Initial Calib. Blank (ug/L)	=	Cont:	iing Ca ank (u 2		ion 3	С	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic_ rium_ cryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			6.7 6.0 1.0 0.5 1.0 1.0 2.5 	61101111	.05	6.7 6.0 1.0 0.5 1.0 1.6 2.5 1.5 1.0 2.5				NR

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SDC	3 No.:	303084
Prep	aratio	n Blank	<pre>Matrix (soil/water): _</pre>				
Pren	aratio	n Blank	Concentration Units (u	ug/L or mg/kg):		

Analyte	Initial Calib. Blank (ug/L)	С	Conti		uing Calib ank (ug/L 2	tion 3	С	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			0.2							NR NR NR NR NR NR NR NR NR NR NR NR NR N

ICP INTERFERENCE CHECK SAMPLE

Lab Name:	RECRA_LABNE	T_INC	Contract: NY9'	7-163	
Lab Code:	RECNY_	Case No.: 6702_	SAS No:	SDG No.:	30308
ICP ID Num	mber: SUPERTR	ACE-2	ICS Source: V	HG	

Analyte	Sol. A	cue Sol. AB	Ini Sol. A	Sol. AB	d %R	Sol. A	Final Found Sol. AB	d %R
Aluminum_ Antimony_ Arsenic Barium	0	1000	10 1	1043.6 1030.7	104.4	6 1	1063.1 1047.4	106.3 104.7
Beryllium Cadmium Calcium	0	500 1000	0	506.4 953.4		0	514.4 975.1	102.9 _97.5
hromium_ Cobalt Copper	0	500	19	518.8	103.8	18	569.1	105.6
Iron Lead Magnesium	0	1000	16	952.5			969.4	_96.9
Manganese Mercury Nickel Potassium	0	1000	2	974.0	97.4	1	994.4	99.4
Selenium_ Silver Sodium	0	1000	1	1060.3	106.0	0	1073.8	107.4
Thallium_ Vanadium_ Zinc	0	1000	17 5	910.0		16	927.3	92.7

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA LABNET INC. Contract: NY9	7-163
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ICP ID Number: SUPERTRACE-2 ICS Source: VHG_____

Analyte	Sol.	cue Sol. AB	In Sol. A	itial Found Sol. AB	Final Found Sol. Sol. A AB %R					
Aluminum_										
Antimony_	0	1000				7	1058.4	l		
Arsenic	0	1000				J0	1050.9	105.1		
Barium										
Beryllium	0	500				0	517.1	103.4		
Cadmium	0	1000				10	973.7	_97.4		
Calcium										
Chromium_	0	500				18	530.7	106.1		
Cobalt										
Copper	0	500				3	571.2	114.2		
Iron										
Lead	0	1000				-17	970.7	97.1		
Magnesium										
Manganese										
Mercury										
Nickel	0	1000				1	1000.4	100.0		
Potassium										
Selenium_										
Silver	0	1000			l	0	1077.5	107.8		
Sodium										
Thallium_	0	1000				-14	924.3	_92.4		
Vanadium_										
Zinc	0	1000				-4	923.6	_92.4		

4 ICP INTERFERENCE CHECK SAMPLE

Lab Name:	RECRA_LABNET		Contract: NY97-16	53	
Lab Code:	RECNY_	Case No.: 6702_	SAS No:	SDG No.:	303084
TCP TD Nur	mber. SUPERTRA	ACE	ICS Source: VHG		

Analyte	Sol.	rue Sol. AB	Ini Sol. A	itial Found Sol. AB	d %R	Sol.	Final Found Sol. AB	d %R
Aluminum_Antimony_Arsenic_Barium_Beryllium_Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Thallium_Vanadium_Zinc_Marenium_Zinc_Marenium_Silver_Sodium_Tallium_Vanadium_Zinc_Marenium_Sinc_Marenium_Silver_Sodium_Tallium_Vanadium_Zinc_Marenium_Sinc_Marenium_Sinc_Marenium_Silver_Sodium_Tallium_Vanadium_Zinc_Marenium_Sinc_Mareni		1000		1000.8	100.1		1005.5	100.6

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

							BLKSPK1	-
Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-163	1	

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

									, — ,
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	М
Aluminum					Г			_	\overline{NR}
Antimony -	75-125	519.7400	_	6.7000	บิ	500.000	103.9	-	P
Arsenic'-	75-125	1957.8500	_	6.0000	U	2000.000	97.9	-	$ P^- $
Barium —	_		_					-	$N\overline{R}$
Beryllium	75-125	49.6400	_	1.0000	Ū	50.000	99.3	-	Р
Cadmium	75-125	50.5600	-	0.5000	U	50.000	101.1	-	P-
Calcium	_		_					-	NR
Chromium	75-125	207.0000		1.0000	ਹ	200.000	103.5	-	Р
Cobalt			_		-			-	NP
Copper	75-125	258.9700	_	1.0000	B	250.000	103.2	-	P
Iron			-		-			-	NR
Lead	75-125	520.6100	_	2.5000	Ū	500.000	$-\frac{104.1}{104.1}$	-	P
Magnesium			_		-			_	NR
Manganese			 —		-			-	NR
Mercury	75-125	1.0200	-	0.2000	ਹ	1.000	102.0	[-	CV
Nickel'-	75-125	515.6100	_	1.5000	Ū	500.000	103.1	-	P
Potassium	_		_		-			_	NR
Selenium	75-125	1820.1700	_	4.9000	Ū	2000.000	91.0	-	Р
Silver -	75-125	50.1500	_	1.0000	U	50.000	100.3	-	P-
Sodium	_		_		-			-	NR
Thallium	75-125	1959.8000	_	6.1000	Ū	2000.000	98.0	_	Р
Vanadium_	_		_					-	NR
Zinc	75-125	544.1300	_	1.0000	บิ	500.000	108.8	-	P
Cyanide_	_		_					—	NR
-			_		-			_	

$C_{\mathcal{O}}$	mm	01	٠.	C	•

LAB_SAMPLE_ID:_A7B1126901-CGA00799	
CLIENT_SAMPLE_ID: MATRIX_SPIKE_BLANK	

5A SPIKE SAMPLE RECOVERY

NYSDEC	SAMPLE	NO
NIODEC	DUIT	\mathbf{r}

		BLKSPK2
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	
Lab Code: RECNY_ Case No.: 6702_	SAS No.:	SDG No.: 303084
Matrix (soil/water): WATER_	Level	(low/med): LOW
% Solids for Sample:0.0		

Concentration Units (ug/L or mg/kg dry weight): $UG/L_{_}$

								_	
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum			_					_	NR
Antimony	75-125	545.4900	_	6.7000	Ū	500.000	109.1	_	P
Arsenic	75-125	2092.1600	_	6.0000	U	2000.000	104.6	-	P_
Barium							_	-	NR
Beryllium	75-125	49.9000	_	1.0000	Ū	50.000	99.8	_	Р
Cadmium	75-125	50.9700	_	0.5000	U	50.000	101.9	_	P_
Calcium	_		_					-	NR
Chromium	75-125	221.9400	_	1.0000	Ū	200.000	111.0	-	P
balt	_		_		1			-	NR
copper	75-125	259.5800	_	1.0000	\overline{B}	250.000	103.4		Р
Iron —		_	_		1		_	-	NR
Lead	75-125	526.1700	_	2.5000	Ū	500.000	105.2	-	Р
Magnesium	_		_					-	NR
Manganese			_		-			-	NR
Mercury	75-125	1.0420	_	0.2000	Ū	1.000	104.2	-	CV
Nickel -	75-125	519.7000	_	1.5000	U	500.000	103.9	-	P
Potassium	_		_					_	NR
Selenium	75-125	1956.5300	_	4.9000	Ū	2000.000	97.8		P
Silver	75-125	49.3500	_	1.0000	U	50.000	98.7	-	P_
Sodium			_		_			_	NR
Thallium	75-125	1976.5500	_	6.1000	Ū	2000.000	98.8	_	P_
Vanadium_	·				l_			_	NR
Zinc	75-125	549.7400	_	1.0000	Ū	500.000	109.9		P_
Cyanide			_		_			_	NR
			_						

Comments:	
LAB_SAMPLE_ID:_A7B1126902-CGA00799	
CLIENT_SAMPLE_ID:_MATRIX_SPIKE_BLANK_DUP	

7 LABORATORY CONTROL SAMPLE

Lab Name:	RECRA_LABNET	INC	Contract: NY97-163	_
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303084
Solid LCS	Source:			
Aqueous LO	CS Source: IN	NORG.VENT./CPI *		

	Acut	eous (ug/	T.)			oli,	d (mg/kg)		
Analyte	True	Found	*R	True		C	Lim	its	%R
Aluminum									
Antimony_	25000.0	24884.91	99.5			_ _			
Arsenic	1000.0	1032.98	103.3			_ _			
Barium —	-	-				_ -			
Beryllium	500.0	485.64	97.1			- -			
Cadmium	500.0	496.68	99.3			_ -			
Calcium	_		-			- -			
Chromium	500.0	511.21	102.2			- -			
Cobalt						-[-			
Copper	500.0	483.43	96.7			-1-			
Iron						- -			
Lead	2500.0	2638.20	105.5			- -			
Magnesium	-	-				- -	[
Manganese					[- -			l ———
Mercury	4.0	4.10	102.5	[— —		- -			
Nickel	300.0	309.72			l ——	- -			
Potassium			-03.2			- -			
Selenium	47.0	48.63	103.5						
Silver	2500.0	2481.30	99.3		i — —	- -			
Sodium	-2300.0	-2101.30	-""			- -	J———		
Thallium	80.0	82.60	103.2			- -			
Vanadium_		02.00	-03.2			- -			
Zinc	500.0	512.38	102.5]	- 	
Cyanide			102.5	<u> </u>		- -			
Cyanitue			l ——			- -			
l		l	l	l		_ _			

^{*} LCSW's for Lead and Silver use Lot Number CPI.

ICP SERIAL DILUTION

NYSDEC SAMPLE NO.

03-W-3L

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163___ ____

Matrix (soil/water): WATER

Level (low/med): LOW__

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	Differ- ence Q M
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_	6.70 U 6.00 U 1.00 U 27.71 464.56 131.98 125.95 30.39 B 4.90 U 1.00 U 725.68	33.50 U 30.00 U 5.00 U 29.45	NR P P NR P NR NR NR NR NR NR P NR NR NR NR P NR NR NR NR P NR NR NR NR P NR NR NR P NR NR P NR NR P NR NR P NR NR P NR NR P NR NR P NR NR P NR NR P NR NR P NR P NR NR P

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_	_INC	Contract:	NY97-163
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303084
ICP ID Number:	SUPERTRACE-2	Date:	10/06/97
Flame AA ID Number :			
Furnace AA ID Number :			

					_
Analyte Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt	Wave- length (nm)	Back-ground	CRQL (ug/L) 200601055550001050	IDL (ug/L)	M NR P NR P NR NR
Analyte	(nm)	ground	(ug/L)	(ug/L)	M
			200_		I .
Antimony_	_206.80		60_	6.7	P_
Arsenic	_189.00			6.0	
			200		NR
Beryllium	313.00		5	1.0	_
Cadmium	_226.50			0.5	
Calcium			5000		NR
Chromium_	_267.70		10_	1.0	
Cobalt			50_		NR
Copper	324.70		25_	1.0	P_
Iron			100_		NR
Lead	_220.30		3_	2.5	P
Magnesium			5000_		NR
Manganese			15_		NR
Mercury			0.2_		NR
Nickel	_231.60		40_	1.5	P_
Potassium			5000_		NR
Selenium_	_196.00		5_	4.9	P_
Silver	_328.00		10_	1.0	P_
Sodium			5000_		NR
Thallium_	_190.80		10_	6.1	P_
Vanadium_			50_		NR
Zinc	_206.20		20_	1.0	P_

Comments:		

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_	_INC	Contract:	NY9/-163		
Lab Code: RECNY_	Case No.: 6702_	SAS No.:		SDG No.:	303084
ICP ID Number:		Date:	12/22/97		
Flame AA ID Number :	PE5000				
Furnace AA ID Number :					

Comments:			
	 	 	

11A ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab	Name:	RECRA_LABNET_	INC	Contract:	NY97-163_		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	·	SDG No.:	30308
ICP	ID Nur	mber: SUPERTRAC	CE-2	Date:	12/13/97		

	Wave-	Ir	nterelement (Correction D	Factors for	:
	length		_	_		
Analyte	(nm)	Al	Ca	Fe	Mg	CR
Aluminum	308.20	0.000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.80	0.000000	_0.0000000_	_0.0000000	_0.0000000	-0.0049090
Arsenic -	189.00	0.0000000	_0.0000000	_0.0000000	_0.0000000	0.0000000
Barium	493.40	0.0000000	_0.0000000	_0.0000000	0.0000000	_0.0000000
Beryllium	313.00	0.0000000	_0.0000000_	_0.0000000	0.0000000	_0.0000000
Cadmium	226.50	0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Calcium	317.90	0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Chromium	267.70	_0.0000000	_0.0000000_	_0.0000000	0.0000000	_0.0000000
Cobalt	228.60	_0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Copper	324.70	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Iron	_271.40_	_0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Lead	_220.30_	_0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Magnesium	_279.00_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Manganese	_257.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Mercury						
Nickel	_231.60_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Potassium	_404.70_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Selenium_	_196.00_	_0.0000000	_0.0000000_	-0.0002150	_0.0000000	_0.0000000
Silver	_328.00_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Sodium	_330.20_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Thallium_	_190.80_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Vanadium_	_292.40_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Zinc	_206.20_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
				l		

Cor	nme	ent	s:												
	_			 	 	 	 	 	 	 	 	 	 	 	 -
															 _

12 ICP LINEAR RANGES (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

ICP ID Number: SUPERTRACE-2 Date: 09/25/97

Analyte Aluminum_	Integ. Time (Sec.)	Concentration (ug/L)	M P
Antimony_ Arsenic	$-^{15.00}_{15.00}$	50000.0 20000.0	P_ P
Barium	-15.00	100000.0	P
Beryllium	$-\frac{15.00}{15.00}$	10000.0	P
Cadmium	15.00	20000.0	P_
Calcium_	<u></u> 15.00	500000.0	P_
Chromium_	15.00	100000.0	P_
Cobalt	15.00	100000.0	P_
Copper	15.00	50000.0_	P_
Iron	15.00	600000.0	P_
Lead	-15.00	100000.0	P_ P
Magnesium	-15.00	20000.0	P-
Manganese Mercury	15.00	20000.0	NR
Nickel	15.00	100000.0	P
Potassium		500000.0	P_
Selenium	15.00	20000.0	P_
Silver	<u></u> 15.00	5000.0	P_
Sodium	15.00	500000.0	P_
Thallium_	15.00	100000.0_	P_
Vanadium_	15.00	100000.0	P_ P
Zinc	15.00	20000.0	
	I		l

Comments:				
	-			
		_		

13 PREPARATION LOG

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-163
				_		

Lab Code: RECNY_ Case No.:_6702_ SAS No.: ____ SDG No.:303084

Method: P_

NYSDEC Sample No.	Preparation Date	Weight (gram)	Volume (mL)
03-W-1 03-W-2 03-W-3 03-W-4 BLKSPK1 BLKSPK2 LCSW LCSW PBW			100 100 100 100 100 100 100 100

FORM XIII - IN

13 PREPARATION LOG

Lab	Name:	RECRA_LABNI	ET_INC	Contract: NY97-16	3
Lab	Code:	RECNY_	Case No.:_6702	SAS No.:	SDG No.:30308

Method: CV

NYSDEC Sample No.	Preparation Date	Weight (gram)	Volume (mL)
03-W-1 03-W-2 03-W-3 03-W-4 BLKSPK1 BLKSPK2 LCSW	12/22/97 12/22/97 12/22/97 12/22/97 12/22/97 12/22/97 12/22/97		100 100 100 100 100 100
PBW	_12/22/97		100

FORM XIII - IN

14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303084

Instrument ID Number: SUPERTRACE-2 Method: P_

Start Date: 12/23/97 End Date: 12/23/97

MICEDEC														Ar	na.	Lyt	es	3										
NYSDEC	D / T	m:		Б	<u>_</u>		70	- D	-				ā		- T		3.6	1	7.7	1.7	7.5		-		_	77		_
Sample	D/F	Time	%	R	A	S	A S	В	В	C	C	C R	C	C	F	P	M	M	H	N	K		A	N	T	V	Z	C
No.					L	В	5	A	Ε	D	А	R	0	U	Ε	В	G	N	G	I		Ε	G	А	L		N	N
S0	1.00	0841			-	\overline{x}	\bar{x}		$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$	_	\overline{x}	—	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	-	<u> </u>	-	\overline{x}	-	_	\overline{x}	-	\overline{x}	-	$ \bar{x} $	-
s ——	1.00	0846			-	X	X	-	X	X	-	X	-	X	-	X		-	-	X	-	-	X		X	-	X	-
s	1.00	0852			-	X	X		X	X	-	X	_	X	<u> </u>	X	-	-	-	X			X	-	X	-	X	-
s	1.00	0857			-	X	x	-	X	X	_	X	_	X	-	X	-	-		x	-	-	X	_	X	-	x	-
s	1.00	0902			1-	X	X	-	X	X	-	X	-	X	-	X	-	-	-	X	-	-	X	-	X		X	-
s	1.00	0907			-			-			-		_		-			-	-		_	-		-	**	-		-
ZZZZZZ	1.00	0914			-	-	-	(-	_	-	_	_	_	-	-	_	-	-	-	_	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	0922			-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	-] —	-	-	-
ZZZZZZ	1.00	0927			-	<u> </u>	-	-	-	-	_	-	—	-	-	-	-		-	_	-	-	-	-	-	-	-	
ICV —	1.00	0933			-	\overline{X}	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$	_	$\overline{\mathbf{x}}$	_	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	-	-	_	\overline{x}	_	_	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{y}}$	1000
ICB	1.00	0938			-	Х	Х	-	Х	Х	-	Х	_	Х	-	Х	_	_	-	Х	-		X	-	X	-	X,	- 5
CRI	1.00	0944			-	Х	Х	_	Х	Х	_	Х	_	Х	_	Х	-	-	-	Х	_	-	Х	-	Х		Х	_
ZZZZZZ	1.00	0949			-			-			-		_		-		-	-	-			-		-		-		-
ICSA	1.00	0955			-	$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	X		\overline{X}	_	$\overline{\mathbf{x}}$	_	$\overline{\mathbf{x}}$		_		$\overline{\mathbf{x}}$	-	-	\overline{x}	_	\overline{x}	-	$ \overline{x} $	-
ICSAB	1.00	1001			-	Х	Х		Х	Х		Х	_	Х		Х	-	_	_	Х	_	_	Х	-	X	_	X	-
CCV	1.00	1006				X	Х	_	Х	X	_	Х	_	X		Х	_	_	_	Х	-	_	X	_	Х	_	X	_
CCB	1.00	1012				X	Х		Х	Х		Х		Х		Х	_		_	Х	_	_	X	_	Х	_	X	_
ZZZZZZ	1.00	1055			_	_	_	_	_	_		_	_	_	_	_		_	_	_			_		_	_	_	
ZZZZZZ	1.00	1101			_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		_	_			_	_		
ZZZZZZ	1.00	1106			_	_	_	_	_	_	_		_		_	_	_	_	_	_	_	_		_			_	$\equiv l$
ZZZZZZ	1.00	1112			_	_	_		_	_	_	_	_	_		_	_	_	_	_		_	_	_	_	_		
ZZZZZZ	1.00	1117			_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	Í_	_	_	_	_	_	_!
ZZZZZZ	1.00	1123			_	_	_	_		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1128			-			_				_	_				_	_	_		_	_		_	_	_	_	_
CCV	1.00	1134			-	X	X	_	X	X		X	_	X	_	X	_	_	_	X	_	_	X	_	\overline{X}	_	$ \overline{\mathbf{x}} $	_
CCB	1.00	1140	l ——		_	Х	Х	_	X	Х	_	Х	_	Х	_	Х	_	_	_	X		_	X	_	Х	_	X	_[
ZZZZZZ_	1.00	1145			_	_	_	_	_	_	_	_	_				_	_	_	_	_	_	_	_	_		[_
ZZZZZZ	2.00	1151			_	 _	_			_	_	_	_	_			_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	2.00	1156			_	_	-	_		_	_	-	_	_			_	_	_	_	_	_	_	_	_	_	_[_
ZZZZZZ	5.00	1202			-	_	_		-	_	_		_	_	_	_	_	_	_		_	_	_	_	_	_	_	_
ZZZZZZ	5.00	1207			_	_	-	_	_	-	_	_	_	_	_	_	_	_	$ _ $	_	_	_	_	_		_	_	_
ZZZZZZ	1.00	1213			_	_	_	-	_	_	_	_	_	-	_	-	_	_	_	_	_	_	_	_	_		_	[
		l			 _	 _	_	_	_	_	_		_	_	_	_		_			_	_	_	_		_	_	_

14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.:303084

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 12/23/97 End Date: 12/23/97

			Ι		T -						_	_		Aı	na.	lyt	tes		_									
NYSDEC	D/F	Time	0.	R	A	S	70	ת	n							<u> </u>	3.6	3.6	177	D.T.	7.5	_	1 20	3.7	m	177	-	
Sample No.	D/F	111111111111111111111111111111111111111	6	ĸ	L	В	A S	B A	B	C	C	C R	C	C	F	P B	G	M N	H G	NI	K	S	A G	N A	T	V	Z N	C N
NO.					1"	₽	٥	^	-	וטן	A	Ι.		0	-	Р	٦	11/	٦	+		E	٦	A	1		1/1	N
ZZZZZZ	1.00	1219	\		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1224			-	1-	-	-	-	-	-		-	-	-	-	 	-	-	-	-	_	-	-	-	-	_	-
ZZZZZZ	1.00	1230			-	-	_		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CCV —	1.00	1235			-	\overline{X}	\overline{X}	-	\overline{X}	\overline{X}	_	\overline{X}	-	\overline{x}	-	\overline{x}	-	-	-	\overline{x}	-	_	\overline{X}	-	\overline{X}	-	$\overline{\mathbf{x}}$	-
CCB	1.00	1241			-	X	Х	-	X	x	-	Х	-	Х	-	Х	-	-	-	x		-	Х	-	Х	-	Х	-
ZZZZZZ	1.00	1246			-			-			_		-		-		-	-	-		-	_		-		-		
ZZZZZZ	1.00	1252			-	-	_	-	-	-	_	_	-	-	-	_	-	-		-	-	-	_	-	-	-	-	-
ZZZZZZ	1.00	1258			-	_	_	_		_	_	_	-	-	-	-	-	_	_	-	-	_	_	-	-	-	-	-
7.ZZZZZZ	1.00	1303			_				_	_	_	_	-	-	-	-	-	-	-	-	-	-	-		_	-	-	_
I	1.00	1309			_	$\overline{\mathbf{x}}$	\overline{X}		$\overline{\mathbf{x}}$	\overline{x}		\overline{X}	_	\overline{x}		\overline{x}	-	_	_	\overline{X}	-	_	$\overline{\mathbf{x}}$	-	\overline{X}	-	\overline{X}	-
~ &ZZZZZ	1.00	1314			Ι_	_	_	_			_		_		_		_	_	-		-	_		_		-		-
ICSA	1.00	1320			_	$\overline{\mathbf{x}}$	\overline{x}	_	$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$	_	\overline{X}	_	$\overline{\mathbf{x}}$	-	$\overline{\mathbf{x}}$	-	_	-	\bar{x}		-	\overline{X}	-	\overline{X}	-	\overline{X}	-
ICSAB	1.00	1325			_	x	x		Х	X	_	Х	_	x	_	X	-	_	_	Х	-	_	Х	_	Х	-	X	-
CCV	1.00	1331				Х	X	_	Х	X		Х	_	Х	_	X	_	_	_	Х		_	X	_	Х	-	X	-
CCB	1.00	1337			_	x	X		X	X		Х	_	Х		Х	-	_		Х	-	-	Х	_	Х	-	X	-
PBW	1.00	1342			<u> </u>	X	X	<u> </u>	Х	X	_	X	_	Х	_	X	-	_	_	Х	-	i — I	Х	-	Х	-	X	_
LCSW	1.00	1348			_	x	X	_	Х	Х		Х		X	_			_	_	X		-		-	X	-	X	-1
LCSW	10.00	1353			_		_ \								_	\overline{x}	_	-	_		-	_	\overline{X}	_		_		-
BLKSPK1_	1.00	1359			_	\overline{x}	\overline{x}		$\overline{\mathbf{x}}$	$ \overline{x} $	_	\overline{X}	_	\overline{x}	-	X	-	-	-	$\overline{\mathbf{x}}$	-	-	Х	_	\overline{x}	-	$\overline{\mathbf{x}}$	-
BLKSPK2_	1.00	1404				X	X		X	X		X		X	-	X	_		_	Х	-	_	X	_	Х	- 1	X	-
03-W-1	1.00	1410			_	x	X	_	$ \mathbf{x} $	X		Х	_	X		X		_	_	Х		-	X	-	Х	-	X	-
03-W-2	1.00	1416			[x	X		X	x		X		X	_	X	<u> </u>			Х		_	X	-	Х	-	x	-
03-W-3	1.00	1421			_	x	x	_	X	x	_	X	_	Х		X				Х			X	_	X	_	\mathbf{x}	-
03-W-3A_	1.00	1434			_	_	_1	_	_	_	_	_			<u> </u>			_1						-		-	- {	-
03-W-3L_	1.00	1440				$ \bar{x} $	\overline{x}	_	\overline{X}	$\overline{\mathbf{x}}$	_	\overline{X}	_	\overline{x}		$ \overline{x} $	_	_		\overline{X}			\overline{x}		\overline{x}		\overline{x}	_
CCV	1.00	1445			_ <u> </u>	X	X	_	X	X	_	X	_	X	_	X	_	_	_	Х	_		X		X		X	_
CCB	1.00	1451			l_	x	X	_1	X	X	_	Х	_	X	_	X	_	_	_	X	_	=I	X	=	X	_[X	
03-W-4	1.00	1456				x	X	_	X	X	_	Х	_	X	_	$X \mid$	_	_	_	X	_	_	X	_	X	_	Х	_
ZZZZZZ	1.00	1502			_		_	_	_	_	_	_	_	_	_	_	_	_		_	_		_		_	_	_	_
ZZZZZZ	1.00	1507			_	_	_	_	_	_	_	_	_	_	_	[_	_	_	_			_	_	_1	_	_	_
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163___

Lab Code: RECNY_ Case No.: 6702__ SAS No.: ____ SDG No.:303084

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 12/23/97 End Date: 12/23/97

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CRI ZZZZZZ ICSA ICSAB	1.00 1.00 1.00 1.00	1524 1530 1535 1541			- - -	\overline{x}	\overline{x}	1 1 1	\overline{x}	\overline{x}	_ _ _	\overline{x}		$\frac{\overline{x}}{x}$	- -	\overline{x}	_ _ _ _			\overline{x}		-	$\frac{\overline{x}}{x}$		\overline{x}		\overline{x}	_ _ _ _
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303084

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 12/24/97 End Date: 12/24/97

NYSDEC														Aı	na.	lyt	tes	s	_									
Sample No.	D/F	Time	%	R	A L	S B	AS	B A	B E	C D	C A	C R	C 0	C	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T	V	Z N	C N
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s	1.00	1607)		-	-			-	-		-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
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S	1.00	1617			-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	X	-	-	-	-	-	-
S	1.00	1622			-	-			-		-	-	-	-	-	-	<u> </u>	-	-	-	-	**	-	-	-	-	-	-
ZZZZZZ	1.00	1629			-	-		-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1635	i —		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
ICV	1.00	1640				-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	\overline{x}	-	-	-		-	-
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TERI	1.00	1651			-	-	-	-	-	-	-	_		-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ZZZZZZ	1.00	1657			-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	**	-	-	-	-	-	-
ICSA	1.00	1703]			-	-			-	-1	-	-	-	-	-	-	-	-	-	-	\overline{x}	-		-	-	-	-
ICSAB	1.00	1708				-	-	-	-	-	-	-	-		_	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV —	1.00	1714			-	-		-	-	-	-	-	-	-	-	-	-		-	-	-	X	-	-	-	-	-	-
CCB	1.00	1719			-	-	-	-	_	-	-	-	-	-	-	-	-		-	-		X	-	-	-	-	-	-
PBW	1.00	1725	l		-	-	-	-	-	-	-	-	-	-	-	-	-	_	-	-		X	-		-	-	-	-
LCSW	1.00	1730			-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-	-	X	_	-	-	-	-	-
LCSW	10.00	1736			-		-	-	-	-	-	-	-	-	-	-	-	-	-		-		_	-	-	-	-	-
BLKSPK1	1.00	1741			-	-	-	-	-	-	-		-	-	_	-	-	-	-	-	-	\bar{x}	-	-	_	-	-	-
BLKSPK2	1.00	1747			-		-	-	-	-	-	-	-	-	-		-	-	-		-	X	_	-	-	-	-	-
03-W-1 -	1.00	1753			-	-	-	-	-	-		-	-	-	-	-	-	-	-	_	-	X	-	-	-	-	-	-
03-W-2	1.00	1758			-	-	-	-	-	-	-	-		-	-	-	-	-	-	-		X	-	-	-	-	-	-
03-W-3	1.00	1804			-	-	-		-	-	-	-	-	-	-	-	-	-	-	_	-	X	-	-	-	-	-	-
03-W-3A	1.00	1809			-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	_	_		-		-	-	-	-
03-W-3L	1.00	1815			-	-	-	-	-	-1	-	-1	-	-	-	-	-	-	-	_	-	\overline{x}	-	-	-1	-	-	-
CCV	1.00	1820			-	-	-	-1	-	-	-1	-	_	-	-	-	-1	-	-	_	-	Х	-	-	-	-	-	-
CCB	1.00	1826			_	-	-	_	_	-	-	-	-	-	-	-	-	-	-	-	-	Х	-	-	-	-	-	-
03-W-4	1.00	1832			_	-	_	_	_	-	-	-	-1	-	-	-	-	-	-	-	-	X	-	-1	-	-	-	_
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ZZZZZZ	1.00	1843			-	-	-	-	-	-	-	-	-1	-	-	-	-	-	-	-	-		-	-	-	-	_	-
ICSA	1.00	1848			-	-	-	-	_	-1	-		-	-	-	-	-	-	-	-	-	\bar{x}	-	-	-	-	-1	-1
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303084

