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Integrated Systems & Aerostructures Sector
AEW & EW Systems
Northrop Grumman Corporation
South Oyster Bay Road
Bethpage, New York 11714

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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**

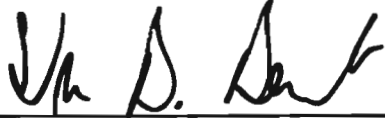
Dear Mr. Kaminski:

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

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

**REMEDICATION AND RESTORATION
OLD ALODINE AREA**

Area of Concern # 3
Plant 3

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JAN 29 1999

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

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.

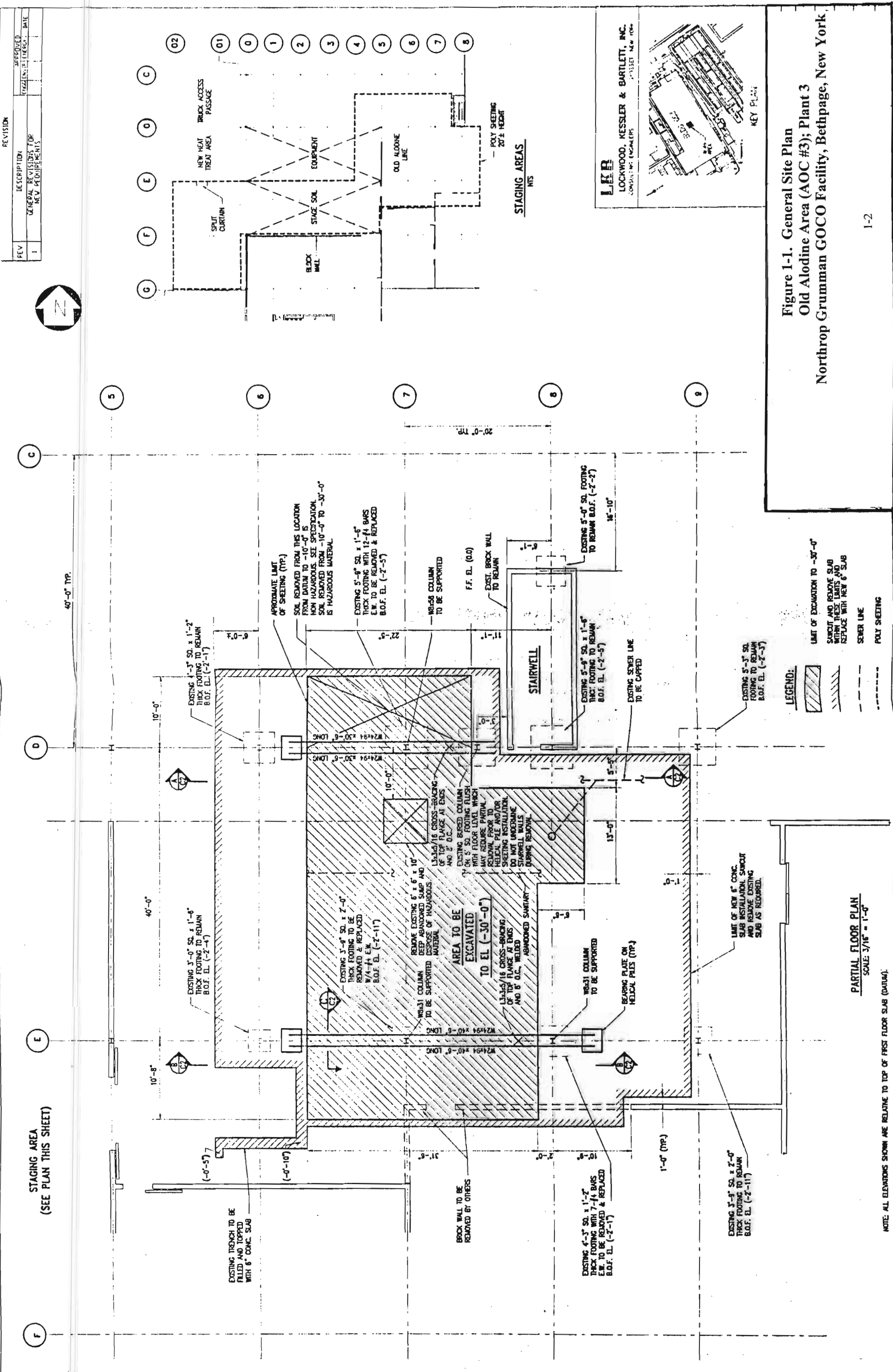
1.0 Introduction

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 than 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.



REV	DESCRIPTION	APPROVED	DATE
1	GENERAL REVISIONS FOR NEW REQUIREMENTS		

LOCKWOOD, KESSLER & BARTLETT, INC.
CONSULTING ENGINEERS
175 WEST NEW YORK

KEY PLAN

Figure 1-1. General Site Plan
Old Alodine Area (AOC #3); Plant 3
Northrop Grumman GOCO Facility, Bethpage, New York

PARTIAL FLOOR PLAN
SCALE: 3/16" = 1'-0"

NOTE: ALL ELEVATIONS SHOWN ARE RELATIVE TO TOP OF FIRST FLOOR SLAB (DATUM).

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 hauling debris	October 3, 1998
Begin Soil Excavation	November 14, 1997
Begin Pile Driving	November 18, 1997
Begin Timber Lagging	November 24, 1997
Begin Needle Beam Supports for Existing Columns	November 26, 1997
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 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

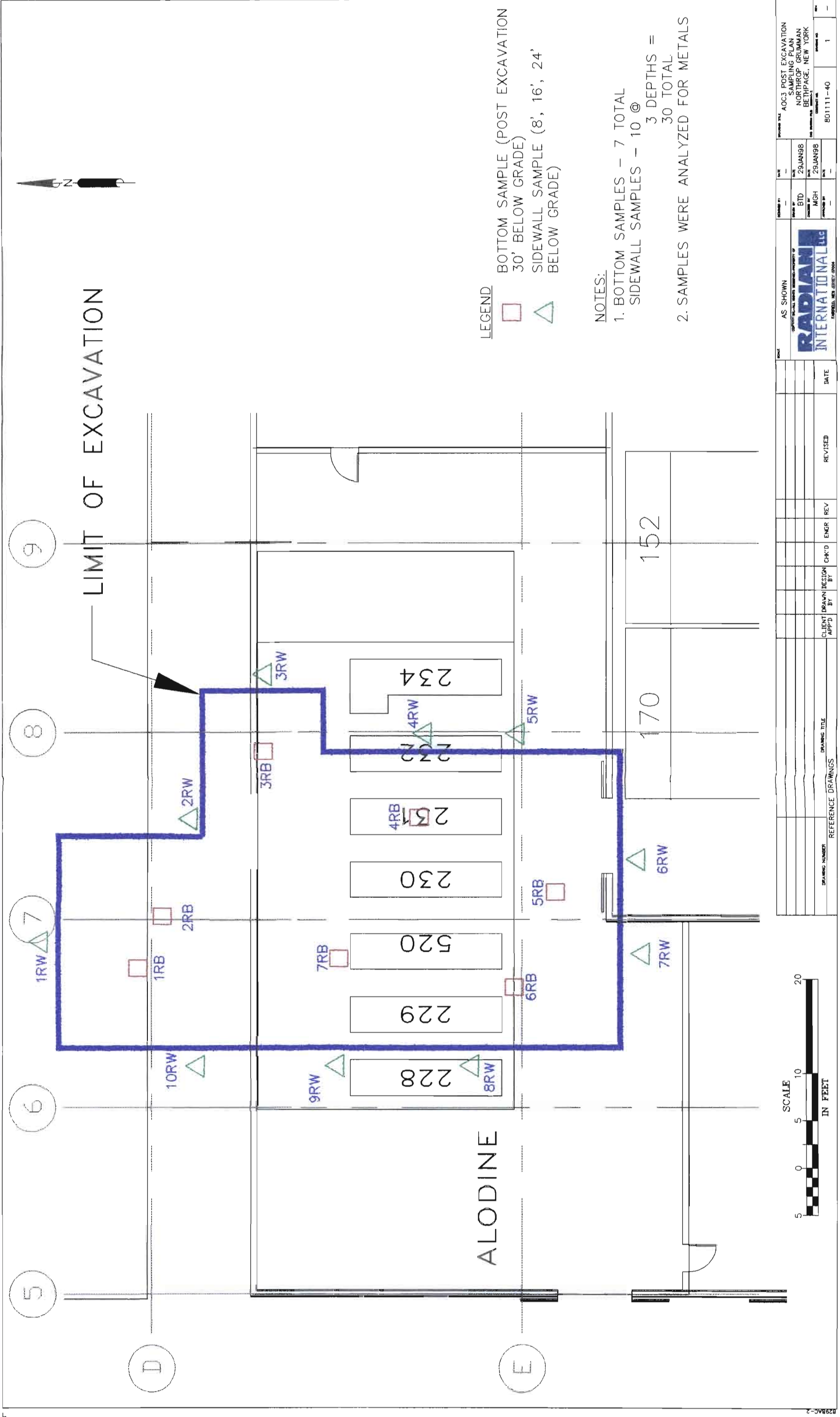
3.1 Sampling Plan

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.



NO.	DATE	BY	REVISION

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NO.	DATE	BY	REVISION

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 measure 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 warranted. A copy of Northrop Grumman's memorandum 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**

Sample ID AOC Depth (Feet BGS) Date Collected	03-03-01RW-1 03 8 12/15/97	03-03-01RW-2 03 16 12/22/97	03-03-01RW-3 03 24 12/22/97	03-03-02RW-1 03 8 12/15/97	03-03-02RW-2 03 16 ----	03-03-02RW-3 03 24 12/22/97	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Metals (mg/kg)								
Antimony	1.0 U	1.0 U	0.98 U	1.1 U	NC	0.99 U	SB	N/A
Arsenic	3.0	1.1	0.92 U	2.7	NC	0.93 U	7.5 or SB	3 - 12
Beryllium	0.21 U	0.20 U	0.20 U	0.22 U	NC	0.20 U	0.16 or SB	0.1 - 1.75
Cadmium	0.21 U	0.43	0.28	0.39	NC	0.55	10 (b)	0.1 - 1.0
Chromium	3.0	114	5.1	7.5	NC	205	50 (b)	1 - 40
Copper	1.6	2.3	3.2	3.6	NC	2.3	25 or SB	1 - 50
Lead	1.8	1.9	2.6	6.1	NC	1.9	SB	200 - 500
Mercury	0.10 U	0.10 U	0.10 U	0.10 U	NC	0.10 U	0.1	0.001 - 0.2
Nickel	1.7	4.3	1.2	2.0	NC	0.91	13 or SB	0.5 - 25
Selenium	0.89 U	0.87 U	0.86 U	0.93 U	NC	0.87 U	2 or SB	0.1 - 3.9
Silver	0.42 U	0.41 U	0.40 U	0.43 U	NC	0.40 U	SB	N/A
Thallium	1.2 U	1.1 U	1.1 U	1.2 U	NC	1.1 U	SB	N/A
Zinc	15.0	7.7	7.4	10.0	NC	6.3	20 or SB	9 - 50
Metals, TCLP (mg/L)								
Chromium	NA	320	NA	NA	NA	711	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	03-03-03RW-1 03 8	03-03-03RW-2 03 16	03-03-03RW-3 03 24	03-03-04RW-1 03 8	03-03-04RW-2 03 16	03-03-04RW-3 03 24	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Depth (Feet BGS) Date Collected	12/15/97	12/17/97	12/22/97	12/11/97	12/16/97	12/22/97		
Metals (mg/kg)								
Antimony	1.1	1.6 U	1.0 U	1.3 U	2.8	0.99 U	SB	N/A
Arsenic	1.6	1.4 U	0.94 U	1.2 U	1.2	0.93 U	7.5 or SB	3 - 12
Beryllium	0.20 U	0.45	0.20 U	0.20 U	0.21 U	0.20 U	0.16 or SB	0.1 - 1.75
Cadmium	8.2	1.8	0.71	0.14	0.3	0.97	10 (b)	0.1 - 1.0
Chromium	82.7	160	64.6	2.2	352	180	50 (b)	1 - 40
Copper	18.3	3.2	2.3	1.4	1.3	4.6	25 or SB	1 - 50
Lead	4.8	1.7	1.6	0.7	1.4	1.9	SB	200 - 500
Mercury	0.10 U	0.12 U	0.10 U	0.10 U	0.10 U	0.10 U	0.1	0.001 - 0.2
Nickel	4.4	1.8	1.2	0.46	0.60	2.6	13 or SB	0.5 - 25
Selenium	1.0	1.2 U	0.87 U	0.98 U	0.89 U	0.87 U	2 or SB	0.1 - 3.9
Silver	0.41 U	0.31	0.41 U	0.20 U	0.41 U	0.41 U	SB	N/A
Thallium	1.1 U	1.4 U	1.1 U	1.2 U	1.2 U	1.1 U	SB	N/A
Zinc	15.7	15.2	6.1	10.5	8.1	13.4	20 or SB	9 - 50
Metals, TCLP (mg/L)								
Chromium	NA	453	NA	NA	1620	387	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	03-03-05RW-1 03 8 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)								
Antimony	1.4 U	2.2	0.99 U	1.3 U	1.4	1.0 U	SB	N/A
Arsenic	1.2 U	1.3	0.93 U	1.2 U	0.92 U	0.94 U	7.5 or SB	3-12
Beryllium	0.20 U	0.21 U	0.20 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	50 (b)	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	1.4	1.0	1.2	SB	200-500
Mercury	0.10 U	0.10 U	0.10 U	0.098 U	0.099 U	0.10 U	0.1	0.001-0.2
Nickel	1.4	0.73	1.1	0.76	0.80	0.86	13 or SB	0.5-25
Selenium	0.99 U	0.90 U	0.87 U	0.98 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	N/A
Thallium	1.2 U	1.2 U	1.1 U	1.2 U	1.1 U	1.1 U	SB	N/A
Zinc	5.8	6.7	5.7	19.8	10.7	5.9	20 or SB	9-50
Metals, TCLP (mg/L)								
Chromium	NA	1.41	NA	NA	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	03-03-07RW-1 03 8	03-03-07RW-2 03 16	03-03-07RW-3 03 24	03-03-08RW-1 03 8	03-03-08RW-2 03 16	03-03-08RW-3 03 24	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Metals (mg/kg)								
Antimony	1.3 U	1.0 U	0.99 U	1.3 U	1.4	0.98 U	SB	N/A
Arsenic	1.2 U	0.94 U	0.93 U	1.2 U	0.96	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	69.8	168	54.6	50 (b)	1 - 40
Copper	2.0	1.0	2.1	4.9	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	0.098 U	0.10 U	0.098 U	0.10 U	0.051 U	0.099 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	0.98 U	0.88 U	0.87 U	0.98 U	0.90 U	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	0.40 U	SB	N/A
Thallium	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	SB	N/A
Zinc	8.9	8.0	5.2	11.4	10.0	6.3	20 or SB	9 - 50
Metals, TCLP (mg/L)								
Chromium	NA	NA	0.510	NA	0.641	NA	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	03-03-09RW-1 03 8	03-03-09RW-2 03 16	03-03-09RW-3 03 24	03-03-10RW-1 03 8	03-03-10RW-2 03 16	03-03-10RW-3 03 24	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Depth (Feet BGS) Date Collected	12/15/97	12/17/97	12/23/97	12/15/97	12/17/97	12/23/97		
Metals (mg/kg)								
Antimony	0.99 U	1.4 U	1.0 U	1.2	1.4 U	0.99 U	SB	N/A
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	50 (b)	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	1.7	SB	200 - 500
Mercury	0.099 U	0.099 U	0.10 U	0.10 U	0.10 U	0.10 U	0.1	0.001 - 0.2
Nickel	1.9	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	SB	N/A
Thallium	1.1 U	1.2 U	1.1 U	1.1 U	1.2 U	1.1 U	SB	N/A
Zinc	8.1	8.7	6.4	9.8	7.0	8.4	20 or SB	9 - 50
Metals, TCLP (mg/L)								
Chromium	NA	0.662	0.363	NA	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	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)						
Antimony	0.95	0.86	0.23	0.06 U	SB	N/A
Arsenic	1.2	1.7	1.4	1.0	7.5 or SB	3 - 12
Beryllium	0.12	0.18	0.14	0.14	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	5.8	22.2	17.8	87.9	50 (b)	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	N/A
Thallium	0.43	0.24	0.15	0.31	SB	N/A
Zinc	5.7	13.2	13.5	9.8	20 or SB	9 - 50
Metals, TCLP (mg/L)						
Chromium	0.017	0.057	0.049	0.181	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	03-03-04RB-1 (DUF) 03 30 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	N/A
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	50 (b)	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	0.099 U	0.097 U	0.099 U	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	0.079 U	1.0 U	1.0 U	2 or SB	0.1 - 3.9
Silver	0.10	0.04	0.18	0.06	SB	N/A
Thallium	0.06	0.02	0.06 U	0.06 U	SB	N/A
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	N/A

**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 AOC	03-03-02RW-3 03	03-03-04RW-2 03	03-03-04RW-3 03	03-03-05RB-2 03	03-03-05RW-2 03	03-03-07RB-2 03	NYSDEC Soil Cleanup Objective (a)	Eastern USA (SB)
Depth (Feet BGS) Date Collected	Sidewall (24) 12/23/97	Sidewall (16) 12/16/97	Sidewall (24) 12/23/97	Bottom (30) 12/31/97	Sidewall (16) 12/16/97	Bottom (30) 12/31/97		
Metals (mg/kg)								
Chromium (Total)	338	369	169	151	394	120	50 (b)	1 - 40
Chromium (Hexavalent)	45.3	139	52.9	33.1	50.5	34.4	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 Cemetery. 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 warranted. 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.

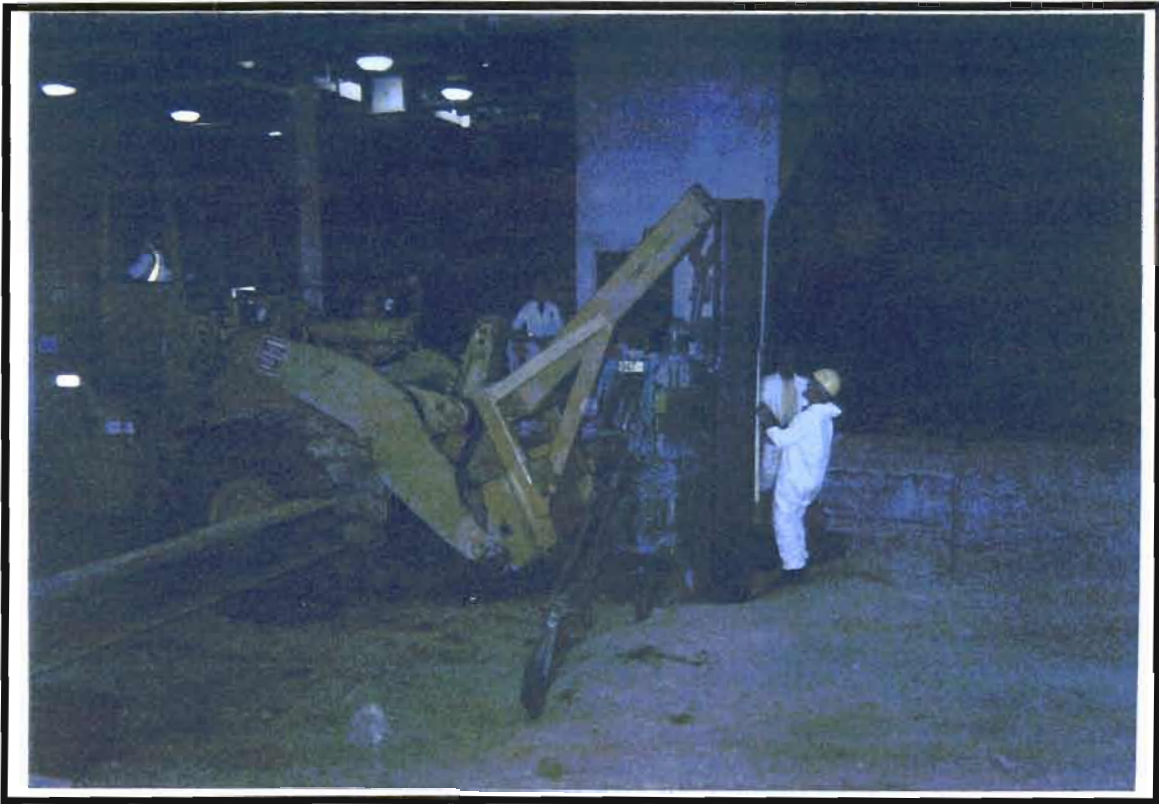


Photo 1: Installation of steel "H" piles with Vibro-Plate pile driving equipment.

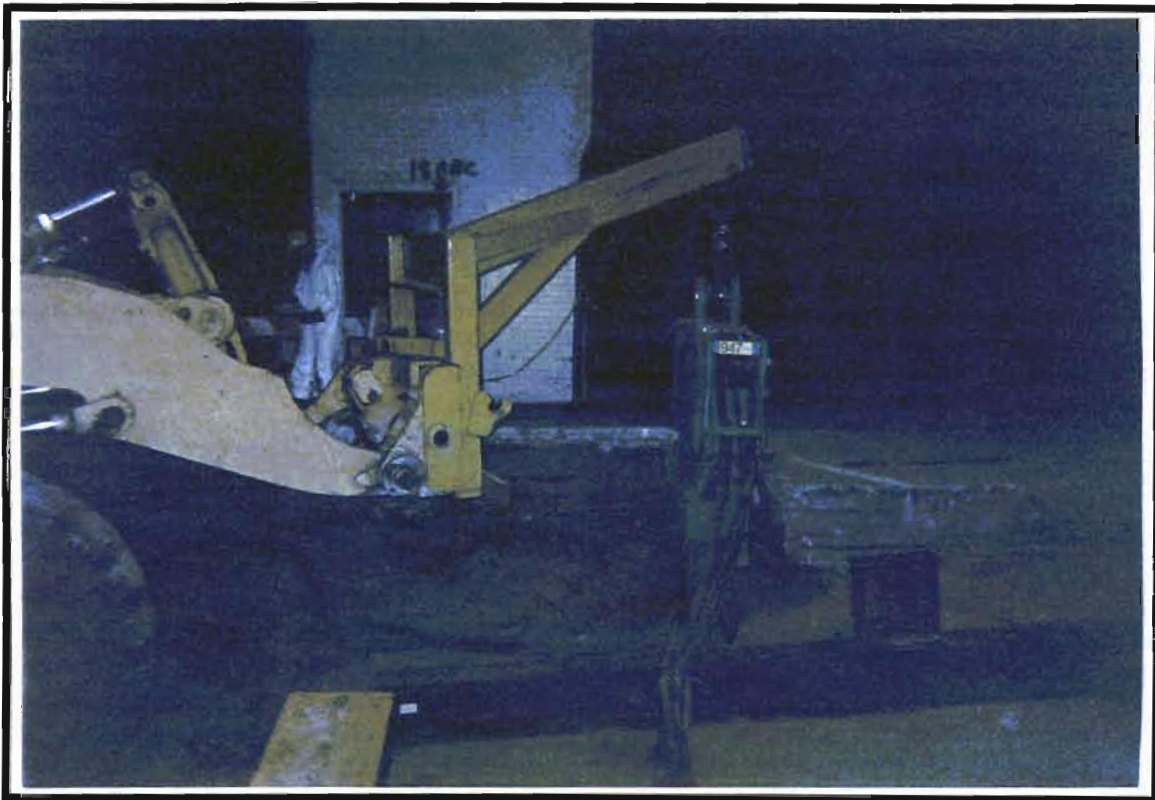


Photo 2: Installation of steel "H" piles with Vibro-Plate pile driving equipment.



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.

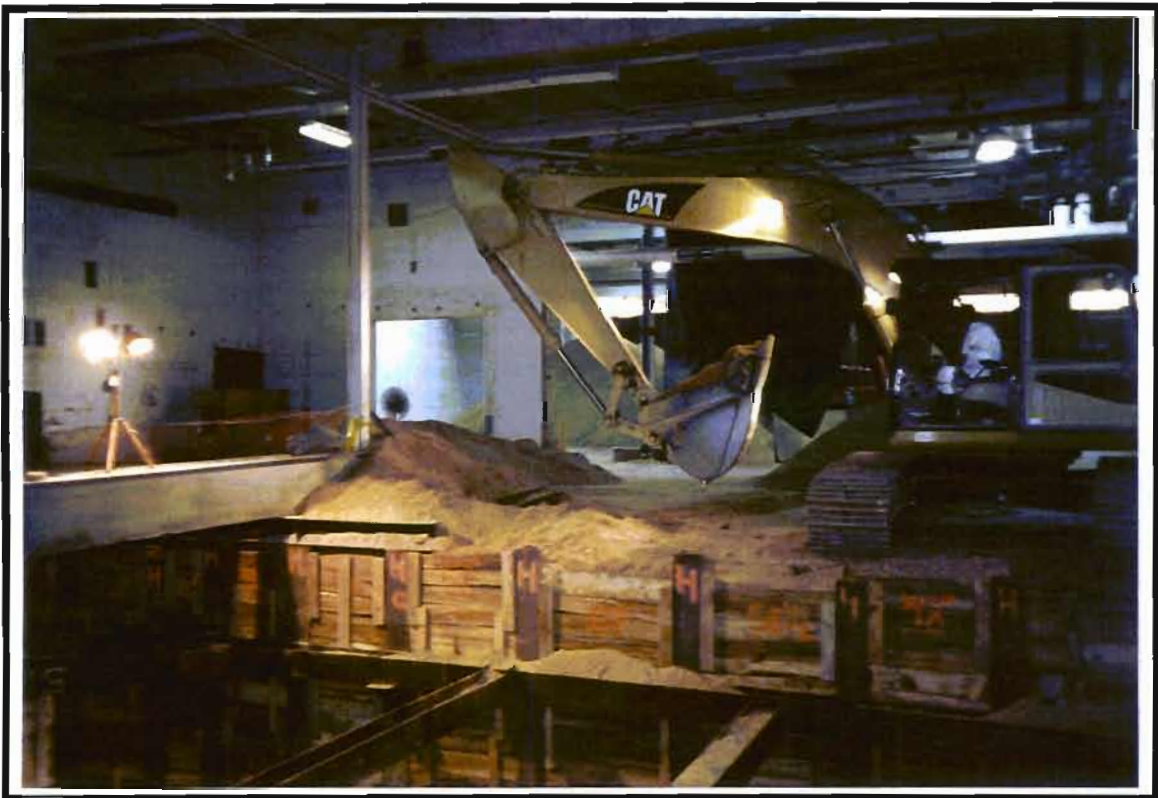


Photo 8: Hydraulic Excavator removing soil from excavation pit.



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

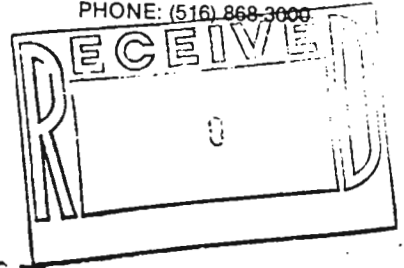


PETER **SCALAMANDRE** / **CONCRETE**

& SONS, INC. EST. 1923 / **CONTRACTORS**

157 ALBANY AVENUE
FREEPORT, N.Y. 11520

PHONE: (516) 868-3000



DATE: 11-19-97

TO:

Radian International LLC
710 Route 46 East, Suite 401
Fairfield, New Jersey 07004
973-575-0095

RE: Chris Lynch

SCALAMANDRE JOB # Grumman Aerospace & Etc

Att. Ken Kaufman.

- FOR APPROVAL
- FOR FINAL APPROVAL
- APPROVED
- APPROVED AS NOTED
- FOR CORRECTION
- FOR YOUR FILES
- FOR YOUR INFORMATION
- FOR ESTIMATING
- AT YOUR REQUEST
- SEE LETTER

GENTLEMEN:

WE ARE SENDING YOU

ITEMS AS ENUMERATED BELOW:

KINDLY RETURN _____ COPIES OF EACH FOR OUR FILE/OR DISTRIBUTION

NO. COPIES	DRAWING NUMBER	DWG DATE	TITLE	REMARKS
2		11/18/97	Calculations	
2		11/7/97	Plans	

SENT BY: FED-EXP ✓

copy to Ralph

MAIL
MESSENGER
SEPARATE COVER

BY: Sandra

**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**

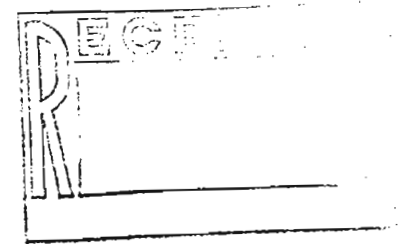
**REVISED [1] DESIGN COMPUTATIONS
FOR
TEMPORARY SHEETING FOR SOIL REMOVAL
INCLUDING
UNDERPINNING OF EXISTING COLUMNS**

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



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10. New York City Department of Environmental Protection, Minimum Loading Diagram for Watertight Sheet piling Design, NYCDEP, New York, New York, 1993.

PROPOSED SEQUENCE OF CONSTRUCTION

1. DRIVE STEEL SOLDIER 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 INSTALL 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.
10. CONTINUE TO EXCAVATE AND INSTALL TIMBER LAGGING TO SUBGRADE, APPROXIMATELY 30'-0" BELOW EXISTING GRADE.
11. 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.

Stage 1

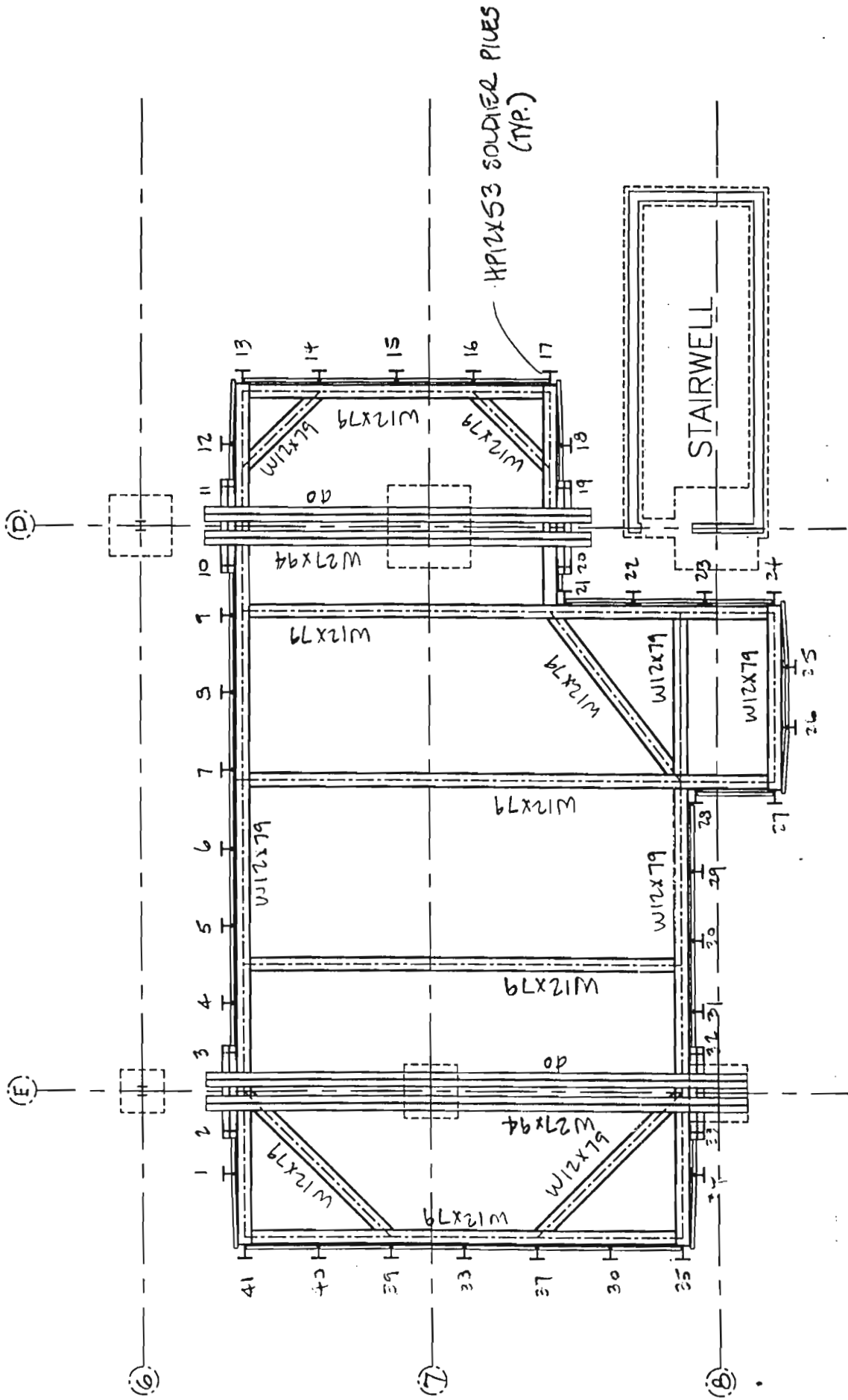
Stage 2

measure elastic
settlement; re-jack
& shim as necessary
4' as per
specs

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") 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.

A572-50
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 (A325) HIGH STRENGTH BOLTS AND SHALL BE FURNISHED IN THE DIAMETER INDICATED.



PLAN

+

DESIGN CRITERIA

SOILS

$\gamma_{soil} = 40 \text{ PCF}$ (AS PER CONTRACT DOC.)

$\gamma = 120 \text{ PCF}$

$\phi = 30^\circ$

$K_a = 0.333$

$K_p = 3,000$

STEEL

A36 * A572-50 $\frac{50}{36} = 1.39$ increase

TIMBER

MIXED OAK ($f_b = 1200 \text{ PSI}$) **

SURCHARGE

250 PSF

COL. FTG. LOADS

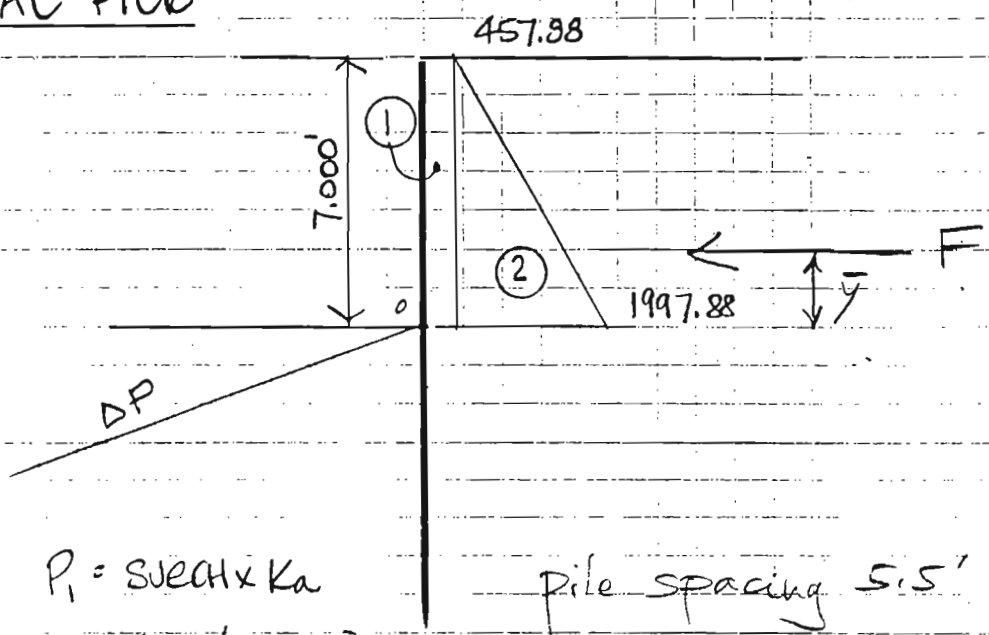
2 TSF

* ALLOWABLE STRESSES INCREASED 20% FOR TEMP. CONDITIONS

** ALLOWABLE STRESSES INCREASED 50% FOR TEMP. CONDITIONS.

+

STAGE I
TYPICAL PILE



$$P_1 = SUECH \times K_a$$

$$= 250(0.333)$$

$$= 83.25 \text{ PSF} \quad \checkmark$$

$$P_2 = 40H$$

$$= 40(7)$$

$$= 280 \text{ PSF} \quad \checkmark$$

$$\Sigma P = 363.25 \text{ PSF} \quad l_0$$

$$\textcircled{1} (83.25)(7)(5.5) = 3205.13 \quad 3.5$$

$$\textcircled{2} (280)(7)(1/2)(5.5) = 5390.00 \quad 2.333$$

$$\Sigma F = 8595.13 \text{ lbs/pile}$$

$$\Sigma M_0 = (3205.13)(3.5) + (5390.0)(2.333) = 23,772.81 \text{ FT-LBS/pile}$$

$$\bar{y} = \frac{\Sigma M}{\Sigma F} = 2.768 \text{ FT}$$

+

STAGE 1

TYPICAL PILE
PENETRATION = X

$$0 = X^4 - \frac{8ZF}{\Delta P} X^2 - \frac{12ZF}{\Delta P} X - \left[\frac{2ZF}{\Delta P} \right]^2$$

$$0 = X^4 - \frac{8(8595.13)}{1040.4} X^2 - \frac{12(23,712.81)}{1040.4} X - \left[\frac{2(8595.13)}{1040.4} \right]^2$$

$$0 = X^4 - 66.091 X^2 - 274.43 X - 273.00$$

below excav level
level

$$X = 9.839 \text{ FT} < 23 \text{ FT } @$$

BENDING IN SOLDIER PILE

$$BM = \text{MAX @ } z = 0$$

$$8595.13 = 1040.4 z^2 / 2$$

$$\Delta P = \gamma(3k_p - k_a) = 1040.4 \text{ psf/ft}$$

$$z = 4.065 \text{ FT below excav level}$$

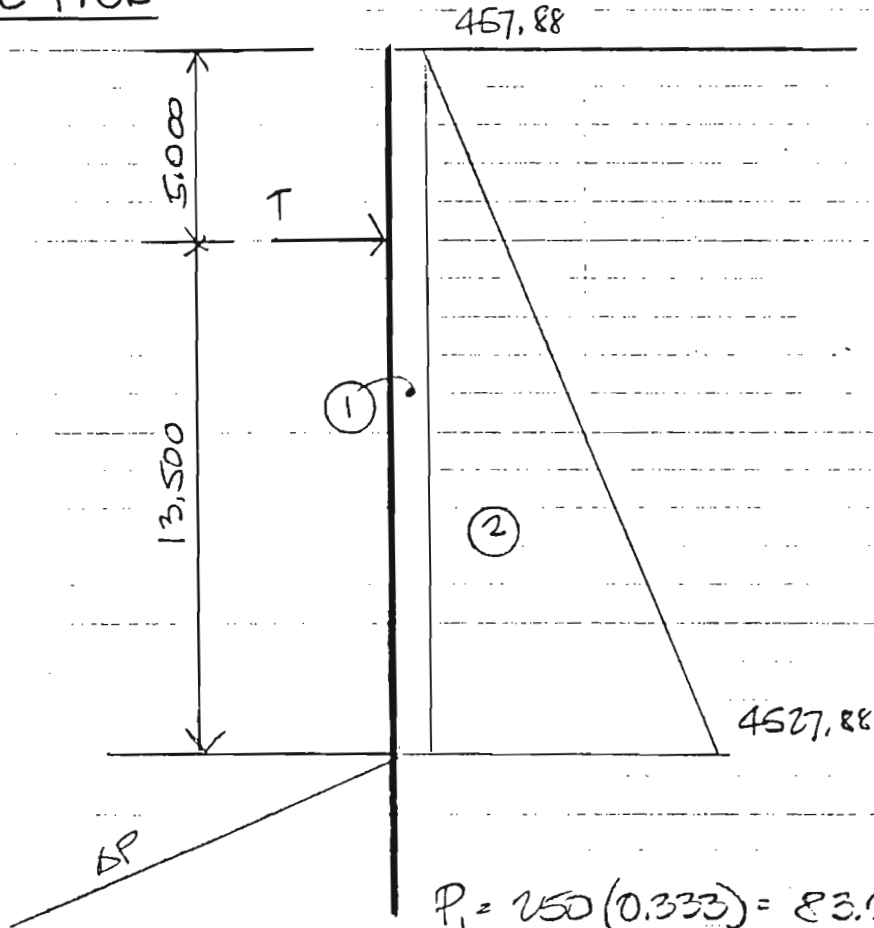
$$BM = 8595.13(4.065 + 2.768) - 1040.4(4.065)^3 / 6$$

$$= \underline{47,081.5 \text{ FT-LBS}} / \text{pile}$$

+

STAGE 2

TYPICAL PILE



$$P_1 = 250(0.333) = 83.25 \text{ PSF} \quad \checkmark$$

$$P_2 = 40(18.5) = 740 \text{ PSF} \quad \checkmark$$

$$\Sigma P = 823.25 \text{ PSF} \quad l_T$$

$$\textcircled{1} (83.25)(18.5)(5.5) = 8470.69 \text{ lbs/pile} \quad 4.125$$

$$\textcircled{2} (740)(18.5)(1/2)(5.5) = 37,647.50 \text{ lbs/pile} \quad 7.333$$

$$\Sigma F = 46,118.19 \text{ lbs/pile}$$

+

STAGE 2

$$\sum M_T = 0$$

$$0 = 8470.69(4.75) + 37647.50(7.333) \\ - 1040.4x^2/2(13.5 + 43x)$$

$$0 = 346.8x^3 + 7022.7x^2 - 312,069.55$$

below excavation level

$$x = 5.8695 \text{ FT} < 11.50 \text{ FT} @$$

$$P_p = 1040.4(5.8695)^2/2 = 17,921.43 \text{ LBS}$$

$$T = 46118.19 - 17,921.43$$

$$= \underline{28,196.8 \text{ LBS} / 5.5 \text{ FT}}$$

BENDING IN SOLDIER PILE

$$BM = \text{MAX} @ \sum V = 0$$

$$28,196.8 = (83.25)(5.5)z + (40)(5.5)(z)^2/2$$

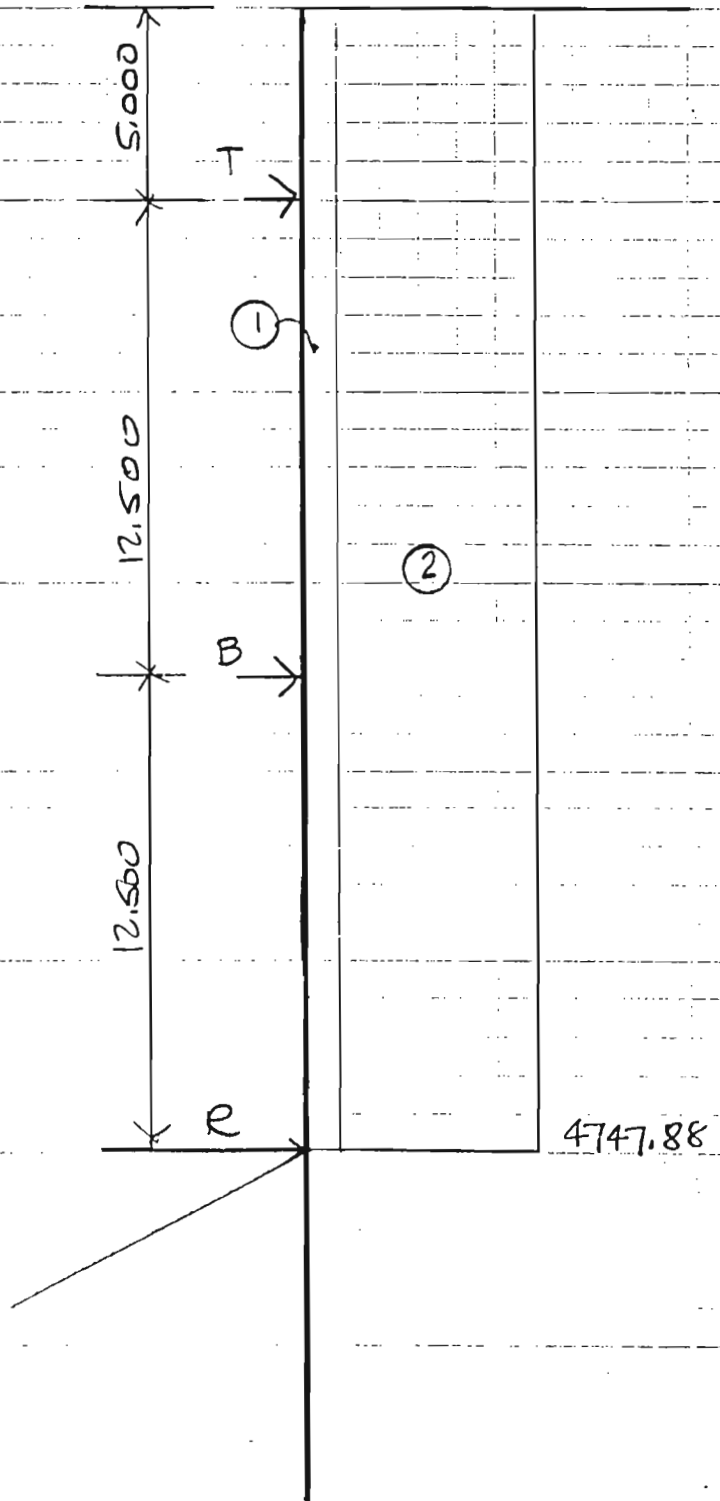
$$z = 15.612 \text{ FT from top}$$

$$BM = 28,196.8(15.612 - 5.0) - (83.25)(5.5)(15.612)^2/2 \\ - (40)(5.5)(15.612)^3/6$$

$$= \underline{103,901.06 \text{ FT-LBS} / \text{pile}}$$

+

STAGE 3
(TYPICAL PILE)



+

STAGE 3 (TYPICAL PILE)

$$P_1 = 250(0.333) = 83.25 \text{ PSF} \checkmark$$

$$P_2 = 0.658 \text{ knt} = 0.65(120)(0.333)(30) = 780 \text{ PSF} \checkmark$$

$$\Sigma P = 863.25 \text{ PSF} \checkmark$$

ASSUME HINGES @ 'B' AND @ 'R'

$$\Sigma M_B \uparrow = 0$$

$$0 = (863.25)(5.5)(17.5)^2/2 - T(12.5)$$

$$T = 58,161.5 \text{ UBS} / 5.5 \text{ FT}$$

$$B \uparrow = (863.25)(5.5)(17.5) - T = 24,926.34 \text{ UBS} / 5.5 \text{ FT}$$

$$B \downarrow = 1/2(863.25)(5.5)(17.5) = 29,674.22 \text{ UBS} / 5.5 \text{ FT}$$

$$R = 29,674.22 \text{ UBS} / 5.5 \text{ FT}$$

$$B = 54,600.56 \text{ UBS} / 5.5 \text{ FT}$$

PENETRATION

$$D = \sqrt{\frac{2(29,674.22)}{1040.4}}$$

$$= 7.553 \text{ FT}$$

USE 8'-0" ✓

BENDING IN SOLDIER PILE

$$BM = wL^2/8 = (863.25)(5.5)(12.5)^2/8$$

$$= \frac{92731.93 \text{ FT-LBS}}{\text{pile}}$$

$$S = \frac{M_{\max}}{F_b} = \frac{103.9}{33} \times 12 = 37.8 \text{ in}^2$$

HP12 X 52 has
66.8 in²

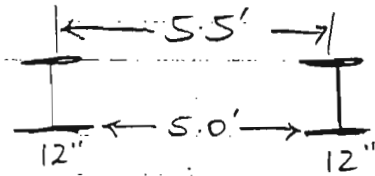
TIMBER LAGGING

$$\text{MAX } P = 863.25 \text{ PSF}$$

$$\text{BM} = wL^2/8$$

$$= 863.25 (5.0)^2/8$$

$$= 2697.7 \text{ FT-LBS}$$



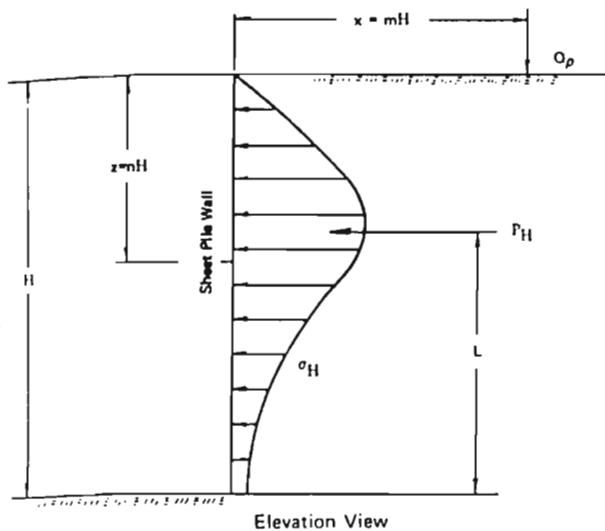
USE 3" (FULL) TIMBERS $S_{xx} = 18 \text{ IN}^3$ ✓

$$f_b = \frac{2697.7 \times 12}{18} = 1798.4 \text{ PSI} < 1800 \text{ PSI} \text{ (ok)}$$

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

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

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



$$\sigma_H = 0.28 \frac{Q_p}{H^2} \cdot \frac{n^2}{(0.16 + n^2)^3} \quad (\text{for } m \leq 0.4)$$

$$P_H = 0.78 \frac{Q_p}{H} \quad (\text{see Fig. 11})$$

$$\sigma_H = 1.77 \frac{Q_p}{H^2} \cdot \frac{m^2 n^2}{(m^2 + n^2)^3} \quad (\text{for } m > 0.4)$$

$$P_H = 0.45 \frac{Q_p}{H} \quad (\text{see Fig. 11})$$

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).

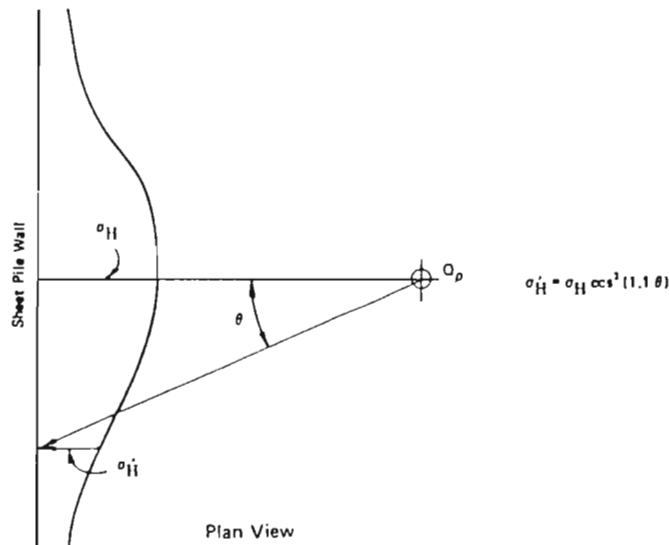
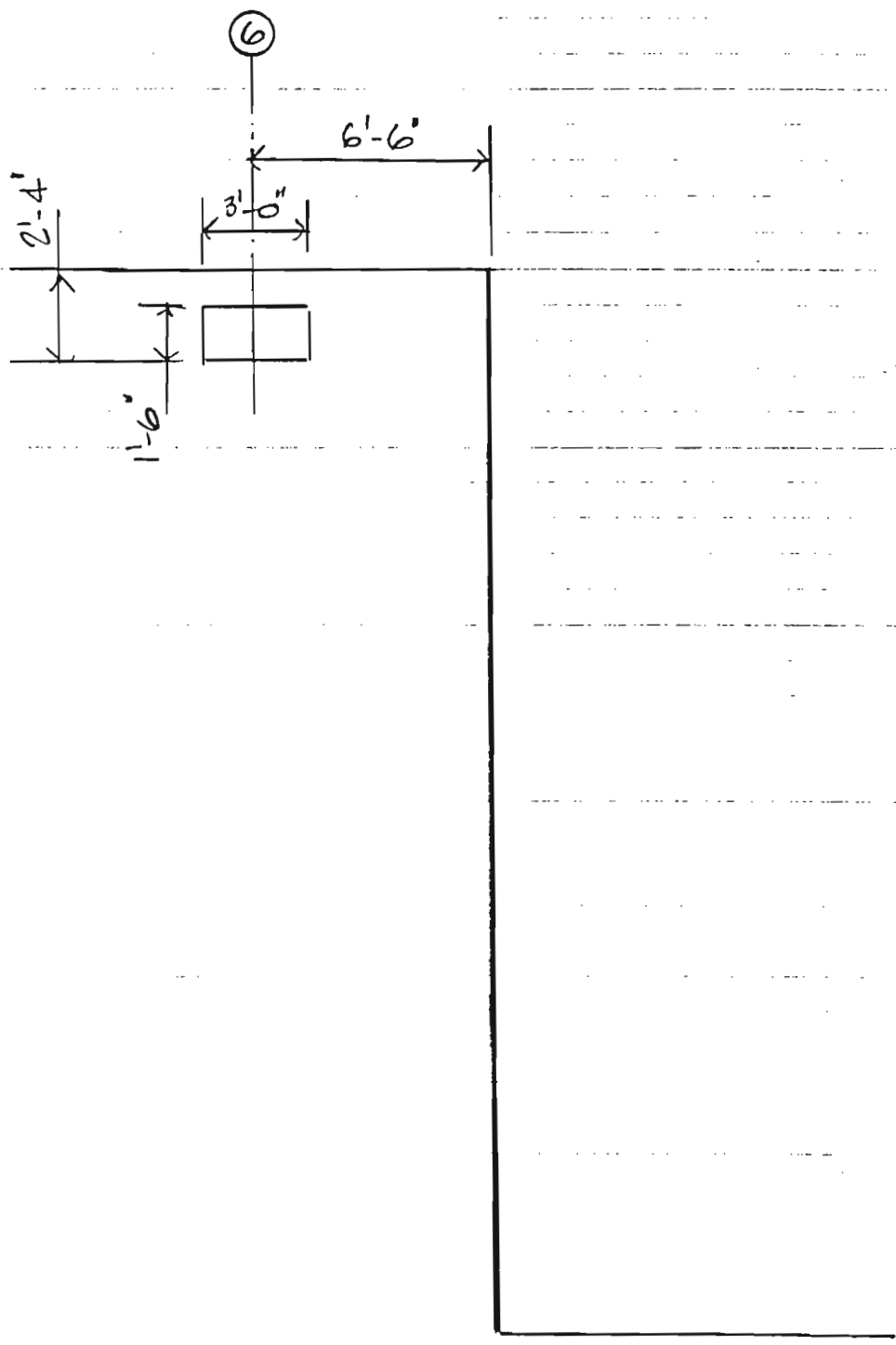


Fig. 8(b) — Lateral pressure due to point load (Boussinesq equation modified by experiment) (after Terzaghi²²)

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.

