[redacted]

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
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MEMORANDUM

TO: Linda Grayson, Chief
Bureau of Planning and Assessment

FROM: Doug Stuart, Acting Chief
Bureau of Compliance and Technical Services

SUBJECT: Responsible Party Investigation
Foundry Street Complex
(AKA Arkansas Chemical, Hummel Chemical)
185 Foundry Street, Newark, NJ

The Bureau of Compliance and Technical Services' Special Investigation Section has prepared the attached Responsible Party Investigation Summary for the subject case to assist the Bureau of Planning and Assessment in its site evaluation.

Please be advised that referenced key documents are maintained in this bureau's files. Should you have any questions in this matter, do not hesitate to contact me at (609) 633-0708.

lmc
c Y. Yacoub, Chief, NBFO
P. Smith, Investigator, SIS/BCTS
B. Patterson, ECRA
RPIU File

FOUNDRY STREET COMPLEX
AKA ARKANSAS CHEMICAL AND HUMMEL CHEMICAL

SUMMARY

The Foundry Street Complex consists of six separate parcels of land, Lots 4 (Block 5005); Lot 5 (Block 5005); Lot 6 (Block 5005); Lot 10 (Block 5005); Lot 21 (Block 5005); and Lot 22 (Block 5005), see Attachment 1. The site is located in the Iron Bound Section of Newark and is situated between Foundry Street on the east, the former Manufactures Railroad on the west, and Roanoke Avenue on the north. Bordering the southern portion of the site is the New Jersey Turnpike.

Approximately 30 small buildings are situated throughout the complex. The buildings are separated by narrow driveways which have strip-like drains in the middle of the lane. These drains are connected to an industrial sewer line on Roanoke Avenue and receive surface water run-off and industrial discharge from companies in the complex. The complex is easily accessible from numerous locations.

Historically, the Foundry Street Complex has been occupied by a variety of chemical manufacturing industries. One of the first known companies associated with the site was Central Dyestuff and Chemical Company (CDC), a New Jersey Corporation. CDC acquired the property in three different portions from Waldron Brothers Realty Company, Municipal Investment Company, and part of the premises known as Plum Point Lane duly vacated by the City of Newark. CDC manufactured color specialties which included oranges, fast reds, scarlets, browns, chrysoidine blacks, oil soluble colors, and a large variety of colors and dyes used for cakes, varnishes, inks, stains, straw, leather, etc.

On August 13, 1930, Central Dyestuff and Chemical Company merged with Consolidated Color and Chemical Company (CCC). The latter name was retained by the new corporation which continued to operate on site.

In January of 1936, Arkansas Company, Inc., a New York Corporation, executed a three year lease for space in buildings designated as #16, #24, #26, #27, #28, #32 and #35 with CCC. Consolidated Color and Chemical gave Arkansas the sole right and option to purchase the demised property. However, this option expired on October 31, 1938. After executing the lease with Arkansas, CCC changed their name to H.A. Metz & Company Inc., a New Jersey Corporation, on March 2, 1936. H.A. Metz & Company name was changed to Roanoke, Inc., a New Jersey Corporation, on May 24, 1937.

In January, 1939, Roanoke, Inc. sold the property which now consists of Lots 4, 5, 21 and 22 to Chemical Industries, Inc. for a sum of $10.00.

Prior to the sale of the premises, a ten year lease which became effective February 1, 1939, was negotiated between Arkansas Company, Inc., Chemical Industries, Inc. and Roanoke Inc. Arkansas Company's new lease still contained the right and option to purchase the premises which expired on November 1, 1943. Apparently, Arkansas and Chemical Industries, Inc. had negotiated the sale of the property before the November 1 deadline. The

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sale was finalized on December 27, 1943. The Newark Tax Map now designates this property as Lot 5 (Block 5005).

ARKANSAS COMPANY, INC.

Arkansas Company, Inc. (Arkansas Chemical) manufactured textile chemicals at the facility which included chelating agents, dye carriers, emulsifying agents, fire retardants, fungicides, resin finishes and water repellents.

In 1975, Arkansas was issued a Notice of Violation (NOV) by the U.S. EPA, Region II, for failure to implement a Spill Prevention Control and Countermeasure Plan for a 20,000 gallon storage tank containing No. 6 fuel oil. It is not known if any penalties were assessed against Arkansas for the violation.

Arkansas Chemical sold the property (Lot 5) to Galaxy, Inc. on February 23, 1978, but continued to operate on the premises as a tenant. The City of Newark foreclosed upon the property, for unpaid taxes, in September of 1983. Both Arkansas and Galaxy, Inc. subsequently filed for bankruptcy, under Chapter 11, in the United States Bankruptcy Court for the District of New Jersey.

Sometime thereafter, Arkansas Chemical ceased operations at the facility. NJDEP personnel discovered approximately 250 abandoned 55 gallon drums on the property during a site inspection on April 30, 1984. Labels found on the drums indicated that they contained benzene chloride, perchloroethylene, methanol, silane, isophorondiisocyanate, lactic acid and polyethylene glycol. Some of the drums were noted leaking their contents. Oil spillage was discovered on the rear portion of the property where open containers of petroleum products were stored.

The Division of Waste Management (DWM) issued a Directive Letter to Arkansas on September 21, 1984. Arkansas was directed pursuant to the Spill Compensation and Control Act, to immediately initiate remedial measures at the site which included: Securing access onto the site; listing all materials stored on site within fourteen days upon receipt of the directive; and properly removing and disposing of all containers and contaminated soil in accordance with Department regulation.

Howard S. Greenberg, registered agent for Arkansas, informed the NJDEP by letter dated October 3, 1984, that remedial contractors were being sought. A supplemental letter dated October 23, 1984, provided the names of potential contractors which included: Atlantic Remedial Constructors, Inc., Clean Venture, Inc. and Rollins Field Service, Inc. The letter also stated that Elson T. Killian Associates had been hired to oversee cleanup activities. A cleanup proposal was submitted by Clean Venture, Inc. in November, 1984.

Approximately 500 additional drums were discovered in building No. 28 during a subsequent inspection. Many of the drums were labeled for corrosive, flammable and poisonous materials. An unspecified number of five gallon pails were also found in an outdoor shed.

The United States Bankruptcy Court authorized funds to secure the drums. On January 3, 1985, Cycle Chem commenced cleanup operations by moving drums located in the outside yard into building No. 28A. This phase of the cleanup was completed on the following day. No further actions were taken in this response.

CWC Realty Company made a "contract of sale" for Lot 5, with Galaxy, Inc. on May 10, 1985. The sale of the property never occurred due to a potential costly cleanup.

In 1986, the City of Newark took steps to secure the buildings of Arkansas Company, Inc. Such efforts proved to be ineffective. Vandals routinely broke into the buildings and were responsible for a fire which occurred at the facility. The buildings on the property began to deteriorate due to leaks in the roof. This allowed rain to enter the buildings and caused drums stored inside to corrode and release their contents.

The USEPA Region II Technical Assistance Team took control of the Arkansas Chemical facility in January, 1987. A cleanup commenced shortly thereafter and continued over the next two years. By February 2, 1989, all hazardous materials which consisted of base neutrals compounds, acids, cyanides, flammables, peroxides, halogenated organics, oxidizers and organics were removed from the facility. EPA's response did not include remediation of contaminated soils and ground water.

LOT 4, BLOCK 5005

Kem Realty Company purchased Lot 4 (Block 5005), 96-144 Roanoke Avenue, from Chemical Industries Inc. on May 8, 1962. The City of Newark subsequently approved a subdivision of the lot on January 6, 1964. Approximately 0.87 acres was taken from the northeast corner of Lot 4 and designated as Lot 21 (Block 5005).

HUMMEL LANOLIN CORPORATION

Hummel Lanolin Corporation (HLC), a wholly owned subsidiary of Croda Inc., EPA ID #NJD002175016, manufactures lanolin and lanolin derivatives used as formulation aids for the cosmetic industry. HLC began operating on the property as a tenant in the late fifties.

On February 28, 1964, Hummel Lanolin purchased Lot 21 from Kem Realty. The property contained a single building that was built in 1947 by Chemical Industries, Inc. Apparently, this building was once used to store food and flavor ingredients by Masehmeirer Aromatics, before it was occupied by HLC. In 1964, a warehouse was constructed and an extension was made to this warehouse in 1969-1970.

HLC blended mixtures of lanolin and lanolin derivatives with mineral oils, paraffin waxes, fatty acids, and alcohols. The manufacturing of lanolin involved four stages. Wool grease was first heated until it became a liquid and sodium chloride, citric acid, and trisodium EDTA were then added. Next, hot water was sprayed over the mixture which settled overnight. Fatty acids contained in the mixture were neutralized with isopropanol, soda ash, and caustic soda solution. The mixture was then aggregated and allowed to settle overnight once again. Upon completion of this process, the product was ready for washing and bleaching. In this stage, soap stock and interface used to clean the lanolin were drawn off the mixture and pumped to a tank for subsequent treatment. The remaining grease was washed a second time to remove any residual soap and allowed to air dry. A hydrogen peroxide solution was then used to bleach the wool grease.

Soap stock and wash water generated from the manufacturing process were neutralized with either sulfuric acid or hydrochloric acid to free water insoluble fatty acids. The fatty acids would float to the surface and the remaining acid solution was pumped to another tank where it was neutralized with caustic soda or soda ash to a pH of 5.5. The neutralization solution was discharged into the Passaic Valley Sewerage Authority. Fatty acids recovered from the neutralization process were recycled in lanolin derivatives.

In September of 1986, Hummel Lanolin Corporation entered into an "Agreement of Sale" of the premises with Custom Foil Company, Division of CWC Industries. The prospective sale of the property activated the Environmental Cleanup Responsibility Act. Consequently, HLC hired Dames & Moore, an environmental consultant, to investigate the property and determine if any potential sources of contamination existed on site. The location of a former underground storage tank was one of the major environmental concerns of the ECRA investigation. Borings made in the vicinity of the tank revealed the presence of petroleum hydrocarbon (PHC) contamination. Soil samples collected at a depth of 5.0 - 5.5 feet contained higher levels of PHCs than samples collected at the base of the tank. Dames & Moore attributed the contamination to spillage from tank refilling operations. Base neutral compounds (B/N) were also detected in three of the soil samples taken near the tank.

The presence of B/Ns warranted further investigation and a ground water investigation was conducted by Dames & Moore. During the installation of monitoring wells in the area of the former underground storage tank, a black sludge like material was encountered in the location of monitoring well #1. A soil sample collected from a soil boring made near this monitoring well on August 13, 1987 contained volatile organic compounds (VOC), B/Ns, pesticides (i.e. Beta BHC and delta BHC) and priority pollutant metals. Dames & Moore concluded that the contamination was probably due to a leak in the sewer line which passes underneath the property and receives waste from an electroplating company (Automatic Electro-Plating) located upgradient of the sewer line.

Additional sampling was conducted to determine if the contamination was from an on site or off site source. Six soil borings (B1-B6) were made throughout the southwest portion of Lot 21 and one sediment sample was collected from a manhole in the sewer line located upgradient of HLC's process building. The soil samples and sediment sample contained VOCs, metals, and PHC. B/Ns and pesticides (i.e. heptaclor, aldrin, 4-4' DDT) were only detected in the soil samples.

Floor drains in the process building were also investigated as a potential source of contamination. A soil sample (BSW-1) was collected from beneath a floor drain in the southwest corner of the process building in September,

1988. The drain was the closest to where the sludge contamination existed and contained VOCs, B/N and metals below ECRA action levels. The floor drains were determined not to be a source of the sludge material.

A third possible source investigated was Hummel Lanolin's drainage basin. The basin was used to collect effluent samples before being discharged into the industrial sewer system. The basin and pipe connected to the sewer was cleaned out on October 14, 1988. During the clean out, a black liquid flowed into the basin from the industrial sewer line. Dames & Moore collected one sludge sample (WC-1) and one liquid sample (WC-2). Both samples contained VOCs, PHCs and total cyanide. Sulfides and corrosivity were below EPA maximum levels. Sample WC-1 also contained five B/Ns, below method detection limits, and priority pollutant metals (i.e. cadmium, copper, lead and zinc). Similar metals were detected in the upgradient manhole in the main industrial sewer. It should be noted that the drainage basin is located downgradient of the sludge contamination. The sludge contamination was determined to originate from an off site source (i.e. via the industrial sewer).

LOT 22, BLOCK 5005

A major subdivision of Lot 4 (Block 5005), was approved by the City of Newark, Central Planning Board, on March 1, 1971. Consequently, Lot 22, 159-169 Foundry Street, was formed from the southern portion of Lot 4. Kem Realty Company conveyed this new parcel containing approximately 1.65 acres to the Foundry Street Corporation on May 3, 1971. The Foundry Street Corporation leases the property to Automatic Electro-Plating Corporation, Sun Chemical Corporation, and Fleet Auto Electric.

SUN CHEMICAL CORPORATION

Sun Chemical Corporation (Sun), Pigment Division, EPA ID #NJD002458842, manufactures quincridone pigments in buildings #23, #31, #32, #33 and #34 located on the eastern portion of Lot 22 (See Attachment 2). Polychrome Corporation, Cellomer Division, operated here prior to 1967.

Quinacridone pigments are highly colored, insoluble pigments, and range in color from red to violet. The pigments are used in the automobile industry, printing inks, and plastics. Quinacridones are produced by the cyclo dehydration of dianilino-terephthalic acids in polyphosphoric acid.

Sun uses two basic methods to produce red and violet pigments. The red pigment is made by mixing polyphosphoric acid and dianilino-terephthalic acid together and heated, to dehydrate the dianilino-terephthalic acid. The substance is pumped to another tank containing water and the slurry produced is heated under reflux, then pumped through a filter press where the crude pigment is collected. Effluent from the press which consists mainly of phosphoric acid, is pumped to a storage tank for subsequent removal off site. The crude pigment is refluxed a second time with glacial acetic acid and the finished product is pumped to a filter press for collection. Spent acid generated from this process is pumped to a tank where it is neutralized with caustic soda and discharged to the Passaic Valley Sewerage Commission.

In producing violet pigment, polyphosphoric acid and dianilino-terephthalic acid are mixed together and heated, to dehydrate the dianilino-terephthalic acid. The remaining material is added to methyl alcohol and refluxed for several hours. Water is added and the mixture is distilled to recover some of the alcohol. The alcohol is later reused.

The mixture is pumped to a filter press where the pigment is collected. Effluent generated from the process, consisting of alcohol and phosphoric acid, is pumped to a neutralization tank for treatment with caustic soda. After the pH is adjusted, the effluent is discharged into PVSC. Magenta pigments are made the same way except 2,5-di-p-toluidino-terephthalic acid or 2,5-di-(p-chloroanilino) telepathic acid is used as the starting material.

Originally, Sun Chemical was identified as a hazardous waste generator and TSD facility on their RCRA Part A application. TSD activities included storage in tanks (S02) and treatment in tanks (T01). In April of 1988, the Bureau of Hazardous Waste Engineering (BHWE) delisted the company's status to a generator only since waste were no longer stored on site for more than 90 days.

Sun is classified as a Industrial Waste Management Facility (IWMF) under the New Jersey Water Pollution Control Act, due to the on site neutralization of waste. Caustic soda is used to neutralize process effluent in two interconnected 1,500 gallon above ground storage tanks situated between Buildings #23 and #31. The treated effluent is discharged into a sump connected to an industrial sewer located on the adjacent property (Lot 4) owned by Norpak Corporation. Sun discharged its effluent into the strip drainage system located on the west side of the plant before the installation of the waste water treatment unit.

The Passaic Valley Sewerage Commission (PVSC) regulates the discharge under Permit #2040-1042 and requires the pH to be between 5.0 and 10.5. Sun is exempt from obtaining a NJPDES permit because it is considered an elementary neutralization unit. The facility qualifies as an elementary unit since the wastes neutralized are only considered hazardous due to the corrosivity characteristic.

Some of the company's hazardous waste is transported off site to Industrial Solvents in Pennsylvania. Industrial Solvents reclaims the solvent portion of the phosphoric acid and methanol/isopropanol mixture. This is sold back to Sun Chemical.

Sun Chemical Corporation entered an agreement for the sale of the Foundry Street facility with Sun/DIC Acquisition Corporation. In October, 1986, Recon Systems Inc. conducted sampling at the facility as part of a preliminary acquisition survey. Samples consisting of one soil, one sediment, and one swipe sample taken of an oily stain on the boiler room floor. The sediment and soil samples contained VOCs, PHCs, PCBs and priority pollutant metals. PCBs were detected in the swipe sample.

Consequently, both parties signed an ECRA Administrative Consent Order (ACO) on December 30, 1986. The ACO required Sun to install monitoring wells so that ground water quality could be investigated. Recon Systems Inc. collected ground water samples from three monitoring wells throughout the facility on September 19 and November 10, 1989. The sample results indicated that ground water was contaminated with VOCs, B/Ns, PHCs and priority pollutant metals. The concentrations detected exceeded ECRA action levels. However, the contamination appeared to be coming from an off site source.

As a result of potential off site contamination, five additional monitoring wells were installed at Sun Chemical. Ground water samples were collected from the eight monitoring wells on August 23, 1990. These samples contained elevated levels of VOCs, B/Ns, PHCs and priority pollutant metals.

The DWR, Bureau of Ground Water Control recommended that additional background sampling be conducted to verify off site sources of contamination in March of 1990. Recon Systems Inc. in an attempt to verify such sources, investigated the integrity of the drainage system (strip drains) and sewer system. Video inspection of the sewer system revealed that the sewer lines contained numerous cracks and separations between the pipes. The inspection also noted that the strip drains were connected to the sewer system on Sun's property.

On July 17, 1990, four sediment samples and one water sample was collected from catch basins and the sewer system on the property. The samples contained elevated levels of VOCs, B/Ns, organic acids, cyanides, and priority pollutant metals. Recon Systems Inc. investigative findings concluded that contamination could have migrated onto the facility through the drainage system and leaks in the sewer system.

It was also indicated that reoccurring flooding of the drainage system may have distributed past sources of contamination throughout the facility, resulting in the scattered pattern noted on the premises. Furthermore, "ground water contamination appeared to be a regional problem not directly attributable to Sun Chemical".

FLEET AUTO ELECTRIC

The western portion of Lot 22 is occupied by Fleet Auto Electric and Automatic Electro-Plating Inc. (AEP). Fleet Auto Electric rebuilds electrical parts (i.e. generators, alternators for cars) in building #29 which is located immediately adjacent, and on the west side of Sun Chemical (See Attachment 2). The company has operated in the building since the early seventies.

AUTOMATIC ELECTRO-PLATING CORPORATION

Automatic Electro-Plating (AEP), EPA ID #NJD002445500 conducts an electroplating business in buildings #19, #21 and #22 (See Attachment 2). AEP has occupied these buildings since April, 1971. Tennant Chemical Company once operated in building #21 during the sixties.

The company performs nickel and zinc plating which incorporates two automated methods: RACK (metal parts suspended from racks), building #21, and BARREL (metal parts are placed in a polypropylene barrel) building #22. Both procedures are dipped in the various plating solutions and rinses. AEP stores their dry chemicals in building #19. The yard south of building #19 is used to store acid carboys.

Several processes are done to prepare the metal parts for plating. The parts are first cleaned with an alkaline solution which is followed by a water rinse. Next, the parts are placed in a mild acid bath for surface activation and once again rinsed with water. From this process, the parts are submerged either in the zinc or nickel solution. The zinc solution consists of zinc chloride, potassium chloride and boric acid. The nickel solution consists of nickel sulfate, nickel chloride and boric acid. After the plating is completed, the parts are rinsed with water a final time and air dried.

Spent plating solutions are discharged from two outlets into the outside drains surrounding the production building. The drains flow to a sewer connection located near the northeast corner of building #21. Prior to discharge, the pH of the effluent is adjusted (neutralized) in house before it is released to the Passaic Valley Sewerage Commission (PVSC) which regulates the discharge under permit #2040-1122. Automatic Electro-Plating's permit is effective until July 14, 1991.

In January of 1986, AEP was determined to be in violation of Sections 307 and 308 of the Clean Water Act, 33 U.S.C. Subsection 1317, and Subsection 1318. A Civil Action Suit (86-0920) was filed by the United States Environmental Protection Agency, Region II. Gerald Borriello, President of AEP, signed a Consent Decree on April 15, 1987 for settlement of the pending actions. A $100,000 penalty was paid for the violation by Automatic Electro-Plating.

A prospective acquisition of AEP stock by Gerald F. Mahoney and Sennody Volkov in 1989, initiated the Environmental Cleanup Responsibility Act (ECRA) pursuant to N.J.A.C. 7:26-B-1.6 (stock purchase and redemption agreement of controlling share of assets of an industrial establishment). Subsequently, a General Information Submission and Site Evaluation Submission were filed with the Bureau of Environmental Evaluation Cleanup and Responsibility Assessment (BEECRA) on November 30, 1989 and January 10, 1990 respectively. Both submissions were determined to be incomplete by the Industrial Site Evaluation Element (ISE).

The Earth Technology Corporation, consultant to Automatic Electro-Plating, submitted a ECRA Negative Declaration on April 6, 1990, but it was found to be deficient. A revised declaration submitted on April 18, 1990 was waved due to enforcement actions on the adjacent property. No sampling was originally proposed for the facility. However, Mr. Borriello stated during a site inspection on November 7, 1990, that the Department (presumably ECRA) is requiring him to investigate contamination on site through sampling.

<u>LOT 6 AND 10, BLOCK 5005</u>

The south-southeast portion of the Foundry Street Complex consists of Lots 6 and 10 (Block 5005). Ashland Chemical Company acquired the property from Lasp Realty, Inc. in June, 1968. The two parcels are referred to as the "West Plant" and lie adjacent to Arkansas Chemical. It should be noted that the Ashland facility is divided in half by the New Jersey Turnpike. The

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portion of the facility located on the east side of the turnpike is referred to as the "East Plant", and is not considered part of the Foundry Street Complex.

ASHLAND CHEMICAL COMPANY

Ashland Chemical Company, Industrial Chemical and Solvents Division (IC&S), EPA ID #NJD060803905, 221 Foundry Street, has operated on Lots 6 and 10 (Block 5005) since 1968. Ohmlac Paint and Refinishing Company once manufactured roofing felts and coatings on Lot 6. The company ceased operations on the property around 1961. Subsequently, the property was leased by Jo-Mar Trucking through the mid sixties. No other information is known about the operations of Ohmlac and Jo-Mar Trucking.

The IC&S Division received bulk shipments of aliphatic and aromatic hydrocarbons, acids, alcohols, alkines, amines, esters, ethers, glycols, halogenated solvents, ketones, and nitro paraffins by rail car and tank truck. Ashland transfers the product into a series of above ground tank farms throughout their property. The chemicals are repackaged into smaller bulk lots, such as bags, drums, and other containers, for distribution to their customers. No chemicals are manufactured on site, however, a few special blends (solvent mixtures) are processed. Ashland also generates waste oils, spill cleanup material and hose residue on site.

The West Plant contains loading/unloading areas for rail cars and tank trucks, a drumming warehouse (Building #19), and a tank farm (referred to as the 200 Series), see Attachment 3. Ashland's 200 Series tank farm consisted of 17 vertical above ground storage tanks. Product stored inside the tanks included: 140 solvent, cyclohexane, diemethyl formaldehyde, laktane, light oils, mineral spirits, plasticizers, toluene, and xylene (See Storage and Transfer Vessels of Volatile Organic Substances Maintained in File). The tanks were surrounded by a containment wall made of fire brick. It should be noted that the containment wall was reported to be structurally unsound by DWR personnel. The tank farm also contained a storage tank for No. 4 fuel oil.

Widespread contamination has been documented throughout the IC&S facility. The contamination is a by-product of routine site operations (i.e. storage, loading/unloading operations). On March 7, 1979, a spill of No. 4 fuel oil occurred in the 200 Series tank farm, but was contained within the diking. Approximately 18,000 gallons of waste solvents and fuel oil were removed. Subsequently, a ground water recovery system, consisting of three trenches was installed around the 200 Series tank farm.

Inspections conducted by Department personnel on two occasions, March 13 and 28, 1979, noted that the recovery system had been infiltrated with oil and solvents. Apparently, the contaminants were not attributed to the spill, since the dike area contained a water bottom which prevented most of the spill from entering into the ground.

Spillage and/or leakage was also documented throughout Ashland's IC&S facility by representatives of the NJDEP. Areas noted included: All tank farms, loading/unloading manifolds, pipe connections, sumps, and the storm sewer system were noted to contain product. Corrective measures were discussed with Ashland's officials who stated that it would not be economically feasible for the company to implement all of the remedies required by the Department.

On May 20, 1980, DWR personnel collected water samples from two recovery sumps on site. High levels of benzene, toluene, trichloroethylene, ethyl benzene, m-xylene, p-xylene, and o-xylene were detected in the sample collected from the west sump, located adjacent to building #19. Similar volatile organic compounds were present in the east sump sample.

Ashland proposed a ten year construction schedule to upgrade the facility's Discharge, Prevention, Containment, Countermeasure Plan (DPCC). However, this plan was found unacceptable. A modified plan to be implemented over a five year period was subsequently proposed, but excluded the construction of impervious diking and the replacement of old tanks. By April of 1984, a number of corrective measures outlined in the DPCC plan had been implemented. However, spillage still existed on site in many of the areas not yet addressed.

Ashland's DPCC plan went through numerous revisions but a final plan had not been approved by the Department. In November of 1984, Ashland suggested the construction of a new facility. Consequently, this approach was initiated and triggered ECRA.

Ashland's consultant, M.T. Gates, Inc. conducted a preliminary site assessment on December 1 and 21, 1987. During the December 21 site visit, soil samples and surface water samples were collected from the IC&S West Plant. These samples contained halogenated and aromatic volatile organic compounds, ketones and petroleum distillates.

M.T. Gates initial ECRA Sampling Plan for the IC&S facility was found to be inadequate by the BEERA. A revised Sampling Plan was approved on November 18, 1988. Ten monitoring wells were installed throughout the west plant and sampling occurred on March 7, 1989. In addition to the ground water samples, eight soil borings were taken at depths ranging from 1.5 - 3.0 feet. Both ground water and soil samples contained halogenated VOCs, aromatic VOCs, ketones, metals, and petroleum distillates. The greatest percentage of the contaminants detected were in the aromatic VOC fraction.

A Hydrogeologic Environmental Assessment Conceptual Remedial Plan was submitted by M.T. Gates, Inc. in 1990. The plan called for a ground water interceptor trench to be installed six feet below the existing grade, on the north, east, and south perimeter of the IC&S facility. The interceptor trench would be connected to a series of collection sumps that would accumulate contaminated ground water. The contaminated ground water would then be pumped through a treatment system and discharged into either the PVSC or surface waters. Recently, a Supplemental Sampling Plan has been submitted for the pump and treatment system proposed by M.T. Gates. Upon approval of the Sampling Plan, Ashland will obtain the necessary permits for the systems. The treatment system is expected to be operational by the Spring of 1991.

LOT 4, BLOCK 5005

Kem Realty Company merged with D.S.C. of Newark, NJ Raw Materials Inc., Newark Glassine Bag Company, Norpak Corporation, Diamond Ink Company, A.A.C. Realty Company and Core Realty Corporation forming Torco Investing Corporation on April 30, 1976. Torco Investing Corporation conveyed Lot 4 (Block 5005) to Norpak Corporation on November 30, 1976. Subsequently, Norpak merged with Norpak Specialties Corporation, Leeds Enterprises, Inc., and Abar International Corporation forming a new corporation named A.A.C. Transitional Investment Corporation. On November 30, 1981, A.A.C. sold Lot 4 to Norpak Corporation.

While under the ownership of Kem Realty Company, Norpak Corporation, Torco Investing Corporation, and A.A.C. Transition Investment Corporation, buildings and space on the property were leased to a number of tenants which include: ABC Demolition Company (Building #15), Avon Drum Company (north side of property), Berg Chemical (Buildings #5 and #5A), CWC Industries, Inc. (Buildings #17 and #18, and #36), Comstock Foods (Buildings #38), Conus Chemical (Buildings #4 and #7), Coronet Chemical Company (Building #9), County Lift Truck Service (Building #14), Essex Chemical (Building #17), Grignard Chemical (Building #7), Honig Chemical (Building #7 and #13), Hummel Chemical (Building Unknown), Morrel Truck Service (Building #9), and RFE Industries (Building #1).

NOTE: See Attachment 2 for Building Locations.

C.W.C. Industries, Inc.

C.W.C. Industries, Inc. leased space in buildings #17, #18 and #36. The company manufacturers hot stamping foils (plastic ribbons). The operation involves the application of solvent based surface coatings to a polyester substrate (film). Upon completion of this process, the coated films are dried in an oven. Raw materials used in the coating formulations include isopropanol, methyl ethyl ketone, methanol, v, m & p napthalene, plasticizers, and toluene. These materials were stored outside in a yard adjacent to building #17 and #18. C.W.C. claims that it does not generate any waste on site. Any left over materials are recycled because disposal is too expensive.

The company possesses a NJDEP Air Permit #063295 which they received in May of 1983. C.W.C.'s surface coating is categorized as a paper coating operation in accordance with Table 3B of N.J.A.C. 7:27-16.5. Volatile organic substances (VOS) cannot exceed 2.9 pounds per gallon of coating, applied per hour, in the paper coating category. Two surface coating samples taken on November 10, 1988 exceeded VOS standards. Analysis of the coatings revealed that the coatings contained 5.33 and 6.53 pounds of VOS per gallon. Subsequently, an Administrative Order and Notice of Civil Administrative Penalty Assessment (AO/NCAPA) in the amount of $500 was issued to C.W.C. Industries. The penalty was paid and the company began to come into compliance by ordering new air pollution control apparatus. No other Department actions are known to have occurred at the facility. C.W.C. has since purchased the former Hummel Lanolin facility.

Conus Chemical

Conus Chemical Company, Inc. (aka Berg Chemical), a New York Corporation, conducted a chemical repackaging/distribution business in buildings #4, #5 and #7 which are situated on the western portion of Lot 4. In September of 1984, Conus purchased the assets of Berg Chemical Company which included accounts, equipment and chemical inventory. Berg Chemical had operated a similar business in the Bronx, New York. The New York City Department of Environmental Protection performed a publicly funded cleanup at the Bronx site in July, 1984. Various chemicals were found improperly stored at the facility.

Norpak Corporation and Conus were both issued Directives by the Division of Hazardous Waste Management on April 16, 1987. The Directive indicated that hazardous substances were improperly stored in building #7. Some of these drums had discharged their contents. Both companies were directed to repack leaking containers, segregate materials on site by hazard class and compatibility, and engage a qualified contractor to submit a cleanup plan. No actions were taken to correct the noted problems.

Numerous incidents have occurred at Conus Chemical Company which have required responses by the Newark Office of Emergency Management and NJDEP, Bureau of Emergency Response. In June of 1987, a drum of benzyl chloride was emitting hydrogen chloride vapor through a pinhole leak. The drum had been previously owned by Berg Chemical. The BER used Spill Fund monies to hire a contractor who neutralized and contained the fuming drum. Efforts made by the Department to contact Conus personnel were unsuccessful.

Conus Chemical was evicted from Norpak's property on December 31, 1989. An inspection conducted by the DHWM, Bureau of Metro Enforcement noted discharges of hazardous substances throughout the inside and outside of the facility. Conus and Norpak were subsequently cited for violations under the Spill Act. On January 31, 1990 a fire occurred in an outside debris pile near building #8. The USEPA inspected the Conus facility and found approximately 1,000 drums and containers with acids, flammables, laboratory reagents, oxidizers, petroleum products and solvents improperly stored.

On February 9, 1990 the NJDEP officially referred the site to the USEPA for a CERCLA Removal Action. Consequently, Norpak Corporation granted EPA access to the site for a cleanup. Remedial activities commenced on February 19, 1990. The objective of the project was to remove any threat of fire and explosion, and eliminate the threat of direct contact with hazardous substances abandoned on site. The cleanup was completed by March 30, 1990. Further remedial activities at the site are now pending. Berg Chemical Co. Inc. and Conus Chemical are investigating site contamination through ECRA.

Coronet Chemical Company, Inc.

Coronet Chemical Company, Inc., EPA ID #NJD046954715, manufactured metallic sodium dispersions and pigment concentrations used in the teflon industry. In addition, the company was developing a sodium dispersion to destroy PCBs. The company occupied building #9 located to the east of Conus

848930028

Chemical. Coronet Chemical stored some of their raw materials in building #4 which they subleased from Conus.

Coronet was originally registered as a hazardous waste generator and TSD facility on their initial RCRA Part A application submitted in August, 1980. Coronet reclaimed napthalene and ether from spent teflon etching solution through settling and distillation processes. First, the solution was vacuumed into a distillation columnar and transferred into a holding tank as diethyleneglycoldimethylether. Once the settling process was completed, the ether went into a drying column containing activated aluminum and subsequently into a drum for resale. Still bottoms produced from the process, consisting of naphthalene (solid), were placed in five gallon pails and heated in a cooker. The clean naphthalene recovered from this process was used to make sodium dispersions. Waste generated by Coronet's operations included spill cleanup material (approximately one drum per year); solids from the distillation column (1/2 pound per year); and spent activated alumina. Non contact cooling water was discharged into the Passaic Valley Sewerage Authority.

This reclamation service was originally used by Atlantic Tubing, Paterson, NJ and Chem Plast, Wayne, NJ. However only Chem Plast was utilizing the services of Coronet in 1982. Due to the lack of business, TSD status was never developed.

RCRA inspections conducted by the Department in 1981 and 1982 noted numerous deficiencies at the facility. During one such inspection, a leaking drum of napthalene was observed and waste materials had exceeded the 90 day storage limit for hazardous waste. Moreover, waste generated from the recovery process was disposed into a domestic dumpster on site. Other deficiencies reported as a result of the RCRA inspections included: No waste analyses, no closure plan, no operation records, no personnel training, and no manifests.

Coronet vacated the premises around 1986. The company abandoned drums containing flammable, reactive and explosive materials on site. In March of 1987, a drum containing metallic sodium caught fire and exploded.

<u>Grignard Chemical Company, Inc.</u>

Grignard Chemical Company, Inc., EPA ID #NJD002201093, occupied building #7 located on the west side of Lot 4. The company conducted operations at this location between 1975 and 1984 which included the manufacturing of chemical preparations such as metal preservatives and cleaners.

On August 18, 1980 Grignard Chemical filed a Notice of Hazardous Waste Activity and subsequently a RCRA Part A application on November 19, 1980. The company's president, Emil G. Grignard, requested to delist the TSD facility to generator only status on September 21, 1981. The request was approved on March 3, 1983, after the Department had issued a Notice of Violation (NOV) in November 1982. The NOV cited Grignard Chemical for failure to submit an annual report required of TSD facilities. No other enforcement actions are known to have been taken against Grignard.