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 12/24/97 End Date: 12/24/97

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NYSDEC														Ar	ıal	.yt	es	3										
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ICSAB	1.00	1854 1859			_ 	_ _ _	_	_ _	_ _	_	- -		1 1	_	_	_ _ _	- - -		_	_		\overline{X}	1 1 1		1 1	_ _	_ _	
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14 ANALYSIS RUN LOG

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-	163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303084

Instrument ID Number: PE5000 Method: CV

Start Date: 12/22/97 End Date: 12/22/97

NYSDEC														Ar	ıa]	Lyt	es	3										
Sample	D/F	Time	%	R	A	S	A	В	В	C	С	С	С	С	F	Р	M	M	Н	N	K	S	Α	N	T	V	Z	Tc
No.	•				L	В	s	Α	Ε	D	Α	R	0	U	Ε	В	G	N	G	I		Ε	G	A	L		N	N
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S1	1.00	1416			- -	-								_					Х		_		_	_	_		_	_
S5	1.00	1417			1_	-													Х		_		_		_	_	Ι_	_
S10	1.00	1418			- -	-	_	_							_			_	Х	_	_	_	-	_	_		-	_
ICV	1.00	1419			_	_	_							_	_				Х	_	_	_		_	_	-		_
ICB	1.00	1420			_		_							_					Х	_		_				_		-
PBW	1.00	1421			.	-	-	_		_				-		_			Х		-			-		_	_	_
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ZZZZ	1.00	1423			-1-	_	-		_	_	_	_	-	-	_	_	_	_			_	-	-	-	_	_	-	-
22ZZZZ	1.00	1424			-	-	_	_	i-I	_	_	_	-1	-	-1	_	_	_	_	_	-	-	_	-		_	-	-
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ZZZZZZ	1.00	1425			-	-	-	_	_		_	-	-	-	-	_	_	_		_		_	_	-	_	-	-	
ZZZZZZ	1.00	1426			-		-	-	_	_	-	_	_	_	-	-	_	_	_	_	-	_	-	-	-	-	-	-
ZZZZZZ	1.00	1427			-	-	-	_	-	_	_	_	_	_	_	_	-	_	_	_	_	_	_	-	_	-	-	\ <u> </u>
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ZZZZZZ	1.00	1429			.	-	-	_	_	_	-	-	-	-	-	-	_	_	-	_	-	-	_	_	_	-	-	-
CCV _	1.00	1430			-	-		-	_	_	-	-	_		_	_	_	_	$\overline{\mathbf{x}}$	_	-	_	_	-	_	-	-	-
CCB	1.00	1431			-	-	_	-	_	_	-	-	-	-	-	-	-	_	Х	_	-	_	_	_	_	_	-	-
ZZZZZZ	1.00	1432			.	-	_	_	_	_	-		-	_	_	-	-	_		_	-	_		_	_	_	_	-
ZZZZZZ	1.00	1433			1-	-	-	-	_	_	_	-	_	-	_	-	_	_	-		-	_	-	-	_	-	-	-
ZZZZZZ	1.00	1434			-	-	-	_	_	-	_	_	_	_	_	-	-	_	-	_	-	_	-	_	-	-	-	1-
ZZZZZZ	1.00	1435			-1-		-	_	_	_	-	_	-	_	-	_	_		_		_	-	_		_	-	-	-
ZZZZZZ_	1.00	1436				_	_			_						-	_	_	_	_	-	_	_	-	_	-	-	
ZZZZZZ	1.00	1436				-	_		_	_	-	_	_	_	_	-	_	_	_	_	_	-	-	-	-		-	-
ZZZZZZ	1.00	1437				-	_		_		-I	_	_	_	_	-	-	_	_	_	_	-	_		_	-	_	-
BLKSPK1_	1.00	1438			1-	_		_	_	_		_	_	_	_	_	_	_	\overline{x}	_		-	_	-	_	_		_
BLKSPK2_	1.00	1439			-	-			_	-[_	-	_	-	-	-	_	X	_	_	_	_			-	_	-
ZZZZZZ	1.00	1440				l_	$\lfloor - \rfloor$	_	_	_	_	-	_	_	-	-	-	_		_	-	-	_		_	-	-	-
CCV	1.00	1441				_	_	_	_	_	_	_	_	_	-	-	_	_	$\overline{\mathbf{x}}$	_	-	-	-	-	_		-	-
CCB	1.00	1442			1_	-	_	-	-	-	-	-1	-	-	-	-	-	_	X	_	-	-	-	_	_	-	-	-
$ZZZ\overline{ZZZ}$	1.00	1443			1-	_	-	-	_	_	-	-	-	_	-	-	-	-		-	-	-		-	_	-	-	-
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163___

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303084

Instrument ID Number: PE5000 Method: CV

Start Date: 12/22/97 End Date: 12/22/97

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ZZZZZZ	1.00	1505				_	_				_	_		_	_		_	_		-	_		_	-	_	-	-	_
ZZZZZZ	1.00	1506			_					-	_	_	-	_	_	-1	_	_	_	_	-		-	_	_	-	-	_
ZZZZZZ	1.00	1507			-	-	-	-	_	-	_	_	- I	-	_	-	-	_	-1	-	_	_			_	-	-	-
ZZZZZZ	1.00	1508] —		-	-	-		-	-		-	_	-	-	-	-	_	-	-		-	-	-	_	-	-	-
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ZZZZZZ		1510			[-	-	-		-	-	-		-	-	-	-		-	-	-	_	-	_	-	_	-	-	-
ZZZZZZ	1.00	1511			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14 ANALYSIS RUN LOG

Gab	Name:	RECRA	LABNET	INC.	Contract:	NY97-163
Jun	ranic.		TH 11111	1110.	001101 000.	11111

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.:303084

Instrument ID Number: PE5000 Method: CV

Start Date: 12/22/97 End Date: 12/22/97

MICORC															Ar	na	Lyt	tes	5										
NYSDEC	D/F	Time	,	% R	,	A	T C	Ā	В	В	C	C	Ċ	C	C	-	-	М	М	Н	N	К	S	T 70	N	m	V	Z	TC
Sample	D/F	1 I me	'	6 K		L	S B	S	A	E	C	C A	C R	C	C	F	P B	M G	N	Б	I	Λ.	E	A G	A	T	V	N	N
No.						1-	В	5	A	E	ען	А	ĸ	0	١٠	ഥ	В	G	IN.	G	1		F	G	A	-		IN	IN
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CCV —	1.00	1514					-	_	_	_					-	_	-		_	\overline{x}	-	_	_	_		i –	_	-	-
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$ZZZ\overline{ZZZ}$	1.00	1516					_		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	-	-	_	-	-
ZZZZZZ	1.00	1517				1	_	_	_	Ι_			_		_			-	_	_	_		_	_	-	-	-	-	-
ZZZZZZ	1.00	1518				-	-	_	_	-		_			-	-	-	-	-	_	-	-	_	-	_	-	-	-	-
ZZZZZZ	1.00	1519	1					-				_			-	_	_		_		-	-	_		_	_	-	-	-
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3ZZZ	1.00	1521				-	-	-	-	-	_	-	_	-	-	-	-	-	-		_	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1522				-	-	-	-	-	_	_	_	_	-	-	_	-	-	-	_	-	-	-	_	-	_	-	-
ZZZZZZ	1.00	1523				-	-	-	-		_	-	_	_	-		_	-	_		-	-	-	-	-	-	Į.	-	-
ZZZZZZ	1.00	1524				1	-	-	_	-	_	_	_	_		_	_	-	_	_	_	-	-	-	_	-	-	_	-
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CCB	1.00	1526				-	-	_	-	-	_	-	_	_	_	-	_		_	X	_	-	_	-	-	-	-	-	-
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ZZZZZZ	1.00	1528				-	-	-	-	-	_		_	_	-	-	-	-		-	_	-	_	-	-	_	-	_	-
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Chemical and Environmental Analysis Services

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426 January 16, 1998

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

SDG #: 30308R Matrix: Soil

Samples Received: 12/17/97 Sample Date: 12/16/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

andace Z. Fex

Candace L. Fox Program Manager

Kenneth B. Kasperek

Laboratory Director

CLF/KEK/ltb

Enclosure

cc: Ms. Kathie Easom, Ph.D.

Radian International LLC-8501 N. Mopac Blvd. Austin, TX 78759 I.D. #A97-4700 #NY7A6702

This report contains 30% pages, which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications:

03-03-08RW-2

03-03-08RW-2 MATRIX DUPLICATE

03-03-08RW-2 MATRIX SPIKE

<u>METHODOLOGY</u>

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

Sample 03-03-08RW-2 Matrix Duplicate exhibited a result outside of quality control limits for Chromium.

Sample 03-03-08RW-2 Matrix Spike yielded a recovery outside of quality control limits for Selenium. All other QC was compliant.



"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E.

Laboratory Director

Daté

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER	LABORATORY		AN	ALYTICAL	REQUIRE	MENTS	
SAMPLE ID	LE ID SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
03-03-08RW-2	A7470001	-	-	-	-	ASP95	-

NYSDEC-1



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-08RW-2	SOIL	PPMETALS	12/17/97	12/18 & 19/97	12/19 - 24/97

NYSDEC-5



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY	MATRIX	ANALYTICAL	DIGESTION	MATRIX	DIL/CONC
SAMPLE CODE		PROTOCOL	PROCEDURE	MODIFIER	FACTOR
03-03-08RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED

NYSDEC-7



INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic Data Qualifiers:

- B Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.
- U Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N Indicates spike sample recovery is not within the control limits.
- K Indicates the post digestion spike recovery is not within the control limits.
- * Indicates duplicate analysis is not within the control limits.
- S Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- M Indicates duplicate injection results exceeded control limits.
- W Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference.



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: RECRA_LABNET_INC	Contract: NY97-163	
Lab Code: RECNY_ Case No.: 6702_	SAS No.: SDG No.:303081	
Protocol Version: ASP-95		
NYSDEC Sample No. _08R.108RWD08RWS	Lab Sample IDAD721217AD721218AD721219	
Were ICP interelement corrections app	lied ? Yes/No YES	
Were ICP background corrections applie	ed ? Yes/No YES	
If yes - were raw data generated application of background correct		
Comments:		
		_
I certify that this data package is in conditions of the Protocol, both techn other than the conditions detailed about this hardcopy data package and in on diskette has been authorized by the designee, as verified by the following	nically and for completeness, for ove. Release of the data contained the computer-readable data submitted e Laboratory Manager or the Manager's	
Signature:	Name: Kenneth_EKasperek	
Date:	Title: Laboratory_Director	
	COVER PAGE - IN	

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
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Lab Name: RECRA LABN	ET INC. Cor	ntract: NY97-163	08R W
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303081
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721217
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Solids:	_96.1		

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

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		$\left - \right $		\overline{NR}
7440-36-0	Antimony	1.4	\overline{B}		P
7440-38-2	Arsenic	0.96	U		$_{\rm P}^{-}$
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.21	ប៊		$ _{P}$
7440-43-9	Cadmium	0.57	В		$ P^{-} $
7440-70-2	Calcium				NR
7440-47-3	Chromium	182	-	*	P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.4	\overline{B}		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.5	_		P_
7439-95-4	Magnesium		l _ ,		NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	ਹ		CV
7440-02-0	Nickel	1.4_	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.89_	ਹ	N	P_
7440-22-4	Silver	0.42_	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.2	ਹ		P_
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	10_	_	l———	P_
	Cyanide		_		NR
				l	11

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
Commer LAN CL	B SAMPLE	ID:_A7470001-CGA LE_ID:_03-03-08F	A00787 RW-2				

000010

6 DUPLICATES

NYSDEC SAMPLE NO.

		08RWD
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303081

Matrix (soil/water): SOIL Level (low/med): LOW_

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

1		T -			Т		
Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q M
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron		1.4152 0.9573 0.2081 0.5723 182.0520	U B -	2.2130 1.1024 0.2061 0.6202 222.7815	В В П В П В	44.0 200.0 	
Lead Magnesium	0.6	1.4735	- - -	1.4754	- - -	0.1_	P_NR
Manganese Mercury_ Nickel_ Potassium		0.0991 1.3590		0.0991	Ū B	31.1_	- NR - CV - P - NR
Selenium_ Silver Sodium_		0.8949	ט	0.8860	์ บ		- P - P - NR
Thallium_ Vanadium_ Zinc_ Cyanide	4.2_	1.1655 9.9501	<u></u>	1.1539 6.9729	<u></u>	35.2_	P_NR P_NR P_NR
			 _		_	l	l I_Il

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMP	LE	NO
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	4000
08RWS	
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							O8RWS	769
Lab	Name:	RECRA	_LABNET_	_INC	Contract:	NY97-163		

Matrix (soil/water): SOIL___ Level (low/med): LOW____

% Solids for Sample: _96.1

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

					_				
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum_			_					_	NR
Antimony_	75-125	84.1852	_	1.4152	В	104.060	79.5	_	P_
Arsenic Barium	75-125_	332.0832_	_	0.9573	ַ	416.230	79.8	_	P_ NR
Beryllium	75-125	8.8949	_	0.2081	ប៊	10.410	85.4	_	P
Cadmium	75-125	9.6441	-	0.5723	В	10.410	87.1	_	P
Calcium			_		_			_	NR
Chromium_		226.7118	_	182.0520	_	41.620	107.3	_	P
Cobalt			_		_			_	N
Copper	75-125_	49.6753_	_	2.4225	В	52.030	90.8	_	P
Iron	75-125	91.6150		1.4735	-	104.060	86.6	-	NR P
Magnesium	,,,,,,,,,		-	1.4/33	-	104.000			NR
Manganese			_					-	NR
Mercury	75-125_	0.4886	_	0.0991	ប	0.500	97.7	_	CV
Nickel	75-125_	104.7430	_	1.3590	В	104.060	99.4	_	P_
Potassium	75-125		_		=	47.6.020		$\overline{\mathbf{N}}$	NR P
Selenium_ Silver	75-125_	298.2643 8.7971		0.8949	บี บ	416.230	71.7	N	$\left \frac{P}{P} \right $
Sodium	75-125_		_	0.4102	١٠			-	NR
Thallium	75-125	365.9417	_	1.1655	ប៊	416.230	87.9	-	P
Vanadium_			_		_			_	NR
Zinc	75-125_	94.3413		9.9501	_	104.060	81.1	_	P_
Cyanide			_		_			_	NR
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LAB_SAMPLE_ID:_A7470001MS-CGA00787	
CLIENT SAMPLE ID: 03-03-08RW-2 MS	

NYSDEC SAM	PFF	NO.
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		POST DIGEST	SI	PIKE SAMPLE REC	700	ÆRY		DEC BANFI		
								08RWA		
Lab Name: I	RECRA_LAI	BNET_INC	– ,	Contract: NY	797	7-163	l		_	
Lab Code: I	RECNY_	Case No.:	670	SAS No.:	_		SDO	3 No.: 30	30	81
Matrix (so	il/water): SOIL_				Level	(low	w/med): I	JOV	_
		Concent	rat	ion Units: ug/	'L					
Analyte Aluminum	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added	SA)	%R	Q -	M NR
Antimony_ Arsenic Barium_ Beryllium Cadmium			11111		1 1 1 1 1				1 1 1 1 1	NR NR NR NR NR
Calcium_ Chromium_ Cobalt_ opper_ Iron_					1 1 1					NR NR NR NR
Lead Magnesium Manganese Mercury Nickel			- 1 - 1							NR NR NR NR
Potassium Selenium Silver Sodium Thallium		760.09		4.30_		100	00.0	76.0	 - - -	NR P NR NR NR
Vanadium_ Zinc_ Cyanide							_		 - - -	NR NR NR
Comments:					_				_	

FORM V (PART 2) - IN

3 BLANKS

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163___

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		uing Calib Lank (ug/L) 2		cion 3	С	Prepa- ration Blank	С	M
Aluminum_ Antimony_ Arsenic Barium	6.8 4.6	B U	8.2_ 4.6_	B U	4.9 4.6	บ บ	6.6_	B U	0.980	Ū U	NR_P_NP
Beryllium Cadmium Calcium	1.0	ับ บ	1.0_ 1.0_	Ū U	1.0_	ָ ט	1.0_	บ	0.200		P_P_NR
Chromium_ Cobalt	1.0_	<u>u</u>	1.0_	<u>u</u>	1.0_	บิ	1.0_	<u></u>	0.200	<u>u</u>	P NR_
Copper Iron Lead	2.0 2.1	<u></u> ប	2.0_	<u>u</u>	2.0_	<u>u</u>	2.0_	u	0.400	<u></u>	P_NR_ P_
Magnesium Manganese Mercury	0.2	_ ซ	0.2	_ U	0.2	_ U	0.2	_ 0	0.100	- -	NR_ NR_ CV
Nickel Potassium Selenium	1.5_	บ บิ	1.5	U U	1.5_	Ū	1.5	์ <u>บ</u>	0.300	์ ช	P NR_ P
Silver Sodium	2.0	ט	2.0	U	2.0_	Ū	2.0_	Ü	0.400	ש	P NR
Thallium_ Vanadium_ Zinc	3.3	ט ט	5.6_ 8.2	Ū B	5.6_ 14.5	Ū B	3.3	์ ซิ	1.120	$ _{\perp} $	P_NR_P
Cyanide		 - 		<u> </u>		_		_	1.662		NR_

3 BLANKS

Lab	Name:	RECRA_L	ABNET_INC	Contract:	NY97-163_			
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG	No.:	303081
Prep	paratio	n Blank	Matrix (soil/water):	_				
Pre	oaratio:	n Blank	Concentration Units (ug/I	or mg/kg):			

Analyte	Initial Calib. Blank (ug/L)	С	Cont:	uing Calib Lank (ug/L) 2		tion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic_ rium_ cryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			7.7 4.6 1.0 1.0 1.0 2.1 1.5 4.3 2.0 5.6 3.3	1.0					NR _ P _ NR

SAMPLE DATA PACKAGE



SDG NARRATIVE



Carrier: (In person, Fed X, UPS, etc.)

Date/Time

Received by: (Name/Signature)

Date/Time

Relinquished by: (Name/Signature)

General Comments:

Carrier: (In person, Fed X, UPS, etc.)

Je 60 19/1/6

Date/Time

Received by: (Name/Signature)

12-10-97/1745

Date/Time

Relinquished by: (Name/Signature)

J-801-98-0

8-91-34019

Chain of Custody Record

RADIAN Corporation

Return Original to Originator

□ Yes

Carrier: (In person, Fed X, UPS, etc.) Turn AFEUND Special Preservation, Special Handling, etc.) GUISS JARS (Type of Container, Comments 3 DAY 250 mL ANALYSES 3 Date/Time Received by: (Name/Signature) \times X X \times × × \succ No. of Bottles NORTHRUP CIRCUMAIN 03-03-06 PW-2 (. ٦ ころにろいろ CS CIRM- 2 CHEW- P - からい 03-02 EW-1 Sample Name 03-10 RW-1 03-01PW-1 -C3 RW 01.05 FW Project Name က် ပ S C S Ú. JEFFFEY A Lowe 03 03 C^{2} 03 $C_{\mathcal{C}}$ S S 03 Relinquished by: (Nama/Signature) リモドチ たらり 月・しょいぎ C) 03 0.8% 1.8% 1580 JE 15-17 11530 05-21 171 21-51 12 15 77 1320 1030 Samplers (Name/Signature) 12-11 17 11 2C 11.20 12-16 47 15CC Time 17 15-47 1030 Collection Date 17-16-97 11. 11 21 12 15 97 11-21 Project No. Number Fiek Fiek ر (بر Ş, <u>د</u> (30) <u>[</u> لاً $\dot{\infty}$ **₩**

FEN EX TRIKKING No. 4700077715

7 .~

ink Copy: Laboratory Files

"ution: Original: Accompanies Samples (Return to Originator), Yellow Copy: Field Cr

CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications:

03-03-08RW-2

03-03-08RW-2 MATRIX DUPLICATE

03-03-08RW-2 MATRIX SPIKE

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

Sample 03-03-08RW-2 Matrix Duplicate exhibited a result outside of quality control limits for Chromium.

Sample 03-03-08RW-2 Matrix Spike yielded a recovery outside of quality control limits for Selenium. All other QC was compliant.



"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

CHAIN OF CUSTODY DOCUMENTATION



METALS DATA



1 INORGANIC ANALYSES DATA SHEET NYSDEC SAMPLE NO.

			08RW
Lab Name: RECRA_LABNET	_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 303081

Matrix (soil/water): SOIL_

Lab Sample ID: AD721217

Level (low/med): LOW__

Date Received: 12/17/97

% Solids:

_96.1

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

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium	1.4			NR P_ P_ NR P_ P
7440-43-9 7440-70-2 7440-47-3 7440-48-4 7440-50-8	CadmiumCalciumChromium_CobaltCopper	0.57182	B - - B	_*_	NR P_ NR P_ NR
7439-89-6 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0	Iron Lead Magnesium Manganese Mercury Nickel	1.5	_ _ _ _ _ _ B		P_NR NR NR CV
7440-02-0 7440-09-7 7782-49-2 7440-22-4 7440-23-5 7440-28-0	Potassium Selenium Silver Sodium Thallium	1.4_ 0.89_ 0.42_ 1.2	מ	N	NR P_ P_ NR P
7440-62-2 7440-66-6	Vanadium_ Zinc Cyanide	10_	_ _ _		NR P NR

Color Befor	re: BROWN	Clarity Before:	Texture: MEDIU	M
Color After	: COLORLESS	Clarity After: CL	LEAR_ Artifacts:	
	PLE_ID:_A7470001- SAMPLE_ID:_03-03-			

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC	Contract:	NY97-163
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Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initia True	al Calibra Found	ation %R(1)	True	Continui: Found	ng Cal: %R(1)	ibration Found	%R(1)	M
Aluminum									$ \overline{NR} $
Antimony	500.0	477.65	95.5	500.0	502.57	100.5	499.12	99.8	P
Arsenic	500.0	481.64	96.3	500.0	500.96	100.2	506.15	$\bar{1}01.2$	P P
Barium —		_	-		_				NR
Beryllium	500.0	486.20	97.2	500.0	506.05	101.2	508.63	101.7	P
Cadmium	500.0	480.57	96.1	500.0	498.85	99.8	505.47	101.1	P
Calcium			-			_			NR
Chromium_	500.0	495.68	99.1	500.0	489.49	97.9	464.85	93.0	P
Cobalt						-		-	NR
Copper	500.0	507.25	101.4	500.0	532.55	106.5	537.67	107.5	P
Iron									NR
Lead	500.0	487.73	97.5	500.0	505.99	101.2	513.58	102.7	P
Magnesium			l						NR
Manganese									NR
Mercury	8.0	8.10	101.2	8.0	8.20	102.5	8.20	102.5	CV
Nickel	500.0	495.50	_99.1	500.0	493.08	_98.6	<u>47</u> 1.06	_94.2	P
Potassium									NR
Selenium_	500.0	451.16	90.2	500.0	471.96	94.4	473.36	_	P_
Silver	500.0	492.39	_98.5	500.0	512.39	102.5	516.65	103.3	[P_
Sodium									NR
Thallium_	500.0	488.97	_97.8	500.0	506.08	101.2	513.04	102.6	P_
Vanadium_		_ 						·	$ N\overline{R} $
Zinc	500.0	474.17	_94.8	500.0	488.84	97.8	490.53	_98.1	P_
Cyanide									NR
ll									

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

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97-163
		-			•	

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial True	Calibr Found	1	True	Continui: Found	ng Cali %R(1)		%R(1)	M
Aluminum_									NR
Antimony_				500.0	492.08	98.4	512.87	102.6	P_
Arsenic				500.0	501.02	100.2	512.03	102.4	P_
Barium									NR
ryllium				500.0		_		101.0	
dmium				500.0	500.26	100.1	511.55	102.3	
Calcium									NR
Chromium_				500.0	488.74	97.7	488.86	97.8	P_
Cobalt									NR
Copper				500.0	518.35	103.7	531.25	106.2	P_
Iron									NR
Lead				500.0	504.36	100.9	515.12	103.0	P_
Magnesium									NR
Manganese									NR
Mercury				8.0	8.00	100.0			CV
Nickel				500.0	<u>49</u> 7.69	_99.5	498.69	_99.7	P_
Potassium	— — ——————————————————————————————————		l	500.0	467.72	93.5	473.80	94.8	NR
Selenium_	———			500.0	$-\frac{467.72}{502.65}$	100.5	$\frac{473.80}{513.27}$	94.8 102.7	P_P
Sodium -	 -				-	100.5	513.27	102.7	NR
Thallium				500.0	509.57	101.9	518.34	103.7	NR P
Vanadium	\-					101.9		103.7	NR
Zinc			\——	500.0	482.17	96.4	493.46	98.7	P
Cyanide						-50.1		-'0.'	NR
-			l						11,41

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

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab	Name:	RECRA_LABNET_IN	NC	Contract: NY97-163_	
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303081

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	True	Calibr Found		True	Continuir Found	ng Calik %R(1)	%R(1)	M
Aluminum_							.T	NR
Antimony_			.[]			-	.	NR
Arsenic]				 .}[NR
Barium			lI			[]_	 .	NR
Beryllium			I				 .	NR
Cadmium			J1				 .	NR
Calcium			ll			<u> </u>	 .	NR
Chromium_			l	500.0	488.87	97.8	 .	P_
Cobalt			l			-	 . [NR
Copper			l				 . []	NR
Iron							 .	NR
Lead			[]			-	 .	NR
Magnesium			lI			-	 .	NR
Manganese							 .	NR
Mercury Nickel			11	500.0	498.92	99.8	 .	NR
Potassium			·	500.0	496.92	99.8 -	 .]{	P_ NR
Selenium			II			-	 .	NR NR
Silver	 -		I——I			-	 ·	NR NR
Sodium Sodium						-	 ·	NR
Thallium						-	 · ———	NR
Vanadium						-	 ·	NR
Zinc						-	 · [——	NR
Cyanide						<u> </u>	 ·	NR

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

2B CRDL STANDARD FOR AA AND ICP

lab Name:	RECRA_LABNET	_INC	Contract:	N197-163		
Lab Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG	No.:	303081
AA CRDL S	tandard Source	e: INORG.VENT.				

Concentration Units: ug/L

ICP CRDL Standard Source: VHG_____

				T				
1	CRDL St	candard for	r AA		CRDL Star	ndard :		_
					Initial		Final	L
Analyte	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony -				120.0	80.73	67.3	92.55	77.1
Arsenic				20.0	18.06	90.3	20.47	$\frac{1}{102.4}$
Barium —								
<u>Reryllium</u>				10.0	8.47	84.7	9.65	96.5
dmium				10.0	8.70	87.0	9.80	98.0
calcium						-		
Chromium								
Cobalt								
Copper				50.0	43.96	87.9	47.93	95.9
Iron						_		_
Lead				6.0	0.54	9.0	0.78	13.0
Magnesium								
Manganese								
Mercury	0.2	0.20	100.0					
Nickel								
Potassium								
Selenium_				10.0	6.32	_63.2	9.27	92.7
Silver				20.0	9.12	_45.6	9.79	49.0
Sodium	_							
Thallium_	l-			20.0	14.78	_73.9	17.01	85.0
Vanadium_					26.05			
Zinc	-	-		40.0	36.25	_90.6	38.81	97.0
	_							

2B CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET	INC	Contract: NY97-16	3
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303081
AA CRDL Standard Sourc	e: INORG.VENT		
ICP CRDL Standard Sour	ce: VHG		

	CRDL St	andard fo	r AA		CRDL Star	ndard f	for ICP Fina
Analyte	True	Found	%R	True	Found	%R	
Aluminum						Γ -	
Antimony_							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium							
Chromium_				20.0	20.51	102.6	20.61
Cobalt	_						
Copper				[
Iron							
Lead							'
Magnesium							
Manganese						Í	
Mercury	-						
Nickel Potassium	-			80.0	83.38	104.2	82.71
Potassium Selenium	-	·] []			
Silver	-						
Sodium	-				l		
Thallium		_ 					
Vanadium	-						
Zinc	-						

2B CRDL STANDARD FOR AA AND ICP

000028

Lab Name: RECRA_LABNET		Contract:	NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.:	303081
AA CRDL Standard Source	ce: INORG.VENT			
ICP CRDL Standard Sour	cce: VHG			

	CRDL St	andard for	AA		CRDL Sta Initial	ndard f	or ICP Final	_
Analyte	True	Found	%R	True		%R	Found	%R
Aluminum				-				
Antimony -								
Arsenic								
Barium —								
Peryllium								
lmium		\				.		
calcium_						.		
Chromium_				20.0		.	20.05	_100.
Cobalt	_	-				.		
Copper	_					.		
Iron						·		
Lead Magnesium				<u> </u>				
Manganese						·		
Mercury	-	-						
Nickel Nickel		\-		80.0			82.50	103.
Potassium								
Selenium								
Silver -								
Sodium								
Thallium_								
Vanadium_						.		
Zinc						.		