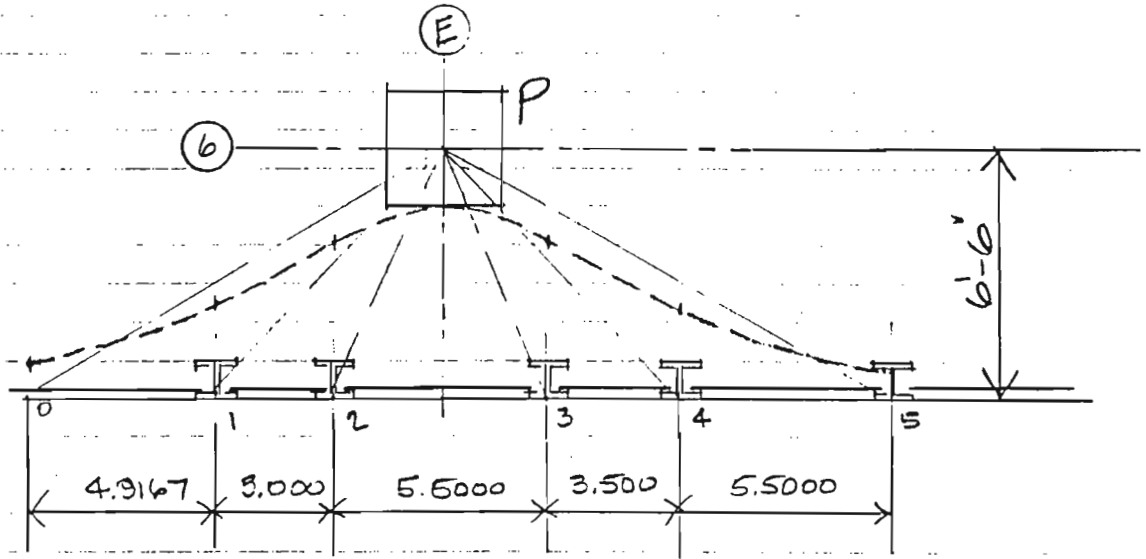
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COL LINE E (SURCHARGE)



+

DISTRIBUTION OF COLUMN LOAD (LATERAL)



$$\sigma_0 = \cos^2(1.1\theta_0) = 0.186$$

$$\sigma_1 = \cos^2(1.1\theta_1) = 0.489$$

$$\sigma_2 = \cos^2(1.1\theta_2) = 0.818$$

$$\sigma_3 = \cos^2(1.1\theta_3) = 0.819$$

$$\sigma_4 = \cos^2(1.1\theta_4) = 0.443$$

$$\sigma_5 = \cos^2(1.1\theta_5) = 0.151$$

$$P = (3 \times 3)(4) = 36^k \quad \checkmark$$

LATERAL PRESSURES DUE TO
 COLUMN LOAD E6
 STAGES 1 & 2

Q 36000
 X 6.5
 H 18.5

Z	P(m \leq 0.4)	P(m $>$ 0.4)	m	n
0	0.00	0 00	0.351	0.000
1	19.90	33 28	0.351	0.054
2	68.02	108 85	0.351	0.108
3	119.78	180 00	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

Q 36000
 X 6.5
 H 30

Z	P(m ≤ 0.4)	P(m > 0.4)	m	n
0	0.00	0.00	0.217	0.000
1	2.98	33.28	0.217	0.033
2	11.19	108.85	0.217	0.067
3	22.80	180.00	0.217	0.100
4	35.44	217.94	0.217	0.133
5	46.99	221.29	0.217	0.167
6	56.00	202.28	0.217	0.200
7	61.83	173.62	0.217	0.233
8	64.52	143.65	0.217	0.267
9	64.51	116.47	0.217	0.300
10	62.45	93.53	0.217	0.333
11	58.99	74.87	0.217	0.367
12	54.69	60.00	0.217	0.400
13	50.00	48.26	0.217	0.433
14	45.24	39.02	0.217	0.467
15	40.63	31.73	0.217	0.500
16	36.29	25.98	0.217	0.533
17	32.30	21.41	0.217	0.567
18	28.68	17.75	0.217	0.600
19	25.43	14.82	0.217	0.633
20	22.54	12.45	0.217	0.667
21	19.98	10.52	0.217	0.700
22	17.73	8.94	0.217	0.733
23	15.74	7.64	0.217	0.767
24	14.00	6.56	0.217	0.800
25	12.47	5.66	0.217	0.833
26	11.12	4.91	0.217	0.867
27	9.94	4.28	0.217	0.900
28	8.90	3.74	0.217	0.933
29	7.98	3.29	0.217	0.967
30	7.18	2.90	0.217	1.000

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 1

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .489	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
0	83.25	0.00	0.00	0.00	3.96	329.50
1	83.25	40.00	19.90	9.73	3.96	526.34
2	83.25	80.00	68.02	33.26	3.96	777.79
3	83.25	120.00	119.78	58.57	3.96	1036.30
4	83.25	160.00	155.80	76.18	3.96	1264.32
5	83.25	200.00	169.98	83.12	3.96	1450.09
6	83.25	240.00	166.12	81.23	3.96	1600.94
7	83.25	280.00	151.32	74.00	3.96	1730.63
8	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
10	83.25	400.00	93.07	45.51	3.96	2092.84
11	83.25	440.00	76.88	37.60	3.96	2219.83
12	83.25	480.00	63.27	30.94	3.96	2351.80
13	83.25	520.00	52.04	25.45	3.96	2488.39
14	83.25	560.00	42.88	20.97	3.96	2628.98
15	83.25	600.00	35.45	17.34	3.96	2772.92
16	83.25	640.00	29.43	14.39	3.96	2919.58
17	83.25	680.00	24.54	12.00	3.96	3068.45
18	83.25	720.00	20.57	10.06	3.96	3219.08
19	83.25	760.00	17.33	8.47	3.96	3371.12

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 2

H	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	2882.90
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
17	83.25	680.00	24.54	20.08	4.25	3329.14
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

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 3

H	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	4.50	374.63
1	83.25	40.00	19.90	16.28	4.50	627.87
2	83.25	80.00	68.02	55.64	4.50	985.00
3	83.25	120.00	119.78	97.98	4.50	1355.55
4	83.25	160.00	155.80	127.44	4.50	1668.12
5	83.25	200.00	169.98	139.04	4.50	1900.31
6	83.25	240.00	166.12	135.89	4.50	2066.11
7	83.25	280.00	151.32	123.78	4.50	2191.65
8	83.25	320.00	131.82	107.83	4.50	2299.85
9	83.25	360.00	111.68	91.35	4.50	2405.72
10	83.25	400.00	93.07	76.13	4.50	2517.23
11	83.25	440.00	76.88	62.89	4.50	2637.63
12	83.25	480.00	63.27	51.75	4.50	2767.51
13	83.25	520.00	52.04	42.57	4.50	2906.19
14	83.25	560.00	42.88	35.08	4.50	3052.48
15	83.25	600.00	35.45	29.00	4.50	3205.12
16	83.25	640.00	29.43	24.07	4.50	3362.95
17	83.25	680.00	24.54	20.08	4.50	3524.97
18	83.25	720.00	20.57	16.83	4.50	3690.35
19	83.25	760.00	17.33	14.18	4.50	3858.41

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 4

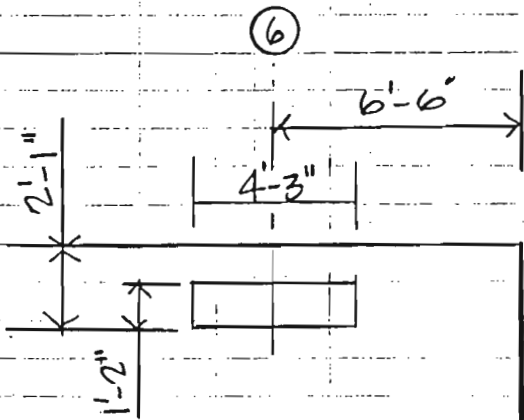
H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .443	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
0	83.25	0.00	0.00	0.00	4.50	374.63
1	83.25	40.00	19.90	8.82	4.50	594.30
2	83.25	80.00	68.02	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	83.25	480.00	63.27	28.03	4.50	2660.75
13	83.25	520.00	52.04	23.05	4.50	2818.37
14	83.25	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	83.25	720.00	20.57	9.11	4.50	3655.63
19	83.25	760.00	17.33	7.68	4.50	3829.17

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 5

H	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	40.00	19.90	3.00	5.50	694.40
2	83.25	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	83.25	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	280.00	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	83.25	400.00	93.07	14.05	5.50	2735.17
11	83.25	440.00	76.88	11.61	5.50	2941.73
12	83.25	480.00	63.27	9.55	5.50	3150.42
13	83.25	520.00	52.04	7.86	5.50	3361.09
14	83.25	560.00	42.88	6.48	5.50	3573.49
15	83.25	600.00	35.45	5.35	5.50	3787.32
16	83.25	640.00	29.43	4.44	5.50	4002.32
17	83.25	680.00	24.54	3.71	5.50	4218.26
18	83.25	720.00	20.57	3.11	5.50	4434.96
19	83.25	760.00	17.33	2.62	5.50	4652.27

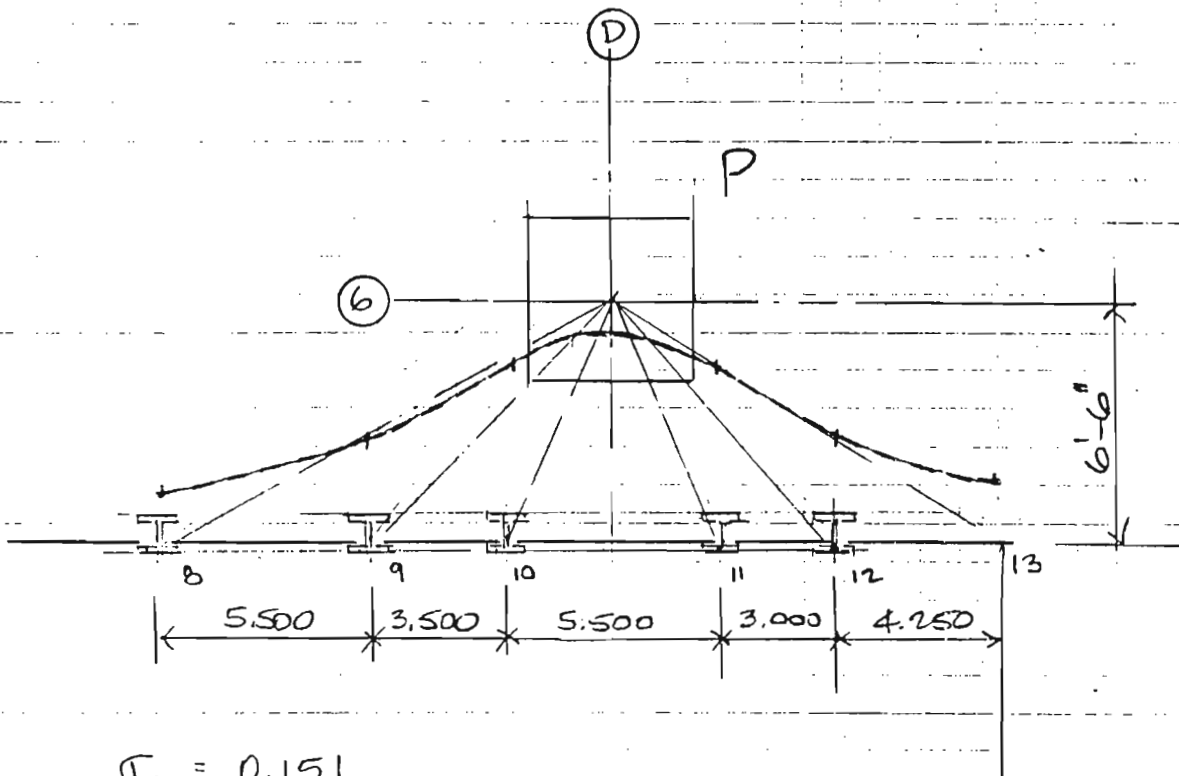
+

COL. LINE D (SURCHARGE)



+

DISTRIBUTION OF COLUMN LOAD (LATERAL)



$$\sigma_8 = 0.151$$

$$\sigma_9 = 0.443$$

$$\sigma_{10} = 0.818$$

$$\sigma_{11} = 0.818$$

$$\sigma_{12} = 0.489$$

$$\sigma_{13} = 0.211$$

$$P = (4.25 \times 4.25) (4) = 72.25^k \checkmark$$

LATERAL PRESSURES DUE TO
 COLUMN LOAD D6
 STAGES 1 & 2

Q 72250
 X 6.5
 H 18.5

Z	$P(m \leq 0.4)$	$P(m > 0.4)$	m	n
0	0.00	0.00	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	288.29	0.351	0.432
9	224.13	233.76	0.351	0.486
10	186.79	187.71	0.351	0.541
11	154.30	150.27	0.351	0.595
12	126.97	120.42	0.351	0.649
13	104.44	96.86	0.351	0.703
14	86.06	78.31	0.351	0.757
15	71.15	63.69	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 72250
 X 6.5
 H 30

Z	P(m ≤ 0.4)	P(m > 0.4)	m	n
0	0.00	0.00	0.217	0.000
1	5.97	66.79	0.217	0.033
2	22.47	218.46	0.217	0.067
3	45.75	361.24	0.217	0.100
4	71.12	437.39	0.217	0.133
5	94.30	444.12	0.217	0.167
6	112.39	405.96	0.217	0.200
7	124.10	348.45	0.217	0.233
8	129.49	288.29	0.217	0.267
9	129.47	233.76	0.217	0.300
10	125.33	187.71	0.217	0.333
11	118.38	150.27	0.217	0.367
12	109.75	120.42	0.217	0.400
13	100.34	96.86	0.217	0.433
14	90.79	78.31	0.217	0.467
15	81.53	63.69	0.217	0.500
16	72.83	52.14	0.217	0.533
17	64.81	42.96	0.217	0.567
18	57.55	35.63	0.217	0.600
19	51.04	29.75	0.217	0.633
20	45.24	24.99	0.217	0.667
21	40.11	21.11	0.217	0.700
22	35.58	17.94	0.217	0.733
23	31.60	15.33	0.217	0.767
24	28.10	13.17	0.217	0.800
25	25.02	11.37	0.217	0.833
26	22.32	9.86	0.217	0.867
27	19.95	8.59	0.217	0.900
28	17.86	7.51	0.217	0.933
29	16.02	6.59	0.217	0.967
30	14.40	5.81	0.217	1.000

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 8

H	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	40.00	39.94	6.03	5.50	711.05
2	83.25	80.00	136.51	20.61	5.50	1011.25
3	83.25	120.00	240.40	36.30	5.50	1317.53
4	83.25	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	5.50	2054.76
7	83.25	280.00	303.70	45.86	5.50	2250.10
8	83.25	320.00	264.55	39.95	5.50	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
17	83.25	680.00	49.26	7.44	5.50	4238.79
18	83.25	720.00	41.28	6.23	5.50	4452.16
19	83.25	760.00	34.78	5.25	5.50	4666.76

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 9

H	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

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 10

H	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	4.50	374.63
1	83.25	40.00	39.94	32.67	4.50	701.64
2	83.25	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	83.25	560.00	86.06	70.40	4.50	3211.41
15	83.25	600.00	71.15	58.20	4.50	3336.53
16	83.25	640.00	59.06	48.31	4.50	3472.02
17	83.25	680.00	49.26	40.29	4.50	3615.95
18	83.25	720.00	41.28	33.77	4.50	3766.58
19	83.25	760.00	34.78	28.45	4.50	3922.65

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 11

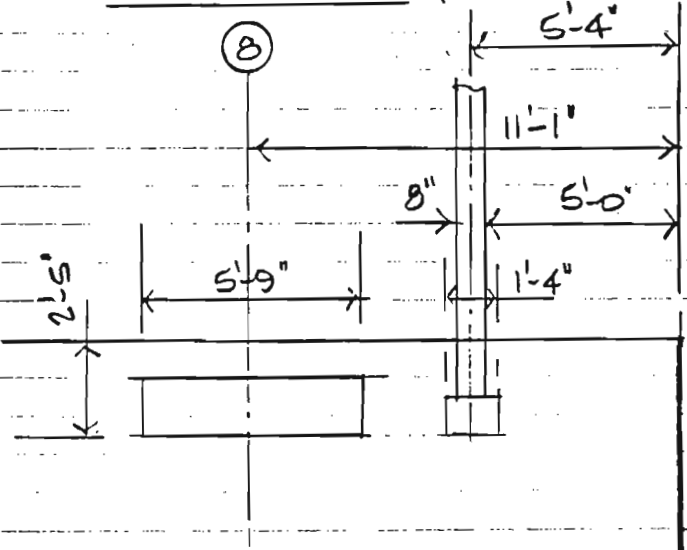
H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .818	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
0	83.25	0.00	0.00	0.00	4.25	353.81
1	83.25	40.00	39.94	32.67	4.25	662.66
2	83.25	80.00	136.51	111.67	4.25	1168.39
3	83.25	120.00	240.40	196.65	4.25	1699.56
4	83.25	160.00	312.68	255.77	4.25	2120.84
5	83.25	200.00	341.13	279.04	4.25	2389.75
6	83.25	240.00	333.39	272.71	4.25	2532.84
7	83.25	280.00	303.70	248.43	4.25	2599.63
8	83.25	320.00	264.55	216.40	4.25	2633.52
9	83.25	360.00	224.13	183.34	4.25	2663.00
10	83.25	400.00	186.79	152.79	4.25	2703.19
11	83.25	440.00	154.30	126.22	4.25	2760.24
12	83.25	480.00	126.97	103.86	4.25	2835.22
13	83.25	520.00	104.44	85.43	4.25	2926.90
14	83.25	560.00	86.06	70.40	4.25	3033.00
15	83.25	600.00	71.15	58.20	4.25	3151.17
16	83.25	640.00	59.06	48.31	4.25	3279.13
17	83.25	680.00	49.26	40.29	4.25	3415.06
18	83.25	720.00	41.28	33.77	4.25	3557.32
19	83.25	760.00	34.78	28.45	4.25	3704.73

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 12

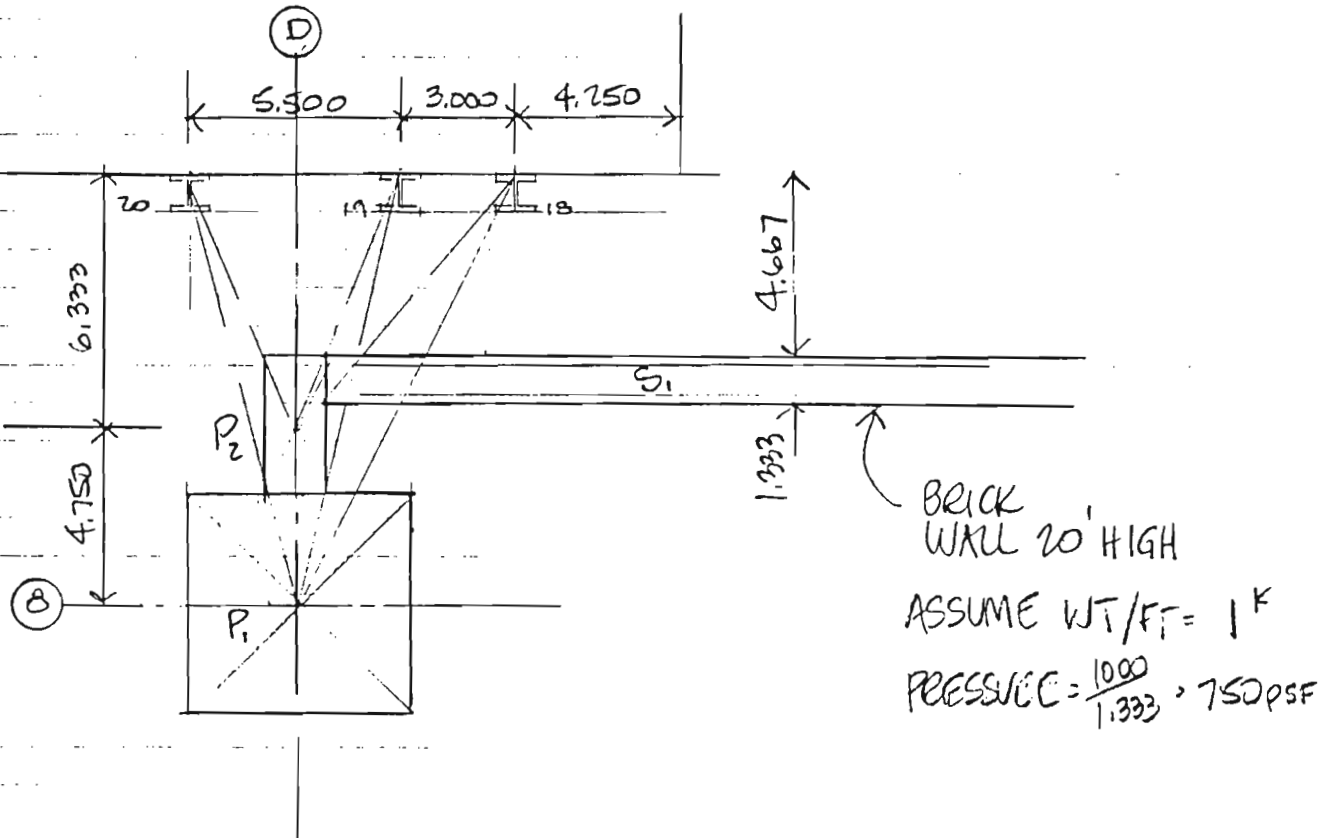
H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	FOOTING SURCHARGE PRESSURES ON D LINE FACTOR = 1	FOOTING SURCHARGE PRESSURES (FACTORED) FACTOR = .211	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
0	83.25	0.00	0.00	0.00	3.63	301.78
1	83.25	40.00	39.94	8.43	3.63	477.33
2	83.25	80.00	136.51	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
10	83.25	400.00	186.79	39.41	3.63	1894.65
11	83.25	440.00	154.30	32.56	3.63	2014.80
12	83.25	480.00	126.97	26.79	3.63	2138.90
13	83.25	520.00	104.44	22.04	3.63	2266.66
14	83.25	560.00	86.06	18.16	3.63	2397.61
15	83.25	600.00	71.15	15.01	3.63	2531.20
16	83.25	640.00	59.06	12.46	3.63	2666.95
17	83.25	680.00	49.26	10.39	3.63	2804.46
18	83.25	720.00	41.28	8.71	3.63	2943.36
19	83.25	760.00	34.78	7.34	3.63	3083.38

+

COL LINE D (SURCHARGE)



DISTRIBUTION OF COLUMN LOADS (LATERAL)



<u>P₁</u>		<u>P₂</u>
σ_{20}	0.930	0.810
σ_{14}	0.930	0.810
σ_{13}	0.748	0.475
σ_{17}	0.478	0.200

$$P_1 = 132.25 \text{ K} \leftarrow (5.75^2 \times 4) \quad \checkmark$$

$$P_2 = 4.0 \text{ K} \leftarrow (1.333 \times 4.0 \times 0.75) \quad \checkmark$$

$$S_1 = .75 \text{ K/SF}$$

LATERAL PRESSURES DUE TO
 COLUMN LOAD D8
 STAGES 1 & 2

Q 132250
 X 11.083
 H 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
 X 11.0833
 H 30

Z	P(m ≤ 0.4)	P(m > 0.4)	m	n
0	0.00	0.00	0.369	0.000
1	10.93	15.14	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	259.85	0.369	0.333
11	216.69	239.98	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	173.88	0.369	0.467
15	149.24	153.73	0.369	0.500
16	133.31	135.39	0.369	0.533
17	118.64	118.97	0.369	0.567
18	105.34	104.42	0.369	0.600
19	93.42	91.65	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
X 6.3333
H 18.5

Z	$P(m \leq 0.4)$	$P(m > 0.4)$	m	n
0	0.00	0.00	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 4000
X 6.333
H 30

Z	P(m \leq 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	10.32	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	4.23	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	0.70	0.211	0.800
25	1.39	0.60	0.211	0.833
26	1.24	0.52	0.211	0.867
27	1.10	0.46	0.211	0.900
28	0.99	0.40	0.211	0.933
29	0.89	0.35	0.211	0.967
30	0.80	0.31	0.211	1.000

LATERAL PRESSURES DUE TO
WALL FOOTING
STAGES 1, 2 & 3

Q	750
X	5.333
W	1.333

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

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 18

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	COLUMN		COLUMN		WALL		WALL		WALL FOOTING STRIP SURCHARGE	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES FACTORED	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES FACTORED					
0	83.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63	301.78	
1	83.25	40.00	15.14	14.53	2.21	1.37	1.37	1.37	42.67	42.67	3.63	504.42	
2	83.25	80.00	56.37	54.12	7.56	4.67	4.67	4.67	69.56	69.56	3.63	804.88	
3	83.25	120.00	112.94	108.42	13.31	8.23	8.23	8.23	78.05	78.05	3.63	1159.63	
4	83.25	160.00	171.92	165.04	17.31	10.70	10.70	10.70	73.66	73.66	3.63	1518.84	
5	83.25	200.00	222.49	213.59	18.89	11.67	11.67	11.67	63.57	63.57	3.63	1843.36	
6	83.25	240.00	258.32	247.99	18.46	11.41	11.41	11.41	52.42	52.42	3.63	2112.08	
7	83.25	280.00	277.69	266.58	16.81	10.39	10.39	10.39	42.33	42.33	3.63	2320.81	
8	83.25	320.00	282.17	270.88	14.65	9.05	9.05	9.05	33.95	33.95	3.63	2476.54	
9	83.25	360.00	275.01	264.01	12.41	7.67	7.67	7.67	27.26	27.26	3.63	2591.61	
10	83.25	400.00	259.86	249.47	10.34	6.39	6.39	6.39	21.99	21.99	3.63	2679.26	
11	83.25	440.00	239.99	230.39	8.54	5.28	5.28	5.28	17.87	17.87	3.63	2751.08	
12	83.25	480.00	217.94	209.22	7.03	4.34	4.34	4.34	14.65	14.65	3.63	2815.96	
13	83.25	520.00	195.51	187.69	5.78	3.57	3.57	3.57	12.11	12.11	3.63	2880.11	
14	83.25	560.00	173.88	166.92	4.76	2.94	2.94	2.94	10.09	10.09	3.63	2947.56	
15	83.25	600.00	153.73	147.58	3.94	2.43	2.43	2.43	8.48	8.48	3.63	3020.59	
16	83.25	640.00	135.39	129.97	3.27	2.02	2.02	2.02	7.18	7.18	3.63	3100.26	
17	83.25	680.00	118.96	114.20	2.73	1.69	1.69	1.69	6.13	6.13	3.63	3186.87	
18	83.25	720.00	104.42	100.24	2.29	1.41	1.41	1.41	5.27	5.27	3.63	3280.28	
19	83.25	760.00	91.64	87.97	1.93	1.19	1.19	1.19	4.55	4.55	3.63	3380.00	

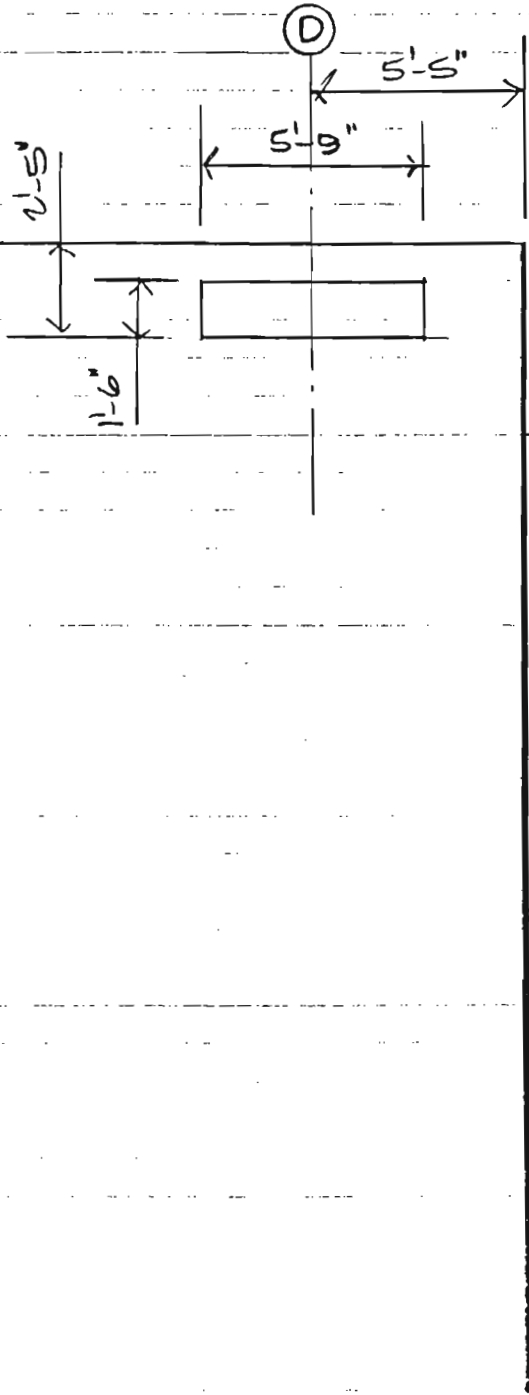
COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 19

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	COLUMN		COLUMN		WALL		WALL		WALL EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES FACTORED	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES FACTORED				
0	83.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.25	353.81	
1	83.25	40.00	15.14	14.08	2.21	1.79	42.67	1.79	42.67	4.25	591.26	
2	83.25	80.00	56.37	52.42	7.56	6.12	69.56	6.12	69.56	4.25	942.63	
3	83.25	120.00	112.94	105.03	13.31	10.78	78.05	10.78	78.05	4.25	1356.03	
4	83.25	160.00	171.92	159.89	17.31	14.02	73.66	14.02	73.66	4.25	1772.92	
5	83.25	200.00	222.49	206.92	18.89	15.30	63.57	15.30	63.57	4.25	2148.22	
6	83.25	240.00	258.32	240.24	18.46	14.95	52.42	14.95	52.42	4.25	2458.36	
7	83.25	280.00	277.69	258.25	16.81	13.62	42.33	13.62	42.33	4.25	2699.26	
8	83.25	320.00	282.17	262.42	14.65	11.86	33.95	11.86	33.95	4.25	2879.51	
9	83.25	360.00	275.01	255.76	12.41	10.05	27.26	10.05	27.26	4.25	3013.51	
10	83.25	400.00	259.86	241.67	10.34	8.38	21.99	8.38	21.99	4.25	3116.51	
11	83.25	440.00	239.99	223.19	8.54	6.92	17.87	6.92	17.87	4.25	3201.78	
12	83.25	480.00	217.94	202.68	7.03	5.69	14.65	5.69	14.65	4.25	3279.42	
13	83.25	520.00	195.51	181.82	5.78	4.68	12.11	4.68	12.11	4.25	3356.47	
14	83.25	560.00	173.88	161.71	4.76	3.86	10.09	3.86	10.09	4.25	3437.48	
15	83.25	600.00	153.73	142.97	3.94	3.19	8.48	3.19	8.48	4.25	3524.99	
16	83.25	640.00	135.39	125.91	3.27	2.65	7.18	2.65	7.18	4.25	3620.20	
17	83.25	680.00	118.96	110.63	2.73	2.21	6.13	2.21	6.13	4.25	3723.39	
18	83.25	720.00	104.42	97.11	2.29	1.85	5.27	1.85	5.27	4.25	3834.40	
19	83.25	750.00	91.64	85.23	1.93	1.56	4.55	1.56	4.55	4.25	3952.65	

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 20

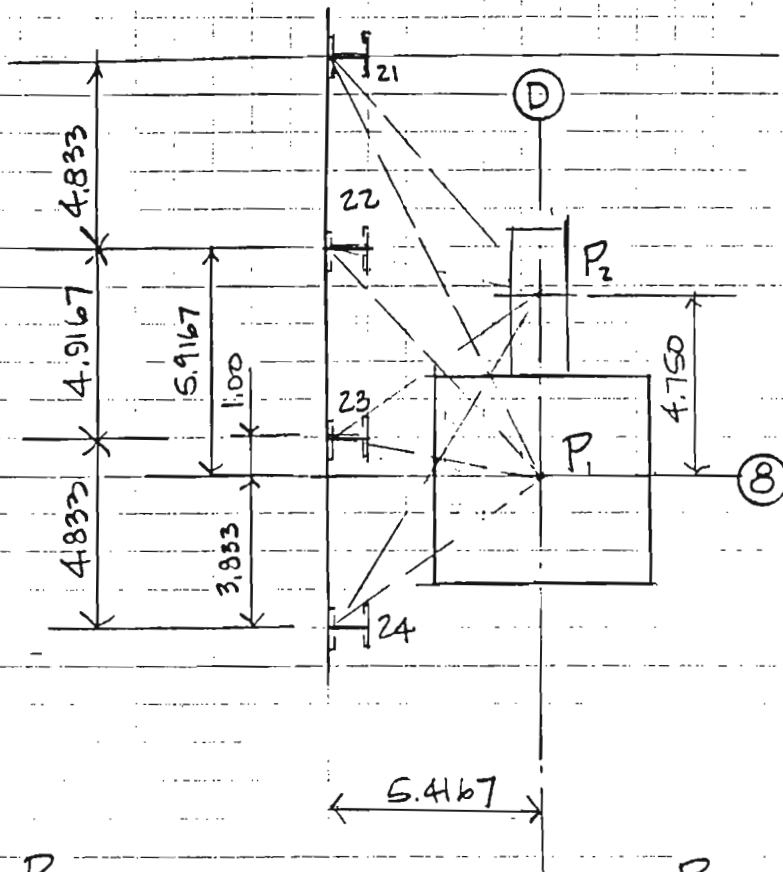
H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	COLUMN		COLUMN		WALL		WALL		EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES FACTORED	FOOTING SURCHARGE PRESSURES FACTORED				
0	83.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.09	340.08	
1	83.25	40.00	15.14	14.08	14.08	2.21	0.44	0.44	0.44	4.09	562.80	
2	83.25	80.00	56.37	52.42	52.42	7.56	1.51	1.51	1.51	4.09	887.20	
3	83.25	120.00	112.94	105.03	105.03	13.31	2.66	2.66	2.66	4.09	1270.21	
4	83.25	160.00	171.92	159.89	159.89	17.31	3.46	3.46	3.46	4.09	1660.95	
5	83.25	200.00	222.49	206.92	206.92	18.89	3.78	3.78	3.78	4.09	2017.76	
6	83.25	240.00	258.32	240.24	240.24	18.46	3.69	3.69	3.69	4.09	2316.93	
7	83.25	280.00	277.69	258.25	258.25	16.81	3.36	3.36	3.36	4.09	2552.57	
8	83.25	320.00	282.17	262.42	262.42	14.65	2.93	2.93	2.93	4.09	2731.22	
9	83.25	360.00	275.01	255.76	255.76	12.41	2.48	2.48	2.48	4.09	2865.59	
10	83.25	400.00	259.86	241.67	241.67	10.34	2.07	2.07	2.07	4.09	2969.75	
11	83.25	440.00	239.99	223.19	223.19	8.54	1.71	1.71	1.71	4.09	3056.19	
12	83.25	480.00	217.94	202.68	202.68	7.03	1.41	1.41	1.41	4.09	3134.58	
13	83.25	520.00	195.51	181.82	181.82	5.78	1.16	1.16	1.16	4.09	3211.75	
14	83.25	560.00	173.88	161.71	161.71	4.76	0.95	0.95	0.95	4.09	3292.15	
15	83.25	600.00	153.73	142.97	142.97	3.94	0.79	0.79	0.79	4.09	3378.32	
16	83.25	640.00	135.39	125.91	125.91	3.27	0.65	0.65	0.65	4.09	3471.50	
17	83.25	680.00	118.96	110.63	110.63	2.73	0.55	0.55	0.55	4.09	3572.04	
18	83.25	720.00	104.42	97.11	97.11	2.29	0.46	0.46	0.46	4.09	3679.84	
19	83.25	760.00	91.64	85.23	85.23	1.93	0.39	0.39	0.39	4.09	3794.39	

COL LINE 8 (SURCHARGE)



+

DISTRIBUTION OF COLUMN LOAD (LATERAL)

P₁

$$\sigma_{21} = \cos^2(1.1\theta_1) = 0.122$$

$$\sigma_{22} = 0.374$$

$$\sigma_{23} = 0.960$$

$$\sigma_{24} = 0.607$$

P₂

$$0.367$$

$$0.947$$

$$0.618$$

$$0.199$$

$$P_1 = (5.75 \times 5.75)(4) = 132.25^k \quad \checkmark$$

$$P_2 = (4.0 \times 1.33)(0.75) = 4.0^k \quad \checkmark$$

LATERAL PRESSURES DUE TO
COLUMN LOAD D8
STAGE 1

Q 132250
X 5.4167
H 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
H 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
 H 30

Z	$P(m \leq 0.4)$	$P(m > 0.4)$	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	317.42	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	34.71	0.181	0.667
21	73.41	29.11	0.181	0.700
22	65.13	24.57	0.181	0.733
23	57.84	20.87	0.181	0.767
24	51.43	17.83	0.181	0.800
25	45.80	15.32	0.181	0.833
26	40.86	13.23	0.181	0.867
27	36.52	11.48	0.181	0.900
28	32.69	10.01	0.181	0.933
29	29.33	8.76	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
H 18.5

Z	P(m ≤ 0.4)	P(m > 0.4)	m	n
0	0.00	0.00	0.347	0.000
1	2.21	3.89	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 4000
X 6.4167
H 30

Z	$P(m \leq 0.4)$	$P(m > 0.4)$	m	n
0	0.00	0.00	0.214	0.000
1	0.33	3.89	0.214	0.033
2	1.24	12.65	0.214	0.067
3	2.53	20.77	0.214	0.100
4	3.94	24.96	0.214	0.133
5	5.22	25.15	0.214	0.167
6	6.22	22.83	0.214	0.200
7	6.87	19.48	0.214	0.233
8	7.17	16.04	0.214	0.267
9	7.17	12.95	0.214	0.300
10	6.94	10.36	0.214	0.333
11	6.55	8.27	0.214	0.367
12	6.08	6.61	0.214	0.400
13	5.56	5.31	0.214	0.433
14	5.03	4.28	0.214	0.467
15	4.51	3.48	0.214	0.500
16	4.03	2.84	0.214	0.533
17	3.59	2.34	0.214	0.567
18	3.19	1.94	0.214	0.600
19	2.83	1.62	0.214	0.633
20	2.50	1.36	0.214	0.667
21	2.22	1.15	0.214	0.700
22	1.97	0.97	0.214	0.733
23	1.75	0.83	0.214	0.767
24	1.56	0.71	0.214	0.800
25	1.39	0.62	0.214	0.833
26	1.24	0.53	0.214	0.867
27	1.10	0.47	0.214	0.900
28	0.99	0.41	0.214	0.933
29	0.89	0.36	0.214	0.967
30	0.80	0.31	0.214	1.000

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 21

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	COLUMN		COLUMN		WALL		WALL		EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES	FOOTING SURCHARGE PRESSURES FACTORED				
0	83.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	201.19	
1	83.25	40.00	245.90	30.00	30.00	2.21	2.21	0.81	0.81	2.42	372.32	
2	83.25	80.00	741.27	90.43	90.43	7.56	7.56	2.77	2.77	2.42	619.78	
3	83.25	120.00	1096.74	133.80	133.80	13.31	13.31	4.88	4.88	2.42	826.36	
4	83.25	160.00	1178.95	143.83	143.83	17.31	17.31	6.35	6.35	2.42	950.81	
5	83.25	200.00	1070.05	130.55	130.55	18.89	18.89	6.93	6.93	2.42	1016.77	
6	83.25	240.00	886.32	108.13	108.13	18.46	18.46	6.77	6.77	2.42	1058.89	
7	83.25	280.00	699.96	85.40	85.40	16.81	16.81	6.17	6.17	2.42	1099.15	
8	83.25	320.00	540.51	65.94	65.94	14.65	14.65	5.38	5.38	2.42	1146.89	
9	83.25	360.00	414.11	50.52	50.52	12.41	12.41	4.55	4.55	2.42	1204.30	
10	83.25	400.00	317.42	38.73	38.73	10.34	10.34	3.80	3.80	2.42	1270.63	
11	83.25	440.00	244.57	29.84	29.84	8.54	8.54	3.14	3.14	2.42	1344.22	
12	83.25	480.00	189.89	23.17	23.17	7.03	7.03	2.58	2.58	2.42	1423.43	
13	83.25	520.00	148.76	18.15	18.15	5.78	5.78	2.12	2.12	2.42	1506.86	
14	83.25	560.00	117.65	14.35	14.35	4.76	4.76	1.75	1.75	2.42	1593.46	
15	83.25	600.00	93.92	11.46	11.46	3.94	3.94	1.45	1.45	2.42	1682.40	
16	83.25	640.00	75.68	9.23	9.23	3.27	3.27	1.20	1.20	2.42	1773.09	
17	83.25	680.00	61.53	7.51	7.51	2.73	2.73	1.00	1.00	2.42	1865.11	
18	83.25	720.00	50.44	6.15	6.15	2.29	2.29	0.84	0.84	2.42	1958.11	
19	83.25	760.00	41.69	5.09	5.09	1.93	1.93	0.71	0.71	2.42	2051.88	

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 22

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	COLUMN		COLUMN FOOTING		WALL FOOTING		WALL FOOTING SURCHARGE PRESSURES		EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			ON 8 LINE	ON 8 LINE	ON 8 LINE	ON LINE	ON LINE	ON LINE	ON LINE	ON LINE		
0	83.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	405.84
1	83.25	40.00	245.90	91.97	91.97	2.21	2.21	2.09	2.09	2.09	4.88	1059.39
2	83.25	80.00	741.27	277.23	277.23	7.56	7.56	7.16	7.16	7.16	4.88	2182.25
3	83.25	120.00	1096.74	410.18	410.18	13.31	13.31	12.60	12.60	12.60	4.88	3051.92
4	83.25	160.00	1178.95	440.93	440.93	17.31	17.31	16.39	16.39	16.39	4.88	3415.28
5	83.25	200.00	1070.05	400.20	400.20	18.89	18.89	17.89	17.89	17.89	4.88	3419.00
6	83.25	240.00	886.32	331.48	331.48	18.46	18.46	17.48	17.48	17.48	4.88	3277.04
7	83.25	280.00	699.96	261.79	261.79	16.81	16.81	15.92	15.92	15.92	4.88	3124.67
8	83.25	320.00	540.51	202.15	202.15	14.65	14.65	13.87	13.87	13.87	4.88	3018.95
9	83.25	360.00	414.11	154.88	154.88	12.41	12.41	11.75	11.75	11.75	4.88	2973.16
10	83.25	400.00	317.42	118.72	118.72	10.34	10.34	9.79	9.79	9.79	4.88	2982.32
11	83.25	440.00	244.57	91.47	91.47	8.54	8.54	8.09	8.09	8.09	4.88	3036.19
12	83.25	480.00	189.89	71.02	71.02	7.03	7.03	6.66	6.66	6.66	4.88	3124.51
13	83.25	520.00	148.76	55.64	55.64	5.78	5.78	5.48	5.48	5.48	4.88	3238.77
14	83.25	560.00	117.65	44.00	44.00	4.76	4.76	4.51	4.51	4.51	4.88	3372.35
15	83.25	600.00	93.92	35.13	35.13	3.94	3.94	3.73	3.73	3.73	4.88	3520.27
16	83.25	640.00	75.68	28.30	28.30	3.27	3.27	3.10	3.10	3.10	4.88	3678.92
17	83.25	680.00	61.53	23.01	23.01	2.73	2.73	2.58	2.58	2.58	4.88	3845.62
18	83.25	720.00	50.44	18.86	18.86	2.29	2.29	2.16	2.16	2.16	4.88	4018.36
19	83.25	760.00	41.69	15.59	15.59	1.93	1.93	1.82	1.82	1.82	4.88	4195.74

COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 23

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	COLUMN		COLUMN		WALL		WALL		EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			FOOTING SURCHARGE PRESSURES ON 8 LINE	FOOTING SURCHARGE PRESSURES FACTORED	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES FACTORED	FOOTING SURCHARGE PRESSURES ON LINE	FOOTING SURCHARGE PRESSURES FACTORED				
0	83.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	405.84	
1	83.25	40.00	245.90	236.06	2.21	1.37	1.37	1.37	1.37	4.88	1758.32	
2	83.25	80.00	741.27	711.62	7.56	4.67	4.67	4.67	4.67	4.88	4287.76	
3	83.25	120.00	1096.74	1052.87	13.31	8.23	8.23	8.23	8.23	4.88	6163.68	
4	83.25	160.00	1178.95	1131.79	17.31	10.70	10.70	10.70	10.70	4.88	6755.48	
5	83.25	200.00	1070.05	1027.25	18.89	11.67	11.67	11.67	11.67	4.88	6445.58	
6	83.25	240.00	886.32	850.87	18.46	11.41	11.41	11.41	11.41	4.88	5779.43	
7	83.25	280.00	699.96	671.96	16.81	10.39	10.39	10.39	10.39	4.88	5097.31	
8	83.25	320.00	540.51	518.89	14.65	9.05	9.05	9.05	9.05	4.88	4539.56	
9	83.25	360.00	414.11	397.55	12.41	7.67	7.67	7.67	7.67	4.88	4136.26	
10	83.25	400.00	317.42	304.72	10.34	6.39	6.39	6.39	6.39	4.88	3872.53	
11	83.25	440.00	244.57	234.79	8.54	5.28	5.28	5.28	5.28	4.88	3721.17	
12	83.25	480.00	189.89	182.29	7.03	4.34	4.34	4.34	4.34	4.88	3655.71	
13	83.25	520.00	148.76	142.81	5.78	3.57	3.57	3.57	3.57	4.88	3654.46	
14	83.25	560.00	117.65	112.94	4.76	2.94	2.94	2.94	2.94	4.88	3700.80	
15	83.25	600.00	93.92	90.16	3.94	2.43	2.43	2.43	2.43	4.88	3782.26	
16	83.25	640.00	75.68	72.65	3.27	2.02	2.02	2.02	2.02	4.88	3889.88	
17	83.25	680.00	61.53	59.07	2.73	1.69	1.69	1.69	1.69	4.88	4017.02	
18	83.25	720.00	50.44	48.42	2.29	1.41	1.41	1.41	1.41	4.88	4158.79	
19	83.25	760.00	41.69	40.02	1.93	1.19	1.19	1.19	1.19	4.88	4311.75	

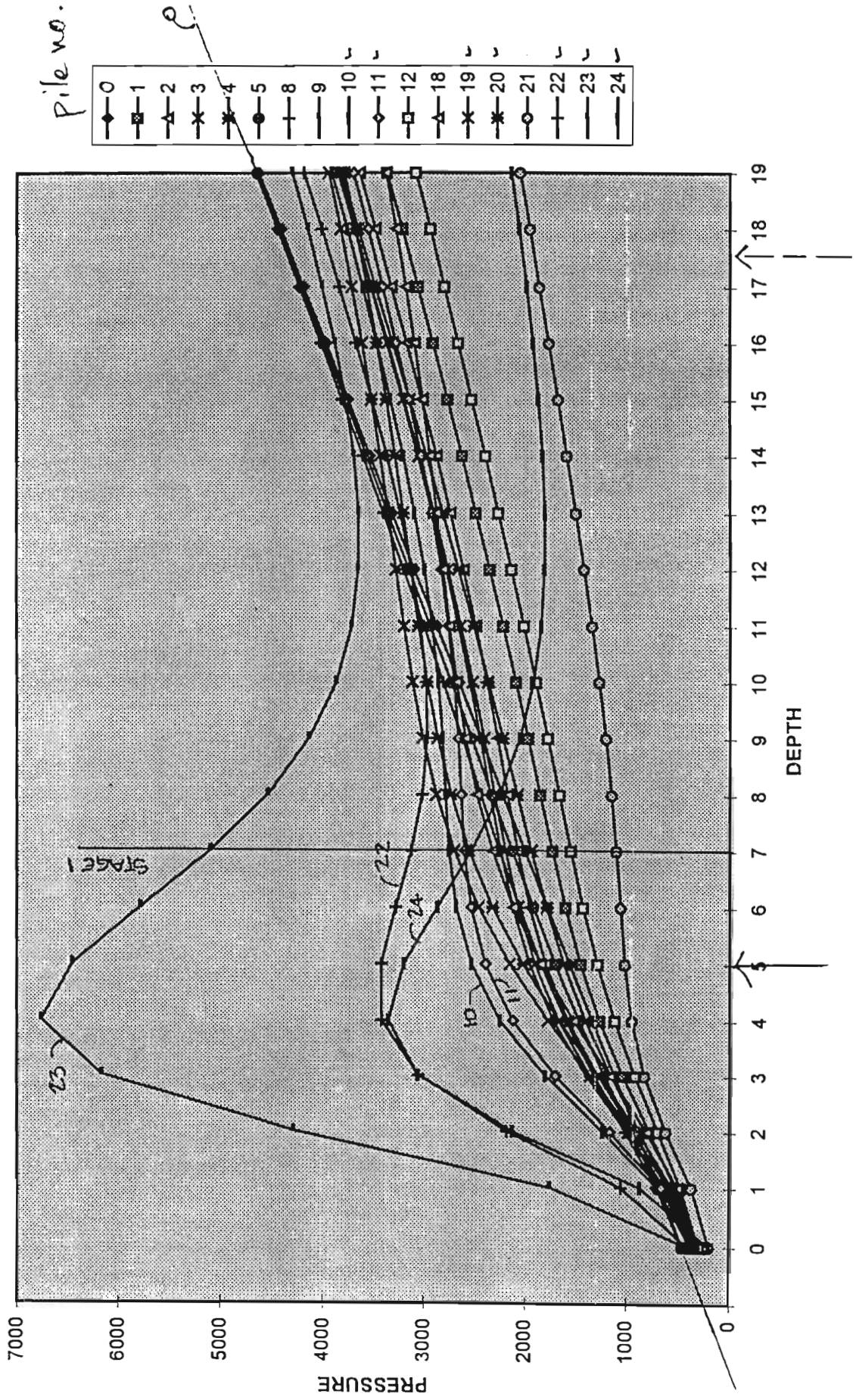
COMBINED LATERAL PRESSURES STAGES 1 & 2
SOLDIER PILE 24

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (TRIANGULAR)	COLUMN FOOTING SURCHARGE PRESSURES ON 8 LINE	COLUMN FOOTING SURCHARGE PRESSURES ON LINE	WALL FOOTING SURCHARGE PRESSURES ON LINE	WALL FOOTING SURCHARGE PRESSURES FACTORED	EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
0	83.25	0.00	0.00	0.00	0.00	0.00	2.42	201.17
1	83.25	40.00	245.90	236.06	2.21	1.37	2.42	871.58
2	83.25	80.00	741.27	711.62	7.56	4.67	2.42	2125.41
3	83.25	120.00	1096.74	1052.87	13.31	8.23	2.42	3055.29
4	83.25	160.00	1178.95	1131.79	17.31	10.70	2.42	3348.64
5	83.25	200.00	1070.05	1027.25	18.89	11.67	2.42	3195.02
6	83.25	240.00	886.32	850.87	18.46	11.41	2.42	2864.82
7	83.25	280.00	699.96	671.96	16.81	10.39	2.42	2526.70
8	83.25	320.00	540.51	518.89	14.65	9.05	2.42	2250.22
9	83.25	360.00	414.11	397.55	12.41	7.67	2.42	2050.31
10	83.25	400.00	317.42	304.72	10.34	6.39	2.42	1919.58
11	83.25	440.00	244.57	234.79	8.54	5.28	2.42	1844.55
12	83.25	480.00	189.89	182.29	7.03	4.34	2.42	1812.11
13	83.25	520.00	148.76	142.81	5.78	3.57	2.42	1811.49
14	83.25	560.00	117.65	112.94	4.76	2.94	2.42	1834.46
15	83.25	600.00	93.92	90.16	3.94	2.43	2.42	1874.84
16	83.25	640.00	75.68	72.65	3.27	2.02	2.42	1928.18
17	83.25	580.00	61.53	59.07	2.73	1.69	2.42	1991.21
18	83.25	720.00	50.44	48.42	2.29	1.41	2.42	2061.48
19	83.25	760.00	41.69	40.02	1.93	1.19	2.42	2137.30

COMBINED LATERAL PRESSURES STAGE 3
SOLDIER PILE 23

H	NOMINAL SURCHARGE PRESSURES	ACTIVE SOIL PRESSURES (RECT)	COLUMN FOOTING		COLUMN FOOTING		WALL FOOTING		WALL FOOTING		EFFECTIVE SPACING	TOTAL LATERAL PRESSURES
			SURCHARGE PRESSURES ON 8 LINE	FACTORED	SURCHARGE PRESSURES ON LINE	FACTORED	SURCHARGE PRESSURES ON LINE	FACTORED				
0	83.25	780.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4208.34
1	83.25	780.00	10.93	10.49	0.33	0.20	0.33	0.20	0.20	0.20	4.88	4260.49
2	83.25	780.00	41.12	39.48	1.24	0.77	1.24	0.77	0.77	0.77	4.88	4404.52
3	83.25	780.00	83.75	80.40	2.53	1.56	2.53	1.56	1.56	1.56	4.88	4607.92
4	83.25	780.00	130.18	124.97	3.94	2.43	3.94	2.43	2.43	2.43	4.88	4829.46
5	83.25	780.00	172.61	165.71	5.22	3.23	5.22	3.23	3.23	3.23	4.88	5031.89
6	83.25	780.00	205.72	197.49	6.22	3.84	6.22	3.84	3.84	3.84	4.88	5189.85
7	83.25	780.00	227.15	218.06	6.87	4.25	6.87	4.25	4.25	4.25	4.88	5292.10
8	83.25	780.00	237.02	227.54	7.17	4.43	7.17	4.43	4.43	4.43	4.88	5339.20
9	83.25	780.00	236.99	227.51	7.17	4.43	7.17	4.43	4.43	4.43	4.88	5339.06
10	83.25	780.00	229.42	220.24	6.94	4.29	6.94	4.29	4.29	4.29	4.88	5302.94
11	83.25	780.00	216.69	208.02	6.55	4.05	6.55	4.05	4.05	4.05	4.88	5242.19
12	83.25	780.00	200.90	192.86	6.08	3.76	6.08	3.76	3.76	3.76	4.88	5166.87
13	83.25	780.00	183.67	176.32	5.56	3.44	5.56	3.44	3.44	3.44	4.88	5084.67
14	83.25	780.00	166.19	159.54	5.03	3.11	5.03	3.11	3.11	3.11	4.88	5001.27
15	83.25	780.00	149.24	143.27	4.51	2.79	4.51	2.79	2.79	2.79	4.88	4920.37
16	83.25	780.00	133.31	127.98	4.03	2.49	4.03	2.49	2.49	2.49	4.88	4844.38
17	83.25	780.00	118.64	113.89	3.59	2.22	3.59	2.22	2.22	2.22	4.88	4774.39
18	83.25	780.00	105.34	101.13	3.19	1.97	3.19	1.97	1.97	1.97	4.88	4710.95
19	83.25	780.00	93.42	89.68	2.83	1.75	2.83	1.75	1.75	1.75	4.88	4654.08
20	83.25	780.00	82.81	79.50	2.50	1.55	2.50	1.55	1.55	1.55	4.88	4603.43
21	83.25	780.00	73.41	70.47	2.22	1.37	2.22	1.37	1.37	1.37	4.88	4558.59
22	83.25	780.00	65.13	62.52	1.97	1.22	1.97	1.22	1.22	1.22	4.88	4519.09
23	83.25	780.00	57.84	55.53	1.75	1.08	1.75	1.08	1.08	1.08	4.88	4484.31
24	83.25	780.00	51.43	49.37	1.56	0.96	1.56	0.96	0.96	0.96	4.88	4453.74
25	83.25	780.00	45.80	43.97	1.39	0.86	1.39	0.86	0.86	0.86	4.88	4426.88
26	83.25	780.00	40.86	39.23	1.24	0.77	1.24	0.77	0.77	0.77	4.88	4403.30
27	83.25	780.00	36.52	35.06	1.10	0.68	1.10	0.68	0.68	0.68	4.88	4382.57
28	83.25	780.00	32.69	31.38	0.99	0.61	0.99	0.61	0.61	0.61	4.88	4364.32
29	83.25	780.00	29.33	28.16	0.89	0.55	0.89	0.55	0.55	0.55	4.88	4348.29
30	83.25	780.00	26.36	25.31	0.80	0.49	0.80	0.49	0.49	0.49	4.88	4334.12

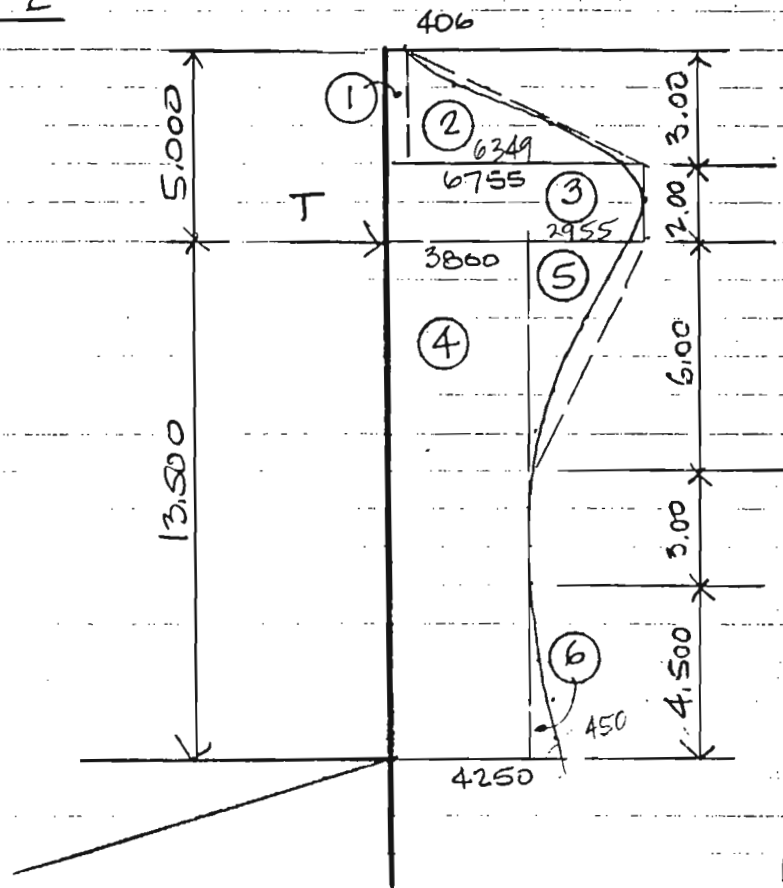
COMBINED LATERAL PRESSURES STAGES 1 & 2



+

PILE 23 (MAX LOAD)

STAGE 2



Layer	Calculation	Value	Depth (m)
①	$(406)(3)$	$= 1,218.0$	-3.50
②	$(6349)(3)(1/2)$	$= 9,523.5$	-3.00
③	$(6755)(2.0)$	$= 13,510.0$	-1.00
④	$(3800)(13.50)$	$= 51,300.0$	6.75
⑤	$(2955)(6.0)(1/2)$	$= 8,865.0$	2.00
⑥	$(450)(4.50)(1/2)$	$= 1,012.5$	12.00

$\Sigma F = 95,429.0 \text{ lbs}$

+

PILE 23

STAGE 2 typically worst condition

$$\sum M_T = 0$$

$$0 = (1218.0)(-3.50) + (9523.5)(-3.00) + (13510.0)(-1.0) \\ + (51300)(6.75) + (8865.0)(2.00) + (1012.5)(12.00) \\ - 1040.4(x)^2/2 (13.5 + \frac{1}{2}x)$$

$$0 = 346.9x^3 + 7022.7x^2 - 329,811.5$$

below grade level

$$x = 6.0171 \text{ FT} < 17.5 \text{ FT } \textcircled{61}$$

$$P_p = (1040.4)(6.0171)^2/2 = 18,834.10 \text{ lbs}$$

$$T = 85,429.0 - 18,834.1 = \underline{66,594.9 \text{ lbs}} \text{ at pile}$$

BENDING MOMENT

$$BM = \text{MAX @ } zV = 0$$

$$66,594.9 = 1218.0 + 9523.5 + 13,510.0 + 8865.0$$

$$+ 3800z$$

$$z = 8.810 \text{ FT}$$

$$BM = 66594.9(8.810) - (1218.0)(3.5+8.810) - (9523.5)(3.0+8.810) \\ - (13510.0)(9.810) - (8865.0)(6.810) - 3800(8.810)^2/2$$

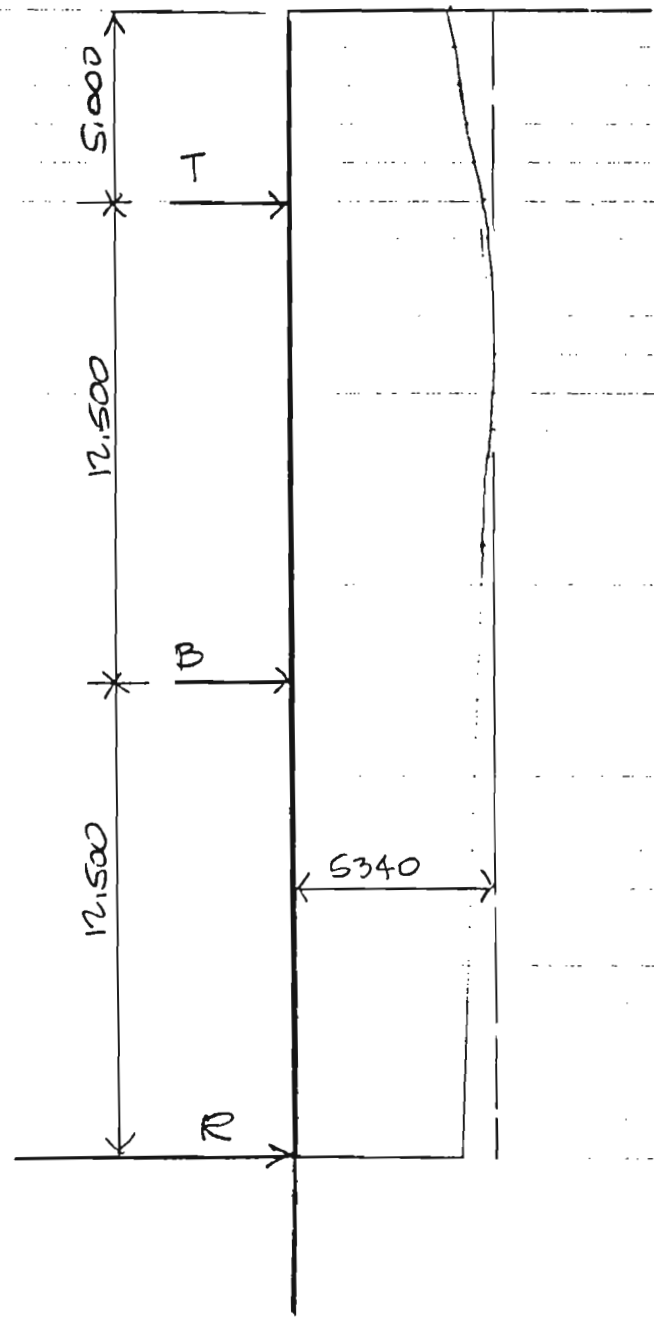
$$= \underline{118,860.6 \text{ FT-LBS}} \text{ at pile}$$

$$S = \frac{M_{max}}{F_c} = \frac{118.86 \times 12}{33} = 43.2 \text{ in}^3$$

+

PILE 23

STAGE 3



+

PILE 23

STAGE 3

$$\text{MAX P} = 5340 \text{ PSF}$$

$$\text{FOR TYPICAL PILE } \text{MAX P} = (863.25)(5.5) = 4747.88 \text{ PSF}$$

extrapolate
from typical
pile

$$\Delta = 1.125$$

$$T = 58161.5 \times 1.125 = 65,415.04 \text{ LBS}$$

$$B = 54600.6 \times 1.125 = 61,410.04 \text{ LBS}$$

$$R = 39,674.22 \times 1.125 = 33,375.0 \text{ LBS}$$

$$\text{BM} = 92,731.93 \times 1.125 = 104,296.87 \text{ FT-LBS}$$

$$D = \sqrt{\frac{2(33375)}{1040.4}}$$

$$= \underline{8.00 \text{ FT}}$$

SUMMARY OF WALER LOADS

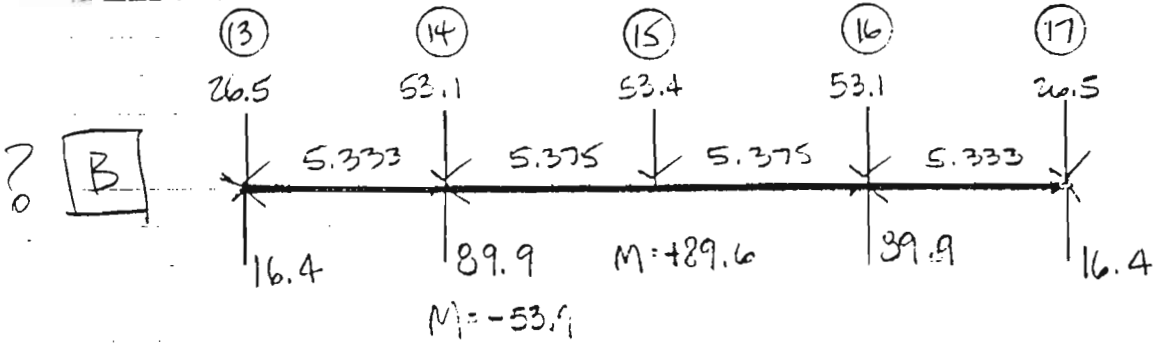
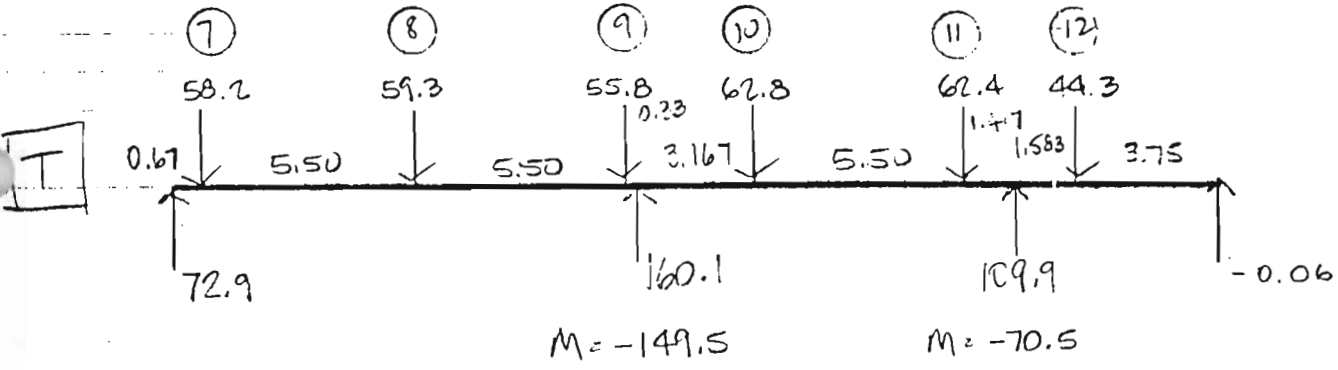
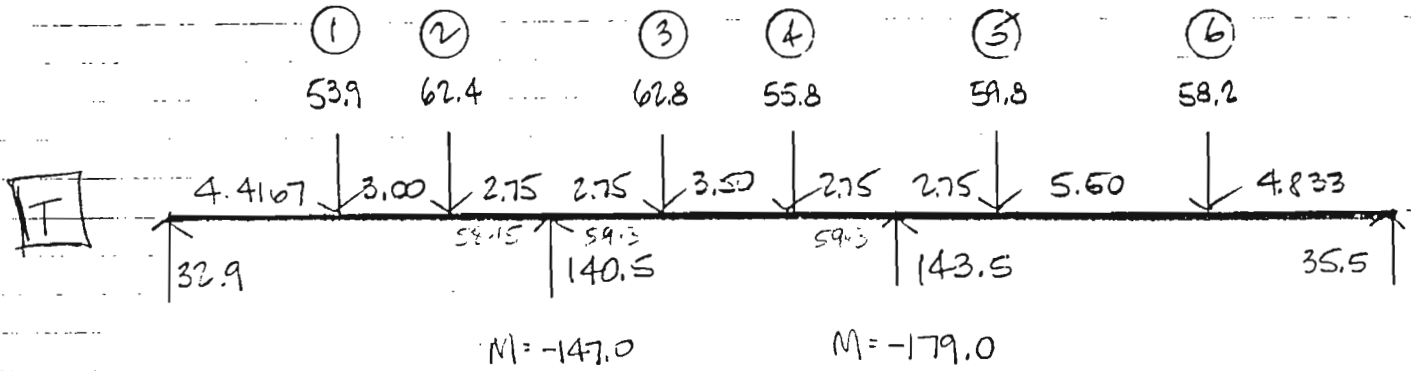
*adj
ftug*

from E.S'