848930029

Waste generated by Grignard Chemical are generally unknown. However, in a letter to the USEPA, Grignard stated that they use chlorinated hydrocarbons. Also a Department memo dated February 1, 1982 indicated that Grignard received a shipment of transformer oil containing 135 ppm polychlorinated biphenyls (PCBs). According to the Industrial Waste Survey, Grignard generated one 30 gallon drum of solid waste every three weeks.

DISCHARGE/ABANDONMENT INFORMATION:

Foundry Street Complex
141-189 Foundry Street and 96-144 Roanoke Avenue
City of Newark, Essex County
Block 5005, Lots 4, 5, 6, 10, 21 & 22

Current Owners:
Block 5005, Lot 4 (96-126 Roanoke Avenue)
Norpak Corporation
76 Blanchard Street
Newark, NJ 07105

Block 5005, Lot 5 (171-183 Foundry Street)
City of Newark
920 Broad Street
Newark, NJ 07102
(201) 733-3844

Block 5005, Lots 6 & 10 (185-189 Foundry Street)
Ashland Oil & Refining Company
PO Box 1400
Lexington, Kentucky 40512

Block 5005, Lot 21 (128-144 Roanoke Avenue)
C.W.C. Realty Company, Inc.
185 Foundry Street, Building #18
Newark, NJ 07105

Block 5005, Lot 22 (157-169 Foundry Street)
Foundry Street Corporation
185 Foundry Street
Newark, NJ 07105

848930031

SUBSTANCES DISCHARGED/ABANDONED:

The following contaminants were detected in sediment samples, soil samples, and surface water samples collected throughout the Foundry Street Complex by the Bureau of Planning and Assessment on October 14, 1988.

VOCs: Acetone, Benzene, 2-Butanone, Carbon Disulfide, Chlorobenzene, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,2-Dichloroethene, Ethylbenzene, Methylene Chloride, 4-Methyl-2-Pentanone, Tetrachloroethene, Toluene, 1,1,1-Trichloroethane, Vinyl Chloride

BNAs: Anthracene, Benzoic Acid, Benzo(a)Anthracene, Benzo(b) Fluoranthene, Benzo(k)Fluoranthene, Benzo (g,h,i) Perylene, Benzo(a)Pyrene, bis (2-Ethylhexyl) Phthalate, Butylbenzylphthalate, 4-Chloroaniline, 1,2 Dichlorobenzene, 1,3 Dichlorobenzene, 1,4 Dichlorobenzene, Dibenzo(a,h)Anthracene, Di-n-Butylphthalate, Di-n-Octylphthalate, 2,4-Dichlorophenol, Fluoranthene, Fluorene, Indeno (1,2,3,-c,d) Pyrene, 2-Methylnaphalene, Naphalene, 2-Nitroaniline, Phenanthrene, Phenol, Pyrene, 1,2,4-Trichlorobenzene, 2,4,6-Trichlorophenol

PESTICIDES:

Aldrin, Dieldrin, 4,4'DDT, Arcolor 1248

METALS: Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Silver, Vanadium, Zinc, Cyanide

DESCRIPTION OF SITE CONTAMINATION:

LOT 21 (BLOCK 5005)

Hummel Lanolin Corporation removed a 6,000 gallon underground storage tank, used to store fuel oil from the southwest corner of Lot 21 in 1985. The location of this former tank was a major environmental concern of Hummel Lanolin. As a result of this concern, Dames & Moore, consultants for Hummel Lanolin, installed six soil borings in the area of the former tank. Soil samples were collected at six inches above the saturation zone (approximately 5.0 - 5.5 feet in depth) and six inches below the base of the tank (approximately 10.0 - 10.5 feet in depth). It should be noted that ground water was encountered at a depth of five and one half feet.

All twelve samples were found to have petroleum hydrocarbons ranging in concentrations from 16 ppm to 1,720 ppm. Three samples analyzed for base neutral compounds revealed the presence of bis (2-ethylhexyl) phthalate, di-n-butyl phthalate, and napthalene. Other base neutral compounds were detected but could not be definitively identified. The two samples containing the highest concentrations of petroleum hydrocarbons were further analyzed to determine their constituents (fuel oil or wool grease). High concentrations of wool grease were detected in the sample taken from beneath the tank. The other sample, which was taken above the saturation zone revealed higher levels of fuel oil.

Six additional soil borings were made in the area of the former tank in March, 1987. The soil samples collected from these borings contained VOCs (i.e. benzene, toluene, 2-butanone, trichloroethane, 1,2-dichloropropane, xylene) semi volatiles (i.e. napthalene, fluoranthene, pyrene, chrysene, benzo(a)pyrene, phenanthrene), PHCs, and metals (i.e. cadmium, chromium, copper, lead, zinc).

Dames & Moore installed four monitoring wells (MW) in the vicinity of the former tank in July, 1987 to determine if ground water had been contaminated. During the installment of MW-1, a sludge like material with a septic odor, was encountered. On August 13, 1987, a soil boring was made approximately one foot from MW-1. The sludge material was not detected in the soil sample taken from the boring, however, a septic odor persisted. Contaminants detected in the sample included VOCs, B/Ns, pesticides and metals (arsenic, cadmium, lead and zinc).

A ground water sample was extracted from MW-2 on August 17, 1987. No significant levels (less than 1 ppm) of petroleum hydrocarbons and oil/grease were detected in the sample. It should be noted that no analysis for priority pollutants was performed on the sample. The presence of VOCs, B/Ns, and metals in soil samples would suggest possible leaching of these contaminants into the underlying ground water.

To further delineate the source of the sludge material, a sediment sample was collected from the base of a manhole located 60 feet from the facility on the southern portion of the property. The sediment sample contained VOCs, PHCs, and metals. These are the same types of contaminants present in the soil sample taken from the boring next to MW-1.

A composite soil sample was obtained from beneath a floor drain in the process building located near the area where the sludge material was discovered outside. The sample was taken at a depth of 20.5 - 26.3 inches and 26.1 - 32.5 inches. The sample contained VOCs, B/Ns, and metals below ECRA action level. The floor drains were determined not to be a source of the sludge through the concentrations detected in the soil sample.

In October, 1988, Dames & Moore collected a sediment sample (WC-1) and water sample (WC-2) from the drainage basin situated on the north side of the process building. The sediment sample contained methylene chloride (11,000 ppb), toluene (6,100 ppb), five B/Ns below method detection limits, and metals (i.e. cadmium, copper at 1,096 ppm, lead at 1,044 ppm, selenium, zinc at 3,746 ppm). The water sample contained low levels of cadmium and lead. However, both samples had elevated levels of total petroleum hydrocarbons.

LOT 22 (BLOCK 5005)

A preliminary ECRA investigation was performed at the Sun Chemical facility by Recon Systems, Inc. on October 14, 1986. Three (3) samples consisting of one soil sample from an unpaved area adjacent to a solid waste dumpster, one sediment sample from a drain located in the drive way south and adjacent to Sun, and one swipe sample of a oily substance on a boiler room floor were taken during the sampling episode.

The soil and sediment samples exceeded the Bureau of Industrial Site Evaluation cleanup levels for base neutral compounds and petroleum hydrocarbons. Base neutral compounds detected included napthalene, 2-methylnapthalene, di-n-butyl phthalate, bis (2-ethylhexyl) phthalate and unknown brominated compounds. Metals (i.e. antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) were also present in both samples. PCBs were detected in the soil and swipe sample.

In August, 1989, three monitoring wells were installed at Sun Chemical to examine ground water quality. Two of the three wells (MW-1, MW-3) were placed on the west and north side of the facility respectively. While MW-2 was placed to the south of the facility. Ground water was determined to flow in a southeast direction and was reported to be influenced by tidal action.

Ground water samples were collected from the monitoring wells on September 19 and November 10, 1989. The samples from all three wells exceeded ECRA action levels for total B/Ns and VOCs. However, levels detected in MW-2 were lower than those levels detected in the other two monitoring wells (MW-1, MW-3). In addition MW-3 also exceeded action levels for PHCs, PCBs, and metals (i.e. arsenic, cadmium, lead, mercury, zinc).

Recon Systems, Inc. collected four (4) sediment samples and one water sample from Sun's sewer system on July 17, 1990. Sediment sample #1 was collected from the drainage system (strip drain) located in the driveway separating Sun and Arkansas Chemical where a second drain from Arkansas property connects into the first drain. The sample contained elevated levels for volatile organic compounds (VOC), base neutral compounds (B/N), organic acids, cyanide, phenol and priority pollutant metals (i.e. lead, mercury).

Sediment sample #2 was collected from a catch basin located in the driveway separating Sun and Automatic Electro-Plating to the west. The catch basin is situated where an underground sewer line from Automatic Electro-Plating connects into the sewer system. This sample contained elevated levels of VOCs, unknown semi volatile compounds, cyanide (45 ppm) and priority pollutant metals (i.e. cadmium, chromium, copper, lead, nickel (4,270 ppm), zinc (4,140 ppm).

Sediment sample #3 was obtained from the underground sewer system where a strip drain located in the driveway on the north side of Automatic Electro-Plating connects with the underground sewer line. The sample contained PCBs (100 ppm), VOCs, B/N, organic acids, unknown semi volatiles, cyanide, phenol and priority pollutant metals (i.e. antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc). Overall, sediment sample #3 had the highest concentration of metals detected in all of the samples analyzed.

Monitoring wells MW-1 and MW-3 contained high levels of contamination. It was suspected that the contamination detected in the wells may be coming from an off site source. Recon Systems, Inc., consultants for Sun Chemical, installed five additional MWs in June and August, 1990. Two of the wells (MW-4, MW-5) were installed along the northern property line. MW-6 was installed along the western property line adjacent to Automatic Electro Plating. MW-7 was installed on the south side of the facility. Ground water was determined to flow onto Sun Chemical from the south. Sampling of the wells occurred on August 23, 1990. Ground water samples contained VOCs, B/N, and priority pollutant metals.

LOTS 4, 5, 21, 22 (BLOCK 5005)

Bureau of Planning and Assessment (BPA) personnel conducted a presampling site inspection (SI) at the Foundry Street Complex on October 7, 1988. Air monitoring and soil gas readings were limited to Lots 4, 5, 21 and 22. Soil gas readings ranged in concentrations from 0.6 ppm - 600 ppm (as benzene) and 10 ppm - 1,000 ppm (as methane) with the HNU and OVA respectively. Ambient air levels ranged from 1-10 ppm.

Information obtained from the SI indicated that further investigation was warranted. Eighteen soil samples, five sediment samples, four surface water samples, and two ground water samples were collected during the sampling episode on October 14, 1988 (See Attachment 2 for Sampling Locations). High concentrations of volatile organic compounds, base neutral compounds, PCBs, and metals were present in the soil, sediment, surface water and ground water samples. The most commonly detected contaminants included: Trichloroethane, benzene, chlorobenzene, toluene, xylene, tetrachlorobenzene, naphthalene, pyrene, di-n-butyl phthalate, bis (2-ethylhexyl) phthalate, butyl benzyl phthalate, aroclor 1248, arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc.

LOTS 6 & 10 (BLOCK 5005)

Ashland Chemicals ECRA consultant, T.M. Gates Inc. collected two surface water and three soil samples from Lot 10 in December of 1987. The samples were taken during a preliminary site assessment. Both surface water samples contained 1,1,1-trichloroethane. The soil samples revealed several additional volatile organic compounds that included: 1,1-dichloroethane, 1,1-dichloroethene, xylene, 4-methyl-2-pentanone, and mineral spirits.

Based on the preliminary data, ten monitoring wells (MW) and eight soil borings (SB) were constructed on Lots 6 and 10. Three of the monitoring wells (MW-1, MW-2 and MW-3) were installed along the northern boundary of Lot 6, which is adjacent to Arkansas Chemical. These wells were intended to provide upgradient ground water quality data. Ground water samples from the three monitoring wells contained a variable pH, elevated concentrations of metals (i.e. arsenic, cadmium, chromium, copper, leads, nickel and zinc), and volatile organic compounds. MW-3 had the highest concentrations of metals.

The greatest occurrence of ground water contamination was detected in the central portion of Lots 6 and 10 in MW-5 and MW-6. Both wells were located in the vicinity of the 200 Series tank farm which has a history of spills and ground water contamination. Monitoring wells (i.e. MW-7, MW-8, MW-9 and MW-10) located hydraulically downgradient of the other wells contained low levels of volatile organic compounds. A general breakdown of the chemical groups detected in the ground water samples were halogenated VOCs (3%), aromatic VOCs (93%), ketones (4%), and petroleum distillates (trace).

RESPONSIBLE PARTY:

Ashland Chemical Division (Duns #06-080-3905)
221 Foundry Street
Newark, NJ 07105-4211
(201) 287-3344

Block 5005, Lot 6 & 10

Registered Agent:
Corporation Trust Company
28 West State Street
Trenton, NJ 08608

Corporate Status:
Active; SIC 5169; Chemicals and Allied Products, NEC
Headquarter Duns: #00-500-3264
Ashland Oil, Inc,
1000 Ashland Drive
PO Box 391
Russell, KY 41169

Financial Status:
Sales $8,536,314,000 latest year 1989 (Dun & Bradstreet)

Principals:
Chairman - Hall, John R.
President - Luellen, Charles J.
Vice President - Lacy, James D.
Vice President - Stephenson, James J.
Vice President - Zachem, Harry M.
Vice President - Adm. Cont., Denton, Kenneth B.
Vice President - General Counsel, Crimmins, Sean T.
Vice President - Adm. General Counsel, Feazell, Thomas L.
Vice President - Administration, Perrine, William E.
Vice President - Block, Philip W.
Vice President - Daneby, John W.
Vice President - Justice, Franklin P. Jr.
Secretary - Ward, John P.
Treasurer - Quin, J.M.
Senior Vice President - Brothers, John A.
Senior Vice President - D'Antoni, David J.
Senior Vice President - Jones, G.W.
Senior Vice President - Pettus, John F.
Senior Vice President - Spears, Richard W.
Senior Vice President - Yancey, Robert E. Jr.
Senior Vice President - Boyd, James R.
Senior Vice President - Barr, John D.
Senior Vice President, CFO- Chellgren, Paul W.
Chairman of the Board - Hall, John R.
Auditor - Wallace, John H. Jr.
President, CFO - Luellen, Charles J.
Senior Vice President, CFO - Chellgren Paul W.
Vice President, General Counsel - Crimmins, Sean T.

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RESPONSIBLE PARTY:

Automatic Electro-Plating Corporation (Duns #00-244-5500)
185 Foundry Street
Newark, NJ 07105-4208
(201) 589-0344

Block 5005, Lot 22

Registered Agent:
J.J. Longley
426 Springfield Avenue
Summit, NJ 07901

Corporate Status:
Active; SIC 3471; Electro-Plating

Financial Status:
Sales $1,000,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Borriello, Gerald
260 Knoll Drive
Block: 2505 Lot: 7 (Park Ridge Borough, Bergen County)

Assessment:
$136,900 Land
$221,400 Improvements
$358,300 Total Assessment

848930038

RESPONSIBLE PARTY:

Avon Drum Corporation (Duns #07-515-4948)
955 South Springfield Avenue
Unit 604
Springfield, NJ 07081-3520
(201) 379-3520

Registered Agent:
Bruce R. Sandles
21 Avon Road
Springfield, NJ 07081

Corporate Status:
Active; SIC 5085; Wholesale New & Reconditioned Drums

Financial Status:
Sales $530,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Nelkin, Merwin
Secretary - Nelkin, Elaine
Treasurer - Nelkin, Elaine

955 South Springfield Avenue
Block 143; Lot 2.02 C0604 (Springfield Township, Union County)

Assessment:
$ 45,000 Land
$116,100 Improvements
$161,100 Total Assessment

848930039

RESPONSIBLE PARTY:

Arkansas Company, Inc.
185 Foundry Street
Newark, NJ 07105-4208
(212) 861-0521

Registered Agent:
George B. Reitz
185 Foundry Street
Newark, NJ 07105

Corporate Status:
Active

Financial Status:
Unknown

Principals:
CEO - Von Sternberg, Dorothy B.
President - Von Stern, Mark R.
Plant Manager - Cufasso, Joseph
Production Manager - Stump, Richard

RESPONSIBLE PARTY:

CWC Industries, Inc. (Duns #06-751-3994)
185 Foundry Street
Newark, NJ 07105-4208
(201) 344-1434

Block 5005, Lot 4

Registered Agent:
William J. Bate
970 Clifton Avenue
Clifton, NJ 07013

Corporate Status:
Active; SIC 3953; Manufacture hot sampling foils

Financial Status:
Sales $1,000,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Chan, Peter

128-144 Roanoke Avenue
Block 5005; Lot 21 (Newark, Essex County)

Assessment:
$ 20,500 Land
$128,400 Improvements
$148,900 Total Assessment

848930041

RESPONSIBLE PARTY:

Conus Chemical (Duns #11-886-8975)
185 Foundry Street
Newark, NJ 07105-4208
(201) 589-8806
Block 5005, Lot 4

Corporate Status:
Active; SIC 5169; Wholesale industrial chemicals

Financial Status:
Sales $1,300,000 Latest Year 1989 (Dun & Bradstreet)

Principals:
Owner - Richards, James

RESPONSIBLE PARTY:

County Lift Truck Service Inc. (Duns #06-155-7526)
81 Charles Street
P.O. Box 7816
Jersey City, NJ 07307-3537

Registered Agent:
John Curtin
81 Charles Street
Jersey City, NJ 07307

Corporate Status:
Active; SIC 7699; Services & Rents Forklifts

Financial Status:
Sales $200,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Curtin, John
Secretary - Curtin, Barbara
Treasurer - Curtin, Barbara

RESPONSIBLE PARTY:

Foundry Street Corporation
185 Foundry Street
Newark, NJ 07105
Block 5005, Lot 22

Registered Agent:
J.J. Longley
426 Springfield Avenue
Summit, NJ 07901

Corporate Status:
Changed

Financial Status:
Unknown

Principals:
Unknown

157-169 Foundry Street
Block 5005, Lot 22

Assessment:
$ 41,300 Land
$ 82,100 Improvements
$123,400 Total Assessment

848930044

<u>RESPONSIBLE PARTY</u>:

Morrel Truck Service
185 Foundry Street
Building #9
Newark, NJ 07105

Block 5005, Lot 4

Corporate Status:
Unknown

Financial Status:
Unknown

Principals:
Unknown

RESPONSIBLE PARTY:

Newark City
920 Broad Street
Newark, NJ 07102
(201) 733-6400

Block 5005, Lot 5

Financial Status:

Total Revenues 1987	$395,345,689.05
Property Tax	120,436,862.59
State Aid	48,896,786.60
Federal Aid	9,388,605.00

Principals:
Mayor-James, Sharpe
185 Foundry Street
Block 5005, Lot 5 (Newark Essex County)

Assessment:
$ 43,000 Land
$191,400 Improvements
$234,400 Total Assessment

848930046

RESPONSIBLE PARTY:

Norpak Corporation
70 Blanchard Street
Newark, NJ 07105
(201) 589-4200

Corporate Status:
Active; SIC 2672 & 3497; Waxed paper and laminated foil wrappers

Financial Status:
Sales $10,000,000 - $20,000,000 (NJ Directory of Manufactures 1990-91)

Principals:
President - Coraci, Anthony A.
Vice President - Godown, Robert
Treasurer/Secretary - Coraci, V.J.
Production Manager - Cartem, Art
Sale Manager - Pacyna, Michael
Purchasing Agent - Rebol, Louis

96-126 Roanoke Avenue
Block 5005, Lot 4 (Newark, Essex County)
Assessment:
$ 82,000 Land
69,600 Improvements
$151,600 Total Assessment

848930047

RESPONSIBLE PARTY:

Torco Investing (Trinet #007648611)
70 Blanchard Street
Newark, NJ 07105-4702
(201) 589-4200

Corporate Status:
Active; SIC 2671; Coated & Laminated Paper Packaging

Financial Status:
Estimated Total Sales $23,100,000 (Trinet)

Principals:
Unknown

RESPONSIBLE PARTY:

RFE Industries Inc. (Duns #05-509-0815)
19 Crows Mills Road
Keasbey, NJ 08832-1004
(201) 738-5200

Registered Agent:
Bruce H. Nagel
744 Broad Street
Newark, NJ 07102

Corporate Status:
Active; SIC 3356; Nonferrous rolling and drawling, NEC, solder: wire bar, acid core and rosin core

Financial Status:
Sales $36,000,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Leiner, Jack
Secretary - Leiner, Maxine
Treasurer - Leiner, Maxine

848930049

POTENTIAL RESPONSIBLE PARTY:

Essex Chemical Corporation (Duns #00-215-3898)
351 Doremus Avenue
Newark, NJ 07105-4805
(201) 589-5300

Corporate Status:
Active; SIC 2819; Industrial Inorganic Chemicals
Headquarter Duns #00-138-1581 the Dow Chemical Company, Inc.

Financial Status:
Sales $17,600,000,000 latest date 3/26/90 (Dun & Bradstreet)

Principals:
Branch Manager - Prudente, Pat

POTENTIAL RESPONSIBLE PARTY:

Fleet Auto Electric Company, Inc. (Duns #05-126-8225)
185 Foundry Street
Newark, NJ 07105-4208

Block 5005, Lot 22

Registered Agent:
Mark A. Gettelson, Esq.
303 George Street
New Brunswick, NJ 08901

Corporate Status:
Active; SIC 7539; rebuilds and services electric systems of trucks

Financial Status:
Sales $96,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Levy, Howard
Secretary - Levy, Howard
Treasurer - Levy, Howard

POTENTIAL RESPONSIBLE PARTY:

Honig Chemical & Processing Corporation (Duns #05-509-0161)
414 Wilson Avenue
Newark, NJ 07105-4203
(201) 344-0881

Registered Agent:
Robert Honig
414 Wilon Avenue
Newark, NJ 07105

Corporate Status:
Active; SIC 2869; manufacture organic chemicals

Financial Status:
Sales $2,200,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Honig, Robert
Secretary - Honig, Heloise

848930052

POTENTIAL RESPONSIBLE PARTY:

Grignard Company, Inc. (Duns #00-220-1093)
60 Grant Avenue
PO Box 523
Carteret, NJ 07008-2720
(201) 541-6661

Corporate Status:
Active; SIC 2992; Manufacture specialty synthetic lubricants, oils and greases

Financial Status:
Sales $900,000 Latest Year 1989 (Dun & Bradstreet)

Principals:
President - Grignard, Emile E.
Secretary - Grignard, Patricia

848930053

POTENTIAL RESPONSIBLE PARTY:

Hummel Croton Inc. (Duns #06-072-2154)
10 Harmich Road
South Plainfield, NJ 07080-4804
(201) 754-1800

Registered Agent:
B.F. Schoen Sr.
10 Harmich Road
South Plainfield, NJ 07080

Corporate Status:
Active; SIC 2819; industrial inorganic chemicals, NEC; barium compounds

Financial Status:
Sales $4,000,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Schoen, Bernard E.
Vice President - Dugan, Mark
Vice President - Schoen, Bernard Jr.

POTENTIAL RESPONSIBLE PARTY:

Reichhold Chemicals, Inc. (Duns #10-865-0862)
Cellomar Division
46 Albert Avenue
Newark, NJ 07105-4523
(201) 589-3875

Registered Agent:
Corporation Trust Company
28 West State Street
Trenton, NJ 08608

Corporate Status:
Active; SIC 5169; wholesale chemicals, chemicals and allied products
Headquarter Duns: #00-122-0904
Reichold Chemicals, Inc.
525 North Broadway
White Plains, NY 10603-3216
Corporate Family Duns: #05-452-7502
DIC Americas, Inc.

Financial Status:
Sales $850,000,000 latest year 1989 (Dun & Bradstreet)

Principals:
President - Mitchell, Thomas R.
Vice President-Controller - Owen, William H.
Vice President-Human Resources - Fisher, Richard W.
Secretary & General Counsel - Lorelli, Charles A.
Chief Executive Officer - Mitchell, Thomas R.
Vice President-Finance - Owen, William H.

848930055

CONCLUSIONS AND RECOMMENDATIONS:

Historically operations at the Foundry Street Complex have contributed to contamination through the handling of hazardous substances and contributory operations. Ellis R. Meeker's book entitled "New Jersey, A Historical, Commercial and Industrial Review", Commonwealth Publishing Company, 1906, indicates that Central Dyestuff and Chemical Company manufactured tar colors at their extensive plant at Plum Point Lane. This is substantiated by information obtained through a title and deed search. Part of the property making up the Foundry Street Complex was formerly known as Plum Point Lane.

According to the Encyclopedia of Chemical Technology products recovered from the fractional distillation of coal tar have been the traditional raw materials for the dye industry. Among the most important are benzene, toluene, xylene, naphthalene, anthracene, acenaphthene, pyrene, pyridine, carbozal, phenol and cresol. The reference further states that dye companies expanded their activities into the pharmaceutical field. Pharmaceuticals such as sulfa drugs were derived from compounds already in use as dye intermediates.

H.A. Metz & Company, Inc., successors to Consolidated Color and Chemical Company by virtue of name change, was identified to have once manufactured drugs at the Foundry Street Complex. This information was obtained from the Industrial Directory of New Jersey (1931) and Sanborn Fire Insurance Maps.

Hummel Lanolin Corporation and Sun Chemical Company have investigated their facilities located within the Foundry Street Complex for potential sources of contamination pursuant to the Environmental Cleanup Responsibility Act (ECRA). Extensive files are maintained relative to these activities with ECRA.

NOTE: ECRA File Numbers are Provided on Page 50

Ground water samples taken from eight monitoring wells installed throughout the Sun Chemical facility contained elevated levels of volatile organic compounds (VOCs), base neutral compounds (B/Ns), petroleum hydrocarbons (PHCs) and priority pollutant metals. Recon Systems Inc. determined that the flow of ground water in the vicinity of the facility is from the south in a radial direction. Arkansas Chemical and Ashland Chemical Company's Industrial Chemical and Solvents Division are situated upgradient of Sun Chemical.

Widespread contamination has been documented throughout the "West Plant" of Ashland's Industrial Chemical and Solvent Division. The west plant lies approximately 300 feet south of Sun Chemical. Contamination on this property has resulted from numerous spills, leaks, and poor house keeping practices associated with the 200 Series tank farm, drumming warehouse, and truck and rail car loading/unloading manifolds. The 200 Series tank farm was used to store products such as mineral spirits, napthalene, plasticizer, fuel oil, toluene and xylene. In addition, halogenated VOCs (i.e. 1,1-dichloroethane, 1,1,-trichloroethane, tetrachloroethane), aromatic VOCs (i.e. benzene, toluene, xylene) and petroleum distillates have been detected in ground water and soil samples collected from the West Plant. The highest concentrations have been detected in the area of the former 200 Series tank farm. It should be noted that most of the West Plant is not paved.

Arkansas Chemical Company occupied the adjoining property to the south of Sun for approximately 47 years. It should be noted that Arkansas vacated the premises in 1984. The two companies are separated by a narrow driveway. Numerous storage tanks were maintained in the rear south-southwest corner of the property (Lot 5), adjacent to building #28. Arkansas used these tanks to store fuel oil, sulfuric acid, caustic soda, mineral oil, naptha and other products. In 1981, a NJDEP, Division of Hazard Management representative noted weep holes in a caustic tank. Spillage stained the ground below the tank and other tanks in the area.

In October, 1988, two soil samples were taken from the southwest corner of the facility behind the former tank house. Both samples were obtained from the same boring. The shallow sample (S-2) contained high concentrations of VOCs (i.e. xylene, toluene, tetrachloroethylene, chlorobenzene, ethylbenzene) and semi volatiles (i.e. napthalene, 2-methylnapthalene). Only tetrachloroethylene was present in the deep sample (S-3). This suggests that the contamination is the result of surface spillage which has not deeply penetrated into the ground. Spillage from petroleum products was observed on the ground in the rear (west side) of the property during an inspection in 1984. In addition naptha was stored in a tank near the sample location. Napthalene and 2-methylnapthalene were detected in the shallow soil sample. Spillage or leakage from the tank could have migrated from the tank to this area.

It should be noted that the drainage system throughout the Foundry Street Complex is a major source of contamination. Sediment and surface water samples collected from the drainage system in October, 1988, contained high concentrations of VOCs, B/Ns, PHCs, PCBs and priority pollutant metals. The drainage system essentially consists of troughs embedded in the driveways which are connected to sewerlines. A site inspection conducted at the Foundry Street Complex on November 7, 1990, revealed that many sections of the drains had collapsed or were broken. Water observed in the drains had a petroleum sheen on its surface and a heavy residue existed on the bottom. It was also reported that the drains would frequently flood during periods of rain. Any contamination in the drains could be redistributed over other areas covered by the flood waters.

The drainage system connects to sewerlines located on the south side and to the northwest of Sun Chemical. The sewerline on the south side, transverses underneath the Sun facility. Both sewerlines are connected to an industrial sewerline on Norpak's property to the north. The industrial sewerline is connected to a city sewer on Roanoke Avenue. Four sediment samples were collected from the drainage system and sewerlines surrounding Sun Chemical on July 17, 1990. These samples contained elevated levels of VOCs, B/Ns, organic acids, unknown semi volatiles, and priority pollutant metals.

Recon Systems, Inc. video inspection of the sewerlines on the premises of Sun Chemical revealed numerous cracks and separations between the pipes. Any contamination entering the sewerline could escape through these openings into the surrounding soil.

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Drains from Arkansas Chemical were discovered to flow directly from Building #26, #27 and #28 (See Attachment 4). The drains are connected to the drainage system in the driveway on the north side of the facility. Herman G. Wieland, Chief Chemist of Arkansas, stated in a Sewer Connection Application dated October 27, 1980 that the plant's effluent is neutralized in an outside tank and discharged into "city storm sewers via covered ditches". Waste water samples taken from Arkansas Chemical in October, 1981 contained trace concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc. Mercury was detected in effluent samples taken in June and July, 1981. These contaminants have been detected in sediment samples taken from the drains throughout the Foundry Street Complex.

Division of Hazard Management personnel noted in 1981, that spillage from the process building (#28) could flow unobstructed into strip drains outside. It was also indicated that drains located in the shipping building (#27) flowed directly off the premises. In December, 1986, NJDEP personnel observed powder and resin on the floors of the process building. In addition, numerous fiber drums and lines on reactor/process vessels were leaking their contents. The roof was also noted to be leaking which could wash spillage into floor drains that flowed into the drainage system. Many of the products removed from Arkansas Chemical by the EPA were base neutral compounds, acids, cyanides, peroxides, flammables, halogenated organics, oxidizers and organics.

Automatic Electro-Plating Corporation (AEP) has operated an electroplating business on the western portion of Lot 22, adjacent to Sun Chemical, since 1972. The drainage system borders the facility on its north, west and south side, and receives point source discharge and surface water run-off from AEP. A sewerline on the east side is connected to a sanitary source at the facility. Elevated levels of VOCs and priority pollutant metals were detected in a sediment sample (Sediment #2) taken from a catch basin where the two sewerlines connect in July, 1990.

A flow diagram submitted by AEP to the Passaic Valley Sewerage Commission in January, 1989 shows process lines from buildings #21 and #22 discharge into the drain on the north side. High concentrations of arsenic, cadmium, chromium, copper, lead, mercury, silver and zinc were detected in a surface water sample (SW-4) taken from this drain on October 14, 1988.

This drain and the noted sewerline connect to one another at a catch basin situated near the corner of building #21. Elevated levels of VOCs, B/Ns, PCBs, organic acids, unknown semi volatile compounds and priority pollutant metals (i.e. cadmium, chromium, copper, lead, nickel, zinc) were detected in a sediment sample (Sediment #3) collected from this catch basin in July, 1990.

In January, 1989 Gerald Borriello, President of AEP, informed the Passaic Valley Sewerage Commission that his company does not discharge any cadmium, lead, silver or cyanide into the sewage system. Automatic Electro-Plating's ECRA General Information Submission (GIS) states that only nickel and zinc plating are conducted on site. These metals have been detected in sediment samples collected from the drainage system.

According to the Division of Environmental Quality (DEQ) Right to Know Survey dated November 10, 1988, Automatic Electro-Plating Corporation used materials containing chromium, copper, nickel, silver, zinc and cyanide. The GIS indicated that dry chemicals are stored in building #19. Samples SW-3 and SED-4 were obtained from the drain located on the west side of buildings #21 and #22, and adjacent to the chemical storage area on October 14, 1988. High concentrations of metals detected in these two samples suggest that run-off may be transporting spilled materials from the storage area into the drain.

Records obtained from the PVSC revealed that AEP once conducted chrome electro-plating (see file copy of AEP General Information Sewer Connection Application, 1980). An effluent sample taken on December 12, 1979, during "usual electro-plating" operations contained arsenic, cadmium, chromium, copper, lead, nickel and zinc.

In 1982, AEP informed the DWR that they are experimenting with nontoxic products such as cyanide free plating solutions, and chromium free passivities to reduce the discharge of chromium. Subsequently, AEP consistently failed to meet electro-plating discharge standards which initiated enforcement actions by the USEPA in 1986.

Another potential source of contamination may have originated from the Polychrome Corporation, Cellomer Division. Sun Chemical stated in their General Information Submission that Cellomer occupied the premises before 1967. Cellomer's address is listed as 185 Foundry Street in New Jersey Industrial Directories from 1964 through 1966. There is no information concerning the company's activities at the Foundry Street Complex.

In subsequent directories, the address was listed as 46 Albert Street, Newark. Cellomer manufactures alkyd resins at this location. Some products used include vegetable oils, polyols, phthalic anhydride, aliphatic and aromatic solvents. The company submitted to the PVSC a base line monitoring report (BMR) for process water samples taken during normal operations in June, 1988. The samples contained detectable levels of benzene, benzoic acid, methylene chloride, toluene, xylene, bis (2-ethylhexyl) phthalate, and di-n-butyl phthalate. These substances have been detected in soil and sediment samples taken from Sun Chemical.

In 1989, O'Brien & Gere Engineering, Inc. was retained to address compliance with waste water discharge regulations. A compliance monitoring report indicated that Cellomers regulated waste stream exceeded maximum concentration limits for toluene, ethylbenzene, and phenol. In addition, toluene and bis (2 ethylhexyl) phthalate were detected in the plant's effluent. O'Brien & Gere concluded that the company was not consistently complying with standards for phenol, bis (2 ethylhexyl) phthalate, ethyl benzene and toluene. These substances have been detected in ground water, surface water and sediment samples collected from the drains around Sun Chemical and Automatic Electro-Plating. Neither Sun Chemical or Automatic Electro-Plating are known to utilize these substances, therefore Polychrome's operation at Foundry Street are a likely source of this contamination. Polychrome's Cellomer Division name was changed to Reichhold Chemical Inc. in 1989.