3 BLANKS

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		ling Calib Lank (ug/L) 2		cion 3	С	Prepa- ration Blank	С	М
Aluminum_Antimony_Arsenic_Barium_Beryllium Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_	6.8 4.6 1.0 1.0 1.0	ו מו מו ממו משו	8.2 4.6 1.0 1.0 2.0	ם עו עעו עפּוּ	1.0 1.0 1.0 2.0	<u>u</u> <u>u</u> <u>u</u> <u>u</u> <u>u</u> <u>u</u> <u>u</u> <u>u</u> <u>u</u> <u>u</u>	6.64.61.01.0	น บ บ บ	0.980 0.920 0.200 0.200 0.200	ם עם עם	NR_PNR_PNR_PNR_NR_NR_
Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide	2.1 0.2 1.5 4.3 2.0 5.6 3.3	। । वा वा ववा ववा । वा	2.1 0.2 1.5 4.3 2.0 5.6 8.2	- או עו עעו עעו - ע	2.1		2.1		0.420 0.100 0.300 0.860 0.400 1.120 1.682		P

3 BLANKS

000030

Lab Na	me: RE	CRA_LABNET_	INC	Contract:	NY97-163		
Lab Co	de: RE	ECNY_	Case No.: 6702_	SAS No.:	SDG	No.:	303081
Prepar	ation	Blank Matrix	k (soil/water):				
Prepar	ation	Blank Concer	ntration Units (ug	/L or mg/kg)	:		

Analyte	Initial Calib. Blank (ug/L)	O	Cont:	ling Calib lank (ug/L 2		cion 3	С	Prepa- ration Blank	С	М
Aluminum_ Antimony_ Arsenic_ rium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_ Cyanide_			7.7 4.6 1.0 1.0 1.0 2.1 1.5 4.3 2.0 5.6 3.3	1.0						NR

ICP INTERFERENCE CHECK SAMPLE

Lab Name:	RECRA LABNET INC.	Contract:	NY97-163

ICP ID Number: SUPERTRACE___ ICS Source: VHG_____

Analyte	Sol. A	sue Sol. AB	Ini Sol. A	Sol. AB	d %R	Sol. A	Final Found Sol. AB	d %R
Aluminum_ Antimony_	0	1000	4	946.2	94.6		981.4	_98.1
Arsenic Barium	0	1000	27	975.6	_97.6	25	1025.5	102.6
Beryllium Cadmium	0	500 1000	0	470.1 915.5	_94.0 _91.6	0	482.6 961.6	_96.5 _96.2
Calcium Chromium_ Cobalt								
Copper	0	500	0	552.8	110.6	0	570.2	114.0
Lead	0	1000	2	958.0	_95.8	2	997.4	99.7
Magnesium Manganese Mercury								
Nickel Potassium								
Selenium_ Silver	0	1000	14	910.4 1023.0	_91.0 102.3	15 0	946.9 1055.1	94.7 105.5
Sodium Thallium_ Vanadium	0	1000	7	970.8	97.1	6	1006.4	100.6
Zinc	0	1000	5	847.4	_84.7	4	866.2	_86.6

4 ICP INTERFERENCE CHECK SAMPLE

Lab Name:	RECRA_LABNET	r_inc	Contract: NY97-1	63	
Lab Code:	RECNY_	Case No.: 6702_	SAS No:	SDG No.:	303081
ICP ID Num	nber: SUPERTRA	ACE-2	ICS Source: VHG_		

Analyte	Sol. A	cue Sol. AB	Ini Sol. A	Sol. AB	d %R	Sol.	Final Found Sol. AB	d %R
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_	0	500		938.4	97.9		935.2	96.3

ICP INTERFERENCE CHECK SAMPLE

Lab	Name:	RECRA_LABNET_	_INC	Contract:	NY97-163	3	
Lab	Code:	RECNY_	Case No.: 6702_	SAS No: _		SDG No.:	303081
ICP	ID Numb	er: 3UPERTRAC	CE-2	ICS Source	· VHG		

Analyte	Sol. A	rue Sol. AB	In Sol. A	itial Found Sol. AB	d %R	Sol. A	Final Found Sol. AB	d %R
Aluminum_ Antimony_ Arsenic_ Barium Beryllium Cadmium_ Calcium_ Chromium Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium	0	500				18	483.7	
Selenium_ Silver Sodium Thallium_ Vanadium_ Zinc								

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

		08RWS
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	
Lab Code: RECNY_ Case No.: 6702_	SAS No.: S	DG No.: 303081
Matrix (soil/water): SOIL	Level (l	ow/med): LOW
% Solids for Sample: _96.1		
Concentration Units (ug/L or	mg/kg dry weight): MG/K	G

			_						
Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	С	Spike Added (SA)	۶R	Q	М
Aluminum			-					-	\overline{NR}
Antimony	75-125	84.1852		1.4152	B	104.060	79.5	-	P
Arsenic	75-125	332.0832	-	0.9573	U	416.230	79.8	-	P_
Barium	/ 3		-		1			-	NR
Beryllium	75-125	8.8949	-	0.2081	ਹ	10.410	85.4	_	P_
Cadmium	75-125	9.6441	_	0.5723	В	10.410	87.1		P_
Calcium			_		_	<u> </u>		_	NR
Chromium_		226.7118	_!	182.0520	l	41.620	107.3	_	P_
balt			_		_			_	NR
copper	75-125_	49.6753	_	2.4225	B	52.030	90.8	 _	P_
Iron			_					 _	NR
Lead	75-125_	91.6150_	_	1.4735	_	104.060	86.6	 	P_ NR
Magnesium			_		-				NR NR
Manganese	75-125	0.4886	-1	0.0991	ਹ	0.500	97.7	-	CV
Mercury Nickel	75-125	104.7430	-	1.3590	В	104.060	99.4	-	P
Potassium	/5-125_	¹⁰⁴ : /430-	-1	1.5550	-			-	NR
Selenium	75-125	298.2643	-	0.8949	ਹਿ	416.230	71.7	\overline{N}	P
Silver	75-125	8.7971	-	0.4162	Ū	10.410	84.5		P
Sodium			-					-	$N\overline{R}$
Thallium	75-125	365.9417	_	1.1655	บิ	416.230	87.9	_	P_
Vanadium_	l				_			_	NR
Zinc	75-125_	94.3413	_	9.9501	_	104.060	81.1	_	P_
Cyanide]		_		_			_	NR
			_						l

		70001MS-CG		 	
CLIENT_S	AMPLE_ID:	_03-03-08RW	-2_MS	 	

5B POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC	~ × × × ×	T T	NT/
NYSDEC	SAMP	1 . H:	IVI

Lab Name:	RECRA_LABNET_	INC	_ Cont	ract: NY97	-163	08RWA	
Lab Code:	RECNY_	Case No.:	6702_	SAS No.: _		SDG No.:	303081
Matrix (so	oil/water): SO	IL_			Level	(low/med):	LOW

Comments:		

6 DUPLICATES

NYSDEC SAMPLE NO.

08RWD

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163_

Matrix (soil/water): SOIL

Level (low/med): LOW_

% Solids for Sample: _96.1

% Solids for Duplicate: 96.1

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

Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	М
Analyte Aluminum_ Antimony_ Arsenic_ Barium Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide	0.6_	1.4152 0.9573 0.2081 0.5723 182.0520 2.4225 1.4735 0.0991 1.3590 0.8949 0.4162 1.1655 9.9501	B	2.2130 1.1024 0.2061 0.6202 222.7815 2.7550 1.4754 0.0991 0.9932 0.8860 0.4121 1.1539 6.9729			x	NR PPIR PIR PR PNR V PIR PNR PNR PNR PNR PNR PNR PNR PNR PNR PN
			_		_		_	

7 LABORATORY CONTROL SAMPLE

Lab Name:	RECRA_LABNET	_INC	Contract:	NY97-163_		
Lab Code:	RECNY_	Case No.: 6702_	SAS No.: _		SDG No.:	303081
Solid LCS	Source: ER	A 227/235/NSI *				
Aqueous Lo	CS Source:					

	Aque	eous (ug/I	٦)		So	lic			
Analyte	True	Found	%R	True	Found (C	Limi	lts	%R
Aluminum_									
Antimony_				23.2	41.8	_	0.6		180.2
Arsenic_				82.5	75.2	_	40.4	123.0	_91.2
Barium —									
Beryllium				159.0	141.1	_	102.0	223.0	88.7
Cadmium				128.0	115.2	_	66.6	184.0	90.0
Calcium						_			
Chromium				114.0	102.1	-	61.6	161.0	89.6
Cobalt -						_			-
Copper				116.0	109.0	_	66.1	168.0	94.0
Iron						-			_
Lead				87.6	77.8	-	46.4	124.0	88.8
Magnesium						-			-
Manganese						-			
Mercury				2.3	2.3	-	1.1	3.6	100.0
Nickel				176.0	169.9	-	96.8	257.0	96.5
Potassium						_			-
Selenium				107.0	86.5	-	55.6	159.0	80.8
Silver -				71.6	63.2	-	32.2	104.0	88.3
Sodium						_			-
Thallium				130.0	157.2	-	47.6	212.0	120.9
Vanadium _						-			
Zinc -				133.5	107.1	-	97.8	169.0	80.2
Cyanide						[_
						-			
						_			

^{*} LCSS for Antimony uses Lot Number 235. LCSS for Zinc uses Lot Number NSI.

9 ICP SERIAL DILUTION

NYSDEC SAMPLE NO.

		08RWL
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	

Matrix (soil/water): SOIL_ Level (low/med): LOW__

Analyte Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_	Initial Sample Result (I) C 6.80 B4.60 U 1.00 U2.75 B 874.7611.64 B7.086.53 B4.30 U2.00 U5.60 U	<u></u>	Serial Dilution Result (S) 39.15 23.00 5.00 5.00 871.15 10.00 7.50 21.50 10.00 28.00	리 여러 데 데 데 여러 여배 D	% Differ-ence	Q	M R PR PR PR PR PR PR PR PR PR PR PR PR P
Sodium						- - - -	NR

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET	_INC	Contract:	NY97-163
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303081
ICP ID Number:	SUPERTLACE	Date:	11/14/97
Flame AA ID Number :			
Furnace AA ID Number :			

Comm	ments:			
_				
_		 		
_				

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET	_INC	Contract:	NY97-163
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303083
ICP ID Number:	SUPERTRACE-2	Dale:	10/06/97
Flame AA ID Number :			
Furnace AA ID Number :			

Analyte Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium	Wave-length (nm)	Back-ground	CRQL (ug/L) 200 60 10 200 5 5 5 7 500 10 25 100 3 5000 15 0.2 40 5000 50 10 5000 10	IDL (ug/L)	M NR NR NR NR NR NR NR NR NR NR NR NR NR	
l						l

comments:			
	•		

10 INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_	_INC	Contract:	NY97-163		
Lab Code: RECNY_	Case No.: 6702_	SAS No.:		SDG No.:	303081
ICP ID Number:		Date:	12/09/97		
Flame AA ID Number :	PE5000				
Furnace AA ID Number :					

Comments:			

11A ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab	Name:	me: RECRA_LABNET_INC			NY97-163_	_		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	·	SDG	No.:	30308
TCP	ID Nur	mber: SUPERTRA	CE	Date:	11/11/97			

	Wave- length	Ir	nterelement (Correction 1	Factors for	:
Analyte	(nm)	Al	Ca	Fe	Mg	CR
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ balt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver	308.22 206.84 189.00 455.40 313.04 226.50 317.93 267.70 228.62 325.75 259.94 220.35 279.08 257.61 231.60 404.70 196.00 328.07	-0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000 -0.0000000	-0.0000000 -0.00000000 -0.00000000 -0.00000000 -0.00000000 -0.00000000 -0.00000000 -0.00000000 -0.00000000 -0.000000000 -0.00000000 -0.00000000 -0.00000000 -0.00000000			
Sodium	330.23_ 190.00_ 292.40_ 213.86_	_0.0000000 _0.0000000 _0.0000000	_0.0000000 _0.0000000 _0.0000000 _0.0000000	_0.0000000 _0.0000000 _0.0000000	_0.0000000 _0.0000000 _0.0000000	_0.0000000 _0.0000000 _0.0000000

Comments:			
	 		 _

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11A ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab	b Name: RECRA_LABNET_INC			Contract:	: NY97-163			
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG No.: 3	03081	
TCD	TD Nur	nher SHPERTRAC	TE - 2	Date:	12/15/97			

	Wave-	I	nterelement (Correction 1	Factors for	:
	length					
Analyte	(nm)	Al	Ca	Fe	Mg	CR
Aluminum	308.20	_0.000000	_0.0000000_	_0.0000000	_0.000000	_0.000000
Antimony -	206.80	0.0000000	0.0000000	0.0000000	0.0000000	-0.0049090
Arsenic	189.00	0.0000000	_0.0000000	_0.0000000	_0.0000000	0.0000000
Barium —	493.40	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Beryllium	313.00	0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Cadmium	226.50	0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Calcium	317.90	0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Chromium	267.70	0.0000000	0.0000000	_0.0000000	_0.0000000	-0.0000000
Cobalt	228.60	0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Copper	324.70	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	0.0000000
Iron	271.40	0.0000000	0.0000000	_0.0000000	0.0000000	_0.0000000
Lead	220.30	0.0000000	0.0000000	_0.0000000	0.0000000	_0.0000000
Magnesium	279.00	0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Manganese	257.60	0.0000000	_0.0000000	0.0000000	_0.0000000	_0.0000000
Mercury					_	_
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	404.70	_0.0000000	_0.0000000	_0.0000000	_0.0000000	_0.0000000
Selenium	196.00	0.0000000	_0.0000000	-0.0002150	_0.0000000	_0.0000000
Silver	328.00	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Sodium	330.20	_0.0000000	[_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Thallium_	190.80	_0.0000000		_0.0000000	_0.0000000	_0.0000000
Vanadium_	292.40	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
Zinc	_206.20_	_0.0000000	_0.0000000_	_0.0000000	_0.0000000	_0.0000000
				l		

Comments:			

12 ICP LINEAR RANGES (SEMIANNUALLY)

Lab	Name:	RECRA_LABNET_	INC.	_	Contract:	NY97-163_		
Lab	Code:	RECNY_	Case No.:	6702_	SAS No.:		SDG No.:	303081

ICP ID Number: SUPERTRACE__

Date: 11/19/97

			_
Analyte Aluminum Antimony Arsenic	Integ. Time (Sec.) —15.00 —15.00	Concentration (ug/L) 800000.0 50000.0 20000.0	M P P P
Barium	$-\frac{15.00}{15.00}$	50000.0	P-
Beryllium	<u></u> 15.00	5000.0	P_
Cadmium	<u></u> 15.00	5000.0_	P_
Calcium	15.00	600000.0	P_ P
Chromium_	-15.00	50000.0_	P-
Cobalt	-15.00	50000.0	$\frac{P}{P}$
Copper	15.00	650000.0	P-
Lead	15.00	20000.0	$ _{P}^{-}$
Magnesium	— _{15.00}	700000.0	P_
Manganese	<u> 15.00</u>	20000.0	P_
Mercury			NR
Nickel	15.00	20000.0	P_
Potassium	15.00	600000.0_	[P_
Selenium_	15.00	50000.0_	P_ P
Silver Sodium	15.00 15.00	1500.0 750000.0	P-
Thallium	$\begin{bmatrix} -15.00 \\ 15.00 \end{bmatrix}$	100000.0	P-
Vanadium_	15.00	50000.0	P-
Zinc	15.00	20000.0	P

Comments:		
	· · · · · · · · · · · · · · · · · · ·	

12 ICP LINEAR RANGES (SEMIANNUALLY)

Lab	b Name: RECRA_LABNET_INC		Contract: NY97-163				
Lab	Code:	RECNY_	Case No.: 6702_	SLS No.:		SDG No.:	303081
ICP	ID Num	mber: SUPERTRAC	CE-2	Date:	09/25/97		

Analyte Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel	15.00 15.00	Concentration (ug/L) 900000.0 50000.0 20000.0 10000.0 20000.0 50000.0 100000.0 50000.0 600000.0 100000.0 100000.0 100000.0 100000.0	M P P P P P P P P P
Copper	15.00 15.00	50000.0	P_ P
Copper	15.00	50000.0	P
Manganese Mercury	15.00	20000.0	P_ NR
Potassium Selenium_	15.00 15.00	500000.0	P P
SilverSodiumThallium_Vanadium	$ \begin{array}{r} -15.00 \\ -15.00 \\ -15.00 \\ -15.00 \end{array} $	5000.0 500000.0 100000.0 100000.0	P_ P_ P_ P_
Zinc	15.00	20000.0	P_

Comments:		

13 PREPARATION LOG

ab	Name:	RECRA_LABNE	ET_INC	Contract:	NY97-163	
ab	Code:	RECNY_	Case No.:_6702	SAS No.:	SDG	No.:303081

Method: P_

NYSDEC Sample No.	Preparation Date	Weight (gram)	Volume (mL)
08RW	12/18/97 12/18/97 12/18/97 12/18/97 12/18/97 12/18/97	1.00 1.01 1.00 1.00 1.00 1.00	200 200 200 200 200 200
PBS		1.00	200

FORM XIII - IN

13 PREPARATION LOG

Lab Name:	RECRA LABNET	INC.	Contract:	NY97-163

Lab Code: RECNY_ Case No.:_6702_ SAS No.: _____ SDG No.:303081

Method: CV

NYSDEC			
Sample	Preparation	Weight	Volume
No.	Date	(gram)	(mL)
NO.	Date	(gram)	(11111)
08RW	12/19/97	0.21	100
08RWD	12/19/97	0.21	100
08RWS	_12/19/97	0.21	100
LCSS	12/19/97	0.06	100
PBS	_12/19/97	0.20	100
]
			
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FORM XIII - IN

14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC._____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303081

Instrument ID Number: SUPERTRACE Method: P_

Start Date: 12/22/97 End Date: 12/22/97

NYSDEC														Ar	na.	Lyt	es	5										
Sample No.	D/F	Time	ę	s R	A L	S B	A S	B A	B E	C D	C A	C R	C 0	C	F E	P B	M G	M N	H G	N I	K	SE	A G	N A	T	V	Z N	C N
S0	1.00	1730	\		-	\overline{X}	\overline{x}	-	$\frac{\cdot}{X}$	\bar{x}	-	_	-	\overline{x}	-	\overline{x}	-	-	-	-	-	\overline{x}	\overline{x}	-	\overline{X}	_	\overline{X}	-
s	1.00	1735			-	Х	Х	-	Х	x	-		-	Х	-	Х	-	-	-	_	-	Х	X		X	_	Х	_
S	1.00	1741			- -	X	X	-	Х	$ _{X} $	-	-	-	Х	_	Х	-	-	-	_	-	Х	X		X	_	Х	_
S	1.00	1746			-	X	Х	-	Х	x	_	_	-	Х	_	Х	-	-	-	_	-	Х	X	-	X	-	Х	_
S	1.00	1752			-	X	X	-	Х	X	-	-	-	Х	-	Х	-	-	-	_		Х	Х	-	X	-	Х	_
s	1.00	1757			-			-			-		-		_		-	-		-	-			-				_
ZZZZZZ	1.00	1803			- -	-	-	-	-		-	-	-	-	—	_	-	-	-	_	-		-	-	-	-	_	_
ZZZZZZ	1.00	1809			-	-	_	-	-	-	-	_	-	-	_	_	-	-	-	_	-	_		-	-	_	_	_
ICV -	1.00	1814			- -	\overline{x}	\overline{x}	-	$\overline{\mathbf{x}}$	$ \overline{x} $	-	-	-	\overline{x}	-	$\overline{\mathbf{x}}$	-	-	-	_	_	\overline{x}	$\overline{\mathbf{x}}$	-	\overline{x}	-	$\overline{\mathbf{x}}$	_
3	1.00	1820			-	X	X	-	X	X	-	-	-	X	-	X	-	-	-	_		Х	X	-	X	-	X	_
r.T	1.00	1825			-	X	X	-	X	X	-	-	-	X	-	X	-	-	-	_	-	X	X	-	X	-	Х	_
ZZZZZZ	1.00	1831			-	**		-	**		-	-	-		-		-	-	-		-			-		-		
ICSA	1.00	1836			-1-	$\overline{\mathbf{x}}$	\overline{x}	-	\overline{x}	$ \bar{x} $	-	-	-	\bar{x}	-	\overline{X}	-	-	-	_	-	\overline{x}	\overline{x}	-	\overline{x}	-	\overline{X}	_
ICSAB	1.00	1842			- -	X	x	-	X	X	-		-	X	-	X	-	-	-	_	-	X	X	-	X	-	X	_
CCV —	1.00	1847			- -	X	X	-	X	X		-	-	X	-	X	-	-	-	_	-	X	X	-	X	-	X	_
CCB——	1.00	1852			·	X	x	-	X	X	-	-	-	X	-	X		-	-	_	-	X	X	-	X	-	X	-
PBS PBS	1.00	1858			- -	X	X	-	X	X	-	-	-	X	-	X	-	-	-	_	-	X	X	-	X	-	X	-
LCSS	1.00	1903			- -	^ `	X	-	X	X	-	-	-	X	-	X	-	-	-	_	-	X	X	-	X	-	1	-
LCSS	1.00	1909	l —		· -	\overline{x}	1	-	1	^	-	-	-	^		1	-	-	-	-	-	11	1	-	* `	-	-	—
LCSS	1.00	1914			-	^`	-	-	-	-	-	-		-	-	-	-	-	-	_	-	-	-	-	-	-	\overline{x}	_
ZZZZZZ	1.00	1920			· —	-	-	-			-	-	-	_	-	_	-	-	-	_	-	-	-	-	-	-	^	_
ZZZZZZ	1.00	1925			- -	-	-	-	-		-	-		_	-	-	-	-	-	_		-	-	-	-	-	-	_
ZZZZZZ	1.00	1930			- -	-	-	-	-		-	-		_	-	-	-	-	-	-	-	_	-	-	-		-	_
ZZZZZZ	1.00	1936			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-	_	-	-	-	-	-	_
ZZZZZZ	1.00	1941			- -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-	-	-		-	-	-	_
ZZZZZZ	1.00	1947			- -	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	_	-	-	-	-	-	_
CCV -	1.00	1952			-	X	\overline{x}	-	\overline{X}	$ \overline{x} $	-	-	-	\overline{X}	-	\overline{X}	-	-	-	-	-	\overline{X}	\overline{X}	-	\bar{X}		\overline{X}	_
CCB -	1.00	1958			-	X	X	-	X	$ \hat{\mathbf{x}} $	-	-	-	X	-	X	-	-	-	-	-	X	X	-	X		X	-
ZZZZZZ	1.00	2003			- -	**	^ `	-	^	^	-	-	-	^	-	1	-	-	-	-	-	41	1,		^`	-	1	-
zzzzzz—	1.00	2009			- -	-	-	-	-			-	-	-	-	-		-	-	-	-	_	-	-	-	-	-	-
ZZZZZZ	1.00	2014			-	-	-	-	-		-	-	-	-	—	-	-	-	-	-	-	_	-	_	-	-	_	-
ZZZZZZ	1.00	2019			-	-	-	-	-	-	-	-	-	-	_	-			-	-	-	_	_	-	-	-	_	_
		2019			- -	-					-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	_	_
\		l	l		.	 	l	I	ا ــــ ا	ı I		ا ـــــ ا	ا ـــ ا	 _	_	l_	I	I_	I	_	l l	_		I [l	I		_

14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303081

Instrument ID Number: SUPERTRACE___ Method: P_

Start Date: 12/22/97 End Date: 12/22/97

					_					_				_						_								
NYSDEC														Aı	na.	Lyt	ces	3										
Sample	D/F	Time	္ခ	R	$\frac{1}{A}$	S	Α	В	В	С	С	С	С	C	F	P	М	М	Н	N	K	S	Α	N	Т	V	Z	C
No.	, 5,1	1 1	ľ	10	L	В	S	A	E	D	A	R	0	U	E	В	G	N	G	I	1	E	G	A	L		N	N
1101	}								_	-					-	-				-		~			-		1	``
ZZZZZZ	1.00	2025			1-	_	-	-	-	-	_	_	-	_	-	-	_	-	_	_	-	-		-	-	-	-	-
ZZZZZZ	1.00	2030			_	_	_	_	_	_	_		_	_	_	_	_	_	_	_	_	—	_	-	_	_	_	-
ZZZZZZ	1.00	2036				_	_	_	_	_		_	_	_	_	_	_	_	_	_	_		_	_	_	_	_	
08RW	1.00	2041			_	X	\overline{X}	_	$\overline{\mathbf{x}}$	\overline{X}	_	_		X		\overline{X}	_	_	_	_	_	\overline{X}	\overline{X}	_	\overline{X}	_	\overline{X}	_
08RWA	1.00	2047			-	-	-			_	_	ĺ	_	_	_	Í_	l_	l_	_	_	_	Х	_	_	_	_	_	_
08RWL	1.00	2052			_	X	X	_	X	X	_	_	_	X	_	X	_	l _	_	_	_	Х	X	_	x	_	\overline{X}	_
CCV	1.00	2058			_	X	X	_	X	X	_	_	_	X	_	X	 _	_	_	_		Х	Х	_	Х	_	Х	_
CCB	1.00	2103			-	X	X		X	X	-	 —	_	X	_	X	_	 -	-	_	_	X	X	_	X		X	
08RWD	1.00	2108				X	X		X	X		_	 —	X	_	X	_		_		-	X	X	_	X		X	=
CRI	1.00	2114			-	X	X	-	X	X	-	-	-	X	-	X	 —	_		-	-	X	X		X	-	X	
ZZZZZZ	1.00	2119			-	^	^	-	^	^	_	-	-	^		^	-	—	-	_	_	^	Х		Х		Х	-
ICSA	1.00	2130			-	\overline{x}	\bar{x}	-	$\overline{\mathbf{x}}$	$\overline{\mathbf{x}}$		 —	-	\overline{x}	—	\overline{X}	-	-	-	-	-	\overline{x}	\overline{x}	-	\overline{x}	-	$\overline{\mathbf{x}}$	-
ICSAB	1.00	2136			-	X	X	-	X	X	—	-	-	X	-	X	—	-	-	_	—	X	X	-	X	-	X	-
CCV CCV	1.00	2141			-	X	X	-	X	X	-	-	-	X	-	X		-	-	-	_	X	X	-	X		X	-
CCB	1.00	2147			-	X	X		X	X	—	-	-	X	-	X	-	-	-	-	-	X	X	-	X	-	X	-
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303081

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 12/24/97 End Date: 12/24/97

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NYSDEC	D/F	Time		%	D	A	S	Α	В	В	<u></u>	<u>C</u>	<u></u>	<u></u>		F	Р	M	M	Н	N	K	S	Α	N	Т	V	Z	C
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s	1.00	1029				-	-	-	-	_	-	_	Х	_		_	-	-	-	_	Х	-	-		-	-	-	-	_
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ZZZZZZ	1.00	1052	1			-	-	-	_	_	-	_	-	-	_	-	_	_	_	-	-	-	_	-	-	-	-	-	_
ZZZZZZ	1.00	1058				-	-	-	-	-	-	_	_	-	-	_		_	-	-	-	-	-	-	-	-	-	-	_
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ICRI	1.00	1115				-	-	-	-	_		-	Х	-	_	-		_	-	-	Х	-	-	-	-	-	-	-	_
ZZZZZZ	1.00	1120				-	_	_	-	_	_	-		_	-	_	-	_	-	-		-	_	-	-	_	-	-	-
ICSA —	1.00	1126				-	_	-	-	-	_	_	$\overline{\mathbf{x}}$	_		_		_		-	$\overline{\mathbf{x}}$	-	-	-	-	-	-	-	-
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CCV	1.00	1213				-		-	_	_	-	-	Х	-	-	_	-	_		-	Х	-	-	-	-	-	-	-	-
CCB	1.00	1219				-	_	-	_	-	-	-	Х		-	_	-	_		-	Х	-	-	_	-	-	-	-	-
PBS	1.00	1224				-	-	-	-	_	-	-	Х	-	-	_	-	_		-	Х	_	-	-	-	-	-	-	_
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LCSS	1.00	1241				-	-	-	_	-	-	-	-	_	_	_	-	_	-		-	-	-	-	-	-	-	-	-
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ZZZZZZ	1.00	1253				-	-	-	_	_	_	_	-	_	-	_	-	_	-	-	-	-	_	-	-	-	-	_	-
ZZZZZZ	1.00	1258				-	-	-	-	_	-	-	-	_	-	_		-	-		-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1304				-		-	-	_	-	-	-	_	_	-	-	_	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1309				-	-	-	_	_	_	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1315				-	-	-	-	-	-	-	-	-	-	_	-	-	-	-		-	-	-	-	-	-	_	-
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CCB	1.00	1326				-	-	-	-	-	_	_	Х	-	_	-	_			-	Х	-	_	-		_	-	_	_
$ZZZ\overline{ZZZ}$	1.00	1332				-	-	-	_	-	_	-			_	-	-	_	_	-		-	-	-	[-	-		-	-
ZZZZZZ	1.00	1337				-	-	-	-		_	-	-	-	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-
zzzzzz—	1.00	1343				-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14 ANALYSIS RUN LOG