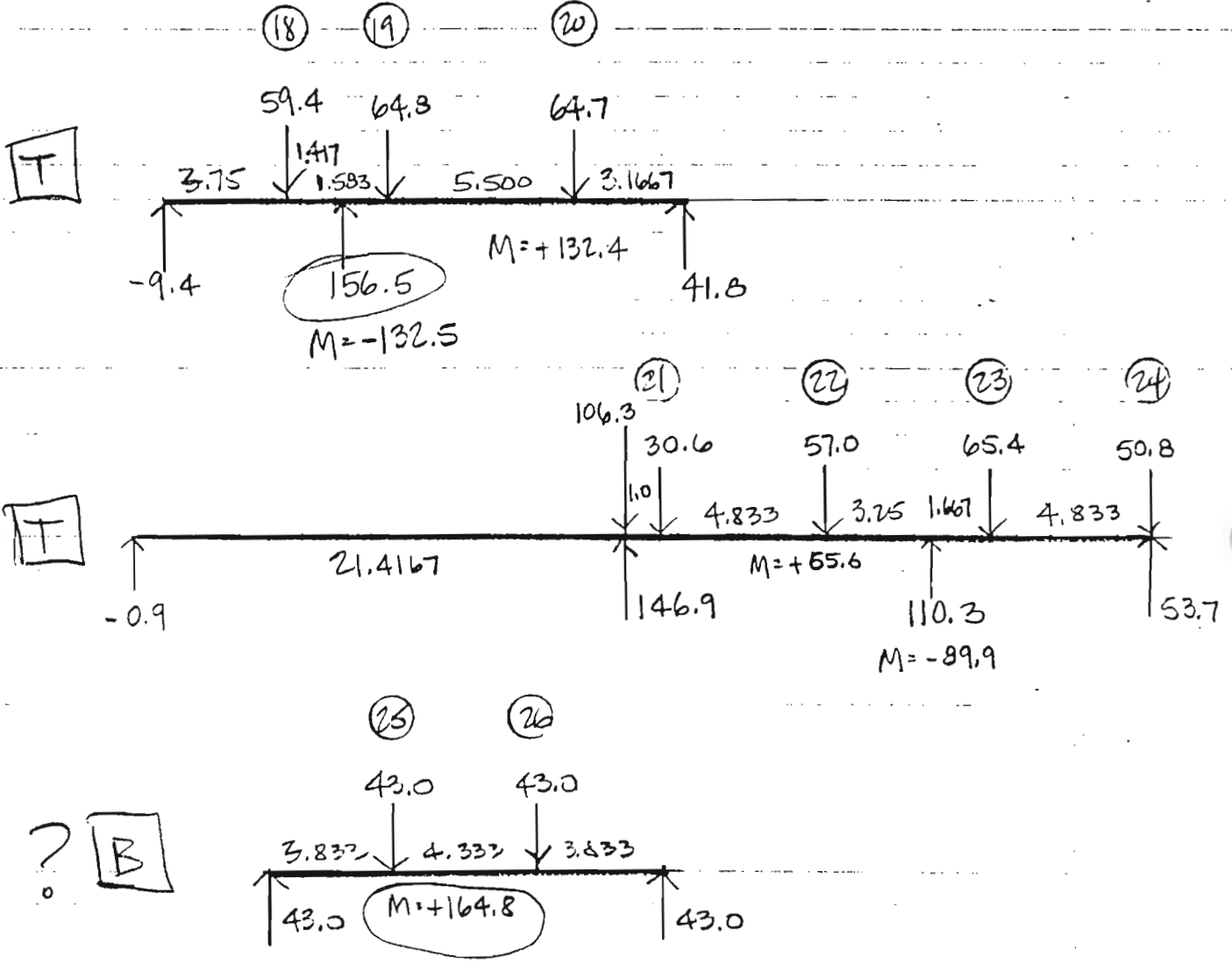
PILE	SURCH	SPACING FACTOR	SURCHARGE FACTOR	STAGE 2 T	SURCHARGE FACTOR	STAGE 3 T	STAGE 3 B
1	Y	0.720	0.472	31.4	16.642	53.9	50.5
2	Y	0.773	0.532	35.4	22.500	62.4	58.5
3	Y	0.818	0.563	37.5	18.517	62.8	58.9
4	Y	0.818	0.532	35.4	10.028	55.8	52.4
5	Y	1.000	0.621	41.4	1.133	59.3	55.7
6	N	1.000		28.2		58.2	54.6
7	N	1.000		28.2		58.2	54.6
8	Y	1.000	0.636	42.4	1.133	59.3	55.7
9	Y	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	Y	0.773	0.597	39.7	22.500	62.4	58.5
12	Y	0.659	0.428	28.5	9.017	44.3	41.6
13	N	0.485		13.7		28.2	26.5
14	N	0.973		27.4		56.6	53.1
15	N	0.977		27.6		56.8	53.4
16	N	0.973		27.4		56.6	53.1
17	N	0.485		13.7		28.2	26.5
18	Y	0.659	0.543	36.2	31.966	59.4	55.8
19	Y	0.773	0.633	42.2	25.580	64.8	60.8
20	Y	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	Y	0.886	1.000	66.6	15.582	65.4	61.4
24	Y	0.439	0.496	33.0	57.310	50.8	47.6
25	N	0.788		22.2		45.8	43.0
26	N	0.788		22.2		45.8	43.0
27	N	0.500		14.1		29.1	27.3
28	N	0.500		14.1		29.1	27.3
29	N	0.894		25.2		52.0	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	N	0.924		26.1		53.8	50.5
38	N	0.924		26.1		53.8	50.5
39	N	0.924		26.1		53.8	50.5
40	N	0.924		26.1		53.8	50.5
41	N	0.462		13.0		26.9	25.2

+

WALERS

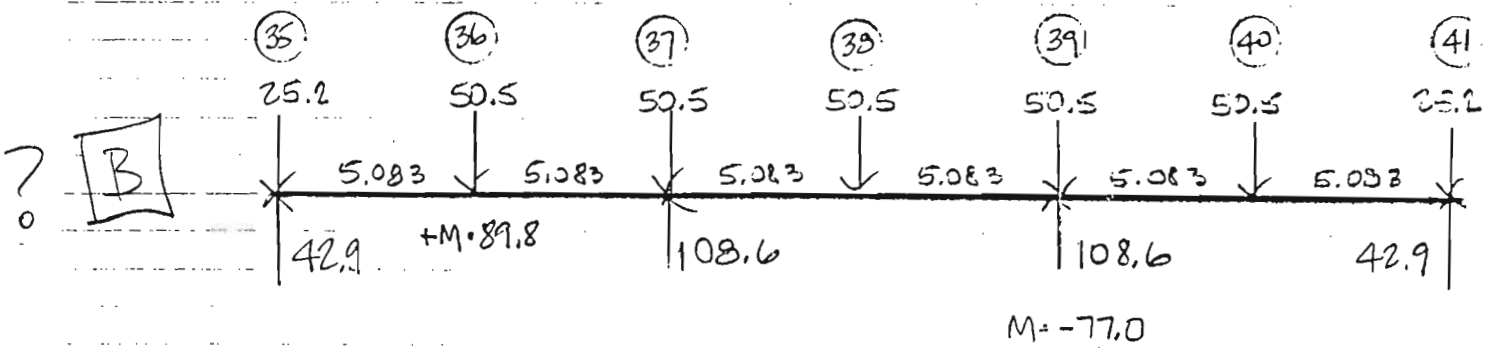
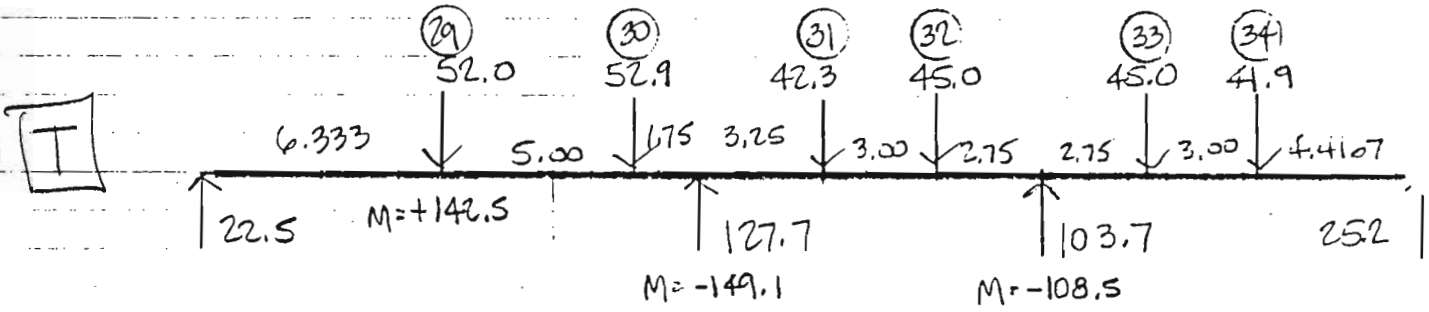
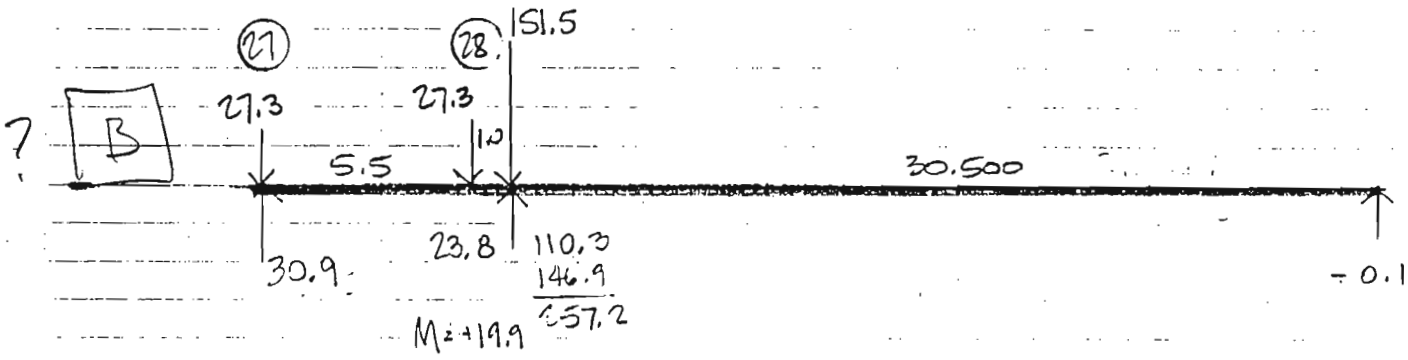


WALERS



? B

WALKERS



+

WALERS + STRUTS

$$\text{MAX MOMENT} = 164.8 \text{ FT-KIPS } \checkmark$$

$$\text{MAX AXIAL LOAD} = 156 \text{ K } \checkmark$$

USE W12x79

$$A_s = 23.2 \text{ IN}^2 \checkmark$$

$$S_{xx} = 107 \text{ IN}^3 \checkmark$$

$$r_{xy} = 3.05 \text{ IN } \checkmark$$

$$\text{actual } f_a = 156 / 23.2 = 6.72 \text{ KSI}$$

$$Kl/r = (1.0)(5.5)(12) / 3.05 = 21.64$$

$$\text{allowable } F_a = 20.502 \text{ KSI}$$

$$f_a / F_a = 6.72 / 20.502 = 0.328 > 0.15$$

$$\text{actual } f_b = 164.8 \times 12 / 107 = 18.482 \text{ KSI}$$

$$\text{allowable } F_b = 23.76 \text{ KSI for A36 steel } \checkmark$$

$$Kl/r_{xx} = (1.0)(7.5)(12) / 5.34 = 12.360$$

$$F_e = 977.565 \text{ KSI}$$

$$f_b / \left(1 - \frac{f_a}{F_e}\right) F_b = \frac{18.482}{\left(1 - \frac{6.72}{977.565}\right)} 23.76 = 0.783$$

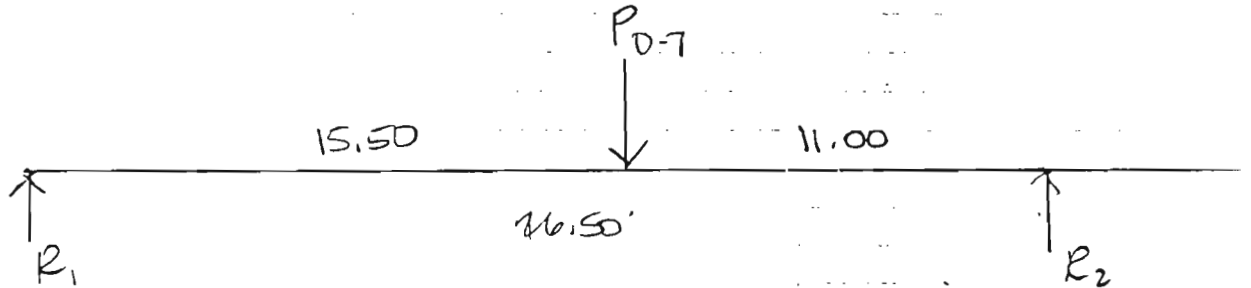
$$f_a / F_a + f_b / \left(1 - \frac{f_a}{F_e}\right) F_b \leq 1.2$$

$$0.328 + 0.783 = 1.111 < 1.2 \text{ (OK)}$$

*

DETERMINE COLUMN LOAD FOR COL D-7

(BASED ON CONTRACT DRGS.) $A_F = 33.06 \text{ FT}^2$
1'-6" DEEP



MAXIMUM BENDING MOMENT FOR 2-W24x94 (GD 50)

$$S_{xx} = 222 \text{ in}^3 / \text{BEAM}$$

$$F_b = 33 \text{ ksi for } f_y = 50 \text{ ksi}$$

$$BM_u = 2(222)(33) / 12 = 1221.0 \text{ FT-KIPS}$$

$$BM_{DL} = (0.094)(2)(15.5)^2 / 2 - (0.094)(2)(26.5) / 2 (15.5) = 16.027 \text{ FT-K}$$

$$BM_u = 1221.0 - 16.027 = 1204.97 \text{ FT-KIPS}$$

$$\sum M_{R_2} = 0$$

$$0 = 11P - 26.5R_1$$

$$R_1 = 0.4151P$$

$$BM_u = R_1(15.5) = (0.4151P)(15.5) = 6.434P$$

$$6.434P = 1204.97$$

$$P = 187.3 \text{ KIPS (INCL. CONC. FTG)}$$

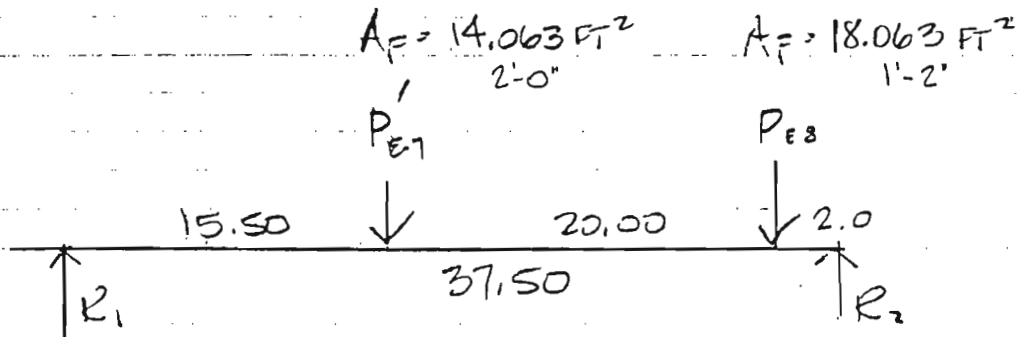
MAX ALLOWABLE AXIAL LOAD FOR W18x58 WITH $KL = 20'$

$$= 190 \text{ K}$$

USE 187.3 K ✓

+

DETERMINE COLUMN LOADS FOR COL E-7 & E-8



MAXIMUM BENDING MOMENT FOR 2-W24x94 (60.50)

$$BM_{AU} = 1221.0 \text{ FT-KIPS}$$

$$BM_{DL} = (0.094)(2)(15.5)^2/2 - (0.094)(2)(37.5)/2(15.5) = 32.054 \text{ FT-K}$$

$$BM_{UL} = 1221.0 - 32.054 = 1188.95 \text{ FT-KIPS}$$

ASSUME COL. LOADS PROPORTIONAL TO FTG. AREA

$$\sum M_{R_2} = 0 = P(2) + \frac{14.063}{18.063} P(22.0) - 37.5R_1$$

$$R_1 = 0.510 P$$

$$BM = R_1(15.5) = (0.510)(P)(15.5) = 7.907 P$$

$$7.907 P = 1188.95$$

$$P = \underline{150.4 \text{ KIPS}} \quad (\text{COL E-8}) \quad (\text{INCL. CONC. FTG})$$

$$P = \underline{\frac{14.063}{18.063}(150.4) = 117.1 \text{ KIPS}} \quad (\text{COL E-7}) \quad (\text{INCL. CONC. FTG})$$

MAX ALLOWABLE AXIAL LOAD FOR W8X31 WITH $KL = 20'$

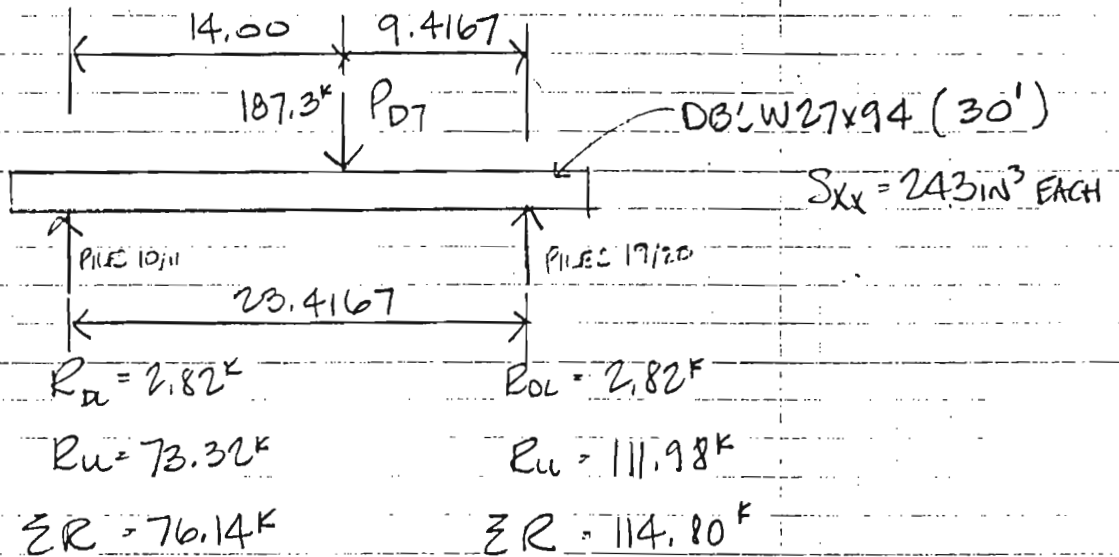
$$= 95 \text{ K} \quad \checkmark$$

USE

$$P_{E8} = 95 + 3.17 = 98.17 \text{ K}$$

$$P_{E7} = 95 + 4.22 = 99.22 \text{ K}$$

NEEDLE BEAMS COL LINE D



$$BM = (76.14)(14) - (187.3)(14)/2 = 1047.54 \text{ FT-KIPS}$$

$$f_b = \frac{1047.54 \times 12}{(2 \times 243)} = 25.87 \text{ KSI} < 28.5 \text{ KSI} \text{ (OK)}$$

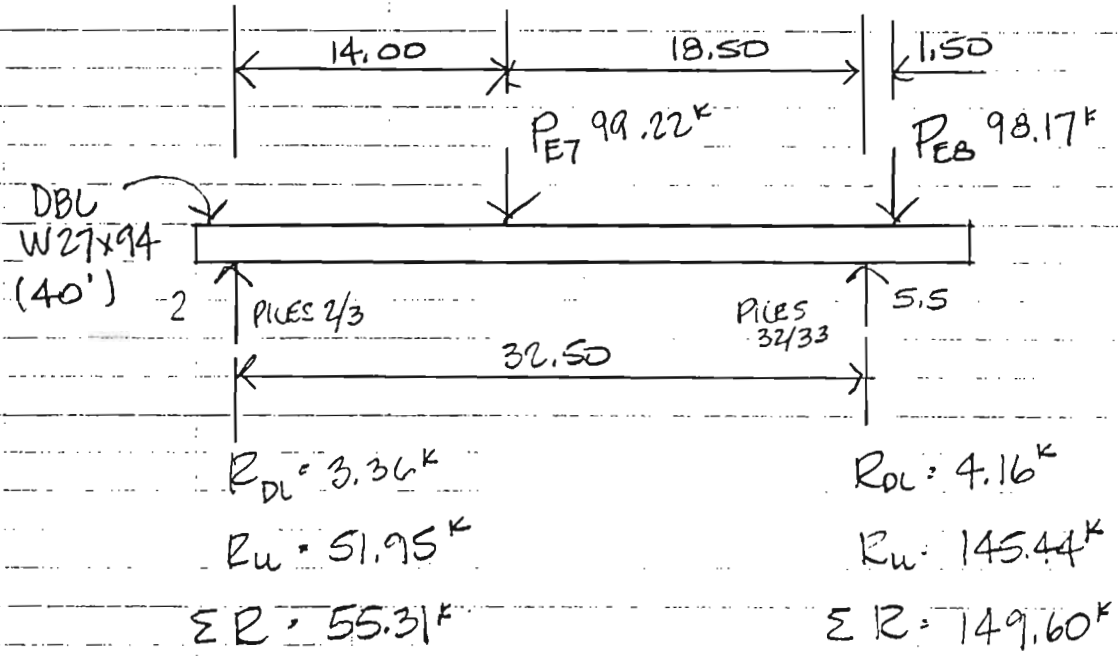
$1.2 \times F_b$
 for A36

PILE LOADS (AXIAL)

PILE 10	39.1 k
11	38.1 k
19	57.4 k
20	57.4 k

+

NEEDLE BEAMS COL LINE E



$$BM = (55.31)(14) - (1.88)(14)^2/2 = 755.92 \text{ FT-KIPS}$$

$$f_b = 755.92 \times 12 / (2 \times 243) = 18.66 \text{ KSI} < 28.5 \text{ KSI} \text{ (OK)}$$

1.2 x F_b
for A36

PILE LOADS (AXIAL)

- PILE 2 27.7^k
- 3 27.7^k
- 32 74.8^k
- 33 74.8^k

+

SUPPORT PILES

<u>PILE</u>	<u>AXIAL LOAD</u>
-------------	-------------------

2	27.7
---	------

3	27.7
---	------

10	38.1
----	------

11	38.1
----	------

19	57.4
----	------

20	57.4
----	------

32	74.8
----	------

33	74.8
----	------

} ug w/ 10' penetration

} ug w/ 10' penetration

SUPPORT PILES

COMBINED STRESSES

PILE 32

$$BM = 103.9 \text{ FT-KIPS (STAGE 2)}$$

$$P_{AXIAL} = 74.8^k$$

USE HP 12X53

$$A_s = 15.5 \text{ IN}^2$$

$$S_x = 66.8 \text{ IN}^3$$

$$r_x = 5.03 \text{ IN}$$

$$f_a = P/A = 74.8/15.5 = 4.826 \text{ ksi}$$

$$Kl/r = (1.0)(13.5)(12)/5.03 = 32.207$$

$$F_a = 19.786 \text{ ksi}$$

$$f_a/F_a = 4.826/19.786 = 0.244 > 0.15$$

$$f_b = 103.9 \times 12 / 66.8 = 18.665 \text{ ksi}$$

$$F_e = 143.96 \text{ ksi}$$

$$F_b = 23.76 \text{ ksi}$$

$$f_b / \left(1 - \frac{f_a}{F_e}\right) F_b = \frac{18.665}{\left(1 - \frac{4.826}{143.96}\right)} 23.76 = 0.813$$

$$\frac{f_a}{F_a} + \frac{f_b}{\left(1 - \frac{f_a}{F_e}\right) F_b} \leq 1.2$$

$$0.244 + 0.813 = 1.057 < 1.2 \text{ (ok)}$$

SUPPORT PILES

COMBINED STRESSES

PILE 19

BM = 118.9 FT-LBS (STAGE 2 PILE 23)

$P_{AXIAL} = 57.4$ LBS

USE HP12x53

$$A_s = 15.5 \text{ IN}^2$$

$$S_{xx} = 66.8 \text{ IN}^3$$

$$r_{xy} = 5.03 \text{ IN}$$

$$f_a = P/A = 57.4/15.5 = 3.703 \text{ KSI}$$

$$F_a = 19.786 \text{ KSI}$$

$$f_a/F_a = 0.187 > 0.15$$

$$f_b = 118.9 \times 12 / 66.8 = 21.359 \text{ KSI}$$

$$F_e = 143.96 \text{ KSI}$$

$$F_b = 23.76 \text{ KSI}$$

$$f_b / \left(1 - \frac{f_a}{F_e}\right) F_b = \frac{21.359}{\left(1 - \frac{3.703}{143.96}\right)} 23.76 = 0.923$$

$$\frac{f_a}{F_a} + \frac{f_b}{\left(1 - \frac{f_a}{F_e}\right) F_b} \leq 1.2$$

$$0.187 + 0.923 = 1.109 < 1.2 \quad \text{OK}$$

+

LOAD TRANSFER

MAX COL. LOAD = 187.3 K
= 99.2 K

COL D-7

COL E-7 & E-8

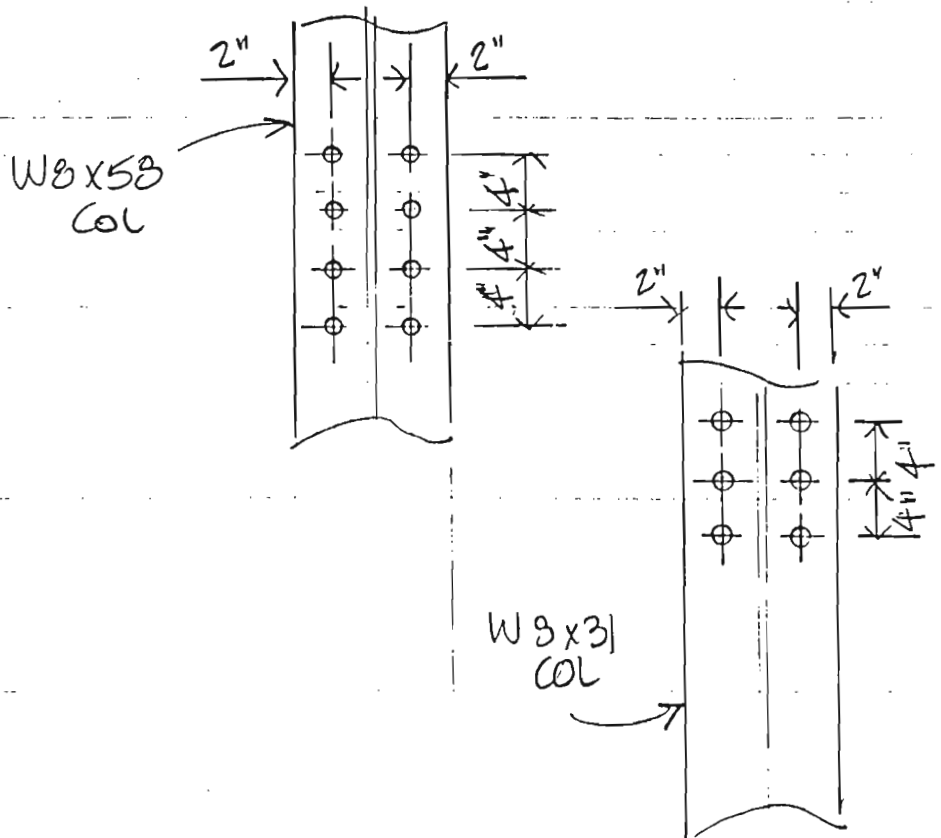
USE A325 H.S. BOLTS

FOR 187.3 K LOAD USE 16 - 1" ϕ BOLTS (A325)

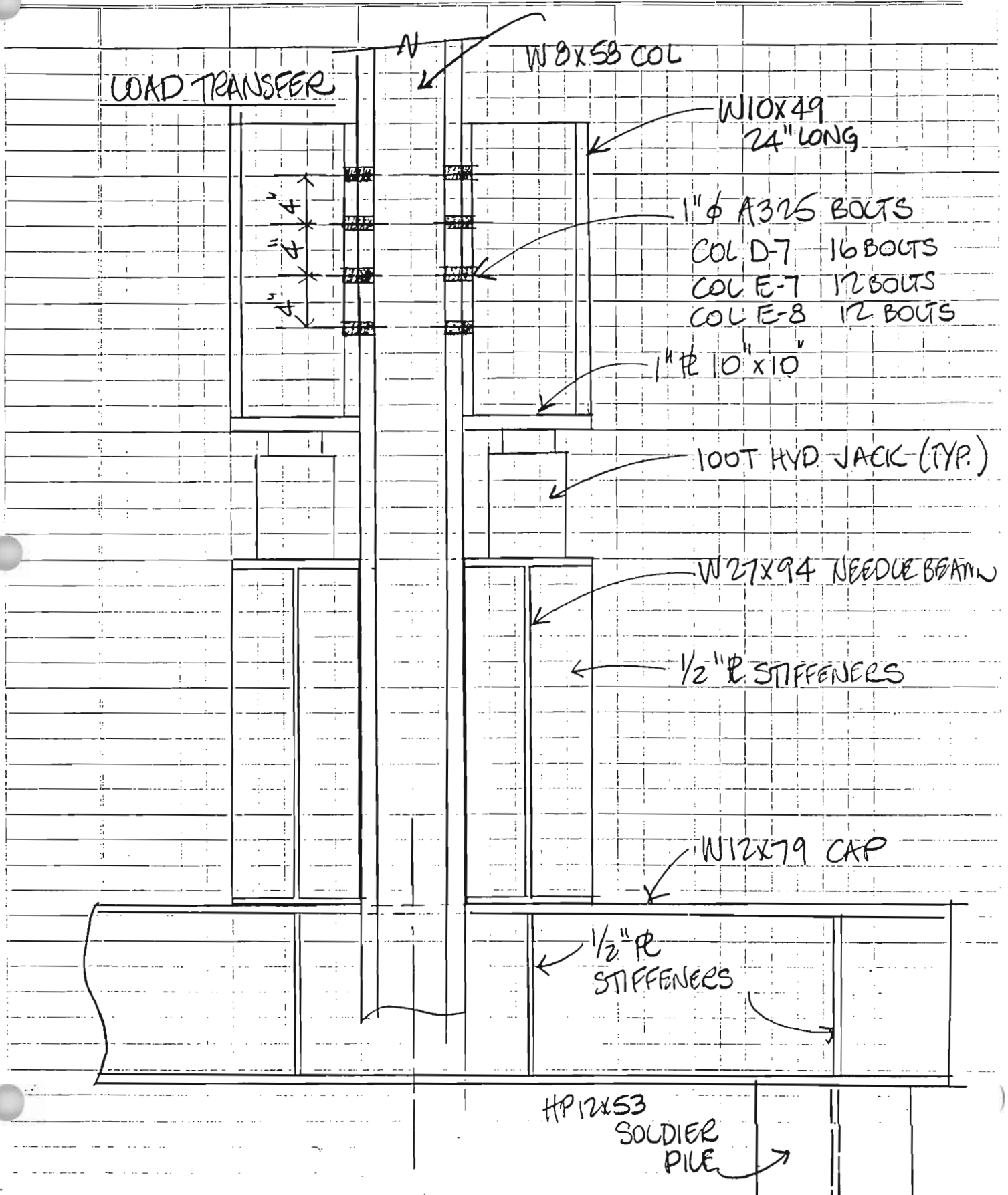
FOR 99.2 K LOAD USE 12 - $\frac{7}{8}$ " ϕ BOLTS (A325)

1" ϕ BOLT (A325) ALLOW SHEAR = 11.8 K/BOLT

$\frac{7}{8}$ " ϕ BOLT (A325) ALLOW SHEAR = 9.02 K/BOLT



+





Appendix C

Waste Removal Manifests



NYB8853066

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 1 1 1 3 0	Manifest Doc. No. 1 1 1 3 0	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8853066		
4. Generator's Telephone Number 516 335-4630 346-8105				B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID XD 59521 (PA)		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 101-261-2220		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID		
10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9				F. Transporter's Telephone ()		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type		13. Total Quantity
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				001 CM		00020
						14. Unit Wt/Vol
						Y
						I. Waste No. EPA D007
						STATE
						EPA
						STATE
						EPA
						STATE
						EPA
						STATE
J. Additional Descriptions for Materials Listed Above S/E CONCRETE W/CHROMIUM				K. Handling Codes for Wastes Listed Above		
a				a		
b				b		
15. Special Handling Instructions and Additional Information - XD 59521 PA B43728 WD 406756 G4M 9 gross wt 75220 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 Net 32600 ERG # 171						
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 ON BEHALF OF NGC J. MAIER SRE		Signature NGC by J. Maier		Mo. Day Year 1/20/2017		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name RICHARD KAUF		Signature Richard Kauf		Mo. Day Year 1/20/2017		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual received 32300						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Eileen Carter		Signature Eileen Carter		Mo. Day Year 1/20/2017		

000) 424-6002 and the NYS Department of Environmental Conservation (518) 457-7362

GENERATOR

TRANSPORTER

NYB8853093

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

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST form with sections for Generator, Transporter, and Facility information, including waste descriptions and signatures.

609 424 0042 and the NYS Department of Environmental Conservation (918) 457-7302

NYB8853561

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD002047967		Manifest Doc. No. 11131		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580						A. NYB8853561							
4. Generator's Telephone Number 516 535-4680						B. Generator's ID SAME							
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.				6. US EPA ID Number PA D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID XA 90171 PA							
7. Transporter 2 (Company Name)						D. Transporter's Telephone 361 2220							
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 EALMER ROAD MODEL CITY, NY 14107						E. State Transporter's ID							
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)						001 CM		00020		Y		EPA D007	
b.												STATE	
c.												EPA	
d.												STATE	
J. Additional Descriptions for Materials listed Above 37E CONCRETE W/CHROMIUM						K. Handling Codes for Wastes Listed Above NYEL							
a. > 1.00						c.							
b.						d.							
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 BU372P XA 90171 PA GROSS WT 72 620 TARE 45400 NET 27,200													
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 ON BEHALF OF NGL Maria Sosa				Signature NGL by J. M. Sosa				Mo. Day Year 1 20 3 9 7					
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name LARRY SOSTER				Signature Larry Soster				Mo. Day Year 1 20 3 9 7					
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name				Signature				Mo. Day Year					
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 Colin M. Duncan				Signature Colin M. Duncan				Mo. Day Year 1 20 4 5 7					

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

GENERATOR

TRANSPORTER

FACILITY

NYB8853498

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 1 9		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580						A. NYB8853498							
4. Generator's Telephone Number 516 346 2106 575 4680						B. Generator's ID SAME							
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.				6. US EPA ID Number E A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID TG77105 (PA)							
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone 310 261-2220							
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107						E. State Transporter's ID							
10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9						F. Transporter's Telephone ()							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)						001 DT		47440		P		EPA D007	
b.												EPA STATE	
c.												EPA STATE	
d.												EPA STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM						K. Handling Codes for Wastes Listed Above NY=L							
a. > 1.000 c						a. <input type="checkbox"/> c <input type="checkbox"/>							
b.						b. <input type="checkbox"/> d <input type="checkbox"/>							
15. Special Handling Instructions and Additional Information B43730 S.R 407760-1 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387						81479022 ERG # 171							
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 ON BEHALF OF NGC X J. MAIER SAGE				Signature NGC by J. MAIER SAGE				Mo. Day Year 1 2 0 4 9 7					
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name ANDY RIOS				Signature andy Rios				Mo. Day Year 1 2 0 4 9 7					
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name				Signature				Mo. Day Year					
19. Discrepancy Indication Space actual rec'd 47880P steve K-11													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name BILBOB CARTON				Signature Ellen Carter				Mo. Day Year 1 2 0 5 9 7					

GENERATOR
COPY TO Disposer State - Mailed by TSD Facility

NYB8853471

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



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

(Hazardous Waste Manifest 4/97)

Type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204796700017		Manifest Doc. No.		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 ATTN: J. Colman				A. Generator's ID NYB8853471		B. Generator's ID SAME		C. State Transporter's ID XD65990 (pa)	
4. Generator's Telephone 516-346-8108		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PAD146714878		D. Transporter's Telephone 610-261-2220		E. State Transporter's ID	
7. Transporter 2 (Company Name)		8. US EPA ID Number		F. Transporter's Telephone ()		G. State Facility ID N/A		H. Facility Telephone () 716-754-8231	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				10. US EPA ID Number NYD049836679		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number Type	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		13. Total Quantity EST. 40000		14. Unit P		I. Waste No. EPA D007		STATE	
b.						EPA		STATE	
c.						EPA		STATE	
d.						EPA		STATE	
J. Additional Descriptions of Materials listed Above 37% SOLN W/ CHROMIUM				K. Handling Codes for Wastes Listed Above NYEL		a		c	
a. > 1,000		b.		c.		d.			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 X1479025 BU3730 ERG #171									
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 ON BEHALF OF NGC J. Miller SUE				Signature NGC by J. Miller SUE				Mo. Day Year 1/20/97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name ROBERT G. HITTLE				Signature [Signature]				Mo. Day Year 1/20/97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual found 4326AT stock-14									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name EILBEN CARTER				Signature Eilben Carter				Mo. Day Year 1/20/97	

NYB8853354

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204798	Manifest Doc. No. 00030	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address KORTROP-CRUMMAN CORPORATION		MAIL STOP 008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. NYB8853354		
4. Generator's Telephone Number (516) 575-4680		Att: J. Hoffman		B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCK, INC.		6. US EPA ID Number PA0146714878		C. State Transporter's ID X3964746		
7. Transporter 2 (Company Name) Horwith Truck, Inc.		8. US EPA ID Number PA0146714878		D. Transporter's Telephone 510 281 2220		
9. Designated Facility Name and Site Address CVI CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSELAND NY 14107		10. US EPA ID Number 1664666666		E. State Transporter's ID X896474 (41)		
				F. Transporter's Telephone (610) 201 2220		
				G. State Facility ID		
				H. Facility Telephone ()		
				716 254 8231		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No. EPA STATE
a. RG HAZARDOUS WASTE, SOLID, N.O.S.		001	DR	5288	P	3007
X. (CHROMIUM) 9, RA3077, III (D007)						
b.						EPA STATE
c.						EPA STATE
d.						EPA STATE
J. Additional Descriptions for Materials listed Above 3/8 SOIL w/CHROMIUM		K. Handling Codes for Wastes Listed Above				
a. > 1000 c		a. <input type="checkbox"/> c. <input type="checkbox"/>				
b.		b. <input type="checkbox"/> d. <input type="checkbox"/>				
15. Special Handling Instructions and Additional Information PROT 003730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 388 353-2387 4171790 615711						
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 <i>[Signature]</i>		Signature <i>[Signature]</i>		Mo. Day Year 12/1/97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name JAMES FITCH		Signature <i>[Signature]</i>		Mo. Day Year 12/1/97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name <i>[Signature]</i>		Signature <i>[Signature]</i>		Mo. Day Year 11/11/97		
19. Discrepancy Indication Space Actual Recd. 53206 lbs <i>[Signature]</i>						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Tosca M. Brennan		Signature <i>[Signature]</i>		Mo. Day Year 12/1/97		

NYB8853336



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 470002047967		Manifest Doc. No. 00031		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address NORTHROP-TRUMAN CORPORATION MAIL STOP 008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580						A. Generator's ID NYB8853336							
4. Generator's Telephone Number (516) 575-4680						B. Generator's ID SAME							
5. Transporter 1 (Company Name) NORWITH TRUCKS, INC.						C. State Transporter's ID XA50217 (A)							
6. US EPA ID Number 230146714878						D. Transporter's Telephone 610 261-2220							
7. Transporter 2 (Company Name)						E. State Transporter's ID							
8. US EPA ID Number						F. Transporter's Telephone ()							
9. Designated Facility Name and Site Address CEM CHEMICAL SERVICES, INC. 1390 BALMER ROAD MODEL CITY, NY 14107						G. State Facility ID							
10. US EPA ID Number 470049336679						H. Facility Telephone () 716 754-8221							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. NO HAZARDOUS WASTE, SOLID, n.o.s.												EPA 0007	
X (CHROMIUM) 9, NA3077, III (D007)						0 0 1 0 T		51380		2		STATE	
b.												EPA STATE	
c.												EPA STATE	
d.												EPA STATE	
15. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above							
a. W/E SOIL W/CHROMIUM > 1.00						a. <input type="checkbox"/> c. <input type="checkbox"/>							
b.						b. <input type="checkbox"/> d. <input type="checkbox"/>							
15. Special Handling Instructions and Additional Information PRO# BU3730 - SR# 409390-A 81474778 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 288 353-2387 CAS 771													
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 NOEL J. HANCOCK				Signature <i>NOEL J. HANCOCK</i>				Mo. Day Year 12/15/97					
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name				Signature				Mo. Day Year 12/15/97					
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name				Signature				Mo. Day Year					
19. Discrepancy Indication Space Actual received 5,760 lb. Tank - H													
Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name JOSUAH W. BERNHARD				Signature <i>JOSUAH W. BERNHARD</i>				Mo. Day Year 12/15/97					

NYB8853318

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

In case of emergency or spill immediately call the National Response Centre: (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY0002047967	Manifest Doc. No. 00032	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.		
3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580			A. NYB8853318				
4. Generator's Telephone Number (516) 575 4620 Att: J. Cotman			B. Generator's ID same				
5. Transporter 1 (Company Name) EDSWITH TRUCKS, INC.		6. US EPA ID Number 280146714879		C. State Transporter's ID XD73455 (A)			
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone (610) 261-2228			
9. Designated Facility Name and Site Address CM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107			10. US EPA ID Number NY0049836679		E. State Transporter's ID		
			F. Transporter's Telephone ()		G. State Facility ID		
			H. Facility Telephone () 716-754-8231				
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NO HAZARDOUS WASTE, SOLID, n.c.s. X (CHROMIUM) 9, NA3077, III (2007)				0 0 1 0 T	47020		EPA 2007 STATE
b.							EPA STATE
c.							EPA STATE
d.							EPA STATE
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above			
a. 3/8 SOIL W/CHROMIUM > 1.00				a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/>			
b.				b. <input type="checkbox"/> d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 888 353-2387				81477785 81477785			
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 X J. Cotman		Signature <i>J. Cotman</i>		Mo. Day Year 12/15/97			
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name <i>[Signature]</i>		Signature <i>[Signature]</i>		Mo. Day Year 12/15/97			
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space Actual Recd. 47120 lb							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name <i>[Signature]</i>		Signature <i>[Signature]</i>		Mo. Day Year 12/15/97			

COPY 5-Generator-mailed by TSD facility

NYB8853291

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY0002047967		Manifest Doc. No. 00034		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
Generator's Name and Mailing Address NORTHROP-GRIFFIN CORPORATION MAIL STOP 008-001 SOUTH OYSTER BAY ROAD METHUEN NY 11714-3580						A. NYB8853291							
4. Generator's Telephone Number (516) 575-4680 Att: J. Coffman						B. Generator's ID 5200							
5. Transporter 1 (Company Name) MORWITH TRUCKS, INC.			6. US EPA ID Number PA D 1 4 6 7 1 4 8 7 8			C. State Transporter's ID XC 588 22 (M)							
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (610) 2612220							
9. Designated Facility Name and Site Address OWN CHEMICAL SERVICES, INC. 1550 PALMER ROAD MODEL CITY, NY 14107						E. State Transporter's ID							
						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 716-754-2231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. RG HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (9007)						0 01 D T		4 240				EPA 9007 STATE	
b.												EPA STATE	
c.												EPA STATE	
d.												EPA STATE	
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above							
a. G/SOIL W/CHROMIUM 1 0 0 c						a. <input type="checkbox"/> c. <input type="checkbox"/>							
b.						b. <input type="checkbox"/> d. <input type="checkbox"/>							
15. Special Handling Instructions and Additional Information DU 3720 OR# 409390-1 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387						81479734 EAS-171							
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				18. Transporter 2 Acknowledgement of Receipt of Materials				19. Discrepancy Indication Space					
Printed/Typed Name J. Marie				Signature <i>J. Marie</i>				Mo. Day Year 11/21/97					
Printed/Typed Name J. Marie				Signature <i>J. Marie</i>				Mo. Day Year 11/21/97					
Printed/Typed Name				Signature				Mo. Day Year					
19. Discrepancy Indication Space Actual Record 44800P Ham Ka - IT													
Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name Coleen M. T. Duncan				Signature <i>Coleen M. T. Duncan</i>				Mo. Day Year 11/21/97					

GENERATOR

TRANSPORTER

FACILITY

COPY 5-Generator-mailed by TSD facility

NYB8853282

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>315 375-4600</u>		Manifest Doc. No. <u>00035</u>		2. Page 1 of <u>1</u>		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD METHUEN NY 11714-3580		A. NYB8853282		B. Generator's ID		C. State Transporter's ID <u>TY218014</u>		D. Transporter's Telephone <u>810 261-2220</u>	
4. Generator's Telephone Number () <u>810 375-4600</u>		5. Transporter 1 (Company Name) <u>WILLIAMS TRANSPORT</u>		6. US EPA ID Number		7. Transporter 2 (Company Name)		8. US EPA ID Number <u>14370</u>	
9. Designated Facility Name and Site Address OWI CHEMICAL SERVICES, INC. 1350 PALMER ROAD ROSELLE CITY NY 14107		10. US EPA ID Number		G. State Facility ID		H. Facility Telephone ()			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Unit		14. Unit		I. Waste No.	
a. PO HAZARDOUS WASTE, SOLID, n.o.s.		Number		Type		Quantity		EPA	
b. (CHROMIUM) 9, 143077, III (D007)		20		DR		460602		STATE D007	
c.								EPA	
d.								STATE	
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above							
a. 1/2 SOIL W/CHROMIUM		a. NY-L		c.		c.			
b.		b.		d.		d.			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 81471750									
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 <u>OWI CHEMICAL SERVICES, INC.</u>		Signature <u>NGC by John - 300</u>		Mo. <u>12</u> Day <u>15</u> Year <u>92</u>					
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name <u>Williams Transport</u>		Signature <u>[Signature]</u>		Mo. <u>12</u> Day <u>15</u> Year <u>92</u>					
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name		Signature		Mo. Day Year					
19. Discrepancy Indication Space <u>461-01</u> <u>John K - 117</u>									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name <u>Ellen Carter</u>		Signature <u>[Signature]</u>		Mo. <u>12</u> Day <u>17</u> Year <u>97</u>					

NYB8853309

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>170002047057</u>		Manifest Doc. No. <u>00033</u>		2. Page 1 of <u>1</u>		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP 008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. NYB8853309		B. Generator's ID SAME		C. State Transporter's ID <u>TZ1590B (PA)</u>		D. Transporter's Telephone ()	
4. Generator's Telephone Number (<u>516</u>) <u>575-4680</u>		6. US EPA ID Number <u>170002047057</u>		E. State Transporter's ID <u>610 261-2220</u>		F. Transporter's Telephone ()		G. State Facility ID	
5. Transporter 1 (Company Name) WORTH TRUCKS, INC.		8. US EPA ID Number <u>170002047057</u>		H. Facility Telephone ()		9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number <u>170002047057</u>	
7. Transporter 2 (Company Name)		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Total Unit		I. Waste No.	
a.		b. RO HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (0007)		Number		Type		Quantity	
c.		d.		Wt/Vol		I. Waste No.		EPA	
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above		EPA		STATE		EPA	
a. <u>5/ SOIL w/ CHROMIUM > 1.0</u>		a. <u>1X=2</u>		STATE		EPA		STATE	
b.		b.		EPA		STATE		EPA	
c.		c.		EPA		STATE		EPA	
d.		d.		EPA		STATE		EPA	
15. Special Handling Instructions and Additional Information		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.		17. Transporter 1 Acknowledgement of Receipt of Materials		18. Transporter 2 Acknowledgement of Receipt of Materials		19. Discrepancy Indication Space	
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 SR # 409340-5 DU 3730 ORG # 171		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 <u>ON BEHALF OF NCC</u> Signature <u>[Signature]</u> Mo. Day Year <u>12/15/92</u>		Printed/Typed Name <u>[Signature]</u> Signature <u>[Signature]</u> Mo. Day Year <u>12/15/92</u>			
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name <u>Colan M. Duncan</u> Signature <u>[Signature]</u> Mo. Day Year <u>1/21/97</u>		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name <u>Colan M. Duncan</u> Signature <u>[Signature]</u> Mo. Day Year <u>1/21/97</u>			

In case of emergency or spill immediately call the National Response Center at 1-800-424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

GENERATOR

TRANSPORTER

FACILITY

NYB8853273

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>340002047967</u>		Manifest Doc. No. <u>00036</u>		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address MORTINOP-GRIFFIN CORPORATION MAIL STOP 008-001 SOUTH OYSTER BAY ROAD WESTPAGE NY 11714-3530						A. NYB8853273					
4. Generator's Telephone Number (516) 375-4680 Attn: J. Colman						B. Generator's ID NAME					
5. Transporter 1 (Company Name) WORTH TRUCKS, INC.			6. US EPA ID Number <u>9AD146714676</u>			C. State Transporter's ID <u>XA 61207 1A</u>		D. Transporter's Telephone (610) 261-			
7. Transporter 2 (Company Name)			8. US EPA ID Number			E. State Transporter's ID <u>2220</u>		F. Transporter's Telephone ()			
9. Designated Facility Name and Site Address OWM CHEMICAL SERVICES, INC. 1550 WALSH ROAD ROSEL CITY, NY 14167						G. State Facility ID					
10. US EPA ID Number <u>340002047967</u>						H. Facility Telephone () <u>316 754 4231</u>					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total		14. Unit	
						Number		Quantity		Wt/Vol	
a. NO HAZARDOUS WASTE, SOLID, n.o.s.										I. Waste No.	
b. (CHROMIUM) 9, RA3077, III (9007)						<u>00102</u>		<u>467000</u>		EPA <u>9007</u>	
										STATE	
c.										EPA	
										STATE	
d.										EPA	
										STATE	
J. Additional Descriptions for Materials listed Above 3/SOIL w/CHROMIUM > 100						K. Handling Codes for Wastes Listed Above NY-2					
a						a		c			
b						b		d			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 388 353-2387											
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 ON BEHALF OF NGC X J. Manic				Signature NGC by J. Manic				Mo. Day Year 12/15/97			
17. Transporter 1 Acknowledgement of Receipt of Materials											
Printed/Typed Name Paul Keegan				Signature Paul Keegan				Mo. Day Year 12/15/97			
18. Transporter 2 Acknowledgement of Receipt of Materials											
Printed/Typed Name				Signature				Mo. Day Year			
19. Discrepancy Indication Space Item Ku - [T] a											
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.											
Printed/Typed Name Josiah M. ...				Signature Josiah M. ...				Mo. Day Year 12/17/97			

In case of emergency or spill immediately call the National Response Center at 1-800-424-6342 and the NY State Department of Environmental Conservation at 518-474-6000.

NYB8853246

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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

(Hazardous Waste Manifest 4-97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 12009294798	Manifest Doc. No. 00038	2. Page 1 of	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP 008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. Generator's ID NYB8853246		B. Generator's ID	
4. Generator's Telephone Number (516) 375-4680	5. Transporter 1 (Company Name) FORNITE TRUCKS, INC.		6. US EPA ID Number 230146714873	C. State Transporter's ID XA0774 (A)	
7. Transporter 2 (Company Name)	8. US EPA ID Number		D. Transporter's Telephone		E. State Transporter's ID 510 201-2220
9. Designated Facility Name and Site Address CEM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number 122049336679		F. Transporter's Telephone	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. 20 HAZARDOUS WASTE, SOLID, D.O.B. (CHROMIUM) 9, RA3077, III (D007)		0510	47640		EPA STATE 2007
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE
J. Additional Descriptions for Materials listed Above 3/8 SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above NYEL			
a		c		a	
b		d		b	
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 P.O.# BU3120 SR#4093903 8147978/CA#171					
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 X <i>DI MAKE OF NCC</i> Make sure		Signature <i>NCC by J. Hines</i>		Mo. Day Year 12/15/92	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name FREEMAN M. LARNED		Signature <i>Freeman M Larned</i>		Mo. Day Year 12/15/92	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space Actual Record 47400 lb Item Ka = <input checked="" type="checkbox"/> SN					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Lusan M. Bennett		Signature <i>Lusan M Bennett</i>		Mo. Day Year 12/15/92	

In case of emergency or spill immediately call the National Response Center (800) 424-9602 and the NYS Department of Environmental Conservation (518) 457-7362

NYB8853255

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

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

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(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY200204788	Manifest Doc. No. 00029	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD LUTHERVILLE NY 11714-358				A. NYB8853255		
4. Generator's Telephone Number (310 575-4680 Att: J. Cofman				B. Generator's ID SAME		
5. Transporter 1 (Company Name) DORWIN TRUCKS, INC.		6. US EPA ID Number PA0146714878		C. State Transporter's ID 8 TV 4376/A		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone (610 261-2220		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 PALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID		
10. US EPA ID Number NY0049335679				F. Transporter's Telephone ()		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. SQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				001	46980	lb
b.						
c.						
d.						
J. Additional Descriptions for Materials listed Above 3/3 SOIL w/CHROMIUM x 1.00 c				K. Handling Codes for Wastes Listed Above NY = E		
a.				a		c
b.				b		d
15. Special Handling Instructions and Additional Information 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 ON BEHALF OF NCC X J. Cofman		Signature NCC by J. Cofman		Mo. Day Year 12 15 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year 12 15 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space 46320 lb						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name LESAK M. BRUNAR		Signature [Signature]		Mo. Day Year 12 15 97		

Generator or shipper immediately call the National Response Center at (800) 424-9602 and the NY's Department of Environmental Conservation at (518) 457-7362

NYB8853264

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

155



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 48000204798	Manifest Doc. No. 100037	2. Page 1 of	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP 008-001 SOUTH OYSTER BAY ROAD ROSEMPAGE NY 11714-3580		A. NYB8853264		B. Generator's ID	
4. Generator's Telephone Number 516 575-4580	6. US EPA ID Number 2201146714373		C. State Transporter's ID TT-3819 (PA)		D. Transporter's Telephone 510 351-2220
5. Transporter 1 (Company Name) KORWITH TRUCKS, INC.	8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()
7. Transporter 2 (Company Name)	10. US EPA ID Number 220043330679		G. State Facility ID		H. Facility Telephone ()
9. Designated Facility Name and Site Address ORM CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSEL CITY, NY 14107		12. Containers Number 001		13. Total Quantity 45100	14. Unit Wt/Vol 2
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. NO HAZARDOUS WASTE, SOLID, N.O.S. (CHROMIUM) 9, NA3077, III (2007)		I. Waste No. EPA STATE 2007		b. EPA STATE	
c. EPA STATE		d. EPA STATE		EPA STATE	
J. Additional Descriptions for Materials listed Above a. 3/COIL W/CHROMIUM > 1000		K. Handling Codes for Wastes Listed Above a. 17-6		c. <input type="checkbox"/>	
b. <input type="checkbox"/>		d. <input type="checkbox"/>		b. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information PROP # B43730 157-774575-4 PACKING SLIPS ATTACHED FOR CLARIFICATION		EMERGENCY PHONE 888 353-7387		EPA # 171	
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 W. B. V. x N6C		Signature <i>N6C by J. H. ...</i>		Mo. Day Year 11/21/59/7	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year 11/21/59/7	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space 14960 lb					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Lesar M. ...		Signature <i>Lesar M. ...</i>		Mo. Day Year 12/1/97	

19-424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

GENERATOR

TRANSPORTER

FACILITY

NYB8804349

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST form with sections for Generator, Transporter, and Facility information, including EPA ID numbers, shipping descriptions, and signatures.

in case of emergency or spill immediately call the National Response Center at (800) 424-8802 and the NYS Department of Environmental Conservation at (518) 457-7362

NYB8804304

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



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

(Hazardous Waste Manifest 497)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>NYD00204796700000</u>		Manifest Doc. No. <u>00000</u>		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION		MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. Generator's ID NYB8804304		B. Generator's ID SAME			
4. Generator's Telephone Number <u>516 348-8100</u>		6. US EPA ID Number <u>PA D 1 4 6 7 1 4 8 7 8</u>		C. State Transporter's ID <u>XC 76507 (ea)</u>		D. Transporter's Telephone <u>810 261-2220</u>			
5. Transporter 1 (Company Name) HORWATH TRUCKS, INC.		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()			
7. Transporter 2 (Company Name)				G. State Facility ID		H. Facility Telephone ()		N/A	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number <u>NYD049836679</u>		12. Containers Number <u>001</u>		13. Total Quantity <u>49920</u>		14. Unit <u>P</u>	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		I. Waste No. EPA <u>D007</u>		STATE			
b.				EPA		STATE			
c.				EPA		STATE			
d.				EPA		STATE			
j. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above <u>NY-L</u>		a <input type="checkbox"/>		c <input type="checkbox"/>			
b <input type="checkbox"/>		d <input type="checkbox"/>		b <input type="checkbox"/>		d <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION		BU3730		81479892		EMERGENCY PHONE 888 353-2387		ERG #171	
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 ON BEHALF OF NGC J. MAIER SIE		Signature <i>NGC by J. Maier Sie</i>		Mo. Day Year 1/21/97			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Mo. Day Year 1/21/97			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space actual received 49940 P		Signature <i>John K. [unclear]</i>		Mo. Day Year 1/21/97					
j. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name Colleen M. [unclear]		Signature <i>Colleen M. [unclear]</i>		Mo. Day Year 1/21/97			

In case of emergency of spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (914) 457-7362

NYB8804313

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 0 0 0		Manifest Doc. No. 00061		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.							
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580						A. NYB8804313									
4. Generator's Telephone 516-846-5106						B. Generator's ID SAME									
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.				6. US EPA ID Number PA D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID X1596488 (M)		D. Transporter's Telephone 810 261-2220							
7. Transporter 2 (Company Name)				8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()							
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 PALMER ROAD MODEL CITY, NY 14107						10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		G. State Facility ID N/A							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.			
						001		DT		49720		P		EPA D007	
														STATE	
														EPA	
														STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM > 1.00						K. Handling Codes for Wastes Listed Above 1576									
a						a		c							
b						b		d							
15. Special Handling Instructions and Additional Information 814 773394 BU3730 407400-8 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 ER5=121															
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 J. M. Sullivan				Signature JMS				Mo. Day Year 12/17/97							
17. Transporter 1 Acknowledgement of Receipt of Materials															
Printed/Typed Name				Signature				Mo. Day Year 12/17/97							
18. Transporter 2 Acknowledgement of Receipt of Materials															
Printed/Typed Name				Signature				Mo. Day Year							
19. Discrepancy Indication Space actual recd 49700P JMS-K-IT															
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.															
Printed/Typed Name Colleen M. Sullivan				Signature Col M. Sullivan				Mo. Day Year 12/18/97							

In case of emergency or spill immediately call the National Response Center (800) 424-9802 and the NYS Department of Environmental Conservation (518) 457-7362

NYB8804331

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 6 3		Manifest Doc. No. 00003		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		4. Generator's Telephone Number 516 348-8106		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		A. Generator's ID NYB8804331		B. Generator's ID SAME	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		8. US EPA ID Number		C. State Transporter's ID TWO 66786 (M)		D. Transporter's Telephone 510 261 2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9				E. State Transporter's ID		F. Transporter's Telephone ()	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number		13. Total Quantity		14. Unit W/Vol		1. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001		DT 4/2360		P		EPA D007 STATE	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM 100		K. Handling Codes for Wastes Listed Above a <input checked="" type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/>							
15. Special Handling Instructions and Additional Information P-F 043130 OR 407400-5 PACKING SLIPS ATTACHED FOR CLARIFICATION		EMERGENCY PHONE 888 353-2387		81479883		26# 171			
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 ✓ MARK SAGE				Signature MSG by J. Mans SAGE				Mo. Day Year 12/17/97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year 12/17/97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual record 42500 P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Cleen M. ...				Signature Cleen M. ...				Mo. Day Year 12/18/97	

COPY 5-Generator-mailed by TSD facility

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

60007 12-1 0002 and the NYS Department of Environmental Conservation (DEC) 457-7462

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD002047967	Manifest Doc. No. 00067	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		6. US EPA ID Number PAID146714878		A. Generator's ID NYB8804322	
4. Generator's Telephone Number 516-546-8106		7. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		B. Generator's ID SAME	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PAID146714878		C. State Transporter's ID AB19201A	
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 610 261-2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number NYD049836679		E. State Transporter's ID	
				F. Transporter's Telephone ()	
				G. State Facility ID	
				H. Facility Telephone () N/A	
				I. Waste No. EPA D007	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		12. Containers Number 001	13. Total Quantity 51580	14. Unit Wt/Vol P	STATE
b.					STATE
c.					STATE
d.					STATE
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above			
a		c		a	
b		d		b	
15. Special Handling Instructions and Additional Information 81479953 BU2730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 ERG #171					
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 MARCIA L...		Signature [Signature]		Mo. Day Year 1/21/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year 1/21/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
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. 52520 ob Kai add "T" MPC 12/22/97					
Printed/Typed Name Susan M...		Signature [Signature]		Mo. Day Year 12/22/97	

NYB8804295

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
 P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204798700039	Manifest Doc. No. 00052	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804295		
4. Generator's Telephone Number 516-346-8106				B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PA D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID TM 48689 (M)		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 810 261-2220		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID		
				F. Transporter's Telephone ()		
				G. State Facility ID		
				H. Facility Telephone () N/A		
				716 754-8231		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity	14. Unit	I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001	48260	P	EPA D007	
b.					STATE	
c.					EPA	
d.					STATE	
Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		
a		b		c		d
b		c		d		
15. Special Handling Instructions and Additional Information BU3730 81479862 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 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 J. M... S...		Signature NGL by J... S...		Mo. Day Year 12/797		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name JERRY L. ANDREWS		Signature Jerry L. Andrews		Mo. Day Year 12/797		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual record 482400 Item K-11						
Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name EILEEN CARTER		Signature Eileen Carter		Mo. Day Year 12/1897		

COPY 5-Generator-mailed by TSD facility

NYB8804277

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 5 7		Manifest Doc. No. 00057		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804277		B. Generator's ID SAME		C. State Transporter's ID XD 2395011	
4. Generator's Telephone Number 516-346-8106		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PA D 1 4 6 7 1 4 8 7 8		D. Transporter's Telephone 510 261-2220		E. State Transporter's ID	
7. Transporter 2 (Company Name)		8. US EPA ID Number		9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		F. Transporter's Telephone ()		G. State Facility ID N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number Type		13. Total Quantity		14. Unit W/Vol		I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001 DT		45520		P		EPA D007 STATE	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM 1/1010				K. Handling Codes for Wastes Listed Above a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/>					
15. Special Handling Instructions and Additional Information Pco 543730 S# 409400-1 81477246 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 EAS-171									
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 J. M. ...				Signature UGL by ...				Mo. Day Year 12/1/97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name MIN ...				Signature ...				Mo. Day Year 12/1/97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual found 45580 P Item K									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Coleen M. Duncan				Signature Coleen M. Duncan				Mo. Day Year 12/1/97	

COPY 5-Generator-mailed by TSD facility

1999 12 0002 and the 19 5 Department of Environmental Conservation (510) 457-7362

NYB8804286

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204796700058	Manifest Doc. No. 00058	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 ATTN: J. Coleman				A. NYB8804286	
4. Generator's Telephone Number 916 348-8106				B. Generator's ID SAME	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PAD146714878		C. State Transporter's ID S-162774	
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 810 261-2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID	
				F. Transporter's Telephone ()	
				G. State Facility ID N/A	
				H. Facility Telephone () 716 754-8231	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)			001	DT 475810	P
b.					
c.					
d.					
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above		
a. > 1100 c			a. <input checked="" type="checkbox"/> c. <input type="checkbox"/>		
b.			b. <input type="checkbox"/> d. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information SR- 409400-4 81479853 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 286 #171					
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 ON BEHALF OF NGC: J. Maica		Signature NGC by J. Maica		Mo. Day Year 12/17/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name Ethel Malabar		Signature Ethel Malabar		Mo. Day Year 12/17/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space actual rec'd 47840 Item K-17					
Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Coleen M. Surian		Signature Coleen M. Surian		Mo. Day Year 12/18/97	

NYB8804268

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204796700056		Manifest Doc. No. NYB8804268		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		4. Generator's Telephone Number 516 846-8106		6. US EPA ID Number PA D 1 4 6 7 1 4 8 7 8		A. NYB8804268		B. Generator's ID SAME	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		8. US EPA ID Number		C. State Transporter's ID XD5-2214		D. Transporter's Telephone 610 261-2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number NYD049836679		E. State Transporter's ID		F. Transporter's Telephone ()		G. State Facility ID N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number		13. Total Quantity		14. Unit WWVol		I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001		DT		43120		P	
b.								EPA D007	
c.								STATE	
d.								EPA	
J. Additional Descriptions for Materials listed Above SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above		a <input type="checkbox"/>		c <input type="checkbox"/>		b <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION		EMERGENCY PHONE 888 353-2387		814 77845					
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 ON BEHALF OF ABC		Signature <i>[Signature]</i>		Mo. Day Year 1/21/92					
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name JOHN MEYER JR.		Signature <i>[Signature]</i>		Mo. Day Year 1/21/92					
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name		Signature		Mo. Day Year					
19. Discrepancy Indication Space actual rec'd 43160P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Coleen M. [Signature]		Signature <i>[Signature]</i>		Mo. Day Year 1/21/97					

8853579

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST form with sections for Generator, Transporter, and Facility Owner information, including EPA ID numbers, addresses, and waste descriptions.