Avon Drum Corporation has operated a drum brokerage on the northern portion of Lot 4, adjacent to Roanoke Avenue and west of the former Hummel Lanolin facility for approximately 20 years. Historical aerial photographs (EPI-IRC-6571, 6572, 6573) taken on September 6, 1978, revealed extensive drum storage along Roanoke Avenue where Avon Drum operates. The area appeared to be heavily stained.

High concentrations of VOCs (i.e. xylene, tetrachloroethene, toluene, ethylbenzene), semi volatiles (i.e. phenanthrene, di-n-butyl phthalate, fluoranthene, pyrene, benzo(a)anthracene), PCBs, and priority pollutant metals were detected in soil samples (S-12, S-13, S-14) collected from the facility on October 14, 1988. Two soil samples (S-10, S-11) taken at the perimeter of the facility contained significantly fewer contaminants at lower concentrations. This implies that contamination is directly associated with site operations (i.e. drum storage). Representatives from the Bureau of Compliance and Technical Services observed spillage throughout the facility on November 7, 1990. During this inspection, a solvent odor was encountered. Two operators at the Foundry Street Complex also stated that the company washes drums out on the premises. Consequently any remaining residues in the drums would be allowed to discharge onto the ground. There is no protective barrier (i.e. concrete, asphalt) at the facility.

Berg Chemical Co. and Conus Chemical conducted a chemical repackaging and distribution operation in buildings #5, #5A and #7 located on the west side of Lot 4 adjacent to the railroad tracks. Products handled at the facility included acids, alcohols, solvents, petroleum products, corrosives, reactives and flammables. A large inventory of these products were stored inside and outside of the buildings. The outside storage area lacked adequate spill prevention structures to prevent spillage from seeping into the ground. High levels of chloroform, 1,2-dichloroethene, trichloroethylene, tetrachloroethylene, 2-methylnapthalene, benzoic acid, phenthane, di-n-butyl phthalate, pyrene and butyl benzyl phthalate were detected in a soil sample (S-9) collected near the drum storage area on October 14, 1988.

An EPA inventory taken from drums located in the outside storage area included trichloroethylene, chloroethylene, naptha distillate, benzyl chloride, toluene and petroleum ether. Some of these substances were detected in the soil sample. In February, 1990 NJDEP, DHWM personnel reported that various spills of hazardous substances existed outside of the facility. It was also noted that soils were stained along the western portion (exterior) of Conus.

NJDEP representatives observed spillage throughout the inside of building #5 during a presampling site inspection in October, 1988. Conus stored a variety of hazardous substances in 55 gallon drums, fiber drums, fiber bags, small containers and above ground storage tanks. Spillage was also observed inside on subsequent inspections. Floor drains in building #5 were determined to curve towards the east side of the facility. This suggests that the drains may be connected to the drainage system location in the driveway outside. Any spillage resulting from repackaging could flow or be washed into the floor drains.

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High concentrations of VOC (i.e. methylene chloride, 1,1-dichloroethene, 1,2 dichloroethene, 1,2 dichloroethane, 2-butanone, 1,1,1-trichloroethene, xylene, trichloroethylene, benzene, tetrachloroethylene, toluene, chlorobenzene), semi volatile (i.e. 1,2-dichlorobenzene, napthalene, 2-methylnapthalene, phenanthrene, , fluorene, flouranthene, pyrene, butylbenzyl phthalate, bis (2-ethylhexyl) phthalate) pesticides, PCBs and priority pollutant metals were detected in a sediment sample collected from the drain situated between Conus (Building #5) and RFE Industries (Building #1) on October 14, 1988.

An inventory of hazardous materials found in building #5 included: Petroleum product residue, naptha sillate, kerosene, mineral spirits, n-butyl lactate, dry cleaning solution to name a few. Other potential sources of contamination detected on the west-northwest side of Lot 4 may have originated from operations conducted by Coronet Chemical Co., Grignard Chemical Co. Inc., Honig Chemical and Processing Co., Hummel Chemical, RFE Industries, Morrel Truck Services, and County Lift Truck Service.

Grignard Chemical Co. manufactured lubricating oils, cutting oils, cleaners and preservatives in building #7. This consisted of blending materials such as petroleum oil, alkaline additives, chlorinated hydrocarbons and diester compounds with non-hazardous components. Grignard's "Site Evaluation Submission" dated August 21, 1990 included a Hazardous Substance/Waste Inventory List (Appendix D). The list notes that Grignard used dichlorobenzene, dichloromethane, 1,1,1-trichloroethane and petroleum distillates. High concentrations of dichlorobenzene, 1,1,1-trichloroethane, and B/Ns were detected in sediment sample (SED-5) collected from the drain outside building #5 on October 14, 1988. Petroleum distillates with high molecular weights will be present in the base neutral fraction. Such compounds might be related to B/Ns contamination detected in the ditch.

The company has not manifested any hazardous waste from their facility between 1980 and 1989. Grignard reportedly received a shipment of PCB contaminated transformer oil from G&S Motor Equipment Company in 1981. According to Grignard's response to a "Request for Information" dated January 8, 1991, indicates they are no way related to G&S Motor Equipment Company. High concentrations of PCBs (Arcolor-1248) was detected in the previously noted sediment sample.

Another potential source of contamination is Coronet Chemical Company. The company reclaimed napthalene from spent teflon etching solutions in building #9 during the early eighties. Waste generated from the reclamation process was disposed in a dumpster. Leaking drums of napthalene were observed during RCRA inspections at the facility. The location of the dumpster and leaking drums are not known. However, discharges from either source could seep into the ground or migrate into the drain on the west side of Coronet Chemical.

Coronet Chemical was also developing a sodium dispersion to destroy PCBs. However, it is not known if the company inventory of hazardous substance included PCBs. It should be noted that high concentrations of napthalene and PCBs were detected in sediment sample (SED-5) collected on October 14, 1988. Coronet Chemical was evicted from the facility in 1986. Numerous drums containing metallic sodium were abandoned in building #4. This building was used for storage. Inspection of the building in July, 1987 revealed that one of the drums had reacted.

Grignard identified Honig Chemical and Processing Co. as having operated in building #7 and #8 during the early seventies (1970-1975). This information was stated in Grignard's ECRA Site Evaluation Submission. In October, 1988 Gerald Berriello of Automatic Electro-Plating stated that Honig operated in a building next to Conus Chemical which exploded. It should be noted that building #13 was destroyed by an explosion in 1962. This is stated in a Newark, Division of Inspections Violation Report.

Honig manufactures organic chemicals at a facility located at 414 Wilson Avenue, Newark, NJ. According to the Division of Environmental Quality, Right to Know Survey, Honig Chemical uses the following hazardous substances: Arsenic trioxide, barium nitrate, benzene, chloroform, dichloromethane, lead nitrate, mercury chloride, mercury acetate, mercury metal, petroleum spirits, pyridine, silver nitrate and toluene. High concentrations of arsenic, barium, lead, mercury and silver were present in a soil sample (S-6). The sample was taken on the west side of building #15 where it was once attached to building #13. High concentrations of acetone, barium, benzene, chloroform, toluene and pyrene were detected in sediment sample (SED-5) collected from the drain between building #1 and building #5.

Hummel Chemical is also believed to have operated on the west side of the Foundry Street Complex according to Howie Levy of Fleet Auto Electric. This information was obtained during a presampling site inspection in October, 1988.

Hummel Chemical Co. Inc. address is listed as 185 Foundry Street in New Jersey Industrial Directories from 1966-1970. A "Request for Information" was issued to Hummel Croton Inc. (HCI), successors of Hummel Chemical, on December 7, 1990. HCI's response dated December 28, 1990 verified that Hummel Chemical operated at the Foundry Street Complex until April of 1968.

The company supplied chemicals to the pyrotechnic industry. Most of the items handled were purchased from other companies in truckloads, rail car, and less than truckload quantities. It should be noted that only the west side of the Foundry Street Complex is serviced by a rail siding. HCI claims that most of the chemicals were shipped out in their original container without being opened. Hummel Chemical also grinded nitrates on the premises. Such operations at the HCI facility in South Plainfield has contributed to soil contamination. Airborne particulate generated by the grinding process would accumulate around ventilators on the roof. Subsequently particulate would wash off the roof from rain and onto the surrounding grounds.

Soil samples (S-7, S-8) taken on the west side of building #5 and #7 contained high concentrations of antimony, cadmium, chromium, copper, lead, mercury, nickel and zinc. HCI indicated that Hummel Chemical handled antimony sulfide and zinconium powder. They may have also handled copper oxide, copper oxychloride, lead chromate, lead dioxide, lead oxide, zinc dust, zinc oxide at the site in Newark. These products are used at the South Plaihfield facility.

Hummel Chemical was also a producer of Class III organic chemicals at the Foundry Street Complex according to a USEPA publication entitled "Dioxins" (EPA 600/2-80/197) November, 1980. These organic chemicals are precursor of dioxins. Compounds identified included 2,4-dinitrophenoxyethanol, 3,5-dinitrosalicyclic acid, hexachlorobenzene and picric acid. On October 14, 1988, four soil samples were collected from the Foundry Street Complex and analyzed for the 2, 3, 7, 8 TCDD dioxin isomer. However, none of these samples were taken from areas where Hummel Chemical is believed to have operated.

The ground in a small yard, approximately 50 x 20 feet, situated between Morrel Truck Service (Building #9) and County Lift Truck Service (Building #14) was saturated with oil during a site inspection by the Bureau of Compliance and Technical Services (BCTS) Special Investigation Section personnel on November 7, 1990. In addition, there was evidence of a recent spill where speedy dry had been applied. Spillage was also observed around the drain in the driveway which separates the two facilities from Conus Chemical. The yard contained an assortment of oily/greasy truck parts (i.e. engines, rears, transmissions). These parts were laying directly on the ground without any type of barrier. It should be noted that Morrel repairs trucks and County Lift operates a forklift rental business. Spillage in the yard can penetrate underlying soils or be washed into the drain when it rains.

RFE Industries occupies building #1 which abuts Roanoke Avenue on its north side. On November 7, 1990 approximately ten 55 gallon drums were observed by BCTS personnel in the driveway outside of building #1. Upon closer inspection of the drums, it was discovered that some of the drums had been turned over to allow any remaining contents to drain out. The contents of these drums flowed into a large pool of water in the driveway. The drums were marked "Proprietary Solvent Mix #100" contained denatured ethyl alcohol. Such practice by RFE Industries has contributed to on-site contamination. Other types of materials handled are unknown.

C.W.C. Industries, Inc. stored raw materials (i.e. isopropanol, methyl ethyl ketone, toluene, V.M.P. naptha, methanol) and process residues in a small fenced yard located adjacent to the south side of building #17 and the west side of building #18. On November 7, 1990 staining was observed on the concrete throughout the yard and on the east side of building #18. The concrete in the yard contained many fractures. Any spilled or leaking substance could penetrate the underlying soil through the fractures or migrate into a drain located outside the fence. No diking exits around the storage yard.

High levels of VOCs (i.e. 1,1-dichloroethane, 1,2-dichloroethane, trichloroethylene, benzene, 4-methyl-2-pentanone, toluene, chlorobenzene) were present in a surface water sample collected from the south side of building #17 on October 14, 1988. An active flow was noted in the drain during the sampling. C.W.C. uses toluene. The company applies solvent based surface coatings to polyesters. It is not known if any floor drains are connected to the drainage system or if process effluents is discharged into the drain.

Contamination (i.e. VOCs, B/Ns, priority pollutant metals) detected on the property of Hummel Lanolin Corporation (HLC) may have originated from two sources. An industrial sewer line runs underneath the property before connecting to a city sewerline on Roanoke Avenue. The industrial sewer receives discharge and run-off from the Foundry Street Complex. In July, 1987, a black sludge-like material with a septic odor was encountered during the installation of monitoring wells near the sewerline. The sludge material contained VOCs, PHCs, and metals. A sediment sample collected from a manhole on the sewerline, located upgradient of the facility, contained VOCs, PHCs, and metals. Similar contaminants (i.e. VOCs, PHCs, metals) were present in a sludge sample taken from a basin on the north side of HLC process building. The sludge had back flowed into the basin from the industrial sewerline. It should be noted that the basin is located downgradient of where contamination was detected. Priority pollutant metals (i.e. cadmium, chromium, copper, lead, nickel, zinc) detected in the sludge are used by Automatic Electro-Plating located upgradient of HLC.

Dames & Moore, consultants for HLC, determined that ground water in the vicinity of the former underground storage tank flowed in a east-southeast direction in July, 1987. Soil borings made in the vicinity of the tank contained elevated levels of B/Ns (i.e. napthalene, fluoranthene, chrysene, pyrene, benzo(a)pyrene, phenanthrene). High concentrations of base neutral compounds were detected in five soil samples collected from Avon Drum on October 14, 1988. Avon Drum is located adjacent and hydraulically upgradient of Hummel Lanolin Corporation. HLC did not use any VOCs, B/Ns, or priority pollutant metals in their operations.

Kem Realty purchased Lot 4 in May, 1962. Anthony A. Coraci, Vincent J. Coraci and Mary Coraci were the incorporators of Kem according to the Certificate of Incorporation. A deed between Kem Realty and Hummel Lanolin dated February 28, 1964, identified Vincent Coraci as the President of Kem.

In April, 1976, Kem Realty merged with several companies including Norpak Corporation to form Torco Investment Corporation. Torco's name was subsequently changed to Norpak Corporation by a Certificate of Amendment to a Certificate of Incorporation. Norpak's and Torco Investment Corporation's address are both listed as 70 Blanchard Street, Newark.

By Certificate of Merger dated December 31, 1980, Norpak merged with Norpak Specialties Corporation, Leeds Enterprises, and Abar International Corporation forming ACC Transitional Investing Corporation. Anthony A. Coraci is listed as the registered agent for Norpak Specialties, Leeds, and Abar. A Certificate of Incorporation for ACC Transitional Investing Corporation identifies Anthony A. Coraci, Vincent J. Coraci and Mary Coraci as the first Board of Directors.

ACC conveyed Lot 4 to Norpak on November 11, 1981. A.A. Coraci is currently the President of Norpak Corporation, 70 Blanchard Street, Newark, New Jersey. Therefore, Norpak Corporation, Anthony A. Coraci, Vincent J. Coraci and Mary Coraci have owned Lot 4 since 1962 and subsequently leased out space in buildings on the premises. Numerous discharges have occurred on the property as a result of tenants on site. Norpak and its officers have not made any attempts to remediate contamination on site.

The City of Newark, Division of Inspections issued a Certificate of Occupancy to Essex Chemical for 185 Foundry Street on November 7, 1971. Peter Chan of C.W.C. Industries stated that Essex Chemical once operated in building #17 during a presampling inspection on October 7, 1988. Essex Chemical manufactures inorganic chemicals at a facility on Doremus Avenue. The Division of Environmental Quality, Right to Know Survey indicated that Essex Industrial Chemical uses: Acetone, chloroform, chromium oxide, chromium and compounds, lead nitrate, lead and compounds, and silver nitrate. These substances have been detected in a sediment sample (SED-5) collected from the drain outside of building #5.

ABC Demolition Company was evicted from building #15 by Norpak in October, 1989. The company renovated old buildings and disposed debris from their projects on the property. On November 2, 1989, approximately 13 x 55 gallon drums were observed around the exterior of building #15. Subsequent inspection of the interior of the building discovered additional drums. The Bureau of Compliance and Technical Services, Special Investigation Section determined through their investigation that Norpak, the property owner, was the only viable responsible party (Norpak/ABC Demolition file).

Ace Chemical Corporation was identified as having operated at the Foundry Street Complex according to a Newark, Department of Health and Welfare, Division of Inspections list of "Hazardous Waste Addresses" dated March 12, 1979. Apparently, no certificate of occupancy was issued for this operation by the City of Newark. No other information is known about the company's operations at the Foundry Street Complex.

Tennant Chemical Corporation and Weston Chemical Corporation were also identified as site operators through "Application for Building Permits" issued by the City of Newark. Both companies manufactured chemicals. No other information is known about their operations. Arkansas Company, Inc., Central Dyestuff and Chemical Company, Chemical Industries, Inc., Consolidated Color and Chemical Company, Coronet Chemical Company, Galaxy Inc., H.A. Metz Company, Inc., Ohmlac Paint and Refinishing Company, Tenant Chemical Corporation, and Weston Chemical Corporation have been determined to be dissolved.

Ashland Chemical Company, Automatic Electro-Plating Corporation, Avon Drum Corporation, Berg Chemical Company, Inc., C.W.C. Industries, Inc., Conus Chemical Company, Inc., County Lift Truck Service, Morrel Truck Service, and RFE Industries have been identified as primary responsible parties. The City of Newark, Foundry Street Corporation, Norpak Corporation, and Torco Investment Corporation have also been identified as primary responsible parties for being the owners of the contaminated property located on Lots 4, 5, and 22 (Block 5005).

Essex Chemical Company, Fleet Auto Electric, Grignard Chemical Company, Inc., Honig Chemical and Processing Corporation, Hummel Croton Inc., and Reichhold Chemical Company are potential responsible parties. These companies once operated at the Foundry Street Complex and used substances similar to those detected on site. However only limited or no information exists concerning their activities at the subject site.

Ashland Chemical Company (Case #88695), Hummell Lanolin Corporation (Case #86732) and Sun Chemical Company (Case #86960) have initiated actions to investigate and remediate contamination detected at their facilities pursuant to the Environmental Cleanup Responsibility Act (ECRA). Other ECRA investigations at the Foundry Street Complex include: Automatic Electro-Plating Corporation (Case #85708), Berg Chemical Company, Inc. (Case #90289), C.W.C. Industries, Inc. (Case #90598), Conus Chemical Company, Inc. (Case #90217), Grignard Chemical Company, Inc. (Case #90624).

It is recommended that information provided in this report should be used as a tool to assist in the evaluation of ongoing ECRA investigations (i.e. Berg Chemical, CWC Industries, Inc., Conus Chemical, Grignard Co., Inc.). This may be valuable in determining sampling locations and sampling plans at the noted facilities.

Site investigations conducted by Sun Chemical and Hummel Lanolin Corporation have indicated that ground water is contaminated at the Foundry Street Complex. Therefore all responsible parties and potential responsible parties identified in this investigation should be held jointly and severely liable for contamination of ground water pursuant to the Spill Compensation and Control Act. Their handling of hazardous substances and contributory operations (i.e. storage, processing) have contributed to contamination as noted in this report. It is recommended that an Administrative Consent Order be drafted and issued to the identified responsible parties to address the ground water contamination.

Recovery of administrative costs charged to this case (Project Activity Code JNK and JNM) should be an objective of Department actions. Contact this bureau regarding information or questions on the subject case file.

INVESTIGATOR:

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Bureau of Compliance and Technical Services
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401 East State Street
Trenton, NJ 08625
(609) 633-0700

FILES UTILIZED:

Newark Department of Engineering
Department of Health and Welfare, Division of Inspections
City of Newark
920 Broad Street
Newark, NJ 07102
Contact: Lenny Iannio
Content: Department of Health & Welfare, Division of Inspections, Violations, Building Permits, Certificate of Occupancy, Complaints for 96-144 Roanoke Avenue and 141-189 Foundry Street

Title & Deed Search
Essex County Hall of Records
469 High Street
Newark, NJ 07102
(201) 621-5000
Contact: Nicolas Caputo
Content: Title & Deed Search for Lots 4, 5, 6, 10, 21 & 22, Block 5005

NJDEP-DHWM, Bureau of Planning & Assessment
65 Prospect Street
Trenton, NJ 08625
Contact: Claire Whittaker
Content: Arkansas Chemical, Grignard Chemical, Sun Chemical Preliminary Assessments, Inspection Reports, Sampling Data, Field Notes

Ashland Chemical
NJDEP-DHWM, Bureau of Environmental Evaluation Cleanup & Responsibility Assessment
401 East State Street
Trenton, NJ 08625
(609) 633-7141
Contact: Annette Christian
Content: General Information Submission, Site Evaluation Submission, Sampling Plans, Sampling Data, Correspondence for Ashland Chemical

Industrial Waste Survey
NJDEP-DHWM, Bureau of Compliance and Technical Services
401 East State Street
5th Floor
Trenton, NJ 08625
(609) 633-0708
Contact: Doug Stuart
Content: Sun Chemical, Ashland Chemical, Arkansas Chemical

NJ Department of Education, Division of State Library
185 West State Street
Trenton, NJ 08625
(609) 292-6220
Contact: Janet Tuerff
Content: Mac Raes Industrial Directory, NJ Industrial Directory, Sanborn Fire Insurance Maps

NJ Department of State, Division of Commercial Recording
Mountainview Office Complex
820 Bear Tavern Road
West Trenton, NJ 08628
(609) 771-1297
Contact: Telefax
Content: Certificate of Incorporation for Coronet Chemical Company, County Lift Truck Service Inc., CWC Industries Inc., Avon Drum Company, Chemical Industries, Inc., Arkansas Company, Inc., A.A.C. Transitional Investment Corporation, Automatic Electro-Plating, Fleet Auto Electric, Hummel Lanolin Corporation, Central Dye Stuff & Chemical Company, Consolidated Color & Chemical Company, H.A. Metz Company, Inc., Roanoke Inc., Kem Realty Company, Foundry Street Corporation, Torco Investing Company, Inc., Norpak Specialties Corporation, Leeds Enterprise Inc., Abar International Corporation, Cellomar Corporation, Grignard Chemical Company, Weston Chemical Corporation, Tenant Chemical, Berg Chemical

NJDEP-DHWM, Bureau of Metro Enforcement
2 Babcock Place
West Orange, NJ 07052
(201) 669-3960
Contact: Yacoub Yacoub
Content: Ashland Chemical Company, Arkansas Company, Inc., Conus Chemical, Coronet Chemical Company, Grignard Chemical Company, Inc., Hummel Lanolin Corporation, Norpak Corporation, Sun Chemical Company, Automatic Electro-Plating, Cellomar Corporation, Honig Chemical, Polychrome, Newark Drive-In, Avon Drum Company

NJDEP-DWR, Bureau of Metro Enforcement
2 Babcock Place
West Orange, NJ 07052
(201) 669-3900
Contact: Peter Lynch
Content: Files Ashland Chemical, Essex Chemical, Sun Chemical; Site Inspections, Spill Reports, Sampling Data, Enforcement Documents

NJDEP-DEQ
2 Babcock Place
West Orange, NJ 07052
(201) 669-3935
Contact: Byron Sullivan
Content: Ashland Chemical, Arkansas Company, Inc., CWC Industries and Hummel Lanolin Permits to Install Air Monitoring Apparatus, Contingency Plans, Enforcement Documents

Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105
(201) 344-1800
Contact: Anthony Gammaro
Content: PVSC Sample Results, Permits and Correspondence for Arkansas Company, Inc., Cellomar, Automatic Electro-Plating, Hummel Lanolin

Newark Department of Engineering
920 Broad Street
Newark, NJ 07102
(201) 733-4300
Contact: Paul Butler
Content: Arkansas, Conus Chemical, Inspection Reports, Hazardous Material Data Sheet

DWR General Files
NJDEP-DWR, General Files
Carroll Building
432 East State Street
Trenton, NJ 08625
(609) 984-2249
Contact: Laverna Jones

Aerial Photographs
NJDEP-Division of Coastal Resources, Planning Group
501 East State Street
Trenton, NJ 08625
(609) 292-0060
Contact: Mike Ryan
Content: Aerial Photographs NJ State Plane Coordinates 2,147,500'E; 690,300'N

Assessment Search
Newark Administration Building
920 Broad Street
Newark, NJ 07102
(201) 733-6566
Contact: Joseph Frisinn
Content: City Tax Maps, Records of Ownership for Lots 4, 5, 6, 10, 21 & 22, Block 5005

Dun & Bradstreet
Information Resource Center
Carroll Building
432 East State Street
Trenton, NJ 08625
(609) 984-2249
Contact: Dorothy Alibrando
Content: Dun & Bradstreet for Ashland Chemical, Arkansas Chemical, Sun Chemical, Automatic Electro-Plating, Reichhold Chemical, Cellomar Division

Trenton Public Library
Academy Street
Trenton, NJ 08625
(609) 392-7188
Contact: Richard Rebecca
Content: Various Information Source: Directory of Obsolete Securities, Ward Business Directory, Duns Regional Business Directory

Automatic Electro-Plating
NJDEP-DHWM, Bureau of Environmental Evaluation Cleanup & Responsibility Assessment
401 East State Street
Trenton, NJ 08625
(609) 633-7141
Contact: John Kosher
Content: General Information Submission, Site Evaluation Submission, Correspondence for Automatic Electro-Plating

Right to Know
NJDEP-DHWM, Bureau of Compliance and Technical Services
401 East State Street
Trenton, NJ 08625
(609) 633-0700
Contact: Paul Smith
Content: Right to Know Submissions for Refinery for Electronics, Grignard Chemical Company, Automatic Electro-Plating, Sun Chemical, Honig Chemical, Coronet Chemical Company, Cellomar Sub-Division of Poly Chrome Inc., Hummel Chemical

Hummel Chemical
NJDEP-DHWM, Bureau of Central Enforcement
300 Horizon Center
CN 407
Trenton, NJ 08625-0407
(609) 584-4150
Contact: Mark Gruzlovic
Content: Limited Information Pertaining to Hummel Chemical

Preliminary Assessments
NJDEP-DHWM, Bureau of Compliance and Technical Services
401 East State Street
Trenton, NJ 08625
(609) 633-0700
Contact: Bob Beretsky
Content: Preliminary Assessments for Coronet Chemical, Conus Chemical, Sun Chemical, Hummel Lanolin

Sun Chemical
NJDEP-DHWM, Bureau of Environmental Evaluation Cleanup & Responsibility Assessment
401 East State Street
Trenton, NJ 08625
(609) 633-1429
Contact: Mike Kenny
Content: Sampling Plans, Cleanup Plans, Department Correspondence

Hummel Lanolin
NJDEP-DHWM, Bureau of Environmental Evaluation Cleanup & Responsibility Assessment
401 East State Street
Trenton, NJ 08625
(609) 292-1963
Contact: Kenneth Smith
Content: General Information Submission, Cleanup Plan, Sampling Plan, Department Correspondence

Hummel Chemical 98073
NJDEP-DHWM, Bureau of Environmental Evaluation Cleanup & Responsibility Assessment
401 East State Street
Trenton, NJ 08625
(609) 633-1419
Contact: Joshua Gradwohl
Content: General Information Submission, Site Evaluation Submission

Assessment Search
Springfield Township Tax Assessor's Office
100 Mountain Avenue
Springfield, NJ 07081
(201) 912-2200
Contact: Theresa Enright
Content: Tax Assessment for Block 143, Lot 2.02 00604

Assessment Search
Park Ridge Borough Tax Assessor's Office
55 Park Avenue
Parkridge, NJ 07656
(201) 391-6161
Contact: Joseph Burek
Content: Tax Assessment for Block 2505, Lot 7

Conus Chemical Company, Inc. 90217
NJDEP-DHWM, Bureau of Environmental Cleanup & Responsibility Assessment
401 East State Street
Trenton, NJ 08625
(609) 292-6139
Contact: Bill Paterson
Content: General Information Submission, Site Evaluation Submission

FOUNDRY STREET COMPLEX

848930072

LOT	BLOCK	BUILDING NUMBER	COMPANY	OCCUPANCY (APPROXIMATE)
4	5005	#1	RFE Industries	01/01/78 - Present
			Amelio Matos	Circa 1972
		#4	Conus Chemical	12/01/84 - 11/30/89
		#5 & #5A	Berg Chemical Company Inc.	11/01/84 - 10/31/87
		#7	Conus Chemical	12/01/84 - 11/30/89
			Grignard Chemical Company Inc.	03/01/75 - 10/01/84
			Honig Chemical and Processing	1970 - 1975
		#9	Morrel Truck Repair	Unknown - Present
			Coronet Chemical Company	12/12/83 - 12/20/84
		#13	Destroyed	Circa 1962
		#14	County Lift Truck Service	11/15/85 - Present
		#15	ABC Demolition	Unknown - 11/89
		#17	CWC Industries Inc.	1985 - 1991
			Laber's Trucking	
			Essex Chemical	Circa 1971
		#18	CWC Industries Inc.	09/01/76 - 08/01/87
		#36	CWC Industries Inc.	09/01/76 - 08/01/87

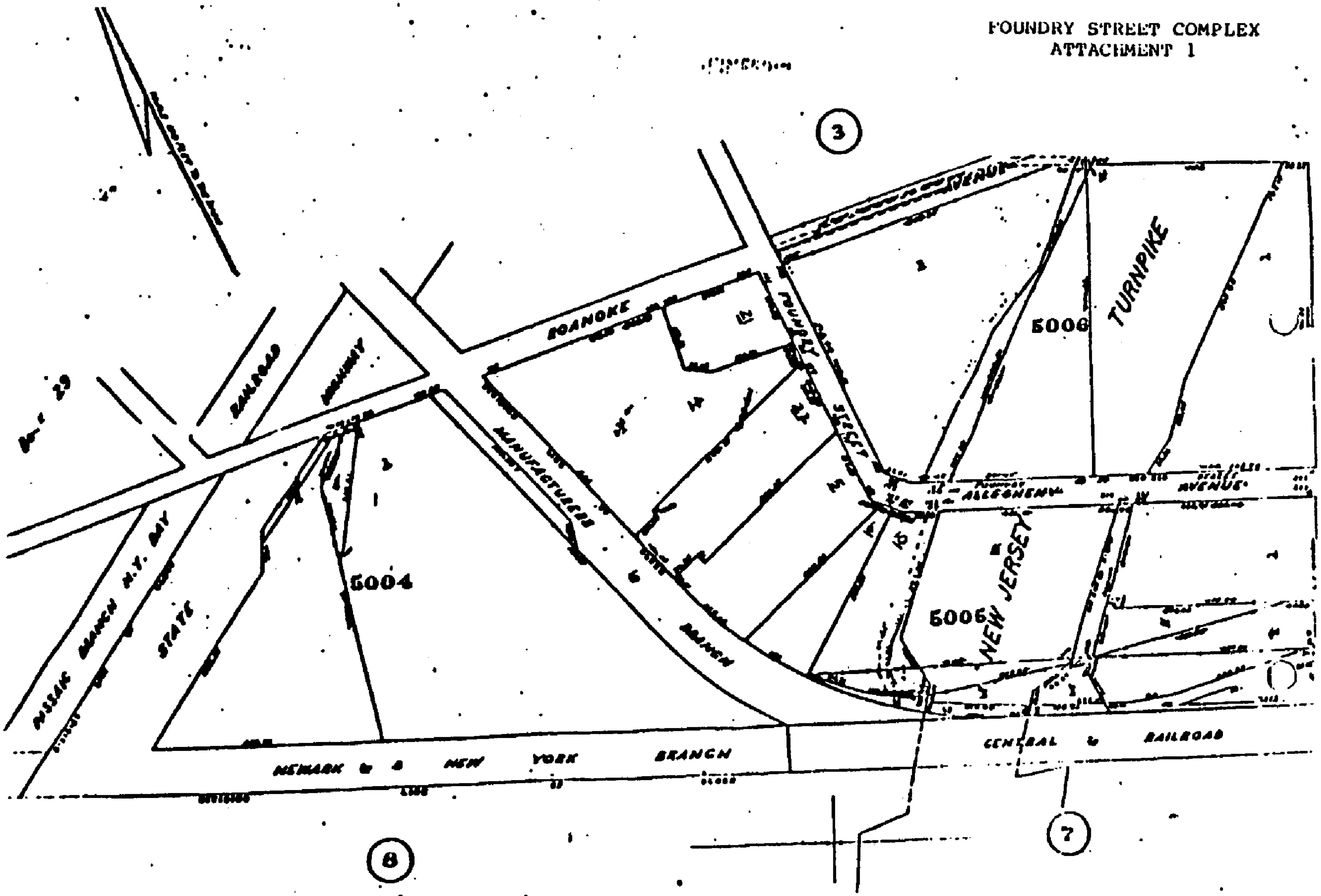
FOUNDRY STREET COMPLEX

84893007

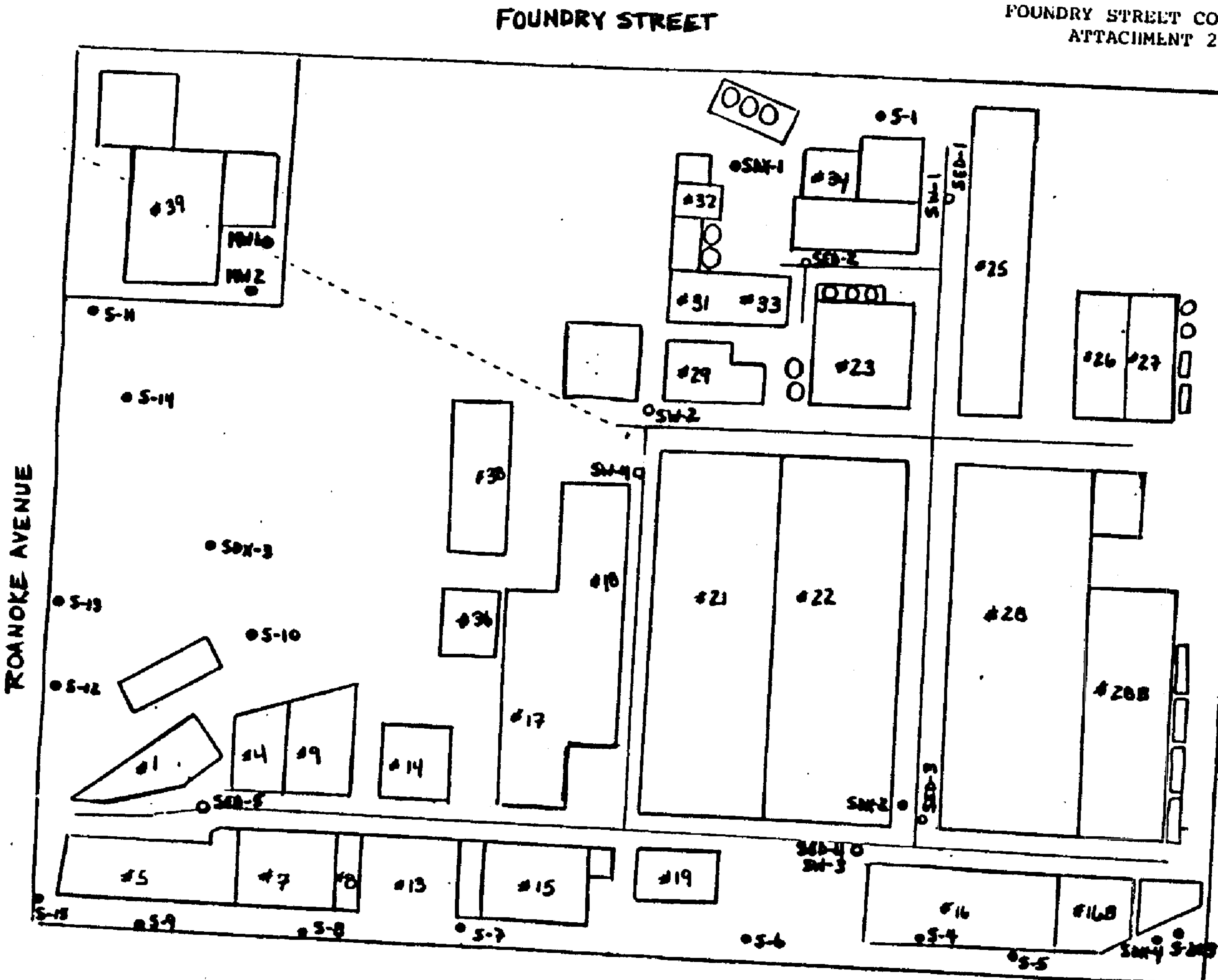
LOT	BLOCK	BUILDING NUMBER	COMPANY	OCCUPANCY (APPROXIMATE)
4	5005	#38A, #38B, #38C	PJ Express Trucking	08/01/72 - 07/30/86
			Comstock Foods, Division of Curtice-Burns Inc.	
22	5005	#19	Automatic Electroplating	04/04/71 - Present
		#21	Automatic Electroplating	04/04/71 - Present
			Tennant Chemical	1963
		#22	Automatic Electroplating	04/04/71 - Present
		#29	Fleet Auto Electric	1968 - Present
		#23, #31, #32, #33, #34, #34A	Sun Chemical Company	1967 - Present
			Cellomer Corporation, Division of Polychrome Corp.	1964 - 1966
5	5005	#16, #16B, #24, #25, #26, #27, #28, #28B, #30, #32	Arkansas Company Inc.	January 1936 - 1983
21	5005	#39	CMC Industries Inc.	Present
			Hummel Lanolin Corporation	Lage 1950s - 1987
			Haschmeirer Aromatics	