Lab Name: RECRA_LABNET_INC.____ Contract: NY97-163___

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303081

Instrument ID Number: SUPERTRACE-2_ Method: P_

Start Date: 12/24/97

End Date: 12/24/97

NYSDEC														Ar	ia]	Lyt	ces	3										
Sample	D/F	Time		R	\ _	TC	7	Б	T -	C	C				-	<u> </u>	3.6	34	7.7	7.7	77		70	1.7	I m	77	-	
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CRI	1.00	1354			-	[-	-	-		-	-	$\overline{\mathbf{x}}$		-	-	_	_	-	-	\overline{x}	-	-	-	-				-
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ICSA -	1.00	1405			1-	-	-	-	-	_	-	$\overline{\mathbf{x}}$	-	-	-	-	-	—	-	\overline{x}	-	_	-		-	-	-	-
ICSAB	1.00	1410			-	-	-	-	_	_	_	Х	_	-	-	_			_	Х	-	-	-	-	-	-	-	-
CCV —	1.00	1416			-	-	-	-	-	-	_	Х	-	-		-	-	_	_	X	-	_	-	-	-	-	-	-
CCB	1.00	1422			-	-	-	_	_	_	_	Х	_	-	-	-	-	_	-	Х	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1427			1-	-		-	-	-	_		_	-	-	-		-	_		-	_	-	-	-	-	-	-
ZZZZZZ	1.00	1433			-	-	-	-	-	_	_	_		-	-	-	-	_	—	-	-	_	-	-	-	-	-	-
ZZZZZZ	1.00	1438			-	_	-	-	_	_	_	_		-	_	_	-	-	_	-	-	_	_	-	-	-	-	-
08RW	1.00	1444			-	-	-	-	-	-	_	$\overline{\mathbf{x}}$	_	-	_	-	-	_	_	\overline{x}	-	_			-	-		
08RWA	1.00	1449			1-	-		-	-	-	_		_	-	-	_	_	_	_		-	_	-	-	i —	-	-	4000
08RWL	1.00	1455			1-	_	_	-		_	_	\overline{X}	-	-	-	-	-	-	_	\overline{X}	-	_	-	-	-	-		-
08RWD	1.00	1501			-	-	-	_		-	_	Х	_	-	-	-	-	_	-	Х	-	-	-	-	-	-	-	-
08RWS	1.00	1506			-				-		_	Х	_		-	_	-	-	_	Х	-	_	-	[-]	-	-	-	-
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CCB	1.00	1517			-	-	_	_	_	-	_	Х	_	_	-	-	_	-	-	Х		_	_	-	_	-	-	-
CRI	1.00	1523			-	_	-	_	_	_	_	Х	_	-	-	-	-	_	_	Х	-	-	_	-		-	-	-
ZZZZZZ	1.00	1528			_		_	_			_	_			_		-	_	_		-	_	_	-	-	-	-	-
ICSA	1.00	1534			_	_	_	_	_			\overline{X}			_		_		_	\overline{X}	_	_	_	-	_	-	-	-
ICSAB	1.00	1539			_	_	_	_				Х	_					_	_	Х	_	_	_	_	_	-	-	-
CCV	1.00	1545			l_	_	_	_	_	_	_	Х	_	_	_			_		X	_			_	_	I _		
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14 ANALYSIS RUN LOG

ab	Name:	RECRA	LABNET	INC.	Contract:	NY97-1	.63
		_					_

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303081

Instrument ID Number: PE5000 Method: CV

Start Date: 12/19/97 End Date: 12/19/97

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S0	1.00	1355	<u> </u>		-	-	-	-	_	-	_	-	-		-	-	-	_	\overline{x}	-	-	-	-	-	-	-	-	-
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S1	1.00	1357			-	-	-	-	_	-	_		_	-	-	_	-	-	Х	_	-	-	-		-	-	-	-
S5	1.00	1358			-	-	-	-	_	-	_	-	-	-	-	_	-		Х	_	_	-	-	_	-	-	-	-
S10	1.00	1359			1-	_	-	-	_	-	_	-	-	_	-	_	-	_	Х	_	_	-	-	-	-	-	-	-
ICV	1.00	1400			-	-	-	_	-	-	-	-		-	-	_	-	_	Х		-	-	-	_	_	-	-	\ <u> </u>
ICB	1.00	1401			-	-	-	-	-	-	_	-	_	_	-	-	-		X	_	-	-		-	-	-	-	-
PBS	1.00	1402			-	-	_	_		-	_	a T		-	_	_	_	-	Х	_	-	-	-	-	-	-	_	-
CDA	1.00	1404			-	-	-	_	_	-	_	-	_	_	_	_	-	_	Х	_	_	-	_	-	_	_	_	-
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ZZZZZZ	1.00	1411			-		-	-	-	-	-	_	_	_	_	-	-	-	-	_	_	_	_	-	_	-	-	-
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ZZZZZZ	1.00	1414			-	-	-	-	-	-	_	_	-	-	_	-	-	-	_	_		_	-	_	_	-	-	-
ZZZZZZ	1.00	1415				-		-	_	-	-	_	-	-	_	-	-	_	-		-	_	-	_	-	-	_	-
CCV _	1.00	1416			1-		-	-	-	-	-	-	-	_	-	-	-		$\overline{\mathbf{x}}$	_	-	_	_	_	_	-	_	-
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ZZZZZZ	1.00	1419			-	-	-	-	-	-	-	-		-	-	-	-	-		_	-	_	-	-	_		_	-
ZZZZZZ	1.00	1421			-	_	-	_	_	_	_	_	_	-	_	_	-	_	-	_	-	_	_	_	_	_	_	-
ZZZZZZ	1.00	1422			-	-	_	_	-	-	-	-	-	_	-	-	-	-	-	_	-	-	-	_	-	-	-	-
ZZZZZZ	1.00	1424			-	-	-	-	_ i	_	-	-	_	-	-	-	-	-	-	-	-	_	-	_	-	-	_	-
ZZZZZZ	1.00	1425			-	-	_	-	-	_[_	-	_	_	_	-	_	_		-	-	_	-	-	_	-	_	-
ZZZZZZ	1.00	1426			_	_	-	_	_	_	_	-	-1	-	-	-			-	-			-	-	-	-	_	-
ZZZZZZ	1.00	1428			-	_		-1	_	_		-	_	_	_	_	_	-	-	-	-	-		-	-1	-	_	-
ZZZZZZ	1.00	1429			-	-	-	_	_	_	-1	<u> </u>	-	-	-1	-	-	_	-	-[-	-	-	-	-1	_	_	-
ZZZZZZ	1.00	1431			-	_	-	_	-	_	-	-	_	-	-	-1	-[_	-	_	-	_	-	-1	-	-	-	-
ZZZZZZ	1.00	1432			-	-	-	-	-	_	-	_	-	_	-	-	-	-	-	-	-	-	-	-	-			-
CCV	1.00	1433			-	-	-	-	-	-	-	-	-	-	<u> </u>	-	-	-	$\overline{\mathbf{x}}$	-	-	-	-	-	-	-	-	-
CCB	1.00	1435			-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-1	-	-
ZZZZZZ	1.00	1436			-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
-1					1-	-	-	-	-	-	-	-	-	-	-	-	-	-1	-	-1	-	-	-1	-	-	-	-	1-

14 ANALYSIS RUN LOG

Lab Na	me: RECRA	LABNET	INC.	Contract:	NY97	-163

Lab Code: RECNY_ Case No.: 6702_ SAS No.: ____ SDG No.:303081

Instrument ID Number: PE5000 Method: CV

Start Date: 12/19/97 End Date: 12/19/97

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NYSDEC														М	ıal	Lyl	-=:	•										
Sample No.	D/F	Time	0/0	R	A L	S B	A S	B A	B E	C D	C A	C R	C	C	F E	P B	M G	M N	H G	N I	K	S	A G	N A	T L	V	Z N	C N
ZZZZZZ	1.00	1438			 -	 - 	 - 	_	_	_	_	_ _	_ _	_ _	_	_ _	_	_	- -	_	_ _	<u>-</u>	_	- -	 -	_ _	_ _	- _
ZZZZZZ 08RW	1.00 1.00	1439			-	_	-	-		-	-	_	-	-	-	_	-	_	\overline{x}	_	_	-	-	-	-	-	-	-
08RWD	1.00	1442			_	_	_	_	_			_	_	_	_	_	_	_	Х	_	_	_	_	_	_	_	_]_
08RWS	1.00	1443			-	-	_	_	-	-	-1	-	-	_	_	-	_	_	X	_	_	_	-	-	-	-	_	-
CCV	1.00	1446			-	_	_	-	-	-	-	_	-	_	-	-	_		X	_	<u> </u>	<u> </u>	_	-	-	-	_	
CCB	1.00	1448			_	_	-		_	_	_	_	_	- -	_	_	_	_	Х	_	_	_	_	_	_	_	_	_
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a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426 January 20, 1998

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

SDG #: 30308R Matrix: Soil

Samples Received: 12/24/97

Sample Date: 12/22/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

andace Z. 7ex

Candace L. Fox Program Manager

Kenneth E Kasperek

Laboratory Director

CLF/KEK/ltb

Enclosure

cc: Ms. Kathie Easom, Ph.D.

Radian International LLC-

8501 N. Mopac Blvd. Austin, TX 78759 I.D. #A97-4808 #NY7A6702

This report contains <u>855</u> pages, which are individually numbered.

P. Control 40 Hershard Drive - Amborot Novy Voyl, 14229 2209 - /716) 601 2600

000001

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-01RW-2

03-03-01RW-3 03-03-02RW-3 03-03-03RW-3 03-03-04RW-3 03-03-05RW-3 03-03-06RW-3 03-03-07RW-3 03-03-08RW-3 03-03-09RW-3

03-03-10RW-3

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.



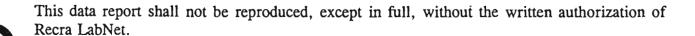
METALS DATA Continued

All of the samples required redigestion due to a non-compliant Matrix Spike Blank and Matrix Spike Blank Duplicate. The CCBs were also non-compliant for Potassium, Selenium, Thallium, Sodium and Zinc; the samples were reanalyzed for these metals.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER	LABORATORY		AN	ALYTICAL	REQUIRE	MENTS	
SAMPLE ID	SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
03-03-01RW-2	A7480801	-	-	•	-	ASP95	-
03-03-01RW-3	A7480802	-	-	-	-	ASP95	
03-03-02RW-3	A7480803	-	-	-	-	ASP95	-
03-03-03RW-3	A7480804	-	-	-	-	ASP95	-
-04RW-3	A7480805	-	-	-	-	ASP95	-
03-03-05RW-3	A7480806	-	-	-	-	ASP95	-
03-03-06RW-3	A7480807	-	-	-	-	ASP95	-
03-03-07RW-3	A7480808	_	-	-	-	ASP95	-
03-03-08RW-3	A7480809	-	-	-	-	ASP95	-
03-03-09RW-3	A7480810	-	-	-	-	ASP95	-
03-03-10RW-3	A7480811	_	-	-	-	ASP95	-

NYSDEC-1



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-01RW-2	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-01RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-02RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-03RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-04RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-05RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-06RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-07RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-08RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-09RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98
03-03-10RW-3	SOIL	PPMETALS	12/24/97	12/26/97-01/05/98	12/30/97-01/06/98

NYSDEC-5



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
03-03-01RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-01RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-02RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-03RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-04RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-05RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
3-06RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-07RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-08RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-09RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-10RW-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED

NYSDEC-7



INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic Data Qualifiers:

- B Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.
- U Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N Indicates spike sample recovery is not within the control limits.
- K Indicates the post digestion spike recovery is not within the control limits.
- * Indicates duplicate analysis is not within the control limits.
- S Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- M Indicates duplicate injection results exceeded control limits.
- W Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference.



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Name: RECRA_LABNET_INC	Contract: NY97-163
Lab Code: RECNY_ Case No.: 6702_	SAS No.: SDG No.:303082
Protocol Version: ASP-95	
NYSDEC Sample No. _BLKSPK2 _BLKSPK1	Lab Sample IDAD721707 _AD721706 _AD721695 _AD721696 _AD721697 _AD721698 _AD721699 _AD721700 _AD721701 _AD721702 _AD721703 _AD721704 _AD721705
Were ICP interelement corrections app	lied ? Yes/No YES
Were ICP background corrections applied of the second seco	
application of background correc	
Comments:	
	
I certify that this data package is is conditions of the Protocol, both tech other than the conditions detailed ab in this hardcopy data package and in on diskette has been authorized by the designee, as verified by the following	nically and for completeness, for ove. Release of the data contained the computer-readable data submitted e Laboratory Manager or the Manager's
Signature: Letroeuk	Name: Kenneth_EKasperek
Date: ()/21/98 .	Title: Laboratory_Director
	COVER PAGE - IN

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

		01RW-2	Post
Lab Name: RECRA_LABNET_INC	Contract: NY97-163		

Matrix (soil/water): SOIL Lab Sample ID: AD721695

Level (low/med): LOW__ Date Received: 12/24/97

% Solids: 97.5

CAS No.	Analyte	Concentration	C	Q	M
			_		
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_	0.70	$ \overline{\overline{v}} $		P_
7440-38-2	Arsenic	0.80	В		P_
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	บิ		P_
7440-43-9	Cadmium	0.43	В		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	126			P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	2.3	$\overline{\mathtt{B}}$		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.9	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	4.3	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium_	1.0	บิ		P
7440-22-4	Silver	0.29	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.3	บิ		P_
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	3.6	$\overline{\mathtt{B}}$		P_
	Cyanide		_		NR

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color 2	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CLI	_SAMPLE_I ENT_SAMPL	D:_A7480801-CGA E_ID:_03-03-01F NUMBERS:_AD7219	₩-2	00119			=

1 INORGANIC ANALYSES DATA SHEET

NVCDEC	SAMPLE	NΩ

			01RW-3
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721696
Level (low/med):	LOW	Date Rece	ived: 12/24/97

% Solids: _97.9

					T 1
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.67	ਹ		P
7440-38-0	Arsenic	0.69	ŭ		
			١٠		NR
7440-39-3	Barium		ਹ		
7440-41-7	Beryllium	0.20_			$ \tilde{b}^- $
7440-43-9	Cadmium	0.28_	В		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	2.2_	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.2	B		P_
7439-89-6	Iron		_	l	NR
7439-92-1	Lead	2.6			P_
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	บิ		CV
7440-02-0	Nickel -	1.2	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	ਹ		P
7440-22-4	Silver	0.28	Ū		$ \bar{p}^- $
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	ਹ		P
7440-62-2	Vanadium		٦		NR
7440-66-6	Zinc	5.8	-		P
7140-00-0	Cyanide		-		NR
	cyaniue		-		111
			I		اا

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CL1	S_SAMPLE_I	ID:_A7480802-CGA LE_ID:_03-03-01F _NUMBERS:_AD7219	W-3	00120			

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

							02RW-3	
Lab 1	Name:	RECRA_	LABNET_	INC	Contract:	NY97-163		

Matrix (soil/water): SOIL_ Lab Sample ID: AD721697

Level (low/med): LOW_ Date Received: 12/24/97

% Solids: _97.4

CAS No.	Analyte	Concentration	C	Q	м
			$ _ $		
7429-90-5	Aluminum_		[_		NR
7440-36-0	Antimony_	0.68	บ		P_
7440-38-2	Arsenic_	1.0	В		P_
7440-39-3	Barium		$\lfloor _{-} \rfloor$		NR
7440-41-7	Beryllium	0.20	ซิ		P_
7440-43-9	Cadmium	0.55	В		P_
7440-70-2	Calcium				NR
7440-47-3	Chromium	233	-		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.3	B		P
7439-89-6	Iron —				NR
7439-92-1	Lead	1.9	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	บี		CV
7440-02-0	Nickel	0.91	В		P
7440-09-7	Potassium				$N\overline{R}$
7782-49-2	Selenium	1.00	บี		P
7440-22-4	Silver	0.28	U		P_
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	ีซิ		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	4.0	$\overline{\mathtt{B}}$		P
J	Cyanide				NR
			-		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CLI	_SAMPLE_I ENT_SAMPL	D:_A7480803-CGA LE_ID:_03-03-02F NUMBERS:_AD7219	RW-3	00121			=

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
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			03RW-3
Lab Name: RECRA_LABNI	ET_INC Cor	ntract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD721698
Level (low/med):	LOW	Date Rece	ived: 12/24/97
% Solids:	_97.1		

				_	
CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.69	ਹ		P
7440-38-2	Arsenic	0.77	В		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	Ū		P
7440-43-9	Cadmium	0.71	В		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium	83.1			P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.3	B		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.6_	_		P_
7439-95-4	Magnesium		<u> </u>		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10_	ੋਹ		CV
7440-02-0	Nickel	1.2_	В		P_
7440-09-7	Potassium		l_		NR
7782-49-2	Selenium_	1.0_	Ū		P_
7440-22-4	Silver	0.29	U		P_
7440-23-5	Sodium		ਹ		NR
7440-28-0	Thallium_	1.3_	١٠		P_ NR
7440-62-2	Vanadium_		-	l	P
7440-66-6	Zinc	4.8_	-	 	NR
<u> </u>	Cyanide		-		MK
l	l		I	·	l

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CLIENT_SAMP	ID:_A7480804-CG LE_ID:_03-03-03 _NUMBERS:_AD721	RW-3	00122	<u>-</u>		

1 INORGANIC ANALYSES DATA SHEET

MUCDEC	CAMPIE	MIC
NIDDEC	SAMPLE	MO

Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	04RW-3
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721699
Level (low/med):	LOW	Date Rece	ived: 12/24/97
% Solids:	_97.7		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		$ _{\overline{NR}} $
7440-36-0	Antimony	0.68	ਹ		P
7440-38-2	Arsenic	0.92	В		P-
7440-39-3	Barium —		احا		NR
7440-41-7	Beryllium	0.20	ซิ		P
7440-43-9	Cadmium	0.20	В		P-
7440-70-2	Calcium	 0.5/_			NR
7440-47-3	Chromium	213	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	4.6	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.9			P
7439-95-4	Magnesium		 –		NR
7439-96-5	Manganese		-		NR
7439-96-5	Mercury	0.10	ਹ		CV
7440-02-0	Nickel		В		P
7440-02-0	Potassium	2.6_	В	l ———	NR
7782-49-2	Selenium	0.99	ีซี		P
7440-22-4	Silver		ט		P -
7440-22-4	Sodium Sodium	0.28_	U	l	NR
7440-23-5	Thallium	1.2	บิ		P
7440-28-0	Vanadium_		٦		NR
7440-62-2	Zinc	9.8	-		P
/440-00-0	Cyanide		-		NR
	Cyanitae—		-		IMK
I			I		I

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CLI	S_SAMPLE_I ENT_SAMPI	ID:_A7480805-CGA LE_ID:_03-03-04F NUMBERS:_AD7219	RW-3	00123			

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO.
HIDDEC		110

			05RW-3
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD721700
Level (low/med):	LOW	Date Rece	ived: 12/24/97
% Solids:	97.6		

					<u> </u>
CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum				\overline{NR}
7440-36-0	Antimony	0.69	ច		P
1	Arsenic	1.3	В		$ _{\mathbf{P}}^{-} $
7440-38-2	_		ь		NR
7440-39-3	Barium	0.20	ซิ		P
7440-41-7	Beryllium		-		P-
7440-43-9	Cadmium	0.32_	В		
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	13.7_	_		P
7440-48-4	Cobalt		 _		NR
7440-50-8	Copper	1.7_	\overline{B}		P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.1_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	1.1	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	บิ		P
7440-22-4	Silver	0.28	U		P_
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	บิ		P_
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.3			P
	Cyanide		-		NR
			-		
·——	· 		_		-

Color Before	: BROWN	Clarity Before:		Texture:	MEDIUM
Color After:	COLORLESS	Clarity After:	CLEAR_	Artifacts:	
CLIENT_SA	E_ID:_A7480806- MPLE_ID:_03-03- ON_NUMBERS:_AD7				

INORGANIC ANALYSES DATA SHEET

NYSDEC	CAMDIE	MO
NIDDEC	OMMETIC	140

Lab Name: RECRA_LABN	ET_INC.	Contract: NY97-163	06RW-3
Lab Code: RECNY_	Case No.: 670	2_ SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD721701
Level (low/med):	LOW	Date Rece	ived: 12/24/97
k Solids:	97.8		

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		$ _{\overline{NR}} $
7440-36-0	Antimony	0.69	ਹ		P
7440-38-2	Arsenic	0.75	В		$ \bar{P}^- $
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.20	ថ		P
7440-43-9	Cadmium	0.27	В		$ \bar{P}^- $
7440-70-2	Calcium				NR
7440-47-3	Chromium	124	-		P
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.3	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.2	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	$\overline{\mathtt{U}}$		CV
7440-02-0	Nickel	0.85	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	บิ		P
7440-22-4	Silver	0.28	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.3	บิ		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	4.7	_		P_
	Cyanide		_		NR
					I <u> </u>

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CL	S_SAMPLE_I	ID:_A7480807-CGA LE_ID:_03-03-06B	RW-3				
REI	DIGESTION_	_NUMBERS:_AD7219	953, AD80	00125			= (

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
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			07RW-3
Lab Name: RECRA_LA	BNET_INC	Contract: NY97-163_	
Lab Code: RECNY_	Case No.: 670	2_ SAS No.:	SDG No.: 303082
Matrix (soil/water): SOIL_	Lab Samp	ole ID: AD721702
Level (low/med):	LOW	Date Rec	eived: 12/24/97
% Solids:	97.8		

CAS No.	Analyte	Concentration	С	Q	м
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	0.70	ีซิ		P
7440-38-2	Arsenic	0.99	В		$ P^- $
7440-38-2	Barium		٦		NR
7440-33-3	Beryllium	0.20	ਹ		P
7440-43-9	Cadmium	0.20	υ		$ _{\rm P}^{-} $
7440-70-2	Calcium		١		NR
7440-70-2	Chromium	146	-		P
7440-47-3	Cobalt	———— ¹⁴⁰ —	-		NR
7440-48-4		1.8	B		P
7439-89-6	Copper				NR
7439-89-8		1.9	-		P
	Lead		-		NR
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese	0.10	ਹ		CV
7439-97-6	Mercury		В		P
7440-02-0	Nickel	0.80_	B		NR
7440-09-7	Potassium		บิ		P
7782-49-2	Selenium_	0.99_	_		P-
7440-22-4	Silver	0.29_	U	l	I I
7440-23-5	Sodium		╗		NR
7440-28-0	Thallium_	1.2_	١٠		P_
7440-62-2	Vanadium_		 	l	NR
7440-66-6	Zinc	4.7_	 	l	P_
	Cyanide		_		NR
			l_	l	l

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS .	Clarity	After:	CLEAR_	Artifacts:	
CI	AB_SAMPLE_ LIENT_SAMP	ID:_A7480808-CGA LE_ID:_03-03-07I _NUMBERS:_AD7219	RW-3	00126			

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
MISDEC		TAC

Lab	Name:	RECRA_LABNET_	_INC	Con	tract:	NY97-163	08RW-3		*60
Lab	Code:	RECNY_	Case No.:	6702_	SAS No	· · ·	SDG No.:	303082	

Matrix (soil/water): SOIL_ Lab Sample ID: AD721703

Level (low/med): LOW Date Received: 12/24/97

% Solids: _97.7

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony_	0.68	ਹ		P_
7440-38-2	Arsenic	0.81	В		P
7440-39-3	Barium		$\lfloor _{-} floor$		NR
7440-41-7	Beryllium	0.20	บิ		P_
7440-43-9	Cadmium	0.33	В		P_
7440-70-2	Calcium_		_		$ N\overline{R} $
7440-47-3	Chromium_	66.3	_		P_
7440-48-4	Cobalt		-		$ N\overline{R} $
7440-50-8	Copper	3.7	\overline{B}		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.1	-		P
7439-95-4	Magnesium		-		$ N\overline{R} $
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	ีซิ		CV
7440-02-0	Nickel	1.9	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	บิ		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium_				$ N\overline{R} $
7440-28-0	Thallium	1.3	ਹੋ		P
7440-62-2	Vanadium_		[_]		$ N\overline{R} $
7440-66-6	Zinc	3.1	\overline{B}		P_
	Cyanide				$ N\overline{R} $
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	S_SAMPLE_I	ID:_A7480809-CGA JE ID: 03-03-08F					
		NUMBERS:_AD7219		00127			= (

1 INORGANIC ANALYSES DATA SHEET

			09RW-3
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	l
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD721704
Level (low/med):	LOW	Date Rece	ived: 12/24/97
% Solids:	98.0		

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		\overline{NR}
			ប៊		P
7440-36-0	Antimony_	0.69_			P -
7440-38-2	Arsenic	0.71_	שׁ		I I
7440-39-3	Barium		_		NR
7440-41-7	Beryllium	0.20_	บิ		P_
7440-43-9	Cadmium_	0.48_	В		P_
7440-70-2	Calcium				NR
7440-47-3	Chromium	106	-		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.5	B		P
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.2_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	<u></u>		CV
7440-02-0	Nickel	1.4	В		P_
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	$\overline{\overline{U}}$		P
7440-22-4	Silver	0.28	U		P_
7440-23-5	Sodium) '		NR
7440-28-0	Thallium	1.3	บิ		Р
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	5.5	-		P
	Cyanide		-		NR
			-		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
CL:	B_SAMPLE_: IENT_SAMPI	ID:_A7480810-CGA LE_ID:_03-03-09 NUMBERS:_AD7219	RW-3	00128			

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
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Lab Name: RECRA_LABN	ET_INC Con	ntract: NY97-163	10RW-3
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303082
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721705
Level (low/med):	LOW	Date Rece	ived: 12/24/97
% Solids:	_97.6		

			_		, ,
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum				$ _{\overline{NR}} $
7440-36-0	Antimony	0.68	ថ		P
7440-38-2	Arsenic	0.70	บ		$ \hat{P}^- $
7440-39-3	Barium		اٽا		NR
7440-41-7	Beryllium	0.20	ច		P
7440-43-9	Cadmium	0.52	В		$ \hat{P}^- $
7440-70-2	Calcium		اعا		NR
7440-47-3	Chromium	137	 -		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	2.1	B		P
7439-89-6	Iron		ᅵᅀᅵ		NR
7439-89-8	Lead	1.8	-		P
7439-92-1			-		NR
7439-95-4	Magnesium		-		
	Manganese		==		NR
7439-97-6	Mercury	0.10_	Ū		CA
7440-02-0	Nickel	0.92_	В		P_
7440-09-7	Potassium		=		NR
7782-49-2	Selenium_	1.0_	Ū		P_
7440-22-4	Silver	0.28_	U	[P_
7440-23-5	Sodium		<u> </u>		NR
7440-28-0	Thallium_	1.2_	ੋਹ		P
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	5.9	_		P_
	Cyanide		_	l	NR
l		l		l	I

Color	Before:	BROWN	Clarity Befo	ore:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity Afte	er:	CLEAR_	Artifacts:	
	B_SAMPLE	ID:_A7480811-CGA LE ID: 03-03-108					
		NUMBERS:_AD7219		9			_ (

5A SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

			BLKSPK1
Lab Name	RECRA_LABNET_INC	Contract: NY97-163	<u> </u>

Matrix (soil/water): SOIL__ Level (low/med): LOW

% Solids for Sample: 100.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) (С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	м
Aluminum			-		Γ.			_	NR
Antimony_	75-125	103.8040	-	0.6800	ีซิ	100.000	103.8	_	P
Arsenic	75-125	421.8220	_	0.7000	บ	400.000	105.5	_	P
Barium —			-					_	NR
Beryllium	75-125	7.5500	_	0.2000	บิ	10.000	75.5	_	P
Cadmium	75-125	7.6320	_	0.2000	บ	10.000	76.3	_	P_
Calcium					_			_	NR
Chromium_	75-125_	33.0580	_	0.2000	Ū	40.000	82.6	_	P_
obalt			_						NR
opper	75-125_	38.7420	_	0.2000	$\overline{\mathbf{U}}$	50.000	77.5	_	P_
Iron			_		_			_	NR
Lead	75-125_	77.4780_	_	0.4200	$\overline{\mathtt{U}}$	100.000	77.5	_	P_
Magnesium			_		_			_	NR
Manganese	<u></u>		_		_			_	NR
Mercury	75-125_	0.5110_	_	0.2000	Ū	0.500	102.2	_	CV
Nickel	75-125_	75.3800_	_	0.2600	U	100.000	75.4	_	P_
Potassium			_		_			_	NR
Selenium_	75-125_	331.8780	_	0.9800	Ū	400.000	83.0	_	P_
Silver	75-125_	9.8380_ _	_	0.2800	U	10.000	98.4	_	P_
Sodium_			_		_			_	NR
Thallium_	75-125_	346.5060	-1	1.2200	ប៊	400.000	86.6	_	P_
Vanadium_			_		=			_	NR
Zinc	75-125_	78.8320_	_	0.2000	Ū	100.000	78.8	_	P_
Cyanide			-1		_			_	NR
					_			_	<u></u>

Comments:

LAB_SAMPLE_ID:_A7B1136501-CGA00787	
CLIENT_SAMPLE_ID:_MATRIX_SPIKE_BLANK	
REDIGESTION_NUMBERS:_AD721958,_AD800113	

5A SPIKE SAMPLE RECOVERY

NYSDEC S	SAMPLE	NO
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Lab	Name:	RECRA_LABNET_	INC	Contract: NY97-163_	BLKSPK2
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 303082
Mati	rix (so	oil/water): SO	OTT.	Level	(low/med) · LOW

% Solids for Sample: 100.0

1			_						
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	м
Aluminum			_		_			-	\overline{NR}
Antimony	75-125	103.2200	_	0.6800	ਹ	100.000	103.2	-	P
Arsenic	75-125	416.3900	_	0.7000		400.000	$\frac{-104.1}{104.1}$	-	$ \bar{P} $
Barium			-					-	NR
Beryllium	75-125	8.1740	_	0.2000	ប៊	10.000	81.7	<u> </u>	P
Cadmium	75-125	8.2860	-	0.2000		10.000	82.9	-	P-
Calcium	-		_					-	NR
Chromium	75-125	32.1120	_	0.2000	ับิ	40.000	80.3	-	P
Cobalt	-		_					[-	N=
Copper	75-125	41.8920	_	0.2000	บิ	50.000	83.8	-	I
Iron			_					[_	NR
Lead	75-125_	84.1460	_	0.4200	บิ	100.000	84.1	_	P_
Magnesium					_				NR
Manganese			_		[_			_	NR
Mercury	75-125_	1.0050_	_	0.2000	וּסׁן	1.000	100.5	_	CV
Nickel	75-125_	82.1540_	_	0.2600	U	100.000	82.2	_	P_
Potassium			_		l_			_	NR
Selenium_	75-125_	316.2940		0.9800		400.000	79.1	l_	P_
Silver	75-125_	9.6120_	_	0.2800	U	10.000	96.1	_	P_
Sodium	55 105		_		<u>ـــ</u>			-	NR
Thallium_	75-125_	351.1000_	_	1.2200	ਹ	400.000	87.8	 _	P_
Vanadium_ Zinc	75 105	90 6020	_		==	700 000		-	NR
	75-125_	89.6020_	_	0.2000	บ	100.000	89.6	-	P
Cyanide			-		-			-	NR
	l			l	l_	l		۱	I <u>—</u> I

Commen	t	S	:
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LAB_SAMPLE_ID: A7B1136502-CGA00787
CLIENT_SAMPLE_ID: MATRIX_SPIKE_BLANK_DUP
REDIGESTION_NUMBERS:_AD721959,_AD800114

3 BLANKS

Lab	Name:	RECRA	LABNET	INC.	Contract:	NY97	/-163_	

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Cont:		ing Calib Lank (ug/L) 2		cion 3	С	Prepa- ration Blank C	M
Aluminum_ Antimony_	3.4	ΰ	3.4	Ū	3.4	ਹ	3.4_	ซิ	0.680 Ū	NR_P_
Arsenic	3.5	ַד	3.5	U	3.5_	U	3.5	ט	0.700 U	P NR
cadmium_	1.0 1.0	ט	1.0_	υ U	1.0 1.0	<u>บี</u> บ	1.0_ 1.0_	บ บ	0.200 Ū 0.200 Ū	P
Calcium Chromium Cobalt	1.0	<u>ש</u>	1.0_	ਹ	1.0_	ਹ	1.0_	ਹ	0.200	NR_P_NR
Copper	1.0	<u></u>	1.0_	Ū	1.0_	ਹ	1.0_	ซิ	0.200	P_ NR
Lead Magnesium	2.1	<u></u>	2.1_	$\overline{\mathbf{U}}$	2.1_	<u></u>	2.1_	์ บิ	0.420 Ū	P_ NR
Manganese Mercury	0.2	_ บิ	0.2	_ ซ	0.2	 			0.100	NR_CV_
Nickel_ Potassium	1.3	ם	1.3	υ –	1.3_	ָ -	1.3_	<u></u>	0.260 U	P NR
Selenium_ Silver Sodium	4.9 1.4	บ	1.4	บ	4.9_ 1.4_	บ	1.4_	บ บ	0.980 U	P P NR
Thallium_ Vanadium	6.1		6.1	$\overline{\mathbf{U}}$	6.1_	ਹ	6.1_	ਹ	1.220	P_NR
Zinc Cyanide	1.0	<u></u>	1.0_	ิบิ	1.0_	ਹ	1.0_	ប៊	0.200	PNR
				_		_		_		

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163_	_	
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG No.	: 303082
Prep	paratio	n Blank	Matrix (soil/water):				
Prep	paratio	n Blank	Concentration Units (ug/I	L or mg/kg):		

Analyte	Initial Calib. Blank (ug/L)	С	Conti 1	uing Calib Lank (ug/L) 2	cion 3	С	Prepa- ration Blank C	М
Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide			3.4 3.5 1.0 1.0 1.0 2.1 1.3 4.9 1.4 6.1 1.0	3.4 3.5 1.0 2.1 1.3 1.4	3.4 3.5 1.0 	11111 91 911 9111 91 99		NR

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SI	OG No.:	303082
Prep	paratio	n Blank	Matrix (soil/water):	_			
Prep	paratio	n Blank	Concentration Units (ug/I	L or mg/kg):		

Analyte	Initial Calib. Blank (ug/L)	С	Conti	ini Bi	uing Calib lank (ug/L) 2	cat C	cion 3	С	Prepa- ration Blank C	М
Aluminum Antimony Arsenic Irium Eryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide			1.0		1.0_		1.0			NR NR NR NR NR NR NR NR

SAMPLE DATA PACKAGE



SDG NARRATIVE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-01RW-2

03-03-01RW-3 03-03-02RW-3 03-03-03RW-3 03-03-05RW-3 03-03-06RW-3 03-03-07RW-3 03-03-08RW-3 03-03-09RW-3 03-03-10RW-3

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to one of the following references:

- American Society for Testing and Materials (ASTM) Standards.
- 1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.