In case of emergency or spill immediately call the National Response Center at 1-800-424-6802 and the NYS Department of Environmental Conservation at 518-424-7300

NYB8853507

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST form with sections for Generator, Transporter, and Facility information, including EPA ID numbers, shipping descriptions, and signatures.

GENERATOR

TRANSPORTER

FACILITY

NYB8853489



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 1 8	Manifest Doc. No. 1	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION 575-4680 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580			A. NYB8853489		B. Generator's ID SAME
4. Generator's Telephone Number 516-246-8106		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8	
7. Transporter 2 (Company Name)		8. US EPA ID Number		C. State Transporter's ID XD73455(PA)	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107			10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		D. Transporter's Telephone 310-261-2220
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)			001	EST. 40000	P
b.					
c.					
d.					
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above		
a. > 1.00 c			a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/>		
b. d			b. <input type="checkbox"/> d. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information BU3730 81479024 SR# 407760-2 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 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 ON BEHALF OF NGL J. M... ..		Signature NGL by J. M... ..		Mo. Day Year 12/04/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name DAVID B. BRYFIDDLE		Signature D. B. Bryfiddle		Mo. Day Year 12/04/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space actual found 37900P					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Eileen Carter		Signature Eileen Carter		Mo. Day Year 12/04/97	

In case of emergency or spill, immediately call the National Response Center (800) 424-8802 and the NY's Department of Environmental Conservation (516) 457-7362

NYB8804259

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD002047967000456	Manifest Doc. No. D005	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580			A. NYB8804259		B. Generator's ID SAME	
4. Generator's Telephone Number 516-846-8106		6. US EPA ID Number DAD146714878		C. State Transporter's ID XAT		D. Transporter's Telephone 510 261-2220
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		E. State Transporter's ID		F. Transporter's Telephone ()
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107			10. US EPA ID Number NYD049836679		G. State Facility ID N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)			12. Containers Number 001	13. Total Quantity 37240	14. Unit W/Vol P	I. Waste No. EPA D007 STATE
b.						EPA STATE
c.						EPA STATE
d.						EPA STATE
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above			
a. > 1.00			a. <input type="checkbox"/> c. <input type="checkbox"/>			
b.			b. <input type="checkbox"/> d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 BU3729						
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 ON BEHALF OF NGC J. MARC SUC		Signature NGC by J. Marc SUC		No. Day Year 120897		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Larry Spitzer		Signature Larry Spitzer		Mo. Day Year 120897		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space Initials RLI 35660 lb						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Susan M. Abraham		Signature Susan M. Abraham		Mo. Day Year 120897		

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

NYB8853444

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



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

(Hazardous Waste Manifest 4/87)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No. **NYD00204796700014** Manifest Doc. No. **1**

2. Page 1 of 1 Information within heavy bold line is not required by Federal Law.

3. Generator's Name and Mailing Address
NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580

4. Generator's Telephone Number **516-846-8000 ATTN: J. Colbran**

5. Transporter 1 (Company Name) **HORWITH TRUCKS, INC.** 6. US EPA ID Number **FAD146714878**

7. Transporter 2 (Company Name) 8. US EPA ID Number

9. Designated Facility Name and Site Address
CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107

10. US EPA ID Number **NYD049836679**

A. **NYB8853444**
B. Generator's ID **SAME**
C. State Transporter's ID **TD264470**
D. Transporter's Telephone **610 261-2220**
E. State Transporter's ID
F. Transporter's Telephone ()
G. State Facility ID **N/A**
H. Facility Telephone () **716 754-8231**

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers Number	Type	13. Total Quantity	14. Unit W/Vol	I. Waste No. EPA
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)	001	DT	51060	P	D007
b.					STATE
c.					EPA
d.					STATE

J. Additional Descriptions for Materials listed Above
37E SOLID W/CHROMIUM
a. **> 1100** c.
b. d.

K. Handling Codes for Wastes Listed Above
NY-2
a. c.
b. d.

15. Special Handling Instructions and Additional Information
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 **Mark Sacc** Signature **NGC by [Signature]** Mo. **12** Day **27** Year **97**

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name **MARK MASCIAN** Signature **[Signature]** Mo. **12** Day **27** Year **97**

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Mo. Day Year

19. Discrepancy Indication Space
Actual R-11 51080P Item R-11

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name **Coleen M. [Signature]** Signature **[Signature]** Mo. **12** Day **27** Year **97**

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (516) 457-1362

GENERATOR

TRANSPORTER

FACILITY

NYB8804421

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 print. Do not staple.

(Hazardous Waste Manifest 497)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204706790072	Manifest Doc. No. 46672	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. Generator's ID NYB8804421		
4. Generator's Telephone Number 516-346-8106				B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number DAD146714878		C. State Transporter's ID TV476104		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 610 261-2220		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID		
				F. Transporter's Telephone ()		
				G. State Facility ID		
				H. Facility Telephone () N/A		
10. US EPA ID Number NYD049836679				716 754 8231		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	1. Waste No.
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)			001	DT 45680	P	EPA D007 STATE
b.						EPA STATE
c.						EPA STATE
d.						EPA STATE
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		
a. > 1.00 c				a. <input checked="" type="checkbox"/> c. <input type="checkbox"/>		
b.				b. <input type="checkbox"/> d. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information 81479975 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 409640-7 ERG# 171						
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 ON BEHALF OF NGC J. MAIL SERV		Signature NGC by J. Mail SERV		Mo. Day Year 1/21/89 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Wilfried Wittmann		Signature [Signature]		Mo. Day Year 1/21/89 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year 		
19. Discrepancy Indication Space actual found 45680 P Item K-IT						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Colan M. Duman		Signature [Signature]		Mo. Day Year 1/21/89 97		

In case of emergency or spill immediately call the National Response Center at 1-800-424-6742

GENERATOR

TRANSPORTER

FACILITY

NYB8804376

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD002047967000857	Manifest Doc. No. 20067	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804376		
4. Generator's Telephone Number 346-8106	5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.			B. Generator's ID SAME		
7. Transporter 2 (Company Name)				C. State Transporter's ID TY1453		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				D. Transporter's Telephone 810 261-2220		
10. US EPA ID Number NYD049836679				E. State Transporter's ID		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				F. Transporter's Telephone ()		
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				G. State Facility ID		
b.				H. Facility Telephone () N/A		
c.				716 754-8231		
d.				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM				001	48460	P
a						I. Waste No. EPA D007
b						STATE
c						EPA
d						STATE
K. Handling Codes for Wastes Listed Above A/E				<input type="checkbox"/>	<input type="checkbox"/>	EPA
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387				<input type="checkbox"/>	<input type="checkbox"/>	STATE
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 J. Anne SMC			Signature J. Anne SMC		Mo. Day Year 12/18/97	
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Robert H Evans			Signature Robert H Evans		Mo. Day Year 12/18/97	
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name			Signature		Mo. Day Year	
19. Discrepancy Indication Space Actual Recd. 48800P						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Coleen M. ...			Signature Coleen M. ...		Mo. Day Year 11/21/97	

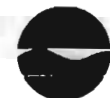
In case of emergency or spill immediately call the National Response Center (800) 424-9602 and the NYS Department of Environmental Conservation (516) 457-1302

GENERATOR

TRANSPORTER

NYB8804358

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



HAZARDOUS WASTE MANIFEST

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

In case of emergency or spill immediately call the National Response Center at (800) 424-8802 and the NYS Department of Environmental Conservation at (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 0 5		Manifest Doc. No. 00065		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
		3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		A. Generator's ID NYB8804358		B. Generator's ID SAME	
4. Generator's Telephone Number 516 346-8106		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		C. State Transporter's ID XA 077196		D. Transporter's Telephone 510 261-2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 PALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		E. State Transporter's ID		F. Transporter's Telephone ()		G. State Facility ID N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number		13. Total Quantity		14. Unit		I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001		DT 44960		P		EPA D007	
b.								STATE	
c.								EPA	
d.								STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above NY-2		a		c			
a		b		d					
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION		EMERGENCY PHONE 888 353-2387		BU 3739 S.R. # 409640-6		EAS # 171			
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 ON BEHALF OF NGC Mica SHER		Signature NGC by J. Sher		Mo. Day Year 12/18/97					
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name RAYMOND L. BECK		Signature Raymond L Beck		Mo. Day Year 12/18/97					
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name		Signature		Mo. Day Year					
19. Discrepancy Indication Space H. L. R. 45-00P H K-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 Colleen M. Dunbar		Signature Colleen M. Dunbar		Mo. Day Year 12/19/97					

NYB8804367

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD002047967	Manifest Doc. No. 8804367	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.			
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804367				
4. Generator's Telephone Number 7-400-848-8100				B. Generator's ID SAME				
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PAD146714878		C. State Transporter's ID XA07721 (PA)				
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 810 261-2220				
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID				
				F. Transporter's Telephone ()				
				G. State Facility ID N/A				
				H. Facility Telephone () 716 754-8231				
10. US EPA ID Number NYD049836679								
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)					12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)					001	DT	46760	P
								EPA D007
								STATE
b.								EPA
								STATE
c.								EPA
								STATE
d.								EPA
								STATE
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM					K. Handling Codes for Wastes Listed Above			
a					a			
b					b			
c					c			
d					d			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 BU 3730 81479969 SR# 409640-4 EM# 171								
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 Orbin			Signature Orbin			Mo. Day Year 12/18/97		
17. Transporter 1 Acknowledgement of Receipt of Materials								
Printed/Typed Name Peter Wittmann			Signature Peter Wittmann			Mo. Day Year 12/19/97		
18. Transporter 2 Acknowledgement of Receipt of Materials								
Printed/Typed Name			Signature			Mo. Day Year		
19. Discrepancy Indication Space actual received 46740 P 2 tank - 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 Colleen M. Duncan			Signature Colleen M. Duncan			Mo. Day Year 12/19/97		

GENERATOR

TRANSPORTER

FACILITY

NYB8804412

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 8 9 0 1 2 3 4		Manifest Doc. No. 09974		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.							
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 515-422-3446						A. Generator's ID NYB8804412									
4. Generator's Telephone Number 516-846-8106				6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID TT 381001									
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.				8. US EPA ID Number		D. Transporter's Telephone 810 261-2220									
7. Transporter 2 (Company Name)						E. State Transporter's ID									
						F. Transporter's Telephone ()									
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107						10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		G. State Facility ID N/A							
								H. Facility Telephone () 716 754-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.			
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)						001 DT		47240		P		EPA D007			
b.												STATE			
c.												EPA			
d.												STATE			
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM						K. Handling Codes for Wastes Listed Above									
a. > 1.00 c						a. <input type="checkbox"/> c. <input type="checkbox"/>									
b.						b. <input type="checkbox"/> d. <input type="checkbox"/>									
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 B4 3730 S.R.#										EAS #171					
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 ON BEHALF OF NSC J. Monahan SREC		Signature NGC. by J. Monahan SREC		Mo. Day Year 12/18/97	
17. Transporter 1 Acknowledgement of Receipt of Materials										Printed/Typed Name Mary Johnson		Signature Mary Johnson		Mo. Day Year 12/18/97	
18. Transporter 2 Acknowledgement of Receipt of Materials										Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space A. L. 1. 47250															
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		Mo. Day Year 12/18/97	

In case of emergency or spill immediately call the National Response Center at (800) 424-8802 and the NYS Department of Environmental Conservation at (518) 457-1302

NYB8804394

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
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. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 0 9	Manifest Doc. No. 00069	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580			A. NYB8804394		
4. Generator's Telephone Number 516-8106			B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID T 215908M	
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 810 261-2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107			10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		E. State Transporter's ID
			11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		F. Transporter's Telephone ()
			12. Containers Number 001		G. State Facility ID
			13. Total Quantity 44200		H. Facility Telephone () 716 754 8931
			14. Unit P		I. Waste No. EPA D007
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above 1-6		
a. > 1000			a. <input type="checkbox"/>		
b.			b. <input type="checkbox"/>		
c.			c. <input type="checkbox"/>		
d.			d. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 B4 3730 SR# 409640-2					
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 J Mack		Signature J Mack		Mo. Day Year 1/21/89	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name ROBERT KESTER		Signature Robert Kester		Mo. Day Year 1/21/89	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space 11-K-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 Lion Corp		Signature Lion Corp		Mo. Day Year 1/21/89	

NYB8804403

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS HAZARDOUS WASTE MANIFEST P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST form with sections for Generator, Transporter, and Facility information, including waste descriptions and signatures.

Vertical text on the left margin: In case of emergency or spill immediately call the National Response Center at 1-800-424-6002 and the New York State Department of Environmental Conservation at 518-473-3002.

NYB8804385

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



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

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(Hazardous Waste Manifest 497)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204796700083	Manifest Doc. No. 1	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580			A. NYB8804385		
4. Generator's Telephone Number 516-8106-7450			B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PA D 146714878		C. State Transporter's ID XC 58822 (M)	
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 516 261-2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107			E. State Transporter's ID		
			F. Transporter's Telephone ()		
			G. State Facility ID		
			H. Facility Telephone () 716 754-8231		
10. US EPA ID Number NYD049836679		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity
		a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001	45900
		b.			
		c.			
		d.			
		EPA D007			
		STATE			
		EPA			
		STATE			
		EPA			
		STATE			
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above		
a			a		
b			b		
15. Special Handling Instructions and Additional Information 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 J. MAIER SLEE		Signature NGC by J. MAIER SLEE		Mo. Day Year 12/18/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name NORMAN P. RICE		Signature Norman P. Rice		Mo. Day Year 12/18/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space 45700 P					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Cohen M. Durkin		Signature Cohen M. Durkin		Mo. Day Year 12/19/97	

NY 12-1-9002 and the NY Department of Environmental Conservation (518) 457-7362

GENERATOR

TRANSPORTER

NYB8804808

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 12345678901234567890	Manifest Doc. No. 100075	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address MONTROSE-CRUMMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD WESTPAGE NY 11714-3580		4. Generator's Telephone Number 516 575-4680		A. NYB8804808		B. Generator's ID JAMS
5. Transporter 1 (Company Name) SMITH TRUCKS, INC.		6. US EPA ID Number 12345678901234567890		C. State Transporter's ID TS 1234567890		D. Transporter's Telephone 510 261-2220
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()
9. Designated Facility Name and Site Address OWM CHEMICAL SERVICES, INC. 1550 PALMER ROAD ROSEL CITY NY 14107		10. US EPA ID Number 12345678901234567890		G. State Facility ID		H. Facility Telephone () 716-757-8231
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	1. Waste No.	
a. 10, HAZARDOUS WASTE, SOLID, n.o.s.					EPA	
b. (CHROMIUM) 9, NA3077, III (DOCK)		001	494	AC P	STATE 0007	
c. 7 DA 12/23/97					EPA	
d.					STATE	
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above				
a. 1/3 SOIL w/CHROMIUM		a. <input checked="" type="checkbox"/>		c. <input type="checkbox"/>		
b.		b. <input type="checkbox"/>		d. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information SR - 4119641-1 01480041 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 383 351-2387 CRS # 171						
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 ON BEHALF OF NGC		Signature <i>NGC</i>		Mo. Day Year 11/21/97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name William Walden Co		Signature <i>William Walden Co</i>		Mo. Day Year 11/21/97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space Actual Weight 49520 P						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Eileen Carter		Signature <i>Eileen Carter</i>		Mo. Day Year 11/22/97		

B8804772

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



Use type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD0002047967	Manifest Doc. No. 00078	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address KORTWOP-LUDFMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD WESTFACE NY 11714-3580				A. NYB8804772		
4. Generator's Telephone Number (516) 775-4680				B. Generator's ID DAME		
5. Transporter 1 (Company Name) DORRITH TRUCKS, INC.		6. US EPA ID Number PA2145714573		C. State Transporter's ID DM 84346 (M)		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone (610) 261 2220		
9. Designated Facility Name and Site Address J.M. CHEMICAL SERVICES, INC. 1550 BALMER ROAD SHELBY CITY NY 14107				E. State Transporter's ID		
				F. Transporter's Telephone ()		
				G. State Facility ID		
				H. Facility Telephone () 716-751-0221		
10. US EPA ID Number NYD0002047967		12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		a. 20, HAZARDOUS WASTE, SOLID, n.o.s. (CHROMIUM) 9, NA3077, III (000)		10100		45000
b. 7 DA 12/23/97						EPA 2007 STATE
c.						EPA STATE
d.						EPA STATE
J. Additional Descriptions for Materials listed Above a. 1/00 SOIL w/CHROMIUM				K. Handling Codes for Wastes Listed Above a. <input checked="" type="checkbox"/> L		
b.				b. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 888 351-2387 BU3730 81480065 CR# 171						
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 J. Mace		Signature NSC by J. Mace		Mo. Day Year 1/21/99		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Tom Borne		Signature Tom Borne		Mo. Day Year 1/21/99		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual record 44980-06						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Joshua M. Abraham		Signature Joshua M. Abraham		Mo. Day Year 1/22/99		

NYB8804799

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D D O 2 0 4 7 9 0	Manifest Doc. No. 100077	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address ORTHEROP-TRUMAN CORPORATION		MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD METHUEN NY 11714-3580		A. NYB8804799	
4. Generator's Telephone Number (510 575-4680)		Att: J. Cofmann		B. Generator's ID GAME	
5. Transporter 1 (Company Name) WORTH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID XD73450(M)	
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone (510 261-2220)	
9. Designated Facility Name and Site Address ORM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY NY 14107		10. US EPA ID Number N Y D O 4 9 9 3 6 6 7 9		E. State Transporter's ID	
				F. Transporter's Telephone ()	
				G. State Facility ID	
				H. Facility Telephone (716-757-3231)	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. CR, HAZARDOUS WASTE, SOLID, n.o.s.					EPA
(CHROMIUM) 9, NA3077, III (100%)		0 0 1	47520 P		STATE 0007
b. 7 DR 12/23/97					EPA
					STATE
c.					EPA
					STATE
d.					EPA
					STATE
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above			
a. 1/2 SOIL W/CHROMIUM > 1.00		c		a <input checked="" type="checkbox"/>	c <input type="checkbox"/>
b.		d		b <input type="checkbox"/>	d <input type="checkbox"/>
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 888 351-2387 814 80040 615-171					
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 Michael...		Signature <i>Michael...</i>		Mo. Day Year 12/19/97	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name MAN BOLLINGER		Signature <i>Man Bollinger</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature	
19. Discrepancy Indication Space actual received 47660 P					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name ELEBN CARTER		Signature <i>Elebn Carter</i>		Mo. Day Year 12/22/97	

YB8804763

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>100079</u>		Manifest Doc. No. <u>100079</u>		2. Page 1 of <u>1</u>		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address ORTHROP-CRUMMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD DESPAGE NY 11714-3580				A. NYB8804763		B. Generator's ID			
4. Generator's Telephone Number <u>(10) 375-4580</u>		5. Transporter 1 (Company Name) WORTH TRUCKS, INC.		6. US EPA ID Number <u>117143580</u>		C. State Transporter's ID <u>TV300241</u>		D. Transporter's Telephone ()	
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID <u>610 261-2220</u>		F. Transporter's Telephone ()		G. State Facility ID	
9. Designated Facility Name and Site Address C.M. CHEMICAL SERVICES, INC. 1550 BALMER ROAD ADEL CITY NY 14167				10. US EPA ID Number <u>120049339</u>		H. Facility Telephone () <u>4</u>			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Unit		14. Waste No.	
a. RC, HAZARDOUS WASTE, SOLID, H.O.S. X (CHROMIUM) 9, NA3077, III (D00X)				Number <u>1</u> Type <u>DRUM</u>		Quantity <u>47540</u> Wt/Vol		EPA STATE <u>0007</u>	
b. <u>1 DA 12/23/97</u>								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above 1/2 SOIL w/CHROMIUM > 1.00				K. Handling Codes for Wastes Listed Above		a. <input checked="" type="checkbox"/> L		c. <input type="checkbox"/>	
b.				d.		b. <input type="checkbox"/>		d. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION BU 3730 814 80047 EMERGENCY PHONE #: 888 351-2387 EQ#171									
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 <u>DR. GAIL OF NGL</u> <u>J. Miller</u>				Signature <u>NGL by J. Miller</u>				Mo. Day Year <u>11/15/97</u>	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name <u>JERRY L. ANDREWS</u>				Signature <u>[Signature]</u>				Mo. Day Year <u>11/21/97</u>	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space <u>actual received 47700 P</u>									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name <u>EILEEN CARTER</u>				Signature <u>[Signature]</u>				Mo. Day Year <u>12/21/97</u>	

NYB8804718

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 4200204796	Manifest Doc. No. 00025	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address ORTHOCP GRUMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD MINEPAGE NY 11714-3580			A. NYB8804718		B. Generator's ID SAME	
4. Generator's Telephone Number (516) 375-4680 Attn: J. Joffrann		6. US EPA ID Number 2A0145714073		C. State Transporter's ID FZ15906(M)		D. Transporter's Telephone 610 461 2220
5. Transporter 1 (Company Name) DRWITH TRUCKS, INC.		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()
7. Transporter 2 (Company Name)		8. US EPA ID Number		G. State Facility ID		H. Facility Telephone ()
9. Designated Facility Name and Site Address EMA CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSEL CITY NY 14107			10. US EPA ID Number 420049836679		716-754-8231	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit WWVol	I. Waste No.
a. RC, HAZARDOUS WASTE, SOLID, n.o.s.						EPA 0007
X (CHROMIUM) 9, (A3077, III) (D007)			001	4742	2	STATE
b.						EPA
c.						STATE
d.						EPA
						STATE
J. Additional Descriptions for Materials listed Above 1/2 SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above			
a. 1.00 c			a. 4		c. <input type="checkbox"/>	
b.			b. <input type="checkbox"/>		d. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 888 353-2387 21480049						
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 J. Marea		Signature <i>J. Marea</i>		Mo. Day Year 12/19/97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Charles Stueker		Signature <i>Charles R Stueker</i>		Mo. Day Year 12/19/97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual received 47600 lbs						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Josiah M. ...		Signature <i>Josiah M. ...</i>		Mo. Day Year 12/22/97		

NYB8804655

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



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

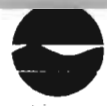
Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 370002047967		Manifest Doc. No. 00091		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
Generator's Name and Mailing Address NORTHROP GRUMMAN CORPORATION MAIL DROP 0008-001 SOUTH OYSTER BAY ROAD JERMPAGE NY 11714-3500						A. NYB8804655							
4. Generator's Telephone Number (415) 575-4580 Attn: J. Johnson						B. Generator's ID SAME							
5. Transporter 1 (Company Name) FORWYN TRUCKS, INC.				6. US EPA ID Number PA0146714373		C. State Transporter's ID TW56995 (M)							
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone 610 261-2220							
9. Designated Facility Name and Site Address DWM CHEMICAL SERVICES, INC. 1550 PALMER ROAD MODEL CITY NY 14107						E. State Transporter's ID							
						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 716-754-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. CR. HAZARDOUS WASTE, SOLID, H.O.B. (CHROMIUM) 9, HB3077, III (0007)						0010		47060		2		EPA 0007	
b.												STATE	
c.												EPA	
												STATE	
d.												EPA	
												STATE	
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above							
a. 3/2 SOIL W/CHROMIUM 1100						c		a. L		c			
b.						d		b		d			
15. Special Handling Instructions and Additional Information						BY 3730 814800602 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 388 353-2387 SR 409164-14 ERG # 171							
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 J. Johnson		Signature J. Johnson		Mo. Day Year 12/19/97			
17. Transporter 1 Acknowledgement of Receipt of Materials						Printed/Typed Name Jeff Werten		Signature Jeff Werten		Mo. Day Year 12/19/97			
18. Transporter 2 Acknowledgement of Receipt of Materials						Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space						actual found 47100 LB							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						Printed/Typed Name Susan M. Brennan		Signature Susan M. Brennan		Mo. Day Year 12/19/97			

YB8804232

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 00082		Manifest Doc. No. 00082		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
Generator's Name and Mailing Address MAIL STOP 0008-001 OYSTERS BAY ROAD LATHAM NY 11714-3580						A. NYB8804232							
4. Generator's Telephone Number (518) 751-1540						B. Generator's ID NAME							
5. Transporter 1 (Company Name) ORNIE TRUCKS, INC.			6. US EPA ID Number 010146714878			C. State Transporter's ID XDS172(M)		D. Transporter's Telephone (518) 261-2210					
7. Transporter 2 (Company Name)			8. US EPA ID Number			E. State Transporter's ID		F. Transporter's Telephone ()					
9. Designated Facility Name and Site Address TSA CHEMICAL SERVICES, INC. 1550 MILLER ROAD MODEL CITY NY 14107						10. US EPA ID Number 010044335070		G. State Facility ID					
9. Designated Facility Name and Site Address						H. Facility Telephone () 716 754 3031							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. HAZARDOUS WASTE, SOLID, A.C.S. (CONTAINER) 9, NA3077, III (D00X)						0 0 1 0 0		47660				EPA 0007	
b. 7 DA 12/2/97												STATE	
c.												EPA	
d.												STATE	
J. Additional Descriptions for Materials listed Above 1/2 BOLL W/CONTAINER 100						K. Handling Codes for Wastes Listed Above							
a						c		L		c		<input type="checkbox"/>	
b						d		<input type="checkbox"/>		d		<input type="checkbox"/>	
15. Special Handling Instructions and Additional Information 2/12/2003 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE# 388 353-2337 JUL 750 229#171													
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 ON BEHALF OF NGL J. Mica sub		Signature NGL in place sub		Mo. Day Year 12/19/97			
17. Transporter 1 Acknowledgement of Receipt of Materials						Printed/Typed Name JOHN MEYER JR.		Signature John Meyer Jr.		Mo. Day Year 12/19/97			
18. Transporter 2 Acknowledgement of Receipt of Materials						Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space Actual Recd. 47760P						Facility Owner or Operator. Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name EILEEN CARTER						Signature Eileen Carter		Mo. Day Year 12/22/97					

YB8804817

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



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

(Hazardous Waste Manifest 497)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 1430146714373	Manifest Doc. No. 100076	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address MAIL STOP 0009-001 NORTHROP-CROMMAN CORPORATION NORTH OYSTER BAY ROAD METHUEN NY 11714-3580				A. NYB8804817		
4. Generator's Telephone Number (516) 575-4680 Art L. Cottano				B. Generator's ID SAME		
5. Transporter 1 (Company Name) KORWITH TRUCKS, INC.		6. US EPA ID Number PA0146714373		C. State Transporter's ID NY 7-19712		D. Transporter's Telephone 610 261 2220
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()
9. Designated Facility Name and Site Address DRI CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY NY 14107				10. US EPA ID Number 170042425579		G. State Facility ID 4 H. Facility Telephone () 716-757-3231
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. CR, HAZARDOUS WASTE, SOLID, a.o.s (CHROMIUM) 9, NA3077, III (0001)				001	DT 48680	P
b. 7 DA 12/23/97						
c.						
d.						
J. Additional Descriptions for Materials listed Above 1/2 SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		
a. > 1000				a. <input checked="" type="checkbox"/> L <input type="checkbox"/>		
b.				b. <input type="checkbox"/> <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information 11641-2 100m 81480045 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 588 351-2387 EX#171						
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 Art L. Cottano		Signature AGC		Mo. Day Year 12/19/92		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Art L. Cottano		Signature		Mo. Day Year 12/19/92		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual rec'd 48760 P						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Eileen Carter		Signature Eileen Carter		Mo. Day Year 12/29/97		

GENERATOR

TRANSPORTER

FACILITY

NYB8804754

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 02500204794	Manifest Doc. No. 00080	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address PORTTOP-SIMPAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-0580				A. NYB8804754		
4. Generator's Telephone Number (516) 375-4680		6. US EPA ID Number 02500204794		B. Generator's ID SAME		
5. Transporter 1 (Company Name) KORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		C. State Transporter's ID TR29249 (NY)		
9. Designated Facility Name and Site Address TAM CHEMICAL SERVICES, INC. 1550 PALMER ROAD ROSEL CITY NY 14107		10. US EPA ID Number 02500204794		D. Transporter's Telephone (510) 261-2220		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. PC, HAZARDOUS WASTE, SOLID, n.o.s. (CHROMIUM) 9, RA3077, III (200K)				001	DOT 45220P	
b. 7 DA 12/23/97						I. Waste No. EPA 0007
c.						STATE
d.						EPA
e.						STATE
f.						EPA
g.						STATE
J. Additional Descriptions for Materials listed Above 1/2 SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		
a. > 1.00 c				a. <input checked="" type="checkbox"/> 4 c <input type="checkbox"/>		
b.				b. <input type="checkbox"/> d <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 388 353-2387 NOTED 81480048 E15 # 171						
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 J. MCEL		Signature NGC by J. MCEL		Mo. Day Year 12 19 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name ROBERT HARTMAN		Signature Robert Hartman		Mo. Day Year 12 19 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual found 45200P						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name EILEEN CARTER		Signature Eileen Carter		Mo. Day Year 12 23 97		

GENERATOR

TRANSPORTER

NYB8804736

STATE OF NEW YORK
 DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
 P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY 20002007957	Manifest Doc. No. 00083	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address CORNING-GRUMAN CORPORATION MAIL STOP 0008-001 LUSTY OYSTER BAY ROAD ALBANY NY 11714-3580			A. NYB8804736		B. Generator's ID NAME	
4. Generator's Telephone Number (518) 875-4680		Att: J. Robinson		C. State Transporter's ID XB14429 (CA)		D. Transporter's Telephone (510) 261-2221
5. Transporter 1 (Company Name) CORWITH TRUCKS, INC.		6. US EPA ID Number PA 0146714670		E. State Transporter's ID		F. Transporter's Telephone ()
7. Transporter 2 (Company Name)		8. US EPA ID Number		G. State Facility ID		H. Facility Telephone ()
9. Designated Facility Name and Site Address DWR CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSEL CITY NY 14107			10. US EPA ID Number NY 0048036670		718-754-8231	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, HAZARDOUS WASTE, SOLID, H.O.S.						EPA 5007
X (CHROMIUM) 3, NA3077, III (000X)			0	0	48460	STATE
b. 7 DA 12/23/97						EPA
c.						STATE
d.						EPA
						STATE
J. Additional Descriptions for Materials listed Above S/S SOIL W/CHROMIUM 1000			K. Handling Codes for Wastes Listed Above			
a			c		a <input checked="" type="checkbox"/> c <input type="checkbox"/>	
b			d		b <input type="checkbox"/> d <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE# 888 353-2387 7148002 407611-10 249#171						
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 ON BEHALF OF NSC ↓ Marc Sinc		Signature NSC by [Signature]		Mo. Day Year 12 19 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Jeffrey Scott		Signature [Signature]		Mo. Day Year 12 19 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space Actual Found 48506lb						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Susan M. Brennan		Signature [Signature]		Mo. Day Year 12 23 97		

NYB8804745

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 1700020470670008	Manifest Doc. No. 1	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address CENTROP-SPUDIAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD SEMPAGE NY 11714-3580		6. US EPA ID Number 030140712373		A. NYB8804745	
4. Generator's Telephone Number (516) 878-4000 ext: 1-2050		8. US EPA ID Number		B. Generator's ID NAME	
5. Transporter 1 (Company Name) DORWIN TRUCKS, INC.		6. US EPA ID Number		C. State Transporter's ID TV34339M	
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone (516) 2612220	
9. Designated Facility Name and Site Address DIEM CHEMICAL SERVICES, INC. 1550 PALMER ROAD MODEL CITY NY 14107		10. US EPA ID Number 170044836679		E. State Transporter's ID	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NO. HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D00X)		00101	4756.22		EPA 0007 STATE
b. 7 DA 12/23/97					EPA STATE
c.					EPA STATE
d.					EPA STATE
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above			
a. S/S SOIL W/CHROMIUM 1.00		c.		a. <input checked="" type="checkbox"/>	c. <input type="checkbox"/>
b.		d.		b. <input type="checkbox"/>	d. <input type="checkbox"/>
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 888 353-2387 1-7641-8 81480051 eq#171					
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 ON BEHALF OF NCC J. M... sure		Signature NCC by J... sure		Mo. Day Year 12/19/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name JEFFREY WELLEN		Signature Jeffrey Wellen		Mo. Day Year 12/19/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space actual found 47360 lb					
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		Mo. Day Year 12/23/97	

NYB8804727

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 2183002057507	Manifest Doc. No. 00084	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address MAIL STOP 008-001 SOUTH OSTER BAY ROAD SERVICES BY 11714-3500			A. NYB8804727		B. Generator's ID SAME			
4. Generator's Telephone Number () 518 475-4400		5. Transporter 1 (Company Name) QUALITY TRUCKS, I.P.		6. US EPA ID Number 117143500		C. State Transporter's ID XA609316M		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone () 518 761-2222		E. State Transporter's ID		
9. Designated Facility Name and Site Address SRI CHEMICAL SERVICES, INC. 1350 PALMER ROAD MODEL CITY NY 14107			10. US EPA ID Number 117143500		F. Transporter's Telephone ()		G. State Facility ID N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. 2, HAZARDOUS WASTE, SOLID, R.O.S. (CONTAINING) 7, 143077, III (DUQX)			1		46660 P		I. Waste No. EPA 3007	
b. 7 DR 12/23/97							STATE	
c.							EPA	
d.							STATE	
J. Additional Descriptions for Materials listed Above S/S SOIL (CHROMIUM) 1.0 0 c			K. Handling Codes for Wastes Listed Above a <input checked="" type="checkbox"/> L c <input type="checkbox"/>		b <input type="checkbox"/> d <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION SR 457641-1			BU3730		EMERGENCY NUMBER 888 353-2387 814 80044 ERG # 121			
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 D. J. Berman			Signature D. J. Berman			Mo. Day Year 12/15/97		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name M. G. H. H. H.			Signature M. G. H. H. H.			Mo. Day Year 12/19/97		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature			Mo. Day Year		
19. Discrepancy Indication Space actual found 46960 P								
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Eileen Carter								
Signature Eileen Carter			Mo. Day Year 12/22/97					

GENERATOR

NYB8804673

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 020002047997		Manifest Doc. No. 00089		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address NORTHROP GRUMMAN CORPORATION MAIL STOP 8008-001 SOUTH OYSTER BAY ROAD WESTPAGE NY 11714-3580						A. NYB8804673							
4. Generator's Telephone Number (516) 575-4680 Attn: J. Sofman						B. Generator's ID SAME							
5. Transporter 1 (Company Name) BORNITH TRUCKS, INC.			6. US EPA ID Number 210145714573			C. State Transporter's ID XB47608 (A)							
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (510) 261-2222							
9. Designated Facility Name and Site Address CEM CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSEL CITY NY 14107			10. US EPA ID Number N7010451336679			E. State Transporter's ID							
						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 716-754-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. RG, HAZARDOUS WASTE, SOLID, n.o.s.												EPA 3007	
X (CHROMIUM) 3, 043077, III (0007)						0 0 1 0 0 0		45020				STATE	
b.												EPA	
												STATE	
c.												EPA	
												STATE	
d.												EPA	
												STATE	
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above							
a. 3/8 COIL W/CHROMIUM						a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/>							
b.						b. <input type="checkbox"/> d. <input type="checkbox"/>							
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 888 353-2387 64 3730 CAS# 171													
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 J. Sofman			Signature NGC by J. Sofman			Mo. Day Year 12 19 97							
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name J. Sofman			Signature			Mo. Day Year 12 19 97							
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name			Signature			Mo. Day Year							
19. Discrepancy Indication Space Actual Rtd. 45080 P Item K - <input checked="" type="checkbox"/>													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name Colan M. Duncan			Signature Colan M. Duncan			Mo. Day Year 12 24 97							

In case of emergency or spill immediately call the National Response Center (800) 424-6002 and the U.S. Department of Environmental Conservation.

GENERATOR

TRANSPORTER

FACILITY

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

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 312000209700	Manifest Doc. No. 00193	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-TRUMAN CORPORATION MAIL STOP 0008-001 SOUTH WYOMING WAY ROAD STURROCK NY 11714-3580 ATTN: J. NORMAN			A. NYB8804835		B. Generator's ID SAME	
4. Generator's Telephone Number (516) 775-4080		6. US EPA ID Number 230145714373		C. State Transporter's ID XA2402 (A)		D. Transporter's Telephone (516) 261-2222
5. Transporter 1 (Company Name) ORIENTAL WOLKS, INC.		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()
7. Transporter 2 (Company Name)		10. US EPA ID Number 420012405579		G. State Facility ID		H. Facility Telephone () 716-757-8231
9. Designated Facility Name and Site Address CAM CHEMICAL SERVICES, INC. 1950 GALVIER ROAD WOODBURY NY 11797						
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. LIQ. HAZARDOUS WASTE, SOLID, H.C. 2.2 (CONCENTRATED) 9.043077, III (000X) 7			00101	48060	P	EPA 0007 STATE
b.						EPA STATE
c.						EPA STATE
d.						EPA STATE
J. Additional Descriptions for Materials listed Above 1% SOIL CHROMIUM			K. Handling Codes for Wastes Listed Above			
a. > 1.00 c			a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/>			
b.			b. <input type="checkbox"/> d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information 84 3733 PACKING SLIPS ATTACHED FOR IDENTIFICATION EMERGENCY PHONE #: 888 351-2387 EAG 171						
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 J. Norman		Signature NGC by J. Norman		Mo. Day Year 12 24 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Jack Fonty		Signature J. Fonty		Mo. Day Year 12 24 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space Actual 48280 lb.						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Leslie M. Norman		Signature L. Norman		Mo. Day Year 12 25 97		

GENERATOR

TRANSPORTER

FACILITY

NYB8804502

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 1000204796700110	Manifest Doc. No. 1	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580			A. NYB8804502		
4. Generator's Telephone Number (75-4680) <i>171-1-6100</i>			B. Generator's ID SAMF		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PA0146714978		C. State Transporter's ID XD73455 (M)	
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone (10-241-2220)	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107			E. State Transporter's ID		
10. US EPA ID Number NY0049974679			F. Transporter's Telephone ()		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number Type		13. Total Quantity
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)			001 DT		39966
b.					14. Unit Wt/Vol
c.					P
J. Additional Descriptions for Materials listed Above AS/SE SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above		
a. > 100			a. <input checked="" type="checkbox"/> L		
b.			b. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information DU 3730			81480169		
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 <i>on Behalf of NGC</i> J. M. ...		Signature NGC by J. M. ...		Mo. Day Year 1/22/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name HARRY JOHANSEN		Signature Harry Johansen		Mo. Day Year 1/22/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space 40040 LB Hem X - <input checked="" type="checkbox"/>					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Susan M. Abraham		Signature Susan M. Abraham		Mo. Day Year 1/24/97	

GENERATOR

TRANSPORTER

NYB8804844

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

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No.		Manifest Doc. No.		2. Page 1 of		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address DRINOP-GRUNMAN CORPORATION		4. Generator's Telephone Number (312) 675-4640		5. Transporter 1 (Company Name) WYOMING DISPOSAL, INC.		7. Transporter 2 (Company Name)		9. Designated Facility Name and Site Address ERA CHEMICAL SERVICES, INC. 1550 PALMER ROAD ROSELLE CITY NY 14107	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Total		14. Unit		I. Waste No.	
a. RO, HAZARDOUS WASTE, SOLID, n.o.s		Number		Quantity		Wt/Vol		EPA	
b. (CHROMIUM) 9, CAS077, III (000X)		Type		49100				STATE	
c.								EPA	
d.								STATE	
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above							
a. 1/2 SOIL W/CHROMIUM		a. L							
b.		b.							
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION		BU3730		81480092		EMERGENCY PHONE #: 388 351-2387		012/171	
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.		Printed/Typed Name ON BEHALF OF NGL		Signature NGL		Mo. Day Year 12/2/97			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name JOHN MEYER JR.		Signature [Signature]		Mo. Day Year 12/2/97			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space actual record 49200P		Printed/Typed Name EILABW CARTON		Signature [Signature]		Mo. Day Year 12/2/97			

GENERATOR

TRANSPORTER

FACILITY

NYB8804825

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No.		Manifest Doc. No. 100805		2. Page 1 of		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address FORNIPOR-CRUMAN CORPORATION MAIL STOP 0008-001 LORD CENTER WAY ROAD PETHRAGE NY 11714-3500				A. NYB8804826		B. Generator's ID			
4. Generator's Telephone Number ()		6. US EPA ID Number		C. State Transporter's ID XD-73450 (M)		D. Transporter's Telephone ()			
5. Transporter 1 (Company Name)		7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()	
9. Designated Facility Name and Site Address URS CHEMICAL SERVICES, INC. 1550 BALMER ROAD SARASOTA FL 34107				10. US EPA ID Number		G. State Facility ID		H. Facility Telephone ()	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Total		14. Unit	
a. RG, HAZARDOUS WASTE, SOLID, n.o.s. (CHROMIUM) 0, 0.0077, III (D001)				Number		Quantity		Wt/Vol	
				Type				I. Waste No.	
						49860		EPA 0067 STATE	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above					
a. 1.000				a. <input checked="" type="checkbox"/>		c. <input type="checkbox"/>			
b.				b. <input type="checkbox"/>		d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information BU 3130 PACKING SLIPS ATTACHED FOR CLARIFICATION. EMERGENCY PHONE #: 888 351-2387 ERG#171				SER-411337-1 81480220					
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 on behalf of NCC J. Morice S. McC				Signature NCC by JMS				Mo. Day Year 12/23/97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name M N BOLLINGER				Signature M N Bollinger				Mo. Day Year 12/23/97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space Actual received: 50180 P. Steve K-LT									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Colleen M. Dunan				Signature Colleen M. Dunan				Mo. Day Year 11/22/97	

GENERATOR

TRANSPORTER

FAC.

NYB8853552

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 print. Do not staple.

(Hazardous Waste Manifest 497)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 1 2		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. NYB8853552		B. Generator's ID SAME		C. State Transporter's ID T215708-PA		D. Transporter's Telephone 810 261-2220	
4. Generator's Telephone Number 516-346-8106		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		E. State Transporter's ID		F. Transporter's Telephone ()	
7. Transporter 2 (Company Name)		8. US EPA ID Number		9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		G. State Facility ID N/A		H. Facility Telephone () 716 754-8231	
10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001 DT		44260		P		I. Waste No. EPA D007 STATE	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above X		a <input type="checkbox"/>		c <input type="checkbox"/>		b <input type="checkbox"/>	
a		c		b		d			
b		d							
15. Special Handling Instructions and Additional Information Transp. per Gen. # MISDCC PA-263 PACKING SLIPS ATTACHED FOR CLARIFICATION		EMERGENCY PHONE 888 353-2387		814 5245		BU 3730 - Fresh #			
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 Joe Sweco for NGL		Signature <i>[Signature]</i>		Mo. Day Year 12 29 97					
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name ROBERT KESTER		Signature <i>[Signature]</i>		Mo. Day Year 12 29 97					
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name		Signature		Mo. Day Year					
19. Discrepancy Indication Space actual found 44,260 P 2 tanks - 1-IT									
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 <i>[Signature]</i>		Mo. Day Year 12 29 97					

GENERATOR

TRANSPORTER

FACILITY

Call the National Response Center at (800) 424-8802 and the NYS Department of Environmental Conservation at (518) 457-7362

NYB8853417



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 0 1 1		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address MAIL STOP D08-001 NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 <i>575-1610</i> <i>ATTN: J. Coleman</i>						A. Generator's ID NYB8853417							
4. Generator's Telephone Number 516-340-0100				6. US EPA ID Number H A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID XB51780-PA		D. Transporter's Telephone 810 261-2220					
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.				8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()					
7. Transporter 2 (Company Name)				10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		G. State Facility ID N/A		H. Facility Telephone () 716 754-8231					
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107													
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)						001 DT		47240		P		EPA D007	
b.												EPA	
c.												EPA	
d.												EPA	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM						K. Handling Codes for Wastes Listed Above FL <input type="checkbox"/> c <input type="checkbox"/>							
a.						b		c		d			
b.						c		d		e		f	
15. Special Handling Instructions and Additional Information PA-263 81480253 Profile # BU3730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 411338-8													
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 Sue Susco for NCC		Signature <i>[Signature]</i>		Mo. Day Year 12 24 97			
17. Transporter 1 Acknowledgement of Receipt of Materials						Printed/Typed Name JERRY L. ANDREWS		Signature <i>[Signature]</i>		Mo. Day Year 12 29 97			
18. Transporter 2 Acknowledgement of Receipt of Materials						Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space actual found 47120P Stem K-TH													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						Printed/Typed Name EILBBW CARTER		Signature Ellen Carter		Mo. Day Year 12 30 97			

NYB8853435

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204796700013		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. Generator's ID NYB8853435		B. Generator's ID SAME		C. State Transporter's ID TWA6117-0A			
4. Generator's Telephone Number 516-292-0130		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PAD146714878		D. Transporter's Telephone 810 261-2220		E. State Transporter's ID			
7. Transporter 2 (Company Name)		8. US EPA ID Number		F. Transporter's Telephone ()		G. State Facility ID N/A		H. Facility Telephone () 716 754-8231			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				10. US EPA ID Number NYD049836679		12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Total		14. Unit		I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				001 DT		5,300		P		EPA D007	
b.										STATE	
c.										EPA	
d.										STATE	
J. Additional Descriptions for Materials listed Above 57E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		a		c		b	
15. Special Handling Instructions and Additional Information NY's Transporter Permit # N13 DEC PA-263 BU3730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 81480256				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 Joe Suico		Signature <i>[Signature]</i>		Mo. Day Year 1 22 97	
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name Michael J. Fox		Signature <i>[Signature]</i>		Mo. Day Year 1 22 97			
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name		Signature <i>[Signature]</i>		Mo. Day Year 1 22 97			
19. Discrepancy Indication Space actual rec'd 52340P				20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name EILBBN CARTER		Signature <i>[Signature]</i>		Mo. Day Year 1 23 97	

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7302

NYB8847045

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D D D E B A B B B 0 0 1 1 6	Manifest Doc. No. 0 0 1 1 6	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.		
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8847045			
4. Generator's Telephone Number 516-575-4680				B. Generator's ID SAME			
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID TY21801PA			
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 610 261-2220			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID			
				F. Transporter's Telephone ()			
				G. State Facility ID N/A			
				H. Facility Telephone () 716 754-8231			
10. US EPA ID Number N Y D 0 4 9 9 3 6 6 7 9		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number Type	13. Total Quantity	14. Unit Wt/Vol	1. Waste No.
		a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		001	DT	50640 P	EPA D007
		b.					STATE
		c.					EPA
		d.					STATE
		J. Additional Descriptions for Materials listed Above A/S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above			
a		c		a	<input checked="" type="checkbox"/>	c	<input type="checkbox"/>
b		d		b	<input type="checkbox"/>	d	<input type="checkbox"/>
15. Special Handling Instructions and Additional Information NYS Transporter # 81480324 PA-263 SR# 411338-12 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 ERG#171							
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 JOE SUSAN FINOC				Signature <i>[Signature]</i>		Mo. Day Year 12 29 97	
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name William Joseph...				Signature <i>[Signature]</i>		Mo. Day Year 12 31 97	
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name				Signature		Mo. Day Year	
19. Discrepancy Indication Space Actual received 50800 P							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name EILEEN CARTER				Signature <i>[Signature]</i>		Mo. Day Year 12 31 97	

In case of emergency or spill immediately call the National Response Center at (800) 424-8802 and the NYS Department of Environmental Conservation at (518) 457-7362

NYB8804709

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 440902047967	Manifest Doc. No. 00086	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address MORTROP GRUMAN CORPORATION		MAIL STOP D008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. Generator's ID NYB8804709		
4. Generator's Telephone Number ()		516 375-4680		B. Generator's ID SAME		
5. Transporter 1 (Company Name) FORNITH TRUCKS, INC.		STATE USE EPA NUMBER PA 0148714878		C. State Transporter's ID XB14421-PA		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 610 261-2220		
9. Designated Facility Name and Site Address CWA CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSEL CITY NY 14107		10. US EPA ID Number NY 0049836679		E. State Transporter's ID		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number		13. Total Quantity		14. Unit Wt/Vol
a. CR, HAZARDOUS WASTE, SOLID, n.o.s.		0		56300		2
X (CHROMIUM) 9, NA3077, III (0007)		0		56300		2
b.						
c.						
d.						
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above				
a. 3/E SOIL W/CHROMIUM		b. 100		c. <input type="checkbox"/>		d. <input type="checkbox"/>
b.		d.		b. <input type="checkbox"/>		d. <input type="checkbox"/>
15. Special Handling Instructions and Additional Information 81480255 B11 3730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 888 353-2387 Trip to the Plant 2 N SOEC PA-262 ERG #171						
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 Joe Sweco for MCC		Signature <i>[Signature]</i>		Mo. Day Year 11 22 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name <i>[Name]</i>		Signature <i>[Signature]</i>		Mo. Day Year 11 22 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name <i>[Name]</i>		Signature <i>[Signature]</i>		Mo. Day Year 11 27 97		
19. Discrepancy Indication Space actual record 56020P <i>[Signature]</i>						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Colleen M. Dwan		Signature <i>[Signature]</i>		Mo. Day Year 11 23 97		

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

NYB8804682

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

72

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. <u>372002047967</u>		Manifest Doc. No. <u>00088</u>		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP GRUMMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD LATHROP NY 11714-3580				A. NYB8804682		B. Generator's ID SAME			
4. Generator's Telephone Number (516) 375-4680		5. Transporter 1 (Company Name) ORLITH TRUCKS, INC.		6. US EPA ID Number 23014E714878		C. State Transporter's ID XA44675-PA		D. Transporter's Telephone (510) 281-2220	
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()		G. State Facility ID	
9. Designated Facility Name and Site Address CEM CHEMICAL SERVICES, INC. 1550 BALMER ROAD EDEL CITY NY 14107				10. US EPA ID Number NYD040836679		H. Facility Telephone () 716-754-8231			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. NO. HAZARDOUS WASTE, SOLID, n.o.s.								I. Waste No. EPA	
b. (CHROMIUM) 9, NA3077, III (D007)				001		55010		STATE	
c.								EPA	
d.								STATE	
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above					
a. 1/2 SOIL w/CHROMIUM				c		a. <input checked="" type="checkbox"/> L		c. <input type="checkbox"/>	
b.				d		b. <input type="checkbox"/>		d. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 388 353-2387 Trans. Lic # A-263 (M.I.S.C.) ERG#131									
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 Joe Susco for NGC				Signature <i>[Signature]</i>				Mo. Day Year 11/22/97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name TOMAS TRUCK				Signature <i>[Signature]</i>				Mo. Day Year 11/23/97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual found 55400 P Stk - 15									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Jan M. Duncan				Signature <i>[Signature]</i>				Mo. Day Year 11/23/97	

In case of emergency or spill inform... NYS Department of Environmental Conservation (518) 457-3362

NYB8847117

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 1 3 0		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		4. Generator's Telephone Number 516-875-4680		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		A. Generator's ID NYB8847117		B. Generator's ID SAME	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		8. US EPA ID Number		C. State Transporter's ID TZ15887-PA		D. Transporter's Telephone 610 261-2220	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		12. Containers Number 001		13. Total Quantity 52160		14. Unit P	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)		12. Containers Type DT		13. Total Quantity 52160		14. Unit P		I. Waste No. EPA D007	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above 57E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above 4							
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387		814803222		PA-263		Pack # BU371		TZ15887-PA	
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 Joe Susco for NCC		Signature <i>[Signature]</i>		Mo. Day Year 11 23 97					
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name JAMES FITCH		Signature <i>[Signature]</i>		Mo. Day Year 11 23 97					
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name		Signature		Mo. Day Year					
19. Discrepancy Indication Space actual found 50260P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Colleen M. Duncan		Signature <i>[Signature]</i>		Mo. Day Year 11 23 97					

NYB8847135

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 1 3 2		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.		
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580						A. Generator's ID NYB8847135				
4. Generator's Telephone Number 516 575-4680						B. Generator's ID SAME				
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.			6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8			C. State Transporter's ID XD3800-PA		D. Transporter's Telephone 10 261-2220		
7. Transporter 2 (Company Name)			8. US EPA ID Number			E. State Transporter's ID		F. Transporter's Telephone ()		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107						10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		G. State Facility ID N/A		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers	13. Total	14. Unit	I. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)						Number 001	Type DT	Quantity 46600	Wt/Vol P	EPA D007
b.									STATE	
c.									EPA	
d.									STATE	
J. Additional Descriptions for Materials listed Above SPE SOIL W/CHROMIUM						K. Handling Codes for Wastes Listed Above				
a.							L	c	<input type="checkbox"/>	
b.							<input type="checkbox"/>	d	<input type="checkbox"/>	
15. Special Handling Instructions and Additional Information NYS Transporter Permit # 1115DEC PA-263 Plat # PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 XD38004-PA Procht # 81480311 B02730 E06171										
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 Joe Susco for HOC				Signature <i>[Signature]</i>			Mo. Day Year 11/23/97			
17. Transporter 1 Acknowledgement of Receipt of Materials										
Printed/Typed Name RAY ZIEGENFUS				Signature <i>[Signature]</i>			Mo. Day Year 11/23/97			
18. Transporter 2 Acknowledgement of Receipt of Materials										
Printed/Typed Name				Signature			Mo. Day Year			
19. Discrepancy Indication Space actual record 46800 P <i>[Signature]</i>										
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.										
Printed/Typed Name Colleen M. Sullivan				Signature <i>[Signature]</i>			Mo. Day Year 12/31/97			

In case of emergency or spill immediately call the National Response Center at (800) 424-8802 and the NYS Department of Environmental Conservation at (518) 457-7362

COPY 5-Generator-mailed by TSD facility

NYB8847126

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>NY 000204784700131</u>		Manifest Doc. No. <u>1</u>		2. Page 1 of <u>1</u>		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION		MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. NYB8847126		B. Generator's ID SAME			
4. Generator's Telephone Number <u>516-480-4800</u>		6. US EPA ID Number <u>040104711978</u>		C. State Transporter's ID <u>TT78952-PA</u>		D. Transporter's Telephone <u>810 361-2220</u>			
5. Transporter 1 (Company Name) NORWICH TRUCKS, INC.		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()			
7. Transporter 2 (Company Name)				G. State Facility ID		H. Facility Telephone ()		N/A	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number <u>NY 10040836672</u>		12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		a. RD HAZARDOUS WASTE, SOLID, n.o.s.		b. (CHROMIUM) P, NA3077, III (D007)		c. 001		d. DT	
						e. 45860		f. P	
								g. EPA D007	
								h. STATE	
								i. EPA	
								j. STATE	
								k. EPA	
								l. STATE	
J. Additional Descriptions for Materials listed Above S&E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above		a. <input checked="" type="checkbox"/>		b. <input type="checkbox"/>		c. <input type="checkbox"/>	
a.		c.		d.		e.		f.	
b.		d.		e.		f.		g.	
15. Special Handling Instructions and Additional Information <i>81480308 alt.# Prof to DV3206</i> <i>PA-263 TT78952-PA SY#411571-6</i> 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 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 Joe Susco for NGC		Signature <i>[Signature]</i>		Mo. Day Year 11/30/97			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name David Falk		Signature <i>[Signature]</i>		Mo. Day Year 11/30/97			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space Actual Recd 46,320P etc. K-IT									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name Coleen M. Dunne		Signature <i>[Signature]</i>		Mo. Day Year 1/23/197			

In case of emergency call the National Response Center at 1-800-424-6002 and the NY Department of Environmental Conservation at 518-457-7362

NYB8847081

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD00204775700127	Manifest Doc. No.	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		6. US EPA ID Number PAD146714878		A. NYB8847081		
4. Generator's Telephone Number 516-575-4680		8. US EPA ID Number		B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		10. US EPA ID Number NYD049836679		C. State Transporter's ID T2473457		
7. Transporter 2 (Company Name)		12. Containers Number Type 001 DT		D. Transporter's Telephone 800-261-2220		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		13. Total Quantity 45360		E. State Transporter's ID		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ HAZARDOUS WASTE, SOLID, n.c.s. X (CHROMIUM) 9, NA3077, III (D007)		14. Unit Wt/Vol P		F. Transporter's Telephone ()		
b.		15. Special Handling Instructions and Additional Information PLATE # T747345 MISTIME... PART 4 PROFILE # BU 3730 SR# PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 8148034/		G. State Facility ID N/A		
c.		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.		H. Facility Telephone () 716-754-8231		
d.		17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name: Joe Susco for NGC Signature: [Signature] Mo. Day Year: 12/20/97		I. Waste No. EPA D007 STATE		
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM		18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name: William Joseph... Signature: [Signature] Mo. Day Year: 1/23/98		K. Handling Codes for Wastes Listed Above a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/>		
K. Handling Codes for Wastes Listed Above a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/>		19. Discrepancy Indication Space actual recd 45360 P		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name: EILBEN CAUTEX Signature: [Signature] Mo. Day Year: 12/23/97		

In case of emergency or spill, immediately call the National Response Center at (800) 424-8802 and the NYS Department of Environmental Conservation at (516) 457-7362.