FOUNDRY STREET COMPLEX
ATTACHMENT 1

848930074

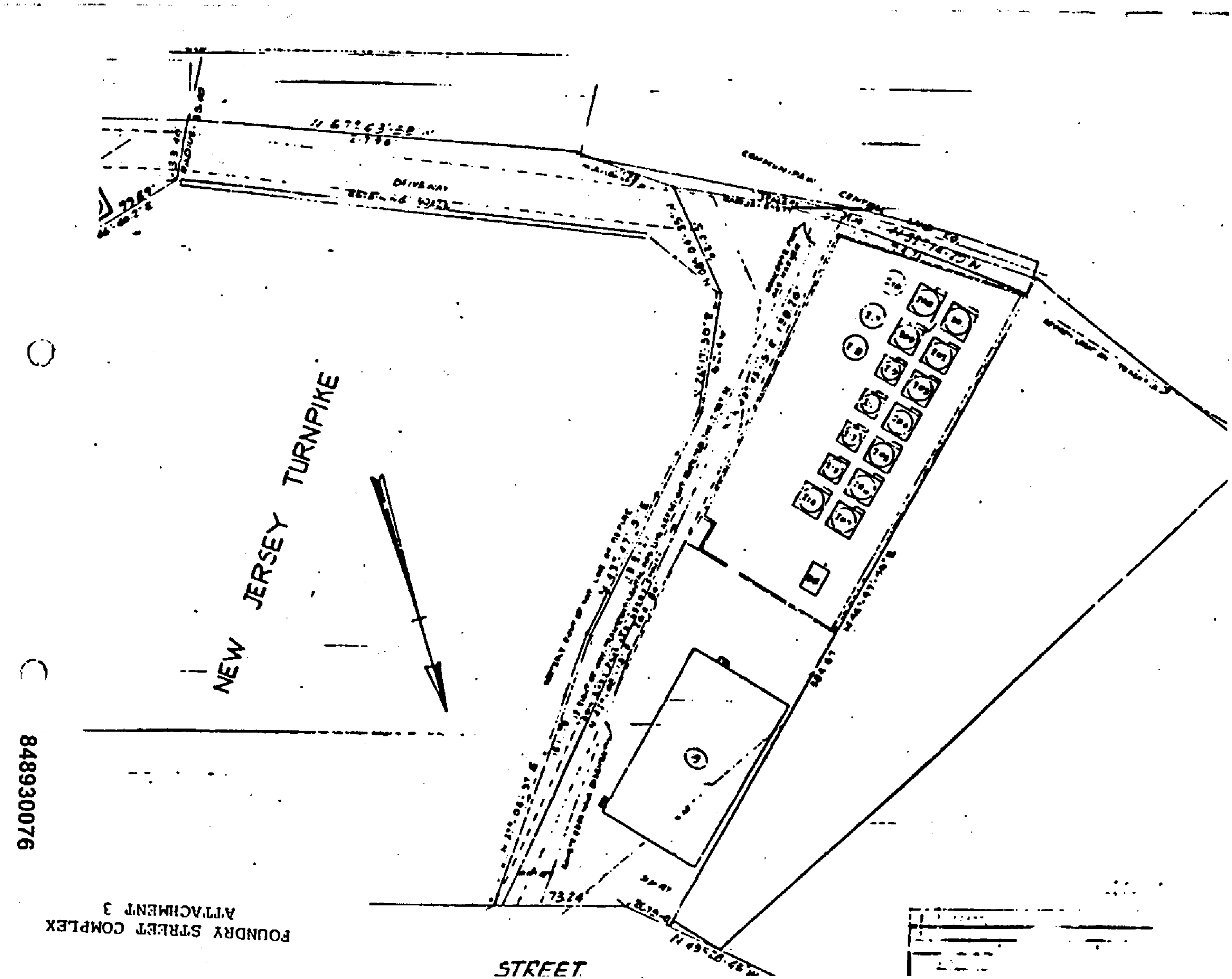


FOUNDRY STREET COMPLEX
ATTACHMENT 2



BPA SAMPLING LOCATIONS
OCTOBER 14, 1988

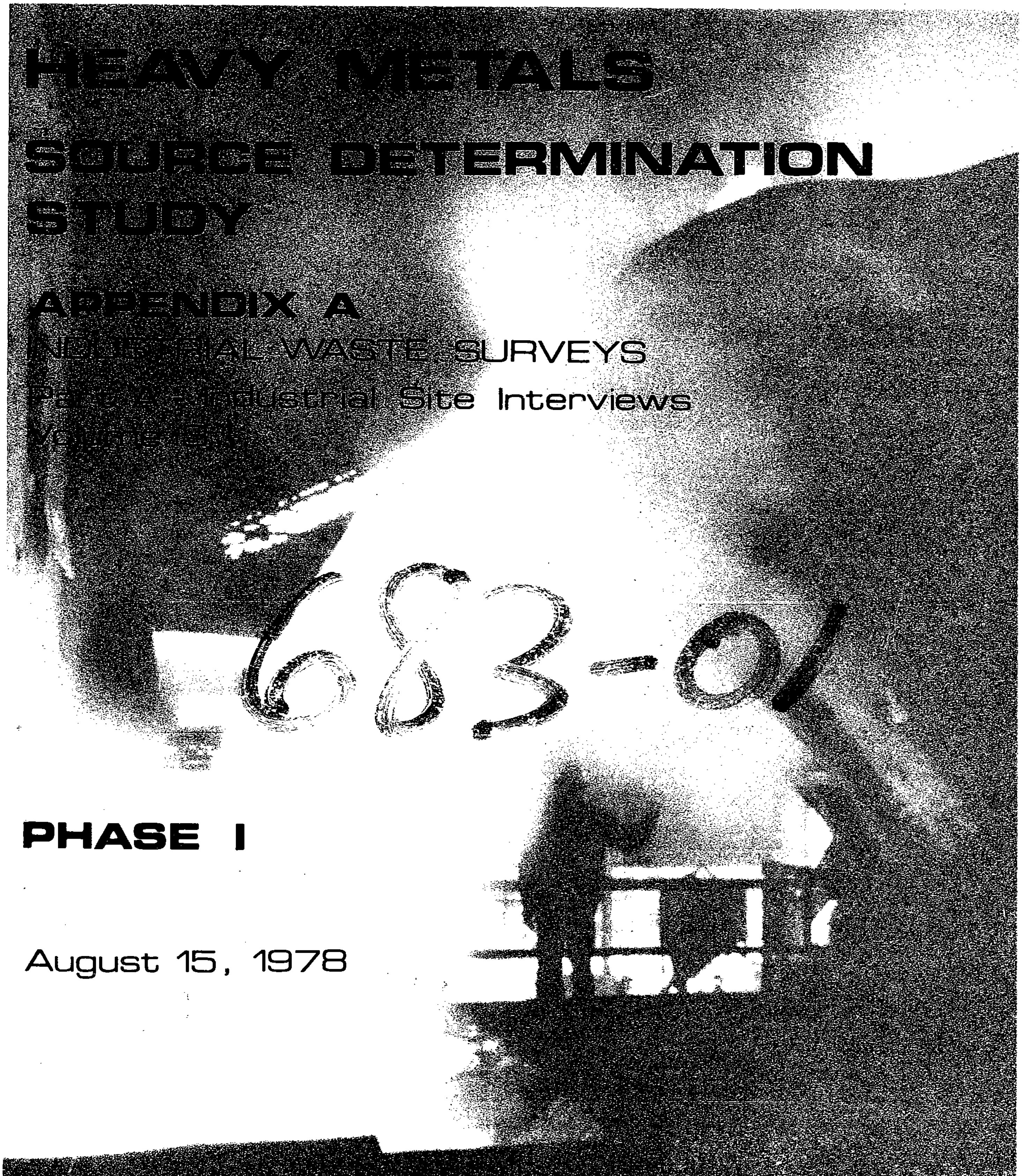
848930075



FOUNDRY STREET COMPLEX
ATTACHMENT 3

848930076

PASSAIC VALLEY SEWERAGE COMMISSION
NEWARK, NEW JERSEY



HEAVY METALS SOURCE DETERMINATION STUDY

APPENDIX A
INDUSTRIAL WASTE SURVEYS
Part A - Industrial Site Interviews
Volume [illegible]

683-01

PHASE I

August 15, 1978

Elson T. Killam Associates, Inc.

Environmental and Hydraulic Engineers

TIERRA-B-013368

PASSAIC VALLEY SEWERAGE COMMISSION
NEWARK, NEW JERSEY

HEAVY METALS

SOURCE DETERMINATION STUDY

IN COMPLIANCE WITH OCEAN DUMPING PERMIT
No. II NJ003 INTERIM, SECTION 9(c)

APPENDIX A

INDUSTRIAL WASTE SURVEYS

Part A - Industrial Site Interviews
Volume 3

August 15, 1978

Elson T. Killam Associates, Inc.

Environmental and Hydraulic Engineers

TIERRA-B-013369

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-25-78

Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #
N-1230

Industrial Wastewater

Questionnaire

"attach business card"

Part A

1) Industry Name EXPRESS CONTAINER CORP.

2) Address 105 (No.) AVENUE L. (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

MR. BREIER (Name) CONTRL. (Title) 589-2155 (Telephone)

4) Type of Industry MFR. OF PAPER SHIPPING CONTAINERS

5) Primary S.I.C. number, if available 2653
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used PAPER, STARCH & SILICATE

7) Principle Product(s) produced CORRUGATED SHIPPING CONTAINERS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day 1 PERIOD
Times of Day ~~LATE AF~~TERNOON

9) Number of employees at this location 100

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013370

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

1,450,372 Gallons/Quarter

193,900 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

10 % of Water Used in Actual Process

82 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

8 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER LOCATED AGAINST AVE L. SIDE WALL APPROX. 50' FROM LEFT CORNER OF BLDG.

Industrial Wastewater

Questionnaire

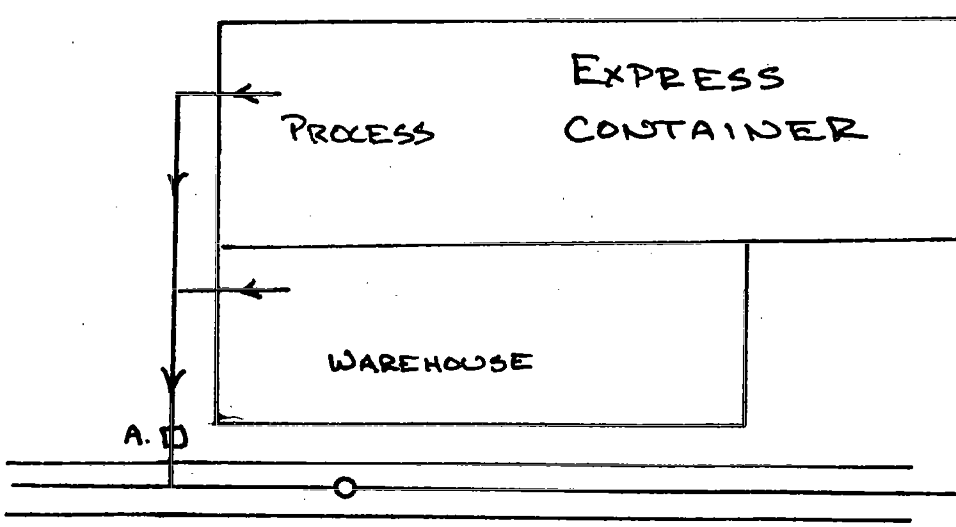
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	✓	Process		Process	
N.C. Cooling	—	N.C. Cooling		N.C. Cooling	
Sanitary	—	Sanitary		Sanitary	
Storm	—	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013372

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ________

inside length 3' (parallel with pipe)

inside width 3'

entire depth 30"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 6" % full 95

out pipe Ø 6" % full 95

water depth in pipe 5.5"

surcharged yes ____ no____

CHANNEL:

water depth 5.5 benched yes ____ no X

water depth range CONSTANT

water velocity < .25 FPS turburlence yes ____ no X

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved ________ sloped ________

instantaneous flow ________ drop ________

SAMPLING:

can be harnessed in MH ______ placed in MH X

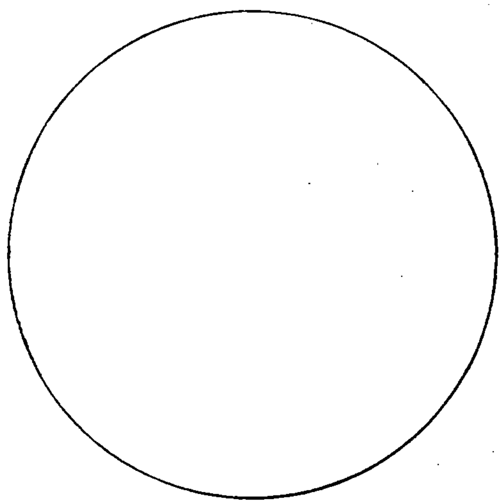
or placed outside MH ______

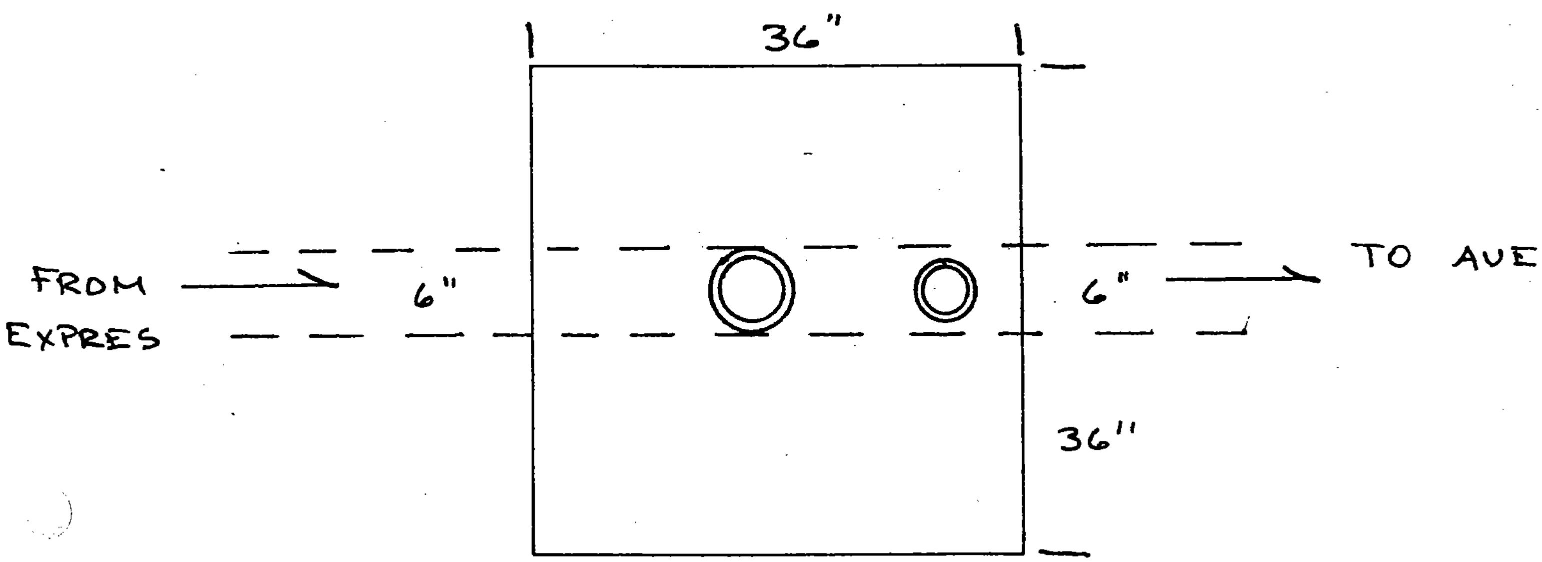
(vandalism problem yes___ no X)

TIERRA-B-013374

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013375

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013377

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

WATER DEPTH IN PIPE AND LOW VELOCITY INDICATE OBSTRUCTION TO FLOW, SUGGEST WATER METER READINGS BE USED.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

____

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

____

____

____

____

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	15,000		
Chromium (mg/l)	0.2		
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8/31/78 Interviewed by: Standfast & Safchinsky

PVSC Industry #

N-1240

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Fairmount Chemical Company

2) Address 117 (No.) Blanchard Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Robert W. Theobald		344-5790

4) Type of Industry Organic and Inorganic Chemicals

5) Primary S.I.C. number, if available 2865
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Hydrazine, H_2 SO_4, HCL,

7) Principle Product(s) produced Malic Hydrazide, Chemicals for Reproduction

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 100

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

36,227,000 Gallons/Quarter

4,843,000 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

N12,000,000 Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

10% of Water Used in Actual Process

84% of Water Discharged From Process

5% of Water Discharged as Non-Contact Cooling Water

1% of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

5 Locations

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	-	Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

Trough

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width 8"

entire depth 20"

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full 90

out pipe Ø__________ % full 90

water depth in pipe 15"

surcharged yes ____ no X

CHANNEL:

water depth 15' benched yes ____ no X

water depth range 14" - Surcharge

water velocity - turburlence yes _____ no X

super critical velocity yes _____ no X

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved __________ sloped __________

instantaneous flow - drop __________

SAMPLING:

can be harnessed in MH ______ placed in MH __________

or placed outside MH X

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER____

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT: Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method	X		
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)	X		
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

Yes

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

pH Adjustment

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	317,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	1.0		
Lead (mg/l)	<1.0		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-26-78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1250

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name FEDERATED METALS CORP.

2) Address 150 (No.) St. CHARLES STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

KEN SAVAGE (Name) REG. ENG. (Title) 589-0500 (Telephone)

4) Type of Industry SECONDARY, SMELTING OF NON-FERROUS METALS

5) Primary S.I.C. number, if available 3341
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Sn, Pb, Sb, Ni, Cu, As, Cd, Zn, Al, Mg, Bi, Ag, Hg, ~~Su, Co, P, Mn, Cr~~

7) Principle Product(s) produced Non-Ferrous Alloys

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Claims no process discharge ~~only lab wastes~~

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 200

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

5,984,000 Gallons/Quarter

800,000 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

70 % of Water Used in Actual Process

0 % of Water Discharged From Process

0 % of Water Discharged as Non-Contact Cooling Water

30 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

TWO METERS LOCATED IN M.H. IN FRONT PARKING LOT

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	-----	Any detectable gas	____	Any detectable gas	____
Process	-----	Process	____	Process	____
N.C. Cooling	-----	N.C. Cooling	____	N.C. Cooling	____
Sanitary	X	Sanitary	____	Sanitary	____
Storm	-----	Storm	____	Storm	____

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

TIERRA-B-013392

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ____________

inside length 3' (parallel with pipe)

inside width 3'

entire depth 9'

junction manhole yes x no____ # of in pipes 2

PIPES:

in pipe Ø 6", 6" % full 95,100

out pipe Ø 8" % full 100

water depth in pipe 5.5", 6"

surcharged yes X no____

CHANNEL:

water depth 10" benched yes X no____

water depth range CONSTANT

water velocity .75 FPS turburlence yes____ no X

super critical velocity yes____ no ~~X~~

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____________ drop ____

SAMPLING:

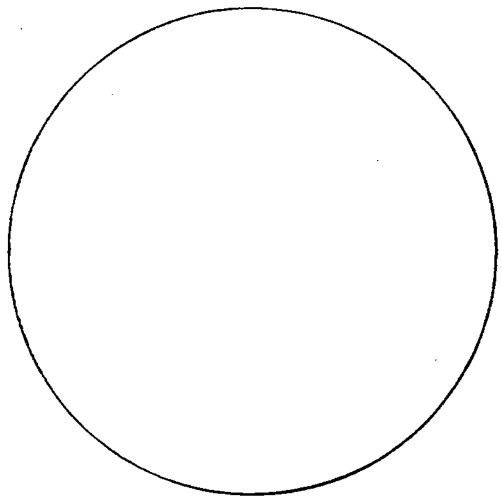
can be harnessed in MH X placed in MH ____________

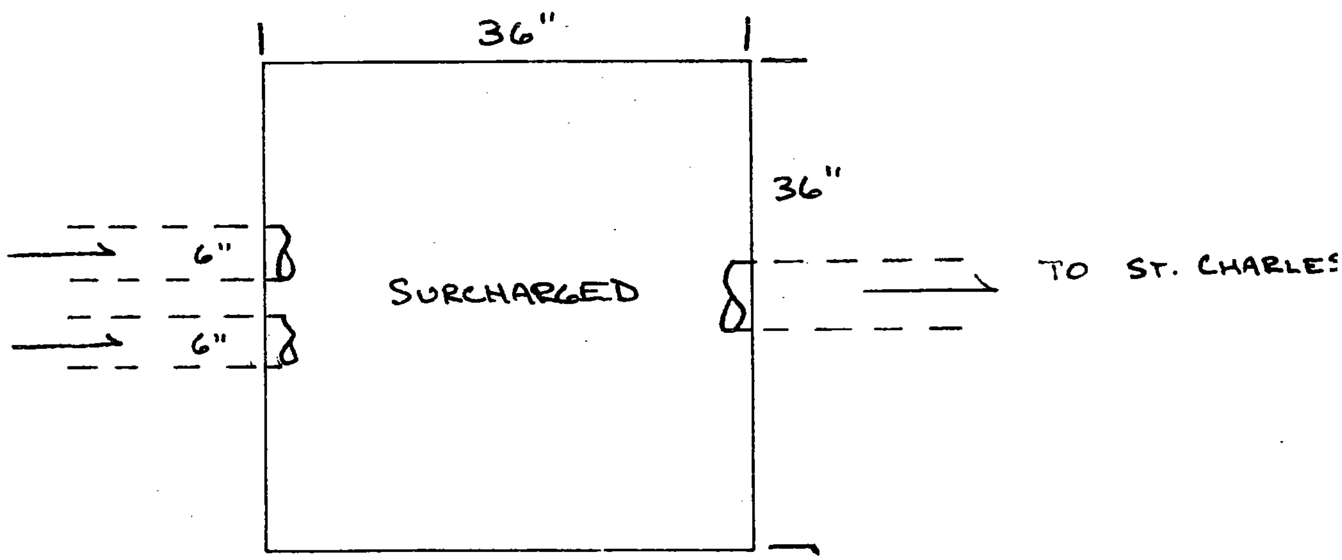
or placed outside MH ________

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness	X		
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	11,000		
Chromium (mg/l)	0.006		
Cadmium (mg/l)	0.02		
Copper (mg/l)	0.21		
Lead (mg/l)	1.73		
Nickel (mg/l)	3.92		
Zinc (mg/l)	0.97		
Mercury (mg/l)	0.004		
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)	0.02		
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-7-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #

N-1260

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name FEDERAL PACIFIC ELECTRIC COMPANY

2) Address ______ AVENUE L & HERBERT STREET NEWARK
No. Street Municipality

3) Responsible Person to whom further inquiries should be directed:

AL BROWN MGR. PLANT ENGINEER 589-7500
Name Title Telephone

4) Type of Industry MFR. ELECTRICAL DISTRIBUTION EQUIPMENT

5) Primary S.I.C. number, if available 3613
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used STEEL, COPPER, ALUMINUM, AG

7) Principle Product(s) produced ELECTRICAL DISTRIBUTION EQUIPMENT

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 450

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013400

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply	Private Well Supply
15,995,980 Gallons/Quarter	__________ Gallons/Quarter
2,138,500 Cubic Feet/Quarter	__________ Cubic Feet/Quarter
NEWARK Name of City or Public Supply	__________ Well Pump(s) Gal/Min.
	__________ Pump Running time(s) Hrs/Day

8 % of Water Used in Actual Process

53 % of Water Discharged From Process

35 % of Water Discharged as Non-Contact Cooling Water

4 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

2 METERS ONE ON HERBERT STREET 2ND LOCATED ON DORTON STREET IN M.H.'S.

NOTE: M.H.'S ARE PRONE TO FLOODING.

Industrial Wastewater

Questionnaire

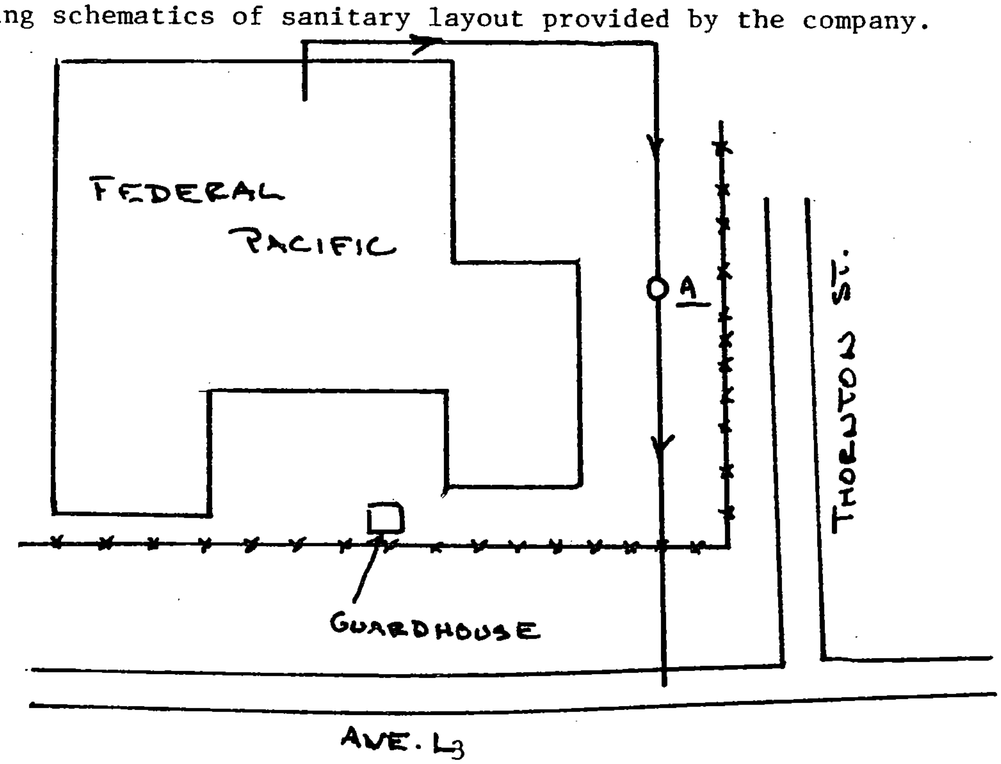
Part B

1) Number of metal contributing discharge points to municipal sewer: I

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 20"

inside length 4' Ø (parallel with pipe)

inside width ____

entire depth 5'

junction manhole yes X no____ # of in pipes 2

PIPES:

in pipe Ø 15", 10" % full 50

out pipe Ø 15" % full SURCHARGE

water depth in pipe ____

surcharged yes X no____

CHANNEL:

water depth 18" benched yes X no____

water depth range CONSTANT BUT WILL FLOOD IN STORM.

water velocity .8 FPS turburlence yes ____ no X

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

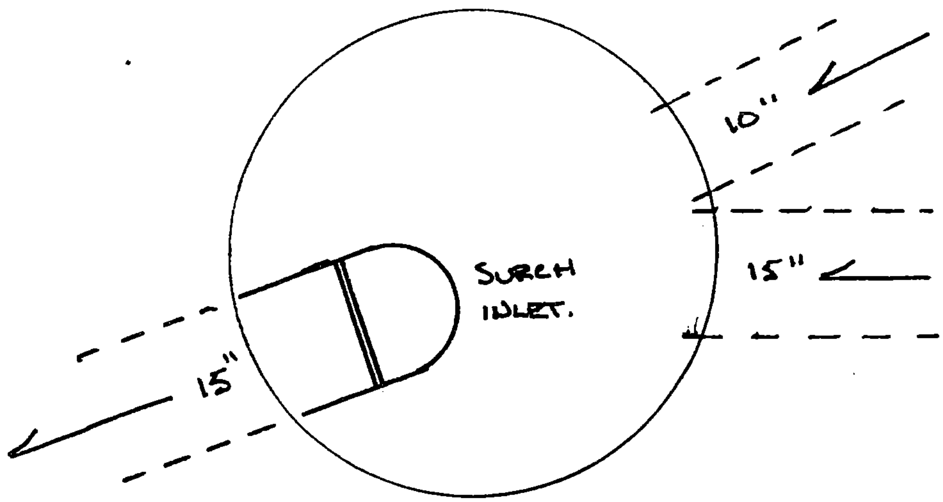
can be harnessed in MH X placed in MH ____

or placed outside MH ____

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness	X		
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013407

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

COMPANY MUST BE SAMPLED DURING PERIOD OF DRY WEATHER AS LINE A CARRIES STORM WATER AND METER PITS ARE PRONE TO FLOODING.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	287,000		
Chromium (mg/l)	10		
Cadmium (mg/l)			
Copper (mg/l)	8		
Lead (mg/l)	0.08		
Nickel (mg/l)			
Zinc (mg/l)	11.6		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 3-20-78

Interviewed by: Standfast & Bartley

PVSC Industry #
N-1270

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name General Color

2) Address 24 (No.) Avenue B (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Jim McNellis (Name) Plant Engineer (Title) 248-2575 (Telephone)

4) Type of Industry Pigment manufacturing

5) Primary S.I.C. number, if available 2819
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Cd, Na_2S, Se, H_2SO_4, NaOH, $BaSO_4$

7) Principle Product(s) produced Cadmium pigments

8) Hours per day manufacturing operations are conducted 10

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 30

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

4,754,000 Gallons/Quarter

635,600 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

<5 % of Water Used in Actual Process

92 % of Water Discharged From Process

2 % of Water Discharged as Non-Contact Cooling Water

1 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Industrial Wastewater

Questionnaire

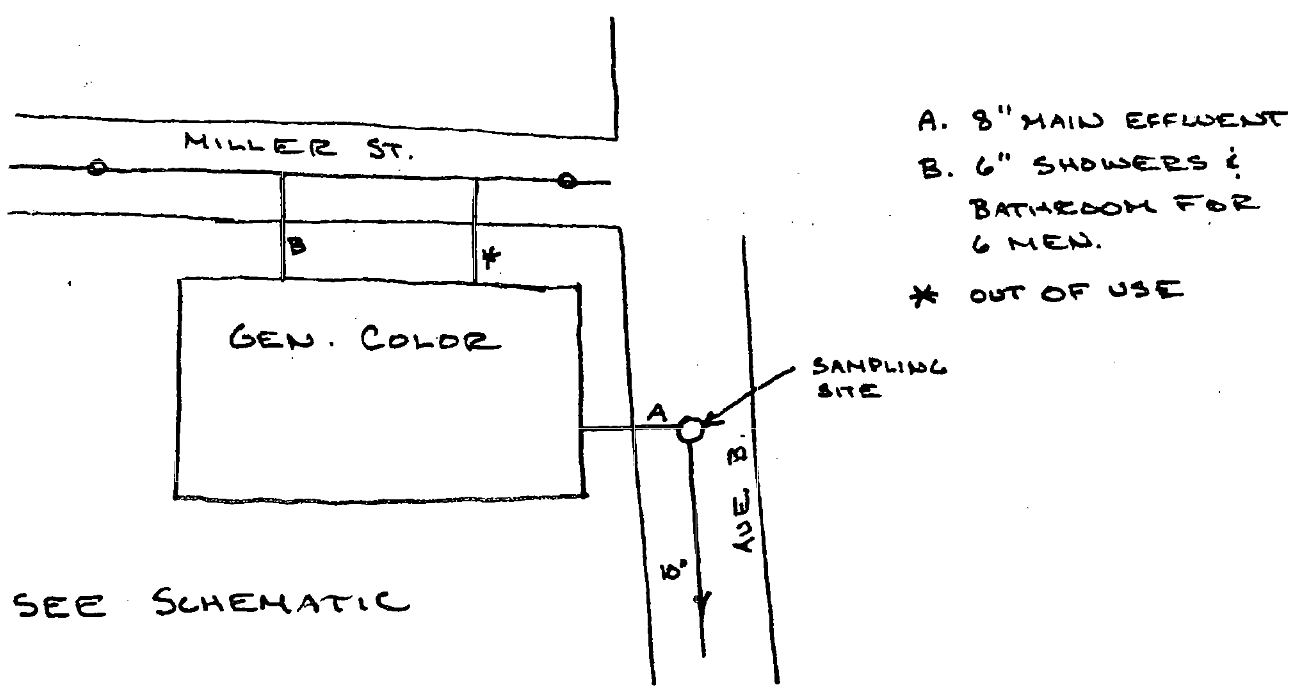
Part B

1) Number of metal contributing discharge points to municipal sewer: 2

2) Check off which of the below is in each metal discharge point:

	Line A	Line B	Line C
Any detectable gas			
Process	X		
N.C. Cooling	X		
Sanitary	X	X	
Storm			

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



ALSO SEE SCHEMATIC

TIERRA-B-013412

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 20"

inside length 4' (parallel with pipe)

inside width 4'

entire depth 4'

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø 8" % full 30

out pipe Ø 10" % full 15

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth 2" benched yes ____ no____

water depth range 2-3"

water velocity ____________ turburlence yes _____ no X

super critical velocity yes_____ no X

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ______________ drop __________

SAMPLING:

can be harnessed in MH ______ placed in MH X

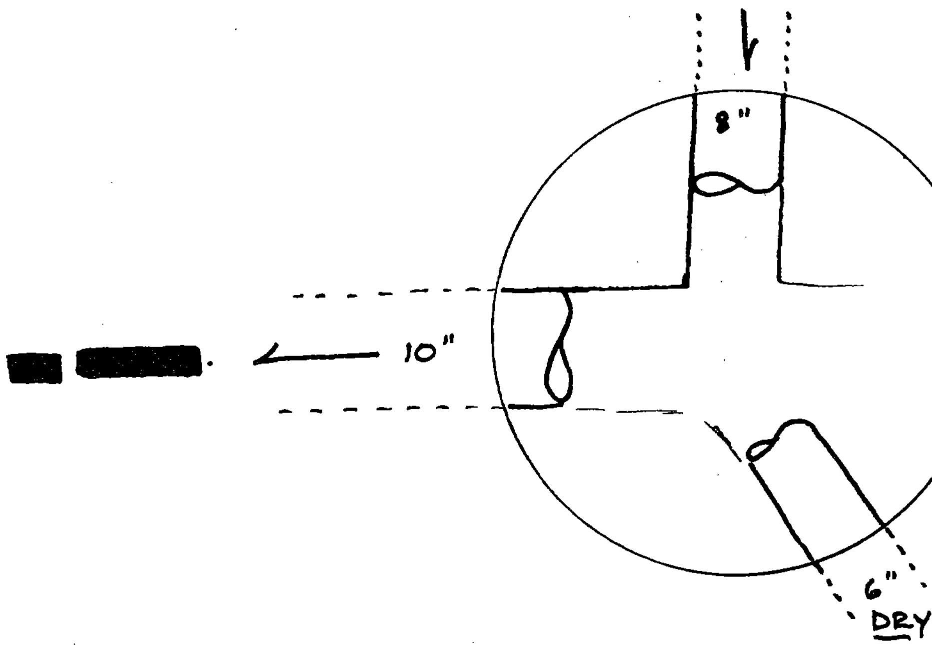
or placed outside MH ______

(vandalism problem yes___ no___)

TIERRA-B-013414

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)	X		
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013417

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

M.H. not conductive to auto flow measurement as:

1. Junction M.H., turbulent flow.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No, but they do have a settling pit, which is cleaned weekly.