METALS DATA

Sample identifications have been abbreviated due to the character limitations of the software.

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.



METALS DATA Continued

All of the samples required redigestion due to a non-compliant Matrix Spike Blank and Matrix Spike Blank Duplicate. The CCBs were also non-compliant for Potassium, Selenium, Thallium, Sodium and Zinc; the samples were reanalyzed for these metals.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date



CHAIN OF CUSTODY DOCUMENTATION



RECRA LABNET, a division of Recra En	NET	, a division of	Recra Environmental, Inc.	ental,	Inc.	,	CHAIN OF CUSTODY RECORD	
PROJECT NO		SITE NAME	() 4					
SAMPLERS (SIGNATURE)	1	Jung String		NO OF CON	Toya		REMARKS	
	GRAB		STATION LOCATION		100			
142 400	7	03-03-01RW-	RW-2	_			3 Dry Turnuround Tine	
1413 30		03-03-01 RW -	Rw-3	_	7			
		63-03-02RW-7	FW -3	_	7			
		03-03-03-53	RW-3	_	7			
		03-03-04RW-3	1RW-3		7			
		03-03-05RW-3	7kw-3)	7			
		0303-06RU-3	SRU-3	_				
		03-03-07RW-3	PW -3	_	2			
		03-03-08RW-3	3RW-3	_	2			
-		03-03-09RW-3	iRW -3	_	7			
>		03-03-10RW-3	2RW-3		>			
RELINGUISHED BY (SIGNATURE)	H	DATE TIME REC	RECEIVED BY (SIGNATURE)	-	RELINQUISHED BY (SIGNATURE)	3Y (SIGNATURE)	DATE/TIME RECEIVED BY (SIGNATURE)	E)
4 5 7	+	DATE/TIME	RECEIVED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)	Y (SIGNATURE)	DATE/TIME RECEIVED BY (SIGNATURE)	Ē
RELINQUISHED BY (SIGNATURE)	JE)	DATE/TIME REC	RECEIVED FOR LABORATORY BY	 	DATE/TIME	A E	(0)(1)/2 211 11 11 11	
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PLANT 3 PACKAGE



a division of Recra Environmental, Inc.

January 8, 1998

Virtual Laboratories Everywhere

Mr. Stephen Falatko Radian International LLC 2455 Horsepen Road Suite 250 Herndon, VA 20171-3426

RE: Analytical Results

Dear Mr. Falatko:

Please find enclosed analytical results concerning the sample recently submitted by your firm. The pertinent information regarding this analysis is listed below:

Quote #: NY97-163

Project Name: Long Island Property Transfer (Plant 3)

SDG #: 3151\W Matrix: Soil

Sample Received: 12/12,13,17/97

Sample Dates: 12/11,12,15,16/97

If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

(andace 1. dex

Candace L. Fox Program Manager

Kenneth Ex Kasperek Laboratory Director

CLF/KEK/amk

Enclosure

cc: Ms. Kathie Easom, Ph.D.. Radian International LLC

8501 N. Mopac Blvd. Austin, TX 78759 I.D. #A97-4651, -4666 #A97-4698 #NY7A6702

This report contains 151 pages, which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Ccde: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-01RW-1

03-03-02RW-1 03-03-03RW-1 03-03-04RW-1 03-03-04RW-2 03-03-05RW-1 03-03-05RW-2 03-03-06RW-1 03-03-06RW-2 03-03-07RW-1 03-03-07RW-2 03-03-09RW-1 03-03-10RW-1 03-15-16A-S-1

03-15-16WW-S-1/MD/MS

03-15-16WW-S-2 03-15-16WW-S-3 03-15-16WW-S-4

03-15-16A-S-2

METHODOLOGY

The specific methodology employed in obtaining the enclosed analytical results are indicated on the specific data table. The method number presented refers to the following reference:

1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.



Results of soil samples have been corrected for percent solids and are reported on a dry weight basis. 000003

Preliminary results were given via facsimile to Mr. Steve Falatko of Radian on December 23, 1997 and January 7, 1998 by Recra personnel.

METALS DATA

Supertrace ICP run 971222a was actually analyzed on 12/21/97.

Sample identifications have been abbreviated due to the character limitations of the processing software.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER	LABORATORY		AN	ALYTICAL	REQUIRE	MENTS	
SAMPLE ID	SAMPLE ID	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
03-03-01RW-1	A7469802	-	-	-	-	ASP95	-
03-03-02RW-1	A7469803	-	-	-	-	ASP95	-
03-03-03RW-1	A7469804	-	-	-	-	ASP95	
03-03-04RW-1	A7466605	-	-	-	-	ASP95	-
03-03-04RW-2	A7469808	-	-	-	-	ASP95	-
03-03-05RW-1	A7466601	-	-	-	-	ASP95	-
03-03-05RW-2	A7469809	-	-	-	-	ASP95	-
03-03-06RW-1	A7466602	-	-	-	-	ASP95	-
03-03-06RW-2	A7469806	-	-	-	-	ASP95	-
03-03-07RW-1	A7466603	-	-	-	-	ASP95	-
03-03-07RW-2	A7469807	-	-	-	-	ASP95	
03-03-08RW-1	A7466604	-	-	-	-	ASP95	-
03-03-09RW-1	A7469805		~	-	-	ASP95	-
03-03-10RW-1	A7469801	-	-	-	-	ASP95	-
03-15-16A-S-1	A7465105	•	-	-	-	ASP95	-
03-15-16A-S-2	A7465106	-	-	-	-	ASP95	· <u>-</u>
03-15-16WW-S-1	A7465101	-	-	-		ASP95	-
03-15-16WW-S-2	A7465102	-	-	-	-	ASP95	-
03-15-16WW-S-3	A7465103	-	-	-	-	ASP95	-
03-15-16WW-S-4	A7465104		-	-	-	ASP95	-

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
03-03-01RW-1	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-02RW-1	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-03RW-1	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-04RW-1	SOIL	PP METALS	12/13/97	12/15,16/97	12/15,16/97
03-03-04RW-2	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-05RW-1	SOIL	PP METALS	12/13/97	12/15,16/97	12/15,16/97
03-03-05RW-2	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-06RW-1	SOIL	PP METALS	12/13/97	12/15,16/97	12/15,16/97
03-03-06RW-2	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-07RW-1	SOIL	PP METALS	12/13/97	12/15,16/97	12/15,16/97
03-03-07RW-2	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-08RW-1	SOIL	PP METALS	12/13/97	12/15,16/97	12/15,16/97
03-03-09RW-1	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-03-10RW-1	SOIL	PP METALS	12/17/97	12/18,19/97	12/19,22/97
03-15-16A-S-1	SOIL	PP METALS	12/12/97	12/17/97	12/21/97
03-15-16A-S-2	SOIL	PP METALS	12/12/97	12/17/97	12/21/97
03-15-16WW-S-1	SOIL	PP METALS	12/12/97	12/17/97	12/21/97
03-15-16WW-S-2	SOIL	PP METALS	12/12/97	12/17/97	12/21/97
03-15-16WW-S-3	SOIL	PP METALS	12/12/97	12/17/97	12/21/97
03-15-16WW-S-4	SOIL	PP METALS	12/12/97	12/17/97	12/21/97

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
03-03-01RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-02RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-03RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-04RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-04RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-05RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-05RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-06RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-06RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-07RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-07RW-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-08RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-09RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-03-10RW-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-15-16A-S-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-15-16A-S-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-15-16WW-S-1	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-15-16WW-S-2	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-15-16WW-S-3	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED
03-15-16WW-S-4	SOIL	ASP95	ASP95	AS REQUIRED	AS REQUIRED

INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic D. ta Qualifiers:

В	Indicates a value greater than or equal to the instrument detection limit,
	but less than the contract required detection limit.

- Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).
- N . Indicates spike sample recovery is not within the control limits.
- Indicates the post digestion spike recovery is not within the control limits.
- Indicates duplicate analysis is not within the control limits.
- S Indicates value determined by the Method of Standard Addition.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
- M Indicates duplicate injection results exceeded control limits.
- W Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50 % of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interference.



COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: RECRA_LABNET_INC	Contract: 1	NY97-163	_		(
Lab Code: RECNY_ Case No.: 6702_	SAS No.:		SDG No.:3	1516W	
Protocol Version: ASP95					
NYSDEC Sample No. AS1 AS2 S1 S1D S1S S2 S3 S4 01RW1 02RW1 03RW1 04RW1 04RW2 05RW1 05RW2 06RW1 06RW2 07RW1 07RW2 08RW1	Lab Sample — AD721056 — AD721056 — AD721056 — AD721056 — AD721056 — AD721056 — AD721056 — AD721216 — AD721216 — AD721216 — AD720786 — AD721216 — AD720786 — AD721216 — AD720786 — AD721216 — AD720786 — AD720786	6			
Were ICP interelement corrections applied were ICP background corrections applied to the corrections a	ed ?		Yes/No Yes/No	YES YES	
If yes - were raw data generated application of background correct			Yes/No	NO_	
Comments:					
					_
					_
I certify that this data package is in conditions of the Protocol, both technother than the conditions detailed about this hardcopy data package and in the conditions detailed about the conditions detailed about the conditions detailed about the conditions detailed about the conditions detailed by the following designee, as verified by the following detailed by the following deta	nically and a ove. Release the computer- e Laboratory g signature.	for complete of the determinant	eteness, fata conta data subm or the Man Kasperek	or ined itted	(

NYS	DEC ASP	00000
COVER PAGE - INORGA	NIC ANALYSES DATA	PACKAGE 00000 9
Law Name: RECRA_LABNET_INC	Contract: NY97-	163_
Lab Code: RECNY_ Case No.: 6702_	SAS No.:	_ SDG No :31516W
Protocol Version: ASP95		
NYSDEC Sample No. _09RW110RW1	Lab Sample IDAD721212AD721208	
Were ICP interelement corrections app		Yes/No YES
Were ICP background corrections applied If yes - were raw data generated application of background corrections	before	Yes/No YES Yes/No NO_
Comments:		
		-
I certify that this data package is is conditions of the Protocol, both tech other than the conditions detailed ab in this hardcopy data package and in on diskette has been authorized by th designee, as verified by the following	nically and for cove. Release of the computer-reade Laboratory Mana	completeness, for the data contained lable data submitted
Signature:	Name: Kennet	h_EKasperek
Date:	Title: Labora	tory_Director
	COVER PAGE - IN	

000010

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABN	ET_INC Con	tract: NY97-163	AS1
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	E ID: AD721056
Level (low/med):	LOW	Date Recei	ived: 12/12/97
% Solids:	_84.6		

					_
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony -	1.6	$\overline{\overline{U}}$		P
7440-38-2	Arsenic	3.5			P_
7440-39-3	Barium -		-		NR
7440-41-7	Beryllium	0.29	B		P
7440-43-9	Cadmium	0.77	В		P_
7440-70-2	Calcium				NR
7440-47-3	Chromium	11.4	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	5.4	B	*	P
7439-89-6	Iron —				NR
7439-92-1	Lead	7.3	_		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.12	Ū		CV
7440-02-0	Nickel	5.7	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium_	1.1	Ū		P
7440-22-4	Silver	0.47	U		P
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.4_	Ū		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	23.6_			P_
	Cyanide				NR
			_	l	

Color	Before:	BROWN	Clarity	Before:		Texture:	COARSE
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE_	ID:_A7465105-CGA LE_ID:_03-15-16A					(
		1					

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

			100
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	AS2
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	D: AD721057
Level (low/med):	LOW	Date Recei	ived: 12/12/97
% Solids:	_98.5		

					_
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	ਹ		P
7440-38-2	Arsenic	1.2	U		P-
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.20	$\overline{\overline{U}}$	•	P
7440-43-9	Cadmium	0.24	В		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	4.4_	_		P_
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.2	B	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.2	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10_	Ū		CV
7440-02-0	Nickel	1.5_	В		P_
7440-09-7	Potassium		=		NR
7782-49-2	Selenium_	0.99	Ū		P_
7440-22-4	Silver Sodium	0.41_	U		P_ NR
7440-23-5	Thallium	1.2	Ū		P
7440-28-0	Vanadium		١٠		NR
7440-62-2	Zinc	5.5	-		P
7.140 00 0	Cyanide	 5.5_	-		NR
	-,		-		***
	·——		_		ı — I

Color	Before:	BROWN	Clarity	Before:		Texture:	COARSE
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B_SAMPLE_:	ID:_A7465106-CGA LE_ID:_03-15-16A					_

000012 NYSDEC SAMPLE NO.

1 INORGANIC ANALYSES DATA SHEET

Lab Name: RECRA_LABNI	ET_INC Co	ontract: NY97-163	S1
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721050
Level (low/med):	LOW	Date Rece	ived: 12/12/97
Solids:	_92.9		

			_		
CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	1.4	ਹ		P
7440-38-2	Arsenic	1.5	В		P-
7440-39-3	Barium —		~		NR
7440-41-7	Beryllium	0.21	ਹ		P
7440-43-9	Cadmium	0.43	В		P-
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	4.2	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	3.9	$\overline{\mathtt{B}}$	*	P
7439-89-6	Iron				NR
7439-92-1	Lead	4.1	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	บิ		CV
7440-02-0	Nickel —	2.5	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	ਹ		P
7440-22-4	Silver -	0.43	U		P-
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	Ū		Р
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	13.2	-		P
	Cyanide		-		NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	COARSE
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
Commer LAI CL:	B SAMPLE	ID:_A7465101-CGA LE_ID:_03-15-16V	A00787 WW-S-1				

INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO
1110000		110

			S2
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	_ SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721053
Level (low/med):	LOW	Date Rece	ived: 12/12/97
% Solids:	84.0		

CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		NR
1	_	1.6	ਹ		
7440-36-0	Antimony_		U		P P
7440-38-2	Arsenic	1.4_	١٠		
7440-39-3	Barium		B		NR
7440-41-7	Beryllium	0.26_	_		P
7440-43-9	Cadmium	0.62	В		P_
7440-70-2	Calcium			l ———	NR
7440-47-3	Chromium_	5.4_	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.2	B	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	4.1_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.11	ਹ		CV
7440-02-0	Nickel	2.2	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.2	$\overline{\overline{\mathbf{U}}}$		P
7440-22-4	Silver	0.47	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.4	$\overline{\mathtt{U}}$		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	18.9	_		P
	Cyanide		_		NR
			_		
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	COARSE
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	S_SAMPLE_1	ID:_A7465102-CGA LE_ID:_03-15-16W					

INORGANIC ANALYSES DATA SHEET

NYSDEC	T.TOMAS	NO

Lab Name: RECRA LABNI	er INC	Co	ntract: NY97	-163		S3	
Lab Name: RECRA_HABIN	31_1MC		merace. Wist				
Lab Code: RECNY_	Case No.:	6702_	SAS No.: _		SDG	No.:	31516W
Matrix (soil/water):	SOIL_		La	b Sample	e ID:	AD72	21054
Level (low/med):	LOW		Da	te Rece:	ived:	12/	L2/97
e Colida.	95 9						

63.6.33	2 2				,,
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		$\overline{\rm NR}$
7440-36-0	Antimony	1.4	บิ		P
7440-38-2	Arsenic	1.5	В		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	Ū		P
7440-43-9	Cadmium	0.38	В		P_
7440-70-2	Calcium_		_		NR
7440-47-3	Chromium_	4.6			P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.2_	B	*	P
7439-89-6	Iron		_		NR
7439-92-1	Lead	2.3	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	4.1_	В		P_
7440-09-7	Potassium		==		NR
7782-49-2	Selenium_	1.0_	Ū	l	P_
7440-22-4	Silver	0.41_	U		P_
7440-23-5	Sodium		==	l	NR
7440-28-0	Thallium_	1.3_	Ū		P
7440-62-2	Vanadium_	17.2	-		NR
7440-66-6	Zinc	¹ /·²-	1-		P_ NR
	Cyanide		-		MR
l		l	I _	i	l

Color	Before:	BROWN	Clarity	Before:		Texture:	COARSE
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
Comme: LA CL	B SAMPLE	ID:_A7465103-CGA LE_ID:_03-15-16V	A00787 WW-S-3				

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

			S4
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	_ SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721055
Level (low/med):	LOW	Date Rece	ived: 12/12/97
% Solids:	_98.8	•	

			1	I	l
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		NR
	Antimony	1.3	ਹ		P
	Arsenic	1.2	U		P-
	Barium				NR
	Beryllium	0.20	ਹਿ		Р
	Cadmium	0.20	U		P-
1	Calcium				NR
	Chromium	2.9	-		P
	Cobalt		-		NR
	Copper	1.6	B	*	P
	Iron		-		NR
1	Lead	1.2	_		P
7439-95-4	Magnesium		-		NR
	Manganese		-		NR
	Mercury	0.10	ਹ		CV
	Nickel -	2.2	В		P
	Potassium		_		NR
	Selenium	0.98	ਹ		P
	Silver	0.40	Ū		P-
1 1	Sodium				NR
7440-28-0	Thallium	1.2	$\overline{\mathtt{U}}$		P
7440-62-2	Vanadium _				NR
7440-66-6	Zinc -	13.2	-		Р
	Cyanide		-		$N\overline{R}$

Color	Before:	BROWN	Clarity	Before:		Texture:	COARSE
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE I	D:_A7465104-CGA LE_ID:_03-15-16%					

INORGANIC ANALYSES DATA SHEET

NYSDEC SA	MDI.E	NO

Lab Name: RECRA_LABN	ET_INC Co	ntract: NY97-163	01RW1
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721209
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Solids:	95.3		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum				\overline{NR}
7440-36-0		1.4	ਹ ਹ		P
	Antimony_		١٠		P -
7440-38-2	Arsenic	3.0_	 –		
7440-39-3	Barium		==		NR
7440-41-7	Beryllium	0.21_	Ū		P_
7440-43-9	Cadmium	0.21_	U		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	3.2_	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	1.6	B	*	P_
7439-89-6	Iron				NR
7439-92-1	Lead	1.8			P_
7439-95-4	Magnesium		_		$ N\overline{R} $
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	$\overline{\mathtt{U}}$		CV
7440-02-0	Nickel	1.8	В		P
7440-09-7	Potassium				$N\overline{R}$
7782-49-2	Selenium	1.0	Ū		P
7440-22-4	Silver -	0.42	U		P -
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	Ū		P
7440-62-2	Vanadium_				NR
7440-66-6	Zinc	15.0	-		P
	Cyanide		-		NR
			-		••••
I	l	l 	_		I

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: Comments: LAB_SAMPLE_ID: A7469802-CGA00787 CLIENT_SAMPLE_ID: 03-03-01RW-1	Color	Before:	BROWN	Clarity	Before:	·	Texture:	MEDIUM
LAB_SAMPLE_ID:_A7469802-CGA00787	Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	LA	B_SAMPLE_						= (

I INORGANIC ANALYSES DATA SHEET

MYSDEC	SAMPLE	NO

	2110110121120 121		
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	02RW1
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD721210
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Solids:	92.4		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	1.5	ਹ		P
7440-38-2	Arsenic	2.7	١٠		P-
7440-38-2	Barium		-		NR
7440-33-3	Beryllium	0.22	ਹ		
7440-41-7	Cadmium		В		P_P
7440-43-9		0.39_	В		NR
7440-70-2	Calcium_		_		
/ / -	Chromium_	8.0_	-		P_ NR
7440-48-4	Cobalt		B	*	
7440-50-8	Copper	3.6_	B	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	6.1_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10_	U	l	CV
7440-02-0	Nickel	2.4_	В		P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	1.1_	Ū		P_
7440-22-4	Silver	0.43_	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.3_	$\overline{\mathtt{U}}$		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	10.0	_		P_
	Cyanide		_		NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUN
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	S_SAMPLE_	ID:_A7469803-CGA LE_ID:_03-03-02F					

INORGANIC ANALYSES DATA SHEET

MVCDEC	SAMPLE	NIC
NISDEC	SHMEDE	INC

Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	03RW1
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD721211
Level (low/med):	LOW	Date Rece	ived: 12/17/97
& Solids:	98.2		

CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	1.4	Ū		P
7440-38-2	Arsenic	1.6	В		P_
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.21	$\overline{\mathtt{U}}$		P
7440-43-9	Cadmium	8.2			P
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	91.3			P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	18.4_	_	*	P
7439-89-6	Iron		_		NR
7439-92-1	Lead	4.8_	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese	<u> </u>	_		NR
7439-97-6	Mercury	0.10_	ੋਂ		CV
7440-02-0	Nickel	4.8_	В		P
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	1.0_	Ū		P_
7440-22-4	Silver	0.41	U		P_
7440-23-5	Sodium		==		NR
7440-28-0	Thallium_	1.3_	<u></u>		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	15.7_	-		P_
	Cyanide		-		NR
			_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	S_SAMPLE_	ID:_A7469804-CGA LE_ID:_03-03-03F					= (

INORGANIC ANALYSES DATA SHEET

MVCDEC	SAMPLE	NTO
NIODEC	SEMIPLE	INO

	INOROMITE 711		
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	04RW1
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD720786
Level (low/med):	LOW	Date Rece	ived: 12/13/97
% Solids:	_98.9		

_98.9

			_		
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		$\overline{\rm NR}$
7440-36-0	Antimony	1.3	$\overline{\overline{\mathbf{U}}}$		l _P
7440-38-2	Arsenic	1.2	U		$ P^- $
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	0.20	ਹ		Р
7440-43-9	Cadmium	0.20	U		P-
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.2	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	1.4	B	*	P
7439-89-6	Iron				NR
7439-92-1	Lead	0.69			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	0.46	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.97	ੋਹ		P
7440-22-4	Silver	0.40	U		P_
7440-23-5	Sodium				NR
7440-28-0	Thallium_	1.2	บิ		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	10.4_			P_
	Cyanide		_		NR
			_		ll

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	ID:_A7466605-CGA LE_ID:_03-03-04F					

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	04RW2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721215
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Solids:	_97.2		

					—.
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	2.8	B		P
7440-38-2	Arsenic -	1.2	บิ		P-
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.21	ਹ		P
7440-43-9	Cadmium	0.28	В		P-
7440-70-2	Calcium				NR
7440-47-3	Chromium	369	-		P
7440-48-4	Cobalt		 —		NR
7440-50-8	Copper	1.4	B	*	P
7439-89-6	Iron		1		NR
7439-92-1	Lead	1.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	ਹ		CV
7440-02-0	Nickel —	0.66	В		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	1.0	ਹ		P
7440-22-4	Silver	0.42	บี		P-
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	ਹ		P
7440-62-2	Vanadium		~		NR
7440-66-6	Zinc	8.1	-		P
	Cyanide		-		NR
	-,		-		****
l		l			I

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE I	D:_A7469808-CGA E_ID:_03-03-04F					= (

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

			05RW1
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	
Lab Code: RECNY_	Case No.: 6702	_ SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sampl	e ID: AD720782
Level (low/med):	LOW	Date Rece	ived: 12/13/97
% Solids:	98.2		

CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		$\frac{1}{NR}$
7440-36-0	Antimony	1.4	ਹ		P
7440-38-2	Arsenic	1.2	U		P_
7440-39-3	Barium —				NR
7440-41-7	Beryllium	0.20	$\overline{\overline{U}}$		P
7440-43-9	Cadmium	0.22	В		P_
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.3	_		P
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	3.4	$\overline{\mathtt{B}}$	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.3_			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury	0.10	℧		CV
7440-02-0	Nickel	1.4_	В		P_
7440-09-7	Potassium		_	l	NR
7782-49-2	Selenium_	0.99	Ū		P
7440-22-4	Silver	0.40_	U		P
7440-23-5	Sodium		_	l	NR
7440-28-0	Thallium_	1.2_	$\overline{\overline{U}}$		P
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	5.8_	-		P_
	Cyanide				NR
		l	l	l	l

Color Bef	ore: BROWN	Clarit	y Before:		Texture:	MEDIUM
Color Aft	er: YELLO	W Clarit	y After:	CLEAR_	Artifacts:	
	MPLE ID: A7	466601-CGA00787_ _03-03-05RW-1				

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO

Lab Name: RECRA_LABN	ET_INC Con	ntract: NY97-163	05RW2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721216
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Solids:	96.2		