NYB8847036

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 1 1 7		Manifest Doc. No. 1 1 7		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8847036		B. Generator's ID SAME		C. State Transporter's ID XA60931 PA	
4. Generator's Telephone Number 675-4880		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		D. Transporter's Telephone 610 261-2220		E. State Transporter's ID	
7. Transporter 2 (Company Name)		8. US EPA ID Number		F. Transporter's Telephone ()		G. State Facility ID		H. Facility Telephone ()	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		716 754-8231		N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				001 DT		47820		P	
b.								I. Waste No. EPA D007	
c.								STATE	
d.								EPA	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		L			
15. Special Handling Instructions and Additional Information PLATE # XA 60931 NYSDOT Form 1 # 1115 DEC PA-263 SERVICE REQUEST 411 596-2 EMERGENCY PHONE 800 353-2387				EMERGENCY PHONE 800 353-2387		EAC #171			
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 JOE SUSCO FOR NCC				Signature <i>[Signature]</i>				Mo. Day Year 11 23 97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name MARTIN KROCH				Signature <i>[Signature]</i>				Mo. Day Year 12 30 97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual received 48260 P Item K-11									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Colleen M. Sullivan				Signature <i>[Signature]</i>				Mo. Day Year 11 23 1997	

GENERATOR

TRANSPORTER

CITY

NYB8847162

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



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

(Hazardous Waste Manifest 497)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7	Manifest Doc. No. 0 0 1 2 5	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8847162		
4. Generator's Telephone Number 75-4880				B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		C. State Transporter's ID YE 53087AA		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 810 261-2220		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID		
10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9				F. Transporter's Telephone ()		
				G. State Facility ID N/A		
				H. Facility Telephone () 716 754-8231		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				001	DT	48400 P
b.						
c.						
d.						
J. Additional Descriptions for Materials listed Above SVE SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		
a				a	<input checked="" type="checkbox"/>	c <input type="checkbox"/>
b				b	<input type="checkbox"/>	d <input type="checkbox"/>
15. Special Handling Instructions and Additional Information PLATE # XE53087AA NYB8847162 PROF # B4 3730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 81480307						
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 Joe Succo for NGE		Signature <i>[Signature]</i>		Mo. Day Year 11/23/97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Charlie Meckes		Signature <i>[Signature]</i>		Mo. Day Year 11/23/97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual rec'd 49320 P						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Colleen M. Duncan		Signature <i>[Signature]</i>		Mo. Day Year 11/23/97		

GENERATOR

NYB8804925

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 17500204798	Manifest Doc. No. 100095	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION		MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. NYB8804925		
4. Generator's Telephone Number () 516 575-4630		6. US EPA ID Number 111-1-0000		B. Generator's ID SAME		
5. Transporter 1 (Company Name) WORTHINGTON TRUCKS, INC.		7. Transporter 2 (Company Name)		C. State Transporter's ID XA 7350940		
9. Designated Facility Name and Site Address OMI CHEMICAL SERVICES, INC. 1550 BALKER ROAD ROCKY CITY NY 14107		8. US EPA ID Number 1750043836679		D. Transporter's Telephone () 610 261-2220		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number		13. Total Quantity		14. Unit Wt/Vol
a. RO, HAZARDOUS WASTE, SOLID, N.O.S. (CHROMIUM) 2, NA3077, III (2004) 7		0 0 1 0 0		41.5000		
I. Waste No. EPA STATE						3007
b.						EPA STATE
c.						EPA STATE
d.						EPA STATE
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above				
a. S/E SOIL w/CHROMIUM 1.00		c.		a. L		c.
b.		d.		b.		d.
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 888 351-2387 SR # 409643-1 6:10 AM 81484476 649*171						
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 ON BEHALF OF NGL Mona		Signature NGL by [Signature]		Mo. Day Year 12 22 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name DAVID B. PRYFOGLE		Signature [Signature]		Mo. Day Year 12 22 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual received 41300P						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Colleen M. Duran		Signature [Signature]		Mo. Day Year 11 28 97		

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NY's Department of Environmental Conservation (518) 457-7302

NYB8804907

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>1130829479500097</u>		Manifest Doc. No. <u>00097</u>		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address <u>WORTHROP-CORUM CORPORATION</u> <u>MAIL STOP 0008-001</u> <u>SOUTH Oyster Bay Road</u> <u>WESTBACH NY 11714-3580</u>		A. NYB8804907		B. Generator's ID SAME		C. State Transporter's ID <u>TW261120</u>		D. Transporter's Telephone <u>510 261-2220</u>	
4. Generator's Telephone Number <u>516 575-4380</u>		E. State Transporter's ID <u>510 261-2220</u>		F. Transporter's Telephone <u>510 261-2220</u>		G. State Facility ID		H. Facility Telephone <u>716-751-8231</u>	
5. Transporter 1 (Company Name) <u>516 575-4380</u>		6. US EPA ID Number <u>1130829479500097</u>		7. Transporter 2 (Company Name) <u>INC.</u>		8. US EPA ID Number <u>1130829479500097</u>		9. Designated Facility Name and Site Address <u>DWN CHEMICAL SERVICES, INC.</u> <u>1550 PALMER ROAD</u> <u>ROSEL CITY NY 14107</u>	
10. US EPA ID Number <u>1130829479500097</u>		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number Type		13. Total Quantity		14. Unit W/Vol	
a. <u>SO, HAZARDOUS WASTE, SOLID, R.O.S.</u>		b. <u>(CHROMIUM) 9, 23077, III (603)</u>		c. <u>501 375</u>		d. <u>540810</u>		e. <u>P</u>	
f. <u>7</u>		g. <u>DA 12/2/97</u>		h. <u>5007</u>		i. <u>5007</u>		j. <u>5007</u>	
k. <u>7</u>		l. <u>7</u>		m. <u>7</u>		n. <u>7</u>		o. <u>7</u>	
J. Additional Descriptions for Materials listed Above a. <u>3/8 SOIL W/CHROMIUM</u>		K. Handling Codes for Wastes Listed Above a. <u>L</u>		b. <u> </u>		c. <u> </u>		d. <u> </u>	
15. Special Handling Instructions and Additional Information <u>PACKING SLIPS ATTACHED FOR CLARIFICATION</u> <u>EMERGENCY PHONE #: 888 351-2367</u> <u>BU3730</u> <u>81480078</u> <u>EG*PI</u>		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 <u>DR JAMES A USC</u>		Signature <u>USC by James A USC</u>		Mo. <u>12</u> Day <u>22</u> Year <u>97</u>		17. Transporter 1 Acknowledgement of Receipt of Materials			
Printed/Typed Name <u>Richard A SIFTE</u>		Signature <u>Richard A Sifte</u>		Mo. <u>12</u> Day <u>22</u> Year <u>97</u>		18. Transporter 2 Acknowledgement of Receipt of Materials			
Printed/Typed Name <u> </u>		Signature <u> </u>		Mo. <u> </u> Day <u> </u> Year <u> </u>		19. Discrepancy Indication Space <u>actual record 5-4180alb</u>			
Printed/Typed Name <u>Jessan M. ...</u>		Signature <u>Jessan M. ...</u>		Mo. <u>12</u> Day <u>22</u> Year <u>97</u>		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.			

GENERATOR

TRANSPORTER

NYB8804898

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST
1. Generator's US EPA No. 3602047967
Manifest Doc. No. 00098
2. Page 1 of 1
Information within heavy bold line is not required by Federal Law.
A. NYB8804898
B. Generator's ID JAME
C. State Transporter's ID XA44668
D. Transporter's Telephone (610) 261-2220
E. State Transporter's ID
F. Transporter's Telephone ()
G. State Facility ID 4
H. Facility Telephone () 716-751-8231
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)
a. RQ, HAZARDOUS WASTE, SOLID, H.O.S. (CHROMIUM) 9, RA3077, III (0001)
12. Containers Number 001
13. Total Quantity 49.28
14. Unit P
I. Waste No. EPA 0007 STATE
J. Additional Descriptions for Materials listed Above
a. 1/2 SOIL w/CHROMIUM
K. Handling Codes for Wastes Listed Above
a. 4
15. Special Handling Instructions and Additional Information
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 814-330-140 386 351-2387
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.
Printed/Typed Name Max Szel Signature Max Szel Mo. Day Year 1 2 2 4 9 7
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Michael Fox Mo. Day Year 1 2 2 4 9 7
18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Michael Tatalerit Mo. Day Year 1 2 2 3 9 7
19. Discrepancy Indication Space
actual found 40020 lbs
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 Mo. Day Year 1 2 2 4 9 7

NYB8804871

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 12000204796	Manifest Doc. No. 10000	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address WORTHROP-GRUMMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804871		
4. Generator's Telephone Number () 516 875-4680		5. Transporter 1 (Company Name) WORTH TRUCKS, INC.		6. US EPA ID Number 340146714673		B. Generator's ID SAME
7. Transporter 2 (Company Name)		8. US EPA ID Number		C. State Transporter's ID XO-11456		D. Transporter's Telephone 610 261-2220
9. Designated Facility Name and Site Address OWA CHEMICAL SERVICES, INC. 1550 BALMER ROAD MOORE CITY NY 14107				10. US EPA ID Number 1Y0049336679		E. State Transporter's ID
				F. Transporter's Telephone ()		G. State Facility ID
				H. Facility Telephone () 716-751-3231		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. CR, HAZARDOUS WASTE, SOLID, H.C.S. (CHROMIUM) 9, NA3077, III (2001)			0	53700	P	EPA 0007
b. 7						STATE
c.						EPA
d.						STATE
J. Additional Descriptions for Materials listed Above 3% SOIL W/CHROMIUM			K. Handling Codes for Wastes Listed Above			
a. 1.00			a. <input checked="" type="checkbox"/> c. <input type="checkbox"/>			
b.			b. <input type="checkbox"/> d. <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 588 351-2387 BU 3730 81480139 619-171						
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 J. M. NGC			Signature <i>NGC by J. M. NGC</i>		Mo. Day Year 12 24 92	
17. Transporter 1 Acknowledgment of Receipt of Materials			Signature <i>James Hutch</i>		Mo. Day Year 12 24 92	
18. Transporter 2 Acknowledgment of Receipt of Materials			Signature		Mo. Day Year	
19. Discrepancy Indication Space actual record 53460 lb						
Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Lisa M. Abraham			Signature <i>Lisa M. Abraham</i>		Mo. Day Year 12 23 92	

COPY 5-Generator-mailed by TSD facility

NY10004003

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 11100204799		Manifest Doc. No. 00099		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address FORTHROP-CRUMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD SENECA NY 11714-3580		A. Generator's ID NYB8804889		B. Generator's ID SAME		C. State Transporter's ID 2820775 (AA)		D. Transporter's Telephone 516 261-2220	
4. Generator's Telephone Number 516 754-6800		6. US EPA ID Number 11100204799		E. State Transporter's ID 516 261-2220		F. Transporter's Telephone ()		G. State Facility ID ()	
5. Transporter 1 (Company Name) IDENTITY TRUCKS, INC.		8. US EPA ID Number 11100204799		H. Facility Telephone 716 754 8231		9. Designated Facility Name and Site Address TM CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSEL CITY NY 14107		10. US EPA ID Number 11100204799	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. HQ, HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D001)		0 0 1 D T		5 1 8 L P				EPA STATE 0007	
b. 7								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above 3/5 SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above a <input checked="" type="checkbox"/> L c <input type="checkbox"/>		b <input type="checkbox"/> d <input type="checkbox"/>					
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION		EMERGENCY PHONE #: 588 351-2387		81480079		GAS # 171			
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 Mark Sam		Signature <i>Mark Sam</i>		Mo. Day Year 1/22/97			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name Mark Sam		Signature <i>Mark Sam</i>		Mo. Day Year 1/22/97			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name Mark Sam		Signature <i>Mark Sam</i>		Mo. Day Year 1/22/97			
19. Discrepancy Indication Space actual recd 2800 52680 lb		Printed/Typed Name Tosan M. ...		Signature <i>Tosan M. ...</i>		Mo. Day Year 1/22/97			
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name Tosan M. ...		Signature <i>Tosan M. ...</i>		Mo. Day Year 1/22/97			

COPY 5-Generator-mailed by TSD facility

YB8804862

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY 1300204770700101		Manifest Doc. No. 00101		2. Page 1 of		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address ORTHROP-IRUMIAN CORPORATION RAIL STOP 0008-001 SOUTH CRYSTAL BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804862		B. Generator's ID			
4. Generator's Telephone Number (315) 475-4580		5. Transporter 1 (Company Name) ORLANDO TRUCKS, INC.		6. US EPA ID Number 200946714873		C. State Transporter's ID TZ15908 (NY)		D. Transporter's Telephone (510) 251-2220	
7. Transporter 2 (Company Name)				8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()	
9. Designated Facility Name and Site Address DM CHEMICAL SERVICES, INC. 1650 BALMER ROAD MODEL CITY NY 14107				10. US EPA ID Number 140310036672		G. State Facility ID		H. Facility Telephone (715) 754-9231	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number		13. Total Quantity		14. Unit Wt/Vol	
a. HAZARDOUS WASTE, SOLID, N.O.S. (CHROMIUM) 2, NA3077, III (D80X)				b. 7		c. 44540		d. P	
15. Additional Descriptions for Materials listed Above 75 SOIL W/CHROMIUM				16. Special Handling Instructions and Additional Information SR#19643-7 PACKING SLIPS ATTACHED FOR CLARIFICATION 81480089		17. Handling Codes for Wastes Listed Above a. <input checked="" type="checkbox"/> L		c. <input type="checkbox"/>	
18. 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.				19. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name: Maria S... Signature: NGC by Maria S... Mo. Day Year: 1/2/22 97		20. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name: ROBERT KESTER Signature: Robert Kester Mo. Day Year: 1/2/22 97		21. Discrepancy Indication Space actual found 44740P	
22. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name: EILEEN CARTER Signature: Eileen Carter Mo. Day Year: 12/23/97									

NYB8804529

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY 000204796700112	Manifest Doc. No. 1	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580 Attn: J. Colman		A. NYB8804529			B. Generator's ID SAME
4. Generator's Telephone Number 75-4480	5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.	6. US EPA ID Number PA 0146714878	C. State Transporter's ID TS316391A		
7. Transporter 2 (Company Name)	8. US EPA ID Number	D. Transporter's Telephone 810 261-2220			E. State Transporter's ID
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number NY 0049836679	F. Transporter's Telephone ()		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9.NA3077.III (D007)		001	DT	46300 P	EPA D007 STATE
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE
J. Additional Descriptions for Materials listed Above A) S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above			
a	1100	c	a	L	c
b		d	b		d
15. Special Handling Instructions and Additional Information BU 3730		81480207			
PACKING SLIPS ATTACHED FOR CLARIFICATION		EMERGENCY PHONE 888 353-2387		EIS # 171	
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 J. Manick Sr		Signature NGC by J. Manick Sr		Mo. Day Year 12/23/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name L. Manick Sr		Signature L. Manick Sr		Mo. Day Year 12/23/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space actual found 46440 P Item K-IT					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Colleen M. Duncan		Signature Colleen M. Duncan		Mo. Day Year 11/22/97	

GENERATOR

TRANSPORTER

FACILITY

NYB8804583

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 117000204796700113		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804583		B. Generator's ID SAME			
4. Generator's Telephone Number 516-475-4680 ATTN: J. [unclear]				6. US EPA ID Number PA0146714878		C. State Transporter's ID TV45941 (A)			
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.				8. US EPA ID Number		D. Transporter's Telephone 910 261-2220			
7. Transporter 2 (Company Name)				10. US EPA ID Number NYD049836679		E. State Transporter's ID			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				8. US EPA ID Number		F. Transporter's Telephone ()			
9. Designated Facility Name and Site Address				10. US EPA ID Number		G. State Facility ID N/A			
9. Designated Facility Name and Site Address				10. US EPA ID Number		H. Facility Telephone () 716 754-8231			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)					12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	1. Waste No.	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077.III (D007)					001	DT	45020 ^P	EPA D007 STATE	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above A) S/E SOIL W/CHROMIUM					K. Handling Codes for Wastes Listed Above				
a. 100 c					a. L c				
b.					b. d				
15. Special Handling Instructions and Additional Information BU 330 81480211									
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 649 #171									
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 on behalf of NGL J. [unclear]				Signature NGL [unclear]				Mo. Day Year 1/2/23/97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name [unclear]				Signature [unclear]				Mo. Day Year 1/2/23/97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual record 45080P [unclear]									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Colleen M. [unclear]				Signature Colleen M. [unclear]				Mo. Day Year 1/2/23/97	

124 0002 and the NYS Department of Environmental Conservation (518) 457-7362

NYB8804592

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY 666264796700114	Manifest Doc. No. 1	2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE, NY 11714-3580 ATTN: J. Colman				A. NYB8804592		B. Generator's ID SAME	
4. Generator's Telephone Number 575-4680		6. US EPA ID Number PAD146714878		C. State Transporter's ID TK29249 (12)		D. Transporter's Telephone 810 261-2220	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		E. State Transporter's ID		F. Transporter's Telephone ()	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				10. US EPA ID Number NYD049836679		G. State Facility ID N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9.NA3077.III (D007)				001	DT	46280 P	EPA D007 STATE
b.							EPA STATE
c.							EPA STATE
d.							EPA STATE
J. Additional Descriptions for Materials listed Above A) S/E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above			
a. > 100 c				a. <input checked="" type="checkbox"/> L c <input type="checkbox"/>			
b.				b. <input type="checkbox"/> d <input type="checkbox"/>			
15. Special Handling Instructions and Additional Information BU 720 81480212 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 617121							
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 ON BEHALF OF NGC J. MAIER SMC				Signature NGC by J. Maier SMC		Mo. Day Year 12 23 97	
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name BERT HATTINON				Signature [Signature]		Mo. Day Year 12 23 97	
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name				Signature		Mo. Day Year	
19. Discrepancy Indication Space actual record 46500 P Item K-12							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name Green M. Duncan				Signature [Signature]		Mo. Day Year 1 24 97	

GENERATOR

TRANSPORTER

FACTORY

NYB8804511

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

In case of emergency or spill, immediately call the National Response Center (24 hours) at 1-800-424-8802 and the NYS Department of Environmental Conservation (914) 457-7302

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NYD002047967001111		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804511		B. Generator's ID SAME		C. State Transporter's ID XA60931(M)	
4. Generator's Telephone Number 75-4980		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PA0146714878		D. Transporter's Telephone 10 261-2220		E. State Transporter's ID	
7. Transporter 2 (Company Name)		8. US EPA ID Number		9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		F. Transporter's Telephone ()		G. State Facility ID N/A	
				10. US EPA ID Number NYD049836679		H. Facility Telephone () 716 754-8231			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) ? NA3077.III (D007)				001 DT		46480		P	
b.								I. Waste No. EPA D007 STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above A15/E SOIL W/CHROMIUM				a. > 100		c.		K. Handling Codes for Wastes Listed Above	
								a. <input checked="" type="checkbox"/> L	
								b. <input type="checkbox"/>	
								c. <input type="checkbox"/>	
								d. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information BU3730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 81482201 CES #171									
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 J. Mark Sore				Signature J. Mark Sore				Mo. Day Year 12 23 97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name Mark Sore				Signature Mark Sore				Mo. Day Year 12 23 97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space 46780P Item K-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 Cleen M. Duncan				Signature Cleen M. Duncan				Mo. Day Year 12 23 97	

NYB8804646

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>NYE00234729</u>		Manifest Doc. No. <u>0009</u>		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address <u>NORTHROP GRUMMAN CORPORATION</u>		MAIL STOP 0003-001 SOUTH WYSTER HAY ROAD BETHPALE NY 11713580		A. Generator's ID NYB8804646		B. Generator's ID SAME			
4. Generator's Telephone Number (<u>516</u>) <u>775-4600</u>		5. Transporter 1 (Company Name) <u>UNITED TRUCKS, INC.</u>		6. US EPA ID Number <u>NYE00234729</u>		C. State Transporter's ID XA 73501		D. Transporter's Telephone <u>510 261-2220</u>	
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()		G. State Facility ID	
9. Designated Facility Name and Site Address <u>JAM CHEMICAL SERVICES, INC.</u> <u>1550 PALMER ROAD</u> <u>ROSEL CITY NY 14107</u>		10. US EPA ID Number <u>NYE0049826679</u>		H. Facility Telephone () <u>716 754 9231</u>					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Total		14. Unit		I. Waste No.	
a. <u>CR, HAZARDOUS WASTE, SOLID, R.D.S.</u>		Number		Quantity		Wt/Vol		EPA <u>0007</u>	
b. <u>(CHROMIUM) 9, NA3077, III (0007)</u>		Type		43740				STATE	
c.								EPA	
d.								STATE	
J. Additional Descriptions for Materials listed Above		K. Handling Codes for Wastes Listed Above							
a. <u>1/2 SOIL w/CHROMIUM</u>		a. <input checked="" type="checkbox"/>		b. <input type="checkbox"/>		c. <input type="checkbox"/>		d. <input type="checkbox"/>	
b.		b.		c.		d.			
15. Special Handling Instructions and Additional Information <u>NY DEC PERMIT EPA-...</u> <u>PACKING SLIPS ATTACHED FOR CLARIFICATION</u> EMERGENCY PHONE # <u>588 353-2387</u>		<u>714 2246</u>		<u>64 3730</u>		<u>616 171</u>			
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 <u>Joe...</u>		Signature <u>[Signature]</u>		Mo. Day Year <u>11 29 97</u>			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name <u>DAVID B. BYFOGLE</u>		Signature <u>[Signature]</u>		Mo. Day Year <u>11 29 97</u>			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space <u>actual load 4.91 TSP</u>									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name <u>[Name]</u>		Signature <u>[Signature]</u>		Mo. Day Year <u>11 29 97</u>			

NYB8804601

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 43560P	Manifest Doc. No. 00093	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP GRUMMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD SUFFERAGE NY 11714-3500			A. NYB8804601		B. Generator's ID SAWE	
4. Generator's Telephone Number (516) 575-4600		6. US EPA ID Number 2115146714379		C. State Transporter's ID TV30802-1A		D. Transporter's Telephone (410) 281-2224
5. Transporter 1 (Company Name) SMITH BRUCKS INC.		7. Transporter 2 (Company Name)		E. State Transporter's ID		F. Transporter's Telephone ()
9. Designated Facility Name and Site Address OWM CHEMICAL SERVICES, INC. 1550 PALMER ROAD OSHEL CITY NY 14107			10. US EPA ID Number 14304923579		G. State Facility ID	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. SO, HAZARDOUS WASTE, SOLID, N.O.S., (CHROMIUM) 9, RA3077, III (0007)			00102	44000	P	EPA STATE
b.						EPA STATE
c.						EPA STATE
d.						EPA STATE
J. Additional Descriptions for Materials listed Above			K. Handling Codes for Wastes Listed Above			
a. 1/2 SOIL W/CHROMIUM 100 c			a. L c			
b.			b. d			
15: Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 388 353-2387 NYSDEC Permit # PA-253 (T...) ER6 #121 64 3730 81480270						
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 Joe Susco for NGC		Signature <i>[Signature]</i>		Mo. Day Year 11 22 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name FRANCIS E ROTH		Signature <i>[Signature]</i>		Mo. Day Year 11 22 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual rec'd 43560P						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.						
Printed/Typed Name Coleen M. Duncan		Signature <i>[Signature]</i>		Mo. Day Year 11 23 97		

In case of emergency or spill immediately call the National Response Center (800) 424-9302 and the NY State Department of Environmental Conservation (518) 487-7000

NYB8804637

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 4YD002047957		Manifest Doc. No. 00094		2. Page 1 of		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address NORTHROP GRUMMAN CORPORATION MAIL STOP 0008-001 NORTH OYSTER BAY ROAD WESTPAGE NY 11714-3580						A. Generator's ID NYB8804637							
4. Generator's Telephone Number (516) 575-4689						B. Generator's ID SAME							
5. Transporter 1 (Company Name) JRWICH TRUCKS, INC.				6. US EPA ID Number 230146714878		C. State Transporter's ID TW2640-PA							
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (610) 261-2220							
9. Designated Facility Name and Site Address TDM CHEMICAL SERVICES, I.C. 1350 PALMER ROAD ROSEL CITY NY 14107						E. State Transporter's ID							
						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 716-754-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. TO, HAZARDOUS WASTE, SOLID, H.C.S. (CHROMIUM) 9, SA3077, III (0007)						0 1 0 0		55000				EPA 0007	
b.												STATE	
c.												EPA	
d.												STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL #CHROMIUM						K. Handling Codes for Wastes Listed Above							
a. 1 0 0						c.		L		c.			
b.						d.				d.			
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE# 888 353-2387 Transporter Permit # N15DEC PA-263 B1 3730 81480250 ELC # 171													
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 Joe Susco for MGC				Signature <i>[Signature]</i>				Mo. Day Year 12 29 97					
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name Richard A Silfies				Signature <i>[Signature]</i>				Mo. Day Year 12 29 97					
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name				Signature				Mo. Day Year					
19. Discrepancy Indication Space actual rec'd 55600 P <i>[initials]</i>													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name Coleen M. Duncan				Signature <i>[Signature]</i>				Mo. Day Year 11 23 97					

NYB8804466

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 175000204706700105	Manifest Doc. No. 175000204706700105	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		6. US EPA ID Number PA 0146714878		A. NYB8804466	B. Generator's ID SAME
4. Generator's Telephone Number 75-4480		8. US EPA ID Number		C. State Transporter's ID T203224 PA	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PA 0146714878		D. Transporter's Telephone 61-2220	E. State Transporter's ID
7. Transporter 2 (Company Name)		8. US EPA ID Number		F. Transporter's Telephone ()	G. State Facility ID N/A
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number NY 049836679		H. Facility Telephone () 716 754-8231	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	1. Waste No.
a. RD HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9.NA3077.III (D007)		001	DT 44860	P	EPA D007 STATE
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE
J. Additional Descriptions for Materials listed Above A) S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above			
a	c	a	L	c	
b	d	b		d	
15. Special Handling Instructions and Additional Information NYS Transporter # PA-263 P.F.# BU3730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 814 80264 ERG# 171					
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 Joe [unclear]		Signature [Signature]		Mo. Day Year 1/22/97	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name Wilfried Wittmann		Signature [Signature]		Mo. Day Year 1/22/97	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Mo. Day Year	
19. Discrepancy Indication Space actual rec'd 45260 P					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Coleen M. Duncan		Signature [Signature]		Mo. Day Year 1/23/97	

COPY 5-Generator-mailed by TSD facility

NYB8804691

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 print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA No.	Manifest Doc. No.	2. Page 1 of
	170002047967	00087	1

3. Generator's Name and Mailing Address	A.
NORTHROP GRUMMAN CORPORATION	NYB8804691

4. Generator's Telephone Number (516) 575-4680	6. US EPA ID Number	B. Generator's ID
Att: J. Cofmann		SAME

5. Transporter 1 (Company Name)	6. US EPA ID Number	C. State Transporter's ID
FORNITH TRUCKS, INC.	12121212121212	TY19553-PA

7. Transporter 2 (Company Name)	8. US EPA ID Number	D. Transporter's Telephone
		810 261-2220

9. Designated Facility Name and Site Address	E. State Transporter's ID
OWM CHEMICAL SERVICES, INC.	

10. US EPA ID Number	F. Transporter's Telephone ()
12121212121212	

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers	13. Total	14. Unit	1. Waste No.
	Number	Quantity	Wt/Vol	

a. CR, HAZARDOUS WASTE, SOLID, n.o.s.		EST		EPA
(CHROMIUM) 9, RA3077, III (0007)	00100	44900		0007 STATE

b.				EPA
				STATE

c.				EPA
				STATE

d.				EPA
				STATE

J. Additional Descriptions for Materials listed Above	K. Handling Codes for Wastes Listed Above
---	---

a. CR SOIL W/CHROMIUM	a. <input checked="" type="checkbox"/>	c. <input type="checkbox"/>
	b. <input type="checkbox"/>	d. <input type="checkbox"/>

15. Special Handling Instructions and Additional Information
--

PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE # 888 353-2387
Transporter's phone + 1 516 PA-263 81480269 ERG#131

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	Signature	Mo. Day Year
JOE SUSCO FOR NCC	<i>[Signature]</i>	12/29/97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Mo. Day Year
	<i>[Signature]</i>	12/29/97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Mo. Day Year

19. Discrepancy Indication Space

actual record 50700P **stink-ID**

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	Mo. Day Year
Coleen M. Duncan	<i>[Signature]</i>	12/30/97

in case of emergency or spill immediately call the National Response Center (800) 424-9602 and the NYS Department of Environmental Conservation (516) 457-7362

GENERATOR

TRANSPORTER

FACILITY

NYB8847054

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



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

(Hazardous Waste Manifest 4/97)

Type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No. NY 0002047967 Manifest Doc. No. 00115

2. Page 1 of 1 Information within heavy bold line is not required by Federal Law.

3. Generator's Name and Mailing Address
NORTHROP-GRUMMAN CORPORATION
MAIL STOP D08-001
SOUTH OYSTER BAY ROAD
BETHPAGE NY 11714-3580

A. **NYB8847054**

4. Generator's Telephone Number 516-575-4680

B. Generator's ID
SAME

5. Transporter 1 (Company Name)
HORWITH TRUCKS, INC.

6. US EPA ID Number
PA D 146714878

C. State Transporter's ID XB14429-PA

7. Transporter 2 (Company Name)

8. US EPA ID Number

D. Transporter's Telephone 610 261-2220

9. Designated Facility Name and Site Address
CWM CHEMICAL SERVICES, INC.
1550 BALMER ROAD
MODEL CITY, NY 14107

E. State Transporter's ID

F. Transporter's Telephone ()

G. State Facility ID
N/A

H. Facility Telephone ()
716 754-8231

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)

12. Containers
Number | Type

13. Total
Quantity

14. Unit
Wt/Vol

I. Waste No.
EPA | STATE

a. **RQ HAZARDOUS WASTE, SOLID, n.o.s.
X (CHROMIUM) 9, NA3077, III (D007)**

001 | DT

46840

P

EPA D007
STATE

b.

EPA
STATE

c.

EPA
STATE

d.

EPA
STATE

J. Additional Descriptions for Materials listed Above
ASTYLE SOIL W/CHROMIUM

K. Handling Codes for Wastes Listed Above
a b c d

a.

b.

15. Special Handling Instructions and Additional Information
PA-263 81480252
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387
122997

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 Joe Susio

Signature [Signature]

Mo. Day Year 12 29 97

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name Jeffrey Scott

Signature [Signature]

Mo. Day Year 12 29 97

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name

Signature

Mo. Day Year

19. Discrepancy Indication Space
actual rec'd 47620 P [Signature]

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name Coleen M. Durian

Signature [Signature]

Mo. Day Year 12 30 97

In case of emergency or spill immediately call the National Response Center (800) 424-9302 and the NYS Department of Environmental Conservation (518) 457-1302

GENERATOR

TRANSPORTER

FACILITY

NYB8847018

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 1 1 9		Manifest Doc. No. 1 1 9		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8847018		B. Generator's ID SAME		C. State Transporter's ID TV 40491 PA	
4. Generator's Telephone Number 675-4680		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		D. Transporter's Telephone 610 261-2220		E. State Transporter's ID		F. Transporter's Telephone ()	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		8. US EPA ID Number		G. State Facility ID N/A		H. Facility Telephone () 716 754-8231	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		12. Containers Number Type		13. Total Quantity	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				14. Unit Wt/Vol		I. Waste No.			
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				001 DT		45620 P		EPA D007 STATE	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above					
a				c		a		c	
b				d		b		d	
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 FLATS TV 40491 PA # 15 Transporter Permit # MIDE PA-263 PROFILE# B4 3730 SERVICE REQUEST# 81480307 ERG # 171									
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 Joe Swick for HGC				Signature <i>[Signature]</i>				Mo. Day Year 1 23 97	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name Gerald M Bagnack				Signature <i>[Signature]</i>				Mo. Day Year 1 23 97	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual serial 40220 P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Eileen Carter				Signature <i>[Signature]</i>				Mo. Day Year 1 23 97	

In case of emergency or spill immediately call the National Response Center at 424-8802 and the NYS Department of Environmental Conservation at 457-7362

GENERATOR

TRANSPORTER

FACILITY

NYB8847027

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. N Y D 0 0 2 0 4 7 9 6 7 0 0 1 1 8		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8847027		B. Generator's ID SAME		C. State Transporter's ID XD 73450 PA	
4. Generator's Telephone Number 675-4680		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number P A D 1 4 6 7 1 4 8 7 8		D. Transporter's Telephone 910 261-2220		E. State Transporter's ID	
7. Transporter 2 (Company Name)		8. US EPA ID Number		F. Transporter's Telephone ()		G. State Facility ID N/A		H. Facility Telephone () 716 754-8231	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				10. US EPA ID Number N Y D 0 4 9 8 3 6 6 7 9		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number Type	
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				13. Total Quantity 15700		14. Unit P		I. Waste No. EPA D007 STATE	
b.								EPA STATE	
c.								EPA STATE	
d.								EPA STATE	
Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		a. <input checked="" type="checkbox"/> L		c. <input type="checkbox"/>	
b.				d.		b. <input type="checkbox"/>		d. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information PLATE # XD 73450 PA PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 PROFILE # 3730 SERVICE REQUEST ERG # 171									
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 Joe Susco for NGC				Signature <i>[Signature]</i>				Mo. Day Year 11/23/09	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name MN Bollinger				Signature <i>[Signature]</i>				Mo. Day Year 11/23/09	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature				Mo. Day Year	
19. Discrepancy Indication Space actual received 45900 P									
Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Colen M. Duncan				Signature <i>[Signature]</i>				Mo. Day Year 11/23/09	

COPY 5-Generator-mailed by TSD facility

NYB8804565

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



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. NYD00204796700123		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580						A. Generator's ID NYB8804565			
4. Generator's Telephone Number 516-675-4880						B. Generator's ID SAME			
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.			6. US EPA ID Number PAD146714878			C. State Transporter's ID XC72815-PA		D. Transporter's Telephone 810 261-2220	
7. Transporter 2 (Company Name)			8. US EPA ID Number			E. State Transporter's ID		F. Transporter's Telephone ()	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107						10. US EPA ID Number NYD049836679			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers	13. Total	14. Unit	15. Waste No.
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)						Number 001	Type DT	Quantity 39600	Wt/Vol P
b.									EPA D007
c.									STATE
d.									EPA
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM						K. Handling Codes for Wastes Listed Above			
a.						b	c	d	e
b.									
15. Special Handling Instructions and Additional Information Pick # XC72815-PA PACKING SLIPS ATTACHED FOR CLARIFICATION						NYC Transporter Permit # N15 DEC PA-263 EMERGENCY PHONE 888 353-2387 87480370 BU3730 ERG 121			
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 Joe Suscator NCC				Signature <i>[Signature]</i>			Mo. Day Year 12/3/97		
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name JOHN MEYER JR.				Signature <i>[Signature]</i>			Mo. Day Year 12/3/97		
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature			Mo. Day Year		
19. Discrepancy Indication Space actual rec'd 40180P									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name Coleen M. Surcan				Signature <i>[Signature]</i>			Mo. Day Year 12/3/97		

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NY's Department of Environmental Conservation (518) 457-7382

YB8804493

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



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

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY 000204796700109		Manifest Doc. No.		2. Page 1 of		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE, NY 11714-3580				A. NYB8804493		B. Generator's ID SAME		C. State Transporter's ID 2A07721(M)	
4. Generator's Telephone Number 75-4980		5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PAD146714978		D. Transporter's Telephone 810 261-2220		E. State Transporter's ID	
7. Transporter 2 (Company Name)		8. US EPA ID Number		9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 DALMER ROAD MODEL CITY, NY 14107		F. Transporter's Telephone ()		G. State Facility ID	
				10. US EPA ID Number NY 00049836679		H. Facility Telephone () 716 754-8231		N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. RG HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9.NA3077.III (D007)				001 DT		43520		P	
b.								I. Waste No. EPA D007	
c.								STATE	
								EPA	
								STATE	
								EPA	
								STATE	
J. Additional Descriptions for Materials listed Above A) S/E SOIL W/ CHROMIUM				K. Handling Codes for Wastes Listed Above					
a. > 1000				c.		a. <input checked="" type="checkbox"/>		c. <input type="checkbox"/>	
b.				d.		b. <input type="checkbox"/>		d. <input type="checkbox"/>	
15. Special Handling Instructions and Additional Information BU 3730 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 81480144 CAS # 131									
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 J. Mc... Signature Mc... by John Sun				Mo. Day Year 12 22 97					
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Peter Wittmann Signature Peter Wittmann				Mo. Day Year 12 22 97					
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature				Mo. Day Year					
19. Discrepancy Indication Space actual rec'd 44940 lbs									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name Susan M. ... Signature Susan M. ... Mo. Day Year 12 22 97									

NY88804484

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



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. <u>NY 00020479670108</u>		Manifest Doc. No. <u>108</u>		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION		MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580		A. NYB8804484		B. Generator's ID SAME			
4. Generator's Telephone Number <u>(75-4630)</u>		ADN: <u>J. G. [unclear]</u>		6. US EPA ID Number <u>P A D 1 4 6 7 1 4 R 7 R</u>		C. State Transporter's ID <u>XB54394</u>		D. Transporter's Telephone <u>810 261-2220</u>	
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 DALMER ROAD MODEL CITY, NY 14107		10. US EPA ID Number <u>NY 0040936679</u>		G. State Facility ID		H. Facility Telephone () <u>714 754-8231</u>		N/A	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers Number	Type	13. Total Quantity		14. Unit Wt/Vol	I. Waste No.		
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X: (CHROMIUM) 9.NA3077.III (D007)		001	DT	45580		P	EPA D007		
b.							STATE		
c.							EPA		
d.							STATE		
J. Additional Descriptions for Materials listed Above A/S/E SOIL W/CHROMIUM		K. Handling Codes for Wastes Listed Above		a. <u>L</u>		c. <input type="checkbox"/>			
a. <u>> 100</u>		b. <input type="checkbox"/>		d. <input type="checkbox"/>					
15. Special Handling Instructions and Additional Information 603730		EMERGENCY PHONE 888 353-2382 ext #171		81480143					
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 <u>J. M. [unclear] Sr.</u>		Signature <u>NGL by J. M. [unclear] Sr.</u>		Mo. <u>12</u> Day <u>22</u> Year <u>97</u>			
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name <u>[unclear]</u>		Signature <u>[unclear]</u>		Mo. <u>12</u> Day <u>22</u> Year <u>97</u>			
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Mo. Day Year			
19. Discrepancy Indication Space actual found 45660 lbs		20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Printed/Typed Name <u>Susan M. [unclear]</u>		Signature <u>[unclear]</u>		Mo. <u>12</u> Day <u>22</u> Year <u>97</u>	

In case of emergency or spill immediately call the National Response Center at 1-800-424-8802 and the NY's Department of Environmental Conservation at 518-547-7302

NY 4334

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
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. NYD000204794	Manifest Doc. No. 100104	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NORTHROP-CRUMPTON CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3500			A. Generator's ID NYB8804934		B. Generator's ID SAME	
4. Generator's Telephone Number (516) 575-4680 Att: J. Colmann			C. State Transporter's ID XA09719(M)		D. Transporter's Telephone 610 261 2220	
5. Transporter 1 (Company Name) MORRIS TRUCKS, INC.		6. US EPA ID Number PA0146714878		E. State Transporter's ID		F. Transporter's Telephone ()
7. Transporter 2 (Company Name)		8. US EPA ID Number		G. State Facility ID		H. Facility Telephone () 716-754-8231
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY NY 14107			10. US EPA ID Number NYD0049336679			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. CR, HAZARDOUS WASTE, SOLID, n.o.s. (CHROMIUM) 9, NA3077, 111 (2004) 7A 12/24/97				001	07	460200
b. 7						
c.						
d.						
Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above		
a. 1/8 SOIL W/CHROMIUM 1100				a. <input checked="" type="checkbox"/> L <input type="checkbox"/>		
b.				b. <input type="checkbox"/> <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information BU 3730 SR 409643-6 81430146 PACKING SLIPS ATTACHED FOR CLARIFICATION; EMERGENCY PHONE #: 888 351-2387 BU3730 EAG #171						
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 J. M. Colman		Signature <i>J. M. Colman</i>		Mo. Day Year 12 24 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Raymond S Bear		Signature <i>Raymond S Bear</i>		Mo. Day Year 12 24 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space actual recd 47060 lb						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Lisa M. Abraham		Signature <i>Lisa M. Abraham</i>		Mo. Day Year 12 24 97		

COPY 1-1 2000, with the U.S. Department of Environmental Conservation (EPA) 40 CFR 171.10

88804916

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



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. NY 2000204796		Manifest Doc. No. 700096		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address NORTHROP-GRUMMAN CORPORATION MAIL STOP 0008-001 SOUTH OYSTER BAY ROAD METHUEN NY 11714-3580				A. Generator's ID NYB8804916									
4. Generator's Telephone Number (516) 575-4680 Att: J. Colmann				B. Generator's ID SAME									
5. Transporter 1 (Company Name) NORTHROP TRUCKS, INC.				6. US EPA ID Number 2AD145714878		C. State Transporter's ID XC5882201							
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (610) 261-2220							
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD ROSEL CITY NY 14107				10. US EPA ID Number NY 0040335672		E. State Transporter's ID							
						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 715-757-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. CR, HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (0004)						0010T		46810P				EPA 0007	
b. 7												STATE	
c.												EPA	
d.												STATE	
J. Additional Descriptions for Materials listed Above S/E SOIL W/CHROMIUM 1.00						K. Handling Codes for Wastes Listed Above a <input checked="" type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/>							
15. Special Handling Instructions and Additional Information PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE #: 888 351-2387 S/N = 409643-2 E-1-30 81480025 E09 #171													
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 J. M... Signature NGL by [Signature] Mo. Day Year 12/24/97							
17. Transporter 1 Acknowledgement of Receipt of Materials						Printed/Typed Name NORTHROP P. RICE Signature [Signature] Mo. Day Year 12/24/97							
18. Transporter 2 Acknowledgement of Receipt of Materials						Printed/Typed Name Signature Mo. Day Year							
19. Discrepancy Indication Space actual record 46740P													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						Printed/Typed Name Cohen M. Duncan Signature [Signature] Mo. Day Year 1/2/23/97							

NYB8804475

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



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

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(Hazardous Waste Manifest 4/97)

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UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NY 000204796700107	Manifest Doc. No. 00107	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NGRTHROP-GRUMMAN CORPORATION MAIL STOP D08-001 SOUTH OYSTER BAY ROAD BETHPAGE NY 11714-3580				A. NYB8804475		
4. Generator's Telephone Number 75-4480 <i>Att: J. Colans</i>				B. Generator's ID SAME		
5. Transporter 1 (Company Name) HORWITH TRUCKS, INC.		6. US EPA ID Number PAD146714878		C. State Transporter's ID TG77105 (M)		
7. Transporter 2 (Company Name)		8. US EPA ID Number		D. Transporter's Telephone 10 261-2220		
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, INC. 1550 BALMER ROAD MODEL CITY, NY 14107				E. State Transporter's ID		
				F. Transporter's Telephone ()		
				G. State Facility ID N/A		
				H. Facility Telephone () 716 754-8231		
10. US EPA ID Number NY 00049836679						
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol
a. RQ HAZARDOUS WASTE, SOLID, n.o.s. X (CHROMIUM) 9, NA3077, III (D007)				001	DT	45280 P
b.						
c.						
d.						
J. Additional Descriptions for Materials listed Above A15E SOIL W/CHROMIUM				K. Handling Codes for Wastes Listed Above		
a. > 100				a. <input type="checkbox"/> c. <input type="checkbox"/>		
b.				b. <input type="checkbox"/> d. <input type="checkbox"/>		
15. Special Handling Instructions and Additional Information BU3730 407647 0167 PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 603 171						
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 J. Mance		Signature <i>J. Mance</i>		Mo. Day Year 12 22 97		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name ANDY RIOS		Signature <i>Andy Rios</i>		Mo. Day Year 12 22 97		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Mo. Day Year		
19. Discrepancy Indication Space 45580LB Hem K-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 JOSEPH M. BREWER		Signature <i>Joseph M. Brewer</i>		Mo. Day Year 12 22 97		



Appendix D

Column Settlement Evaluation

Memorandum

To: Ken Kaufman
From: Ralph Fasano
Date: March 11, 1998
Cc:
Subject: Settlement of Columns
Old Alodine Area
Northrop-Grumman

MEMORANDUM

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

	Differential Settlement (ft)	Span (ft)	Allowable Differential Settlement (ft)	Angular Distortion	Limiting Angular 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.	
Tilting	Framed structures	2–4 in.	
	Smokestacks, silos, mats	3–12 in.	
	Stability against overturning	Depends on height and width	
	Tilting of smokestacks, towers	0.004/l	
	Rolling of trucks, etc.	0.01/l	
	Stacking of goods	0.01/l	
	Machine operation-cotton loom	0.003/l	
	Machine operation-turbogenerator	0.0002/l	
	Crane rails	0.003/l	
	Drainage of floors	0.01–0.02/l	
	Differential movement	High continuous brick walls	0.0005–0.001/l
		One-story brick mill building, wall cracking	0.001–0.002/l
		Plaster cracking (gypsum)	0.001/l
Reinforced-concrete building frame		0.0025–0.004/l	
Reinforced-concrete building curtain walls		0.003/l	
Steel frame, continuous		0.002/l	
	Simple steel frame	0.005/l	

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, ρ_{\max} denotes the maximum settlement and ρ_{\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 13

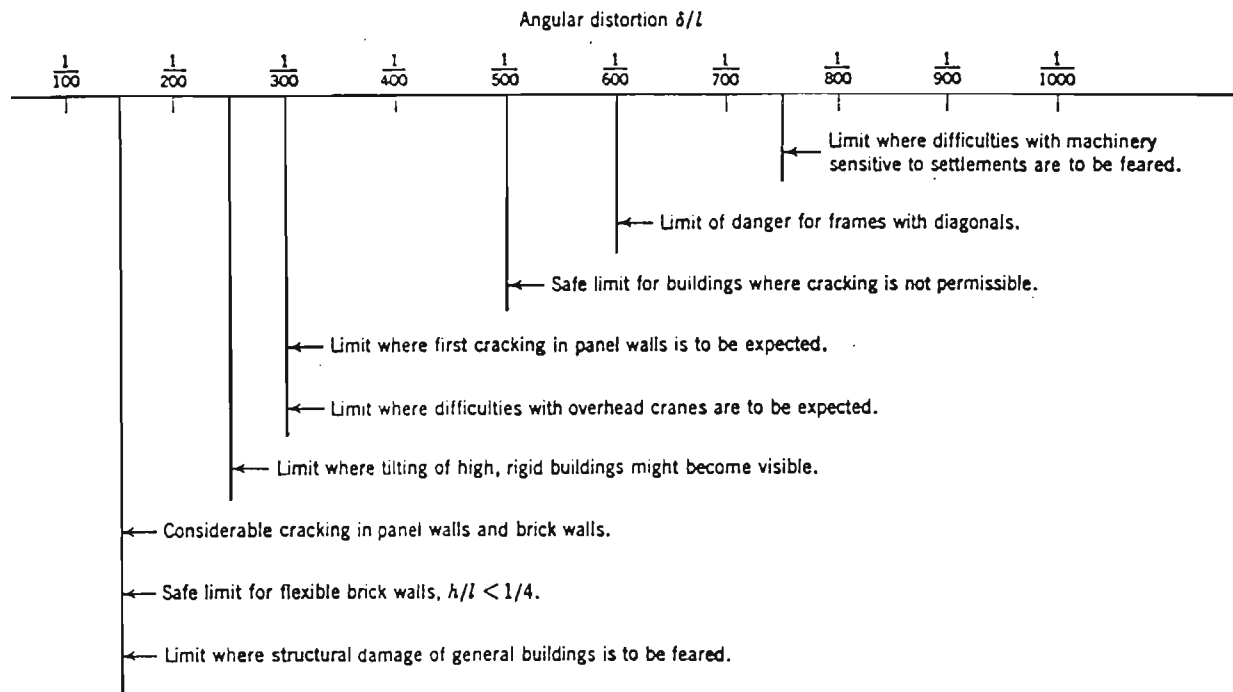


Fig. 14.8 Limiting angular distortions (From Bjerrum, 1963a).

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 δ/l 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	VOC	SVOC	PCB	TPH-Fuel	TPH-Gas	Pesticides	PP metals	Cyanide
331516W	03-03-01RW-1	soil							√	
331516W	03-03-02RW-1	soil							√	
331516W	03-03-03RW-1	soil							√	
331516W	03-03-04RW-1	soil							√	
331516W	03-03-04RW-2	soil							√	
331516W	03-03-05RW-1	soil							√	
331516W	03-03-05RW-2	soil							√	
331516W	03-03-06RW-1	soil							√	
331516W	03-03-06RW-2	soil							√	
331516W	03-03-07RW-1	soil							√	
331516W	03-03-07RW-2	soil							√	
331516W	03-03-08RW-1	soil							√	
331516W	03-03-09RW-1	soil							√	
331516W	03-03-10RW-1	soil							√	
331516W	03-15-16WW-S-1	soil							√	
331516W	03-15-16WW-S-2	soil							√	
331516W	03-15-16WW-S-3	soil							√	
331516W	03-15-16WW-S-4	soil							√	

*Indicates that level 4 validation was performed on this sample

APPENDIX B

SUMMARY OF QUALIFIED DATA

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721209

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _95.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	3.0			P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		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		J-14	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.42	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	15.0			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM
 Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7469802-CGA00787

CLIENT_SAMPLE_ID: 03-03-01RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RW1

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

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

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.5	U		P
7440-38-2	Arsenic	2.7	-		P
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	0.39	B		P
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	8.0	-		P
7440-48-4	Cobalt		-		NR
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		CV
7440-02-0	Nickel	2.4	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U	UJ-14	P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	10.0	-		P
	Cyanide		-		NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469803-CGA00787

CLIENT_SAMPLE_ID: 03-03-02RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721211

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _98.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.6	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	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				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	4.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U	UT-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	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: _____

Comments:

LAB_SAMPLE_ID: A7469804-CGA00787

CLIENT_SAMPLE_ID: 03-03-03RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW1

Name: RECRA_LABNET_INC. _____ Contract: NY97-163 _____

Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720786

Depth (low/med): LOW_ Date Received: 12/13/97

Concentration Units: _____ 98.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
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		J-14	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.46	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.97	U		P
7440-22-4	Silver	0.40	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	10.4			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Notes:

SAMPLE_ID: A7466605-CGA00787 _____

VT_SAMPLE_ID: 03-03-04RW-1 _____

1
INORGANIC ANALYSES DATA SHEET

04RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721215

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.8	B		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.28	B		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				NR
7439-92-1	Lead	1.4		J-14	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.66	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.42	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	8.1			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469808-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-04RW-2 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720782

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: 98.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.22	B		P
7440-70-2	Calcium				NR
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	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	0.40	U	4J-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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: _____

Comments:

LAB_SAMPLE_ID: A7466601-CGA00787

CLIENT_SAMPLE_ID: 03-03-05RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721216

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _96.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	2.2	B		P
7440-38-2	Arsenic	1.3	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.30	B		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	U		CV
7440-02-0	Nickel	0.94	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.42	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		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: _____

Comments:

LAB SAMPLE ID: A7469809-CGA00787 _____

CLIENT SAMPLE ID: 03-03-05RW-2 _____

NYSDEC ASP

1

000023
NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

06RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720783

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: _98.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.22	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.8			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	1.9	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	U		CV
7440-02-0	Nickel	0.76	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.98	U		P
7440-22-4	Silver	0.40	U	4J-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	19.9			P
	Cyanide				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

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721213

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _98.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.4	B		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		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	U		CV
7440-02-0	Nickel	0.97	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.97	U		P
7440-22-4	Silver	0.40	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	10.6			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469806-CGA00787

CLIENT_SAMPLE_ID: 03-03-06RW-2

INORGANIC ANALYSES DATA SHEET

07RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720784

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: _98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.30	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.3			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.0	B	*	P
7439-89-6	Iron				NR
7439-92-1	Lead	1.3		F-14	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.0	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.98	U		P
7440-22-4	Silver	0.40	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	8.9			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7466603-CGA00787

CLIENT_SAMPLE_ID: 03-03-07RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721214

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: 98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		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
7439-89-6	Iron				NR
7439-92-1	Lead	1.1		J-14	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	8.1			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469807-CGA00787

CLIENT_SAMPLE_ID: 03-03-07RW-2

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

08RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720785

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: 98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	1.4			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		J-14	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.98	U		P
7440-22-4	Silver	0.40	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	11.4			P
	Cyanide				NR

Color Before: BROWN _____ Clarity Before: _____ Texture: MEDIUM
 Color After: YELLOW _____ Clarity After: CLEAR _____ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7466604-CGA00787

CLIENT_SAMPLE_ID: 03-03-08RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721212

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: 97.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		---		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.5	B		P
7440-39-3	Barium		---		NR
7440-41-7	Beryllium	0.20	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		---		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	U		CV
7440-02-0	Nickel	2.2	B		P
7440-09-7	Potassium		---		NR
7782-49-2	Selenium	1.00	U		P
7440-22-4	Silver	0.41	U	UJ-14	P
7440-23-5	Sodium		---		NR
7440-28-0	Thallium	1.2	U		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_ID: A7469805-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-09RW-1 _____

000029
~~000029~~

1
 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

10RW1

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163 _____
 Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W
 Matrix (soil/water): SOIL_ Lab Sample ID: AD721208
 Level (low/med): LOW_ Date Received: 12/17/97
 % Solids: 97.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	2.5	-		P
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.20	U		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	U		CV
7440-02-0	Nickel	1.0	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	1.0	-		P
7440-22-4	Silver	0.41	U	UJ-14	P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	1.2	U		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: _____

Comments:

LAB SAMPLE ID: A7469801-CGA00787
 CLIENT SAMPLE ID: 03-03-10RW-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.

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.

APPENDIX A

SAMPLE INDEX

SDG	Sample	Matrix	VOC	SVOC	PCB	TPH-Fuel	TPH-Gas	Pesticides	PP metals	Cyanide
030308R	03-03-08RW-2	soil							√*	

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

APPENDIX B
SUMMARY OF QUALIFIED DATA

Metals Recalculation for SDG 30308R

Analyte (Analysis date)		Lab ID	A7470001
		Digest ID	AD721217
		Client ID	08RW
Antimony (12/22)			
0.00	-0.000004	0.982388 slope	0.005475
0.01	0.010497	0.005479 intercept	0.015791
0.10	0.097271		0.101037
0.50	0.480095		0.477118
1.00	1.023120		1.010579
		ICP result:	0.00681
		Rep. Concentration:	1.40
		Recalc. Concentration:	1.4173
Chromium (12/24)			
0.00	-0.000002	0.989658 slope	0.002881
0.01	0.010249	0.002883 intercept	0.013026
0.10	0.099343		0.101199
0.50	0.488737		0.486566
1.00	1.013930		1.006327
		ICP result:	0.87477
		Rep. Concentration:	182
		Recalc. Concentration:	182.0541
Zinc (12/22)			
0.00	-0.000007	1.013703 slope	0.002229
0.01	0.010691	0.002236 intercept	0.013073
0.10	0.097948		0.101526
0.50	0.478357		0.487148
1.00	0.990220		1.006025
		ICP result:	0.04782
		Rep. Concentration:	10.0
		Recalc. Concentration:	9.9521
Mercury (1/24)			
0.00	2	0.001860 slope	0.00375
0.05	26	0.000032 intercept	0.04839
0.10	54		0.10047
0.50	266		0.49480
1.00	539		1.00258
		CV result:	0.0986
		Rep. Concentration:	0.4886
		Recalc. Concentration:	0.4886

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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	B		P - J-14
7440-38-2	Arsenic	0.96	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.57	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	182		*	P - J-9
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.4	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	1.5			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	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.89	U	N	P - J-3
7440-22-4	Silver	0.42	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	10			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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.

APPENDIX A

SAMPLE INDEX

SDG	Sample	Matrix	VOC	SVOC	PCB	TPH-Fuel	TPH-Gas	Pesticides	PP metals	Cyanide
303084	03-03-W-1	water							√	
303084	03-03-W-2	water							√*	
303084	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.

03-W-4

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

Lab Code: RECNY Case No.: 6702 SAS No.: SDG No.: 303084

Matrix (soil/water): WATER Lab Sample ID: AD721424

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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	11.3			P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	25.9			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	335			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	131			P
7439-89-6	Iron				NR
7439-92-1	Lead	127			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.27			CV
7440-02-0	Nickel	29.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.7	B	25-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	854			P
	Cyanide				NR

Color Before: BROWN Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

LAB SAMPLE ID: A7474604-CGA00799

CLIENT SAMPLE ID: 03-03-W-4

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-3

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ 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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	6.0	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		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			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			CV
7440-02-0	Nickel	30.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	726			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7474603-CGA00799 _____

CLIENT_SAMPLE_ID: 03-03-W-3 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Matrix (soil/water): WATER Lab Sample ID: AD721422

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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	9.9	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	13.4			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	1900			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	85.6			P
7439-89-6	Iron				NR
7439-92-1	Lead	86.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.21			CV
7440-02-0	Nickel	19.7	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U	UJ-14	P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	200			P
	Cyanide				NR

Color Before: YELLOW_ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7474602-CGA00799

CLIENT_SAMPLE_ID: 03-03-W-2

1
INORGANIC ANALYSES DATA SHEET

03-W-1

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

Lab Code: RECNY_ Case No.: 6702_ 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

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	13.0	-		P
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	28.6	-		P
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	3220	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	99.7	-		P
7439-89-6	Iron		-		NR
7439-92-1	Lead	83.3	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	31.4	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U	UJ-14	P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	231	-		P
	Cyanide		-		NR

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-1 _____

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.

APPENDIX A

SAMPLE INDEX

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

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

APPENDIX B
SUMMARY OF QUALIFIED DATA

NYSDEC ASP

NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

03RW-2

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

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

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	UJ-14 1.6	U		P
7440-38-2	Arsenic	1.4	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.46	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	J-14 1.7			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	UJ-14 0.48	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	15.2			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

LAB SAMPLE ID: A7474701-CGA00787
 CLIENT SAMPLE ID: 03-03-03RW-2
 REDIGESTION NUMBER: AD721678

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW-2

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

Lab Code: RECNY Case No.: 6702 SAS No.: SDG No.: 303083

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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	UJ-14 1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.32	B		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	U		CV
7440-02-0	Nickel	0.86	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.00	U		P
7440-22-4	Silver	UJ-14 0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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:

Comments:

LAB SAMPLE ID: A7474702-CGA00787
 CLIENT SAMPLE ID: 03-03-09RW-2
 REDIGESTION NUMBER: AD721679

NYSDEC ASP

NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

10RW-2

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

Lab Code: RECNY Case No.: 6702 SAS No.: SDG No.: 303083

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	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		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	U		CV
7440-02-0	Nickel	0.82	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		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:

Comments:

LAB SAMPLE ID: A7474703-CGA00787
CLIENT SAMPLE ID: 03-03-10RW-2
REDIGESTION NUMBER: AD721680

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

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

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

APPENDIX B
SUMMARY OF QUALIFIED DATA

NYSDEC ASP

3

000009

1

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

01RW-2

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: AD721695

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

% Solids: 97.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.70	U		P
7440-38-2	Arsenic	0.80	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.43	B		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	U		CV
7440-02-0	Nickel	4.3	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	UJ-14 0.29	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	3.6	B		P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

LAB SAMPLE ID: A7480801-CGA00787
 CLIENT SAMPLE ID: 03-03-01RW-2
 REDIGESTION NUMBERS: AD721947, AD800119

NYSDEC ASP

000010

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RW-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: 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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.67	U		P
7440-38-2	Arsenic	0.69	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.28	B		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				NR
7439-92-1	Lead	J-14 2.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.2	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	UT-14 0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		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: _____

Comments:

LAB SAMPLE ID: A7480802-CGA00787 _____
 CLIENT SAMPLE ID: 03-03-01RW-3 _____
 REDIGESTION NUMBERS: AD721948, AD800120 _____

5

000011

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RW-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: AD721697

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

% Solids: 97.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	1.0	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.55	B		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	J-14 1.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.91	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.00	U		P
7440-22-4	Silver	UJ-14 0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.0	B		P
	Cyanide				NR

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

NYSDEC ASP

000015

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

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

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

% Solids: 97.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.77	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.71	B		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	J-14 1.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.2	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	WJ-14 0.29	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.8			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

LAB_SAMPLE_ID: A7480804-CGA00787
 CLIENT_SAMPLE_ID: 03-03-03RW-3
 REDIGESTION_NUMBERS: AD721950, AD800122

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW-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: AD721699

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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	0.92	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.97	B		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	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	UJ-14 0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	9.8			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480805-CGA00787 _____
 CLIENT SAMPLE ID: 03-03-04RW-3 _____
 REDIGESTION NUMBERS: AD721951, AD800123 _____

NYSDEC ASP

000014

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RW-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: AD721700

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

% Solids: 97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	1.3	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.32	B		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	J-14 1.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.1	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	UJ-14 0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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:

Comments:

LAB SAMPLE ID: A7480806-CGA00787
 CLIENT SAMPLE ID: 03-03-05RW-3
 REDIGESTION NUMBERS: AD721952, AD800124

NYSDEC ASP.