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	117,000		
Chromium (mg/l)			
Cadmium (mg/l)	2.5-25		
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)	2.5-25		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-3-78

Interviewed by: SCOTT & VANMALDEN

PVSC Industry #

N-1280

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name CREST CHEMICAL CORPORATION

2) Address 225-235 (No.) EMMET STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
DR. SCHWARTZ	PRESIDENT	248-2270

4) Type of Industry MFR. OF TEXTILE LEATHER & ADHESIVE CHEMICALS

5) Primary S.I.C. number, if available 2841
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used VEGETABLE OILS, GLYCOLS, TALLOW SODIUM BISULPHITE, SALT, START.

7) Principle Product(s) produced CHEMICALS FOR TEXTILE, LEATHER AND ADHESIVE INDUSTRIES.

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 35

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

3,575,440 Gallons/Quarter

478,000 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

2 % of Water Used in Actual Process

5 % of Water Discharged From Process

92 % of Water Discharged as Non-Contact Cooling Water

1 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

2 METERS ONE LOCATED IN BASEMENT OF BUILDING ON EMMET STREET OTHER LOCATED IN WAREHOUSE ON WRIGHT STREET.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 36" (parallel with pipe)

inside width 36"

entire depth 24"

junction manhole yes ___ no X # of in pipes 1

PIPES:

in pipe Ø 6" % full 85

out pipe Ø 6" % full 85

water depth in pipe 5"

surcharged yes ___ no X

CHANNEL:

water depth 11" benched yes X no ___ (PIT)

water depth range CONSTANT.

water velocity 1 FPS turburlence yes X no ___

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ___ drop ___

SAMPLING:

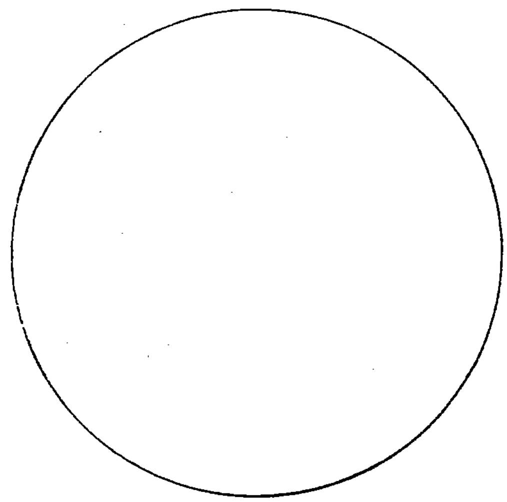
can be harnessed in MH ___ placed in MH ___

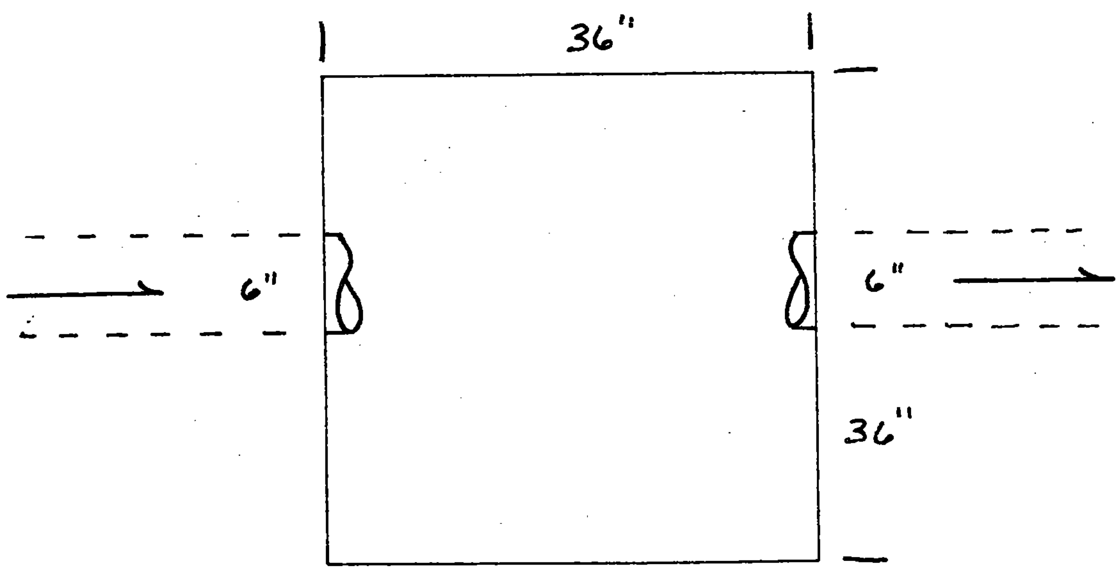
or placed outside MH X

(vandalism problem yes X no ___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013425

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			

MANUAL	A	B	C
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013427

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

DR. SCHWARTZ RECOMMENDS ALL POSSIBLE PRECAUTIONS SHOULD BE TAKEN TO GUARD AGAINST VANDALISM.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	40,000		
Chromium (mg/1)			
Cadmium (mg/1)			
Copper (mg/1)	0.014		
Lead (mg/1)	0.14		
Nickel (mg/1)			
Zinc (mg/1)			
Mercury (mg/1)			
Arsenic (mg/1)			
Vanadium (mg/1)			
Selenium (mg/1)			
Beryllium (mg/1)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8/30/78 Interviewed by: Standfast & Pullizzi

PVSC Industry #

~~N-1285~~

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Croda, Inc.,Hummel Lanolin Corporation

2) Address 185 (No.) Foundry Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Mr. Patel (Name) Plant Engineer (Title) 589-3497 (Telephone)

4) Type of Industry Lanolin Manufacturer

5) Primary S.I.C. number, if available 2899
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Wool Grease

7) Principle Product(s) produced Lanolin

8) Hours per day manufacturing operations are conducted 9

Days per week manufacturing operations are conducted 5.5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day 2
Times of Day Afternoon/Morning

9) Number of employees at this location 19

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

2,135,540 Gallons/Quarter

285,500 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

_______ Gallons/Quarter

_______ Cubic Feet/Quarter

_______ Well Pump(s) Gal/Min.

_______ Pump Running time(s) Hrs/Day

32 % of Water Used in Actual Process

35 % of Water Discharged From Process

30 % of Water Discharged as Non-Contact Cooling Water

2 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Inside Main Building

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	___	Any detectable gas	___	Any detectable gas	___
Process	X	Process	___	Process	___
N.C. Cooling	X	N.C. Cooling	___	N.C. Cooling	___
Sanitary	-	Sanitary	___	Sanitary	___
Storm	-	Storm	___	Storm	___

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER __A__ See Page 9

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range___________________

water velocity _____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow _______________ drop __________

SAMPLING:

can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

(vandalism problem yes___ no___)

TIERRA-B-013434

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER____

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic			
Manual	X		
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

Batches dumped morning and afternoon. Take grab samples and proportion according to the amount of water in Batch Tank. Flakker runs continuously @ 50 g/min.

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers			
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles	X		
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Sampling should be done manually. Flakker water flows at a rate of 60 gal/min. One or two batches are dumped in morning and afternoon volume of water is known so samples may be composited accordingly.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	20,400		
Chromium (mg/l)	$<$.02		
Cadmium (mg/l)	$<$.02		
Copper (mg/l)			
Lead (mg/l)	.2		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)	$<$.0002		
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7/6/78 Interviewed by: SCOTT AND CHECCHIO

PVSC Industry #

N 1290

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name HY- GRADE ELECTROPLATING CO.

2) Address 35 (No.) FOURTH STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

EUGENE WAGNER (Name) PRES (Title) 482-1442 (Telephone)

4) Type of Industry ELECTROPLATING AND METAL POLISHING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used CU, NI, CR, SN, CD, AU, AG

7) Principle Product(s) produced PLATED AND POLISHED METALS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 7

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

159,324 Gallons/Quarter

21,300 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

90 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

TWO METERS LOCATED AT RIGHT OF OVERHEAD DOOR AT FRONT OF BUILDING.

Industrial Wastewater

Questionnaire

Part B

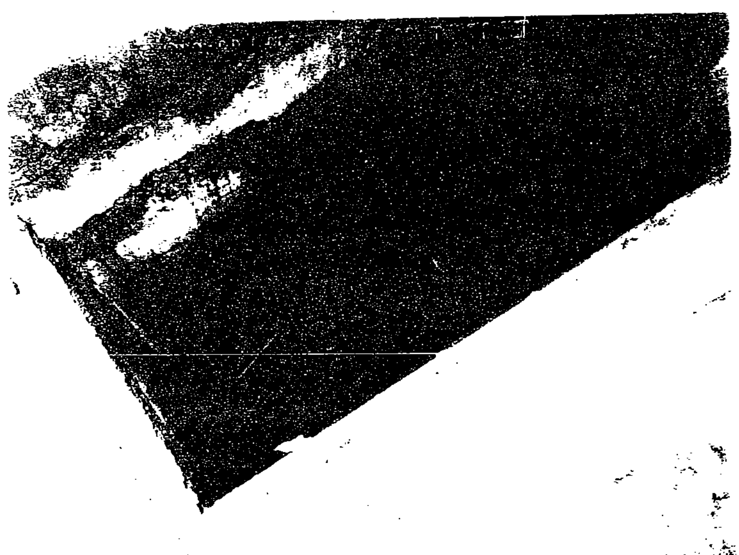
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	____	Any detectable gas	____	Any detectable gas	____
Process	X	Process	____	Process	____
N.C. Cooling	---	N.C. Cooling	____	N.C. Cooling	____
Sanitary	---	Sanitary	____	Sanitary	____
Storm	---	Storm	____	Storm	____

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A 2 - 4 " CLEAN OUTS

MANHOLE:

(circular) surface Ø ______

inside length 50" (parallel with pipe)

inside width 20.5"

entire depth 6'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 4" % full NOT ACCESSABLE

out pipe Ø 4" % full NOT ACCESSABLE

water depth in pipe ______

surcharged yes ____ no ____

CHANNEL:

water depth ______ benched yes ____ no ____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

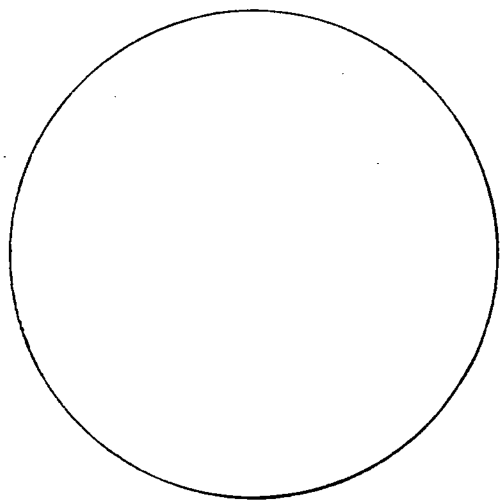
can be harnessed in MH ______ placed in MH ______

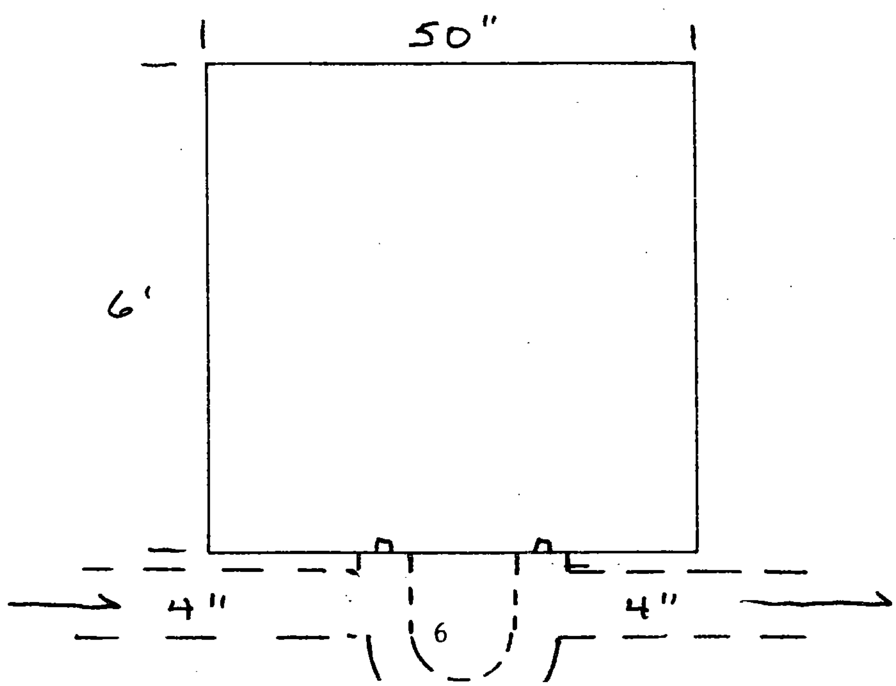
or placed outside MH ______

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013447

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	2500		
Chromium (mg/l)	1.5		
Cadmium (mg/l)	0.1		
Copper (mg/l)	0.9		
Lead (mg/l)			
Nickel (mg/l)	0.2		
Zinc (mg/l)	0.2		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-25-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #
N-1300

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name INDUSTRIAL HARD CHROMIUM COMPANY, INC.

2) Address 7 (No.) ROME STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

MR. FOOTE (Name) GENERAL MANAGER (Title) 344-2265 (Telephone)

4) Type of Industry ELECTROPLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used CHROMIC ACID

7) Principle Product(s) produced CHROME PLATED METALS

8) Hours per day manufacturing operations are conducted 8-12

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day CLAIMS ONLY COOLING
Times of Day ________

9) Number of employees at this location 15

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013450

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

652,256 Gallons/Quarter

87,200 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

______ Gallons/Quarter

______ Cubic Feet/Quarter

______ Well Pump(s) Gal/Min.

______ Pump Running time(s) Hrs/Day

$\leq$ 5 % of Water Used in Actual Process

12% of Water Discharged From Process

80% of Water Discharged as Non-Contact Cooling Water

3 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

CHECK WITH FOOTE AT TIME OF SAMPLING.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

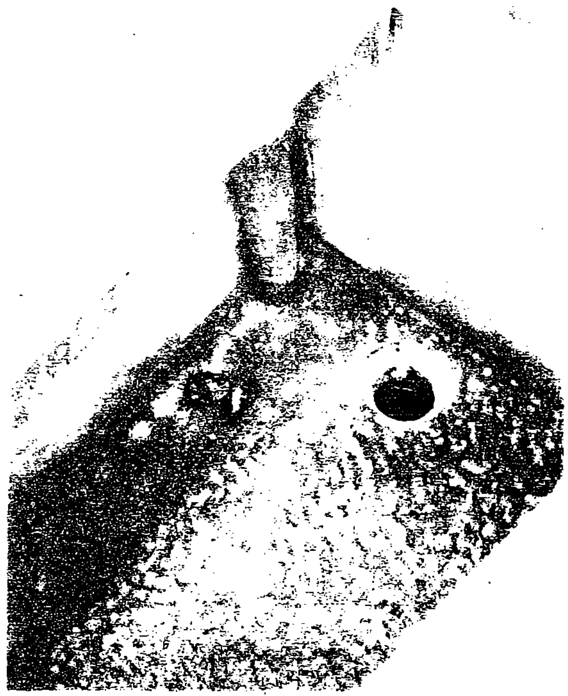
2) Check off which of the below is in each metal discharge point:

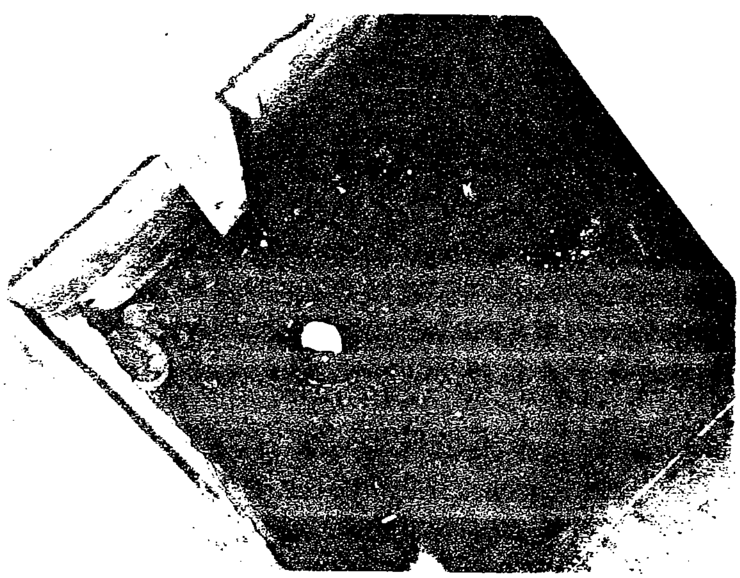
	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process	X	Process	
N.C. Cooling	X	N.C. Cooling	X	N.C. Cooling	
Sanitary	X	Sanitary	X	Sanitary	
Storm	-	Storm	-	Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

TIERRA-B-013452





4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ____

inside length 3½' (parallel with pipe)

inside width 3½'

entire depth 3'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 8" % full ____

out pipe Ø 8" % full ____

water depth in pipe ____

surcharged yes ____ no ____

CHANNEL:

water depth ____ benched yes ____ no ____

water depth range ____

water velocity ____ turburlence yes ____ no ____

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ____ curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

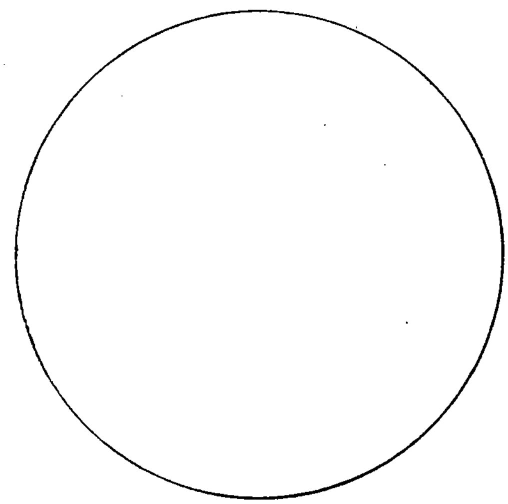
can be harnessed in MH ____ placed in MH X

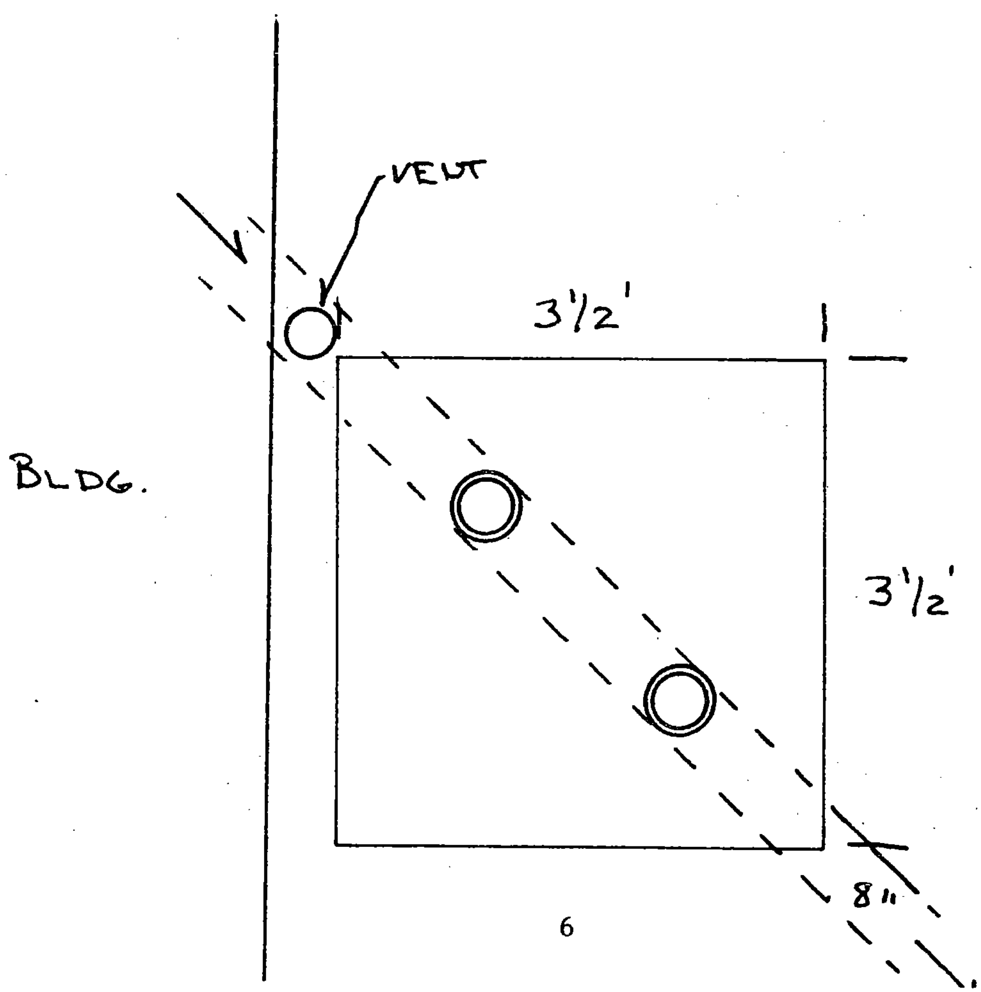
or placed outside MH ____

(vandalism problem yes____ noX)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013455

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø ________

inside length 4' (parallel with pipe)

inside width 4'

entire depth 3'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 8" % full ________

out pipe Ø 8" % full ________

water depth in pipe ________

surcharged yes ____ no ____

CHANNEL:

water depth ________ benched yes ____ no ____

water depth range ________

water velocity ________ turburlence yes ____ no ____

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ________ curved ________ sloped ________

instantaneous flow ________ drop ________

SAMPLING:

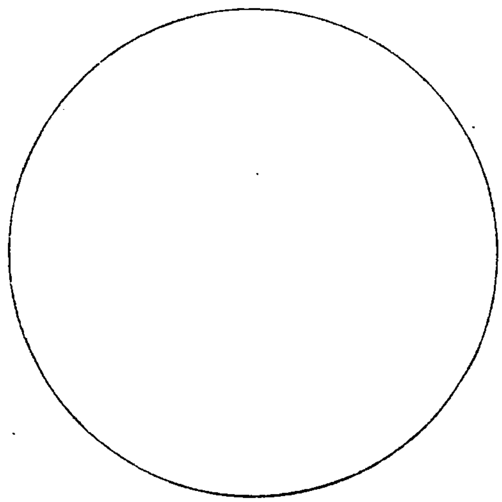
can be harnessed in MH ______ placed in MH X

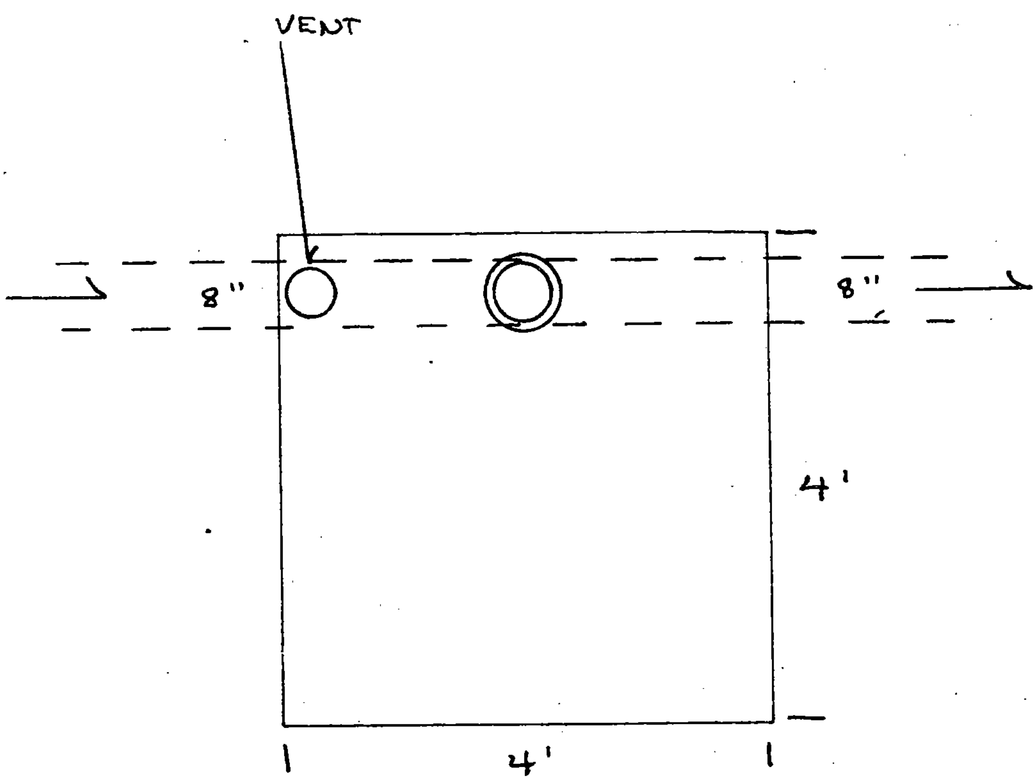
or placed outside MH ______

(vandalism problem yes____ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X	X	
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method		X	
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X	X	
Harness			
Current Meter (velocity)		X	
Dye & Watch			
Dippers		X	
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013459

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

FLOW FOR LINE A CAN BE DETERMINED BY SUBTRACTING FLOW FOR B FROM WATER METER READINGS.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	6,000		
Chromium (mg/l)	19.8		
Cadmium (mg/l)			
Copper (mg/l)	0.1		
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013461

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-17-78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #
N-1310

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name THE KENNY PRESS, INC.

2) Address 110 EDISON PLACE NEWARK
No. Street Municipality

3) Responsible Person to whom further inquiries should be directed:

DANIEL O'CONNEL GEN. MANAGER 642-3111
Name Title Telephone

4) Type of Industry COMMERCIAL PRINTING

5) Primary S.I.C. number, if available 2751
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used PAPER, INK, FILM, METAL PLATES, PHOTO PROCESSING PLATES

7) Principle Product(s) produced PRINTED MATERIAL

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 45

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

150,142 Gallons/Quarter (EST.)

________ Cubic Feet/Quarter

________ Name of City or Public Supply

SUPPLIED BY LANDLORD

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

2 % of Water Used in Actual Process

62 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

36 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 2

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process	X	Process	
N.C. Cooling	---	N.C. Cooling	---	N.C. Cooling	
Sanitary	---	Sanitary	---	Sanitary	
Storm	---	Storm	---	Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A 1" CLEAN OUT

MANHOLE:

(circular) surface Ø 1"

inside length ______ (parallel with pipe)

inside width ______

entire depth ______

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø 1" % full ______

out pipe Ø 1" % full ______

water depth in pipe ______

surcharged yes ____ no____

CHANNEL:

water depth ______ benched yes ____ no____

water depth range ______

water velocity ______ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

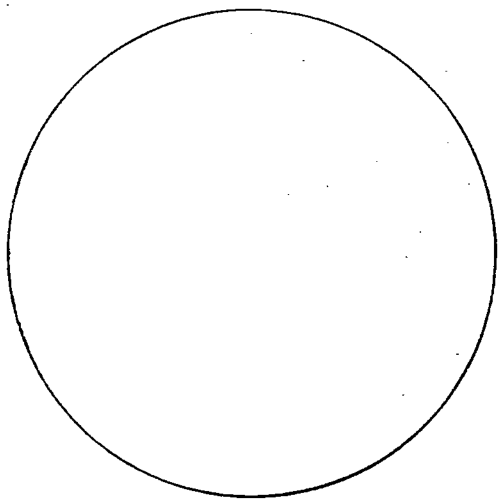
can be harnessed in MH ______ placed in MH ______

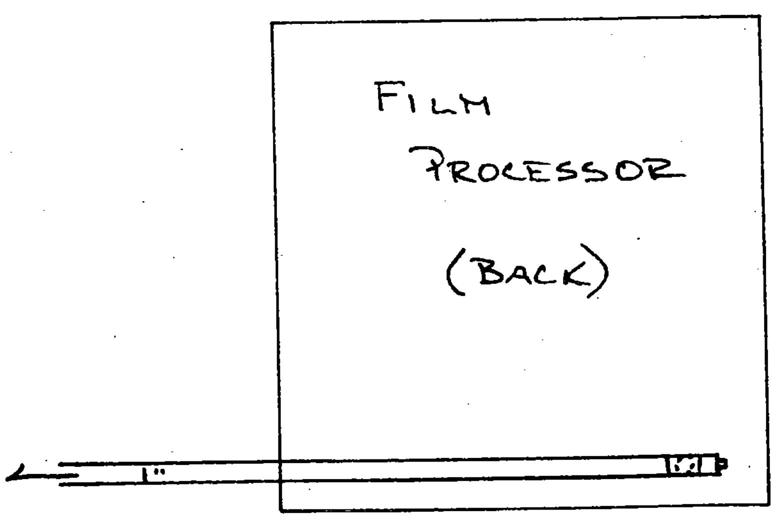
or placed outside MH ______

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A





TIERRA-B-013467

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B 1½" trap

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 1½" % full ____________

out pipe Ø 1½" % full ____________

water depth in pipe ____________

surcharged yes ____ no____

CHANNEL:

water depth ____________ benched yes ____ no____

water depth range ____________

water velocity ____________ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ____________ curved ____________ sloped ____________

instantaneous flow ____________ drop ____________

SAMPLING:

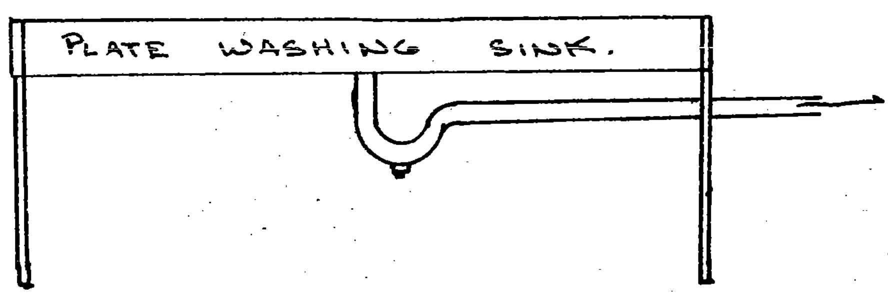
can be harnessed in MH ________ placed in MH ____________

or placed outside MH ________

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B.



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic			
Manual	X	X	
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)	X	X	
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TIERRA-B-013470

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers			
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles	X	X	
Bucket & watch	X	X	
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013471

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

FLOWS FOR A & B MUST BE DETERMINED MANUALLY AS CO. DOES NOT HAVE ITS OWN WATER METER.