7440-36-0 Antimony 2.2 B P 7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium 0.21 U P 7440-41-7 Beryllium 0.30 B P 7440-43-9 Cadmium 0.30 B P 7440-47-3 Chromium 330 P 7440-48-4 Cobalt NF NF 7439-89-6 Iron NF NF 7439-92-1 Lead 1.5 P 7439-95-4 Magnesium NF NF 7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 0.94 B P 7440-22-0 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-28-0 Thallium 1.3 U P 7440-66-6 Zinc 6.7 P						
7440-36-0 Antimony 2.2 B P 7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium 0.21 U P 7440-41-7 Beryllium 0.30 B P 7440-43-9 Cadmium 0.30 B P 7440-47-3 Chromium 330 P 7440-48-4 Cobalt NF NF 7439-89-6 Iron NF NF 7439-92-1 Lead 1.5 P 7439-95-4 Magnesium NF NF 7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-28-0 Thallium 1.3 U P 7440-66-6 Zinc 6.7 P	CAS No.	Analyte	Concentration	С	Q	М
7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium 0.21 U P 7440-41-7 Beryllium 0.30 B P 7440-43-9 Cadmium 0.30 B P 7440-70-2 Calcium NF NF 7440-47-3 Chromium 330 P 7440-50-8 Copper 2.4 B * 7439-89-6 Iron NF 7439-95-4 Magnesium NF 7439-95-4 Magnesium NF 7440-02-0 Nickel 0.94 B 7440-02-0 Nickel 0.94 B 7440-22-4 Silver 0.42 U 7440-23-5 Sodium NF 7440-28-0 Thallium 1.3 U 7440-66-6 Zinc 6.7 P	7429-90-5	Aluminum		-		\overline{NR}
7440-38-2 Arsenic 1.3 B P 7440-39-3 Barium 0.21 U P 7440-41-7 Beryllium 0.30 B P 7440-43-9 Cadmium 0.30 B P 7440-70-2 Calcium 330 P 7440-47-3 Chromium 330 P 7440-48-4 Cobalt NF 7439-89-6 Iron NF 7439-92-1 Lead 1.5 7439-95-4 Magnesium NF 7439-97-6 Mercury 0.10 U 7440-02-0 Nickel 0.94 B 7440-09-7 Potassium 1.0 U 7440-22-4 Silver 0.42 U 7440-23-5 Sodium NF 7440-28-0 Thallium 1.3 U 7440-66-6 Zinc 6.7 P	7440-36-0	Antimony	2.2	\overline{B}		P
7440-39-3 Barium 0.21 W P 7440-41-7 Beryllium 0.30 B P 7440-43-9 Cadmium 0.30 B P 7440-70-2 Calcium NF NF 7440-48-4 Cobalt NF NF 7439-89-6 Iron NF NF 7439-95-4 Magnesium NF NF 7439-96-5 Manganese NF NF 7440-02-0 Nickel 0.94 B P 7440-02-0 Nickel 0.94 B P 7440-23-5 Sodium 1.0 W P 7440-28-0 Thallium 1.3 W P 7440-66-6 Zinc 6.7 P	7440-38-2	·				P_
7440-43-9 Cadmium 0.30 B P 7440-70-2 Calcium 330 P 7440-47-3 Chromium 330 P 7440-48-4 Cobalt NF 7439-89-6 Iron NF 7439-92-1 Lead 1.5 P 7439-95-4 Magnesium NF 7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-23-5 Sodium NF 7440-62-2 Vanadium 1.3 U P 7440-66-6 Zinc 6.7 P P	7440-39-3	Barium —				NR
7440-43-9 Cadmium 0.30 B P 7440-70-2 Calcium 330 P 7440-47-3 Chromium 330 P 7440-50-8 Copper 2.4 B * 7439-89-6 Iron NF 7439-95-4 Magnesium NF 7439-96-5 Manganese NF 7440-02-0 Nickel 0.94 B 7440-09-7 Potassium NF 7782-49-2 Selenium 1.0 U 7440-23-5 Sodium NF 7440-28-0 Thallium 1.3 U 7440-66-6 Zinc 6.7 P	7440-41-7	Beryllium	0.21	$\overline{\overline{U}}$		P
7440-70-2 Calcium 330 P 7440-48-4 Cobalt NF 7439-89-6 Iron NF 7439-92-1 Lead 1.5 7439-96-5 Magnesium NF 7439-97-6 Mercury 0.10 U 7440-02-0 Nickel 0.94 B 7440-09-7 Potassium NF 7782-49-2 Selenium 1.0 U 7440-23-5 Sodium NF 7440-28-0 Thallium 1.3 U 7440-66-6 Zinc 6.7 P	7440-43-9	_	0.30	В		P-
7440-47-3 Chromium 330 P 7440-48-4 Cobalt NF 7440-50-8 Copper 2.4 B * P 7439-89-6 Iron NF 7439-95-4 Magnesium NF NF 7439-96-5 Manganese NF 7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium NF 7782-49-2 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-28-0 Thallium 1.3 U P 7440-66-6 Zinc 6.7 P	7440-70-2	Calcium				NR
7440-50-8 Copper 2.4 B * P 7439-89-6 Iron 1.5 P 7439-92-1 Lead 1.5 P 7439-95-4 Magnesium NF 7439-96-5 Manganese NF 7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium NF 7782-49-2 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-28-0 Thallium 1.3 U P 7440-62-2 Vanadium NF NF 7440-66-6 Zinc 6.7 P	7440-47-3	Chromium	330	-		
7439-89-6	7440-48-4	Cobalt				NR
7439-89-6 Iron 1.5 PP 7439-92-1 Lead 1.5 PP 7439-95-4 Magnesium NF 7439-96-5 Manganese NF 7440-02-0 Nickel 0.94 B 7440-09-7 Potassium NF 7782-49-2 Selenium 1.0 U 7440-22-4 Silver 0.42 U 7440-23-5 Sodium NF 7440-62-2 Vanadium 1.3 U 7440-66-6 Zinc 6.7 P	7440-50-8	Copper	2.4	B	*	P
7439-95-4 Magnesium 7439-96-5 Manganese 7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium 7782-49-2 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-23-5 Sodium 7440-28-0 Thallium 1.3 U P 7440-66-6 Zinc 6.7	7439-89-6					NR
7439-96-5 Manganese 7439-97-6 Mercury 0.10 U 7440-02-0 Nickel 0.94 B 7440-09-7 Potassium 7782-49-2 Selenium 1.0 U 7440-22-4 Silver 0.42 U 7440-23-5 Sodium 7440-28-0 Thallium 1.3 U 7440-66-6 Zinc 6.7	7439-92-1	Lead	1.5			P
7439-97-6 Mercury 0.10 U CV 7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium 7782-49-2 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-23-5 Sodium NR 7440-28-0 Thallium 1.3 U P 7440-62-2 Vanadium 7440-66-6 Zinc 6.7	7439-95-4	Magnesium		-		NR
7439-97-6 Mercury 0.10 0 CV 7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium NF 7782-49-2 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-23-5 Sodium NF 7440-62-2 Vanadium 1.3 U P 7440-66-6 Zinc 6.7 P	7439-96-5	Manganese		-		NR
7440-02-0 Nickel 0.94 B P 7440-09-7 Potassium 7782-49-2 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-23-5 Sodium 7440-28-0 Thallium 1.3 U P 7440-66-6 Zinc 6.7 P	7439-97-6		0.10	$\overline{\overline{U}}$		CV
7782-49-2 Selenium 1.0 U P 7440-22-4 Silver 0.42 U P 7440-23-5 Sodium NF 7440-28-0 Thallium 1.3 U P 7440-62-2 Vanadium NF 7440-66-6 Zinc 6.7 P	7440-02-0		0.94	В		P
7440-22-4 Silver 0.42 U P 7440-23-5 Sodium 7440-28-0 Thallium 1.3 U P 7440-62-2 Vanadium NT 7440-66-6 Zinc 6.7 P	7440-09-7	Potassium		ĺ		NR
7440-23-5 Sodium	7782-49-2	Selenium_	1.0	Ū		I -
7440-28-0 Thallium 1.3 Ū P 7440-62-2 Vanadium 6.7 P	7440-22-4	Silver	0.42	U		P_
7440-62-2 Vanadium	7440-23-5					NR
7440-66-6 Zinc	7440-28-0	Thallium_	1.3	Ū		P_
\		_		_		NR
Cyanide NF	7440-66-6		6.7_			P_
		Cyanide		_		NR
		.		_		

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
LAI	Comments: LAB_SAMPLE_ID:_A7469809-CGA00787						

1 INORGANIC ANALYSES DATA SHEET

0	00023	}
NYSDEC	SAMPLE	NO

	•	inondimite i				. —	
Lab Name: RECRA	A_LABNET_ING	c	Contract: NY	Y97	7-163	_	06RW1
Lab Code: RECN	Y_ Cas	se No.: 67	02_ SAS No.	: _		SI	OG No.: 31516W
Matrix (soil/wa	ater): SOIL	_		La	ab Sampl	e I	ID: AD720783
Level (low/med): LOW	_		Da	ate Rece	eive	ed: 12/13/97
% Solids:	_98.9	9					
Con	ncentration	Units (ug	/L or mg/kg dry	y v	veight):	MG	G/KG
	CA C. No.	21	G		_		
	CAS No.		Concentration		Q 	M	
	7429-90-5	Aluminum		-		\overline{NR}	

C	AS No.	Analyte	Concentration	С	Q	M
7 7 7 7	429-90-5 440-36-0 440-38-2 440-39-3 440-41-7 440-43-9	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium	1.3 1.2 0.20 0.22	— U U U В		NR P P NR P P
7 7 7 7	440-70-2 440-47-3 440-48-4 440-50-8 439-89-6	CalciumChromium_ CobaltCopperIron	3.8_	 - B -	*	NR P NR P NR
7 7 7	439-92-1 439-95-4 439-96-5 439-97-6 440-02-0	Lead	1.5_ 0.10_ 0.76_	— П В		P_NRNRCVP_NR
7 7 7 7	782-49-2 440-22-4 440-23-5 440-28-0 440-62-2 440-66-6	Selenium_ Silver Sodium_ Thallium_ Vanadium_ Zinc Cyanide	0.98 0.40 1.2 19.9	ם מם		P P NR P NR P NR

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
Comments: LAB_SAMPLE_ID:_A7466602-CGA00787 CLIENT_SAMPLE_ID:_03-03-06RW-1							

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	06RW2
Lab Code: RECNY_	Case No.: 67	02_ SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Samp	le ID: AD721213
Level (low/med):	LOW	Date Rec	eived: 12/17/97
	00.6		

% Solids: _98.6

CAS No. Analyte Concentration C Q	M NR P_
7440-36-0 Antimony 1.4 B U 7440-38-2 Arsenic 1.2 U 7440-39-3 Barium 7440-41-7 Beryllium 0.20 U	P
7440-36-0 Antimony 1.4 B U 7440-38-2 Arsenic 1.2 U 7440-39-3 Barium 7440-41-7 Beryllium 0.20 U	P
7440-38-2 Arsenic 1.2 U 7440-39-3 Barium 0.20 Ū	
7440-39-3 Barium	P_
	NR
	Р
7440-43-9 Cadmium 0.20 U	P_
7440-70-2 Calcium	NR
7440-47-3 Chromium 159	P_
7440-48-4 Cobalt	ΝR
7440-50-8 Copper 2.1 B *	P_
7439-89-6 Iron	NR
7439-92-1 Lead1.0_	P_
7439-95-4 Magnesium	NR
7439-96-5 Manganese	NR
7439-97-6 Mercury 0.10 U	CV
7440-02-0 Nickel0.97_B	P
7440-09-7 Potassium	NR
	P_ P
7440-22-4 Silver 0.40_ U	NR
7440-23-5 Sodium	P
7440-28-0 Thailium	NR
7440-66-6 Zinc 10.6	P
Cyanide Cyanide	NR

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
Commer LAI CL:	B SAMPLE	ID:_A7469806-CGA LE_ID:_03-03-06F	A00787 KW-2				<u> </u>

000025

1 INORGANIC ANALYSES DATA SHEET

NYSDEC	SAMPLE	NO

Lab Name: RECRA LABN	ET INC.	Contract: NY97-163	07RW1
Lab Code: RECNY_	Case No.: 6702	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD720784
Level (low/med):	LOW	Date Rece	ived: 12/13/97
% Colida.	98 7		

			_		
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
	_		ਹ		P
7440-36-0	Antimony_	1.3_	U	l ———	P-
7440-38-2	Arsenic	1.2_	١٠		
7440-39-3	Barium		Ū		NR
7440-41-7	Beryllium	0.20_	1		P_
7440-43-9	Cadmium	0.30_	В		P_
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	2.3	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	2.0_	$\overline{\mathtt{B}}$	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.3			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	$\overline{\mathtt{U}}$		CV
7440-02-0	Nickel	1.0	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.98	$\overline{\overline{U}}$		P
7440-22-4	Silver	0.40	U		P-
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	$\overline{\mathtt{U}}$		P
7440-62-2	Vanadium -				NR
7440-66-6	Zinc	8.9	_		P
	Cyanide		-		NR
	-		-		"
					'

Color Be	efore:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color A	fter:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	SAMPLE I	D:_A7466603-CGA E_ID:_03-03-07R					

INORGANIC ANALYSES DATA SHEET

MINCHARIC		NTO
NYSDEC	SAMPLE	IN()

Lab Name: RECRA_LABN	ET_INC Co	ontract: NY97-163	07RW2
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721214
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Solids:	98.7		

			_	-	
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony	1.4	ਹੋ		P
7440-38-2	Arsenic	1.2	U		-
7440-38-2	Barium	[———— ^{1 · 2} —	١		NR
		0.20	ਹ		P
7440-41-7	Beryllium		_		P -
7440-43-9	Cadmium	0.20_	U		ı [–] — I
7440-70-2	Calcium		_		NR
7440-47-3	Chromium_	26.4_	_		P_
7440-48-4	Cobalt		_		NR
7440-50-8	Copper	1.0_	$\overline{\mathtt{B}}$	*	P_
7439-89-6	Iron		_		NR
7439-92-1	Lead	1.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	Ū		CV
7440-02-0	Nickel	1.5	В		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	Ū		P
7440-22-4	Silver -	0.41	Ū		$ P^- $
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	ਹ		P
7440-62-2	Vanadium		ľ		NR
7440-66-6	Zinc	8.1	-		P
	Cyanide		-		NR
			-		***
			I	l	ا ــــــ ا

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B_SAMPLE_1	ID:_A7469807-CGA LE_ID:_03-03-07F					= (

INORGANIC ANALYSES DATA SHEET

MVCDEC	SAMPLE	MO
NIDDEC	DAMPLE	NO

			0.00741
Lab Name: RECRA_LABN	ET_INC	Contract: NY97-163	08RW1
Lab Code: RECNY_	Case No.: 6702	_ SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD720785
Level (low/med):	LOW	Date Rece	ived: 12/13/97
% Solids:	_98.7		

CAS No. Analyte Concentration C Q	M
1 1 1	1
7429-90-5 Aluminum	\overline{NR}
· · · · · · · · · · · · · · · · · · ·	$- _{P}^{NR}$
<u> </u>	P-
	1 '
7440-39-3 Barium	$ _{NR}$
) · · · · · · · · · · · · · · · ·	P_
7440-43-9 Cadmium1.4_	P
7440-70-2 Calcium	NR
7440-47-3 Chromium 69.8	P_
7440-48-4 Cobalt	NR
7440-50-8 Copper 4.9 B *	P
7439-89-6 Iron	NR
7439-92-1 Lead 1.7_	P
7439-95-4 Magnesium _ _	NR
7439-96-5 Manganese _ _	NR
7439-97-6 Mercury0.10 U	CV
7440-02-0 Nickel1.5_B	P
7440-09-7 Potassium	NR
7782-49-2 Selenium 0.98 U	P
7440-22-4 Silver 0.40 U	P
7440-23-5 Sodium	NR NR
7440-28-0 Thallium 1.2 U	P
7440-62-2 Vanadium	NR
7440-66-6 Zinc 11.4 _	P
Cyanide	NR NR

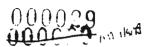
Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:	CLEAR_	Artifacts:	
	S_SAMPLE_	ID:_A7466604-CGA LE_ID:_03-03-08F					

INORGANIC ANALYSES DATA SHEET

Lab Name: RECRA_LABNI	ET_INC	Contract: NY97-163	09RW1
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water):	SOIL_	Lab Sample	e ID: AD721212
Level (low/med):	LOW	Date Rece	ived: 12/17/97
% Colida.	97 4		

			_		
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony_	1.4	บิ		P
7440-38-2	Arsenic	1.5	В		P-
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	$\overline{\mathtt{U}}$		P
7440-43-9	Cadmium	1.8			P
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	46.3	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	6.1	_	*	P
7439-89-6	Iron		-		$N\overline{R}$
7439-92-1	Lead	2.4	_		P
7439-95-4	Magnesium				$ N\overline{R} $
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	บิ		CV
7440-02-0	Nickel	2.2	В		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	1.00_	บิ		P_
7440-22-4	Silver	0.41_	U		P_
7440-23-5	Sodium		_		NR
7440-28-0	Thallium_	1.2_	ਹ		P_
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	8.2_	_		P_
	Cyanide		_		NR
			_		

Color Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
Comments: LAB_SAMPLE_ CLIENT_SAMP:	ID:_A7469805-CG LE_ID:_03-03-09	A00787 RW-1				



INORGANIC ANALYSES DATA SHEET

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NYSDEC	SAMPLE NO).

		10RW1
ab Name: RECRA_LABNET_INC	Contract: NY97-163	

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Lab Sample ID: AD721208 Matrix (soil/water): SOIL_

Date Received: 12/17/97 Level (low/med): LOW

% Solids: _97.1

CAS No.	Analysta	Concentration	C	Q	м
CAS NO.	Analyte	Concentration	-	L Q	141
7429-90-5	Aluminum		-		\overline{NR}
7440-36-0	Antimony -	1.4	ਹ		P
7440-38-2	Arsenic -	2.5			P_
7440-39-3	Barium		_		NR
7440-41-7	Beryllium	0.20	บิ		P_
7440-43-9	Cadmium	0.20_	U		P_
7440-70-2	Calcium		<u> </u>		NR
7440-47-3	Chromium_	2.0_	B		P_
7440-48-4	Cobalt		=	<u></u>	NR
7440-50-8	Copper	1.8_	B	 *	P_ NR
7439-89-6	Iron	1.9	_		P
7439-92-1	Lead_ Magnesium	1.9_	-		NR
7439-95-4	Manganese		-		NR
7439-90-5	Mercury	0.10	Ū	ļ ———	CV
7440-02-0	Nickel	1.0	В		P
7440-09-7	Potassium	, ————————————————————————————————————	-		NR
7782-49-2	Selenium	1.0	-		P
7440-22-4	Silver	0.41	ਹ		P
7440-23-5	Sodium				NR
7440-28-0	Thallium_	1.2	Ū		P
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc	9.9			P_
	Cyanide		_		NR
			l_		<u> </u>

Color	Before:	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	
	B_SAMPLE_	ID:_A7469801-CGA LE_ID:_03-03-10F					

6 DUPLICATES

NYSDEC	SAMPLE	NO
MISDEC	SAMPLE	1/1

						S1D
Lab	Name:	RECRA_LABNET_:	INC	Contract:	NY97-163	

Matrix (soil/water): SOIL_ Level (low/med): LOW__

% Solids for Sample: _92.9
% Solids for Duplicate: _92.9

Analyte Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium	Control Limit	Sample (S) 1.4281 1.5177 0.2132 0.4263 4.1906 3.8709 4.1331	C	0.2153 B 2 0.3905 B 2	200.0	Q	M R P R NR P R P NR P NR P NR P NR P NR
Calcium	2.1_		-			<u>-</u>	NR P
Copper	5.3_	3.8709	$\overline{\mathtt{B}}$	17.6492	128.1_	*	P_
Lead Magnesium		4.1331	- - -	4.1474	0.3_	- -	P_NR
Manganese Mercury Nickel		0.1025	Ū B	0.1076 U 3.7738 B	40.4	<u>-</u>	NR CV P_
Potassium Selenium_ Silver		1.0445	Ū U	1.0342 Ū 0.4221 U		- - -	NR P_ P_
Sodium Thallium_ Vanadium		1.3002	ਹ	1.2875 Ū	:	-	NR P NR
Zinc Cyanide	4.3_	13.1878	- - -	16.9337	24.9	- -	P_ NR

5A SPIKE SAMPLE RECOVERY

		S1S
Lab Name: RECRA_LABNET_INC	Contract: NY97-163	
Lab Code: RECNY_ Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water): SOIL	Level	(low/med): LOW
0 0-141- for Complex 02 0		

% Solids for Sample: _92.9

Aluminum_Antimony_Arsenic Barium_Beryllium_Calcium_T5-125							_		_	_
Antimony Arsenic Barium Beryllium Cadmium Calcium T5-125	Analyte	Limit		С		C		%R	Q —	M
Arsenic Barium 75-125	Aluminum_			_		_			_	NR
Barium Beryllium 75-125 11.1970 0.2132 U 10.660 105.0 P P Cadmium_Calcium 75-125 11.4464 0.4263 B 10.660 103.4 P Chromium_Dalt 75-125 46.8512 4.1906 42.630 100.1 NF Copper Iron 75-125 58.2336 3.8709 B 53.290 102.0 NF Magnesium Magnesium NF NF NF NF NF NF Mercury_Nickel 75-125 0.5039 0.1025 U 0.510 98.8 CV Nickel 75-125 113.7154 2.5067 B 106.580 104.3 P Potassium 75-125 428.9612 1.0445 U 426.310 100.6 P P Sodium 75-125 437.2870 1.3002 U 426.310 102.6 P NF Yanadium 75-125 124.4391 13.1878 106.580		_		_		I -			_	_
Beryllium		75-125_	410.4104_	_	1.5177	В	426.310	95.9	_	
Cadmium Calcium 75-125 11.4464 0.4263 B 10.660 103.4 P. N. N. N. N. N. N. N. N. N. N. N. N. N.				-	0.0130	==	10.660	105.0	_	
Calcium 75-125 46.8512 4.1906 42.630 100.1 NF Copper 75-125 58.2336 3.8709 B 53.290 102.0 P Iron Lead 75-125 115.8128 4.1331 106.580 104.8 P Magnesium Manganese Mercury 75-125 0.5039 0.1025 U 0.510 98.8 CV Nickel 75-125 113.7154 2.5067 B 106.580 104.3 P Potassium Selenium Silver 75-125 428.9612 1.0445 U 426.310 100.6 P Sodium Thallium Vanadium Zinc 75-125 437.2870 1.3002 U 426.310 102.6 P Vanadium Zinc 75-125 124.4391 13.1878 106.580 104.4 P		_		-		ı –			-	
Chromium		75-125_	11.4464	-	0.4263	l B			-	
balt Copper 75-125 58.2336 3.8709 B 53.290 102.0 P Iron Lead 75-125 115.8128 4.1331 106.580 104.8 P Magnesium Manganese NF Mercury 75-125 0.5039 0.1025 U 0.510 98.8 CV Nickel 75-125 113.7154 2.5067 B 106.580 104.3 P Potassium 75-125 428.9612 1.0445 U 426.310 100.6 P Silver 75-125 10.7920 0.4263 U 10.660 101.2 P Sodium Thallium 75-125 437.2870 1.3002 U 426.310 102.6 P Vanadium 75-125 124.4391 13.1878 106.580 104.4 P		75_125	46 8512	-	4 1906	-	42 630	100.1	-	ı
Copper		75-125_		-		-	12.030		-	NR
Tron		75-125	58,2336	-	3.8709	B	53.290	102.0	-	1
Lead 75-125 115.8128 4.1331 106.580 104.8 P Magnesium Manganese 0.5039 0.1025 0.510 98.8 CV Nickel 75-125 113.7154 2.5067 106.580 104.3 P Potassium 75-125 428.9612 1.0445 U 426.310 100.6 P Silver 75-125 10.7920 0.4263 U 10.660 101.2 P Sodium 75-125 437.2870 1.3002 U 426.310 102.6 P Vanadium 75-125 124.4391 13.1878 106.580 104.4 P		/ 5		-					-	NR
Manganese Mercury 75-125 0.5039 0.1025 0.510 98.8 CV Nickel 75-125 113.7154 2.5067 106.580 104.3 P Potassium Selenium 75-125 428.9612 1.0445 U 426.310 100.6 P Silver 75-125 10.7920 0.4263 U 10.660 101.2 P Sodium 75-125 437.2870 1.3002 U 426.310 102.6 P Vanadium 75-125 124.4391 13.1878 106.580 104.4 P		75-125	115.8128	-	4.1331	-	106.580	104.8	-	
Mercury Nickel Nickel Potassium Selenium Sodium Thallium Vanadium Zinc 75-125 428.9612 10.7920 10.7920 10.4263 1.3002 U 426.310 102.6 P. NF. NF. NF. NF. NF. NF. NF. NF. NF. NF	Magnesium					_				NR
Nickel	Manganese			_		_				NR
Potassium Selenium Selenium Solver Silver Thallium Zinc 75-125 428.9612				_		ı –				CV
Selenium_Silver_Silver_Sodium_Thallium_Zinc75-125 428.9612		75-125_	113.7154_	_	2.5067	В	106.580	104.3	_	
Silver Sodium Thallium_ Vanadium_ Zinc 75-125 124.4391_ 10.7920 0.4263 U 10.660 U			420,0612	_	1 0445	=	426 310	100 6	_	
Sodium 75-125 437.2870 1.3002 U 426.310 102.6 P Vanadium 75-125 124.4391 13.1878 106.580 104.4 P		_		_	l 		l 		_	
Thallium 75-125 437.2870 1.3002 U 426.310 102.6 P NF Zinc 75-125 124.4391 13.1878 106.580 104.4 P		/5-125_	^{10.7920} -	-	0.4263	١٠	10.660		—	
Vanadium_ Zinc75-125124.439113.1878106.580104.4P		75-125	437 2870		1.3002	Ī	426.310	102 6	-	ı
Zinc	_	/3 123_	137:2070-	-					_	NR
	_	75-125	124.4391	_	13.1878		106.580	104.4	-	P
	Cyanide	_		_		_			_	NR
				_		<u> </u>			_	

Comments: LAB_SAMPLE_ID:_A7465101MS-CGA00787	

5B POST DIGEST SPIKE SAMPLE RECOVERY

MYCDEC	CAMDIE	NTA
NISDEC	SAMPLE	NO

	_	BNET_INC			01RW1A	
	_	Case No.: 67	702_ SAS No.:			
atrix (so	il/water)	: SOIL_		Level	(low/med): Lo	OW
		Concentra	ation Units: ug/	'L		
Analyte	Control Limit %R	Spiked Sample Result (SSR) (Sample Result (SR)	Spike		QN
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_		919.24	15.18_		0.090.4	NI
SilverSodium_ Thallium_ Vanadium_ Zinc Cyanide						_ NI

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5B POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC	SAMPLE	NO.

					04RW1A
Lab	Name:	RECRA LABNET INC.	Contract:	NY97-163	

Matrix (soil/water): SOIL_ Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	М
Aluminum_ Antimony_ Arsenic		807.12 761.73	_	6.70_	บ บ	1000.0	80.7 76.2	_ _ _	NR P P
Barium_ Beryllium Cadmium		806.39 792.92		1.00_	U	1000.0	80.6 79.3		NR P P
CalciumChromium		814.45		10.90_	 - -	1000.0	80.4		NR P_ NR
pper Iron Lead		830.60 891.02	 - -	7.18_	B -	1000.0	82.3	_ 	P_NR P_
Magnesium Manganese Mercury					 - -			_ _ _	NR NR NR
Nickel_ Potassium Selenium_		814.26	- - -	2.31_	B U	1000.0	81.2	_ 	P_NR
Silver Sodium Thallium		802.30 732.06	- - -	2.00	Ū	1000.0	80.2	<u> </u>	P_ NR P_ NR
Vanadium_ Zinc Cyanide		884.45		52.56_	- - -	1000.0	83.2	- - -	P_ NR

Com	ments:					
		 			<u> </u>	
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NYSDEC ASP

5B POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC	SAMPLE	NΟ

Lab Name: RECRA_LABNET_	INC	Contract: NY97-163	05RW2A
Lab Code: RECNY_	Case No.: 6702_	SAS No.:	SDG No.: 31516W
Matrix (soil/water): SC	IL	Level	(low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Aluminum			Т		_			-	NR
Antimony		843.66	-	10.47	B	1000.0	83.3	-	lp l
Arsenic -		838.15	-	6.07	В	1000.0	83.2	-	P-
Barium			-					-	NR
Beryllium		835.47	_	1.00	บิ	1000.0	83.5	_	P
Cadmium		861.00	_	1.46	В	1000.0	86.0	_	P_
Calcium			_		_				NR
Chromium_			_		_			_	NR
Cobalt			_		<u>-</u>			_	NR
Copper		932.41	_	11.51_	В	1000.0	92.1	_	P
Iron		875.69	-		_	1000		_	NR
Magnesium		^{8/5.69}	-	7.17_	-	1000.0	86.9	l —	P_ NR
Manganese			-		-			-	NR
Mercury			-						NR
Nickel			-		-			-	NR
Potassium			-		-			-	NR
Selenium		747.27	-	4.90	ਹੋ	1000.0	74.7	-	P
Silver		572.44		2.00	U	1000.0	57.2	l	P-
Sodium					_			_	NR
Thallium_		865.28	[_	6.10	Ū	1000.0	86.5	_	P_
Vanadium_			_		_			_	NR
Zinc	l	870.25	-	32.15_	_	1000.0	83.8	_	P_
Cyanide			-		_			-	NR
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Comr	ments:					
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NYSDEC ASP

3 BLANKS

ab	Name:	RECRA	LABNET	INC.	Contract:	NY97-163
Jan	maille.	ICE CIGA				

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		uing Calib lank (ug/L) 2		cion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ senic_ rium	6.7 6.0	Ū U	6.7_ 6.0_	U	6.7_6.0_	<u></u> ד	6.7_ 6.0_	ט	1.340 U	NR_P_PNR
Beryllium Cadmium Calcium	1.0	Ū U	1.0_	Ū	1.0_	ָ ט	1.0_	U	0.200 Ū 0.200 Ū	P P NR
Chromium_ Cobalt	1.0	<u></u>	1.0_	Ū	1.0_	<u></u>	1.0_	<u></u>	0.200 Ū	P NR
Copper Iron Lead	2.0	<u>u</u>	2.0	ט	2.0_	ט	2.0	<u></u>	0.400 Ū	NR_ P
Magnesium Manganese Mercury	0.2	_ <u>U</u>	0.2	_ U	0.2	 1		_	0.100 0	NR_ NR_ CV
Nickel Potassium	1.5_	Ū	1.5	Ū	1.5_	บ	1.5_	ਹੋ ਹ	0.300 U	P NR_
Selenium_ Silver Sodium_	4.92.0	U	4.9_ 2.0_	Ū	2.0_	บ	4.9_2.0_	U	0.400 U	P P NR
Thallium_ Vanadium_ Zinc	3.3	บี	3.3	<u>u</u>	3.3	บิ บิ	3.3	<u></u>	1.220 Ū	P NR_ P
Cyanide		_		_		-		_		NR_

3 BLANKS

Lab Name: RECRA_LABNET_INC. ____ Contract: NY97-163__

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	С	Conti		ning Calib ank (ug/L) 2	cion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_			6.7	। ता ता तता तता। वा वा वा ववा ववा	6.7	6.7		1.340 Ū 1.200 Ū 0.200 Ū 0.200 Ū 0.200 Ū 0.400 Ū 0.500 Ū 0.300 Ū 0.400 Ū 0.400 Ū 0.400 Ū	NR

3 BLANKS

Lab	Name:	RECRA_LABNET_	INC	Contract:	NY97-163		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.: _	SDG	No.:	31516W

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	C	Conti		uing Calib Lank (ug/L) 2		cion 3	С	Prepa- ration Blank C	М
Aluminum_ Antimony_ Senic_ rium	6.8 6.0	B	8.2_ 6.0_	B U	6.7_ 6.0_	U	6.7_ 6.0_	บ	1.340 Ū 1.200 Ū	NR_P_P_NR
Beryllium Cadmium_ Calcium	1.0 1.0	Ū U	1.0_	Ū U	1.0_ 1.0_	Ū U	1.0_	บ	0.200 U	P_P_NR
Chromium_ Cobalt Copper	1.0_	ש	1.0_	<u>u</u>	1.0_	<u>u</u>	1.0_	<u>u</u>	0.200 Ū	P NR P
Iron Lead	2.0	บี	2.0_	Ū	2.5	ט	2.5	ਹ	0.400 0	NR_ P
Magnesium Manganese Mercury		_ _ _ _		_ _ ==				 		NR_ NR_ NR_
Nickel_ Potassium Selenium_	1.51.9	ਹ	1.5_	<u>u</u>	1.5_	บิ	1.5_	<u>u</u>	0.300 U	P NR_ P
Silver Sodium Thallium_	2.06.1	<u>u</u>	2.0_ 6.1_	บ <u>บ</u>	2.0_ 6.1_	ת ת	2.0_	บ <u>บิ</u>	0.400 U	NR_ P_
Vanadium_ Zinc Cyanide	3.3	ਹ	8.2	B	14.5_	B	3.3	ਹ	1.682 B	NR_ P_ NR
		_		_		_		_		-

3 BLANKS

Lab	Name:	RECRA_LAB	NET_INC	Contract: N	Y97-163		
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:	SDG	No.:	31516W
Prep	aratio	on Blank M	atrix (soil/water):				
Drer	naratio	on Blank C	oncentration Units (ug	/L or ma/ka).			