9

000015

1

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

06RW-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: AD721701

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

% Solids: 97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.75	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.27	B		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	J-14 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	0.85	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	UJ-14 0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

LAB SAMPLE ID: A7480807-CGA00787
 CLIENT SAMPLE ID: 03-03-06RW-3
 REDIGESTION NUMBERS: AD721953, AD800125

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RW-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: AD721702

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

% Solids: 97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.70	U		P
7440-38-2	Arsenic	0.99	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	146			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	1.8	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	U		CV
7440-02-0	Nickel	0.80	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	LT-14 0.29	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

LAB SAMPLE ID: A7480808-CGA00787
 CLIENT SAMPLE ID: 03-03-07RW-3
 REDIGESTION NUMBERS: AD721954, AD800126

NYSDEC ASP

000017

1

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

08RW-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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	0.81	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.33	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	66.3			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	3.7	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	U		CV
7440-02-0	Nickel	1.9	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	1.5-14 0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	3.1	B		P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

LAB SAMPLE ID: A7480809-CGA00787

CLIENT SAMPLE ID: 03-03-08RW-3

REDIGESTION NUMBERS: AD721955, AD800127

FORM I - IN

10/95

NYSDEC ASP

000018

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW-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: AD721704

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

% Solids: 98.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.71	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.48	B		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	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	UJ-14 0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
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:

Comments:

LAB SAMPLE ID: A7480810-CGA00787
CLIENT SAMPLE ID: 03-03-09RW-3
REDIGESTION NUMBERS: AD721956, AD800128

NYSDEC ASP

000019

1

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

10RW-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: AD721705

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

% Solids: 97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—	—	NR
7440-36-0	Antimony	0.68	U	—	P
7440-38-2	Arsenic	0.70	U	—	P
7440-39-3	Barium		—	—	NR
7440-41-7	Beryllium	0.20	U	—	P
7440-43-9	Cadmium	0.52	B	—	P
7440-70-2	Calcium		—	—	NR
7440-47-3	Chromium	137	—	—	P
7440-48-4	Cobalt		—	—	NR
7440-50-8	Copper	2.1	B	—	P
7439-89-6	Iron		—	—	NR
7439-92-1	Lead	J-14 1.8	—	—	P
7439-95-4	Magnesium		—	—	NR
7439-96-5	Manganese		—	—	NR
7439-97-6	Mercury	0.10	U	—	CV
7440-02-0	Nickel	0.92	B	—	P
7440-09-7	Potassium		—	—	NR
7782-49-2	Selenium	1.0	U	—	P
7440-22-4	Silver	WJ-14 0.28	U	—	P
7440-23-5	Sodium		—	—	NR
7440-28-0	Thallium	1.2	U	—	P
7440-62-2	Vanadium		—	—	NR
7440-66-6	Zinc	5.9	—	—	P
	Cyanide		—	—	NR

Color Before: BROWN _____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480811-CGA00787

CLIENT SAMPLE ID: 03-03-10RW-3

REDIGESTION NUMBERS: AD721957, AD800129

FORM I - IN

10/95

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

SDG	Sample	Matrix	VOC	SVOC	PCB	TPH-Fuel	TPH-Gas	Pesticides	PP metals	Cyanide
30301R	03-03-01RB-2	Soil							√*	
30301R	03-03-02RB--2	Soil							√	
30301R	03-03-03RB-2	Soil							√	
30301R	03-03-04RB-2	Soil							√*	
30301R	03-03-04RBD-2	Soil							√	
30301R	03-03-05RB-2	Soil							√	
30301R	03-03-06RB-2	Soil							√	
30301R	03-03-07RB-2	Soil							√	

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

APPENDIX B
SUMMARY OF QUALIFIED DATA POINTS

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NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800103

Level (low/med): LOW_ Date Received: 01/02/90

% Solids: 99.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.96	B		P
7440-38-2	Arsenic	1.2	B		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	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	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.85	U		P
7440-22-4	Silver	0.28	U		P J-14
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	5.8		*	P J-9
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8000401-CGA00787 _____

CLIENT SAMPLE ID: 03-03-01RB-2 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800106

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

% Solids: _97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.87	B		P
7440-38-2	Arsenic	1.7	B		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	U		CV
7440-02-0	Nickel	1.9	B		P
7440-09-7	Potassium				NR
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
7440-62-2	Vanadium				NR
7440-66-6	Zinc	13.2		*	P
	Cyanide				NR

J-14
J-9

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000402-CGA00787 _____
CLIENT_SAMPLE_ID: 03-03-02RB-2 _____

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NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RB2

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

Lab Code: RECNY Case No.: 6702 SAS No.: SDG No.: 30301R

Matrix (soil/water): SOIL Lab Sample ID: AD800107

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

% Solids: 99.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.66	U		P
7440-38-2	Arsenic	1.4	B		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	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	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.83	U		P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.52	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	13.5		*	P
	Cyanide				NR

J-14

J-14

J-9

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

LAB_SAMPLE_ID: A8000403-CGA00787

CLIENT_SAMPLE_ID: 03-03-03RB-2

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RBD2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

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		-		NR
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	0.13	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
7440-50-8	Copper	3.8	B		P
7439-89-6	Iron		-		NR
7439-92-1	Lead	2.2	-		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	2.0	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	0.86	U		P
7440-22-4	Silver	0.28	U		P J-14
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	0.54	U		P
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	12.2	-	*	P J-9
	Cyanide		-		NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8000405-CGA00787 _____

CLIENT SAMPLE ID: 03-03-04RBD-2 _____

000041

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RB2

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

Lab Code: RECNY Case No.: 6702 SAS No.: SDG No.: 30301R

Matrix (soil/water): SOIL Lab Sample ID: AD800108

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

% Solids: 99.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.66	U		P
7440-38-2	Arsenic	1.0	B		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 J-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	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.84	U		P
7440-22-4	Silver	0.27	U		P J-14
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	9.9		*	P J-9
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:
LAB_SAMPLE_ID: A8000404-CGA00787
CLIENT_SAMPLE_ID: 03-03-04RB-2

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800110

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		-		NR
7440-36-0	Antimony	0.67	U		P
7440-38-2	Arsenic	0.93	B		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	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-14
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.3	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.85	U		P
7440-22-4	Silver	0.28	U		P J-14
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	18.8		*	P J-9
	Cyanide				NR

Color Before: BROWN _____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW _____ Clarity After: CLEAR _____ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000406-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-05RB-2 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RB2

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

Lab Code: RECNY Case No.: 6702 SAS No.: SDG No.: 30301R

Matrix (soil/water): SOIL Lab Sample ID: AD800111

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

% Solids: 99.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	1.2	B		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				NR
7439-92-1	Lead	1.4			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	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.87	U		P
7440-22-4	Silver	0.28	U		P J-14
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 J-9
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

LAB SAMPLE ID: A8000407-CGA00787

CLIENT SAMPLE ID: 03-03-06RB-2

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RB2

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800112

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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.91	B		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	101			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	3.3	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	4.0	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.87	U		P
7440-22-4	Silver	0.28	U		P J-14
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.55	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	8.5		*	P J-9
	Cyanide				NR

Color Before: BROWN _____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW _____ Clarity After: CLEAR _____ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000408-CGA00787

CLIENT_SAMPLE_ID: 03-03-07RB-2

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

SDG	Sample	Matrix	VOC	SVOC	PCB	Pesticides	TCLP metals	Cyanide
TCLPCR	03-03-01RB-2	soil					√*	
TCLPCR	03-03-01RW-2	soil					√	
TCLPCR	03-03-02RB-2	soil					√	
TCLPCR	03-03-02RW-3	soil					√	
TCLPCR	03-03-03RB-2	soil					√	
TCLPCR	03-03-03RW-2	soil					√	
TCLPCR	03-03-04RB-2	soil					√*	
TCLPCR	03-03-04RW-2	soil					√*	
TCLPCR	03-03-04RW-3	soil					√	
TCLPCR	03-03-05RB-2	soil					√	
TCLPCR	03-03-05RW-2	soil					√	
TCLPCR	03-03-06RB-2	soil					√	
TCLPCR	03-03-06RW-2	soil					√	
TCLPCR	03-03-06RW-3	soil					√*	
TCLPCR	03-03-07RB-2	soil					√	
TCLPCR	03-03-07RW-3	soil					√	
TCLPCR	03-03-08RW-2	soil					√*	
TCLPCR	03-03-09RW-2	soil					√	
TCLPCR	03-03-09RW-3	soil					√	
TCLPCR	03-03-10RW-2	soil					√	
TCLPCR	03-03-10RW-3	soil					√*	

*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

AOC	SDG	Sample	Matrix	VOC	SVOC	PCB	TPH-Fuel	TPH-Gas	Pesticides	PP metals	Cyanide
3	0304RW	03-03-02RW-3	soil							√	
3	0304RW	03-03-04RW-2	soil							√	
3	0304RW	03-03-04RW-3	soil							√*	
3	0304RW	03-03-05RB-3	soil							√	
3	0304RW	03-03-05RW-2	soil							√	
3	0304RW	03-03-07RB-2	soil							√	

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



RECRA
LabNet

a division of Recra Environmental, Inc.

0304RW

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:

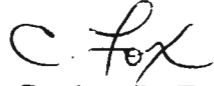
Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

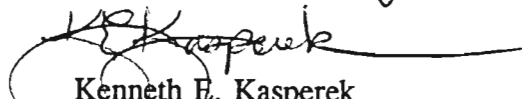
Quote #: NY97-163
Project Name: Long Island Property Transfer (Plant 3)
Matrix: Soil
Samples Received: 12/17 & 24/97; 01/02/98
Sample Dates: 12/16, 23 & 31/97

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.


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. #A98-0166
#NY7A6702

This report contains 227 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: 03-03-02RW-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.



000003

"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.



000004

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATIONSAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

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

NYSDEC-1



000005

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATIONSAMPLE 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



000006

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.



000009

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RW3

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

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

Matrix (soil/water): SOIL_ Lab Sample ID: AD800825

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _97.7

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

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
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	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8016603-STA00084

CLIENT_SAMPLE_ID: 03-03-02RW-3

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW2

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

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

Matrix (soil/water): SOIL_ Lab Sample ID: AD800823

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _96.8

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

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	_____369_	---	---	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
7440-09-7	Potassium	_____	---	---	NR
7782-49-2	Selenium	_____	---	---	NR
7440-22-4	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: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8016601-STA00084_____

CLIENT_SAMPLE_ID: 03-03-04RW-2_____

000011

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW3

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

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

Matrix (soil/water): SOIL_ Lab Sample ID: AD800826

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _98.2

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

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_	_____169_	---	_____	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
7440-09-7	Potassium_	_____	---	_____	NR
7782-49-2	Selenium_	_____	---	_____	NR
7440-22-4	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: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8016604-STA00084 _____

CLIENT SAMPLE ID: 03-03-04RW-3 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RB2

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

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

Matrix (soil/water): SOIL_ Lab Sample ID: AD800827

Level (low/med): LOW_ Date Received: 12/17/97

% 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				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	151			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8016605-STA00084 _____
CLIENT_SAMPLE_ID: 03-03-05RB-2 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RW2

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

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

Matrix (soil/water): SOIL_ Lab Sample ID: AD800824

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _96.2

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

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	395			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8016602-STA00084 _____
 CLIENT_SAMPLE_ID: 03-03-05RW-2 _____

000014

NYSDEC ASP

NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

07RB2

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

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

Matrix (soil/water): SOIL_ Lab Sample ID: AD800828

Level (low/med): LOW_ Date Received: 12/17/97

% 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				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	121			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8016606-STA00084

CLIENT_SAMPLE_ID: 03-03-07RB-2

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC. _____ 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

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium	500.0	496.45	99.3	500.0	496.01	99.2	507.85	101.6	P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

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

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC. _____ 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

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium				500.0	504.21	100.8	500.69	100.1	P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

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

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC. _____ 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

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium				500.0	495.45	99.1	494.79	99.0	P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

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

NYSDEC ASP

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.: 0304RW

AA CRDL Standard Source: INORG.VENT._

ICP CRDL Standard Source: VHG _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium				20.0	20.79	104.0	20.89	104.4
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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.: 0304RW

AA CRDL Standard Source: INORG.VENT._

ICP CRDL Standard Source: VHG _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium				20.0			21.52	107.6
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

000020

NYSDEC ASP

3
BLANKS

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

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

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	C		1	C	2	C	3	C	C		
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium	1.4	U	1.4	U	1.4	U	1.4	U	0.280	U	P
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

NYSDEC ASP

3
BLANKS

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

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

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium			1.4	U	1.4	U	1.4	U			P
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

000022

NYSDEC ASP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 0304RW
 ICP ID Number: SUPERTRACE-2 ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium	0	500	18	511.4	102.3	17	511.9	102.4
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 0304RW
 ICP ID Number: SUPERTRACE-2 ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium	0	500				18	516.4	103.3
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

NYSDEC ASP

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.: 0304RW

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium	75-125	21.3720	0.2800 U	20.000	106.9		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A8B0042601-STA00084 _____

000025

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

BLKSPK2

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_ _____

% Solids for Sample: 100.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium	75-125	21.1300	0.2800 U	20.000	105.6		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A8B0042602-STA00084

000026

NYSDEC ASP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

05RW2A

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

ctrl

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium		2795.45	1921.00	1000.0	87.4		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

NYSDEC ASP

7

LABORATORY CONTROL SAMPLE

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_

SAS No.: _____

SDG No.: 0304RW

Solid LCS Source: ERA 227_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium				114.0	109.3		61.6 161.0	95.9
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								
Cyanide								

000028

NYSDEC ASP

9
ICP SERIAL DILUTION

NYSDEC SAMPLE NO.

05RW2L

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	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium	1921.00		1927.20		0.3		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR

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 :

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium	267.70		10	1.4	P
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

NYSDEC ASP

11A
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

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: 12/15/97

Analyte	Wave-length (nm)	Interelement Correction Factors for :				
		Al	Ca	Fe	Mg	CR
Aluminum	308.20	0.0000000	0.0000000	0.0000000	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	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

Comments:

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

Analyte	Integ. Time (Sec.)	Concentration (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	15.00	600000.0	P
Manganese	15.00	20000.0	P
Mercury			NR
Nickel	15.00	100000.0	P
Potassium	15.00	400000.0	P
Selenium	15.00	20000.0	P
Silver	15.00	5000.0	P
Sodium	15.00	500000.0	P
Thallium	15.00	100000.0	P
Vanadium	15.00	100000.0	P
Zinc	15.00	20000.0	P

Comments:

NYSDEC ASP

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

NYSDEC Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
S0	1.00	1754		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
S	1.00	1759		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
S	1.00	1804		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
S	1.00	1809		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
S	1.00	1814		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
S	1.00	1819		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
S	1.00	1826		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
S	1.00	1831		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ICV	1.00	1837		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ICB	1.00	1842		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CRI	1.00	1848		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1853		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ICSA	1.00	1858		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ICSAB	1.00	1904		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CCV	1.00	1909		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CCB	1.00	1914		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1920		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1925		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	10.00	1931		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1936		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1941		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1947		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1952		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	1958		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	2003		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CCV	1.00	2009		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CCB	1.00	2014		-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	2019		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	2025		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	2030		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	2036		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ZZZZZZ	1.00	2041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

NYSDEC ASP

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

NYSDEC Sample No.	D/F	Time	% R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N
ZZZZZZ	1.00	2046																								
ZZZZZZ	1.00	2052																								
ZZZZZZ	1.00	2057																								
ZZZZZZ	1.00	2103																								
ZZZZZZ	1.00	2108																								
CCV	1.00	2114									X															
CCB	1.00	2119									X															
ZZZZZZ	1.00	2125																								
ZZZZZZ	1.00	2130																								
CI	1.00	2136									X															
ZZZZ	1.00	2141																								
ICSA	1.00	2147									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									X															
BLKSPK2	1.00	2239									X															
04RW2	1.00	2244									X															
05RW2	1.00	2250									X															
05RW2A	1.00	2255									X															
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															
CRI	1.00	2339									X															

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



000040

CHAIN OF CUSTODY DOCUMENTATION



000041

Radian International LLC

2455 Horsepen Road Suite 250.

Herndon, VA 20171-3426



FAX TRANSMISSION COVER SHEET

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

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 (#1)
Bob Hearn/ DC

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: *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,
 Steve 



RECRA
LabNet

a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

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

February 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 #: 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.

000001

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.



COMMENTS

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

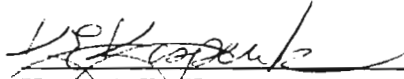
Samples have been received previously by the laboratory under separate COCs.

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

2/20/98
Date



000004

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		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	
03-03-04RB-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	
03-03-10RW-3	A7480811					ASP91	

NYSDEC-1



000005

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	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



NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATIONSAMPLE 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



000007

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	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

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.



NYSDEC ASP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab 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 No.	Lab Sample ID.
01RB2	AD800345
01RB2D	AD800346
01RB2S	AD800347
01RW2	AD800333
02RB2	AD800348
02RW3	AD800334
03RB2	AD800349
03RW2	AD800330
04RBD2	AD800351
04RB2	AD800350
04RW2	AD800327
04RW3	AD800335
05RB2	AD800352
05RW2	AD800328
06RB2	AD800353
06RW2	AD800326
06RW3	AD800336
07RB2	AD800354
07RW3	AD800337
08RW2	AD800329

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

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

Comments:

I certify that this data package is in compliance with the terms and conditions of the 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: *K. Kasperek* Name: Kenneth_E._Kasperek_____

Date: 2/20/98. Title: Laboratory_Director_____

NYSDEC ASP

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

Table with 2 columns: NYSDEC Sample No. and Lab Sample ID. Rows include 09RW2, 09RW3, 10RW2, 10RW3 and corresponding IDs AD800331, AD800338, AD800332, AD800339.

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

Comments:

I certify that this data package is in compliance with the terms and conditions of the 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: [Handwritten Signature] Name: Kenneth E. Kasperek
Date: 2/20/98 Title: Laboratory Director

NYSDEC ASP

000011

NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

01RB2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800345

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

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	17.5			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8000401-ST001438
 CLIENT SAMPLE ID: 03-03-01RB-2
 TCLP_EXTRACT

INORGANIC ANALYSES DATA SHEET

01RW2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800333

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	320			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7480801-ST001438

CLIENT_SAMPLE_ID: 03-03-01RW-2

TCLP_EXTRACT

NYSDEC ASP

000013

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RB2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800348

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

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	57.1			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000402-ST001438 _____

CLIENT_SAMPLE_ID: 03-03-02RB-2 _____

TLCP_EXTRACT _____

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RW3

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800334

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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_	711_			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
7440-09-7	Potassium_				NR
7782-49-2	Selenium_				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7480803-ST001438

CLIENT_SAMPLE_ID: 03-03-02RW-3

TCLP_EXTRACT

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RB2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800349

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

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	49.1	---	_____	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
7440-09-7	Potassium	_____	---	_____	NR
7782-49-2	Selenium	_____	---	_____	NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8000403-ST001438 _____
 CLIENT SAMPLE ID: 03-03-03RB-2 _____
 TLCP_EXTRACT _____

000016

NYSDEC ASP

NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

03RW2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800330

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	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	_____453_____	---	---	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
7440-09-7	Potassium	_____	---	---	NR
7782-49-2	Selenium	_____	---	---	NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7474701-ST001438
CLIENT_SAMPLE_ID: 03-03-03RW-2
TCLP_EXTRACT _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RBD2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800351

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	_____168_	---	---	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
7440-09-7	Potassium	_____	---	---	NR
7782-49-2	Selenium	_____	---	---	NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000405-ST001438 _____

CLIENT_SAMPLE_ID: 03-03-04RBD-2 _____

TLCP_EXTRACT _____

009018

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RB2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800350

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	_____181_	---	_____	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
7440-09-7	Potassium	_____	---	_____	NR
7782-49-2	Selenium	_____	---	_____	NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000404-ST001438 _____

CLIENT_SAMPLE_ID: 03-03-04RB-2 _____

TLCP_EXTRACT _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800327

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	_____1620_____	—	_____	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
7440-09-7	Potassium	_____	—	_____	NR
7782-49-2	Selenium	_____	—	_____	NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469808-ST001438 _____

CLIENT_SAMPLE_ID: 03-03-04RW-2 _____

TCLP_EXTRACT _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW3

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800335

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

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	387			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480805-ST001438
 CLIENT SAMPLE ID: 03-03-04RW-3
 TCLP_EXTRACT

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RB2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800352

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8000406-ST001438
 CLIENT SAMPLE ID: 03-03-05RB-2
 TLCP_EXTRACT

00.22

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RW2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800328

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	1410			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469809-ST001438 _____

CLIENT_SAMPLE_ID: 03-03-05RW-2 _____

TCLP_EXTRACT _____

000023

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RB2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800353

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

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	197			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8000407-ST001438 _____

CLIENT SAMPLE ID: 03-03-06RB-2 _____

TLCP_EXTRACT _____

000024

NYSDEC ASP

1

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

06RW2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800326

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	307			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469806-ST001438

CLIENT_SAMPLE_ID: 03-03-06RW-2

TCLP_EXTRACT

000025

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RW3

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800336

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

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	335			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
LAB_SAMPLE_ID: A7480807-ST001438 _____
CLIENT_SAMPLE_ID: 03-03-06RW-3 _____
TCLP_EXTRACT _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RB2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800354

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	255			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A8000408-ST001438 _____
 CLIENT SAMPLE ID: 03-03-07RB-2 _____
 TLCP_EXTRACT _____

000027

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RW3

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800337

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

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	510			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480808-ST001438

CLIENT SAMPLE ID: 03-03-07RW-3

TCLP_EXTRACT

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

08RW2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800329

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	641			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7470001-ST001438 _____

CLIENT_SAMPLE_ID: 03-03-08RW-2 _____

TCLP_EXTRACT _____

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW2

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

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

Matrix (soil/water): WATER

Lab Sample ID: AD800331

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	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	662			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7474702-ST001438 _____

CLIENT SAMPLE ID: 03-03-09RW-2 _____

TCLP_EXTRACT _____

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW3

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800338

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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_	363_			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
7440-09-7	Potassium_				NR
7782-49-2	Selenium_				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480810-ST001438 _____
 CLIENT SAMPLE ID: 03-03-09RW-3 _____
 TCLP EXTRACT _____

000031

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

10RW2

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800332

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	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	_____609_____	—	_____	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
7440-09-7	Potassium	_____	—	_____	NR
7782-49-2	Selenium	_____	—	_____	NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7474703-ST001438 _____

CLIENT_SAMPLE_ID: 03-03-10RW-2 _____

TCLP_EXTRACT _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

10RW3

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

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

Matrix (soil/water): WATER Lab Sample ID: AD800339

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

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

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	232			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
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	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 Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7480811-ST001438
 CLIENT_SAMPLE_ID: 03-03-10RW-3
 TCLP_EXTRACT

000033

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

01RB2S

Lab Name: RECRA_LABNET_INC._____

Contract: NY97-163_____

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: TCLPCR

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium	75-125	224.8500	17.5300	200.000	103.7		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A8000401MS-ST001438

000034

NYSDEC ASP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

01RB2A

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

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium		902.89	17.53	1000.0	88.5		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

000035

NYSDEC ASP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

01RW2A

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

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium		1262.73	320.38	1000.0	94.2		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

01RB2D

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163 _____

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: TCLPCR

Matrix (soil/water): WATER

Level (low/med): LOW_

% Solids for Sample: __0.0

% Solids for Duplicate: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium	10.0	17.5300		17.1800		2.0		P
Cobalt								NR
Copper								NR
Iron								NR
Lead								NR
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

NYSDEC ASP

3
BLANKS

Lab Name: RECRA_LABNET_INC._____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: TCLPCR

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	C		1	C	2	C	3	C	C		
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	-1.050	B	P
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

NYSDEC ASP

3
BLANKS

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

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

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium	1.1	B	1.0	U	1.0	U	-1.6	B	2.980	B	P
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

NYSDEC ASP

3
BLANKS

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

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

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
Aluminum										NR	
Antimony										NR	
Arsenic										NR	
Barium										NR	
Beryllium										NR	
Cadmium										NR	
Calcium										NR	
Chromium			-1.6	B	1.0	U	1.0	U	1.000	U	P
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

3
BLANKS

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

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

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum										NR	
Antimony										NR	
Arsenic										NR	
Barium										NR	
Beryllium										NR	
Cadmium										NR	
Calcium										NR	
Chromium			1.0	U				5.690	B	P	
Cobalt										NR	
Copper										NR	
Iron										NR	
Lead										NR	
Magnesium										NR	
Manganese										NR	
Mercury										NR	
Nickel										NR	
Potassium										NR	
Selenium										NR	
Silver										NR	
Sodium										NR	
Thallium										NR	
Vanadium										NR	
Zinc										NR	
Cyanide										NR	

000041

SAMPLE DATA 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.



COMMENTS

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

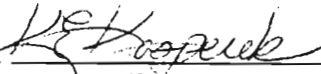
Samples have been received previously by the laboratory under separate COCs.

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

2/20/98

Date



CHAIN OF CUSTODY DOCUMENTATION



Radian International LLC

2455 Horsepen Road Suite 250,

Herndon, VA 20171-3426



FAX TRANSMISSION COVER SHEET

Date: 05 January 1998 4:43 PM
 Number of pages including cover sheet: 1

To: Candace Fox
RECRA Environmental, Inc.
10 Hazelwood Drive
Amherst, NY 14228-2298
 Phone: 716/691-2600
 Fax phone: 716/691-7991 (#44)
 CC:

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-2 MD
- 03-03-01 RB-2 MS
- 03-03-02RB-2 (A8000402)
- 03-03-03RB-2 (A8000403)
- 03-03-04RB-2 (A8000404)
- 03-03-04RBD-2 (A8000405)
- 03-03-05RB-2 (A8000406)
- 03-03-06RB-2 (A8000407)
- 03-03-07RB-2 (A8000408)

Please call me if you have any questions.

Thanks,

Steve



**RECRA
ENVIRONMENTAL
INC.**

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. Fox
Program Manager

Kenneth E. Kasperek
Laboratory Director

CLF/KEK/lfb
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 683 pages, which are individually numbered.

990091

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

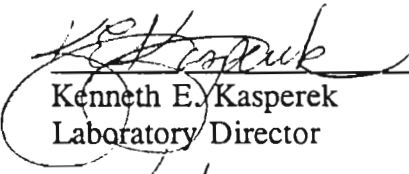
Sample identifications have been abbreviated due to the character limitations of the software.

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

2/3/98

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.
- 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.



000005

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		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 CONSERVATIONSAMPLE 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
03-03-05RB-2	SOIL	PPMETALS	01/02/98	01/05 - 07/98	01/06 - 01/23/98
03-03-06RB-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



000007

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: RECNV_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Protocol Version: ASP-95

NYSDEC Sample No.	Lab Sample ID.
01RB2	_AD800103_
01RB2D	_AD800104_
01RB2S	_AD800105_
02RB2	_AD800106_
03RB2	_AD800107_
04RBD2	_AD800109_
04RB2	_AD800108_
05RB2	_AD800110_
06RB2	_AD800111_
07RB2	_AD800112_
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Were ICP interelement corrections applied ? Yes/No YES

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

Comments:

I certify that this data package is in compliance with the terms and conditions of the 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: *K. Kasperek*

Name: Kenneth_E._Kasperek_____

Date: 12/3/98

Title: Laboratory_Director_____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800103

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

% Solids: _99.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.96	B		P
7440-38-2	Arsenic	1.2	B		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	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	U		CV
7440-02-0	Nickel	1.1	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.85	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000401-CGA00787

CLIENT_SAMPLE_ID: 03-03-01RB-2

1
INORGANIC ANALYSES DATA SHEET

02RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800106

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

% Solids: _97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.87	B		P
7440-38-2	Arsenic	1.7	B		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	U		CV
7440-02-0	Nickel	1.9	B		P
7440-09-7	Potassium				NR
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
7440-62-2	Vanadium				NR
7440-66-6	Zinc	13.2		*	P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000402-CGA00787

CLIENT_SAMPLE_ID: 03-03-02RB-2

000011

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800107

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

% Solids: _99.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.66	U		P
7440-38-2	Arsenic	1.4	B		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	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	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.83	U		P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.52	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000403-CGA00787

CLIENT_SAMPLE_ID: 03-03-03RB-2

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RBD2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

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		—		NR
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	0.13	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
7440-50-8	Copper	3.8	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	2.2			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.0	B		P
7440-09-7	Potassium				NR
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
7440-62-2	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: _____

Comments:

LAB_SAMPLE_ID: A8000405-CGA00787

CLIENT_SAMPLE_ID: 03-03-04RBD-2

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800108

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

% Solids: _99.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.66	U		P
7440-38-2	Arsenic	1.0	B		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
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.0	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.84	U		P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000404-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-04RB-2 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD8C0110

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		-		NR
7440-36-0	Antimony	0.67	U		P
7440-38-2	Arsenic	0.93	B		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	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	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.85	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	18.8		*	P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000406-CGA00787 _____
CLIENT_SAMPLE_ID: 03-03-05RB-2 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800111

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

% Solids: _99.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	1.2	B		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				NR
7439-92-1	Lead	1.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				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
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000407-CGA00787

CLIENT_SAMPLE_ID: 03-03-06RB-2

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800112

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

% Solids: _99.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.91	B		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	101			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	3.3	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	U		CV
7440-02-0	Nickel	4.0	B		P
7440-09-7	Potassium				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	0.55	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000408-CGA00787

CLIENT_SAMPLE_ID: 03-03-07RB-2

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800103

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

% Solids: _99.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.96	B		P
7440-38-2	Arsenic	1.2	B		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	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	U		CV
7440-02-0	Nickel	1.1	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.85	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000401-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-01RB-2 _____

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NYSDEC ASP

NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

02RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800106

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

% Solids: _97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.87	B		P
7440-38-2	Arsenic	1.7	B		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	U		CV
7440-02-0	Nickel	1.9	B		P
7440-09-7	Potassium				NR
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
7440-62-2	Vanadium				NR
7440-66-6	Zinc	13.2		*	P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:
LAB_SAMPLE_ID: A8000402-CGA00787
CLIENT_SAMPLE_ID: 03-03-02RB-2

000019

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800107

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

% Solids: _99.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.66	U		P
7440-38-2	Arsenic	1.4	B		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	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	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.83	U		P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.52	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000403-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-03RB-2 _____

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NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RBD2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

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		—		NR
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	0.13	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
7440-50-8	Copper	3.8	B		P
7439-89-6	Iron				NR
7439-92-1	Lead	2.2			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.0	B		P
7440-09-7	Potassium				NR
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
7440-62-2	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: _____

Comments:

LAB_SAMPLE_ID: A8000405-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-04RBD-2 _____

000021

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800108

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

% Solids: _99.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.66	U		P
7440-38-2	Arsenic	1.0	B		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
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.0	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.84	U		P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000404-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-04RB-2 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800110

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		-		NR
7440-36-0	Antimony	0.67	U		P
7440-38-2	Arsenic	0.93	B		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	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	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.85	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	0.53	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	18.8		*	P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000406-CGA00787 _____
CLIENT_SAMPLE_ID: 03-03-05RB-2 _____

000023

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800111

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

% Solids: _99.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	1.2	B		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				NR
7439-92-1	Lead	1.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				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
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A8000407-CGA00787

CLIENT_SAMPLE_ID: 03-03-06RB-2

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RB2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Matrix (soil/water): SOIL_ Lab Sample ID: AD800112

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

% Solids: _99.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.91	B		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	101			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	3.3	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	U		CV
7440-02-0	Nickel	4.0	B		P
7440-09-7	Potassium				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	0.55	U		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: _____

Comments:

LAB_SAMPLE_ID: A8000408-CGA00787 _____
CLIENT_SAMPLE_ID: 03-03-07RB-2 _____

01RB2D

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

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

% Solids for Sample: _99.0 % Solids for Duplicate: _99.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony		0.9566	B	0.6669	U	200.0		P
Arsenic		1.2418	B	1.4828	B	17.7		P
Barium								NR
Beryllium		0.1248	B	0.1510	B	19.0		P
Cadmium		0.0594	U	0.0588	U			P
Calcium								NR
Chromium	2.0	5.7853		5.5310		4.5		P
Cobalt								NR
Copper		2.3312	B	2.9185	B	22.4		P
Iron								NR
Lead	0.6	1.5983		1.5711		1.7		P
Magnesium								NR
Manganese								NR
Mercury		0.0962	U	0.0962	U			CV
Nickel		1.1091	B	2.0379	B	59.0		P
Potassium								NR
Selenium		0.8517	U	0.8434	U			P
Silver		0.2773	U	0.2746	U			P
Sodium								NR
Thallium		0.5348	U	0.5296	U			P
Vanadium								NR
Zinc	4.0	5.7615		15.4241		91.2	*	P
Cyanide								NR

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

01RB2S ✓

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163 _____

Lab Code: RECNY_ _____

Case No.: 6702_ _____

SAS No.: _____

SDG No.: 30301R

Matrix (soil/water): SOIL_ _____

Level (low/med): LOW_ _____

% Solids for Sample: _99.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	103.3500	0.9566	98.070	104.4		P
Arsenic	75-125	407.4767	1.2418	392.270	103.6		P
Barium							NR
Beryllium	75-125	10.1697	0.1248	9.810	102.4		P
Cadmium	75-125	9.7029	0.0594	9.810	98.9		P
Calcium							NR
Chromium	75-125	44.6700	5.7853	39.230	99.1		P
Cobalt							NR
Copper	75-125	55.3869	2.3312	49.030	108.2		P
Iron							NR
Lead	75-125	108.8595	1.5983	98.070	109.4		P
Magnesium							NR
Manganese							NR
Mercury	75-125	0.4897	0.0962	0.480	102.0		CV
Nickel	75-125	104.9975	1.1091	98.070	105.9		P
Potassium							NR
Selenium	75-125	365.4369	0.8517	392.270	93.2		P
Silver	75-125	9.9010	0.2773	9.810	100.9		P
Sodium							NR
Thallium	75-125	413.3020	0.5348	392.270	105.4		P
Vanadium							NR
Zinc	75-125	125.9723	5.7615	98.070	122.6		P
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A8000401MS-CGA00787

3
BLANKS

Lab Name: RECRA_LABNET_INC._____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 30301R

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	C		1	C	2	C	3	C			
Aluminum		U		U		U		U		U	NR
Antimony	3.4	U	3.4	U	3.4	U	3.4	U	0.680	U	P
Arsenic	3.5	U	3.5	U	3.5	U	3.5	U	0.700	U	P
Barium											NR
Beryllium	0.2	U	0.2	U	0.2	U	0.2	U	0.040	U	P
Cadmium	0.3	U	0.3	U	0.3	U	0.3	U	0.060	U	P
Calcium											NR
Chromium	1.4	U	1.4	U	1.4	U	1.4	U	0.280	U	P
Cobalt											NR
Copper	0.9	U	0.9	U	0.9	U	0.9	U	0.188	B	P
Iron											NR
Lead	1.3	U	1.3	U	1.3	U	1.3	U	0.260	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel	1.3	U	1.3	U	1.3	U	1.3	U	0.260	U	P
Potassium											NR
Selenium	4.3	U	4.3	U	4.3	U	4.3	U	0.860	U	P
Silver	1.4	U	1.4	U	1.4	U	1.4	U	0.280	B	P
Sodium											NR
Thallium	2.7	U	2.7	U	2.7	U	2.7	U	0.540	U	P
Vanadium											NR
Zinc	0.7	U	0.7	U	0.7	U	0.7	U	0.140	U	P
Cyanide											NR

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 30301R

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum											NR
Antimony			3.4	U							P
Arsenic			3.5	U							P
Barium											NR
Beryllium			0.2	B							P
Cadmium			0.3	U							P
Calcium											NR
Chromium			1.4	U							P
Cobalt											NR
Copper			1.2	B							P
Iron											NR
Lead			1.3	U							P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel			1.3	U	1.3	U	1.3	U			P
Potassium											NR
Selenium			4.3	U	4.3	U	4.3	U			P
Silver			1.4	U							P
Sodium											NR
Thallium			2.7	U							P
Vanadium											NR
Zinc			0.7	U							P
Cyanide											NR

3
BLANKS

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 30301R

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum										NR	
Antimony										NR	
Arsenic										NR	
Barium										NR	
Beryllium										NR	
Cadmium										NR	
Calcium										NR	
Chromium										NR	
Cobalt										NR	
Copper										NR	
Iron										NR	
Lead										NR	
Magnesium										NR	
Manganese										NR	
Mercury										NR	
Nickel										NR	
Potassium										NR	
Selenium			4.3	U						P	
Silver										NR	
Sodium										NR	
Thallium										NR	
Vanadium										NR	
Zinc										NR	
Cyanide										NR	

000030

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

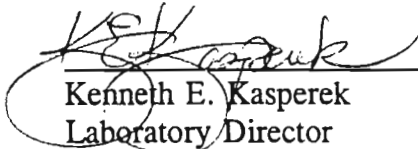
Sample identifications have been abbreviated due to the character limitations of the software.

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

2/3/98

Date

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000034

CHAIN OF CUSTODY DOCUMENTATION





RECRA
LabNet

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.

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 309 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.

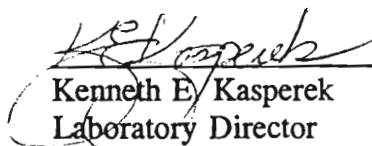
Preliminary results were given via facsimile to Mr. Steve Falatko of Radian on December 23, 1997 by Recra personnel.

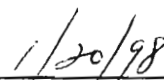


Sample identifications have been abbreviated due to the character limitations of the processing software.

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.



NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATIONSAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
03-03-03RW-2	A7474701	-	-	-	-	ASP95	-
03-03-09RW-2	A7474702	-	-	-	-	ASP95	-
03-03-10RW-2	A7474703	-	-	-	-	ASP95	-

NYSDEC-1

000005

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 CONSERVATIONSAMPLE 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 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. -



NYSDEC ASP

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

Table with 2 columns: NYSDEC Sample No. and Lab Sample ID. Rows include BLKSPK2, BLKSPK1, 03RW-2, 09RW-2, 10RW-2 and corresponding Lab Sample IDs AD721353 through AD721351.

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

Comments:

I certify that this data package is in compliance with the terms and conditions of the 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: [Handwritten Signature] Name: Kenneth E. Kasperek
Date: [Handwritten Date: 1/20/98] Title: Laboratory Director

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RW-2

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

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

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.6	U		P
7440-38-2	Arsenic	1.4	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.46	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	U		CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	0.48	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	15.2			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7474701-CGA00787

CLIENT_SAMPLE_ID: 03-03-03RW-2

REDIGESTION_NUMBER: AD721678

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW-2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.32	B		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	U		CV
7440-02-0	Nickel	0.86	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.00	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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: _____

Comments:

LAB_SAMPLE_ID: A7474702-CGA00787

CLIENT_SAMPLE_ID: 03-03-09RW-2

REDIGESTION_NUMBER: AD721679

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

10RW-2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

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	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		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	U		CV
7440-02-0	Nickel	0.82	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		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: _____

Comments:

LAB_SAMPLE_ID: A7474703-CGA00787

CLIENT_SAMPLE_ID: 03-03-10RW-2

REDIGESTION_NUMBER: AD721680

NYSDEC ASP

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.: 303083

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	91.7040	1.3400	100.000	91.7		P
Arsenic	75-125	363.6260	1.2000	400.000	90.9		P
Barium							NR
Beryllium	75-125	9.2560	0.2000	10.000	92.6		P
Cadmium	75-125	9.5400	0.1000	10.000	95.4		P
Calcium							NR
Chromium	75-125	36.8380	0.2000	40.000	92.1		P
Cobalt							NR
Copper	75-125	47.5720	0.2000	50.000	95.1		P
Iron							NR
Lead	75-125	96.3000	0.5000	100.000	96.3		P
Magnesium							NR
Manganese							NR
Mercury	75-125	0.5120	0.1000	0.500	102.4		CV
Nickel	75-125	93.8580	0.3000	100.000	93.9		P
Potassium							NR
Selenium	75-125	356.5700	0.9800	400.000	89.1		P
Silver	75-125	9.4300	0.4000	10.000	94.3		P
Sodium							NR
Thallium	75-125	379.9280	1.2200	400.000	95.0		P
Vanadium							NR
Zinc	75-125	93.0760	0.2000	100.000	93.1		P
Cyanide							NR

Comments:

LAB SAMPLE ID: A7B1126101-CGA00787

CLIENT SAMPLE ID: MATRIX SPIKE BLANK

REDIGESTION NUMBER: AD721681

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

BLKSPK2

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163 _____

Lab Code: RECNY_ _____

Case No.: 6702_ _____

SAS No.: _____

SDG No.: 303083

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	82.5540	1.3400	100.000	82.6		P
Arsenic	75-125	356.7860	1.2000	400.000	89.2		P
Barium							NR
Beryllium	75-125	9.0560	0.2000	10.000	90.6		P
Cadmium	75-125	9.2960	0.1000	10.000	93.0		P
Calcium							NR
Chromium	75-125	36.1020	0.2000	40.000	90.3		P
Cobalt							NR
Copper	75-125	46.6720	0.2000	50.000	93.3		P
Iron							NR
Lead	75-125	93.9580	0.5000	100.000	94.0		P
Magnesium							NR
Manganese							NR
Mercury	75-125	0.5120	0.1000	0.500	102.4		CV
Nickel	75-125	91.6200	0.3000	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	10.000	92.3		P
Sodium							NR
Thallium	75-125	372.2720	1.2200	400.000	93.1		P
Vanadium							NR
Zinc	75-125	90.5980	0.2000	100.000	90.6		P
Cyanide							NR

Comments:

LAB SAMPLE ID: A7B1126102-CGA00787

CLIENT SAMPLE ID: MATRIX_SPIKE_BLANK_DUP

REDIGESTION_NUMBER: AD721682

3
BLANKS

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 303083

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											NR
Antimony	6.7	U	6.7	U	6.7	U	6.7	U	1.340	U	P
Arsenic	6.0	U	6.0	U	6.0	U	6.0	U	1.200	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	0.5	U	0.5	U	0.5	U	0.5	U	0.100	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper	1.0	U	1.0	U	-1.1	B	-1.0	B	0.200	U	P
Iron											NR
Lead	2.5	U	2.5	U	2.5	U	2.5	U	0.500	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	3.2	B	1.5	U	1.5	U	1.5	U	0.300	U	P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	0.980	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U	1.220	U	P
Vanadium											NR
Zinc	1.0	U	1.0	U	1.0	U	8.1	B	0.200	U	P
Cyanide											NR

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						C	M
			1	C	2	C	3	C		
Aluminum										NR
Antimony			6.7	U						P
Arsenic			6.0	U						P
Barium										NR
Beryllium			1.0	U						P
Cadmium			0.5	U						P
Calcium										NR
Chromium			1.0	U						P
Cobalt										NR
Copper			-1.2	B						P
Iron										NR
Lead			2.5	U						P
Magnesium										NR
Manganese										NR
Mercury										NR
Nickel			1.5	U						P
Potassium										NR
Selenium			4.9	U						P
Silver			2.0	U	2.0	U	2.0	U		P
Sodium										NR
Thallium			6.1	U						P
Vanadium										NR
Zinc			1.4	B						P
Cyanide										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.

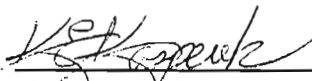
Preliminary results were given via facsimile to Mr. Steve Falatko of Radian on December 23, 1997 by Recra personnel.



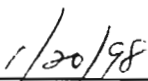
Sample identifications have been abbreviated due to the character limitations of the processing software.

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



000021

METALS DATA



1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RW-2

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

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

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.6	U		P
7440-38-2	Arsenic	1.4	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.46	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	U		CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	0.48	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	15.2			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7474701-CGA00787 _____

CLIENT SAMPLE ID: 03-03-03RW-2 _____

REDIGESTION_NUMBER: AD721678 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW-2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.32	B		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	U		CV
7440-02-0	Nickel	0.86	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.00	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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: _____

Comments:

LAB_SAMPLE_ID: A7474702-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-09RW-2 _____

REDIGESTION_NUMBER: AD721679 _____

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

10RW-2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

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	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		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	U		CV
7440-02-0	Nickel	0.82	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		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: _____

Comments:

LAB SAMPLE ID: A7474703-CGA00787 _____

CLIENT SAMPLE ID: 03-03-10RW-2 _____

REDIGESTION NUMBER: AD721680 _____

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									NR
Antimony	500.0	469.56	93.9	500.0	469.98	94.0	471.43	94.3	P
Arsenic	500.0	489.40	97.9	500.0	491.30	98.3	492.75	98.6	P
Barium									NR
Beryllium	500.0	489.71	97.9	500.0	489.59	97.9	490.39	98.1	P
Cadmium	500.0	481.23	96.2	500.0	480.86	96.2	484.58	96.9	P
Calcium									NR
Chromium	500.0	476.61	95.3	500.0	475.82	95.2	475.10	95.0	P
Cobalt									NR
Copper	500.0	498.12	99.6	500.0	498.16	99.6	499.15	99.8	P
Iron									NR
Lead	500.0	486.44	97.3	500.0	489.77	98.0	489.83	98.0	P
Magnesium									NR
Manganese									NR
Mercury	8.0	8.10	101.2	8.0	8.00	100.0	8.10	101.2	CV
Nickel	500.0	476.99	95.4	500.0	476.52	95.3	477.22	95.4	P
Potassium									NR
Selenium	500.0	485.42	97.1	500.0	490.67	98.1	491.07	98.2	P
Silver	500.0	521.90	104.4	500.0	498.78	99.8	504.54	100.9	P
Sodium									NR
Thallium	500.0	471.89	94.4	500.0	473.08	94.6	475.02	95.0	P
Vanadium									NR
Zinc	500.0	470.40	94.1	500.0	468.23	93.6	468.08	93.6	P
Cyanide									NR

(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__
 Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083
 Initial Calibration Source: VHG/INOR.VEN
 Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									NR
Antimony				500.0	473.14	94.6	475.47	95.1	P
Arsenic				500.0	495.85	99.2	496.40	99.3	P
Barium									NR
Beryllium				500.0	488.30	97.7	490.17	98.0	P
Cadmium				500.0	484.61	96.9	487.12	97.4	P
Calcium									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	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	100.7	P
Sodium									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

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

NYSDEC ASP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083
 Initial Calibration Source: VHG/INOR.VEN
 Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver				500.0	512.88	102.6	507.54	101.5	P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

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

NYSDEC ASP

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.: 303083

AA CRDL Standard Source: INORG.VENT._

ICP CRDL Standard Source: VHG_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony				120.0	87.96	73.3	86.52	72.1
Arsenic				20.0	17.84	89.2	18.72	93.6
Barium								
Beryllium				10.0	9.82	98.2	9.90	99.0
Cadmium				10.0	9.92	99.2	9.95	99.5
Calcium								
Chromium				20.0	19.94	99.7	19.39	97.0
Cobalt								
Copper				50.0	48.26	96.5	47.10	94.2
Iron								
Lead				6.0	0.37	6.2	-0.18	-3.0
Magnesium								
Manganese								
Mercury	0.2	0.19	95.0					
Nickel				80.0	79.34	99.2	78.84	98.6
Potassium								
Selenium				10.0	7.26	72.6	8.34	83.4
Silver								
Sodium								
Thallium				20.0	16.87	84.4	15.99	80.0
Vanadium								
Zinc				40.0	66.01	165.0	42.92	107.3

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.: 303083

AA CRDL Standard Source: INORG.VENT. _

ICP CRDL Standard Source: VHG _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver				20.0	9.94	49.7	9.99	50.0
Sodium								
Thallium								
Vanadium								
Zinc								

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.: 303083
 AA CRDL Standard Source: INORG.VENT._
 ICP CRDL Standard Source: VHG_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver				20.0			9.92	49.6
Sodium								
Thallium								
Vanadium								
Zinc								

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	C		1	C	2	C	3	C	C		
Aluminum											NR
Antimony	6.7	U	6.7	U	6.7	U	6.7	U	1.340	U	P
Arsenic	6.0	U	6.0	U	6.0	U	6.0	U	1.200	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	0.5	U	0.5	U	0.5	U	0.5	U	0.100	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper	1.0	U	1.0	U	-1.1	B	-1.0	B	0.200	U	P
Iron											NR
Lead	2.5	U	2.5	U	2.5	U	2.5	U	0.500	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel	3.2	B	1.5	U	1.5	U	1.5	U	0.300	U	P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	0.980	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U	1.220	U	P
Vanadium											NR
Zinc	1.0	U	1.0	U	1.0	U	8.1	B	0.200	U	P
Cyanide											NR

NYSDEC ASP

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						C	M
			1	C	2	C	3	C		
Aluminum										NR
Antimony			6.7	U						P
Arsenic			6.0	U						P
Barium										NR
Beryllium			1.0	U						P
Cadmium			0.5	U						P
Calcium										NR
Chromium			1.0	U						P
Cobalt										NR
Copper			-1.2	B						P
Iron										NR
Lead			2.5	U						P
Magnesium										NR
Manganese										NR
Mercury										NR
Nickel			1.5	U						P
Potassium										NR
Selenium			4.9	U						P
Silver			2.0	U	2.0	U	2.0	U		P
Sodium										NR
Thallium			6.1	U						P
Vanadium										NR
Zinc			1.4	B						P
Cyanide										NR

NYSDEC ASP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303083
 ICP ID Number: SUPERTRACE_ ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver	0	1000	0	1031.6	103.2	0	1076.4	107.6
Sodium								
Thallium								
Vanadium								
Zinc								

NYSDEC ASP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECN_ Case No.: 6702_ SAS No: _____ SDG No.: 303083
 ICP ID Number: SUPERTRACE__ ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver	0	1000				0	1019.6	102.0
Sodium								
Thallium								
Vanadium								
Zinc								

NYSDEC ASP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303083
 ICP ID Number: SUPERTRACE-2 ICS Source: 'HG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. 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								
Lead	0	1000	-7	899.2	89.9	-7	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

NYSDEC ASP

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.: 303083

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	91.7040	1.3400 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 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 U	40.000	92.1		P
Cobalt							NR
Copper	75-125	47.5720	0.2000 U	50.000	95.1		P
Iron							NR
Lead	75-125	96.3000	0.5000 U	100.000	96.3		P
Magnesium							NR
Manganese							NR
Mercury	75-125	0.5120	0.1000 U	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 U	400.000	89.1		P
Silver	75-125	9.4300	0.4000 U	10.000	94.3		P
Sodium							NR
Thallium	75-125	379.9280	1.2200 U	400.000	95.0		P
Vanadium							NR
Zinc	75-125	93.0760	0.2000 U	100.000	93.1		P
Cyanide							NR

Comments:

LAB SAMPLE ID: A7B1126101-CGA00787

CLIENT SAMPLE ID: MATRIX SPIKE BLANK

REDIGESTION NUMBER: AD721681

FORM V (Part 1) - IN

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

BLKSPK2

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163 _____

Lab Code: RECNY_ _____

Case No.: 6702_ _____

SAS No.: _____

SDG No.: 303083

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	82.5540	1.3400	100.000	82.6		P
Arsenic	75-125	356.7860	1.2000	400.000	89.2		P
Barium							NR
Beryllium	75-125	9.0560	0.2000	10.000	90.6		P
Cadmium	75-125	9.2960	0.1000	10.000	93.0		P
Calcium							NR
Chromium	75-125	36.1020	0.2000	40.000	90.3		P
Cobalt							NR
Copper	75-125	46.6720	0.2000	50.000	93.3		P
Iron							NR
Lead	75-125	93.9580	0.5000	100.000	94.0		P
Magnesium							NR
Manganese							NR
Mercury	75-125	0.5120	0.1000	0.500	102.4		CV
Nickel	75-125	91.6200	0.3000	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	10.000	92.3		P
Sodium							NR
Thallium	75-125	372.2720	1.2200	400.000	93.1		P
Vanadium							NR
Zinc	75-125	90.5980	0.2000	100.000	90.6		P
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A7B1126102-CGA00787

CLIENT_SAMPLE_ID: MATRIX SPIKE BLANK DUP

REDIGESTION_NUMBER: AD721682

7
LABORATORY CONTROL SAMPLE

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_

SAS No.: _____ SDG No.: 303083

Solid LCS Source: ERA 227_/235/NSI *

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L)			Solid (mg/kg)				%R
	True	Found	%R	True	Found	C	Limits	
Aluminum								
Antimony				23.2	21.5		0.6 45.9	92.7
Arsenic				82.5	79.6		40.4 123.0	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
Calcium								
Chromium				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								
Mercury				2.3	2.6		1.1 3.6	113.0
Nickel				176.0	161.7		96.8 257.0	91.9
Potassium								
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.

LABORATORY CONTROL SAMPLE

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 303083

Solid LCS Source: ERA 227_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L)			Solid (mg/kg)				%R	
	True	Found	%R	True	Found	C	Limits		
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
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									

03RW-2L

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

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

Concentration Units: ug/L

Analyte	Initial Sample		Serial Dilution		% Difference	Q	M
	Result (I)	C	Result (S)	C			
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium							NR
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver	2.00	U	10.00	U			P
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR

NYSDEC ASP

9
ICP SERIAL DILUTION

NYSDEC SAMPLE NO.