MR. O'CONNEL WILL SUPPLY MORE INFO AT TIME OF SAMPLING ABOUT DISCHARGES FROM FILM PROCESSOR.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	2000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-24-78

Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #
N-1320

Industrial Wastewater

Questionnaire

"attach business card"

Part A

1) Industry Name KEYSTONE AUTOMOTIVE PLATING

2) Address 24 (No.) LEGAL STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

AL RONCO (Name) VICE PRESIDENT (Title) 248-1665 (Telephone)

4) Type of Industry AUTO BUMPER RECONDITIONING

5) Primary S.I.C. number, if available 7510
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used NICKEL, CHROME

7) Principle Product(s) produced REPLATED AUTO BUMPERS

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 45

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013474

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

748,472 Gallons/Quarter

________ Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

10 % of Water Used in Actual Process

76 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

14 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

CHECK WITH RONCO AT TIME OF SAMPLING

Industrial Wastewater

Questionnaire

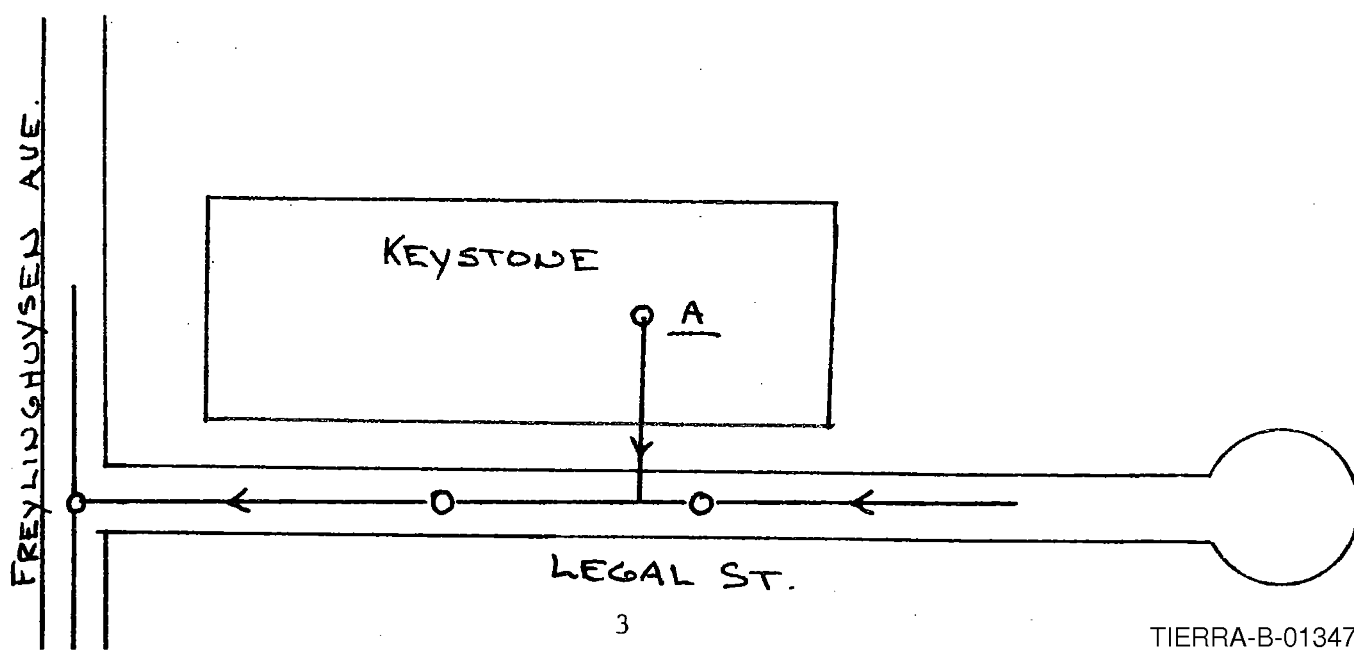
Part B

1) Number of metal contributing discharge points to municipal sewer: 1.

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	✓	Any detectable gas		Any detectable gas	
Process	✓	Process		Process	
N.C. Cooling	—	N.C. Cooling		N.C. Cooling	
Sanitary	—	Sanitary		Sanitary	
Storm	—	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013476

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 30"

inside length 3' Ø (parallel with pipe)

inside width ______

entire depth 12"

junction manhole yes___ no X # of in pipes ______

PIPES:

in pipe Ø ______ % full ______

out pipe Ø SURCH % full 100

water depth in pipe ______

surcharged yes X no___

CHANNEL:

water depth 9" benched yes X no___ (PIT)

water depth range CONSTANT

water velocity ______ turburlence yes X no ______

super critical velocity yes___ no ______

roll in front of stake ___ roll behind stake ___

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

can be harnessed in MH ______ placed in MH ______

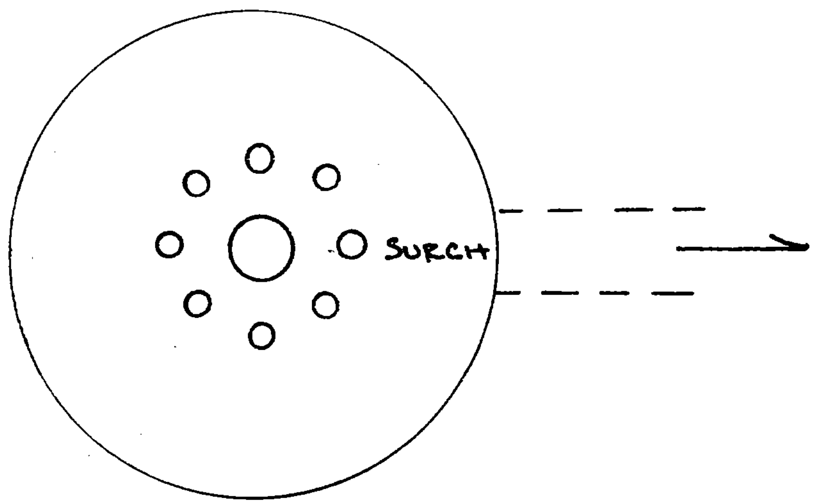
or placed outside MH X

(vandalism problem yes___ no X)

TIERRA-B-013478

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013481

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	11,300		
Chromium (mg/l)	5.6		
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-17-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry # N-1330

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name KINGSLAND DRUM & BARREL

2) Address 308 (No.) MILLER STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

JERRY MOLINARI (Name) VICE PRESIDENT (Title) 242-1203 (Telephone)

4) Type of Industry RECONDITIONING & MFG OF STEEL DRUMS

5) Primary S.I.C. number, if available 5085
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used CAUSTIC, MURIATIC ACID, SODA ASH, NITRITE STEEL

7) Principle Product(s) produced STEEL DRUMS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5 (OCC AT 4)

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 40

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply	Private Well Supply
3,253,800 Gallons/Quarter	__________ Gallons/Quarter
435,000 Cubic Feet/Quarter	__________ Cubic Feet/Quarter
NEWARK Name of City or Public Supply	__________ Well Pump(s) Gal/Min.
	__________ Pump Running time(s) Hrs/Day

25 % of Water Used in Actual Process

73.5 % of Water Discharged From Process

\- % of Water Discharged as Non-Contact Cooling Water

1.5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER FOR ALL PROCESS WATER LOCATED OUTSIDE OFFICE. IN M.H.
NOTE: METER M.H. FLOODS EASILY.

Industrial Wastewater

Questionnaire

Part B

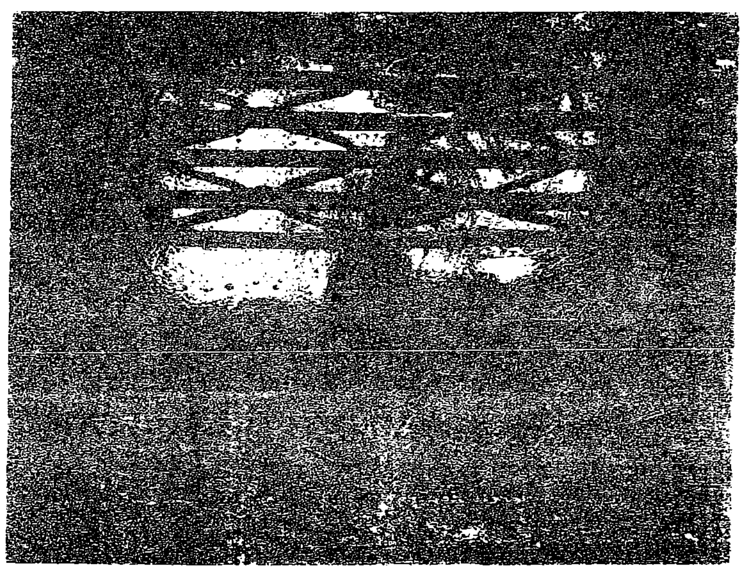
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER ____

MANHOLE:

(circular) surface Ø ____________

inside length ____63"____ (parallel with pipe)

inside width ____67"____

entire depth ____87"____

junction manhole yes__X__ no____ # of in pipes __3__

PIPES:

in pipe Ø __8,8,4__ % full __0,0__

out pipe Ø SURCHARGED % full __100__

water depth in pipe 1",0,0____

surcharged yes ____ no____

CHANNEL:

water depth ____37"____ benched yes __X__ no____ (PIT)

water depth range__CONSTANT________

water velocity ____2 FPS____________ turburlence yes __X__ no _____

super critical velocity yes_____ no __X__

roll in front of stake __X__ roll behind stake _____

channel configuration straight ___X___ curved __________ sloped __________

instantaneous flow ______________ drop __________

SAMPLING:

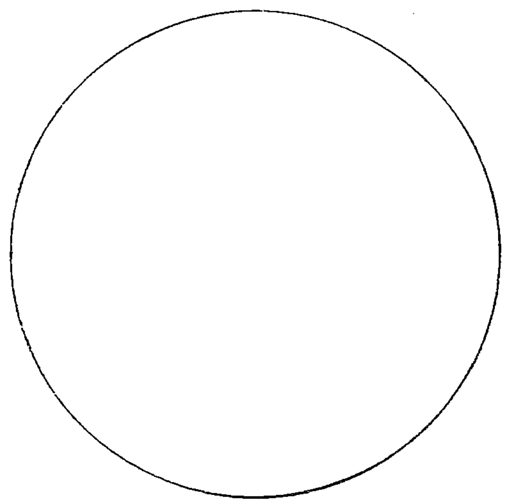
can be harnessed in MH _______ placed in MH __________

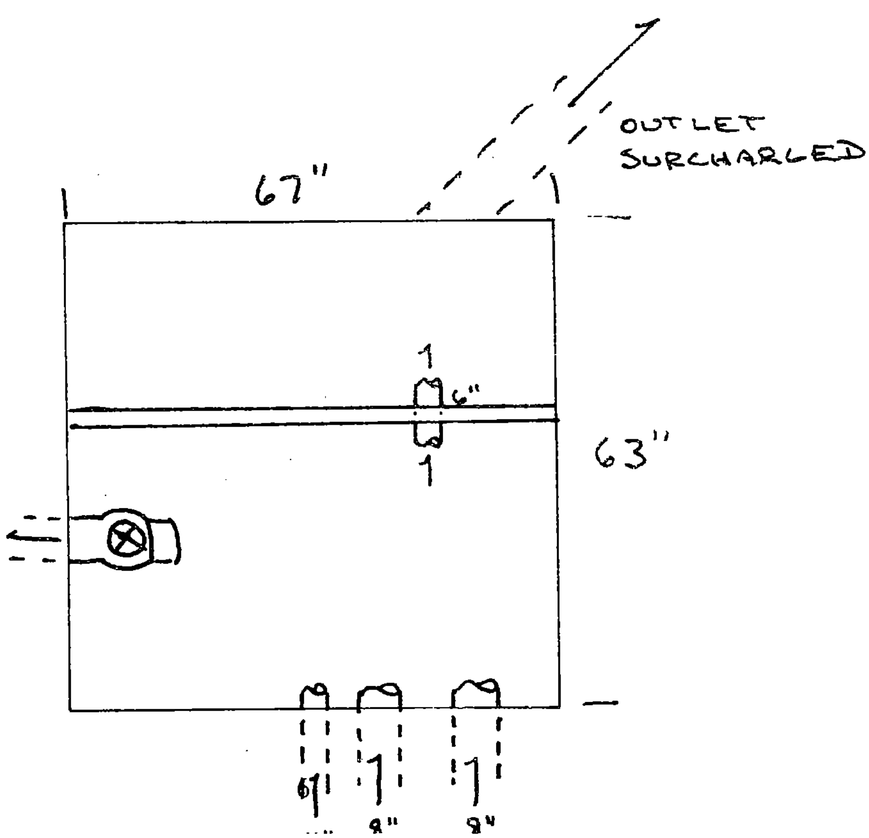
or placed outside MH __X____

(vandalism problem yes?___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method	[1] X		
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	[2] X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes	X		
Insert	X		
Inflatable			
4"			
6"	X		
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	77,400		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	2.1		
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)	.65		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-1-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #

N-1340

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name LAUREL LAMP MFRG. COMPANY

2) Address ____ ROME & MAGAZINE STS. NEWARK
No. Street Municipality

3) Responsible Person to whom further inquiries should be directed:

BUD WIGGINS PLANT MANAGER 489-1148
Name Title Telephone

4) Type of Industry LAMP MFG.

5) Primary S.I.C. number, if available 3641
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used STEEL, ALUM., BRASS, ZN, NI, CR, CU

7) Principle Product(s) produced LAMPS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____
Times of Day ____

9) Number of employees at this location 150

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013494

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

982,872 Gallons/Quarter

131,400 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

______ Gallons/Quarter

______ Cubic Feet/Quarter

______ Well Pump(s) Gal/Min.

______ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

77 % of Water Discharged From Process

- % of Water Discharged as Non-Contact Cooling Water

18 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER LOCATED CENTER OF BUILDING SOUTH END.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.

4) **Describe each manhole or sampling location in detail. (Label A,B,C,...)**

LETTER _A__

MANHOLE:

(circular) surface Ø ________

inside length __49"__ (parallel with pipe)

inside width __33"__

entire depth __33"__

junction manhole yes____ no_X__ # of in pipes _1__

PIPES:

in pipe Ø _4"___ % full _50___

out pipe Ø_4"___ % full _25___

water depth in pipe _2"___

surcharged yes ____ no _X__

CHANNEL:

water depth _6"___ benched yes _X_ no____ (PIT)

water depth range_CONSTANT_____

water velocity _1 FPS_____ turburlence yes ____ no _X__

super critical velocity yes____ no _X__

roll in front of stake _X__ roll behind stake ____

channel configuration straight __X___ curved _______ sloped _______

instantaneous flow __________ drop _______

SAMPLING:

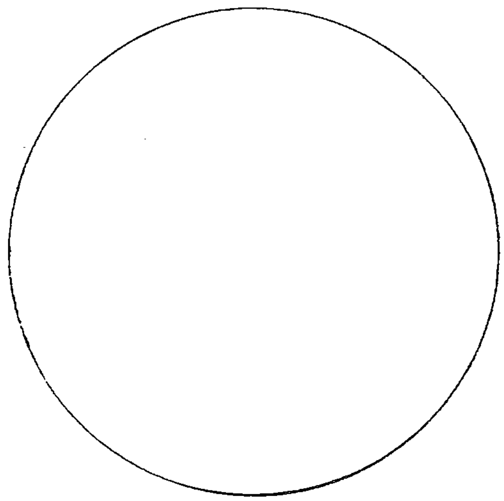
can be harnessed in MH ______ placed in MH _______

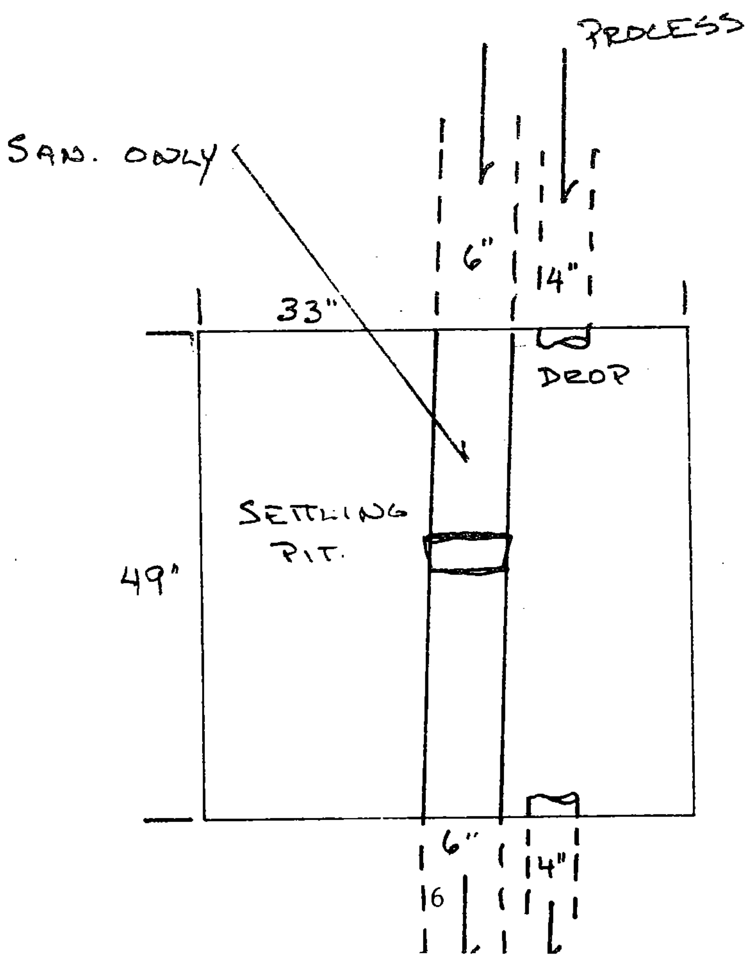
or placed outside MH __X___

(vandalism problem yes_X_ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	16,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	22		
Lead (mg/l)			
Nickel (mg/l)	30		
Zinc (mg/l)	3.04		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 6/29/78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1350

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name MANCO METALS

2) Address 390 (No.) PARK AVENUE (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
LOUIS GARCIA	OWNER	485-6800

4) Type of Industry ELECTROPLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Zn, Cd, Sn, Ni, Cr

7) Principle Product(s) produced ELECTROPLATED METALS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ________ Times of Day ________

9) Number of employees at this location 16

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

483,208 Gallons/Quarter

64,600 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

91 % of Water Discharged From Process

-- % of Water Discharged as Non-Contact Cooling Water

4 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter: 1 METER

SEE SCHEMATIC

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	--	N.C. Cooling		N.C. Cooling	
Sanitary	--	Sanitary		Sanitary	
Storm	--	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 35" (parallel with pipe)

inside width 35"

entire depth 28"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 4" % full 25

out pipe Ø 3 - 3" % full ______

water depth in pipe 1"

surcharged yes ____ no X

CHANNEL:

water depth 4" benched yes X no____ (PIT)

water depth range CONSTANT

water velocity EST. 2 FPS turburlence yes X no ____ (MINOR)

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

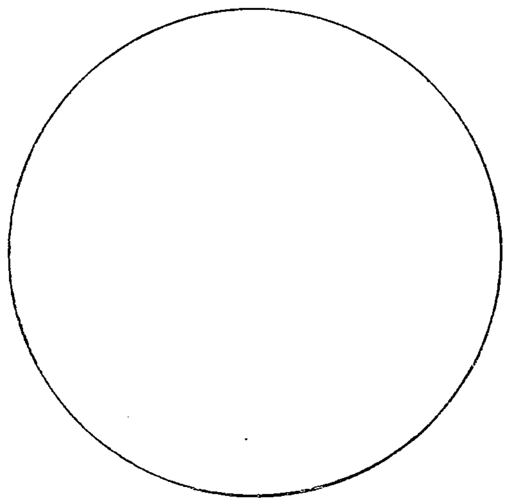
can be harnessed in MH ______ placed in MH ______

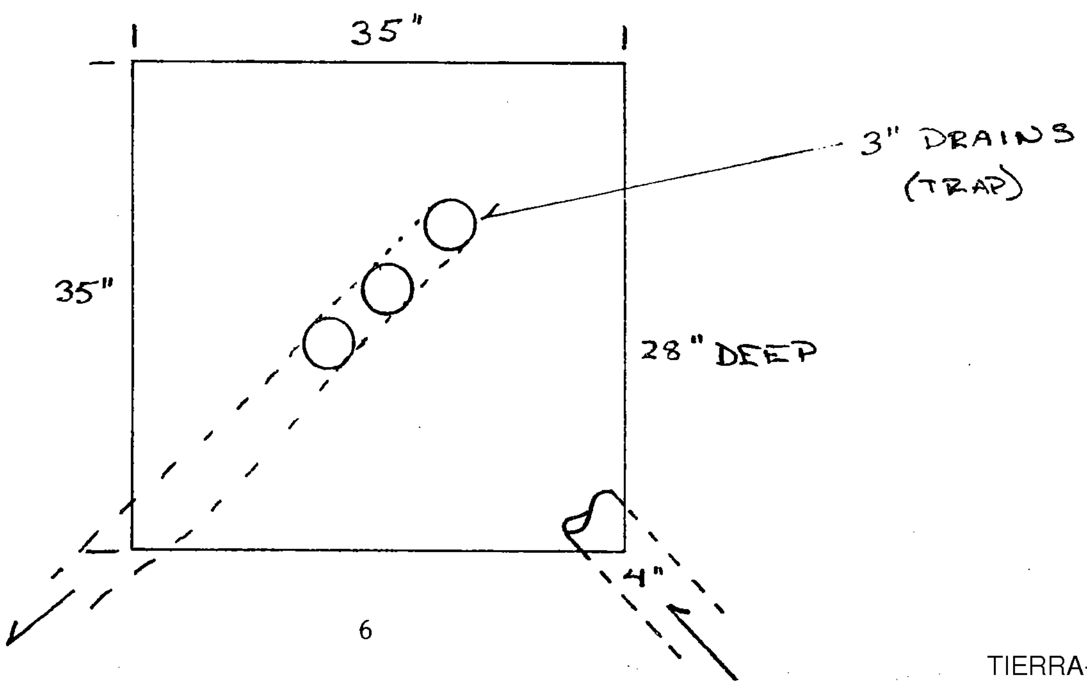
or placed outside MH X

(vandalism problem yes___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013509

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013511

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

INSTALL SAMPLER LINE IN INLET PIPE W/WEIR.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

____

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

____

____

____

____

2) The following tests will be performed by PVSC at a later date on a series of <u>24 hour flow proportioned composite</u> samples collected over a period of <u>two (2) consecutive production days</u>. Samples shall be collected from each <u>individual</u> waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

<u>Previous Measurements of Flow and Metals (if available)</u>

Analysis	A	B	C
Daily Flow (Gal/Day)	25,000		
Chromium (mg/l)	.55		
Cadmium (mg/l)	.9		
Copper (mg/l)	.3		
Lead (mg/l)	.1		
Nickel (mg/l)	.3		
Zinc (mg/l)	3.1		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8/30/78 Interviewed by: Standfast & Pullizzi

PVSC Industry #

N-1355

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Mara Polishing & Plating Company

2) Address 105-107 (No.) West Peddie Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Don & Gene Mara	Prop.	242-0800

4) Type of Industry Metal Polishing & Plating

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Cr, Ni, Zn, Pb Salts

7) Principle Product(s) produced Plated Metal

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 8

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

599,896 Gallons/Quarter

802,000 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

\- % of Water Used in Actual Process

98% of Water Discharged From Process

.- % of Water Discharged as Non-Contact Cooling Water

2 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

In basement (reading in digits)

TIERRA-B-013515

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas	-	Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 10" x 10" drain w/3" Pipe

inside length ____________ (parallel with pipe)

inside width ____________

entire depth 12" /9" water

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range___________________

water velocity _____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ________________ drop __________

SAMPLING:

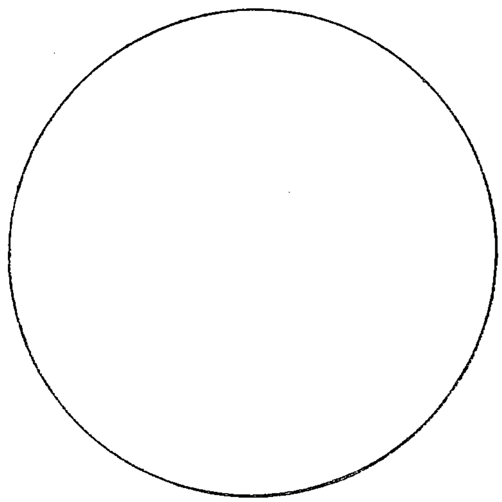
can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

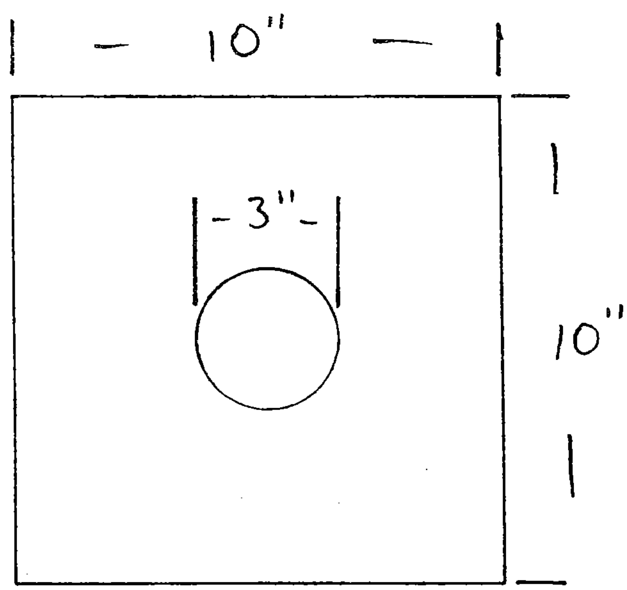
(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



DRAIN



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	13,600		
Chromium (mg/l)	1.2		
Cadmium (mg/l)			
Copper (mg/l)	.5		
Lead (mg/l)			
Nickel (mg/l)	7		
Zinc (mg/l)	1.		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-24-78

Interviewed by: SCOTT & VAN MALDEN

PVSC Industry # N-1360

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name METAL PARTS PROCESSING CO. INC.

2) Address 165 (No.) DELANCY STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

ARTHUR F. VONDERLINDEN (Name) PRESIDENT (Title) 589-5314 (Telephone)

4) Type of Industry METAL FINISHING

5) Primary S.I.C. number, if available 3559
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used STEEL, Cu, Zn, ALKALIS, ACIDS, ABRASIVES

7) Principle Product(s) produced FINISHED METAL PARTS

8) Hours per day manufacturing operations are conducted 8-10

Days per week manufacturing operations are conducted 5-6

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day } VARIES
Times of Day } VARIES

9) Number of employees at this location 16

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013524

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

295,460 Gallons/Quarter

39,500 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

<2 % of Water Used in Actual Process

91.5% of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

6.5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER IN BASEMENT FRONT OF BUILDING

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	---	N.C. Cooling		N.C. Cooling	
Sanitary	---	Sanitary		Sanitary	
Storm	---	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ____

inside length 3' (parallel with pipe)

inside width 3'

entire depth 2.5'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 12" x 4" D % full 25

out pipe Ø SURCH % full 100

water depth in pipe 1"

surcharged yes ____ no X

CHANNEL:

water depth 10" benched yes X no____ (PIT)

water depth range CONSTANT

water velocity 1.2 FPS turburlence yes ____ no X

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight ____ curved X sloped X

instantaneous flow ____ drop ____

SAMPLING:

can be harnessed in MH ____ placed in MH ____

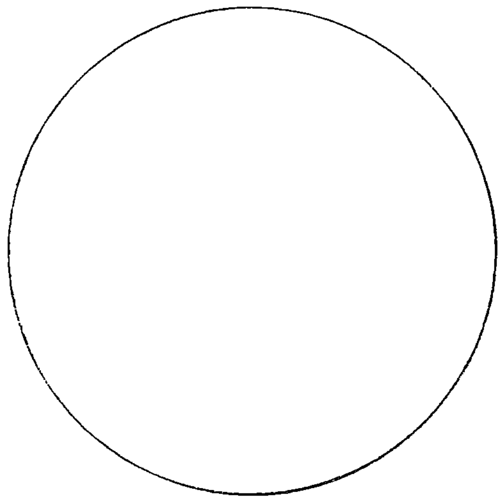
or placed outside MH X

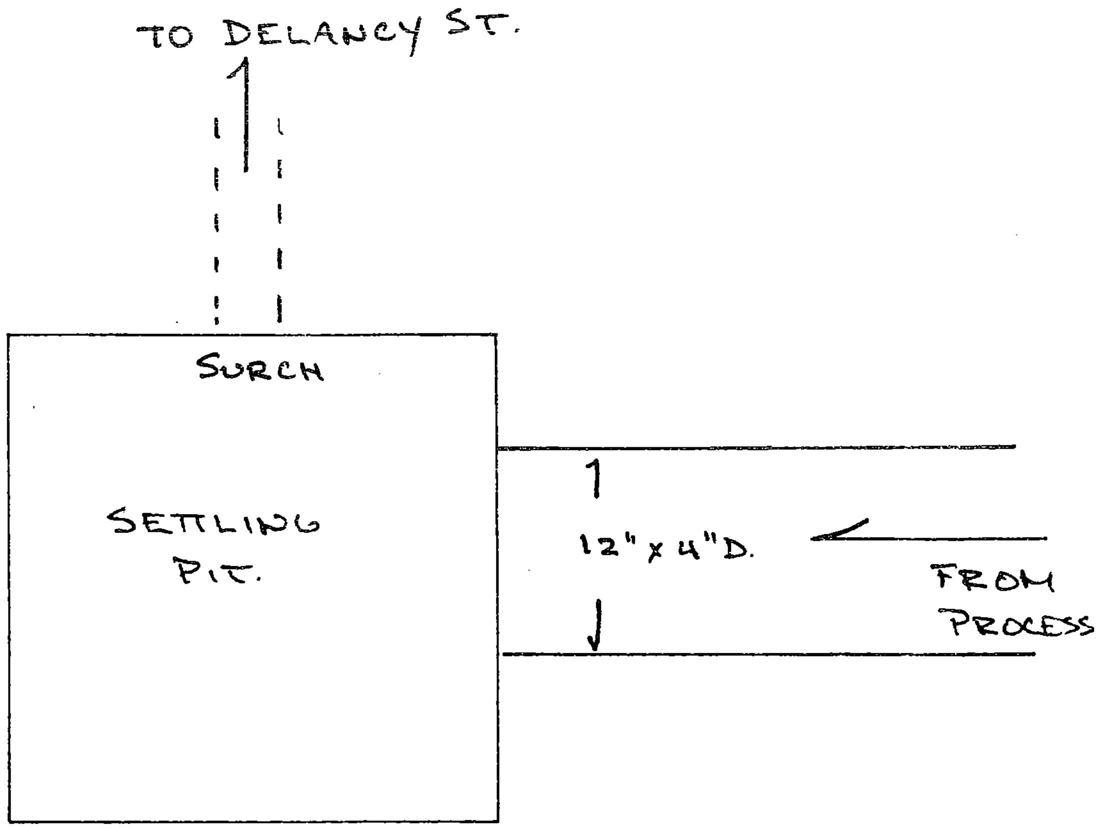
(vandalism problem yes____ no X)

TIERRA-B-013528

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013529

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Custom Rect. Weir	X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Custom Rect. Weir	X		
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

SUGGEST THAT CUSTOM RECTANGULAR WEIR BE INSTALLED IN CHANNEL TO MEASURE FLOW.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	1880		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	1.2		
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)	0.3		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013533

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-17-78 Interviewed by: SCOTT AND VAN MALDEN

PVSC Industry # N-1370

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name MODERN POLISHING AND PLATING CO.

2) Address ~~242~~ (No.) ~~SO. 12th STREET~~ (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

JOSEPH MAYKISH (Name) PARTNER (Title) 623-8178 (Telephone)

4) Type of Industry ELECTROPLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Cu, Ni, Cr, CLEANERS, BRASS, Zn

7) Principle Product(s) produced PLATED METALS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 22

10) Indicate plant water consumption figures in ~~gallons or~~ cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

1,120,000 Gallons/Quarter (EST)

__________ Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

10 % of Water Used in Actual Process

87.5 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

2.5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

TWO METERS ONE FOR PROCESS OTHER FOR SANITARY.

Industrial Wastewater

Questionnaire

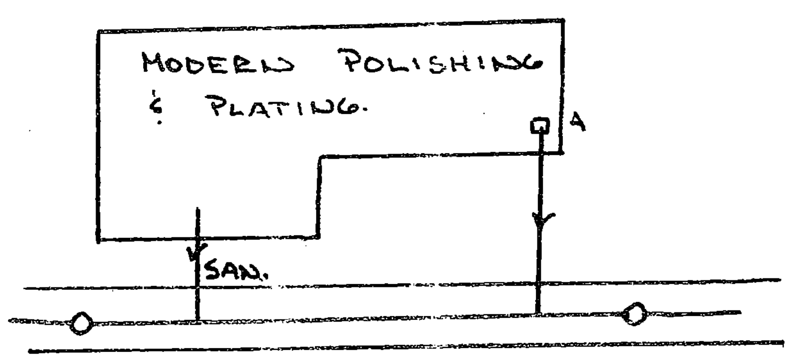
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

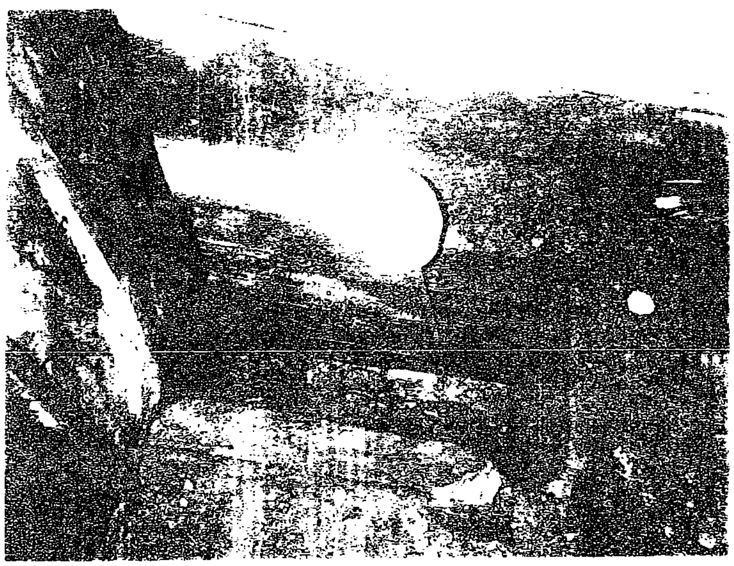
2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	✓	Process		Process	
N.C. Cooling	—	N.C. Cooling		N.C. Cooling	
Sanitary	—	Sanitary		Sanitary	
Storm	—	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013536



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø __ ______

inside length 24" (parallel with pipe)

inside width 12"

entire depth 20"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 3" % full < 10

out pipe Ø 4" % full ______

water depth in pipe N/A (VERT)

surcharged yes ____ no X

CHANNEL:

water depth 2" benched yes X no____

water depth range CONSTANT

water velocity ______ turburlence yes X no ______

super critical velocity yes____ no ______

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop X

SAMPLING:

can be harnessed in MH ______ placed in MH ______

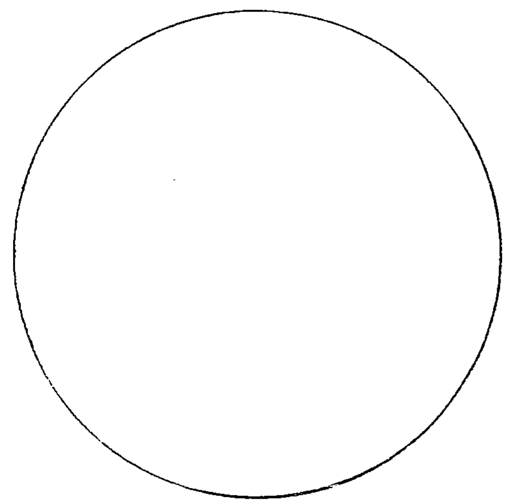
or placed outside MH X

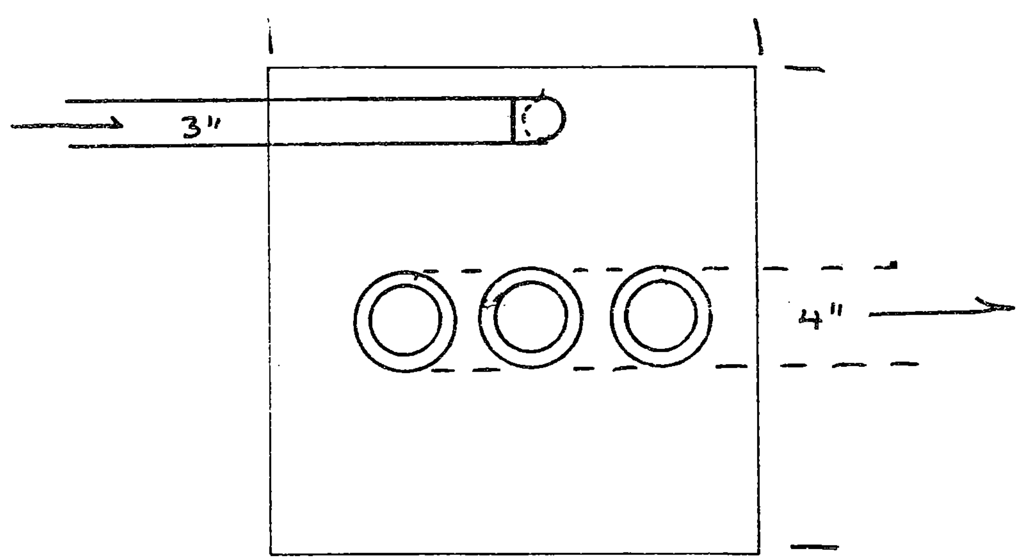
(vandalism problem yes___ no X)

TIERRA-B-013538

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013539

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)	X		
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch	X		
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013541

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	13,500		
Chromium (mg/l)	1		
Cadmium (mg/l)			
Copper (mg/l)	0.02		
Lead (mg/l)			
Nickel (mg/l)	1.5		
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013543

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8/1/78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry # N-1380

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name MOYER PLATING CO.