Analyte	Initial Calib. Blank (ug/L)	С	Conti	nı B	uing Calib ank (ug/L) 2	rat) C	tion 3	С	Prepa- ration Blank C	М
Aluminum_Antimony_Arsenic_Barium_Beryllium_Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Thallium_Vanadium_Zinc_Cyanide	1.0		7.7 6.0 1.0 1.0 1.0 2.5 1.5 4.9 2.0 6.1 3.3		1.0		1.0_			NR P P NR P NR P NR P NR P NR P NR P NR

NYSDEC ASP

3 BLANKS

Lab	Name:	RECRA_LA	ABNET_INC	Contract:	NY97-163_			
Lab	Code:	RECNY_	Case No.: 6702_	SAS No.:		SDG No	.:	31516W
Prep	paratio	n Blank	Matrix (soil/water):					
Prep	oaratio	n Blank	Concentration Units (ug/	L or mg/kg):			

Analyte	Initial Calib. Blank (ug/L)	С	Conti	ini Bl C	ling Calib Lank (ug/L 2	rat) C	tion 3	С	Prepa- ration Blank	C	М
Aluminum_ Antimony_ senic_ rium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc_ Cyanide_	6.7 6.0 1.0 1.0 2.0 2.5 4.9 2.0 6.1 3.3		6.7	वा वा ववा वा वा वा वा ववा ववा			6.7				NR P P NR P NR P NR P NR P NR P NR P NR

SAMPLE DATA PACKAGE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNY

Contract Number: NY97-163

Sample Identifications: 03-03-01RW-1

03-03-02RW-1 03-03-03RW-1 03-03-04RW-1 03-03-05RW-1 03-03-05RW-2 03-03-06RW-1 03-03-06RW-2 03-03-07RW-1 03-03-07RW-1 03-03-09RW-1 03-03-09RW-1 03-03-10RW-1

03-15-16WW-S-1/MD/MS

03-15-16WW-S-2 03-15-16WW-S-3 03-15-16WW-S-4

03-15-16A-S-1 03-15-16A-S-2

METHODOLOGY

The specific methodology employed in obtaining the enclosed analytical results are indicated on the specific data table. The method number presented refers to the following reference:

1995 New York State Analytical Services Protocol.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Inorganic Data Comment Page.



Results of soil samples have been corrected for percent solids and are reported on a dry weight basis. 0.0042

Preliminary results were given via facsimile to Mr. Steve Falatko of Radian on December 23, 1997 and January 7, 1998 by Recra personnel.

METALS DATA

Supertrace ICP run 971222a was actually analyzed on 12/21/97.

Sample identifications have been abbreviated due to the character limitations of the processing software.

"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 hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek Laboratory Director

Date

This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet.



CHAIN OF CUSTODY DOCUMENTATION



RECRA LABNET, a division of Recra Environmental, Inc.

CHAIN OF CUSTODY RECORD

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LABNET, a division of Recra Environmental, Inc.	
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CHAIN OF CUSTODY RECORD

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General Comments:

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12-16-97/1745

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Relinquished by: (Name/Signature)

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Chain of Custody Record

Return Original to Originator

Carrier: (In person, Fed X, UPS, etc.) Tuen ARDUND GLASS JARS Special Preservation, Special Handling, etc.) (Type of Container, Comments 3 DAY 250 mL ANALYSES 3 Date/Time Received by: (Name/Signature) X × No. of Bottles NORTHROP GRUMMAN J. M. J. L. L. 03-03-06RW-2 03-08 RM. 2 03-03-09RW-1 03-03-07RM-2 03-03-04RW-2 03-03-03RW-1 03-03-02 RAL Sample Name 03 · 03 · 05 RW 2 03-03-10 RM-1 03-03-DIRM-1 Date/Time Project Name JEFF REY A LOWE 03. Relinquished by: (Name/Signature) - LOWE 0591 1730-5 12-15-97 16-30 07 11 471.70 <u>8</u> 12.15-71 1320 1500 Samplers (Name/Signature) 12.1597 1630 12.15-97 1030 0211 4.91-21 12.1697 1500 Time Collection 13-10-21 17-16-97 Date Ercrey A 80<u>| |</u> Project No. Number Ped Ped œ <u>و</u>

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Appendix F

Northrop Grumman

Memorandum

То

NYSDEC DSHM

No Further Action Letter

NORTHROP GRUMMAN

Electronics & Systems Integration Olvision

Northrop Grumman Corporation South Oyster Bay Road

South Oyster Bay Road Bethpage, New York 117 4-3580

February 2, 1998 ETC98-026

Mr. Stan Farkas
NYS Department of Environmental Conservation
SUNY - Building 40
Stony Brook, New York 11794

Subject:

Northrop Grumman Corporation

Building 03, Bethpage Site Area of Concern (AOC) 3

Enclosures:

- 1) Drawing of Area of Concern 3 Soil and Concrete Sample Locations showing the Area Excavated During Phase III.
- 2) Phase II Soil and Concrete Sample Analysis Data.
- 3) Drawing of Sidewall and Bottom Endpoint Sample Locations
- 4) Endpoint Soil Sample Analysis Data

Dear Mr. Farkas:

As you know, Northrop Grumman has been conducting Phase II environmental sampling at the Bethpage Building 03 location in accordance with the recommendations set out in the Phase I Environmental Assessment Report dated April 11, 1997 and submitted to the NYSDEC on April 23, 1997.

The drawing provided as Enclosure 1 illustrates the soil and concrete sample locations taken from Area of Concern (AOC) 3, known as the Old Alodine Process Line. The corresponding data is provided in Enclosure 2 for your review. As is shown from the data, approximately 300 samples were taken in the vicinity of AOC 3 in an attempt to vertically and horizontally delineate concentrations of constituents that were above the TAGM criteria. Chromium was found to be the primary constituent of concern and extended to A depth of 26 feet below grade surface (bgs).

After completing the Phase II sampling program at AOC 3, Northrop Grumman initiated an extensive excavation project to remediate elevated levels of chromium in the soil and concrete. The area of excavation is shown in the drawing provided as Enclosure I which is superimposed with the Phase II soil boring locations. The concrete floor from the Old Alodine Area was demolished and removed to a licensed hazardous waste landfill. Forty-two (42) steel I-beams were then advanced vertically to a depth of 38 feet bgs around the perimeter of the excavation. Building columns located within the excavation area were braced and supported to adjacent columns. Wood lagging was placed and secured between the I-beams during soil removal to provide shoring for the excavated side walls. At the completion of soil excavation, approximately 2700 cubic yards of chromium-impacted soil were removed from AOC 3 to a nominal depth of 29 feet bgs.

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Recycled paper

S, Farkos February 2, 1998 ETC98-026 Page 2

During soil excavation, 30 sidewall endpoint soil samples were taken from the locations shown on the drawing provided as Enclosure 3. Sidewall samples were collected from beneath and in back of the wood lagging at depths of 8, 16 and 24 feet bgs. Seven endpoint soil samples were also taken from the bottom of the excavation as shown in Enclosure 3. The endpoint soil analysis results are provided for your review in Enclosure 4. The data indicate that a number of the endpoint samples exceeded the proposed TAGM value for chromium of 50 mg/kg. As a result, Northrop Grumman instructed the laboratory to analyze the leachate of all the bottom samples and the side wall samples that had levels of total chromium greater than 100 mg/kg (20 times the hazardous waste TCLP limit for chromium) after a toxicity characteristic leachate procedure (TCLP) extraction was performed. The TCLP results are provided in Enclosure 4 for your review. The data indicates that there are no exceedances of the regulatory limit for chromium.

During a subsequent telephone conversation with Thomas John, of your office, it was requested that two of the original bottom endpoint samples with the highest levels of total chromium and the four highest sidewall samples were to be re-analyzed for total and hexavalent chromium. The results of these analyses are provided in Enclosure 4. Although three samples were shown to contain hexavalent chromium at levels greater than 50 mg/kg, it was demonstrated by previous TCLP analysis that the chromium does not leach at levels exceeding regulatory limits. It is also important to note that following backfilling, Northrop Grumman will fully restore the concrete floor in the vicinity of AOC 3. The concrete slab should eliminate the potential for chromium found in the soils to migrate. In addition, because of the extensive sheeting and shoring and column bracing that has already been performed in the area for soil excavation, added excavation would jeopardize the structural integrity of the building. For the reasons provided above, Northrop Grumman advocates no further action regarding the investigation or remediation of soil in the vicinity of AOC 3.

In summary, Northrop Grumman conducted a thorough Phase II investigation in the vicinity of AOC 3 in an attempt to vertically and horizontally delineate concentrations of constituents that were above the TAGM criteria. An aggressive excavation program was completed that removed impacted soils to a depth of approximately 30 feet bgs. Although some endpoint soil samples were shown to have chromium levels that exceeded the TAGM criteria, we believe this is not an environmental concern because the TCLP values for chromium were below the regulatory limit. The restored concrete slab minimizes migration potential of chromium present in the soil. It is therefore recommended that no further action is warranted in the vicinity of AOC 3.

Upon your review and approval of the attached data and these recommendations, Northrop Grumman will backfill the excavation pit with certified clean bank-run sand and restore the concrete slab to match existing conditions. A complete engineering report documenting all field activities and laboratory data analysis will be sent to your office at the completion of this project.

S. Farkas February 2, 1998 ETC98-026 Page 3

We have put together an ambitious schedule for the completion of the remediation work at the 105 Acre GOCO site and would appreciate your expeditious review and approval of this letter report.

If you have any questions, please call me at 516/575-2333 or A. Postyn, of this office, at 516/575-1566.

Very truly yours,

NORTHROP GRUMMAN CORPORATION

Larry L. Leskovjan, Manager

Environmental Technology & Compliance

D08-001

cc: w/enclosure

T. John, NYSDEC; S. Kaminski, NYSDEC; T. Mulvihill, NCDH

w/o enclosure

J. Lovejoy, NCDH; B. Mackay, NCDH

Appendix G

NYSDEC DSHM

Response Memorandum

New York State Department of Environmental Conservation Division of Solid and Hazardous Materials Building 40, SUNY, Stony Brook, New York 11790-2356

Telephone: (516) 444-0375 Facsimile: (516) 444-0231



John P. Cahill Commissioner

February 24, 1998

Mr. Larry Leskovjan, Manager Environmental, Health, safety & Medical Services M/S: D16-001 Northrup Grumman Corporation South Oyster Bay Rd Bethpage, NY 11714-3580

RE: Analytical Data for End Point Samples for Area of Concern (AOC)03; Building 03
Grumman-Bethpage
NYD002047967

Dear Mr. Leskovjan:

The Division of Solid and Hazardous Materials (DSHM)) has reviewed the end point sample analytical data for AOC 3, known as the Old Alodine Process Line, submitted in your letter dated February 2, 1998.

Based on our review of the sampling data, the DSHM has no objection to your backfilling the excavated area listed below. We also recommend your receiving approval from Nassau County Department of Health prior to beginning the work. The AOC 3 was identified in the Phase I Environmental Assessment Report dated April 11, 1997.

1. Area of Concern 03 Building 03, Old Alodine Area(Excavated Pit (60'x 35'x 30')

If you have any questions, please contact me or Thomas John.

Yours truly

Stanley Farkas, P.E. Environmental Engineer II

cc: A. Postyn, Northrup Grumman

S. Kaminski, NYSDEC

T. John, NYSDEC

J. Lovejoy, NCDH



Appendix H

Clean Fill Certification

and

Backfill Manifests

per paid silverince por position of should be commence affect of the days. XX days. XX CUSTON CLAY & SOIL CO., INC. P.O. BOX 8 OLD BETHPAGE, NY 11804

(516) 249-7471

February 5, 1998

Radian International LLC 710 Route 46 East, Suite 401 Fairfield, NJ 07004

Attention: Mr. Ken Kaufman

Re: Backfill Material

Grumman Aerospace

Bethpage, NY

Dear Mr. Kaufman:

Thank you for your interest in purchasing this product from our company. We understand that the material we had submitted for use on this project has been approved, and we will be able to commence deliveries within seven days.

This letter will serve notice that all the materials designated for this jobsite will be mined from a natural sand and gravel deposit that is free from any contaminants, recycled materials, asbestos, and materials from off this site. Your inspector has already conducted a visit to the mining area we will be working from. Please feel free to revisit this area as needed. The price for this material is made per yard.

Thank you again for the opportunity to do business with Radian International.

DAVID SILVER

truly yours

Vice President

CHEMICAL CONSULTING OF BABYLON 41 EAST MAIN STREET BABYLON NEW YORK LAB 516-587-0632

FAX 516-587-0827

CUSTOM CLAY & SOIL CO. P. O. BOX 8 OLD BETHPAGE, N.Y. 11804

CUSTOM CLAY WILL PRESENT THIS BILL TO :

G & R TRANSIT MIX P. O. BOX 490 WILLISTON PARK, N.Y. 11596

DATE: NOVEMBER 20, 1996

SOIL ANALYSIS

Sample I.D. - SAMPLE OF NOVEMBER 18, 1996

SIEVE ANALYSIS

SIEVE SIZE	% PASSING	% RETAINED
1"	76.9	23.1
1/4"	42.0	34.9
#:O	32.4	9.6
#50	10.2	22.2
#100	7.2	3.0
PAN	0	7.2

HYDROMETER TEST

8	SAND	78.8
용	CLAY	7.2
8	SILT	14.0

THIS SOIL HAS NO EXCESS AMOUNT OF EITHER ORGANIC MATTER OR CLAY, EITHER OF WHICH MIGHT DISQUALIFY IT FOR FILL UNDER SLAB FOUNDATIONS.

Sample Analyzed by:

Hans L. Helmprecht, Ph.D.

TRANSMITTAL INFORMATION SHEET

Approved By CLF
Signature
Transmitted By
Signature Recra Report I.D.#: 98-0234 Parameter(s) Reported: 16A SVOA P/PCB Meta/S
Reporting Complete?
ct Candace L. Fox

If you have any problems during the transmission of these documents, please call (716) 691-2600, extension 3060 - Program Management.

It is understood and agreed by the customer that all data and information stated in this report may be preliminary, may not have been reviewed for completeness or accuracy, and could be subject to change based upon a final review. Recra Environmental, Inc. makes no expressed or implied warranties of any kind, including, but not limited to merchantability and fitness for a particular purpose, and customer agrees that Recra Environmental, Inc. shall not be liable for any of customer's losses or damages caused by use of the data.



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Rept: AN0353 Page: 1

ANALYTICAL RESULTS

Date: 02/03/98 Time: 09:32:03

	Client Sample 10: Job Number & Lab Sample 10: Sample Date:	D: #1 COMP-EAST RIM D: A98-0234 A8023402 e: 01/26/98	#2 COMP PIT-NORTH A98-0234 A8023403 01/26/98	GRAB-SOUTH A98-0234 AB023401 01/26/98	
Analyte	(UG/KG) RL	Result	Result	Result	
METHOD 826G - TCL VOLATILES Chloromethane Bromomethane Vinyl chloride Chloroethane Methylene chloride Chloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane 2-Butanone 1,1,1-Trichloroethane 2-Butanone 1,1,2-Dichloroethane 2-Butanone 1,1,2-Dichloroethane 2-Butanone 1,2-Dichloroethane 2-Butanone 1,2-Dichloroethane 2-Butanone 1,2-Dichloroethane 2-Methyl-2-pentanone 2-Methyl-2-pentanone 2-Methyl-2-pentanone 1,1,2-Trichloroethane Bromoform 4-Methyl-2-pentanone 1,1,2-Trichloroethane Ethylbenzene 1,1,2-Tetrachloroethane Tetrachloroethane Tetrachloroethane Tetrachloroethane Tetrachloroethane Total xylenes Total xylenes Total xylenes		่ ธธธธ ผู้ ธธธ ธ ผู้ ธธธ ธ ผู้ ธธธ ธ ผู้ ธธธ ธ ผู้ ธ ธ ธ ธ ธ ผู้ ธ ธ ธ ธ ผู้ ธ ธ ธ ธ ผู้ ธ ธ ธ ธ ผู้ ธ ธ ธ ธ ผู้ ธ ธ ธ ธ ผู้ ธ ธ ธ ธ ช ศ ธ ธ ธ ธ ธ ธ ธ ธ ธ ธ ธ ธ ธ ธ	555543 พพพพพธพพพพพพพพพพพพ ====================	อธิธิธิชธิชพพพพพอพพพพพพพพพพพพพพพพพพพพพพพ	
Bronochloromethane 1,4-Difluorobenzene Chlorobenzene-D5	50-200 50-200 50-200	28.3	96 91 78	101 99 88	
p-Bromofluorobenzenc 1,2-Dichloroethane-D4 Toluene-D8	59-113 70-121 84-138	88 84 102	92 86 401	89 67 98	

Kept: ANO353 Page: 1

ANALYTICAL RESULTS

Date: 02/03/98 Time: 09:30:54

	Sample Date:	Sample Date:	01/26/98	A98-0234 A8023403 01/26/98	A98-0234 A8023401 01/26/98		
Analyte	(UG/KG)	25	Result	Resul t	Result		
· TCL SEMIYOLATILES		089	11 1009	13	1 189		
Finding. Ris (2-chi encasho) - achar		3 5	1009	099	2000		
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200 E		28	069	000	200		
2-Dichersens		3 %	069	099	089		
		98	n 069	099	_	_	
Ris(2-chloroisonrowl) ether		9	n 069	0999			
		999	069	0999	089		
N-Withoco.Di.p.or.mulamine		5	11 069	0.00	11 (189)	-	
Hexach occethane		99	n 069	099	089		
•		999	n 069	n 099	_		
		559	069	1 099	089		
		599	009	1 099		-	
2.4-Dimethylphenol		099	11 069	1 1999			
Risco-chlorosthoxy) methems		999	009	099			
2 4-D tch orotherol		199	1009	599			
1.2.4.Trichlorohenzene		999		099			
		3 5	069	999	2009		
4-rh proposition		989	069	999	3339		
Hexach larobutadiene		980	069	n 099	n 089		
4-Chloro-3-methylphenol		999		n 099	n 089		
2-Methylnaphthalche		660		n 099	n 089		
Hexach Lorocyclopentadiene		660	n 069	n 099	_		
2,4,6-1richiorophenal		999	п 069	n 09-9	n 089		
2,4,5-Trichlorophenal		1600	1700 U	1600 U	1600 U	_	
2-chloronsphthalene		099		D 0999	n 089		
		1600	1700	1600	n 0091	_	
Dimethyl phthalate		999	_	n 099	n 089	_	
		999	n 069	n 099	n 089		
2,6-Dinitrotaluene		98	n 069	1099	ri 089		
		1600	1700 U	n 009t	1600 ⊔		
		99	n 069	099	n 089		
2,4-Dinitrophenol		1600	1700 U	1600 13	1600 U		
		1600	1700 U	U 1600	1600 U		
		099	n 969	n 099	n 089	_	
2,4-Din/trotoluene		099	n 069	U 099	n 089	•	
Diethyl phthalate		099	n 069	O 099	n 089		
4-Chlorodiphenylether		999	n 069	U 099			
		99	069	099	10099		
		1600	1709	1600	1, 1,000		
4.6-ninitro-2-methylphenol		1400	1200	11 0071	1400		

жерt: ANO353 Page: 2

ANALYTICAL RESULTS

Date: 02/03/98 Time: 09:30:59

	Client Sample 10: Job Number & Lab Sample 10: Sample Date:		#1 COMP-EAST RIN A98-0234 A8023402 01/26/98	#2 COMP PIT-NORTH APR-0234 AB023403 01/26/98	GRAB-SOUTH A98-D234 ABD23401 01/26/98		
Analyte	(חפ/גפ)	12	Result	Result	Result	-	
METHOD 8270 - ICI SEMINOLATILES							
N-nitrocodiphenylemine		099	n 069	n 099	U 089		
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		26.6		099			_
		999		200			
DI-FI-DUTY DATABLATE							
Fluoranthene		000		_ `			
Pyrene		660	0.69	0 099			
Butyl benzyl phthalate		099	n 069				_
3,3"-Dichlorobenzidine		099	069	n 099			_
Benzo(a)anthracene		099	n 069				
Chrysene		099	n 069				_
Bis(2-ethylhexyl) phthalate		099	n 069				_
Di-n-octyl phthalate		099	n 069				
Benzo(b)fluoranthene		099	n 069			_	
Benzo(k)fluoranthene		099	n 069				
Benzo(a)pyreve		099	n 069				
Indeno(1,2,3-cd)pyrene		099	n 069				
Dibenzo(a,h)onthracenc		099	n 069				
Benzo(ghi)perylene		099	n 069				
Benzyl alcohol		099	n 069	n 099	n 089		
N-Nitrosodimethy(millio		78	n nee				_
INTERNAL STANDARDS		50-200	5	6	\$0\$		
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Phenanthron- D10		50-200	3	87	000		
Chryspans-012		50-200	76	66	501		
Peryl che-012		20-200	82	80	28	_	
SURROGATES							
Nitrobenzene-D5		23-120	29	8	99	-	
2-Fluorabiphemyl		30-115	62	69	ĸ		
Terphenyl		18-137	114	101	107	_	
Phenol - D5		24-113	99	29	70		
2-Fluorophenol		121-52	99 1	61	8 0 1		_
Z,4,6-Iribromophenol		221-61	16	833	282		
Z-Chlorophenol -04		20-150	69	63	/9		
1.2-Utcntdropenzene-04		0C1 .D2	20	ì	2		

* Indicates Result is Outside QC Limits NA = Not Applicable

-cpt: AN0353 Page: 1

ANALYTICAL RESULTS

Date: 02/03/98 Time: 09:29:44

	Client Sample 10: Job Number & Lab Sample ID: Sample Date:		#1 COMP-EAST RIM A98-0234 AB023402 01/26/98	#2 COMP PIT-NORTH A98-0234 A8023403 01/26/98	GRAB-SOUTH A98-0234 A8023401 01/26/98		
Analyte	(UG/KG)	R.	Result	Result	Result		
METROD 8081 - 1CL PESTICIDES/PCBS	BS						
alpha-BHC		0.8	8,3 U	8.1 u	1 1 E		
		8.0	B.3 U		1 - E		
delta-BHC_		8.0	8.3	_	2		
gamma-BHC (Lindane)		8.0	8,3 U	8.1 U	u 1.8		
Neptachlor		8.0		_	8.1		
Aldrin		8.0		_	8.1 u		
Heptachtor epoxide		8.0	1,3	-	8.1 u		
Endosulfan 1		16			16 U		
Dieldrin		16	2.0 J		16 U		
4,4'-DDE		91			16 U		
Endrin	•	1 9			16 U		
Endosulfan 11		16	17 u	16 U	16 U		
7,4000		16			_		
Endosultan Sulfate		16	1.1		16 U		
4,4'-DDT		16	2.1		16 U		
Methoxychlor		80	83 U		91 v		
Endrin ketone		16	17 U		16 u		
Endrin aldehyde		35			32 U		
alpha-Chlordane		0,	42 10		n 07		
gamma - Chiondone		0,7			n 07		
Тохарћепе		160	0 021		160 U		
Aroclor 1016		8	Ω 0		81 U		
Araclor 1221		8			91		
Aroctor 1232		8			_		
-		8			81		
		28					
		165	170 u	U 091	160 U		
Arpelor 1260		160			160 u		
Tetrachloro-m-xylene		60-150	72	77	5,		
Decachlorobiphenyl		60-150	85	8	S 80		
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Page: 1

ANALYTICAL RESULTS

Date: 0c/03/98 Time: 16:49:29 7

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															•
GRAB-SOUTH A98-0234 A8023401 01/26/98	Result		52.0	1.1	0.22	D 090°0	1.8	2-4	1.7	0,10 U	1-2	U 95.0	0.28 U	1-7	0.9
#2 COMP P1T-NORTH A98-0234 A8023403 01/26/98	Result		0.88	1.5	0.27	0.062 U	2.6	2.5	6.1	0.10 U	1.7	0.58 U	0.29 U	1.7	7.5
10: #1 DOMP-EAST RIH 10: A98-0234 AB023402 te: 01/26/98	Result		0.80	2.0	0.38	0.063 U	5.8	0.4	4.5	0.10 U	3.6	0.59 U	0.29 U	1.9	12.6
	교		12.0	2.0	1.0	1.0	2.0	5.0	09.0	0.10	8.0	1.0	2.0	2.0	4.0
Client Sample Job Number & Lab Sample Sample Da	UNITS OF MEASURE		NG/KG	NG/KG	MG/KG	MG/KG	HG/KG	NG/KG	MG/KG	MG/KG	MG/KG	NG/KG	MG/KG	MG/KG	MG/KG
	Analyte	ASP 95 - TOTAL PP WETALS - SOIL	Antimony - Total	Arsenic - Total	Beryllium - Total	Cachium - Total	Chromium - Total	Copper - Total	Lend - Total	Hercury - Total	Wickel - Total	Selenium - Total	Silver - Total	Thallium - Total	Zinc - Total

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CUSTOM CLAY & SOIL COMPANY, INC.

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Business: (516) 249:7471 • Home: (516) 424:9588

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CUSTOM CLAY & SOIL COMPANY, INC.
P.O. BOX 8
OLD BETHPAGE, NY 11804
Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, N.Y. 11804 Business: (516) 249.7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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P.O. BOX 8 OLD BETHPAGE, N.Y. 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, N.Y. 11804 Business: (516) 249.7471 • Home: (516) 424.9588

		
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P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.
P.O. BOX 8
OLD BETHPAGE, NY 11804
Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC. P.O. BOX 8 OLD BETHPAGE, NY 11804 C.A. Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

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Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

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P.O. BOX 8
OLD BETHPAGE, N.Y. 11804
Business: (516) 249.7471 • Home: (516) 424-9588

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P.O. BOX 8 OLD BETHPAGE, N.Y. 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

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OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

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OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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P.O. BOX 8 OLD BETHPAGE, N.Y. 11804 Business: (516) 249.7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
OLD BETHPAGE, NY 11804

Susiness: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8

OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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OLD BETHPAGE, N.Y. 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC. P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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P.O. BOX 8 OLD BETHPAGE, N.Y. 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

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Business: (516) 249.7471 • Home: (516) 424.9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.
P.O. BOX 8
OLD BETHPAGE, NY 11804
Business: (516) 249-7471 • Home: (516) 424-9588

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19	3		PAID OUT	FIN		
Date		Zip	MOS. RETD.	AMOUNT		
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CUSTOM CLAY & SOIL COMPANY, INC.

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
OLD BETHPAGE, N.Y. 11804
Business: (516) 249-7471 • Home: (516) 424-9588

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DATE

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ADDRESS NAME

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P.O. BOX 8

OLD BETHPAGE, N.Y. 11804

Susiness: (516) 249.7471 • Home: (516) 424.9588

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REC'D. BY

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TOTAL

OM CLAY & SOIL COMPANY, INC. P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

19			ON ACCT. MDS. RETO. PAID OUT
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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

1973		PAID OUT
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MEC'D. BY

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
OLD BETHPAGE, N.Y. 11804

ALC Business: (516) 249-7471 • Home: (516) 424-9588

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P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

8 8			PAIO OUT
Date 7-17-1519	×	— diz —	CHARGE ON ACCT. MOS. RETD. PAID OUT
Tel #	.) /.	State	ON ACCT.
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	s returned goods MUST be an	ompanied by the bill.	TAX		٠
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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249.7471 • Home: (516) 424-9588

Date 2- 1978 State Zy Zip. Name KADIA INTERNACIAL TEI#
Address (SIMINH) - S.C.) STEE BLY KI Customer's Order No. 504815

PAID OUT	
MDS. RETD.	
ON ACCT.	
CHARGE	
C.O.D.	
CASH	
SOLD BY	

AMOUNT										
PRICE							{	TAX	TOTAL	
: DESCRIPTION	AS BULGIL					F/ 7	ST ST	All claims and returned goods MUST be accompanied by this bill.	RECEIVED BY	
QUAN.	K							Al dains and retur	BY	09163

OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

Date 2- 19 98 CHARGE ON ACCT. MDS. RETD. PAID OUT Name RANDIAN INTRINATIONAL TELL #
Address Chick Youth S- GST CAST A RIN RID
City BETHING Customer's Order No. 504845 C.O.D. САЅН SOUD BY

AMOUNT								
PRICE	++				1	TAX	TOTAL	
DESCRIPTION	AS ISAUFIU			11 0	del to	All claims and returned goods MUST be accompanied by the bill.	IVED	
QUAN.	M			6		All claims and retail	RECEIVED	00400

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, NY 11804 Business: (516) 249-7471 • Home: (516) 424-9588

__ Date 2/1/2, 1958 CHARGE ON ACCT. MDS. RETD. PAID OUT State 10-Customer's Order No. 504845 Name 1500 MP FOTELP TOWNER # GRUHAM C.O.D. CASH SOLD BY Address Çiğ

AMOUNT		7							
PRICE						1	TAX	TOTAL	
DESCRIPTION		14112 JAC			100	1 Lations	All claims and returned goods MUST be accompanied by this bill.	8	
QUAN.	26						All claims and return	8	09786

373 CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8 OLD BETHPAGE, N.Y. 11804 Business: (516) 249-7471 + Home: (516) 424-9588

(*) .