09RW-2L

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303083

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	Q	M
Aluminum							NR
Antimony	6.70	U	33.50	U			P
Arsenic	6.00	U	30.00	U			P
Barium							NR
Beryllium	1.00	U	5.00	U			P
Cadmium	1.55	B	2.50	B	61.3		P
Calcium							NR
Chromium	647.71		643.05		0.7		P
Cobalt							NR
Copper	9.27	B	6.15	B	33.7		P
Iron							NR
Lead	4.22		12.50	U	100.0		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel	4.24	B	7.50	U	100.0		P
Potassium							NR
Selenium	4.90	U	24.50	U			P
Silver							NR
Sodium							NR
Thallium	6.10	U	30.50	U			P
Vanadium							NR
Zinc	42.71		40.70	B	4.7		P

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 : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum			200		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			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver	328.07		10	2.0	P
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

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: SUPERTRACE-2 Date: 10/06/97
 Flame AA ID Number : _____
 Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (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			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			10		NR
Sodium			5000		NR
Thallium	190.80		10	6.1	P
Vanadium			50		NR
Zinc	206.20		20	1.0	P

Comments:

NYSDEC ASP

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 : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum			200		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			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

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.: 303083

ICP ID Number: SUPERTRACE__

Date: 11/11/97

Analyte	Wave-length (nm)	Interelement Correction Factors for :				
		Al	Ca	Fe	Mg	CR
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0069560
Arsenic	189.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000648	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.70	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	325.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	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	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	330.23	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

NYSDEC ASP

11A
ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

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: 12/15/97

Analyte	Wave-length (nm)	Interelement Correction Factors for :				
		Al	Ca	Fe	Mg	CR
Aluminum	308.20	0.0000000	0.0000000	0.0000000	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	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

Comments:

NYSDEC ASP

12

ICP LINEAR RANGES (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: 11/19/97

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	800000.0	P
Antimony	15.00	50000.0	P
Arsenic	15.00	20000.0	P
Barium	15.00	50000.0	P
Beryllium	15.00	5000.0	P
Cadmium	15.00	5000.0	P
Calcium	15.00	600000.0	P
Chromium	15.00	50000.0	P
Cobalt	15.00	50000.0	P
Copper	15.00	100000.0	P
Iron	15.00	650000.0	P
Lead	15.00	20000.0	P
Magnesium	15.00	700000.0	P
Manganese	15.00	20000.0	P
Mercury			NR
Nickel	15.00	20000.0	P
Potassium	15.00	600000.0	P
Selenium	15.00	50000.0	P
Silver	15.00	1500.0	P
Sodium	15.00	750000.0	P
Thallium	15.00	100000.0	P
Vanadium	15.00	50000.0	P
Zinc	15.00	20000.0	P

Comments:

NYSDEC ASP

12
ICP LINEAR RANGES (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: 09/25/97

Analyte	Integ. Time (Sec.)	Concentration (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	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
Magnesium	15.00	600000.0	P
Manganese	15.00	20000.0	P
Mercury			NR
Nickel	15.00	100000.0	P
Potassium	15.00	500000.0	P
Selenium	15.00	20000.0	P
Silver	15.00	5000.0	P
Sodium	15.00	500000.0	P
Thallium	15.00	100000.0	P
Vanadium	15.00	100000.0	P
Zinc	15.00	20000.0	P

Comments:

NYSDEC ASP

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.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
ZZZZZZ	1.00	1757																									
CRI	1.00	1802																			X						
ZZZZZZ	1.00	1808																									
ICSA	1.00	1813																			X						
ICSAB	1.00	1819																			X						
CCV	1.00	1824																			X						
CCB	1.00	1830																			X						
ZZZZZZ	1.00	1835																									
ZZZZZZ	1.00	1840																									
ZZZZZZ	1.00	1846																									
ZZZZZZ	1.00	1851																									
ZZZZZZ	1.00	1857																									
ZZZZZZ	1.00	1902																									
ZZZZZZ	1.00	1908																									
ZZZZZZ	1.00	1913																									
LCSS	1.00	1918																			X						
LCSS	1.00	1924																									
CCV	1.00	1929																			X						
CCB	1.00	1935																			X						
PBS	1.00	1940																			X						
BLKSPK1	1.00	1946																			X						
BLKSPK2	1.00	1951																			X						
03RW-2	1.00	1956																			X						
03RW-2A	1.00	2002																									
03RW-2L	1.00	2007																			X						
09RW-2	1.00	2013																			X						
10RW-2	1.00	2018																			X						
CCV	1.00	2024																			X						
CCB	1.00	2029																			X						
CRI	1.00	2034																			X						
ZZZZZZ	1.00	2040																									
ICSA	1.00	2045																			X						



RECRA
LabNet

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:

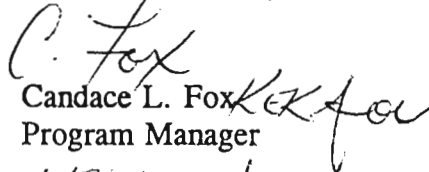
Please find enclosed analytical results concerning the sample recently submitted by your firm. The pertinent information regarding this analysis is listed below:

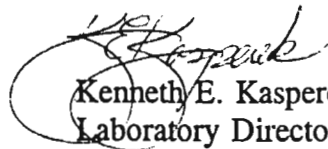
Quote #: NY97-163
Project Name: Long Island Property Transfer (Plant 3)
SDG #: 303084
Matrix: Aqueous
Sample Received: 12/19/97
Sample Date: 12/17/97

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: RECNV

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

1/19/98

Date

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



000002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		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



000004

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



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

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 No.	Lab Sample ID.
<u>03-W-1</u>	<u>AD721421</u>
<u>03-W-2</u>	<u>AD721422</u>
<u>03-W-3</u>	<u>AD721423</u>
<u>03-W-4</u>	<u>AD721424</u>
<u>BLKSPK1</u>	<u>AD721437</u>
<u>BLKSPK2</u>	<u>AD721438</u>

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

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

Comments:

I certify that this data package is in compliance with the terms and conditions of the 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: *K. Kasperek* Name: Kenneth_E._Kasperek_____

Date: 1/19/98 Title: Laboratory_Director_____

INORGANIC ANALYSES DATA SHEET

03-W-1

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

Lab Code: RECNY_ Case No.: 6702_ 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

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	13.0	-		P
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	28.6	-		P
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	3220	-		P
7440-48-4	Cobalt		-		NR
7440-50-8	Copper	99.7	-		P
7439-89-6	Iron		-		NR
7439-92-1	Lead	83.3	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	31.4	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	231	-		P
	Cyanide		-		NR

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-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Matrix (soil/water): WATER Lab Sample ID: AD721422

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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	9.9	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	13.4			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	1900			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	85.6			P
7439-89-6	Iron				NR
7439-92-1	Lead	86.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.21			CV
7440-02-0	Nickel	19.7	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	200			P
	Cyanide				NR

Color Before: YELLOW_ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7474602-CGA00799 _____
 CLIENT_SAMPLE_ID: 03-03-W-2 _____

000009

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-3

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ 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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	6.0	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		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			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			CV
7440-02-0	Nickel	30.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	726			P
	Cyanide				NR

Color Before: BROWN_____ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR__ Artifacts: _____

Comments:

LAB SAMPLE ID: A7474603-CGA00799

CLIENT SAMPLE ID: 03-03-W-3

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-4

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Matrix (soil/water): WATER Lab Sample ID: AD721424

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	C	Q	M
7429-90-5	Aluminum		--		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	11.3			P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	25.9			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	335			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	131			P
7439-89-6	Iron				NR
7439-92-1	Lead	127			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.27			CV
7440-02-0	Nickel	29.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.7	B		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	854			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7474604-CGA00799 _____

CLIENT_SAMPLE_ID: 03-03-W-4 _____

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	519.7400	6.7000	500.000	103.9		P
Arsenic	75-125	1957.8500	6.0000	2000.000	97.9		P
Barium							NR
Beryllium	75-125	49.6400	1.0000	50.000	99.3		P
Cadmium	75-125	50.5600	0.5000	50.000	101.1		P
Calcium							NR
Chromium	75-125	207.0000	1.0000	200.000	103.5		P
Cobalt							NR
Copper	75-125	258.9700	1.0000	250.000	103.2		P
Iron							NR
Lead	75-125	520.6100	2.5000	500.000	104.1		P
Magnesium							NR
Manganese							NR
Mercury	75-125	1.0200	0.2000	1.000	102.0		CV
Nickel	75-125	515.6100	1.5000	500.000	103.1		P
Potassium							NR
Selenium	75-125	1820.1700	4.9000	2000.000	91.0		P
Silver	75-125	50.1500	1.0000	50.000	100.3		P
Sodium							NR
Thallium	75-125	1959.8000	6.1000	2000.000	98.0		P
Vanadium							NR
Zinc	75-125	544.1300	1.0000	500.000	108.8		P
Cyanide							NR

Comments:

LAB SAMPLE ID: A7B1126901-CGA00799

CLIENT SAMPLE ID: MATRIX SPIKE BLANK

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	545.4900	6.7000 U	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 U	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 U	200.000	111.0		P
Cobalt							NR
Copper	75-125	259.5800	1.0000 B	250.000	103.4		P
Iron							NR
Lead	75-125	526.1700	2.5000 U	500.000	105.2		P
Magnesium							NR
Manganese							NR
Mercury	75-125	1.0420	0.2000 U	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 U	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 U	2000.000	98.8		P
Vanadium							NR
Zinc	75-125	549.7400	1.0000 U	500.000	109.9		P
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A7B1126902-CGA00799

CLIENT_SAMPLE_ID: MATRIX_SPIKE_BLANK_DUP

NYSDEC ASP

000013

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											NR
Antimony	6.7	U	6.7	U	6.7	U	6.7	U	6.700	U	P
Arsenic	6.0	U	6.0	U	6.0	U	6.0	U	6.000	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cadmium	0.5	U	0.5	U	0.5	U	0.5	U	0.500	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cobalt											NR
Copper	1.0	U	1.6	B	1.2	B	1.0	U	1.000	B	P
Iron											NR
Lead	2.5	U	2.5	U	2.5	U	2.5	U	2.500	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	CV
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	1.500	U	P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	4.900	U	P
Silver	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U	6.100	U	P
Vanadium											NR
Zinc	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cyanide											NR

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum				U		U		U			NR
Antimony			6.7	U	6.7	U	6.7	U			P
Arsenic			6.0	U	6.0	U	6.0	U			P
Barium											NR
Beryllium			1.0	U	1.0	U	1.0	U			P
Cadmium			0.5	U	0.5	U	0.5	U			P
Calcium											NR
Chromium			1.0	U	1.0	U	1.0	U			P
Cobalt											NR
Copper			1.0	B	1.1	B	1.6	B			P
Iron											NR
Lead			2.5	U	2.5	U	2.5	U			P
Magnesium											NR
Manganese											NR
Mercury			0.2	U	0.2	U	0.2	U			CV
Nickel			1.5	U	1.5	U	1.5	U			P
Potassium											NR
Selenium											NR
Silver			1.1	B	1.0	U	1.0	U			P
Sodium											NR
Thallium			6.1	U	6.1	U	6.1	U			P
Vanadium											NR
Zinc			1.0	U	1.0	U	2.3	B			P
Cyanide											NR

3
BLANKS

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163 _____

Lab Code: RECNY_ _____

Case No.: 6702_ _____

SAS No.: _____

SDG No.: 303084

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	C		1	C	2	C	3	C	C		
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury			0.2	U							CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

000016

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 E. Kasperek
Laboratory Director

1/19/98

Date

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000018

CHAIN OF CUSTODY DOCUMENTATION



METALS DATA



1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-1

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163

Lab Code: RECNY_ Case No.: 6702_ 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

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	13.0			P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	28.6			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3220			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	99.7			P
7439-89-6	Iron				NR
7439-92-1	Lead	83.3			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	31.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	231			P
	Cyanide				NR

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-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Matrix (soil/water): WATER Lab Sample ID: AD721422

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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	9.9	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	13.4			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	1900			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	85.6			P
7439-89-6	Iron				NR
7439-92-1	Lead	86.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.21			CV
7440-02-0	Nickel	19.7	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	200			P
	Cyanide				NR

Color Before: YELLOW_ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7474602-CGA00799 _____
CLIENT_SAMPLE_ID: 03-03-W-2 _____

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-3

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ 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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	6.0	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	1.0	U		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			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			CV
7440-02-0	Nickel	30.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	726			P
	Cyanide				NR

Color Before: BROWN__ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR__ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7474603-CGA00799

CLIENT_SAMPLE_ID: 03-03-W-3

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03-W-4

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Matrix (soil/water): WATER Lab Sample ID: AD721424

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	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	6.7	U		P
7440-38-2	Arsenic	11.3	—		P
7440-39-3	Barium		—		NR
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	25.9	—		P
7440-70-2	Calcium		—		NR
7440-47-3	Chromium	335	—		P
7440-48-4	Cobalt		—		NR
7440-50-8	Copper	131	—		P
7439-89-6	Iron		—		NR
7439-92-1	Lead	127	—		P
7439-95-4	Magnesium		—		NR
7439-96-5	Manganese		—		NR
7439-97-6	Mercury	0.27	—		CV
7440-02-0	Nickel	29.8	B		P
7440-09-7	Potassium		—		NR
7782-49-2	Selenium	4.9	U		P
7440-22-4	Silver	1.7	B		P
7440-23-5	Sodium		—		NR
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium		—		NR
7440-66-6	Zinc	854	—		P
	Cyanide		—		NR

Color Before: BROWN_ Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7474604-CGA00799 _____

CLIENT SAMPLE ID: 03-03-W-4 _____

NYSDEC ASP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									NR
Antimony	500.0	496.31	99.3	500.0	528.70	105.7	531.76	106.4	P
Arsenic	500.0	488.50	97.7	500.0	517.50	103.5	520.43	104.1	P
Barium									NR
Beryllium	500.0	486.09	97.2	500.0	516.86	103.4	520.91	104.2	P
Bismuth	500.0	477.07	95.4	500.0	506.35	101.3	511.93	102.4	P
Calcium									NR
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	481.99	96.4	500.0	512.66	102.5	519.35	103.9	P
Potassium									NR
Selenium	500.0	521.87	104.4	500.0	527.02	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	P
Cyanide									NR

(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__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									NR
Antimony				500.0	533.10	106.6	536.63	107.3	
Arsenic				500.0	523.93	104.8	528.58	105.7	
Barium									
Beryllium				500.0	521.76	104.4	525.31	105.1	
Cadmium				500.0	515.14	103.0	518.23	103.6	
Calcium									NR
Chromium				500.0	528.03	105.6	532.21	106.4	P
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

(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__

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Initial Calibration Source: VHG/INOR.VEN

Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									NR
Antimony				500.0	540.13	108.0	542.81	108.6	P
Arsenic				500.0	529.44	105.9	533.37	106.7	P
Barium									NR
Beryllium				500.0	529.49	105.9	532.78	106.6	P
Cadmium				500.0	520.24	104.0	523.74	104.7	P
Calcium									NR
Chromium				500.0	535.01	107.0	539.06	107.8	P
Cobalt									NR
Copper				500.0	524.49	104.9	524.62	104.9	P
Iron									NR
Lead				500.0	529.73	105.9	534.17	106.8	P
Magnesium									NR
Manganese									NR
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									NR
Selenium									NR
Silver				500.0	522.46	104.5	523.63	104.7	P
Sodium									NR
Thallium				500.0	511.59	102.3	515.81	103.2	P
Vanadium									NR
Zinc				500.0	521.72	104.3	526.20	105.2	P
Cyanide									NR

(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__
 Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084
 Initial Calibration Source: VHG/INOR.VEN
 Continuing Calibration Source: VHG/INOR.VEN

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				8.0	8.00	100.0			CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

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

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: INORG.VENT._

ICP CRDL Standard Source: VHG_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony				120.0	96.55	80.5	98.53	82.1
Arsenic				20.0	17.84	89.2	18.18	90.9
Barium								
Beryllium				10.0	10.17	101.7	10.42	104.2
Bismuth				10.0	10.28	102.8	10.53	105.3
Calcium								
Chromium				20.0	21.52	107.6	21.37	106.8
Cobalt								
Copper				50.0	50.70	101.4	51.63	103.3
Iron								
Lead				6.0	0.68	11.3	-0.43	-7.2
Magnesium								
Manganese								
Mercury	0.2	0.19	95.0					
Nickel				80.0	84.63	105.8	85.84	107.3
Potassium								
Selenium								
Silver				20.0	9.88	49.4	10.58	52.9
Sodium								
Thallium				20.0	19.56	97.8	19.97	99.8
Vanadium								
Zinc				40.0	43.46	108.6	51.36	128.4

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: INORG.VENT. _

ICP CRDL Standard Source: VHG _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony				120.0			99.85	83.2
Arsenic				20.0			18.32	91.6
Barium								
Beryllium				10.0			10.42	104.2
Cadmium				10.0			10.54	105.4
Calcium								
Chromium				20.0			21.41	107.0
Cobalt								
Copper				50.0			51.81	103.6
Iron								
Lead				6.0			0.20	3.3
Magnesium								
Manganese								
Mercury								
Nickel				80.0			87.15	108.9
Potassium								
Selenium								
Silver				20.0			10.54	52.7
Sodium								
Thallium				20.0			19.47	97.4
Vanadium								
Zinc				40.0			44.47	111.2

NYSDEC ASP

000031

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: INORG.VENT._

ICP CRDL Standard Source: VHG _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium				10.0	10.87	108.7	10.22	102.2
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

NYSDEC ASP

000032

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											NR
Antimony	6.7	U	6.7	U	6.7	U	6.7	U	6.700	U	P
Arsenic	6.0	U	6.0	U	6.0	U	6.0	U	6.000	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cadmium	0.5	U	0.5	U	0.5	U	0.5	U	0.500	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cobalt											NR
Copper	1.0	U	1.6	B	1.2	B	1.0	U	1.000	B	P
Iron											NR
Lead	2.5	U	2.5	U	2.5	U	2.5	U	2.500	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	CV
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	1.500	U	P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	4.900	U	P
Silver	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U	6.100	U	P
Vanadium											NR
Zinc	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cyanide											NR

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum				U		U		U			NR
Antimony			6.7	U	6.7	U	6.7	U			P
Arsenic			6.0	U	6.0	U	6.0	U			P
Bismuth											NR
Beryllium			1.0	U	1.0	U	1.0	U			P
Cadmium			0.5	U	0.5	U	0.5	U			P
Calcium											NR
Chromium			1.0	U	1.0	U	1.0	U			P
Cobalt											NR
Copper			1.0	B	1.1	B	1.6	B			P
Iron											NR
Lead			2.5	U	2.5	U	2.5	U			P
Magnesium											NR
Manganese											NR
Mercury			0.2	U	0.2	U	0.2	U			CV
Nickel			1.5	U	1.5	U	1.5	U			P
Potassium											NR
Selenium											NR
Silver			1.1	B	1.0	U	1.0	U			P
Sodium											NR
Thallium			6.1	U	6.1	U	6.1	U			P
Vanadium											NR
Zinc			1.0	U	1.0	U	2.3	B			P
Cyanide											NR

3
BLANKS

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303084

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						C	M
			1	C	2	C	3	C		
Aluminum										NR
Antimony										NR
Arsenic										NR
Barium										NR
Beryllium										NR
Cadmium										NR
Calcium										NR
Chromium										NR
Cobalt										NR
Copper										NR
Iron										NR
Lead										NR
Magnesium										NR
Manganese										NR
Mercury			0.2	U						CV
Nickel										NR
Potassium										NR
Selenium										NR
Silver										NR
Sodium										NR
Thallium										NR
Vanadium										NR
Zinc										NR
Cyanide										NR

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303084
 ICP ID Number: SUPERTRACE-2 ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony	0	1000	10	1043.6	104.4	6	1063.1	106.3
Arsenic	0	1000	1	1030.7	103.1	-1	1047.4	104.7
Barium								
Beryllium	0	500	0	506.4	101.3	0	514.4	102.9
Cadmium	0	1000	9	953.4	95.3	9	975.1	97.5
Calcium								
Chromium	0	500	19	518.8	103.8	18	527.9	105.6
Cobalt								
Copper	0	500	4	565.0	113.0	3	569.1	113.8
Iron								
Lead	0	1000	-16	952.5	95.2	-16	969.4	96.9
Magnesium								
Manganese								
Mercury								
Nickel	0	1000	2	974.0	97.4	1	994.4	99.4
Potassium								
Selenium								
Silver	0	1000	1	1060.3	106.0	0	1073.8	107.4
Sodium								
Thallium	0	1000	-17	910.0	91.0	-16	927.3	92.7
Vanadium								
Zinc	0	1000	-5	905.4	90.5	-4	922.1	92.2

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303084
 ICP ID Number: SUPERTRACE-2 ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony	0	1000				7	1058.4	105.8
Arsenic	0	1000				0	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				0	1077.5	107.8
Sodium								
Thallium	0	1000				-14	924.3	92.4
Vanadium								
Zinc	0	1000				-4	923.6	92.4

NYSDEC ASP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303084
 ICP ID Number: SUPERTRACE-.. ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	0	1000	-9	1000.8	100.1	-6	1005.5	100.6
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	519.7400	6.7000	500.000	103.9		P
Arsenic	75-125	1957.8500	6.0000	2000.000	97.9		P
Barium							NR
Beryllium	75-125	49.6400	1.0000	50.000	99.3		P
Cadmium	75-125	50.5600	0.5000	50.000	101.1		P
Calcium							NR
Chromium	75-125	207.0000	1.0000	200.000	103.5		P
Cobalt							NR
Copper	75-125	258.9700	1.0000	250.000	103.2		P
Iron							NR
Lead	75-125	520.6100	2.5000	500.000	104.1		P
Magnesium							NR
Manganese							NR
Mercury	75-125	1.0200	0.2000	1.000	102.0		CV
Nickel	75-125	515.6100	1.5000	500.000	103.1		P
Potassium							NR
Selenium	75-125	1820.1700	4.9000	2000.000	91.0		P
Silver	75-125	50.1500	1.0000	50.000	100.3		P
Sodium							NR
Thallium	75-125	1959.8000	6.1000	2000.000	98.0		P
Vanadium							NR
Zinc	75-125	544.1300	1.0000	500.000	108.8		P
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A7B1126901-CGA00799

CLIENT_SAMPLE_ID: MATRIX_SPIKE_BLANK

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	545.4900	6.7000	500.000	109.1		P
Arsenic	75-125	2092.1600	6.0000	2000.000	104.6		P
Barium							NR
Beryllium	75-125	49.9000	1.0000	50.000	99.8		P
Cadmium	75-125	50.9700	0.5000	50.000	101.9		P
Calcium							NR
Chromium	75-125	221.9400	1.0000	200.000	111.0		P
Cobalt							NR
Copper	75-125	259.5800	1.0000	250.000	103.4		P
Iron							NR
Lead	75-125	526.1700	2.5000	500.000	105.2		P
Magnesium							NR
Manganese							NR
Mercury	75-125	1.0420	0.2000	1.000	104.2		CV
Nickel	75-125	519.7000	1.5000	500.000	103.9		P
Potassium							NR
Selenium	75-125	1956.5300	4.9000	2000.000	97.8		P
Silver	75-125	49.3500	1.0000	50.000	98.7		P
Sodium							NR
Thallium	75-125	1976.5500	6.1000	2000.000	98.8		P
Vanadium							NR
Zinc	75-125	549.7400	1.0000	500.000	109.9		P
Cyanide							NR

Comments:

LAB SAMPLE ID: A7B1126902-CGA00799

CLIENT_SAMPLE_ID: MATRIX_SPIKE_BLANK_DUP

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 LCS Source: INORG.VENT./CPI *

Analyte	Aqueous (ug/L)			Solid (mg/kg)				%R
	True	Found	%R	True	Found	C	Limits	
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					
Iron								
Lead	2500.0	2638.20	105.5					
Magnesium								
Manganese								
Mercury	4.0	4.10	102.5					
Nickel	300.0	309.72	103.2					
Potassium								
Selenium	47.0	48.63	103.5					
Silver	2500.0	2481.30	99.3					
Sodium								
Thallium	80.0	82.60	103.2					
Vanadium								
Zinc	500.0	512.38	102.5					
Cyanide								

* LCSW's for Lead and Silver use Lot Number CPI.

000041

NYSDEC ASP

NYSDEC SAMPLE NO.

9
ICP SERIAL DILUTION

03-W-3L

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__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	Q	M
Aluminum							NR
Antimony	6.70	U	33.50	U			P
Arsenic	6.00	U	30.00	U			P
Barium							NR
Beryllium	1.00	U	5.00	U			P
Cadmium	27.71		29.45		6.3		P
Calcium							NR
Chromium	464.56		460.10		1.0		P
Cobalt							NR
Copper	131.98		136.45		3.4		P
Iron							NR
Lead	125.95		125.35		0.5		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel	30.39	B	33.20	B	9.2		P
Potassium							NR
Selenium	4.90	U	24.50	U			P
Silver	1.00	U	5.00	U			P
Sodium							NR
Thallium	6.10	U	30.50	U			P
Vanadium							NR
Zinc	725.68		728.95		0.5		P

FORM IX - IN

10/95

NYSDEC ASP

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	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (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			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:

INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNV_

Case No.: 6702_

SAS No.: _____

SDG No.: 303084

ICP ID Number: _____

Date: 12/22/97

Flame AA ID Number : PE5000_____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum			200		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			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

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.: 303084

ICP ID Number: SUPERTRACE-2

Date: 12/15/97

Analyte	Wave-length (nm)	Interelement Correction Factors for :				
		Al	Ca	Fe	Mg	CR
Aluminum	308.20	0.0000000	0.0000000	0.0000000	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	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

Comments:

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ICP LINEAR RANGES (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: 09/25/97

Analyte	Integ. Time (Sec.)	Concentration (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	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
Magnesium	15.00	600000.0	P
Manganese	15.00	20000.0	P
Mercury			NR
Nickel	15.00	100000.0	P
Potassium	15.00	500000.0	P
Selenium	15.00	20000.0	P
Silver	15.00	5000.0	P
Sodium	15.00	500000.0	P
Thallium	15.00	100000.0	P
Vanadium	15.00	100000.0	P
Zinc	15.00	20000.0	P

Comments:

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

NYSDEC Sample No.	D/F	Time	% R	Analytes																								
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N	
S0	1.00	0841			X	X		X	X		X		X		X		X		X		X		X		X		X	
S	1.00	0846			X	X		X	X		X		X		X		X		X		X		X		X		X	
S	1.00	0852			X	X		X	X		X		X		X		X		X		X		X		X		X	
S	1.00	0857			X	X		X	X		X		X		X		X		X		X		X		X		X	
S	1.00	0902			X	X		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																										
ICV	1.00	0933			X	X		X	X		X		X		X		X		X		X		X		X		X	
ICB	1.00	0938			X	X		X	X		X		X		X		X		X		X		X		X		X	
CRI	1.00	0944			X	X		X	X		X		X		X		X		X		X		X		X		X	
ZZZZZZ	1.00	0949																										
ICSA	1.00	0955			X	X		X	X		X		X		X		X		X		X		X		X		X	
ICSAB	1.00	1001			X	X		X	X		X		X		X		X		X		X		X		X		X	
CCV	1.00	1006			X	X		X	X		X		X		X		X		X		X		X		X		X	
CCB	1.00	1012			X	X		X	X		X		X		X		X		X		X		X		X		X	
ZZZZZZ	1.00	1055																										
ZZZZZZ	1.00	1101																										
ZZZZZZ	1.00	1106																										
ZZZZZZ	1.00	1112																										
ZZZZZZ	1.00	1117																										
ZZZZZZ	1.00	1123																										
ZZZZZZ	1.00	1128																										
CCV	1.00	1134			X	X		X	X		X		X		X		X		X		X		X		X		X	
CCB	1.00	1140			X	X		X	X		X		X		X		X		X		X		X		X		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																										

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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

NYSDEC Sample No.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
ZZZZZZ	1.00	1219																									
ZZZZZZ	1.00	1224																									
ZZZZZZ	1.00	1230																									
CCV	1.00	1235			X	X		X	X		X		X		X			X			X		X		X		
CCB	1.00	1241			X	X		X	X		X		X		X			X			X		X		X		
ZZZZZZ	1.00	1246																									
ZZZZZZ	1.00	1252																									
ZZZZZZ	1.00	1258																									
ZZZZZZ	1.00	1303																									
I	1.00	1309			X	X		X	X		X		X		X			X			X		X		X		
ZZZZZZ	1.00	1314																									
ICSA	1.00	1320			X	X		X	X		X		X		X			X			X		X		X		
ICSAB	1.00	1325			X	X		X	X		X		X		X			X			X		X		X		
CCV	1.00	1331			X	X		X	X		X		X		X			X			X		X		X		
CCB	1.00	1337			X	X		X	X		X		X		X			X			X		X		X		
PBW	1.00	1342			X	X		X	X		X		X		X			X			X		X		X		
LCSW	1.00	1348			X	X		X	X		X		X		X			X			X		X		X		
LCSW	10.00	1353													X						X		X		X		
BLKSPK1	1.00	1359			X	X		X	X		X		X		X			X			X		X		X		
BLKSPK2	1.00	1404			X	X		X	X		X		X		X			X			X		X		X		
03-W-1	1.00	1410			X	X		X	X		X		X		X			X			X		X		X		
03-W-2	1.00	1416			X	X		X	X		X		X		X			X			X		X		X		
03-W-3	1.00	1421			X	X		X	X		X		X		X			X			X		X		X		
03-W-3A	1.00	1434																									
03-W-3L	1.00	1440			X	X		X	X		X		X		X			X			X		X		X		
CCV	1.00	1445			X	X		X	X		X		X		X			X			X		X		X		
CCB	1.00	1451			X	X		X	X		X		X		X			X			X		X		X		
03-W-4	1.00	1456			X	X		X	X		X		X		X			X			X		X		X		
ZZZZZZ	1.00	1502																									
ZZZZZZ	1.00	1507																									
ZZZZZZ	1.00	1513																									
ZZZZZZ	1.00	1519																									

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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

NYSDEC Sample No.	D/F	Time	% R	Analytes																										
				A	S	A	B	B	C	C	C	C	F	P	M	M	H	N	K	S	A	N	T	V	Z	C				
				L	B	S	A	E	D	A	R	O	U	E	B	G	N	G	I	E	G	A	L	N	N					
CRI	1.00	1524			X	X		X	X		X		X		X				X			X		X						
ZZZZZZ	1.00	1530																												
ICSA	1.00	1535			X	X		X	X		X		X		X				X			X		X						
ICSAB	1.00	1541			X	X		X	X		X		X		X				X			X		X						
CCV	1.00	1546			X	X		X	X		X		X		X				X			X		X						
CCB	1.00	1552			X	X		X	X		X		X		X				X			X		X						

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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 Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
S0	1.00	1556																			X								
S	1.00	1602																			X								
S	1.00	1607																			X								
S	1.00	1612																			X								
S	1.00	1617																			X								
S	1.00	1622																											
ZZZZZZ	1.00	1629																											
ZZZZZZ	1.00	1635																											
ICV	1.00	1640																			X								
B	1.00	1646																			X								
CRI	1.00	1651																			X								
ZZZZZZ	1.00	1657																											
ICSA	1.00	1703																			X								
ICSAB	1.00	1708																			X								
CCV	1.00	1714																			X								
CCB	1.00	1719																			X								
PBW	1.00	1725																			X								
LCSW	1.00	1730																			X								
LCSW	10.00	1736																											
BLKSPK1	1.00	1741																			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																			X								
03-W-3L	1.00	1815																			X								
CCV	1.00	1820																			X								
CCB	1.00	1826																			X								
03-W-4	1.00	1832																			X								
CRI	1.00	1837																			X								
ZZZZZZ	1.00	1843																			X								
ICSA	1.00	1848																			X								

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 Sample No.	D/F	Time	% R	Analytes																										
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	A L	T L	V	Z N	C N			
S0	1.00	1415																X												
S0.5	1.00	1415																X												
S1	1.00	1416																X												
S5	1.00	1417																X												
S10	1.00	1418																X												
ICV	1.00	1419																X												
ICB	1.00	1420																X												
PBW	1.00	1421																X												
CRA	1.00	1422																X												
ZZZZZ	1.00	1423																												
ZZZZZZ	1.00	1424																												
ZZZZZZ	1.00	1425																												
ZZZZZZ	1.00	1425																												
ZZZZZZ	1.00	1426																												
ZZZZZZ	1.00	1427																												
ZZZZZZ	1.00	1428																												
ZZZZZZ	1.00	1429																												
CCV	1.00	1430																X												
CCB	1.00	1431																X												
ZZZZZZ	1.00	1432																												
ZZZZZZ	1.00	1433																												
ZZZZZZ	1.00	1434																												
ZZZZZZ	1.00	1435																												
ZZZZZZ	1.00	1436																												
ZZZZZZ	1.00	1436																												
ZZZZZZ	1.00	1437																												
BLKSPK1	1.00	1438																X												
BLKSPK2	1.00	1439																X												
ZZZZZZ	1.00	1440																												
CCV	1.00	1441																X												
CCB	1.00	1442																X												
ZZZZZZ	1.00	1443																												

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 Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
ZZZZZZ	1.00	1444		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1445		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1446		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1447		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1447		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1448		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1449		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1450		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
03-W-1	1.00	1451		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
CCV	1.00	1452		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
CCB	1.00	1453		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
03-W-2	1.00	1454		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
03-W-3	1.00	1455		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
03-W-4	1.00	1456		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1457		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1457		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1458		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1459		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1500		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
LCSW	1.00	1502		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
CCV	1.00	1503		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
CCB	1.00	1504		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1505		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1506		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1507		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1508		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1508		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1509		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1510		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1511		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
ZZZZZZ	1.00	1512		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

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 Sample No.	D/F	Time	% R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N
ZZZZZZ	1.00	1513																								
CCV	1.00	1514															X									
CCB	1.00	1515														X										
ZZZZZZ	1.00	1516																								
ZZZZZZ	1.00	1517																								
ZZZZZZ	1.00	1518																								
ZZZZZZ	1.00	1519																								
ZZZZZZ	1.00	1519																								
ZZZZZZ	1.00	1520																								
ZZZZ	1.00	1521																								
ZZZZZZ	1.00	1522																								
ZZZZZZ	1.00	1523																								
ZZZZZZ	1.00	1524																								
CCV	1.00	1525															X									
CCB	1.00	1526															X									
ZZZZZZ	1.00	1527																								
ZZZZZZ	1.00	1528																								
CCV	1.00	1529															X									
CCB	1.00	1529															X									





**RECRA
ENVIRONMENTAL
INC.**

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.

Candace L. Fox
Program Manager

Kenneth E. Kasperek
Laboratory Director

CLF/KEK/lfb
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 308 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: 03-03-08RW-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.

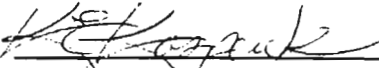
Sample 03-03-08RW-2 Matrix Duplicate exhibited a result outside of quality control limits for Chromium.

Sample 03-03-08RW-2 Matrix Spike yielded a recovery outside of quality control limits for Selenium. All other QC was compliant.



000003

"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

1/16/98

Date



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

000004

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
03-03-08RW-2	A7470001	-	-	-	-	ASP95	-

NYSDEC-1



000005

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



000006

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
03-03-08RW-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.



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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.4	B		P
7440-38-2	Arsenic	0.96	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.57	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	182		*	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			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.89	U	N	P
7440-22-4	Silver	0.42	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	10			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7470001-CGA00787

CLIENT_SAMPLE_ID: 03-03-08RW-2

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

% 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)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony		1.4152	B	2.2130	B	44.0		P
Arsenic		0.9573	U	1.1024	B	200.0		P
Barium								NR
Beryllium		0.2081	U	0.2061	U			P
Cadmium		0.5723	B	0.6202	B	8.0		P
Calcium								NR
Chromium		182.0520		222.7815		20.1	*	P
Cobalt								NR
Copper		2.4225	B	2.7550	B	12.8		P
Iron								NR
Lead	0.6	1.4735		1.4754		0.1		P
Magnesium								NR
Manganese								NR
Mercury		0.0991	U	0.0991	U			CV
Nickel		1.3590	B	0.9932	B	31.1		P
Potassium								NR
Selenium		0.8949	U	0.8860	U			P
Silver		0.4162	U	0.4121	U			P
Sodium								NR
Thallium		1.1655	U	1.1539	U			P
Vanadium								NR
Zinc	4.2	9.9501		6.9729		35.2		P
Cyanide								NR

000011

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

08RWS

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_

% Solids for Sample: _96.1

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							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							NR
Beryllium	75-125	8.8949	0.2081 U	10.410	85.4		P
Cadmium	75-125	9.6441	0.5723 B	10.410	87.1		P
Calcium							NR
Chromium		226.7118	182.0520	41.620	107.3		P
Cobalt							M
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
Magnesium							NR
Manganese							NR
Mercury	75-125	0.4886	0.0991 U	0.500	97.7		CV
Nickel	75-125	104.7430	1.3590 B	104.060	99.4		P
Potassium							NR
Selenium	75-125	298.2643	0.8949 U	416.230	71.7	N	P
Silver	75-125	8.7971	0.4162 U	10.410	84.5		P
Sodium							NR
Thallium	75-125	365.9417	1.1655 U	416.230	87.9		P
Vanadium							NR
Zinc	75-125	94.3413	9.9501	104.060	81.1		P
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A7470001MS-CGA00787

CLIENT_SAMPLE_ID: 03-03-08RW-2_MS

FORM V (Part 1) - IN

10/95

NYSDEC ASP

000012

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

08RWA

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium							NR
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium		760.09	4.30	U 1000.0	76.0		P
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

3
BLANKS

Lab Name: RECRA_LABNET_INC._____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 303081

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	C		1	C	2	C	3	C			
Aluminum											NR
Antimony	6.8	B	8.2	B	4.9	U	6.6	B	0.980	U	P
Arsenic	4.6	U	4.6	U	4.6	U	4.6	U	0.920	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Iron											NR
Lead	2.1	U	2.1	U	2.1	U	2.1	U	0.420	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	0.300	U	P
Potassium											NR
Selenium	4.3	U	4.3	U	4.3	U	4.3	U	0.860	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium											NR
Thallium	5.6	U	5.6	U	5.6	U	5.6	U	1.120	U	P
Vanadium											NR
Zinc	3.3	U	8.2	B	14.5	B	3.3	U	1.682	B	P
Cyanide											NR

NYSDEC ASP

000014

3
BLANKS

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 303081

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum											NR
Antimony			7.7	B							P
Arsenic			4.6	U							P
Barium											NR
Beryllium			1.0	U							P
Cadmium			1.0	U							P
Calcium											NR
Chromium			1.0	U	1.0	U					P
Cobalt											NR
Copper			-2.0	B							P
Iron											NR
Lead			2.1	U							P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel			1.5	U	1.5	U					P
Potassium											NR
Selenium			4.3	U							P
Silver			2.0	U							P
Sodium											NR
Thallium			5.6	U							P
Vanadium											NR
Zinc			3.3	U							P
Cyanide											NR

000015

SAMPLE DATA PACKAGE



SDG NARRATIVE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECN Y

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.

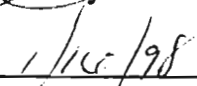


000019

"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



000020

CHAIN OF CUSTODY DOCUMENTATION



000021

METALS DATA



INORGANIC ANALYSES DATA SHEET

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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.4	B		P
7440-38-2	Arsenic	0.96	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.57	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	182		*	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			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.89	U	N	P
7440-22-4	Silver	0.42	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	10			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

LAB SAMPLE ID: A7470001-CGA00787
 CLIENT SAMPLE ID: 03-03-08RW-2

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: RECRA_LABNET_INC. _____ 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	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									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	101.2	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									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	471.06	94.2	P
Potassium									NR
Selenium	500.0	451.16	90.2	500.0	471.96	94.4	473.36	94.7	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									NR
Zinc	500.0	474.17	94.8	500.0	488.84	97.8	490.53	98.1	P
Cyanide									NR

(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__
 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	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
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
Beryllium				500.0	494.05	98.8	504.91	101.0	P
Cadmium				500.0	500.26	100.1	511.55	102.3	P
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	497.69	99.5	498.69	99.7	P
Potassium									NR
Selenium				500.0	467.72	93.5	473.80	94.8	P
Silver				500.0	502.65	100.5	513.27	102.7	P
Sodium									NR
Thallium				500.0	509.57	101.9	518.34	103.7	P
Vanadium									NR
Zinc				500.0	482.17	96.4	493.46	98.7	P
Cyanide									NR

(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__

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	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium				500.0	488.87	97.8			P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel				500.0	498.92	99.8			P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

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

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_

SAS No.: _____

SLG No.: 303081

AA CRDL Standard Source: INORG.VENT._

ICP CRDL Standard Source: VHG _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony				120.0	80.73	67.3	92.55	77.1
Arsenic				20.0	18.06	90.3	20.47	102.4
Barium								
Beryllium				10.0	8.47	84.7	9.65	96.5
Bismuth				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				20.0	14.78	73.9	17.01	85.0
Vanadium								
Zinc				40.0	36.25	90.6	38.81	97.0

CRDL STANDARD FOR AA AND ICP

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_

SAS No.: _____ SDG No.: 303081

AA CRDL Standard Source: INORG.VENT._

ICP CRDL Standard Source: VHG_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium				20.0	20.51	102.6	20.61	103.0
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel				80.0	83.38	104.2	82.71	103.4
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

NYSDEC ASP

2B
CRDL STANDARD FOR AA AND ICP

000028

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_ Case No.: 6702_

SAS No.: _____

SDG No.: 303081

AA CRDL Standard Source: INORG.VENT._

ICP CRDL Standard Source: VHG _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium				20.0			20.05	100.2
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel				80.0			82.50	103.1
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

NYSDEC ASP

3
BLANKS

000029

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303081

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Prepa- ration Blank		M
			1	C	2	C	3	C	C	C	
Aluminum											NR
Antimony	6.8	B	8.2	B	4.9	U	6.6	B	0.980	U	P
Arsenic	4.6	U	4.6	U	4.6	U	4.6	U	0.920	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Iron											NR
Lead	2.1	U	2.1	U	2.1	U	2.1	U	0.420	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	0.300	U	P
Potassium											NR
Selenium	4.3	U	4.3	U	4.3	U	4.3	U	0.860	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium											NR
Thallium	5.6	U	5.6	U	5.6	U	5.6	U	1.120	U	P
Vanadium											NR
Zinc	3.3	U	8.2	B	14.5	B	3.3	U	1.682	B	P
Cyanide											NR

NYSDEC ASP

3
BLANKS

000030

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 303081

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum										NR	
Antimony			7.7	B						P	
Arsenic			4.6	U						P	
Bismuth										NR	
Beryllium			1.0	U						P	
Cadmium			1.0	U						P	
Calcium										NR	
Chromium			1.0	U	1.0	U				P	
Cobalt										NR	
Copper			-2.0	B						P	
Iron										NR	
Lead			2.1	U						P	
Magnesium										NR	
Manganese										NR	
Mercury										NR	
Nickel			1.5	U	1.5	U				P	
Potassium										NR	
Selenium			4.3	U						P	
Silver			2.0	U						P	
Sodium										NR	
Thallium			5.6	U						P	
Vanadium										NR	
Zinc			3.3	U						P	
Cyanide										NR	

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303081
 ICP ID Number: SUPERTRACE__ ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony	0	1000	-4	946.2	94.6	-2	981.4	98.1
Arsenic	0	1000	27	975.6	97.6	25	1025.5	102.6
Barium								
Beryllium	0	500	0	470.1	94.0	0	482.6	96.5
Cadmium	0	1000	10	915.5	91.6	9	961.6	96.2
Calcium								
Chromium								
Cobalt								
Copper	0	500	0	552.8	110.6	0	570.2	114.0
Iron								
Lead	0	1000	-2	958.0	95.8	-2	997.4	99.7
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	0	1000	14	910.4	91.0	15	946.9	94.7
Silver	0	1000	1	1023.0	102.3	0	1055.1	105.5
Sodium								
Thallium	0	1000	7	970.8	97.1	6	1006.4	100.6
Vanadium								
Zinc	0	1000	-5	847.4	84.7	-4	866.2	86.6

NYSDEC ASP

000032

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303081
 ICP ID Number: SUPERTRACE-2 ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium	0	500	18	489.6	97.9	18	481.6	96.3
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel	0	1000	2	938.4	93.8	2	935.2	93.5
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

NYSDEC ASP

000033

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163__
 Lab Code: RECNY_ Case No.: 6702_ SAS No: _____ SDG No.: 303081
 ICP ID Number: SUPERTRACE-2 ICS Source: VHG_____

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium	0	500				18	483.7	96.7
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel	0	1000				2	942.9	94.3
Potassium								
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.: _____

SDG No.: 303081

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	84.1852	1.4152	104.060	79.5		P
Arsenic	75-125	332.0832	0.9573	416.230	79.8		P
Barium							NR
Beryllium	75-125	8.8949	0.2081	10.410	85.4		P
Cadmium	75-125	9.6441	0.5723	10.410	87.1		P
Calcium							NR
Chromium		226.7118	182.0520	41.620	107.3		P
Cobalt							NR
Copper	75-125	49.6753	2.4225	52.030	90.8		P
Iron							NR
Lead	75-125	91.6150	1.4735	104.060	86.6		P
Magnesium							NR
Manganese							NR
Mercury	75-125	0.4886	0.0991	0.500	97.7		CV
Nickel	75-125	104.7430	1.3590	104.060	99.4		P
Potassium							NR
Selenium	75-125	298.2643	0.8949	416.230	71.7	N	P
Silver	75-125	8.7971	0.4162	10.410	84.5		P
Sodium							NR
Thallium	75-125	365.9417	1.1655	416.230	87.9		P
Vanadium							NR
Zinc	75-125	94.3413	9.9501	104.060	81.1		P
Cyanide							NR

Comments:

LAB SAMPLE ID: A7470001MS-CGA00787

CLIENT SAMPLE ID: 03-03-08RW-2 MS

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

08RWA

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium							NR
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium		760.09	4.30	1000.0	76.0		P
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

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_

% 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)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony		1.4152	B	2.2130	B	44.0		P
Arsenic		0.9573	U	1.1024	B	200.0		P
Barium								NR
Beryllium		0.2081	U	0.2061	U			P
Cadmium		0.5723	B	0.6202	B	8.0		P
Calcium								NR
Chromium		182.0520		222.7815		20.1	*	P
Cobalt								NR
Copper		2.4225	B	2.7550	B	12.8		P
Iron								NR
Lead	0.6	1.4735		1.4754		0.1		P
Magnesium								NR
Manganese								NR
Mercury		0.0991	U	0.0991	U			CV
Nickel		1.3590	B	0.9932	B	31.1		P
Potassium								NR
Selenium		0.8949	U	0.8860	U			P
Silver		0.4162	U	0.4121	U			P
Sodium								NR
Thallium		1.1655	U	1.1539	U			P
Vanadium								NR
Zinc	4.2	9.9501		6.9729		35.2		P
Cyanide								NR

NYSDEC ASP

7

LABORATORY CONTROL SAMPLE

000037

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 303081

Solid LCS Source: ERA 227/235/NSI *

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L)			Solid (mg/kg)				%R
	True	Found	%R	True	Found	C	Limits	
Aluminum								
Antimony				23.2	41.8	-	0.6 45.9	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.

000038

NYSDEC ASP

NYSDEC SAMPLE NO.

9
ICP SERIAL DILUTION

08RWL

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

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum							NR
Antimony	6.80	B	39.15	B	475.7		P
Arsenic	4.60	U	23.00	U			P
Barium							NR
Beryllium	1.00	U	5.00	U			P
Cadmium	2.75	B	5.00	U	100.0		P
Calcium							NR
Chromium	874.76		871.15		0.4		P
Cobalt							NR
Copper	11.64	B	10.00	U	100.0		P
Iron							NR
Lead	7.08		10.50	U	100.0		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel	6.53	B	7.50	U	100.0		P
Potassium							NR
Selenium	4.30	U	21.50	U			P
Silver	2.00	U	10.00	U			P
Sodium							NR
Thallium	5.60	U	28.00	U			P
Vanadium							NR
Zinc	47.81		46.50	B	2.7		P

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: SUPERTIACE__

Date: 11/14/97

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony	206.84		60	4.9	P_
Arsenic	189.00		10	4.6	P_
Barium			200		NR
Beryllium	313.04		5	1.0	P_
Cadmium	226.50		5	1.0	P_
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper	325.75		25	2.0	P_
Iron			100		NR
Lead	220.35		3	2.1	P_
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium	196.00		5	4.3	P_
Silver	328.07		10	2.0	P_
Sodium			5000		NR
Thallium	190.00		10	5.6	P_
Vanadium			50		NR
Zinc	213.86		20	3.3	P_

Comments:

INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNV_

Case No.: 6702_

SAS No.: _____

SDG No.: 303081

ICP ID Number:

SUPERTRACE-2

Date:

10/06/97

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium	267.70		10	1.0	P
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel	231.60		40	1.5	P
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

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 : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum			200		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			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

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.: 303081
 ICP ID Number: SUPERTRACE__ Date: 11/11/97

Analyte	Wave-length (nm)	Interelement Correction Factors for :				
		Al	Ca	Fe	Mg	CR
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0069560
Arsenic	189.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000648	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.70	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	325.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	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	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	330.23	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: RECRA_LABNET_INC._____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 303081

ICP ID Number. SUPERTRACE-2

Date: 12/15/97

Analyte	Wave-length (nm)	Interelement Correction Factors for :				
		Al	Ca	Fe	Mg	CR
Aluminum	308.20	0.0000000	0.0000000	0.0000000	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	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

Comments:

12
ICP LINEAR RANGES (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNV_

Case No.: 6702_

SAS No.: _____

SDG No.: 303081

ICP ID Number: SUPERTRACE__

Date: 11/19/97

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	800000.0	P
Antimony	15.00	50000.0	P
Arsenic	15.00	20000.0	P
Barium	15.00	50000.0	P
Beryllium	15.00	5000.0	P
Cadmium	15.00	5000.0	P
Calcium	15.00	600000.0	P
Chromium	15.00	50000.0	P
Cobalt	15.00	50000.0	P
Copper	15.00	100000.0	P
Iron	15.00	650000.0	P
Lead	15.00	20000.0	P
Magnesium	15.00	700000.0	P
Manganese	15.00	20000.0	P
Mercury			NR
Nickel	15.00	20000.0	P
Potassium	15.00	600000.0	P
Selenium	15.00	50000.0	P
Silver	15.00	1500.0	P
Sodium	15.00	750000.0	P
Thallium	15.00	100000.0	P
Vanadium	15.00	50000.0	P
Zinc	15.00	20000.0	P

Comments:

12
ICP LINEAR RANGES (SEMIANNUALLY)

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163__

Lab Code: RECNY_

Case No.: 6702_

SLS No.: _____

SDG No.: 303081

ICP ID Number: SUPERTRACE-2

Date: 09/25/97

Analyte	Integ. Time (Sec.)	Concentration (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	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
Magnesium	15.00	600000.0	P
Manganese	15.00	20000.0	P
Mercury			NR
Nickel	15.00	100000.0	P
Potassium	15.00	500000.0	P
Selenium	15.00	20000.0	P
Silver	15.00	5000.0	P
Sodium	15.00	500000.0	P
Thallium	15.00	100000.0	P
Vanadium	15.00	100000.0	P
Zinc	15.00	20000.0	P

Comments:

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 Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
S0	1.00	1730			X	X		X	X				X		X					X	X		X		X				
S	1.00	1735			X	X		X	X				X		X					X	X		X		X				
S	1.00	1741			X	X		X	X				X		X					X	X		X		X				
S	1.00	1746			X	X		X	X				X		X					X	X		X		X				
S	1.00	1752			X	X		X	X				X		X					X	X		X		X				
S	1.00	1757																											
ZZZZZZ	1.00	1803																											
ZZZZZZ	1.00	1809																											
ICV	1.00	1814			X	X		X	X				X		X					X	X		X		X				
B	1.00	1820			X	X		X	X				X		X					X	X		X		X				
RI	1.00	1825			X	X		X	X				X		X					X	X		X		X				
ZZZZZZ	1.00	1831																											
ICSA	1.00	1836			X	X		X	X				X		X					X	X		X		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	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		X				
LCSS	1.00	1909			X																								
LCSS	1.00	1914																							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	X		X	X				X		X					X	X		X		X				
CCB	1.00	1958			X	X		X	X				X		X					X	X		X		X				
ZZZZZZ	1.00	2003																											
ZZZZZZ	1.00	2009																											
ZZZZZZ	1.00	2014																											
ZZZZZZ	1.00	2019																											

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 Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	A L	T	V	Z N	C N		
S0	1.00	1019									X																		
S	1.00	1024									X																		
S	1.00	1029									X																		
S	1.00	1034									X																		
S	1.00	1039									X																		
S	1.00	1045																											
ZZZZZZ	1.00	1052																											
ZZZZZZ	1.00	1058																											
ICV	1.00	1103									X																		
B	1.00	1109									X																		
CRI	1.00	1115									X																		
ZZZZZZ	1.00	1120																											
ICSA	1.00	1126									X																		
ICSAB	1.00	1131									X																		
CCV	1.00	1213									X																		
CCB	1.00	1219									X																		
PBS	1.00	1224									X																		
LCSS	1.00	1230									X																		
LCSS	1.00	1236																											
LCSS	1.00	1241																											
ZZZZZZ	1.00	1247																											
ZZZZZZ	1.00	1253																											
ZZZZZZ	1.00	1258																											
ZZZZZZ	1.00	1304																											
ZZZZZZ	1.00	1309																											
ZZZZZZ	1.00	1315																											
CCV	1.00	1320									X																		
CCB	1.00	1326									X																		
ZZZZZZ	1.00	1332																											
ZZZZZZ	1.00	1337																											
ZZZZZZ	1.00	1343																											
ZZZZZZ	1.00	1348																											

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: PE5000_____

Method: CV

Start Date: 12/19/97

End Date: 12/19/97

NYSDEC Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
S0	1.00	1355																X											
S0.5	1.00	1356																X											
S1	1.00	1357																X											
S5	1.00	1358																X											
S10	1.00	1359																X											
ICV	1.00	1400																X											
ICB	1.00	1401																X											
PBS	1.00	1402																X											
CRA	1.00	1404																X											
ZZZZZ	1.00	1405																											
ZZZZZZ	1.00	1407																											
ZZZZZZ	1.00	1408																											
ZZZZZZ	1.00	1409																											
ZZZZZZ	1.00	1411																											
ZZZZZZ	1.00	1412																											
ZZZZZZ	1.00	1414																											
ZZZZZZ	1.00	1415																											
CCV	1.00	1416																X											
CCB	1.00	1418																X											
ZZZZZZ	1.00	1419																											
ZZZZZZ	1.00	1421																											
ZZZZZZ	1.00	1422																											
ZZZZZZ	1.00	1424																											
ZZZZZZ	1.00	1425																											
ZZZZZZ	1.00	1426																											
ZZZZZZ	1.00	1428																											
ZZZZZZ	1.00	1429																											
ZZZZZZ	1.00	1431																											
ZZZZZZ	1.00	1432																											
CCV	1.00	1433																X											
CCB	1.00	1435																X											
ZZZZZZ	1.00	1436																											



RECRA
LabNet

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.

Candace L. Fox

Candace L. Fox
Program Manager

Kenneth E. Kasperek
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 855 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: 03-03-01RW-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.

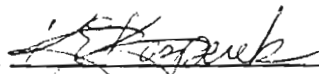
The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.



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

1/20/98

Date



NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		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	-
03-03-04RW-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
03-03-06RW-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.



1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RW-2

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: AD721695

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

% Solids: 97.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.70	U		P
7440-38-2	Arsenic	0.80	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.43	B		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	1.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	4.3	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.29	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	3.6	B		P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

LAB_SAMPLE_ID: A7480801-CGA00787
 CLIENT_SAMPLE_ID: 03-03-01RW-2
 REDIGESTION_NUMBERS: AD721947, AD800119

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RW-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: 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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.67	U		P
7440-38-2	Arsenic	0.69	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.28	B		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				NR
7439-92-1	Lead	2.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.2	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		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: _____

Comments:

LAB_SAMPLE_ID: A7480802-CGA00787

CLIENT_SAMPLE_ID: 03-03-01RW-3

REDIGESTION_NUMBERS: AD721948, AD800120

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RW-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: AD721697

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

% Solids: _____ 97.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	1.0	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.55	B		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	U		CV
7440-02-0	Nickel	0.91	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.00	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.0	B		P
	Cyanide				NR

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 _____

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

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

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

% Solids: _97.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.77	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.71	B		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				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.2	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.29	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.8			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480804-CGA00787 _____
 CLIENT SAMPLE ID: 03-03-03RW-3 _____
 REDIGESTION NUMBERS: AD721950, AD800122 _____

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW-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: AD721699

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	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	0.92	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.97	B		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	1.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.6	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	9.8			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480805-CGA00787

CLIENT SAMPLE ID: 03-03-04RW-3

REDIGESTION NUMBERS: AD721951, AD800123

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RW-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: AD721700

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

% Solids: _97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	1.3	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.32	B		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	1.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.1	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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: _____

Comments:

LAB SAMPLE ID: A7480806-CGA00787 _____
 CLIENT SAMPLE ID: 03-03-05RW-3 _____
 REDIGESTION NUMBERS: AD721952, AD800124 _____

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RW-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: AD721701

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

% Solids: _97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.75	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.27	B		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	U		CV
7440-02-0	Nickel	0.85	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.7			P
	Cyanide				NR

Color Before: BROWN _____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480807-CGA00787 _____
 CLIENT SAMPLE ID: 03-03-06RW-3 _____
 REDIGESTION NUMBERS: AD721953, AD800125 _____

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RW-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: AD721702

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

% Solids: _97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.70	U		P
7440-38-2	Arsenic	0.99	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	146			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			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.80	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	0.29	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	4.7			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7480808-CGA00787

CLIENT_SAMPLE_ID: 03-03-07RW-3

REDIGESTION_NUMBERS: AD721954, AD800126

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

08RW-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	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	0.81	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.33	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	66.3			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	3.7	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	U		CV
7440-02-0	Nickel	1.9	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	3.1	B		P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7480809-CGA00787
 CLIENT_SAMPLE_ID: 03-03-08RW-3
 REDIGESTION_NUMBERS: AD721955, AD800127

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW-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: AD721704

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

% Solids: _98.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	0.69	U		P
7440-38-2	Arsenic	0.71	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.48	B		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		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
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: _____

Comments:

LAB_SAMPLE_ID: A7480810-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-09RW-3 _____

REDIGESTION_NUMBERS: AD721956, AD800128 _____

1
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

Matrix (soil/water): SOIL _____ Lab Sample ID: AD721705

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

% Solids: _____ 97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	0.70	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.52	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	137			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.1	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	0.10	U		CV
7440-02-0	Nickel	0.92	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	5.9			P
	Cyanide				NR

Color Before: BROWN _____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS _____ Clarity After: CLEAR _____ Artifacts: _____

Comments:

LAB SAMPLE ID: A7480811-CGA00787 _____
 CLIENT SAMPLE ID: 03-03-10RW-3 _____
 REDIGESTION NUMBERS: AD721957, AD800129 _____

NYSDEC ASP

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.: 303082

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	103.8040	0.6800 U	100.000	103.8		P
Arsenic	75-125	421.8220	0.7000 U	400.000	105.5		P
Barium							NR
Beryllium	75-125	7.5500	0.2000 U	10.000	75.5		P
Cadmium	75-125	7.6320	0.2000 U	10.000	76.3		P
Calcium							NR
Chromium	75-125	33.0580	0.2000 U	40.000	82.6		P
Cobalt							NR
Copper	75-125	38.7420	0.2000 U	50.000	77.5		P
Iron							NR
Lead	75-125	77.4780	0.4200 U	100.000	77.5		P
Magnesium							NR
Manganese							NR
Mercury	75-125	0.5110	0.2000 U	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 U	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	1.2200 U	400.000	86.6		P
Vanadium							NR
Zinc	75-125	78.8320	0.2000 U	100.000	78.8		P
Cyanide							NR

Comments:

LAB SAMPLE ID: A7B1136501-CGA00787

CLIENT SAMPLE ID: MATRIX SPIKE BLANK

REDIGESTION NUMBERS: AD721958, AD800113

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

BLKSPK2

Lab Name: RECRA_LABNET_INC. _____

Contract: NY97-163 _____

Lab Code: RECNY_

Case No.: 6702_

SAS No.: _____

SDG No.: 303082

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) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	103.2200	0.6800 U	100.000	103.2		P
Arsenic	75-125	416.3900	0.7000 U	400.000	104.1		P
Barium							NR
Beryllium	75-125	8.1740	0.2000 U	10.000	81.7		P
Cadmium	75-125	8.2860	0.2000 U	10.000	82.9		P
Calcium							NR
Chromium	75-125	32.1120	0.2000 U	40.000	80.3		P
Cobalt							NR
Copper	75-125	41.8920	0.2000 U	50.000	83.8		P
Iron							NR
Lead	75-125	84.1460	0.4200 U	100.000	84.1		P
Magnesium							NR
Manganese							NR
Mercury	75-125	1.0050	0.2000 U	1.000	100.5		CV
Nickel	75-125	82.1540	0.2600 U	100.000	82.2		P
Potassium							NR
Selenium	75-125	316.2940	0.9800 U	400.000	79.1		P
Silver	75-125	9.6120	0.2800 U	10.000	96.1		P
Sodium							NR
Thallium	75-125	351.1000	1.2200 U	400.000	87.8		P
Vanadium							NR
Zinc	75-125	89.6020	0.2000 U	100.000	89.6		P
Cyanide							NR

Comments:

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 _____

Lab Code: RECNY _____

Case No.: 6702 _____

SAS No.: _____

SDG No.: 303082

Preparation Blank Matrix (soil/water): SOIL _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum											NR
Antimony	3.4	U	3.4	U	3.4	U	3.4	U	0.680	U	P
Arsenic	3.5	U	3.5	U	3.5	U	3.5	U	0.700	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Iron											NR
Lead	2.1	U	2.1	U	2.1	U	2.1	U	0.420	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel	1.3	U	1.3	U	1.3	U	1.3	U	0.260	U	P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	0.980	U	P
Silver	1.4	U	1.4	U	1.4	U	1.4	U	0.280	U	P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U	1.220	U	P
Vanadium											NR
Zinc	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cyanide											NR

3
BLANKS

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

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

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum										NR	
Antimony			3.4	U	3.4	U	3.4	U		P	
Arsenic			3.5	U	3.5	U	3.5	U		P	
Barium										NR	
Beryllium			1.0	U						P	
Cadmium			1.0	U	1.0	U	1.0	U		P	
Calcium										NR	
Chromium			1.0	U						P	
Cobalt										NR	
Copper			1.0	U						P	
Iron										NR	
Lead			2.1	U	2.1	U	2.1	U		P	
Magnesium										NR	
Manganese										NR	
Mercury										NR	
Nickel			1.3	U	1.3	U	1.3	U		P	
Potassium										NR	
Selenium			4.9	U						P	
Silver			1.4	U	1.4	U	1.4	U		P	
Sodium										NR	
Thallium			6.1	U						P	
Vanadium										NR	
Zinc			1.0	U						P	
Cyanide										NR	

NYSDEC ASP

3
BLANKS

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

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

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Aluminum										NR	
Antimony										NR	
Arsenic										NR	
Barium										NR	
Beryllium										NR	
Cadmium			1.0	U	1.0	U	1.0	U		P	
Calcium										NR	
Chromium										NR	
Cobalt										NR	
Copper										NR	
Iron										NR	
Lead			2.1	U	2.1	U	2.1	U		P	
Magnesium										NR	
Manganese										NR	
Mercury										NR	
Nickel			1.3	U	1.3	U	1.3	U		P	
Potassium										NR	
Selenium										NR	
Silver										NR	
Sodium										NR	
Thallium										NR	
Vanadium										NR	
Zinc										NR	
Cyanide										NR	

000025

SAMPLE DATA PACKAGE



SDG NARRATIVE



CASE NARRATIVE

Laboratory Name: Recra LabNet, Inc.

Laboratory Code: RECNV

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.

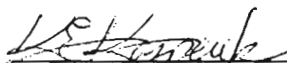
The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.



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

1/20/98

Date



CHAIN OF CUSTODY DOCUMENTATION





RECRA
LabNet

31516W

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

Raw DATA w/
PLANT 3 PACKAGE

RE: Analytical Results

Dear Mr. Falatko:

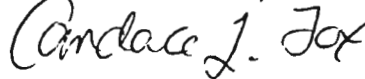
Please find enclosed analytical results concerning the sample recently submitted by your firm. The pertinent information regarding this analysis is listed below:

Quote #: NY97-163
Project Name: Long Island Property Transfer (Plant 3)
SDG #: 31516W
Matrix: Soil 
Sample Received: 12/12,13,17/97
Sample Dates: 12/11,12,15,16/97

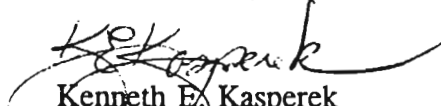
If you have any questions concerning these data, please contact Ms. Candace L. Fox, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Radian Corporation with environmental testing services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.



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. #A97-4651, -4666
#A97-4698
#NY7A6702

This report contains 751 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: 03-03-01RW-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
03-03-08RW-1
03-03-09RW-1
03-03-10RW-1
03-15-16A-S-1
03-15-16A-S-2
03-15-16WW-S-1/MD/MS
03-15-16WW-S-2
03-15-16WW-S-3
03-15-16WW-S-4

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

1/8/98

Date

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



000004

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		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	-
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	-

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-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

000006

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 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.



NYSDEC ASP

000008

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.:31516W

Protocol Version: ASP95

NYSDEC Sample No.	Lab Sample ID.
AS1 _____	AD721056 _____
AS2 _____	AD721057 _____
S1 _____	AD721050 _____
S1D _____	AD721051 _____
S1S _____	AD721052 _____
S2 _____	AD721053 _____
S3 _____	AD721054 _____
S4 _____	AD721055 _____
01RW1 _____	AD721209 _____
02RW1 _____	AD721210 _____
03RW1 _____	AD721211 _____
04RW1 _____	AD720786 _____
04RW2 _____	AD721215 _____
05RW1 _____	AD720782 _____
05RW2 _____	AD721216 _____
06RW1 _____	AD720783 _____
06RW2 _____	AD721213 _____
07RW1 _____	AD720784 _____
07RW2 _____	AD721214 _____
08RW1 _____	AD720785 _____

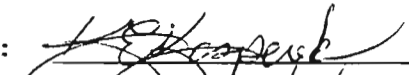
Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

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

Comments:

I certify that this data package is in compliance with the terms and conditions of the 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._Kasperek_____

Date: 01/18/95

Title: Laboratory_Director_____

INORGANIC ANALYSES DATA SHEET

AS1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721056

Level (low/med): LOW_ Date Received: 12/12/97

% Solids: _84.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.6	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	B		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	U		CV
7440-02-0	Nickel	5.7	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.47	U		P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	23.6	-		P
	Cyanide		-		NR

Color Before: BROWN_ Clarity Before: _____ Texture: COARSE
 Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7465105-CGA00787

CLIENT_SAMPLE_ID: 03-15-16A-S-1

1
INORGANIC ANALYSES DATA SHEET

AS2

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

Lab Code: RECNY _____ Case No.: 6702 _____ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL _____ Lab Sample ID: AD721057

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

% Solids: _____ 98.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.24	B		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	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	5.5			P
	Cyanide				NR

Color Before: BROWN _____ Clarity Before: _____ Texture: COARSE

Color After: COLORLESS _____ Clarity After: CLEAR _____ Artifacts: _____

Comments:

LAB SAMPLE ID: A7465106-CGA00787 _____

CLIENT SAMPLE ID: 03-15-16A-S-2 _____

INORGANIC ANALYSES DATA SHEET

S1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721050

Level (low/med): LOW_ Date Received: 12/12/97

% Solids: _92.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.5	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.43	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	4.2			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	3.9	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	U		CV
7440-02-0	Nickel	2.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.43	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
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: _____

Comments:

LAB_SAMPLE_ID: A7465101-CGA00787

CLIENT_SAMPLE_ID: 03-15-16WW-S-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

S2

Lab Name: RECRA_LABNET_INC. Contract: NY97-163

Lab Code: RECNY Case No.: 6702 SAS No.: SDG No.: 31516W

Matrix (soil/water): SOIL Lab Sample ID: AD721053

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

% Solids: 84.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		--		NR
7440-36-0	Antimony	1.6	U		P
7440-38-2	Arsenic	1.4	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	0.62	B		P
7440-70-2	Calcium				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	U		CV
7440-02-0	Nickel	2.2	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	0.47	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.4	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:

Comments:

LAB_SAMPLE_ID: A7465102-CGA00787

CLIENT_SAMPLE_ID: 03-15-16WW-S-2

INORGANIC ANALYSES DATA SHEET

S3

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721054

Level (low/med): LOW_ Date Received: 12/12/97

% Solids: _95.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.5	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.38	B		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	U		CV
7440-02-0	Nickel	4.1	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	17.2			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7465103-CGA00787

CLIENT_SAMPLE_ID: 03-15-16WW-S-3

1
INORGANIC ANALYSES DATA SHEET

S4

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721055

Level (low/med): LOW_ Date Received: 12/12/97

% Solids: _98.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.9			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	1.6	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	2.2	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
7440-28-0	Thallium	1.2	U		P
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: _____

Comments:

LAB SAMPLE ID: A7465104-CGA00787

CLIENT SAMPLE ID: 03-15-16WW-S-4

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

01RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721209

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _95.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		--		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	3.0			P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		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				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium				NR
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				NR
7440-66-6	Zinc	15.0			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7469802-CGA00787

CLIENT_SAMPLE_ID: 03-03-01RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

02RW1

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

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

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.5	U		P
7440-38-2	Arsenic	2.7	-		P
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	0.39	B		P
7440-70-2	Calcium		-		NR
7440-47-3	Chromium	8.0	-		P
7440-48-4	Cobalt		-		NR
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		CV
7440-02-0	Nickel	2.4	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.43	U		P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium		-		NR
7440-66-6	Zinc	10.0	-		P
	Cyanide		-		NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469803-CGA00787

CLIENT_SAMPLE_ID: 03-03-02RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

03RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721211

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _98.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.6	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	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				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	4.8	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.3	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: _____

Comments:

LAB_SAMPLE_ID: A7469804-CGA00787

CLIENT_SAMPLE_ID: 03-03-03RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720786

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: _98.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
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	U		CV
7440-02-0	Nickel	0.46	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.97	U		P
7440-22-4	Silver	0.40	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	10.4			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB SAMPLE ID: A7466605-CGA00787

CLIENT SAMPLE ID: 03-03-04RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

04RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721215

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	2.8	B		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.28	B		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				NR
7439-92-1	Lead	1.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.66	B		P
7440-09-7	Potassium				NR
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				NR
7440-66-6	Zinc	8.1			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469808-CGA00787 _____

CLIENT_SAMPLE_ID: 03-03-04RW-2 _____

1
INORGANIC ANALYSES DATA SHEET

05RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720782

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: _98.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.22	B		P
7440-70-2	Calcium				NR
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			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	0.40	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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: _____

Comments:

LAB_SAMPLE_ID: A7466601-CGA00787

CLIENT_SAMPLE_ID: 03-03-05RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

05RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721216

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _96.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	2.2	B		P
7440-38-2	Arsenic	1.3	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.30	B		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			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.94	B		P
7440-09-7	Potassium				NR
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				NR
7440-66-6	Zinc	6.7			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM
 Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469809-CGA00787

CLIENT_SAMPLE_ID: 03-03-05RW-2

NYSDEC ASP

000023
NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

06RW1

Lab Name: RECRA_LABNET_INC. _____ Contract: NY97-163 _____
 Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W
 Matrix (soil/water): SOIL_ Lab Sample ID: AD720783
 Level (low/med): LOW_ Date Received: 12/13/97
 % Solids: _98.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.22	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3.8			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	1.9	B	*	P
7439-89-6	Iron				NR
7439-92-1	Lead	1.5			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.76	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
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	19.9			P
	Cyanide				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

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

06RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721213

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _98.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		—		NR
7440-36-0	Antimony	1.4	B		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		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			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.97	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.97	U		P
7440-22-4	Silver	0.40	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	10.6			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM
 Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469806-CGA00787

CLIENT_SAMPLE_ID: 03-03-06RW-2

NYSDEC ASP

000025

NYSDEC SAMPLE NO.