2) Address 175 (No.) CHRISTIE STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
SEAN MOYER	PLANT ENG.	589-1112

4) Type of Industry ELECTROPLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Ni, Cr, Cd, Zn, Cu, BRASS, Sn

7) Principle Product(s) produced PLATED METALS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 17

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013544

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

2,125,816 Gallons/Quarter

284,200 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

94 % of Water Discharged From Process

-- % of Water Discharged as Non-Contact Cooling Water

1 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

METER LOCATED NEAR LOADING DOOR AT 179 CHRISTIE.

Industrial Wastewater

Questionnaire

Part B

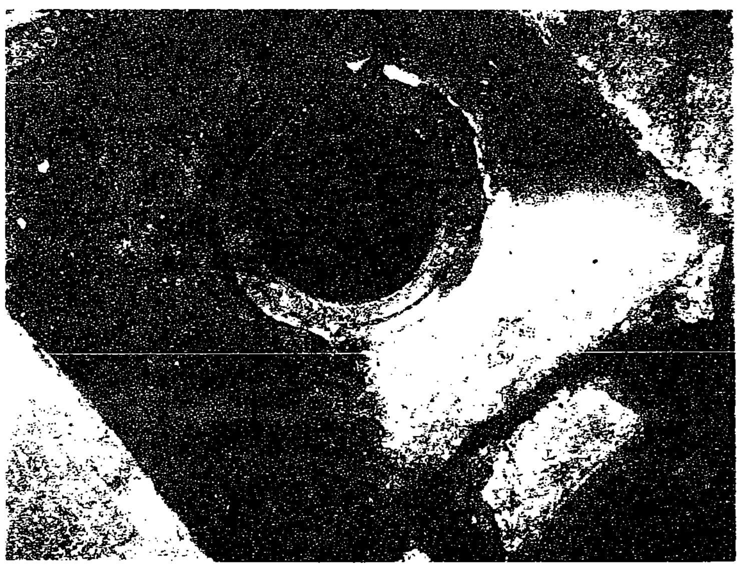
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	--	N.C. Cooling		N.C. Cooling	
Sanitary	--	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 8"

inside length 6" Ø (parallel with pipe)

inside width ____

entire depth 30"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 8" % full 25

out pipe Ø 8" % full 25

water depth in pipe 2"

surcharged yes ____ no X

CHANNEL:

water depth 2" benched yes ____ no X

water depth range CONSTANT

water velocity 3.8 F.P.S. turburlence yes x no ____ (MILD)

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

can be harnessed in MH ____ placed in MH ____

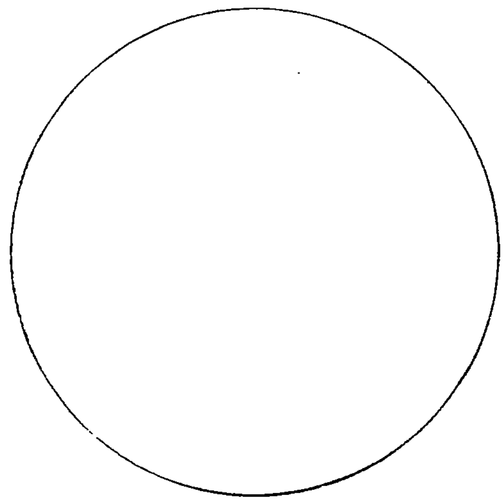
or placed outside MH X

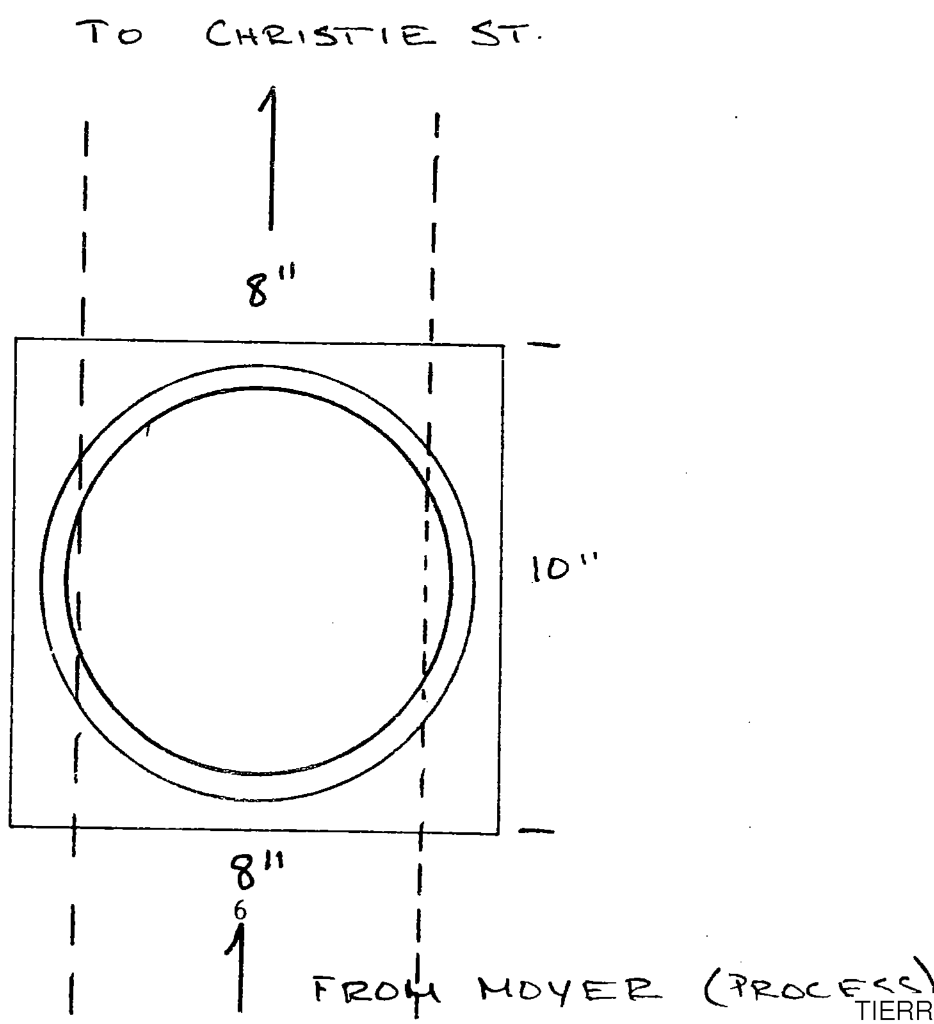
(vandalism problem yes____ no X)

TIERRA-B-013548

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method	X		
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)	X		
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013551

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

YES

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

pH ADJUSTMENT W/LIMESTONE.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)			
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-15-78　　　　Interviewed by: Scott & Van Malden

PVSC Industry #

N-1390

Industrial Wastewater

Questionnaire　　　　"attach business card"

Part A

1) Industry Name Newark Boxboard

2) Address 17 (No.) Blanchard Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Lou Thaisz (Name)　Mgr. of Engineering (Title)　589-6853 (Telephone)

4) Type of Industry Paperboard Mfg.

5) Primary S.I.C. number, if available 2631
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Wastepaper

7) Principle Product(s) produced Paperboard

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 6-7

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 150

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

45,000,000 Gallons/Quarter (Est.)

__________ Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

15% of Water Used in Actual Process

83% of Water Discharged From Process

- % of Water Discharged as Non-Contact Cooling Water

2% of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Check with Thaisz at time of sampling.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 4' (parallel with pipe)

inside width 33"

entire depth 24"

junction manhole yes ___ no X # of in pipes 1

PIPES:

in pipe Ø 6" % full 33

out pipe Ø 8" % full 100

water depth in pipe 2"

surcharged yes X no ___ (Outpipe)

CHANNEL:

water depth 17" benched yes ___ no X

water depth range Constant

water velocity < .5 FPS turburlence yes ___ no No

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ___ drop ___

SAMPLING:

can be harnessed in MH ___ placed in MH ___

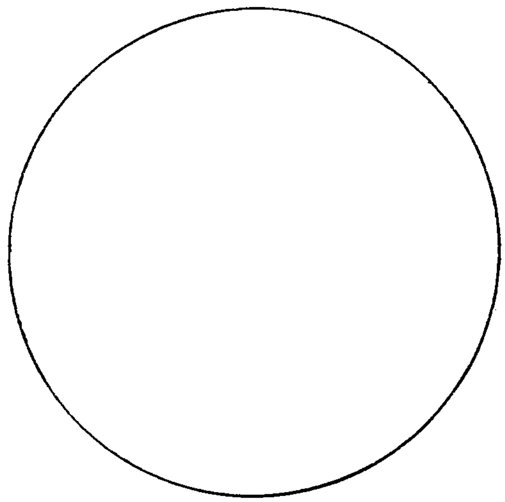
or placed outside MH X

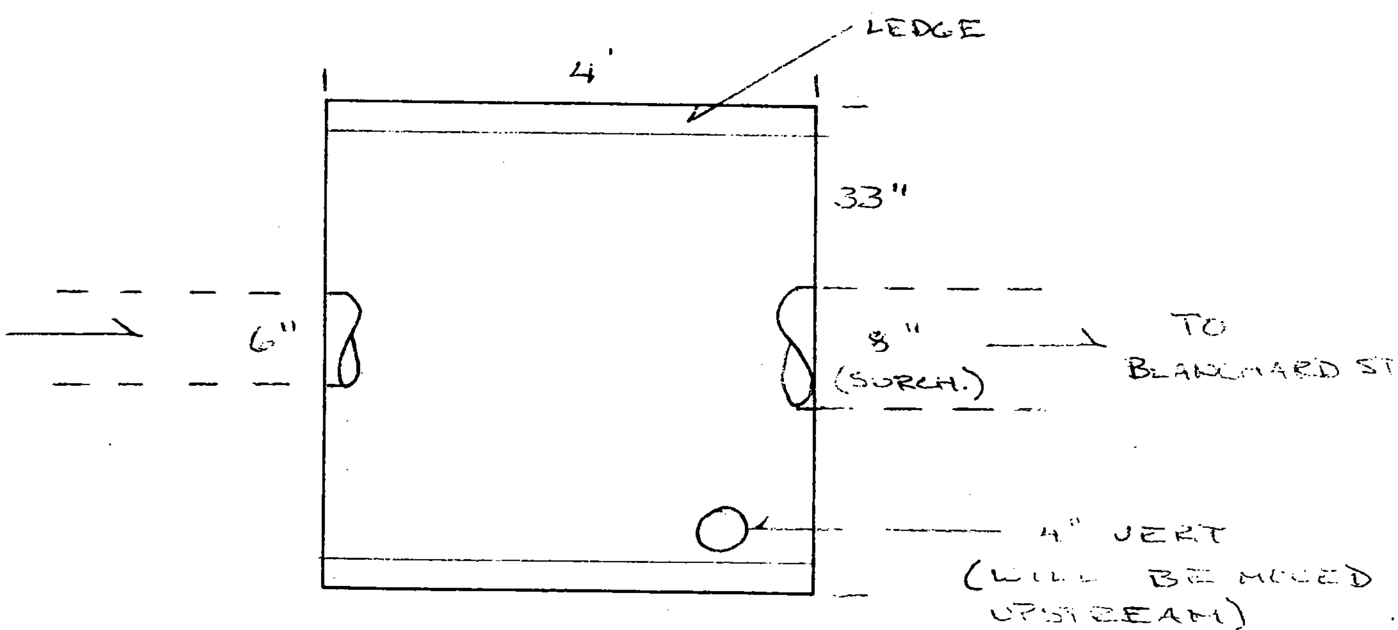
(vandalism problem yes ___ no X)

TIERRA-B-013558

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A





TIERRA-B-013559

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Custon 90° V-Notch Weir	X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Custom Weir	X		
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	563,000		
Chromium (mg/1)			
Cadmium (mg/1)			
Copper (mg/1)	0.2		
Lead (mg/1)	1.0		
Nickel (mg/1)			
Zinc (mg/1)			
Mercury (mg/1)			
Arsenic (mg/1)			
Vanadium (mg/1)			
Selenium (mg/1)			
Beryllium (mg/1)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7/31/78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1400

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name NEWARK MORNING LEDGER COMPANY

2) Address ____ STAR LEDGER PLAZA NEWARK
No. Street Municipality

3) Responsible Person to whom further inquiries should be directed:

JOHN SOLOMITA BLDG. SUPT. 877-4141
Name Title Telephone

4) Type of Industry NEWSPAPER PRINTING

5) Primary S.I.C. number, if available 2711
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used NEWSPRINT, INK

7) Principle Product(s) produced NEWSPAPERS.

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 7

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day
Times of Day 10:30 approx. (P.M.

9) Number of employees at this location 300

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013564

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

3,808,068 Gallons/Quarter

509,100 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

10 % of Water Discharged From Process

72 % of Water Discharged as Non-Contact Cooling Water

13 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

CHECK WITH SOLOMITA AT TIME OF SAMPLING.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	--	N.C. Cooling		N.C. Cooling	
Sanitary	--	Sanitary		Sanitary	
Storm	--	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 24"

inside length 5'Ø (parallel with pipe)

inside width ____

entire depth 8'

junction manhole yes ____ no X # of in pipes 1

PIPES:

in pipe Ø 8" % full 12

out pipe Ø 8" % full 12

water depth in pipe 1"

surcharged yes ____ no X

CHANNEL:

water depth 1" benched yes ____ no X

water depth range 1 - 4" (EST.)

water velocity TOO SHALLOW turburlence yes X no ____

super critical velocity yes ____ no X (MILD)

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

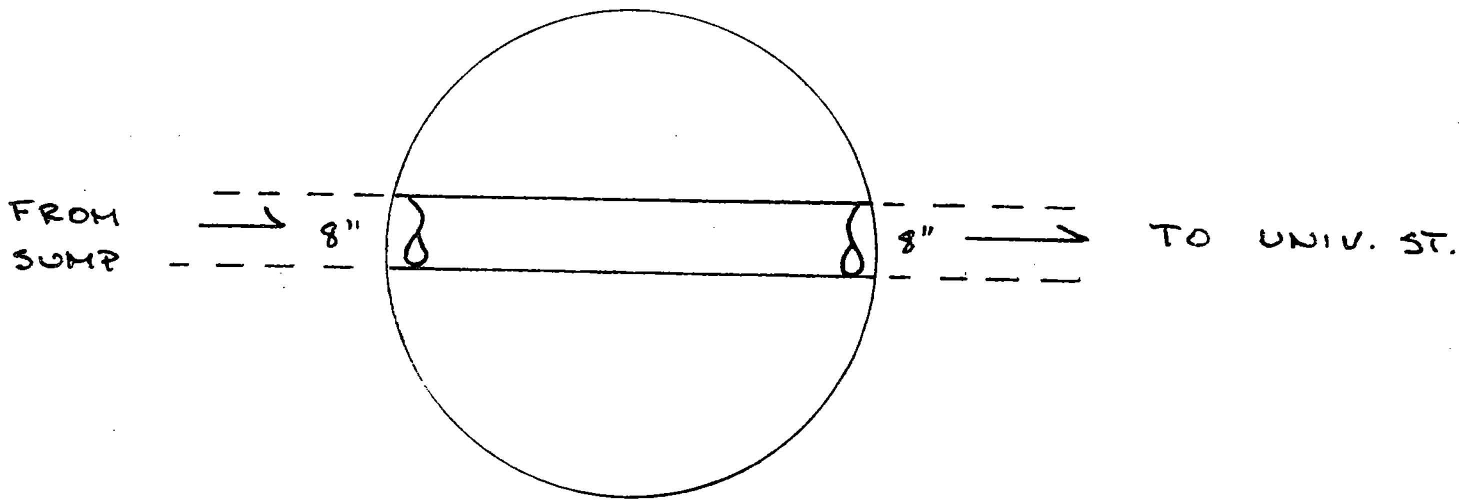
can be harnessed in MH X placed in MH ____

or placed outside MH ____

(vandalism problem yes ____ no ____)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



TIERRA-B-013569

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method	X		
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			
NOTES:			

TIERRA-B-013571

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

SUGGEST THAT SAMPLER BE CONNECTED TO DIPPER & USED IN "FLOW MODE" IN ORDER TO CATCH DISCHARGE FROM SUMP PUMPS.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	44,800		
Chromium (mg/1)	∠ .05		
Cadmium (mg/1)			
Copper (mg/1)	.02		
Lead (mg/1)			
Nickel (mg/1)	∠ .05		
Zinc (mg/1)			
Mercury (mg/1)	∠ .02		
Arsenic (mg/1)			
Vanadium (mg/1)			
Selenium (mg/1)			
Beryllium (mg/1)			

TIERRA-B-013573

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8/31/78 Interviewed by: Standfast & Safchinsky

PVSC Industry #

N-1405

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name Newark Tank Wash, Inc.

2) Address 335 (No.) Raymond Boulevard (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Joe Calonge (Name) V.P. Operation & Eng. (Title) 589-5700 (Telephone)

4) Type of Industry Service

5) Primary S.I.C. number, if available 7699
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Caustic & Alkaline Detergents

7) Principle Product(s) produced Cleaned Truck Tanks

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 6

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 4

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013574

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

418,132 Gallons/Quarter

559,900 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

<1 % of Water Used in Actual Process

>98 % of Water Discharged From Process

0 % of Water Discharged as Non-Contact Cooling Water

<1 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 Meter inside building NE corner/

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A Settling Pit

MANHOLE:

(circular) surface Ø ______

inside length 20' (parallel with pipe)

inside width 4'

entire depth 2'

junction manhole yes___ no X # of in pipes 1

PIPES:

in pipe Ø ______ % full ______

out pipe Ø 1" % full 25

water depth in pipe 1"

surcharged yes ___ no X

CHANNEL:

water depth 5" benched yes X no___

water depth range ______

water velocity ______ turburlence yes ___ no X

super critical velocity yes___ no ___

roll in front of stake ___ roll behind stake ___

channel configuration straight X curved ______ sloped ______

instantaneous flow - drop ______

SAMPLING:

can be harnessed in MH ______ placed in MH ______

or placed outside MH X

(vandalism problem yes___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013581

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	375,000		
Chromium (mg/l)	1.2		
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-19-78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1415

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name N.J. TANNING INC.

2) Address 410 (No.) FREYLINGHUYSEN AVENUE (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

HAROLD SCHWARTZ (Name) V.P. (Title) 248-1349 (Telephone)

4) Type of Industry LEATHER TANNING

5) Primary S.I.C. number, if available 3111
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used SALTED HIDES, TANNING CHEMICALS & OILS

7) Principle Product(s) produced CRUST LEATHERS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____
Times of Day ____

9) Number of employees at this location 35

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

NEWARK Name of City or Public Supply

(SUPPLIED BY LANDLORD)

Private Well Supply

1,166,880 Gallons/Quarter

156,000 Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

15 % of Water Used in Actual Process

76.5 % of Water Discharged From Process

5 % of Water Discharged as Non-Contact Cooling Water

3.5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

ONE METER LOCATED AT WELL HEAD.

Industrial Wastewater

Questionnaire

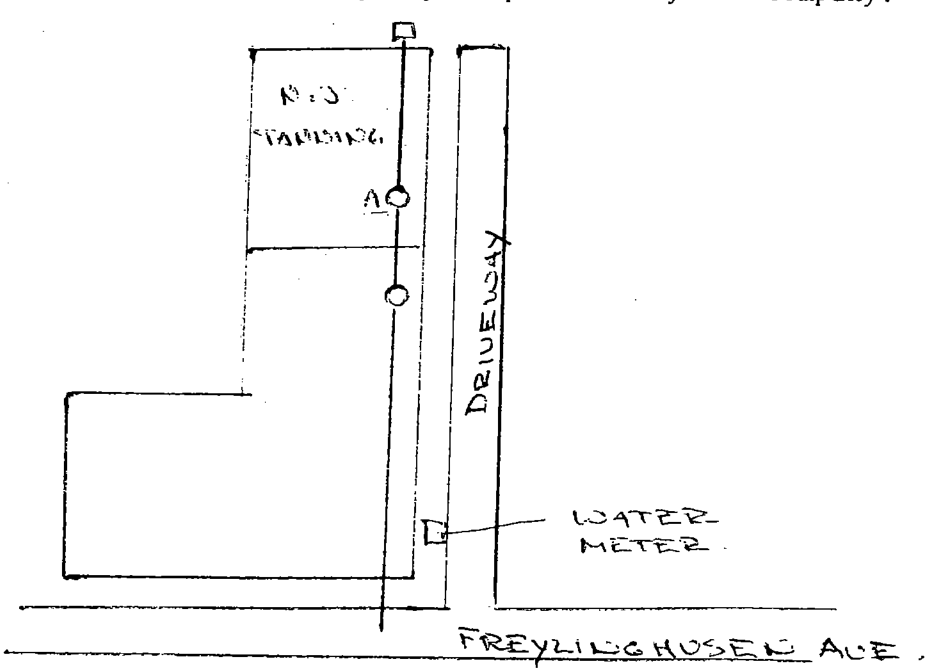
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	✓	Process		Process	
N.C. Cooling	✓	N.C. Cooling		N.C. Cooling	
Sanitary	✓	Sanitary		Sanitary	
Storm	—	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013586

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 24"

inside length 4' Ø (parallel with pipe)

inside width ______

entire depth ~ 10

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø ~ 18" % full 100

out pipe Ø ~ 18" % full 100

water depth in pipe 18"

surcharged yes X no____

CHANNEL:

water depth 18" benched yes X no____

water depth range CONSTANT, EXCEPT FOR STORM

water velocity EST. .5 FPS turburlence yes X no ____

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

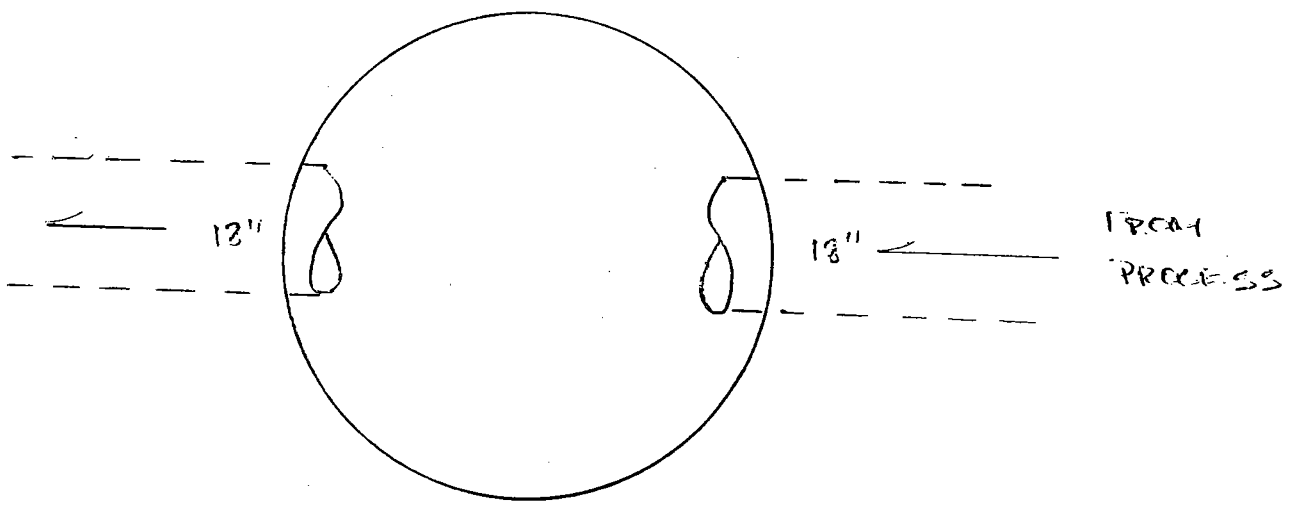
can be harnessed in MH X placed in MH ______

or placed outside MH ______

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TIERRA-B-013589

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			
NOTES:			

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

N.J. TANNING WILL ARRANGE TO SWITCH TO 100% WELL WATER FOR 2 DAY SAMPLING PERIOD. FLOW CAN THEN BE DETERMINED BY METER OR WELL.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	78,700		
Chromium (mg/l)	176 (TRI)		
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)	0.01		
Nickel (mg/l)			
Zinc (mg/l)	0.0001		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013593

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 9/5/78 Interviewed by: Standfast

PVSC Industry #
N-1410

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name New Jersey Galvanizing & Tinning Works, Inc.

2) Address 139 (No.) Haynes Avenue (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Ken McCormack (Name) Exec. V.P. (Title) 242-3200 (Telephone)

4) Type of Industry Metal Finishing

5) Primary S.I.C. number, if available 3479
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Zn

7) Principle Product(s) produced Galvanized Steel

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 65

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

860,200 Gallons/Quarter

115,000 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

85 % of Water Discharged From Process

0 % of Water Discharged as Non-Contact Cooling Water

10 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Flooded, N.J. Cal. & Tin Works will pump out for us.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	-	Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 2' (parallel with pipe)

inside width 2'

entire depth 3'

junction manhole yes X no ___ # of in pipes 2

PIPES:

in pipe Ø 8", 3" % full 30%, 10%

out pipe Ø 8" % full 30%

water depth in pipe 2-1/2"

surcharged yes ___ no X

CHANNEL:

water depth 3" benched yes ___ no X

water depth range ______

water velocity - turburlence yes ___ no X

super critical velocity yes ___ no X

roll in front of stake - roll behind stake -

channel configuration straight X curved - sloped -

instantaneous flow ______ drop -

SAMPLING:

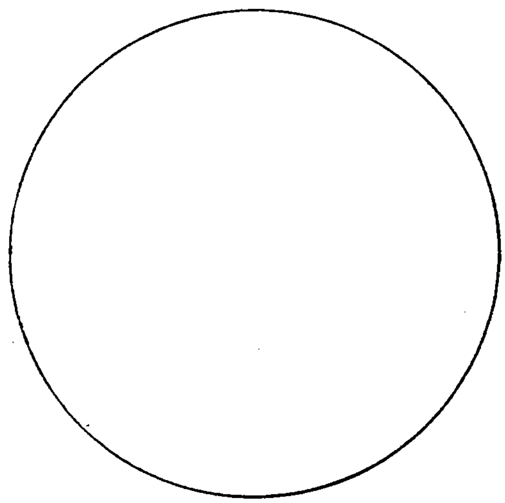
can be harnessed in MH ___ placed in MH ___

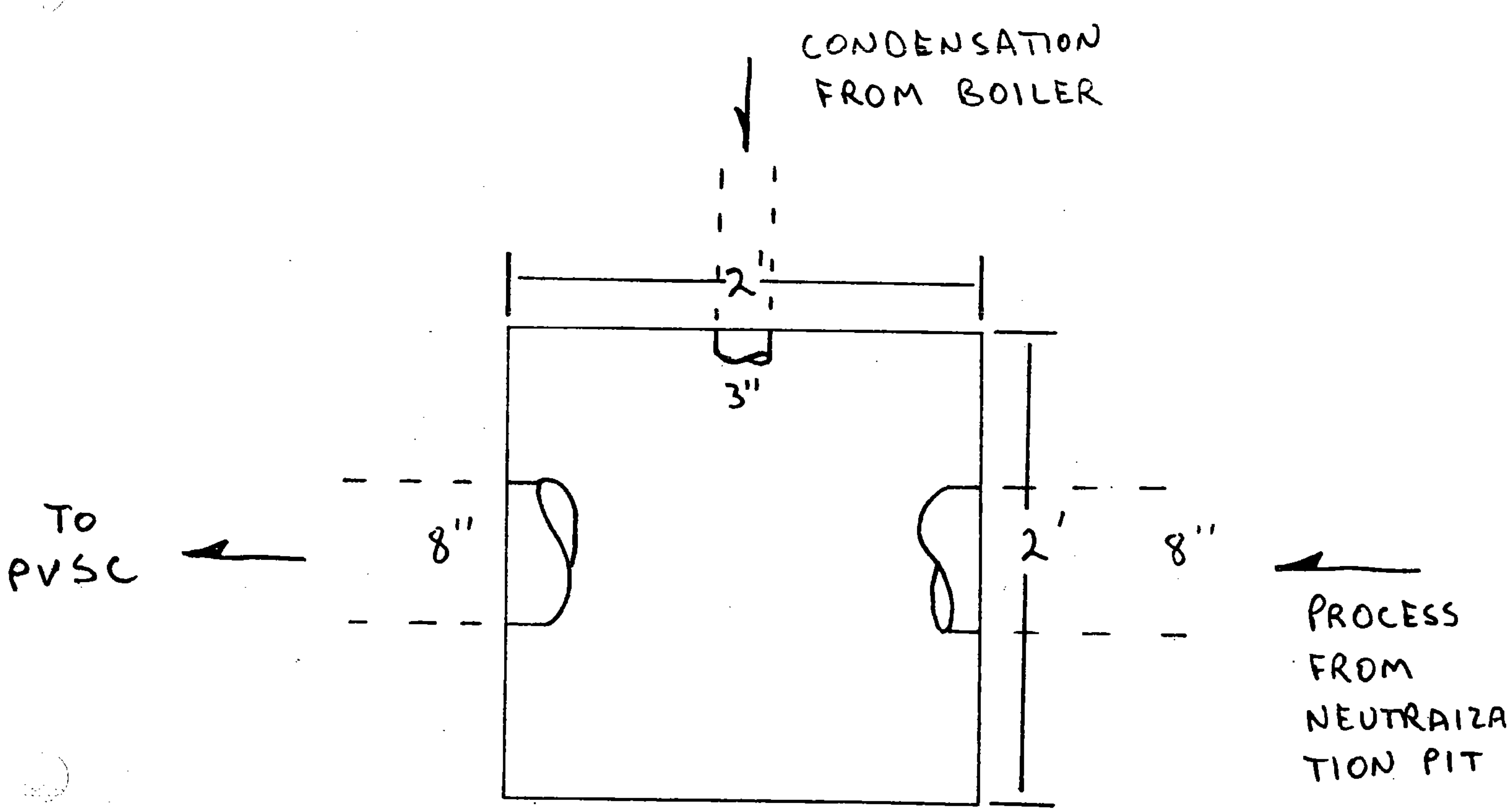
or placed outside MH X

(vandalism problem yes ___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A





TIERRA-B-013599

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method	X		
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})	X		
4"			
6"			
8"	X		
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			
NOTES:			

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

Yes

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

pH Neutralization

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	13,900		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	.02		
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 3-22-78

Interviewed by: Standfast & Bartley

PVSC Industry #

~~N-1420~~

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Ocean Leather

2) Address 42 (No.) Garden Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Mr. R.C. Burger (Name) Executive V.P. (Title) 344-1193 (Telephone)

4) Type of Industry Leather

5) Primary S.I.C. number, if available 3111
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Hides

7) Principle Product(s) produced Unfinished hides

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____
Times of Day ____

9) Number of employees at this location Approximately 200

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

~~2,400,000~~ Gallons/Quarter * (Calc.)