4 DATE

PRICE 24.11 35 VOS 1211 STATE CHARGE ON ACCT. X. DESCRIPTION \$000 BY ADDRESS NAME Ě

MEC'D. BY

THANK YOU PLANTED INSCENTION BRIDE STATES AND STATES AN

TOTAL

P.O. BOX 8

OLD BETHPAGE, NY 11804

Business: (516) 249-7471 • Home: (516) 424-9588

Customer's	s Order No	o		D	ate 🚣 _	<u> 19</u>
Name						
Address		<u>(</u>	<u> </u>			
City			S	tate	Zip	
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BY				TOTAL		

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P.O. BOX 8

OLD BETHPAGE, NY 11804

Business: (516) 249-7471 • Home: (516) 424-9588

Customers	s Order No	o		D	ate -< <	<u> </u>
Name \mathscr{L}	ADIAU/	STERNE	TIONAC	Tel#		
Address City	Linn	NAU B	OXSTI	EIBI	YRA	
City 15	TUDEICA		/ Si	tate 📈	Zip_	
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SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDS. RETD.	PAID OUT
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All claims and retu	EIVED	or de accompa	nied by this bill.	TAX		
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P.O. BOX 8

OLD BETHPAGE, NY 11804

Business: (516) 249-7471 • Home: (516) 424-9588

Customer's	S Order No	o		D	ate <u> </u>	3 ₁₉ 78
Name R	ADION	IN	TL.	_ Tel # _		
Address _	PRUMU	MAL				
Name R Address City BE	THPA	GE	S	tate <u>V.9</u>	<u>.</u> Zip _	
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			and the latest			
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CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
OLD BETHPAGE, N.Y. 11804
Business: (516) 249-7471 • Home: (516) 424-9588

CUSTOMER'S ORDER NO.				DAT	£ 2-	-27	19	
NAME	·	RI) [F];	$\overline{\mathcal{T}}$				
ADDRESS	5	0-150	- Pa	1 K) (c	r man	.)	
CITY 1)	10/16 00	10 /=		STAI	E C			
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SOLD BY	CASH	C O.D.	CHARGE	ON ACCT.	ADSE. RETD.	PAID OUT	N.	
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Appendix I

Compaction Testing Reports



NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

Client: 7	PADIAN INTERNATIONAL	Report #:	
		Date: 2 - 18 - 98	
		Technician: WILSON GIRON	
Project: 8	WOGO REMEDIATION + RESTORATION AS NO	of oid Alcone Permit #:	
Test:	In Place Density Test	Job #:	
Method:	ASTM D2922		

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	NORTHROP GRUMMAN ASROSPACE Bet	h page	,NY		
	Remediation + RESTORATION OF OH A	1 '	process	INC @ BL	19 #3
	1st LIFT 3 level				
27 Belo	10'NORTH OF Soldier Pile#37	5.2	108.0	110.7	97.6
-11-	15 EAST OF SUBJER PILE # 5	4.8	110.6	//	99.9
	• • • • • • • • • • • • • • • • • • • •				
-11-	47-5 South of Soldier pile # 23	5.1	107.2	_/'	96.8
-11-	10' South of Soldier pile # 15	5.7	108.8		98.3
11-	19' FAST OF Soldier pile #9	5.7	107.7	_ " _	99-3
			•		

11 1101 of Joiner Pire	<u>- 1 </u>	0.	,-,-	<u> </u>	
Domonko					
Remarks:					
	·	·			
Material Type: SANd		Proctor	Dated:	472	
Item #:	-	Max. D	ry Density:	110.7	_
Min. Comp. Req.: 95.0 /		Optimu	ım Moisture	MTL	
y [Vev]					

omplies:

Reported To:



NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

7:00 pm to 3:30 pm

ADIAN INTERNATIONAL	Report #:
•	Date: 2-19-98
	Technician: WILSON GIRON
O160 LINE AREA BUILDING (US A) NOTHER GRUNNAN	Permit #:
In Place Density Test	Job #:
ASTM D2922	
	ONO REHEDIATION & RESTORATION OF ON ANDINE POCESS In Place Density Test

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	NORTHROP GRUMMAN AEROSPACE	Bettle	age, N	У	
	Remediation & RESTORATION OF OH ALDINE PRO	CESS /INF	APFAC BU	HING 003	
	2 LIFT 6' LEVEL				
24 Belo	e 9' EAST OF SOJDIER PILE # 12	5.1	107.6	110.7	99.2
-11-	10' WEST OF SoldIER PILE # 26	5.3	109.2	//	98.6
7					
11-	17' WEST OF SoldIER PILE # 29	408.6	108.6		98./
-11-	14' WEST OF SOLDIER PILE # 33	5.3	107.7	<u> </u>	97.3
-11-	9' EAST OF SoldIER PILE # 1	6.0	106.2	"	96.0

Remarks:	
Material Type: SANd	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95.0%	Optimum Moisture MT/

mplies: Yes

Reported To:



NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

7:00 AM to 3:30pm

		7.00
Client: K	PADIAN INTERNATIONAL	Report #:
		Date: 2-19-98
		Technician: WILSON GIRON
Project: 80	DO PROCESSINE AREA, BLOG 003 CARRHAGERHA	Permit #:
Test:	In Place Density Test	Job #:
Method:	ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	NORTHROP GRUMMAN AEROSPACE	Bett	PAGE,	NY	
	Remediation+Restoration OF old Aladine Pro	cess line	AREA (Building	co3
	3RD LIFT 9' LEVEL				
21 BARRE	e 7' NORTH OF Soldier Pile #37	4.9	107.1	110.7	96.8
<u> -n-</u>	8' FAST OF Soldier Pile #3	5.7	109.5	-11 -	99.0
-11-	11' South of Soldier Pile # 15	5.2	106-1	-11 -	95.9
-11-	9' WEST OF SOHIER PILE #26	5.5	105.3	/1	95./
	•				
-11-	10' EAST & Sobier pile # 7	5.1	108-6	<u> </u>	98.1

Remarks:		
Material Type: SANG	Proctor Dated: MTL	

200	
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95.0 %	Optimum Moisture MTL

complies:	yes
-----------	-----



NEW YORK DIVISION
1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

	Page 2 of 2
Client: RADIAN International	Report #:
	Date: 2.20.98
	Technician:
Project: 800960 Process LINE . Bida # 30	A NETHER CALEErmit #:
Project: 800760 Process Live Bidg # 50 Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
No	RTHRUP GRUMAN AEROSPACE BETHPAG	E N.	<i>/</i> .		
REI	MEDIATION & RESTORATION OF OLD ALODINE	Proces	5 6/NE (Bldg. #	3
	* 5th LIFT 15 LEVEL *				
15 46RD	15 FEET FAST OF SOLDIER PILE # 12	13.1	107-9	110.7	975
11	15 FEET WEST OF SOLDIER PILE#18	8.2	106.4	110.7	96.6
w ij	3/5) of Solver Pile # 72	6-4	106.8	110.7	96.5
11 4	@ Colum Beam E-7	8,1	106.6	110.7	96.3
11	10' West of SOLDier Pile # 6	7.3	106.2	110.7	95-9

Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: //0.7
Min. Comp. Req.: 95%	Optimum Moisture MTL

omplies:	X
	\sim

Remarks:

Reported To: DALE



NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
1	WRTHRUP GRUMAN AEROSPACE BETHP	SE, N.Y	,		
REN	EDIATION & RESTORATION OF OLD ALODI	WE Proc	ess LINE	& Budg. #3	5
	* 4th LIFT 12 / Evel \$	<i>C</i> . 1	\- r~ r~	110 7	95.3
18-11-65	10 FEET NORTH OF SOIDIER PILE # 35	6.1	105.5	110.7	10.2
1 4	8 FEET EAST OF SolDier Pile #4	4.7	106.6	110.7	96.3
k /					
4	10 Feet WEST OF SOIDIER PILE # 27	6.4	105-8	110.7	95.6
11	8 FEET NORTH OF SOLDIER PILE #28	7-6	106.7	110 - 7	96.4
~ 1	3 FEET SOUTH OF SOIDIER PILE #14	4.9	106.9	110.7	96.6

Remarks:	
Material Type: SAND	Proctor Dated: MT
Item #:	Max. Dry Density: //0-7
Min. Comp. Req.: 95%	Optimum Moisture MTL

mplies:

Reported To: DALG



ZADIAN	INTERNATIONAL	Report #:	
		Date: 2-20.98	
		Technician:	
O960REME	OF LINE BIDG # 300 NO	othrop Garren Permit #:	
In Place De	nsity Test	Job #:	
ASTM D29	022		
	10960 Re nace In Place De	O960 PERCOSTANCE RESTORATION OF IN Place Density Test ASTM D2922	Date: 2-20.58 Technician: 09607 CESS GINE BLOG # 361 Northrup Garren Permit #: In Place Density Test Job #:

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Сощр.
N	WRTHRUP GRUPAN AEROSPACE BETHP	8E, N. 4	r		
REM	EDIATION & RESTORATION OF OLD ALUDI	WE Proc	ess LINE	@ Bldg #3	5
	* 4th Lift 12 2 Eve 1 *				
18460	10 FEET NORTH OF SOIDIER PILE # 35	6.1	105.5	110.7	95.3
-	8 FEET EAST OF SOIDIER PILE # 40	4.7	106.6	110.7	96.3
W 4	44-				
	10 FEET WEST OF SOLDIER PILE # Z	6.4	105.8	110.7	95-6
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	05-5-	77.			GC 11
-	8 FEET NORTH OF SOLDIER PILE #28	7-6	106.7	110.7	96.4
~ 1	KEET South of Single Die He	11 6	in a G	//4 '7	$G : \mathcal{C}$
	3 FEET SOUTH OF SoiDIER PILE #14	4.9	106.9	110.7	96.6

Remarks:	
Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 1/0.7
Min. Comp. Req.: 95%	Optimum Moisture HT_
Complies: X	Renorted To:



NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

Client:	RADIAN International	Report #:
		Date:
	•	Technician: 15 . MORRISSEN
Project: &	Son 960 Process LINE BY S & NE 270 POR PROCESS LINE BY SE TO NE 27	Permit #:
Test:	In Place Density Test	Job #:
Method:	ASTM D2922	

Depth Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
NOZTHRUP GRUMAN AEROSPACE BETHPAG	e N.y.			
REMEDIANTION & RESTORATION OF OLD ALODIA	VI Proce	255 ZINE	6) Bedy . #3	
#6Th Lift 12' Level *	0 ~	107 /	114.2	91 >
WYGRO 15 Feet West of Soldier Pile #25	9.5	106-6	110.7	96.3
10 Feet EAST OF Soldier Pile #5	10-2	109-7	110.7	99-1
4 @ Colum E-7	9-0	110.4	110.7	99.7
1 10 Feet West of Soldier Pile #31	9,0	110-4	110.7	99.7
11 a Colum D-7	1025	1065	110.7	96.2

Remarks:	

Material Type: SAND	Proctor Dated: MT/
Item #:	Max. Dry Density: //0.7
Min. Comp. Req.: 950/p	Optimum Moisture MTZ

Complies:	M
Compiles.	

Reported To: D.9 //-



1 1

	PAGE / CF
Client: RADIAN International	Report #:
	Date: 2 - 24.98
	Technician: 15 . MORRISSEN
Project: 800960 P. Diess LINIT BUL # 3 @ Nic 27 or De Density Test Test: In Place Density Test	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% - Сотр.
	CRTHRUP GRUMAN AEROSPALE BETTIPAGE	- Noya			
REM	DIANTION & RESTORATION OF OLD ALODIA	VI Proce	55 LINE	6) Bedy . #3	
	* 7th Lift 21' Level *				
9 VGRD	5 FEET WEST OF SOIDIET PILE #26	9.3	105.4	110.7	95:2
0"	10 FEET NORTH of SoiDiet PILE # 36	9.1	107.5	110.7	97.1
	<u></u>				
i 4	15 WEST of Soldier Pile# 30	9.4	107.3	110.7	96.9
	,				
11 #	15 EAST OF SOLDIER PILE #9	8.6	106.9	110.7	96.6
* 4	5 Feet South OF Soidier Pile# 18	9.2	166.5	110.7	96.2

Remarks:			

Material Type: SAND	Proctor Dated: MT/_
Item #:	Max. Dry Density: //0.7
Min. Comp. Req.: 95%	Optimum Moisture MTZ

Complies:	Y
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		PAGE OF
Client: R	ADIAN International	Report #:
	•	Date:
	•	Technician: 15 . MORRISSEN
Project: &	1960 Process LINE BULG # 3 @ Nection performance	Permit #:
Test:	In Place Density Test	Job #:
	ASTM D2922	

	(PCF)	Density (PCF)	Сомр.
- N.y.			
7 Proce	55 LINE	E) Bedy, #3	
0.7	1.57 G		000
0.1	1.70.5 -7	//0-/	95.7
8-6	107.3	110.7	96.9
8.8	107.4	110.7	97.0
5.0	106.5	110.7	96·Z
8.1	108.7	110.7	98.2
	8·7 8·6 8·8	8.7 105-9 8.6 107.3 8.8 107.4	8.7 105-9 110.7 8.8 107.4 110.7 5.0 106.5 110.7

Remarks:		

Material Type: SAND	Proctor Dated: MT/
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture MTZ

Complies:	V
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		PAGE OF
Client:	RADIAN International	Report #:
	•	Date:
	•	Technician: 15. MORRISSEN
Project: &	In Place Density Test	Permit #:
Test:	In Place Density Test	Job #:
Method:	ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
1	ORTHRUP GRUMAN AEROSPACE BETHPAGE	- N.y.			
1	EDIANTION & RESTRATION OF OLD ALUDIA		55 LINE	E) Bedy, #3	
	*8th Lift 24' Level *				
6 VGR1	@ Colun E-7	9.6	105-7	110.7	95.5
9 4	10 Feet WEST of Soldier Pik # 31	88	167.3	110.7	96.9
W //	10 Feet WEST Of Soldier Pilo #25	8-3	106.1	110.7	95.8
11	@ Colim D-7	8.6	106.9	110.7	96.6
		<u> </u>			
Nº 11	5 Feet West of Soldier Pile #21	811	105-7	110.7	95.5

Remarks:				
	 	·		

Material Type: SAND	Proctor Dated: MT/
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture MTZ

Complies:	
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NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

PUCTION - ENVIRONM B				
			PAGE 1 CF	3
Client: RADIAN International	Report #:			
	Date:	2-26	96	
	Technicia	15 11	ORRISSEN	
Project: 800960 Projects init & de #3 @ Nicetoripalisment	Permit #:			
rest: in Place Density Test	Job #:			
Method: ASTM D2922				·
	%	Dry Density	Max. Dry.	%
Depth Location	Control of the Control of the Control	(PCF)	Density (PCF)	Comp.
NOZTHRUP GRUMAN AEROSPACE BETHPAGE REMEDIANTION & RESTORATION OF OLD ALODIN	- N.y.			
REMEDIANTION & RESTRATION OF OLD ALODIA	E Proce	55 21NE	6) Beck: #3	
* 10 Lift 26' Level *			J	
4/VGRD @ Colum E-7	8-4	105.8	110.7	95.6
1/			110.7	
			,,,,,	
<i>y</i> //			110.7	
·			7.5	
			110.7	
			,,,,	
			110.7	
			///0_/	
Remarks:				
			,	
Material Type: SAND	Proctor I	Dated:	MTL	
Item #:	Max. Dry		110.7	
Min. Comp. Req.: 95%	Optimum	Moisture	MTZ	

Complies:

Reported To: DA1E

115



Complies:

MATERIALS TESTING LAB INC.

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ATTRICTION - ENVIRONMENT B				
			PAGE 7 CF	3
Client: RADIAN International	Report #:			
	Date:	2.26		
The BOLL WAS A STATE OF THE STA	Technicia	n: 15 . M	ORRISSEN	
Project: 800960 Projess with But #3 @ Nic 270 April	Permit #:			
Test: In Place Density Test	Job #:			
Method: ASTM D2922				
			<u> </u>	
Depth Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
MOZTHRUP GRUMAN AEROSPALE BETHPAGE	= N.y.			
REMEDIANTION & RESTORATION OF OLD ALUDIA		ميرد و لا ١٠٠٠	() a. d. #3	
		25 Z/NZ	B ELUG ,	
* Lift Level * (ND:	4)			900 >
116RD @ Colum F.8	9.2	105.5	110.7	95.3
1) 25 Feet (WollE) wall 10 Feet (S) of (W) vall	8.9	105-4	110.7	95.2
, , , , , , , , , , , , , , , , , , ,				
G010- 2'6) (-) (-) (-) (-) (-) (-) (-) (-)	8.6	12/100	110.7	96·Z
GRADE 3'(W) OF (E) Wall 10'(W) OF (5) Call	0,6	106.5	710.7	10.5
			110.7	
·				
			110.7	
			,	
Remarks:				
	-			-
· ·				
Material Type: 5AND	Proctor I	Dated:	MTL	
Item #:	Max. Dr	y Density:		
10.0		n Moisture	110.7	
Min. Comp. Req.: 95%		. MADISTUIC	MTZ	

Reported To: DA 11=



TOTAL TON - ENTROPHER B				
			PAGE 3 of	3
Client: RADIAN International	Report #:			
	Date:	2.2	6.96	
The port of the season of the	Technicia	n: 15.M	ORRISSEN	
Project: 800960 Projects Line Bill # 3 @ Nicempiles	Permit #:			
Test: In Place Density Test	<u>Job</u> #:			
Method: ASTM D2922				
Depth Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% - Со т р.
MOZTHRUP GRUMAN AEROSPALE BETHPAG	50 N.4.			
REMEDIANTION & RESTRATION OF OLD ALODI		55 ZINE	6) Bedi. #3	
* 11 List 27 Level *			J	
3 VGRO RAMP AREA 10 FEET OF WEST WATER	8.5	109-5	110.7	98.9
				<u> </u>
11 RAMP DEED SOFEET FOR WWalor	8.9	110.1	110.7	99-5-
\\ \\ \			110.7	
~ 1			110.7	
∨ II			110.7	
Remarks:				· _
Material Type: SAND	Proctor D	ated:	MTL	
Item #:	Max. Dry	Density:	110.7	
Min. Comp. Req.: 95%	Optimum	Moisture	MTZ	
Complies:	Reported T	o: <u>D</u> A		



NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

P.16= 7 05 Report #: Client: RADIAN International Date: 2.27.98 Technician: Remediator & LESTORNTON OF OLINE APPLIANT PRIORS CINE BLOG #3 Permit #: Project: 400960 Job #: Test: In Place Density Test ASTM D2922 Method: Dry Density Max. Dry. % Depth Location Moisture (PCF) Density (PCF) - Comp. NURTHRUP GRUMAN AEROSPALE BETHPAGE Remediation & Restornion of OID ALONING Process 11th LIGT 27' Bow Level 3/490 @ Colum 109.9 99.Z 110.7 96.3 106-6 ナノロ・フ @Ch 10'(S) of D-7 ALONG Sower Line 95.7 105.9 110・フ Remarks: Material Type: Proctor Dated: SAND MTZ Item #: Max. Dry Density: 110.7 Min. Comp. Req.: 95% Optimum Moisture MD

mplies: 🗶

Reported To: DAII= HANSEN



		PAGE OF
Client:	RADIAN Internation	na / Report #:
		Date: 2.27-98
		Technician: 15 . MORRISSE,1
Project: &	In Place Density Test	Nicetorphilem Permit #:
Test:	In Place Density Test	Job #:
Method:	ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% - Comp.
Λ	CZTHRUP GRUMAN AEROSPALE BETHPAGE	- N.y.			
	EDIANTION & RESTORATION OF OLD ALODIA		55 LINE	E) Bedy . #3	
	* 12 Lift 28 Level *				
2 VGRI	10'South of Colum D-8	8-7	106.0	110.7	95.7
1	@ Colum D-8	6-4	108.7	110.7	98.2
					,
\\ /\	@ Colum D-7	9.6	107.1	110.7	96.7
W 1/	RAMPAREA 25 EAST OF WEST WALL	8.7	108.6	110.7	98.1
\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2 EAST Of Soldier Pile # 10	8.3	105.4	110.1	95.2

Remarks: # Note AREA NORTH OF NEEDIC BEUM HAD A LIFT GREATER THAN 1: IT
·
This AREA. Because of Burranded MER COUld Not Remove the Excess fill. There

Material Type: 5AND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture MTZ

mplies:	V
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NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

	POGE 10f
Client: PADIAN International	Report #:
	Date: 2.27.98 .
	Technician: E. MORRISSEY
Project: 500 960 Renedication & Russia Caron of own Project: 500 960 rocess 1 wis Bidg # 3 @ Northway Ga	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	OKTHRUP GRUMAN A EROSPACE BETHER	GE, LI	Ny.		
	redigtion & RestORATION OF OLD ALODINE			, # 3	
	REPLACE MENT OF SEGIET LINE	*			
5 1/40	Sewerline along Colum Line D-7	8-3	110.2	1/0.7	99.5
	10 Feet South Of STAIR Way	ر در د			
0-11	Sewer LINE A LONG Colum LINE D-7	6.5	169.8	110.7	99.2
<u></u>	10 Feet South of Colum D-7	6.3	105.8		95.6
7 261	10'(s) 0+ colun D-7	k 2	100 8	110.7	12.6
\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	10'(s) of Staircase	6.6	105.4	110.7	95.2

Material Type: $\langle A \mu V \rangle$	Proctor Dated:
tem #:	Max. Dry Density: /10-7
Min. Comp. Req.: 95%	Optimum Moisture MTL

_omplies:	X

Remarks:



NEW YORK DIVISION 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

		PAGE of
Client:	RADIAN International	Report #:
		Date: 2-29-98
	• • • • • • • • • • • • • • • • • • • •	Technician: 15 . MORRISSEN
Project: E	300 960 Process LINE BY N. # 3 @ Nic 2Torip Column	Permit #:
Test:	In Place Density Test	Job #:
Method:	ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
1	CZTHRUP GRUMAN AEROSPACE BETHPAGE	- N.y.	·		
	EDIANTION & RESTRATION OF OLD ALCOIN		ess LINE	6) Bed; #3	
	* 13 Lift 29 Level *				
1 1685	RAMP AREA 40 Feet (W) of (E) Wall	8.4	110.6	110.7	99.9
04	10'Wos solDier Pile # 38	8.0	109.9	110.7	99.3
0 4	10 W) of SOL Diese Pile # 29	6.5	109.1	110.7	98.6
~ 4	10 'W) of SolDier Pile #4	7.2	110.5	110.7	99.8
N	15' E of Soldier Pile # 11	8.8	107.3	110.7	96.9

Remarks: * Note*	
·	
Material Type: 5AND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture MTZ

Emplies:

Reported To: DA1E

Appendix J

Concrete Inspection

And

Testing Reports



NEW YORK DIVISION 1979 JERICHO TURNPIKE + NEW HYDE PARK, NEW YORK 11040 + 15161 354 AAM) + FAX 15161 354 AA02

Client: Radian International

710 Route #46, Suite #401

Fairfield, NJ 07004

Project: Northrup Grumman Report #:

98RAD 014

Page 1 of I

Date:

04/22/98

Break Date: Cast By:

MTL

CONCRETE FIELD DATA (ASTM C192)

Truck No.	Ticket No.	Batch Time	Disch. Time	Samp. Time	% Air Cont.	Slump (Inch)	Conc. Temp. F	Unit Wt. (PCF)	Field Set #	Design Strength (PSI)
30	14141	2 45	3 00	3 15		\$ 00	68"		1-4	1000
		1	ĺ				•			
		1	1		-			_		-

Location(s) of Pourt B to #3 column 5 \$ 1 wt.c.s.

Supplier

Contractor:

Inspectors

MILL

Weather

Air Temp

Intal Yardage Placed

COMPRESSIVE STRENGTH OF CONCRETE TEST CYTINDERS LANTAL CHEER DETERM

Field #	7.8	eal #	Date i Cast	Date	Age.	Area (sq. in)	Total Load			Complies
. —	11	14.415	1 14 27 98	114 1- 119	• ; -	-	110		1909	
	,	-	17473	•	! —	•		1	-	- -,
•	1	1000	14: 22 7 5	•	•	1 - 1		-	• –	
	•	10005	1 (4 22 48		•	- ,		-	<u> </u>	•
	_ ! _	- -	! —	_	. —	<u> </u>	_	•—		
	_ :	_	!					_	·	• - ;
_		_	i		_		_	. —	•	•
			· —	_	_					·
	-			-		! :.				· —
		_	. —	. –	•					<u> </u>
	. † -		<u> </u>			· - ·		<u> </u>	· —	

REMARKS: TEST RESULTS TO FOLLOW

 \mathbf{B}

C

D

F.

Reported To: -

Cone

Cone &

Split

Shear

Cone & Shear Columniar

eroported data is the property of the client. No reproduction at the above duta instinut the sole permission of Materials Testing Lab. Inc. Materials france projects on I photos for more even and a comme

Marisa A. Kalinowskii, P.F.

Leading they to the comment of

Submitted By: Materials Testing Lab, Inc.



NEW YORK DIVISION 1529 JERICHO TURNPIKE + NEW HYDE PARK, NEW YORK 11740 + 15161 354-4400 + FAX 15161 444 46401

.ent:

Project:

Radian International

710 Route #46, Suite #401

Fairfield, NJ 07004

Northrup Grumman

Report #:

Date:

98RAD 015

04/24/98

Break Date:

Cast By:

ECM (MTL)

CONCRETE FIELD DATA (ASTM C192)

Truck	Ticket No.	Batch Time	Disch. Time	Samp. Time	% Air Cont.	Slump (Inch)	Conc. Temp, F	Unit Wt. (PCF)	Field Set #	Design Strength (PST)
75	24122	8:51	rejected					1.	Ī -	
30	24126	9.25	rejected	1	İ					
ī <	B124167	1 : 65	3:0	1:	(ñ	1 24		1 [4. 0	1 1.4	: O(N)

Location(s) of Pour: Sigh floor adjacent to much louding have

Supplier:

S .. Te Beitrise

Contractor:

Inspector: Fold

(MIII)

Page 1 of 1

Weather:

Suprivil advor pour)

Air Temp

er cegions

Intal Yardage Placed:

COMPRESSIVE STRENGTH OF CONCRETE TEST CYLINDERS (ASTM C.0) (6 DY 12" H)

Field #		Cast	Tested	Days	(ross-Sect Area. (sq. in.)		Fracture Type		Complies
			4 7 4			4164	:\	1141	
	.	14 24 95	A		· · · · · · · · · · · · · · · · · · ·				
1		1 (4 24 44		·			- 1		
	3 6.40	04 24 98							
		1	I	1	. – .			_	-
		_					;	— ·	
			i	:			:		
	! —	•							
		1	1	<u> </u>					
		!							
		<u>. </u>	1					i	

REMARKS: IFST RESULTS TO FOLLOW

A

В

C

Ε

Reported To: Dale Hansen (Radian)

Submitted By: Materials Testing Lab, Inc.















Cone

Cone & Split

Cone & Shear

Shear

Columnar

The a ... exeported data is the property of the chant. No reproduction of the shove data without the solo permission of Materials, formed tablitic

Maurona's Terting screpts for light of the work were in the corner

Marica A. Kulinowski, P.E.



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Client: RADIAN International	Report #:	Page I of I
South OYSKER BAY READ	Date: 4.298	
NORTHRUP GRUPTON		
Project: 800960	Cast By: ECM	

CONCRETE FIELD DATA (ASTM C192)

Truck No.	Ticket No.	Batch Time	Disch. Time	Samp. Time	% Air Cont	Slump (Inch)	Conc. Temp, F	Unit WL (PCF)	Field Set #	Design Strength (PSI)
24	B1-2435	721	810	6 50	5.5	4.0	7/0	146.7	1-4	3000
10	B1-2434	940	1015	1050	60	5.0	7C°	146.1	9-8	3000

Supplier: Seville - Both pay, Contractor: SCALAPANDE Inspector: ECAI (MIL)

Weather: Supply Cool Air Temp. 700 Total Yardage Placed: 77

INDOOR POUR

COMPRESSIVE STRENGTH OF CONCRETE TEST CYLINDERS (ASTM C39) (6" D x 12" H)

Field #	Seal #	Date Cast	Date Tested	Age. Days	Cross-Sect. Area, (sq. ia.)	Total Load	Fracture Type	Strength (PSI)	Complies
1	36013	4. 79.98		3					
2	36014			7					
3	36 015			14					
4	36 016			28					
5	36084			3		-			
6	36090			1					
	36091			14					
8	36092	7		28					
					i i				

Conc Conc & Conc & Shear Column

Reported To: DAID HANSEN