1
INORGANIC ANALYSES DATA SHEET

07RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720784

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: _98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.30	B		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.3			P
7440-48-4	Cobalt				NR
7440-50-8	Copper	2.0	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	U		CV
7440-02-0	Nickel	1.0	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
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	8.9			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7466603-CGA00787

CLIENT_SAMPLE_ID: 03-03-07RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

07RW2

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721214

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		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
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	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	8.1			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7469807-CGA00787

CLIENT_SAMPLE_ID: 03-03-07RW-2

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

08RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD720785

Level (low/med): LOW_ Date Received: 12/13/97

% Solids: _98.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		--		NR
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	1.2	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	1.4			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	Mercury	0.10	U		CV
7440-02-0	Nickel	1.5	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
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium				NR
7440-66-6	Zinc	11.4			P
	Cyanide				NR

Color Before: BROWN_ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW_ Clarity After: CLEAR_ Artifacts: _____

Comments:

LAB_SAMPLE_ID: A7466604-CGA00787

CLIENT_SAMPLE_ID: 03-03-08RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

09RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721212

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _97.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	1.5	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium	0.20	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				NR
7439-92-1	Lead	2.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.2	B		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.00	U		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.2	U		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_ID: A7469805-CGA00787

CLIENT_SAMPLE_ID: 03-03-09RW-1

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

10RW1

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

Lab Code: RECNY_ Case No.: 6702_ SAS No.: _____ SDG No.: 31516W

Matrix (soil/water): SOIL_ Lab Sample ID: AD721208

Level (low/med): LOW_ Date Received: 12/17/97

% Solids: _97.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		NR
7440-36-0	Antimony	1.4	U		P
7440-38-2	Arsenic	2.5	-		P
7440-39-3	Barium		-		NR
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.20	U		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	-		P
7439-95-4	Magnesium		-		NR
7439-96-5	Manganese		-		NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	1.0	B		P
7440-09-7	Potassium		-		NR
7782-49-2	Selenium	1.0	-		P
7440-22-4	Silver	0.41	U		P
7440-23-5	Sodium		-		NR
7440-28-0	Thallium	1.2	U		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: _____

Comments:

LAB SAMPLE ID: A7469801-CGA00787

CLIENT SAMPLE ID: 03-03-10RW-1

S1D

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_

% Solids for Sample: 92.9 % Solids for Duplicate: 92.9

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony		1.4281	U	1.4141	U			P
Arsenic		1.5177	B	1.2664	U	200.0		P
Barium								NR
Beryllium		0.2132	U	0.2153	B	200.0		P
Cadmium		0.4263	B	0.3905	B	8.8		P
Calcium								NR
Chromium	2.1	4.1906		3.8118		9.5		P
Cobalt								NR
Copper	5.3	3.8709	B	17.6492		128.1	*	P
Iron								NR
Lead		4.1331		4.1474		0.3		P
Magnesium								NR
Manganese								NR
Mercury		0.1025	U	0.1076	U			CV
Nickel		2.5067	B	3.7738	B	40.4		P
Potassium								NR
Selenium		1.0445	U	1.0342	U			P
Silver		0.4263	U	0.4221	U			P
Sodium								NR
Thallium		1.3002	U	1.2875	U			P
Vanadium								NR
Zinc	4.3	13.1878		16.9337		24.9		P
Cyanide								NR

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

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

% Solids for Sample: 92.9

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

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony	75-125	105.9694	1.4281	106.580	99.4		P
Arsenic	75-125	410.4104	1.5177	426.310	95.9		P
Barium							NR
Beryllium	75-125	11.1970	0.2132	10.660	105.0		P
Cadmium	75-125	11.4464	0.4263	10.660	103.4		P
Calcium							NR
Chromium	75-125	46.8512	4.1906	42.630	100.1		P
Cobalt							NR
Copper	75-125	58.2336	3.8709	53.290	102.0		P
Iron							NR
Lead	75-125	115.8128	4.1331	106.580	104.8		P
Magnesium							NR
Manganese							NR
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							NR
Selenium	75-125	428.9612	1.0445	426.310	100.6		P
Silver	75-125	10.7920	0.4263	10.660	101.2		P
Sodium							NR
Thallium	75-125	437.2870	1.3002	426.310	102.6		P
Vanadium							NR
Zinc	75-125	124.4391	13.1878	106.580	104.4		P
Cyanide							NR

Comments:

LAB_SAMPLE_ID: A7465101MS-CGA00787

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

01RW1A

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_

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium		919.24	15.18	1000.0	90.4		P
Cobalt							NR
Copper							NR
Iron							NR
Lead							NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel		933.85	8.80	1000.0	92.5		P
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

04RW1A

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

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony		807.12	6.70 U	1000.0	80.7		P
Arsenic		761.73	6.00 U	1000.0	76.2		P
Barium							NR
Beryllium		806.39	1.00 U	1000.0	80.6		P
Cadmium		792.92	1.00 U	1000.0	79.3		P
Calcium							NR
Chromium		814.45	10.90	1000.0	80.4		P
Cobalt							NR
Copper		830.60	7.18 B	1000.0	82.3		P
Iron							NR
Lead		891.02	3.50	1000.0	88.8		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel		814.26	2.31 B	1000.0	81.2		P
Potassium							NR
Selenium		891.94	4.90 U	1000.0	89.2		P
Silver		802.30	2.00 U	1000.0	80.2		P
Sodium							NR
Thallium		732.06	6.10 U	1000.0	73.2		P
Vanadium							NR
Zinc		884.45	52.56	1000.0	83.2		P
Cyanide							NR

Comments:

5B
POST DIGEST SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

05RW2A

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_

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							NR
Antimony		843.66	10.47	1000.0	83.3		P
Arsenic		838.15	6.07	1000.0	83.2		P
Barium							NR
Beryllium		835.47	1.00	1000.0	83.5		P
Cadmium		861.00	1.46	1000.0	86.0		P
Calcium							NR
Chromium							NR
Cobalt							NR
Copper		932.41	11.51	1000.0	92.1		P
Iron							NR
Lead		875.69	7.17	1000.0	86.9		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium		747.27	4.90	1000.0	74.7		P
Silver		572.44	2.00	1000.0	57.2		P
Sodium							NR
Thallium		865.28	6.10	1000.0	86.5		P
Vanadium							NR
Zinc		870.25	32.15	1000.0	83.8		P
Cyanide							NR

Comments:

NYSDEC ASP

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)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum		U		U		U		U		U	NR
Antimony	6.7	U	6.7	U	6.7	U	6.7	U	1.340	U	P
Arsenic	6.0	U	6.0	U	6.0	U	6.0	U	1.200	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Iron											NR
Lead	2.5	U	2.5	U	2.5	U	2.5	U	0.500	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	0.300	U	P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	0.980	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U	1.220	U	P
Vanadium											NR
Zinc	3.3	U	3.3	U	3.3	U	3.3	U	0.660	U	P
Cyanide											NR

NYSDEC ASP

000036

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)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											NR
Antimony			6.7	U	6.7	U	6.7	U	1.340	U	P
Arsenic			6.0	U	6.0	U	6.0	U	1.200	U	P
Barium											NR
Beryllium			1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium			1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium											NR
Chromium			1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper			2.0	U	2.3	B	2.8	B	0.400	U	P
Iron											NR
Lead			2.5	U	2.5	U	2.5	U	0.500	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel			1.5	U	1.5	U	1.5	U	0.300	U	P
Potassium											NR
Selenium			4.9	U					0.980	U	P
Silver			2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium											NR
Thallium			6.1	U	6.1	U	6.1	U	1.220	U	P
Vanadium											NR
Zinc			3.3	U	3.3	U	3.3	U	0.660	U	P
Cyanide											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)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											NR
Antimony	6.8	B	8.2	B	6.7	U	6.7	U	1.340	U	P
Arsenic	6.0	U	6.0	U	6.0	U	6.0	U	1.200	U	P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cobalt											NR
Copper	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Iron											NR
Lead	2.5	U	2.5	U	2.5	U	2.5	U	0.500	U	P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	0.300	U	P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	0.980	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U	1.220	U	P
Vanadium											NR
Zinc	3.3	U	8.2	B	14.5	B	3.3	U	1.682	B	P
Cyanide											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): _____

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	C		1	C	2	C	3	C	C		
Aluminum											NR
Antimony			7.7	B							P
Arsenic			6.0	U							P
Barium											NI
Beryllium			1.0	U							P
Cadmium			1.0	U							P
Calcium											NR
Chromium	1.0	U	1.0	U	1.0	U	1.0	U			P
Cobalt											NR
Copper			-2.0	B							P
Iron											NR
Lead			2.5	U							P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel	1.5	U	1.5	U	1.5	U	1.5	U			P
Potassium											NR
Selenium			4.9	U							P
Silver			2.0	U							P
Sodium											NR
Thallium			6.1	U							P
Vanadium											NR
Zinc			3.3	U							P
Cyanide											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): _____

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

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											NR
Antimony	6.7	U	6.7	U	6.7	U	6.7	U			P
Arsenic	6.0	U	6.0	U	6.0	U	6.0	U			P
Barium											NR
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U			P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U			P
Calcium											NR
Chromium			1.0	U	1.0	U					P
Cobalt											NR
Copper	2.0	U	2.0	U	2.0	U	2.0	U			P
Iron											NR
Lead	2.5	U	2.5	U	2.5	U	2.5	U			P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel			1.5	U	1.5	U					P
Potassium											NR
Selenium	4.9	U	4.9	U	4.9	U	4.9	U			P
Silver	2.0	U	2.0	U	2.0	U	2.0	U			P
Sodium											NR
Thallium	6.1	U	6.1	U	6.1	U	6.1	U			P
Vanadium											NR
Zinc	3.3	U	3.3	U	3.3	U	3.3	U			P
Cyanide											NR

000010

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
03-03-04RW-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
03-03-08RW-1
03-03-09RW-1
03-03-10RW-1
03-15-16A-S-1
03-15-16A-S-2
03-15-16WW-S-1/MD/MS
03-15-16WW-S-2
03-15-16WW-S-3
03-15-16WW-S-4

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.

000042

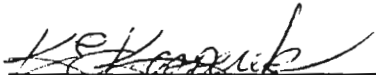
Preliminary results were given via facsimile to Mr. Steve Falatko of Radian on December 23, 1997 and January 7, 1998 by Recra personnel.

METALS DATA

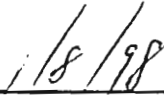
Supertrace ICP run 971222a was actually analyzed on 12/21/97.

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



Appendix F

Northrop Grumman

Memorandum

To

NYSDEC DSHM

No Further Action Letter

NORTHROP GRUMMAN

Electronics & Systems Integration Division
Northrop Grumman Corporation
South Oyster Bay Road
Bethpage, New York 11714-3580

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 1 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.

S. Farkas
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 D. Leskovjan, Manager
Environmental Technology & Compliance
D08-001

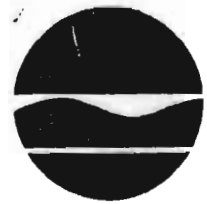
cc: w/enclosure
T. John, NYSDEC; S. Kaminski, NYSDEC; T. Mulvihill, NCDH
w/o enclosure
J. Lovejoy, NCDH; B. Mackay, NCDH

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

1.3 N.G.

CUSTOM CLAY & SOIL CO., INC.
P.O. BOX 8
OLD BETHPAGE, NY 11804
(516) 249-7471

*per David Silver
price will not increase
should deliveries not
commence w/i 7
days. KK 2/9/98*

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

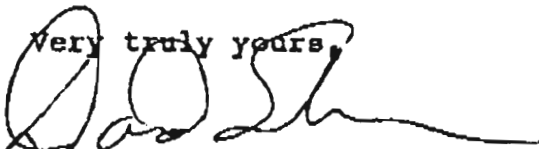
Dear Mr. Kaufman:

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 [REDACTED] per yard.

Thank you again for the opportunity to do business with Radian International.

Very truly yours,



DAVID SILVER
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

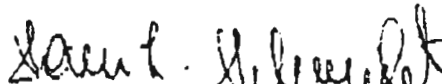
SIEVE SIZE	% PASSING	% RETAINED
1"	76.9	23.1
1/4"	42.0	34.9
#10	32.4	9.6
#50	10.2	22.2
#100	7.2	3.0
PAN	0	7.2

HYDROMETER TEST

% SAND 78.8
% CLAY 7.2
% 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

Telephone: (716) 691-2600
Fax No. : (716) 691-7991
 : (716) 691-3011

Approved By CLF
Signature

Transmitted By _____
Signature

Recra Report I.D.#: 98-0234

DATE: 2/3/98

Parameter(s) Reported: VIA, SV0A

The following pages are for:

NAME: Ken Kaufman

P/PCB

FIRM: Radian

Metals

ADDRESS: _____

Reporting Complete? Y

FAX NUMBER: (913) 575-5775

FROM: Candace L. Fox

SPECIAL INSTRUCTIONS: _____

For questions regarding these data, please contact Candace L. Fox

Total number of pages ____ (including information sheet).

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.



ANALYTICAL RESULTS

Date: 02/03/98
Time: 09:52:03

Analyte	(UG/KG)	RL	Result	#1 COMP-EAST RIM A98-0234 A8023402 Sample Date: 01/26/98	#2 COMP PIT-NORTH A98-0234 A8023403 01/26/98	GRAB-SOUTH A98-0234 A8023401 01/26/98	Result
METHOD 8260 - TCL VOLATILES							
Chloromethane		10	U				U
Bromomethane		10	U				U
Vinyl chloride		10	U				U
Chloroethane		10	U				U
Methylene chloride		5	2	BJ	2	2	BJ
Acetone		10	U				U
Carbon Disulfide		5	3	U	5	5	U
1,1-Dichloroethene		5	5	U	5	5	U
1,1-Dichloroethane		5	5	U	5	5	U
1,2-Dichloroethene (Total)		5	5	U	5	5	U
Chloroform		5	5	U	5	5	U
1,2-Dichloroethane		5	5	U	5	5	U
2-Butanone		10	11	U	10	10	U
1,1,1-Trichloroethane		5	5	U	5	5	U
Carbon Tetrachloride		5	5	U	5	5	U
Bromodichloromethane		5	5	U	5	5	U
1,2-Dichloropropane		5	5	U	5	5	U
cis-1,3-Dichloropropene		5	5	U	5	5	U
Trichloroethene		5	5	U	5	5	U
Dibromochloromethane		5	5	U	5	5	U
1,1,2-Trichloroethane		5	5	U	5	5	U
Benzene		5	5	U	5	5	U
trans-1,3-Dichloropropene		5	5	U	5	5	U
Bromoform		5	5	U	5	5	U
4-Methyl-2-pentanone		10	11	U	10	10	U
2-Hexanone		10	11	U	10	10	U
Tetrachloroethene		5	5	U	5	5	U
Toluene		5	5	U	5	5	U
1,1,2,2-Tetrachloroethane		5	5	U	5	5	U
Chlorobenzene		5	5	U	5	5	U
Ethylbenzene		5	5	U	5	5	U
Styrene		5	5	U	5	5	U
Total Xylenes		5	5	U	5	5	U
INTERNAL STANDARDS							
Bromochloromethane		50-200	91		96	101	
1,4-Difluorobenzene		50-200	79		91	99	
Chlorobenzene-D5		50-200	66		78	88	
SURROGATES							
p-Bromofluorobenzene		59-113	88		92	89	
1,2-Dichloroethane-D4		70-121	84		86	87	
Toluene-D8		84-138	102		104	98	

* Indicates Result is Outside QC Limits
NA = Not Applicable

ANALYTICAL RESULTS

Date: 02/03/98
Time: 09:30:54

Analyte (UG/KG)	RL	Client Sample ID: #1 COMP-EAST RIM Job Number & Lab Sample ID: A98-0234 AR023402 Sample Date: 01/26/98	#2 COMP PIT-NORTH A98-0234 AR023403 01/26/98	GRAB-SOUTH A98-0234 AR023401 01/26/98	Result
METHOD 8270 - TCL SEMIVOLATILES					
Phenol	660	690	660	680	U
Bis(2-chloroethyl) ether	660	690	660	680	U
2-Chlorophenol	660	690	660	680	U
1,3-Dichlorobenzene	660	690	660	680	U
1,4-Dichlorobenzene	660	690	660	680	U
1,2-Dichlorobenzene	660	690	660	680	U
2-Methylphenol	660	690	660	680	U
Bis(2-chloroisopropyl) ether	660	690	660	680	U
4-Methylphenol	660	690	660	680	U
N-Nitroso-Di-n-propylamine	660	690	660	680	U
Hexachloroethane	660	690	660	680	U
Nitrobenzene	660	690	660	680	U
Isophorone	660	690	660	680	U
2-Nitrophenol	660	690	660	680	U
2,4-Dimethylphenol	660	690	660	680	U
Bis(2-chloroethoxy) methane	660	690	660	680	U
2,4-Dichlorophenol	660	690	660	680	U
1,2,4-Trichlorobenzene	660	690	660	680	U
Naphthalene	660	690	660	680	U
4-Chloroaniline	660	690	660	680	U
Hexachlorobutadiene	660	690	660	680	U
4-Chloro-3-methylphenol	660	690	660	680	U
2-Methylnaphthalene	660	690	660	680	U
Hexachlorocyclopentadiene	660	690	660	680	U
2,4,6-Trichlorophenol	660	690	660	680	U
2,4,5-Trichlorophenol	1600	1700	1600	1600	U
2-Chloronaphthalene	660	690	660	680	U
2-Nitroaniline	1600	1700	1600	1600	U
Dimethyl phthalate	660	690	660	680	U
Acenaphthylene	660	690	660	680	U
2,6-Dinitrotoluene	660	690	660	680	U
3-Nitroaniline	1600	1700	1600	1600	U
Acenaphthene	660	690	660	680	U
2,4-Dinitrophenol	1600	1700	1600	1600	U
4-Nitrophenol	1600	1700	1600	1600	U
Dibenzofuran	660	690	660	680	U
2,4-Dinitrotoluene	660	690	660	680	U
Diethyl phthalate	660	690	660	680	U
4-Chlorodiphenylether	660	690	660	680	U
Fluorene	660	690	660	680	U
4-Nitroaniline	1600	1700	1600	1600	U
4,6-Dinitro-2-methylphenol	1600	1700	1600	1600	U

* Indicates Result is Outside DC Limits
NA = Not Applicable

ANALYTICAL RESULTS

Date: 02/03/98
Time: 09:30:59

Analyte	(UG/KG)	RL	Client Sample ID: #1 COMP-EAST RIM Job Number & Lab Sample ID: A98-0234 A8023402 Sample Date: 01/26/98	#2 COMP PIT-NORTH A98-0234 A8023403 01/26/98	GRAB-SOUTH A98-0234 A8023401 01/26/98	Result
METHOD 8270 - TCL SEMIVOLATILES						
N-nitrosodiphenylamine		660	U	660	680	U
4-Bromophenyl phenyl ether		660	U	660	680	U
Hexachlorobenzene		660	U	660	680	U
Pentachlorophenol		1600	1700	1600	1600	U
Phenanthrene		660	U	660	680	U
Anthracene		660	U	660	680	U
Di-n-butyl phthalate		660	U	660	680	U
Fluoranthene		660	U	660	680	U
Pyrene		660	U	660	680	U
Butyl benzyl phthalate		660	U	660	680	U
3,3'-Dichlorobenzidine		660	U	660	680	U
Benzo(a)anthracene		660	U	660	680	U
Chrysene		660	U	660	680	U
Bis(2-ethylhexyl) phthalate		660	U	660	680	U
Di-n-octyl phthalate		660	U	660	680	U
Benzo(b)fluoranthene		660	U	660	680	U
Benzo(k)fluoranthene		660	U	660	680	U
Benzo(a)pyrene		660	U	660	680	U
Indeno(1,2,3-cd)pyrene		660	U	660	680	U
Dibenzo(a,h)anthracene		660	U	660	680	U
Benzo(ghi)perylene		660	U	660	680	U
Benzyl alcohol		660	U	660	680	U
N-Nitrosodimethylamine		660	U	660	680	U
INTERNAL STANDARDS						
1,4-Dichlorobenzene-D4		50-200	90	91	103	U
Naphthalene-DB		50-200	86	85	96	U
Acenaphthene-D10		50-200	85	84	96	U
Phenanthrene-D10		50-200	88	87	99	U
Chrysene-D12		50-200	94	92	105	U
Perylene-D12		50-200	82	80	86	U
SURROGATES						
Nitrobenzene-D5		25-120	67	63	66	U
2-Fluorobiphenyl		30-115	79	69	75	U
Terphenyl		18-137	114	101	107	U
Phenol-D5		24-113	66	62	70	U
2-Fluorophenol		25-121	66	61	68	U
2,4,6-Tribromophenol		19-122	97	83	87	U
2-Chlorophenol-d4		20-130	69	63	67	U
1,2-Dichlorobenzene-d4		20-130	62	57	62	U

* Indicates Result is Outside QC Limits
NA = Not Applicable

ANALYTICAL RESULTS

Analyte (UG/KG)	RL	#1 COMP-EAST RIM A98-0234 AB023402 Sample Date: 01/26/98	#2 COMP PIT-NORTH A98-0234 AB023403 01/26/98	GRAB-SOUTH A98-0234 AB023401 01/26/98	Result
METHOD 808) - TCL PESTICIDES/PCBS					
alpha-BHC	8.0	8.3 U	8.1 U	8.1 U	8.1 U
beta-BHC	8.0	8.3 U	8.1 U	8.1 U	8.1 U
delta-BHC	8.0	8.3 U	8.1 U	8.1 U	8.1 U
gamma-BHC (Lindane)	8.0	8.3 U	8.1 U	8.1 U	8.1 U
Heptachlor	8.0	8.3 U	8.1 U	8.1 U	8.1 U
Aldrin	8.0	1.3 J	8.1 U	8.1 U	8.1 U
Heptachlor epoxide	16	1.1 U	16 U	16 U	16 U
Endosulfan I	16	2.0 J	16 U	16 U	16 U
Dieldrin	16	2.8 J	16 U	16 U	16 U
4,4'-DDE	16	17 U	16 U	16 U	16 U
Endrin	16	17 U	16 U	16 U	16 U
Endosulfan II	16	17 U	16 U	16 U	16 U
4,4'-DDD	16	1.1 J	16 U	16 U	16 U
Endosulfan Sulfate	16	2.1 J	16 U	16 U	16 U
4,4'-DDT	80	83 U	81 U	81 U	81 U
Methoxychlor	16	17 U	16 U	16 U	16 U
Endrin ketone	32	33 U	32 U	32 U	32 U
Endrin aldehyde	40	42 U	41 U	40 U	40 U
alpha-Chlordane	40	42 U	41 U	40 U	40 U
gamma-Chlordane	160	170 U	160 U	160 U	160 U
Toxaphene	80	83 U	81 U	81 U	81 U
Aroclor 1016	80	83 U	81 U	81 U	81 U
Aroclor 1221	80	83 U	81 U	81 U	81 U
Aroclor 1232	80	83 U	81 U	81 U	81 U
Aroclor 1242	80	83 U	81 U	81 U	81 U
Aroclor 1248	80	83 U	81 U	81 U	81 U
Aroclor 1254	160	170 U	160 U	160 U	160 U
Aroclor 1260	160	170 U	160 U	160 U	160 U
-SURROGATES					
Tetrachloro-m-xylene	60-150	72	72	70	70
Decachlorobiphenyl	60-150	85	90	88	88

* Indicates Result is Outside QC Limits
NA = Not Applicable

ANALYTICAL RESULTS

Date: 02/03/98
Time: 16:49:29

Analyte	UNITS OF MEASURE	RL	Client Sample ID: #1 DUMP-EAST RIM		Client Sample ID: #2 DUMP PIT-NORTH		Client Sample ID: GRAB-SOUTH	
			Job Number & Lab Sample ID: A98-0234 A8023402 Sample Date: 01/26/98	Result	Job Number & Lab Sample ID: A98-0234 A8023403 Sample Date: 01/26/98	Result	Job Number & Lab Sample ID: A98-0234 A8023401 Sample Date: 01/26/98	Result
ASP 95 - TOTAL PP METALS - SOIL								
Antimony - Total	MG/KG	12.0	0.80	0.88	0.75			
Arsenic - Total	MG/KG	2.0	2.0	1.5	1.1			
Beryllium - Total	MG/KG	1.0	0.38	0.27	0.22			
Cadmium - Total	MG/KG	1.0	0.063 U	0.062 U	0.060 U			
Chromium - Total	MG/KG	2.0	5.8	2.6	1.8			
Copper - Total	MG/KG	5.0	4.0	2.5	2.4			
Lead - Total	MG/KG	0.60	4.5	1.9	1.7			
Mercury - Total	MG/KG	0.10	0.10 U	0.10 U	0.10 U			
Nickel - Total	MG/KG	8.0	3.6	1.7	1.2			
Selenium - Total	MG/KG	1.0	0.59 U	0.58 U	0.56 U			
Silver - Total	MG/KG	2.0	0.29 U	0.29 U	0.28 U			
Thallium - Total	MG/KG	2.0	1.9	1.7	1.7			
Zinc - Total	MG/KG	4.0	12.6	7.5	6.0			

* Indicates Result is Outside QC Limits
NA = Not Applicable

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. _____ DATE 11-23-98
 NAME RADIANT INTERNATIONAL
 ADDRESS CHANDLER C. CUSTER DR. W.
 CITY BETHPAGE STATE NY

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MOS. RETD.	PAID OUT	QUAN.	DESCRIPTION	PRICE	AMOUNT
							35	450 BACKFILL		
THANK YOU PLEASE REP HAS COPY FOR REFERENCE All items and returned goods MUST be accompanied by this bill.										

RECD. BY _____

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. _____ DATE 11-23-98
 NAME RADIANT TATE
 ADDRESS IRUNMAN
 CITY BETHPAGE STATE NY

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MOS. RETD.	PAID OUT	QUAN.	DESCRIPTION	PRICE	AMOUNT
THANK YOU PLEASE REP HAS COPY FOR REFERENCE All items and returned goods MUST be accompanied by this bill.										

RECD. BY _____

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
 OLD BETHPAGE, NY 11804
 Business: (516) 249-7471 • Home: (516) 424-9588

Customer's Order No. _____ Date 11-23-98
 Name _____ Tel # _____
 Address _____
 City _____ State _____ Zip _____

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MOS. RETD.	PAID OUT	QUAN.	DESCRIPTION	PRICE	AMOUNT
THANK YOU PLEASE REP HAS COPY FOR REFERENCE All items and returned goods MUST be accompanied by this bill.										

RECEIVED BY [Signature]

09763

MATERIALS TESTING LAB, INC. TIME TICKET AND SERVICE RECEIPT

FOR OFFICE USE ONLY

REG	
OT	
NIGHT	
MILEAGE	
TOLLS	
MISC EXPENSES	

Employee Name: E. MORRISON	Employee No: 0005	Date: 2.23.98
Project Site Location: South Oyster Bay Rd. Bethpage, LI NY	Client: RADIAN International	Project No: 800960
Service Performed: SOILS (ND)	Client representative (Print Name): DAVID HAUSER	Authorized Client Representative's Signature: <i>[Signature]</i>
Start Time at Site: 7:00 AM/PM	Stop Time at Site: 3:30 AM/PM	Mileage: 30
Tolls:	Other Expenses:	Employee Signature: <i>[Signature]</i>
I, the employee stated above, swear that the information provided on this form is accurate and true.		

THIS SERVICE TICKET IS TO BE FILLED OUT IN ADDITION TO THE REGULAR TIME SHEET

67313

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. 2 DATE 2/25/98
NAME KADIAN INTERNATIONAL
ADDRESS COLUMBIA STATE NY
CITY BETHPAGE

QUAN.	DESCRIPTION	PRICE	AMOUNT	PAID BY	
				CASH	CHARGE
35	YARDS BACK FILL				
				TOTAL	

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
All claims and returned goods MUST be accompanied by this bill

REC'D. BY

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. 6887 DATE 2-15-98
NAME KADIAN
ADDRESS 5 Cypres Ave. Bldg. 200 STATE GA
CITY Atlanta

QUAN.	DESCRIPTION	PRICE	AMOUNT	PAID BY	
				CASH	CHARGE
35	YARDS BACK FILL				
				TOTAL	

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
All claims and returned goods MUST be accompanied by this bill

REC'D. BY

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
OLD BETHPAGE, NY 11804
Business: (516) 249-7471 • Home: (516) 424-9588

Customer's Order No. _____ Date 2-25-98
Name KADIAN INTERNATIONAL Tel # _____
Address COLUMBIA SPARTAN BLVD.
City BETHPAGE State NY Zip _____

QUAN.	DESCRIPTION	PRICE	AMOUNT	PAID BY	
				CASH	CHARGE
35	YARDS BACK FILL				
				TOTAL	

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
All claims and returned goods MUST be accompanied by this bill

RECEIVED BY

09791

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
 OLD BETHPAGE, NY 11804
 Business: (516) 249-7471 • Home: (516) 424-9588

Customer's Order No. 504545 Date 2/18/98
 Name Radial International
 Address Grumman - Oyster Bay Rd
 City Bethpage State NY Zip _____

SOLD BY ALT. CASH _____ C.O.D. _____ CHARGE _____ ON ACCT. _____ MDS. RETD. _____ PAID OUT _____

QUAN. DESCRIPTION PRICE AMOUNT
35 35 YDS BACKFILL _____ _____

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
 All claims and returned goods MUST be accompanied by this bill.

RECEIVED BY 08335

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. 541846 DATE 2-18-98
 NAME Radial International
 ADDRESS Grumman - Oyster Bay Rd
 CITY BETHPAGE STATE NY

SOLD BY ALT. CASH _____ C.O.D. _____ CHARGE _____ ON ACCT. _____ MDS. RETD. _____ PAID OUT _____

QUAN. DESCRIPTION PRICE AMOUNT
35 35 YDS BACKFILL _____ _____

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
 All claims and returned goods MUST be accompanied by this bill.

RECEIVED BY 09175

88657

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
 OLD BETHPAGE, NY 11804
 Business: (516) 249-7471 • Home: (516) 424-9588

Customer's Order No. _____ Date 2/18/98
 Name RADIANT INT. Tel # _____
 Address GRUMMAN
 City BETHPAGE State NY Zip _____

SOLD BY ALT. CASH _____ C.O.D. _____ CHARGE _____ ON ACCT. _____ MDS. RETD. _____ PAID OUT _____

QUAN. DESCRIPTION PRICE AMOUNT
35 35 YDS BACKFILL _____ _____

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
 All claims and returned goods MUST be accompanied by this bill.

RECEIVED BY 09175

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
 OLD BETHPAGE, N.Y. 11804
 Business: (516) 249-7471 • Home: (516) 424-9588

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. 8751
 NAME Radiant DATE 2-18-98
 ADDRESS 504845 STATE _____
 CITY Bethpage

QUAN.	DESCRIPTION	PRICE	AMOUNT
35	yds Bank Fill		
			TOTAL

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
 All claims and returned goods MUST be accompanied by this bill

CUSTOMER'S ORDER NO. 504845 DATE 2-19-98
 NAME Radiant Int
 ADDRESS 504845 STATE _____
 CITY Bethpage

QUAN.	DESCRIPTION	PRICE	AMOUNT
35	yds Bank Fill		
			TOTAL

THANK YOU PLEASE KEEP THIS COPY FOR REFERENCE
 All claims and returned goods MUST be accompanied by this bill

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
 OLD BETHPAGE, NY 11804
 Business: (516) 249-7471 • Home: (516) 424-9588

CUSTOMER'S ORDER NO. 504845 DATE 2-19-98
 NAME Radiant Tel # _____
 ADDRESS 504845 Rd
 City Bethpage State _____ Zip _____

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MOS. RETD.	PAID OUT

QUAN.	DESCRIPTION	PRICE	AMOUNT
35	yds SAND		
			TOTAL

RECEIVED BY
 09752

CUSTOM CLAY & SOIL COMPANY, INC.

P.O. BOX 8
 OLD BETHPAGE, NY 11804
 Business: (516) 249-7471 • Home: (516) 424-9588

Customer's Order No. _____ Date _____ 19____
 Name _____ Tel # _____
 Address _____
 City _____ State _____ Zip _____

QUAN.	DESCRIPTION	PRICE	AMOUNT
35	Yks. Backfill		
RECEIVED BY <i>Carl Homan</i> TAX TOTAL			

At claims and returned goods MUST be accompanied by the bill.
 RECEIVED BY
09761

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. 504845 DATE 2-20-98
 NAME Radian Int.
 ADDRESS 625-150-1616
 CITY Bethpage STATE _____

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	INDS. RETD.	PAID OUT	
S.S.						IBC	
QUAN.	DESCRIPTION					PRICE	AMOUNT
35	Yks. Backfill						
THANK YOU <i>Carl Homan</i> PLEASE KEEP THIS COPY FOR REFERENCE.						TOTAL	

At claims and returned goods MUST be accompanied by this bill.
 RECEIVED BY
1246

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. _____ DATE _____
 NAME _____
 ADDRESS _____
 CITY _____ STATE _____

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	INDS. RETD.	PAID OUT	
QUAN.	DESCRIPTION					PRICE	AMOUNT
THANK YOU <i>Carl Homan</i> PLEASE KEEP THIS COPY FOR REFERENCE.						TOTAL	

At claims and returned goods MUST be accompanied by this bill.
 RECEIVED BY

Appendix I

Compaction Testing Reports



MATERIALS TESTING LAB INC.

NEW YORK DIVISION

1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

Client: RADIANT INTERNATIONAL	Report #:
	Date: 2-18-98
	Technician: WILSON GIRON
Project: 800960 REMEDIATION + RESTORATION OF OLD ALODINE PROCESS LINE - BLDG # 3 @ NORTHROP GRUMMAN	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	NORTHROP GRUMMAN AEROSPACE Beth page, NY				
	REMEDICATION + RESTORATION OF OLD ALODINE PROCESS LINE @ Bldg # 3				
	1 ST LIFT 3' level				
27' Below Grade	10' NORTH OF Soldier pile # 37	5.2	108.0	110.7	97.6
-11-	15' EAST OF Soldier pile # 5	4.8	110.6	-11-	99.9
-11-	17.5' South of Soldier pile # 23	5.1	107.2	-11-	96.8
-11-	10' South of Soldier pile # 15	5.7	108.8	-11-	98.3
-11-	17' EAST OF Soldier pile # 9	5.7	107.7	-11-	97.3

Remarks:

Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95.0%	Optimum Moisture: MTL

Complies: Yes

Reported To: _____

NEW YORK CITY • LONG ISLAND • EDISON, NJ • NEWINGTON, CT • DOVER, DE

"PUT US TO THE TEST"



MATERIALS TESTING LAB INC.

NEW YORK DIVISION

1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

1 OF 2

7:00 AM to 3:30 PM

Client: RADIAN INTERNATIONAL	Report #:
	Date: 2-19-98
	Technician: WILSON GIRON
Project: 800960 REMEDIATION & RESTORATION OF OLD ALDINE PROCESS LINE AREA BUILDING 003 @ NORTHROP GRUMMAN	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	NORTHROP GRUMMAN AEROSPACE BETHPAGE, NY				
	Remediation & Restoration of Old Aldine Process Line Area @ Building 003				
	2 ND LIFT 6' LEVEL				
24" Below Grade	7' EAST OF SOLDIER PILE # 12	5.1	109.6	110.7	97.2
-11-	10' WEST OF SOLDIER PILE # 26	5.3	109.2	-11-	98.6
-11-	17' WEST OF SOLDIER PILE # 29	4.2 7.8.6	108.6	-11-	98.1
-11-	14' WEST OF SOLDIER PILE # 33	5.3	107.7	-11-	97.3
-11-	9' EAST OF SOLDIER PILE # 1	6.0	106.2	-11-	96.0

Remarks:

Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95.0%	Optimum Moisture: MTL

Complies: YES

Reported To: _____

NEW YORK CITY • LONG ISLAND • EDISON, NJ • NEWINGTON, CT • DOVER, DE

"PUT US TO THE TEST"



MATERIALS TESTING LAB INC.

NEW YORK DIVISION
1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354-6600 • FAX (516) 354-6690

7:00 AM TO 3:30 PM

Client: <u>RADIAN INTERNATIONAL</u>	Report #:
	Date: <u>2-19-98</u>
	Technician: <u>WILSON GIRON</u>
Project: <u>800760 REMEDIATION + RESTORATION OF old ALODINE PROCESS LINE AREA, Bldg 003 (NORTHROP GRUMMAN)</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	<u>NORTHROP GRUMMAN AEROSPACE BETHPAGE, NY</u>				
	<u>Remediation + Restoration of old ALODINE process line area @ Building 003</u>				
	<u>3RD LIFT 9' LEVEL</u>				
<u>21' Below Grade</u>	<u>7' NORTH OF Soldier pile #37</u>	<u>4.9</u>	<u>107.1</u>	<u>110.7</u>	<u>96.8</u>
<u>-11-</u>	<u>8' EAST OF Soldier pile #3</u>	<u>5.7</u>	<u>109.5</u>	<u>-11-</u>	<u>99.0</u>
<u>-11-</u>	<u>11' South of Soldier pile #15</u>	<u>5.2</u>	<u>106.1</u>	<u>-11-</u>	<u>95.9</u>
<u>-11-</u>	<u>9' WEST OF Soldier pile #26</u>	<u>5.5</u>	<u>105.3</u>	<u>-11-</u>	<u>95.1</u>
<u>-11-</u>	<u>10' EAST of Soldier pile #7</u>	<u>5.1</u>	<u>108.6</u>	<u>-11-</u>	<u>98.1</u>

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95.0%</u>	Optimum Moisture <u>MTL</u>

Complies: yes Reported To: _____



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Page 2 of 2

Client: RADIAN International	Report #:
	Date: 2.20.98
	Technician:
Project: 800960 Remediation & Restoration of old ALDINE PROCESS LINE, Bldg #3 @ Northrup Grumman	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	NORTHROP GRUMMAN AEROSPACE BETHPAGE N.Y.				
	REMEDICATION & RESTORATION OF OLD ALDINE PROCESS LINE @ BLDG. # 3				
	* 5 th LIFT 15' LEVEL *				
15'±GRD	15 FEET EAST OF SOLDIER PILE # 12	13.1	107.9	110.7	97.5
" "	15' FEET WEST OF SOLDIER PILE # 18	8.2	106.9	110.7	96.6
" "	3 1/2' of SOLDIER PILE # 22	6.4	106.8	110.7	96.5
" 4	@ Colum Beam E-7	8.1	106.6	110.7	96.3
" 4	10' west of SOLDIER PILE # 6	7.3	106.2	110.7	95.9

Remarks:

Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture MTL

Complies:

Reported To: DALE

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PAGE 1 OF 2

Client: <u>RADIAN INTERNATIONAL</u>	Report #:
	Date: <u>2-20-98</u>
	Technician:
Project: <u>800% REMEDIATION & RESTORATION OF OLD ALUMINE PROCESS LINE, BLDG # 3 @ Northrup Gruman</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	<u>NORTHROP GRUMAN AEROSPACE BETHPAGE, N.Y.</u>				
	<u>REMEDIATION & RESTORATION OF OLD ALUMINE PROCESS LINE @ Bldg. #3</u>				
	<u>* 4th LIFT 12' LEVEL *</u>				
<u>18" (6")</u>	<u>10 FEET NORTH OF SOLDIER PILE # 35</u>	<u>6.1</u>	<u>105.5</u>	<u>110.7</u>	<u>95.3</u>
<u>" "</u>	<u>8 FEET EAST OF SOLDIER PILE # 4</u>	<u>4.7</u>	<u>106.6</u>	<u>110.7</u>	<u>96.3</u>
<u>" "</u>	<u>10 FEET WEST OF SOLDIER PILE # 27</u>	<u>6.4</u>	<u>105.8</u>	<u>110.7</u>	<u>95.6</u>
<u>" "</u>	<u>8 FEET NORTH OF SOLDIER PILE # 28</u>	<u>7.6</u>	<u>106.7</u>	<u>110.7</u>	<u>96.4</u>
<u>" "</u>	<u>3 FEET SOUTH OF SOLDIER PILE # 14</u>	<u>4.9</u>	<u>106.9</u>	<u>110.7</u>	<u>96.6</u>

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture <u>MTL</u>

Implies:

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Client: <u>RADIAN INTERNATIONAL</u>	Report #:
	Date: <u>2-20-88</u>
	Technician:
Project: <u>800960 REMEDIATION & RESTORATION OF OLD ALUMINE PROCESS LINE, BLDG # 3 @ Northrup Green</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	<u>NORTHROP GRUMMAN AEROSPACE BETHPAGE, N.Y.</u>				
	<u>REMEDICATION & RESTORATION OF OLD ALUMINE PROCESS LINE @ BLDG. #3</u>				
	<u>* 4TH LIFT 12' LEVEL *</u>				
<u>18" (6")</u>	<u>10 FEET NORTH OF SOLDIER PILE # 35</u>	<u>6.1</u>	<u>105.5</u>	<u>110.7</u>	<u>95.3</u>
<u>"</u>	<u>8 FEET EAST OF SOLDIER PILE # 40</u>	<u>4.7</u>	<u>106.6</u>	<u>110.7</u>	<u>96.3</u>
<u>"</u>	<u>10 FEET WEST OF SOLDIER PILE # 2</u>	<u>6.4</u>	<u>105.8</u>	<u>110.7</u>	<u>95.6</u>
<u>"</u>	<u>8 FEET NORTH OF SOLDIER PILE # 2B</u>	<u>7.6</u>	<u>106.7</u>	<u>110.7</u>	<u>96.4</u>
<u>"</u>	<u>3 FEET SOUTH OF SOLDIER PILE # 14</u>	<u>4.9</u>	<u>106.9</u>	<u>110.7</u>	<u>96.6</u>

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture <u>MTL</u>

Complies: Reported To: _____



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PAGE 1 of 5

Client: RADIANT International	Report #:
	Date:
	Technician: IS. MORRISSEY
Project: 800960 REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3 @ Northrup Gruman	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.				
	REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3				
	* 6 th LIFT 12' LEVEL *				
12' VGRD	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	@ Column 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
" "	@ Column D-7	10.5 ^{9.8}	106.5 ^{9.8}	110.7	96.2

Remarks:

Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture: MTL

Complies:

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PAGE 1 OF

Client: RADIANT International	Report #:
	Date: 2-24-98
	Technician: IS. MORRISSEY
Project: 800960 REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3 @ Northrup Gruman	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.				
	REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE @ Bldg. #3				
	* 7 th LIFT 21' LEVEL *				
9' VGRD	5 FEET WEST OF SOLDIER PILE #26	9.3	105.4	110.7	95.2
"	10 FEET NORTH OF SOLDIER PILE # 36	9.1	107.5	110.7	97.1
" "	15' WEST OF SOLDIER PILE # 30	9.4	107.3	110.7	96.9
" "	15' EAST OF SOLDIER PILE # 9	8.6	106.9	110.7	96.6
" "	5 FEET ^{WEST} SOUTH OF SOLDIER PILE # 18	9.2	106.5	110.7	96.2

Remarks:

Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture: MTL

Complies:

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PAGE 1 of 1

Client: <u>RADIAN International</u>	Report #:
	Date:
	Technician: <u>IS. MORRISSEY</u>
Project: <u>800960 REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3 @ Northrup Gruman</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry. Density (PCF)	% Comp.
	<u>NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.</u>				
	<u>REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE @ Bldg. #3</u>				
	<u>* 9 LIFT 25' LEVEL *</u>				
<u>5' GRD</u>	<u>5 feet South of soldier pile # 23</u>	<u>8.7</u>	<u>105.9</u>	<u>110.7</u>	<u>95.7</u>
<u>" "</u>	<u>15' EAST of Soldier pile # 5</u>	<u>8.6</u>	<u>107.3</u>	<u>110.7</u>	<u>96.9</u>
<u>" 4</u>	<u>15' EAST OF SOLDIER pile # 8</u>	<u>8.8</u>	<u>107.4</u>	<u>110.7</u>	<u>97.0</u>
<u>" 4</u>	<u>@ Column E-7</u>	<u>5.0</u>	<u>106.5</u>	<u>110.7</u>	<u>96.2</u>
<u>" 4</u>	<u>@ Column D-7</u>	<u>8.1</u>	<u>108.7</u>	<u>110.7</u>	<u>98.2</u>

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture: <u>MTL</u>

Complies: Reported To: DALE



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PAGE cf

Client: <u>RADIAN International</u>	Report #:
	Date:
	Technician: <u>LS. MORRISSEY</u>
Project: <u>800960 REMEDIATION & RESTORATION OF OLD ALUMINE PROCESS LINE Bldg #3 @ Northrup Gruman</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	<u>NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.</u>				
	<u>REMEDIANION & RESTORATION OF OLD ALUMINE PROCESS LINE @ Bldg. #3</u>				
	<u>* 8th LIFT 24' LEVEL *</u>				
<u>6' GRD</u>	<u>@ Colum E-7</u>	<u>9.6</u>	<u>105.7</u>	<u>110.7</u>	<u>95.5</u>
<u>"</u>	<u>10 Feet WEST of Soldier pile #31</u>	<u>8.8</u>	<u>107.3</u>	<u>110.7</u>	<u>96.9</u>
<u>" "</u>	<u>10 Feet WEST of Soldier pile #25</u>	<u>8.3</u>	<u>106.1</u>	<u>110.7</u>	<u>95.8</u>
<u>" "</u>	<u>@ Colum D-7</u>	<u>8.6</u>	<u>106.9</u>	<u>110.7</u>	<u>96.6</u>
<u>" "</u>	<u>5 Feet West of soldier pile #21</u>	<u>8.1</u>	<u>105.7</u>	<u>110.7</u>	<u>95.5</u>

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture: <u>MTL</u>

Complies:

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PAGE 1 of 3

Client: <u>RADIAN International</u>	Report #:
	Date: <u>2-26-96</u>
	Technician: <u>IS. MORRISSEY</u>
Project: <u>800960 REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE BLDG #3 @ NORTHROP GRUMAN</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.				
	REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE @ Bldg. #3				
	* 10' LIFT 26' LEVEL *				
4' ↓ GRD	@ Colum E-7	8.4	105.8	110.7	95.6
11				110.7	
11				110.7	
				110.7	
				110.7	

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture: <u>MTL</u>

Complies:

Reported To: DAIE



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PAGE 2 OF 3

Client: <u>RADIAN International</u>	Report #:
	Date: <u>2-26-98</u>
	Technician: <u>E. MORRISSEY</u>
Project: <u>Remediation & Restoration of Old Alodine Process Line @ Bldg. #3 @ Northrup Gruman</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	<u>NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.</u>				
	<u>REMEDIANION & RESTORATION OF OLD ALODINE PROCESS LINE @ Bldg. #3</u>				
	<u>* LIFT LEVEL * (NDA)</u>				
<u>1660</u>	<u>@ Colum E-8</u>	<u>9.2</u>	<u>105.5</u>	<u>110.7</u>	<u>95.3</u>
<u>"</u>	<u>25 feet (W) of (E) wall 10 feet (S) of (N) wall</u>	<u>8.9</u>	<u>105.4</u>	<u>110.7</u>	<u>95.2</u>
<u>GRADE</u>	<u>3' (W) of (E) wall 10' (N) of (S) wall</u>	<u>8.6</u>	<u>106.5</u>	<u>110.7</u>	<u>96.2</u>
				<u>110.7</u>	
				<u>110.7</u>	

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture: <u>MTL</u>

Complies:

Reported To: DAIE

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PAGE 3 of 3

Client: <u>RADIAN International</u>	Report #:
	Date: <u>2.26.96</u>
	Technician: <u>E. MORRISSEY</u>
Project: <u>800960 REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3 @ Northrup Gruman</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	<u>NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.</u>				
	<u>REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3</u>				
	<u>* 11 LIFT 27' LEVEL *</u>				
<u>3' VGRD</u>	<u>RAMP AREA 10 FEET OF WEST WATER</u>	<u>8.5</u>	<u>109.5</u>	<u>110.7</u>	<u>98.9</u>
<u>" "</u>	<u>RAMP AREA 50 FEET + E of W/WATER</u>	<u>8.9</u>	<u>110.1</u>	<u>110.7</u>	<u>99.5</u>
<u>" "</u>				<u>110.7</u>	
<u>" "</u>				<u>110.7</u>	
<u>" "</u>				<u>110.7</u>	

Remarks:

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture: <u>MTL</u>

Complies:

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PAGE 2 OF

Client: Radian International	Report #:
	Date: 2.27.98
	Technician:
Project: 500960 Remediation & Restoration of old A-10 LINE PROCESS LINE Bldg #3	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	NORTHROP GRUMAN AEROSPACE BETHPAGE LA, N.Y.				
	Remediation & Restoration of old A-10 LINE PROCESS LINE Bldg #3				
	* 11 th LIFT 27' BLDG LEVEL				
3 1/2' @	Colum E-7	8.5	109.9	110.7	99.2
11" "	@ Colum D-7	8.4	106.6	110.7	96.3
11" "	@ Colum 10'(S) of D-7 ALONG Sewer Line	7.0	105.9	110.7	95.7

Remarks:

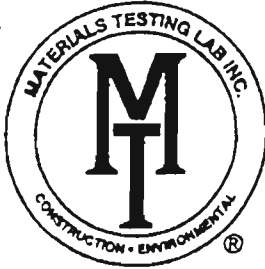
Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture: MTL

Complies:

Reported To: DALE HANSEN

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PAGE OF

Client: <u>RADIAN International</u>	Report #:
	Date: <u>2-27-98</u>
	Technician: <u>E. MORRISSEY</u>
Project: <u>800960 REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3 @ Northrup Gruman</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	<u>NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.</u>				
	<u>REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE @ Bldg. #3</u>				
	<u>* 12 Lift 28 Level *</u>				
<u>2' GRD</u>	<u>10' SOUTH OF COLUM D-8</u>	<u>8.7</u>	<u>106.0</u>	<u>110.7</u>	<u>95.7</u>
<u>" "</u>	<u>@ COLUM D-8</u>	<u>6.4</u>	<u>108.7</u>	<u>110.7</u>	<u>98.2</u>
<u>" "</u>	<u>@ COLUM D-7</u>	<u>9.6</u>	<u>107.1</u>	<u>110.7</u>	<u>96.7</u>
<u>" "</u>	<u>RAMP AREA 25' EAST OF WEST WALL</u>	<u>8.7</u>	<u>108.6</u>	<u>110.7</u>	<u>98.1</u>
<u>" "</u>	<u>2' EAST OF SOLDIER PILE # 10</u>	<u>8.3</u>	<u>105.4</u>	<u>110.7</u>	<u>95.2</u>

Remarks: *NOTE* AREA NORTH OF NEEDLE BEAM HAD A LIFT GREATER THAN 1". IT WAS ABOUT 18" IN DEPTH EXPLAINED TO CONTRACTOR & SITE SUPER WOULD NOT TEST THIS AREA BECAUSE OF BURIED AREA COULD NOT REMOVE THE EXCESS FILL. *DATE*

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture: <u>MTL</u>

Implies:

Reported To: DALE

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"PUT US TO THE TEST"



MATERIALS TESTING LAB INC.

NEW YORK DIVISION

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PAGE 1 of

Client: Radian International	Report #:
	Date: 2-27-98
	Technician: F. MORRISSEY
Project: 500 960 Remediation & Restoration of old process line Bldg #3 @ Northrup Grumman	Permit #:
Test: In Place Density Test	Job #:
Method: ASTM D2922	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	NORTHROP GRUMMAN AEROSPACE BETHPAGE, LI, NY.				
	Remediation & Restoration of old ALODINE PROCESS LINE Bldg #3				
	REPLACEMENT OF SEWER LINE				
5' VGD	SEWER LINE ALONG COLUMN LINE D-7 10 FEET SOUTH OF STAIRWAY	8.3	110.2	110.7	99.5
1' 11"	SEWER LINE ALONG COLUMN LINE D-7 10 FEET SOUTH OF COLUMN D-7	6.5	109.8	110.7	99.2
4' VGD	10'(S) OF COLUMN D-7	6.3	105.8	110.7	95.6
1' 11"	10'(S) OF STAIRCASE	6.6	105.4	110.7	95.2

Remarks:

Material Type: SAND	Proctor Dated: MTL
Item #:	Max. Dry Density: 110.7
Min. Comp. Req.: 95%	Optimum Moisture MTL

Complies:

Reported To: PAUL HANSEN



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PAGE 1 OF 1

Client: <u>RADIAN International</u>	Report #:
	Date: <u>2-27-98</u>
	Technician: <u>E. MORRISSEY</u>
Project: <u>800960 REMEDIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3 @ NORTHROP GRUMAN</u>	Permit #:
Test: <u>In Place Density Test</u>	Job #:
Method: <u>ASTM D2922</u>	

Depth	Location	% Moisture	Dry Density (PCF)	Max. Dry Density (PCF)	% Comp.
	NORTHROP GRUMAN AEROSPACE BETHPAGE N.Y.				
	REMIADIATION & RESTORATION OF OLD ALUMINUM PROCESS LINE Bldg #3				
	* 13 LIFT 29' LEVEL *				
1-6	RAMP AREA 40 Feet (W) of (E) Wall	8.4	110.6	110.7	99.9
4	10' (W) of Soldier Pile # 58	8.0	109.9	110.7	99.3
4	10' (W) of Soldier 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
4	15' E of Soldier Pile # 11	8.8	107.3	110.7	96.9

Remarks: * Note *

Material Type: <u>SAND</u>	Proctor Dated: <u>MTL</u>
Item #:	Max. Dry Density: <u>110.7</u>
Min. Comp. Req.: <u>95%</u>	Optimum Moisture: <u>MTL</u>

Complies:

Reported To: DALE

Appendix J
Concrete Inspection
And
Testing Reports



MATERIALS TESTING LAB INC.

NEW YORK DIVISION
 1579 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11040 • (516) 354 6600 • FAX (516) 354 6692

Client: Radian International
 710 Route #46, Suite #401
 Fairfield, NJ 07004
Project: Northrup Grumman

Report #: 98RAD 014
Date: 04/22/98
Break Date: --
Cast By: MTL

Page 1 of 1

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		5:00	65		1-4	3000






Location(s) of Pour: B 1, #3 column 5 ft high, 4

Supplier: _____ Contractor: _____ Inspector: _____ (MTL)
 Weather: _____ Air Temp: _____ Total Yardage Placed: _____

COMPRESSIVE STRENGTH OF CONCRETE TEST CYLINDERS (ASTM C39, 16" DIA. 12" H)

Field #	Seal #	Date Cast	Date Tested	Age, Days	Cross Sect Area (sq. in.)	Total Load (Lbs)	Fracture Type	Strength (PSI)	Complies
37704-									
1	10165	04/22/98	04/22/98	1	28.25	110000	D	3900	
2	10166	04/22/98			28.25				
3	10167	04/22/98			28.25				
4	10168	04/22/98			28.25				

REMARKS: TEST RESULTS TO FOLLOW

- A  Cone
- B  Cone & Split
- C  Cone & Shear
- D  Shear
- E  Columnar

Reported To: _____

Submitted By: Materials Testing Lab, Inc.

(Signature)

Maria A. Kalinowski, P.E.
 Vice President, Engineering

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MATERIALS TESTING LAB INC.

NEW YORK DIVISION
 1529 JERICHO TURNPIKE • NEW HYDE PARK, NEW YORK 11740 • (516) 354-6600 • FAX (516) 354-6601

Client: Radian International
 710 Route #46, Suite #401
 Fairfield, NJ 07004
 Project: Northrup Grumman

Report #: 98RAD 015 Page 1 of 1
 Date: 04/24/98
 Break Date: --
 Cast By: ECM (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)
75	24122	8:51	rejected	-	-	-	-	-	-	-
80	24126	9:25	rejected	-	-	-	-	-	-	-
85	B124167	1:05	3:10	3:15	6.0	12.5	70	145.0	1-2	3000

Location(s) of Pour: Slab floor adjacent to truck loading bay

Supplier: S. M. Bethune Contractor: S. M. Bethune Inspector: E. M. (MTL)
 Weather: Sunny (indoor pour) Air Temp: 62 degrees Total Yardage Placed: 15.5 yds

COMPRESSIVE STRENGTH OF CONCRETE TEST CYLINDERS (ASTM C39) (6" DIA 12" H)

Field #	Seal #	Date Cast	Date Tested	Age, Days	Cross-Section Area (sq in)	Total Load (Lbs)	Fracture Type	Strength (PSI)	Complies
1	37597	04 23 98	04 27 98	3	28.27	9450	2	3341	
2	37598	04 24 98			28.27				
3	37599	04 24 98			28.27				
4	37600	04 23 98			28.27				

REMARKS: IFST RESULTS TO FOLLOW

A B C D E



Conc Cone & Split Cone & Shear Shear Columnar

Reported To: Dale Hansen (Radian)

Submitted By: Materials Testing Lab, Inc.

Maria A. Kalinowski, P.E.

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Client: <u>RADIAN International</u>	Report #: _____	Page 1 of 1
<u>SOUTH OYSKOBAY ROAD</u>	Date: <u>4.29.78</u>	
<u>NORTH RUP GRADEN</u>		
Project: <u>800960</u>	Cast By: <u>ECM</u>	

CONCRETE FIELD DATA (ASTM C192)

Truck No.	Ticket No.	Batch Time	Disch. Time	Samp. Time	% Air Cont.	Slump (inch)	Coac. Temp. F	Unit Wt. (PCF)	Field Set #	Design Strength (PSI)
24	B1-2435	7:21	8:10	8:20	5.5	4.0	71°	146.7	1-4	3000
10	B1-2436	9:40	10:15	10:50	6.0	5.0	70°	146.1	5-8	3000

Location(s) of Pour: SLAB FLOOR OF OLD BRACING AREA (PROCESS LINE)

Supplier: Seville - Bethpage Contractor: SCALAPARIS Inspector: ECM1 (MTL)

Weather: Sunny Cool Air Temp. 70° 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-Section Area, (sq. in.)	Total Load (Lbs.)	Fracture Type	Strength (PSI)	Complies
1	36013	4.29.78		3					
2	36014			7					
3	36015			14					
4	36016			28					
5	36089			3					
6	36090			7					
7	36091			14					
8	36092			28					

Reported To: DALE HANSEN