320,856 Cubic Feet/Quarter

Newark Name of City or Public Supply

*40,000/day

Private Well Supply

1,800,000 Gallons/Quarter (30,000/day)

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

24 Pump Running time(s) Hrs/Day

15 % of Water Used in Actual Process

____ % of Water Discharged From Process

10 % of Water Discharged as Non-Contact Cooling Water

____ % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Industrial Wastewater

Questionnaire

Part B

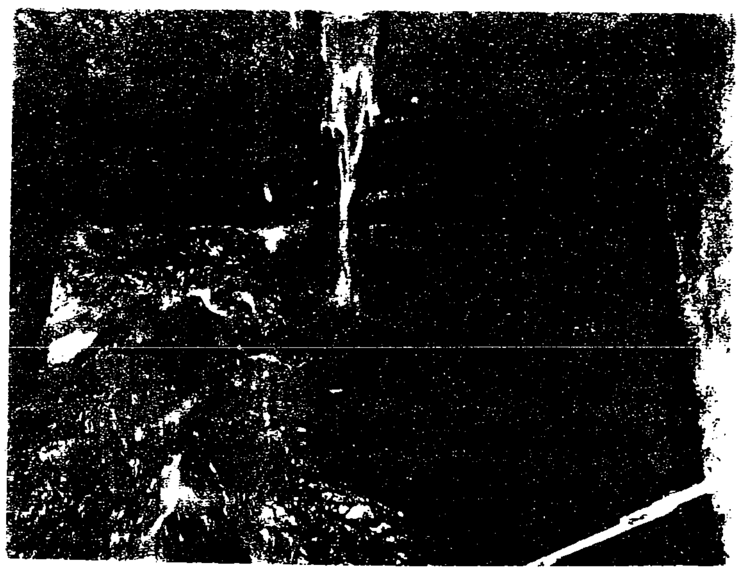
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematic.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER ____

MANHOLE:

(circular) surface Ø ____________

inside length ____3.5'____ (parallel with pipe)

inside width ____3.5'____

entire depth ____4.5'____

junction manhole yes____ no__X__ # of in pipes ______

PIPES:

in pipe Ø ______15" % full __60______

out pipe Ø______15" % full __50______

water depth in pipe ____8"____

surcharged yes ____ no__X__

CHANNEL:

water depth ____12"____ benched yes ____ no__X__

water depth range ________________

water velocity ________________ turburlence yes __X__ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight ____X____ curved __________ sloped __________

instantaneous flow ______________ drop __________

SAMPLING:

can be harnessed in MH ______ placed in MH __________

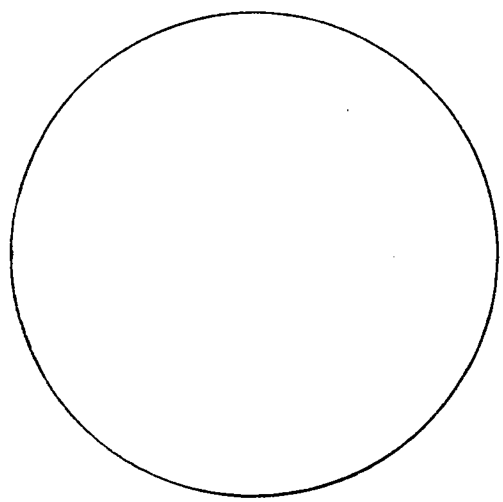
or placed outside MH ____X____

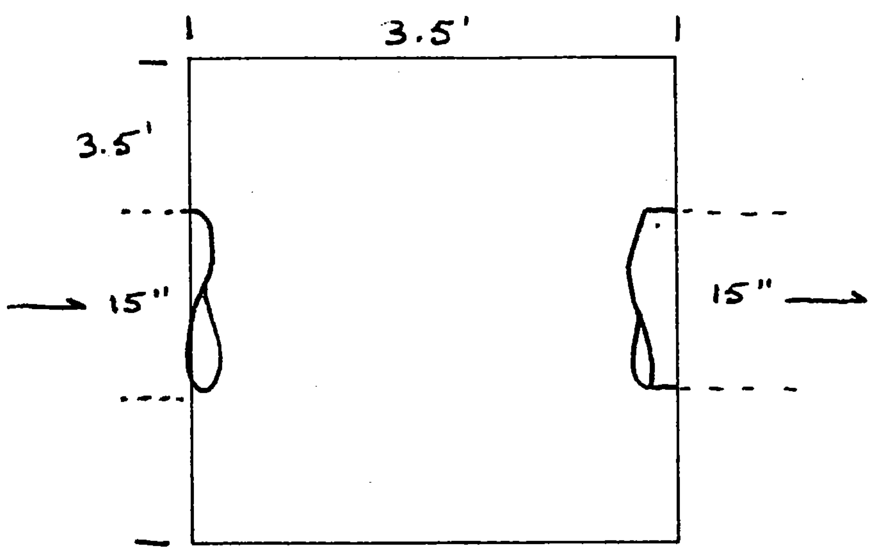
(vandalism problem yes____ no__X__)

TIERRA-B-013608

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A





TIERRA-B-013609

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013611

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Flow measurement not practical as:

1. Extremely turbulent
2. Poor configuration

Recommend water meter readings.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	772,000		
Chromium (mg/l)	12		
Cadmium (mg/l)			
Copper (mg/l)	0.049		
Lead (mg/l)	2.43		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7/19/78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1440

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name ONDECKER METAL FINISHING INC.

2) Address 178-182 (No.) EMMET STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

GEORGE ONDECKER (Name) PRES. (Title) 824-1371 (Telephone)

4) Type of Industry ELECTROPLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Cu, Ni, Au, Ag, Rd

7) Principle Product(s) produced PLATED METALS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 1

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

190,480 Gallons/Quarter (EST)

__________ Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

93 % of Water Discharged From Process

-- % of Water Discharged as Non-Contact Cooling Water

2 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

NO METER - WATER IS SUPPLIED BY LANDLORD.

Industrial Wastewater

Questionnaire

Part B

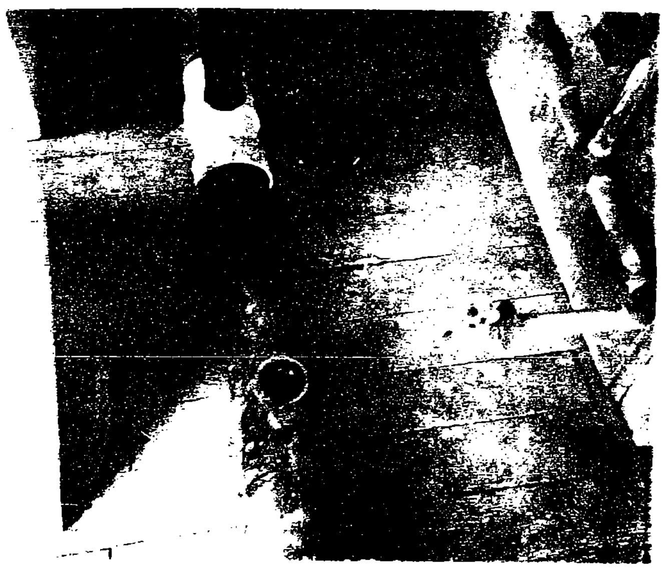
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	--	N.C. Cooling		N.C. Cooling	
Sanitary	--	Sanitary		Sanitary	
Storm	--	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 1.5"

inside length ________ (parallel with pipe)

inside width ________

entire depth ________

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 3" % full 0

out pipe Ø 3" % full 0

water depth in pipe 0

surcharged yes ____ no X

CHANNEL:

water depth 0 benched yes ____ no ____ N/A

water depth range CONSTANT

water velocity ________ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved ________ sloped ________

instantaneous flow 0 drop ________

SAMPLING:

can be harnessed in MH ______ placed in MH ________

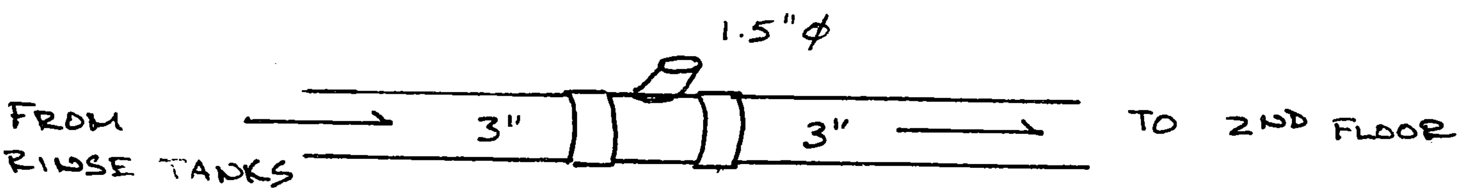
or placed outside MH ______

(vandalism problem yes___ no___)

NOTE: NO PRODUCTION AT TIME OF INSPECTION.

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)	X		
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

POINT A CAN BE USED FOR FLOW MEAS. IF DYE IS USED TO CHECK VELOCITY AND DIPPER IS USED THROUGH 1 1/2" "T".

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	3100		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	0.7		
Lead (mg/l)			
Nickel (mg/l)	2.0		
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7/17/78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1450

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name ORBIS PRODUCTS CORPORATION

2) Address 55 (No.) VIRGINIA STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

JOSEPH PESACRETA (Name) GENERAL MANAGER (Title) 243-5420 (Telephone)

4) Type of Industry ORGANIC FRAGRANCES, FLAVOR & PHARMACEUTICAL MFG.

5) Primary S.I.C. number, if available 2899
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used ATTACHED

7) Principle Product(s) produced ATTACHED

8) Hours per day manufacturing operations are conducted 24 HR/DAY

Days per week manufacturing operations are conducted 5 DAY WITH 7 DAYS OVERTIME

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 90

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

PRINCIPLE RAW MATERIALS

Acetic Acid

Acetic Anhydride

Aluminum Chloride Anhydride

Benzene

Benzyl Chloride

Benzyl Cyanide

Caustic Potash Liquid 45%

Caustic Soda Liquid 50%

D'Limonene

Ethylene Oxide

Manganese Dioxide Ore

Methyl Chloride

Muriatic Acid 22° Be

Para Cresol

Soda-Ash

Sodium Bicarbonate

Sodium Cyanide Gran 99%

Sodium Nitrite Soln. 40%

Sulfuric Acid 60 Be

Toluene

Urea Prilled

Principle Products

Anisic Aldehyde

Carvone - Step I & II

Phenyl Ethyl Alcohol

Sodium Phenyl Acetate

Potassium Phenyl Acetate

Ethyl Phenyl Acetate

Benzyl Acetate

Methyl Phenyl Acetate

Benzophenone

Aluminum Chloride Solution

Mustard Oil

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

42,300,000 Gallons/Quarter

__________ Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

11 % of Water Used in Actual Process

10 % of Water Discharged From Process

89 % of Water Discharged as Non-Contact Cooling Water

____ % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

VIRGINIA STREET

MCCLELLAN STREET

TIERRA-B-013627

Industrial Wastewater

Questionnaire

Part B

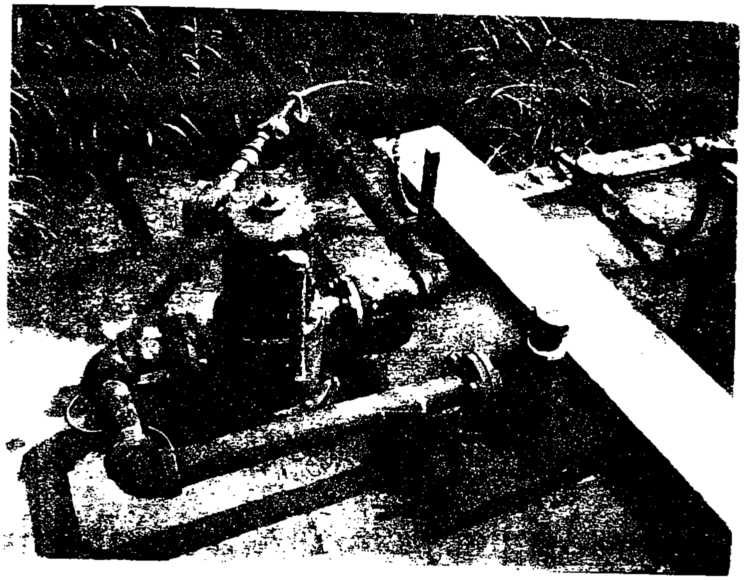
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A	Line B	Line C
Any detectable gas			X
Process	X	X	
N.C. Cooling	X	X	
Sanitary	---	---	
Storm	X	---	X

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE ATTACHED



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A SUMP

MANHOLE:

(circular) surface Ø ______

inside length 50' (parallel with pipe)

inside width 20'

entire depth 10'

junction manhole yes X no ____ # of in pipes ______

PIPES:

in pipe Ø 2" % full ______

out pipe Ø 2" % full ______

water depth in pipe ______

surcharged yes ____ no ____

CHANNEL:

water depth ______ benched yes ____ no ____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

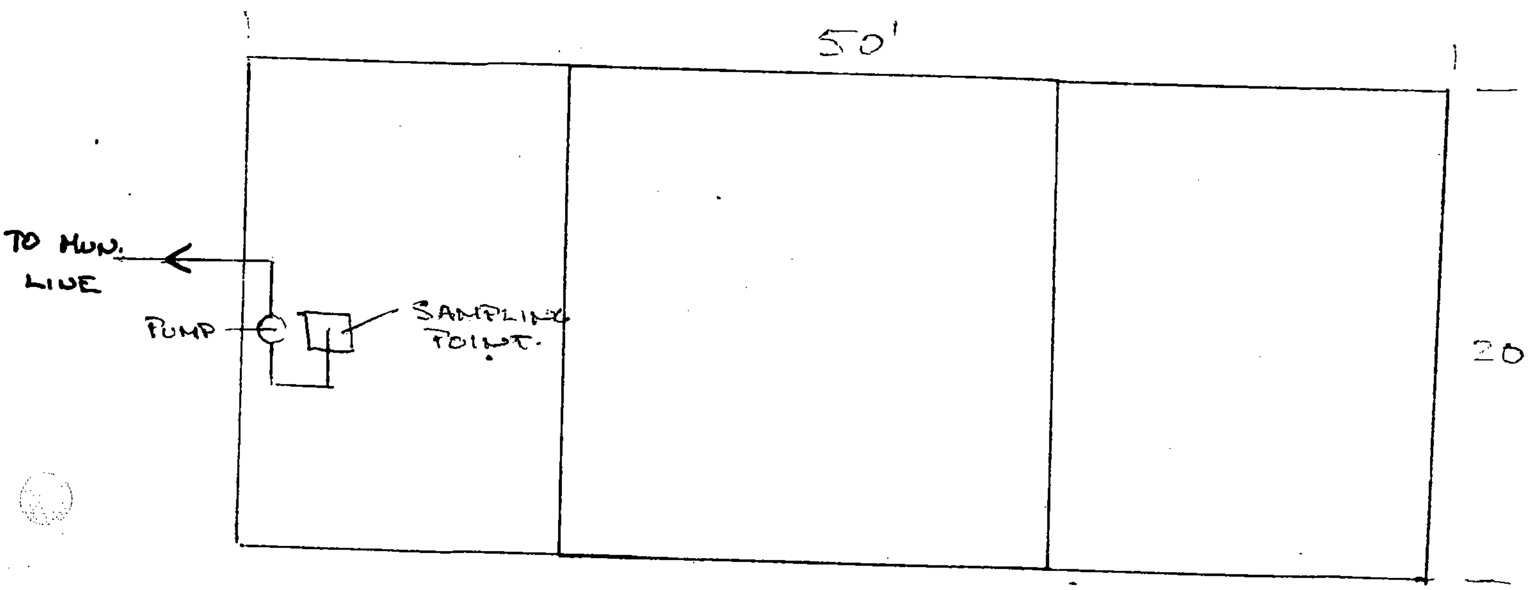
can be harnessed in MH ______ placed in MH ______

or placed outside MH ______

(vandalism problem yes ___ no ___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø ______

inside length 48" (parallel with pipe)

inside width 36"

entire depth 36"

junction manhole yes X no ___ # of in pipes 2

PIPES:

in pipe Ø 8" % full 38

out pipe Ø 24" % full 20

water depth in pipe 3"

surcharged yes ___ no X

CHANNEL:

water depth 3" benched yes X no ___

water depth range WILL FLOOD IN STORM

water velocity 2 FPS turburlence yes X no ___

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ______ drop X

SAMPLING:

can be harnessed in MH ___ placed in MH ___

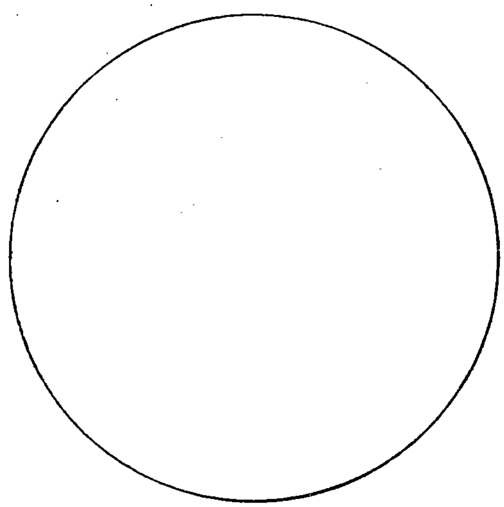
or placed outside MH X

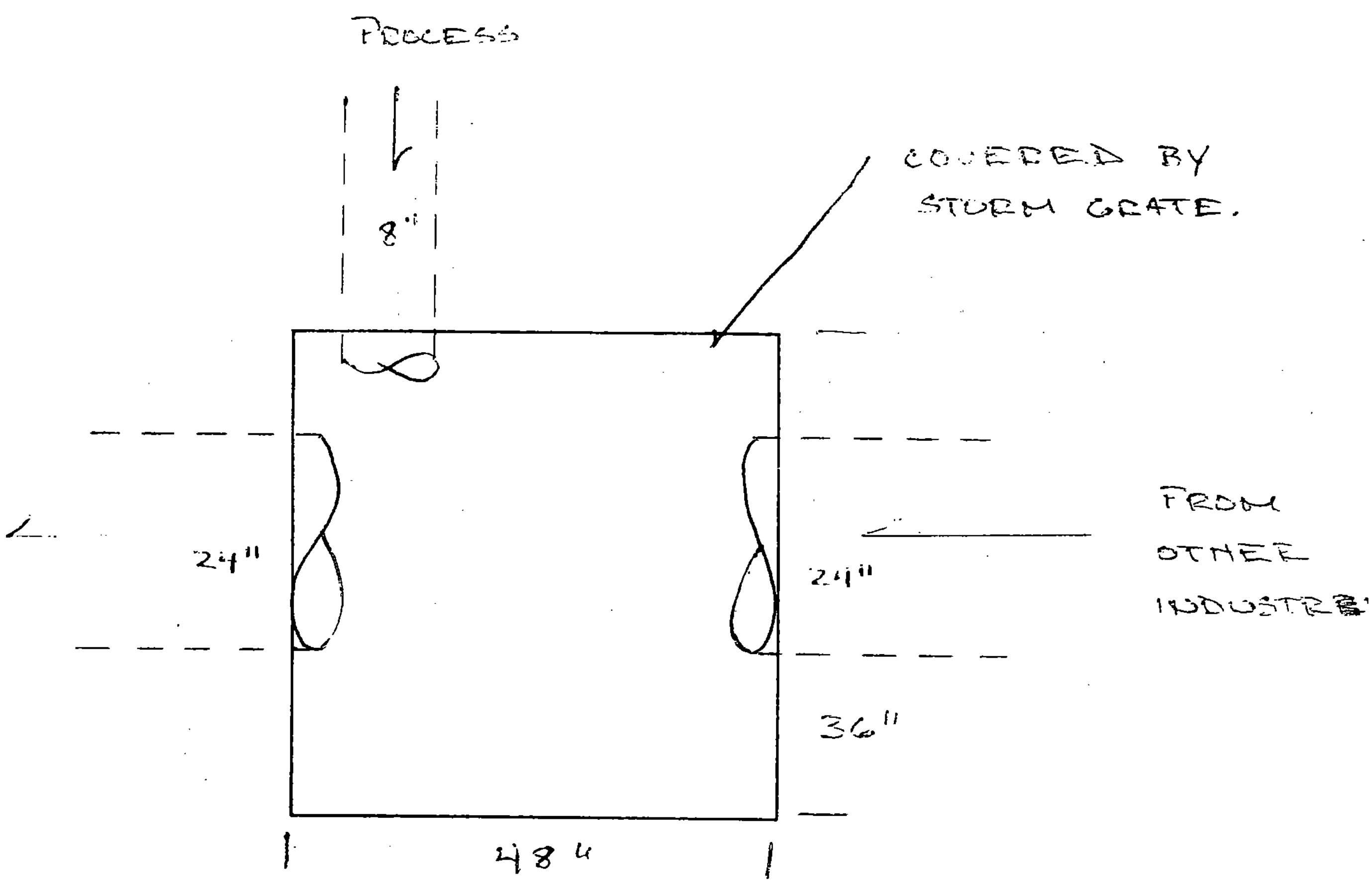
(vandalism problem yes X no ___)

TIERRA-B-013632

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B.





TIERRA-B-013633

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER C   8" YARD DRAIN

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 8" % full ____________

out pipe Ø 8" % full ____________

water depth in pipe 4"

surcharged yes ____ no X

CHANNEL:

water depth 4" benched yes X no____

water depth range ____________

water velocity 1 FPS turburlence yes X no ____ (MILD)

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____________ sloped ____________

instantaneous flow ____________ drop ____________

SAMPLING:

can be harnessed in MH ______ placed in MH ____________

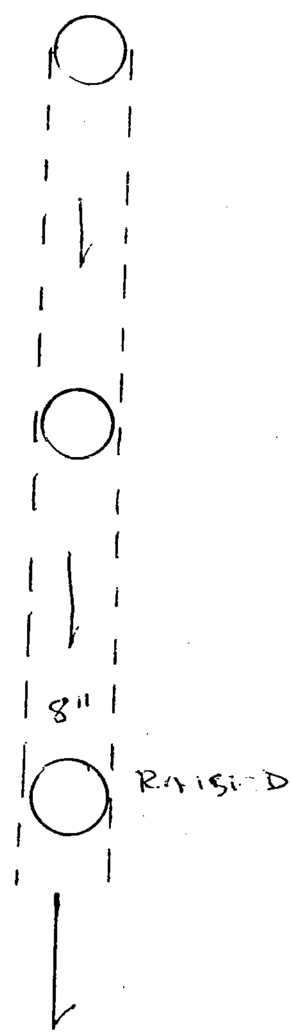
or placed outside MH X

(vandalism problem yes X no___)

TIERRA-B-013634

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER C



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X	X	X
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			X
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
DETERMINE PUMT CAP & RUN TIME	X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings		X	

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X	X	X
Harness			
Current Meter (velocity)			✓
Dye & Watch			
Dippers	✗		X
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013637

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

PUMP RUNNING TIME AT SITE __A__ CAN BE MONITORED. CAPACITY WILL BE GIVEN BY ORBIS. SAMPLING TUBE SHOULD BE PLACED AT INLET TO PUMP.

SAMPLING SHOULD BE CONDUCTED DURING DRY WEATHER.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

____

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

____

____

____

____

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	699,681		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)	0.030		
Nickel (mg/l)	0.42		
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013639

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-10-78

Interviewed by: SCOTT & VANMALDEN

PVSC Industry #
N-1460

Industrial Wastewater

Questionnaire

"attach business card"

Part A

1) Industry Name PABST BREWING CO.

2) Address 400 (No.) GROVE STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

H.A. BLAIR (Name) PLANT ENGINEER (Title) 373-6000 (Telephone)

4) Type of Industry MFG. MALT BEVERAGES

5) Primary S.I.C. number, if available 2082
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used BARLEYMALT, CORN GRITS, HOPS. WATER

7) Principle Product(s) produced MALT BEVERAGES

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 7

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 750

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
108,171,520	Gallons/Quarter	21,541,540	Gallons/Quarter
14 459,500	Cubic Feet/Quarter	2,879,500	Cubic Feet/Quarter
NEWARK	Name of City or Public Supply		Well Pump(s) Gal/Min.
			Pump Running time(s) Hrs/Day

21.3% of Water Used in Actual Process

78.7% of Water Discharged From Process

13.8% of Water Discharged as Non-Contact Cooling Water

.5% of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

CHECK WITH BLAIR.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 22"

inside length 4' Ø (parallel with pipe)

inside width ______

entire depth 6'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 24" % full 50

out pipe Ø 24" % full 50

water depth in pipe 12"

surcharged yes ____ no X

CHANNEL:

water depth 12" benched yes ____ no X

water depth range CONSTANT.

water velocity ______ turburlence yes ____ no X

super critical velocity yes ____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

can be harnessed in MH X placed in MH ______

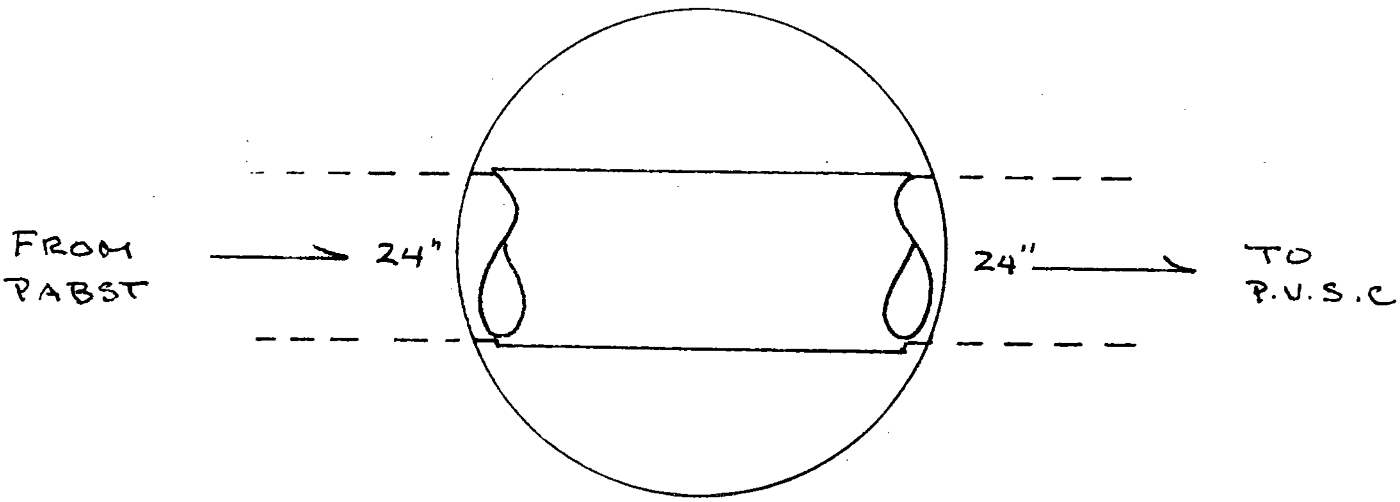
or placed outside MH ______

(vandalism problem yes___ no___)

TIERRA-B-013644

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method	X		
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness	X		
Current Meter (velocity)	X		
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

PABST HAS DIRECT CONNECTION WITH PVSC AT GROVE STREET. SAMPLING SITE A IS LOCATED PRIOR TO CONNECTION ON GROVE STREET BETWEEN FERDINAND STREET AND 13th AVENUE. M.H. COVER IS MARKED WITH ORANGE PAINT.

NOTE: PABST HAS BEEN CONDUCTING SMPLING AND FLOW MEAS. AT SAME LOCATION. PICTURE NOT POSSIBLE AS PABST'S SAMPLER WAS INSTALLED IN M.H.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)			
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-31-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #
N-1470

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name PARAMOUNT PLATING COMPANY

2) NAddress 689 (No.) SO. 16TH STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

VINCENT FUCCHETTI (Name) PRESIDENT (Title) 374-7704 (Telephone)

4) Type of Industry ELECTROPLATING & ANODIZING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Cu, Ni, Sn, Au, Ag, Rd, Zn

7) Principle Product(s) produced PLATED METALS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 9

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

903,584 Gallons/Quarter

120,800 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

74 % of Water Discharged From Process

20 % of Water Discharged as Non-Contact Cooling Water

1 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

2 METERS - 1 LOCATED IN LADIES ROOM, OTHER IN INSP. ROOM.

Industrial Wastewater

Questionnaire

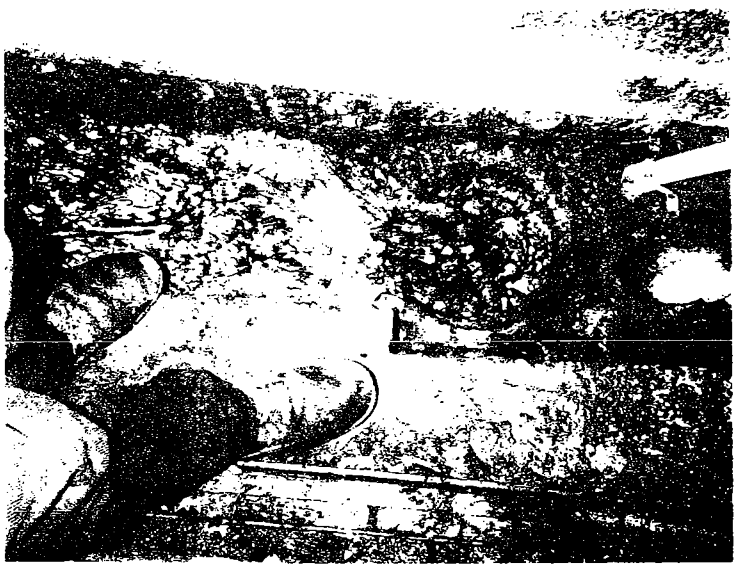
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ____________

inside length ~40' (parallel with pipe)

inside width 10"

entire depth 7"

junction manhole yes____ no X # of in pipes 1 CHANNEL

PIPES:

in pipe Ø 10"w x 7"D % full 20

out pipe Ø 8" % full VERT.

water depth in pipe 2"

surcharged yes ____ no X

CHANNEL:

water depth 2" benched yes ____ no X

water depth range CONSTANT.

water velocity 0.8 FPS turburlence yes X no ____

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____________ drop ____

SAMPLING:

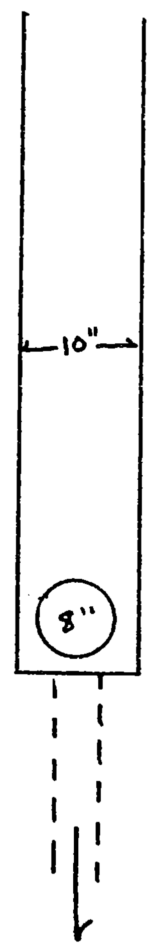
can be harnessed in MH ______ placed in MH __________

or placed outside MH X

(vandalism problem yes___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TIERRA-B-013655

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
CUSTOM 90 V-NOTCH WEIR IN CHANNEL	X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)	X		
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
CUSTOM WEIR	X		
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

CHECK WITH FUCHETTI PRIOR TO SAMPLING TO DETERMINE PRODUCTION SCHEDULE.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	700		
Chromium (mg/l)	0.35		
Cadmium (mg/l)	0.3		
Copper (mg/l)	0.6		
Lead (mg/l)	0.01		
Nickel (mg/l)	1.2		
Zinc (mg/l)	1.1		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7/10/78

Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1480

Industrial Wastewater

Questionnaire

"attach business card"

Part A

1) Industry Name C. PATTI ELECTROPLATING CORP.

2) Address 302 (No.) SO. 12th STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

CARMEN PATTI (Name) OWNER (Title) 643-4548 (Telephone)

4) Type of Industry ELECTROPLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used ZN, Ni, SN, Cu, Cd

7) Principle Product(s) produced ELECTROPLATED METALS

8) Hours per day manufacturing operations are conducted 7 1/2

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 8

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

10 % of Water Used in Actual Process

____ % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

____ % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER LOCATED IN REAR OF SHOP COVERS FIVE CO'S
PATTI'S WATER BILLS ARE PAID BY LANDLORD.

Industrial Wastewater

Questionnaire

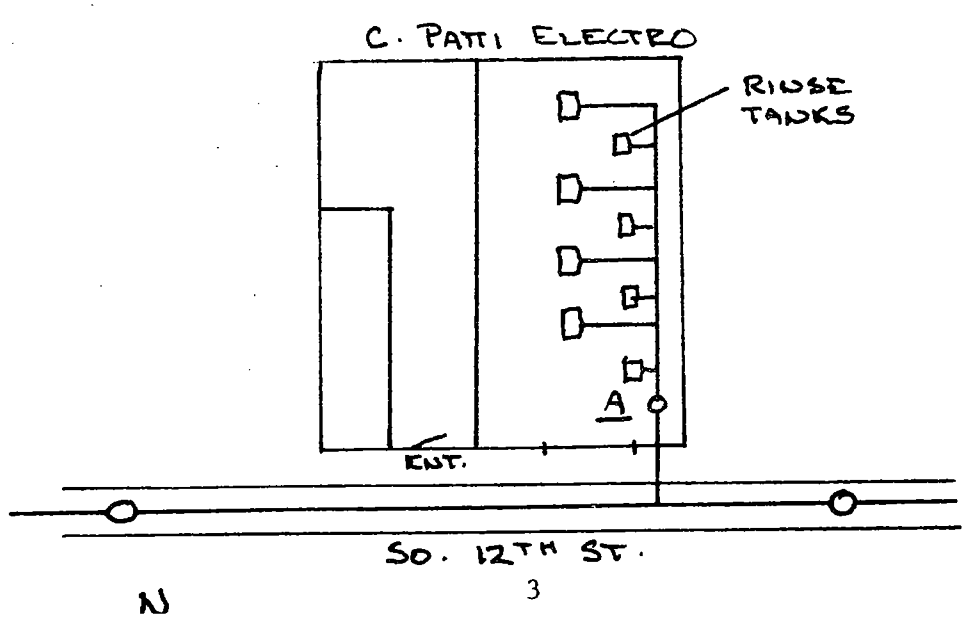
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling		N.C. Cooling		N.C. Cooling	
Sanitary		Sanitary		Sanitary	
Storm		Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013662

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 22" x 13"

inside length ______ (parallel with pipe)

inside width ______

entire depth 6"

junction manhole yes X no ____ # of in pipes CHANNELS (2)

PIPES:

in pipe Ø ROUGH CHANNELS % full ______

out pipe Ø 5" % full VERT.

water depth in pipe ______

surcharged yes X no ____ (PARTIAL)

CHANNEL:

water depth 3.5" benched yes X no ____ (PIT)

water depth range CONSTANT

water velocity ______ turburlence yes ____ no X

super critical velocity yes ____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

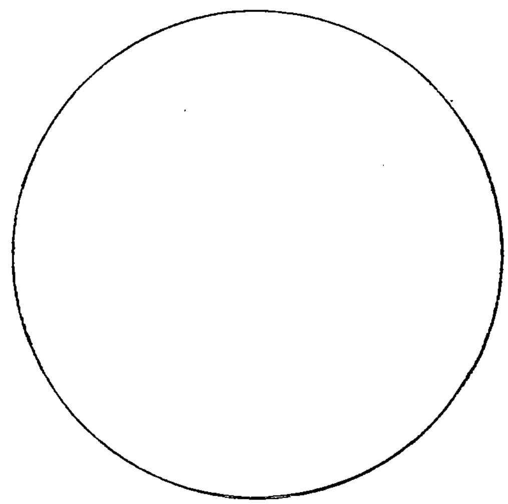
can be harnessed in MH ______ placed in MH ______

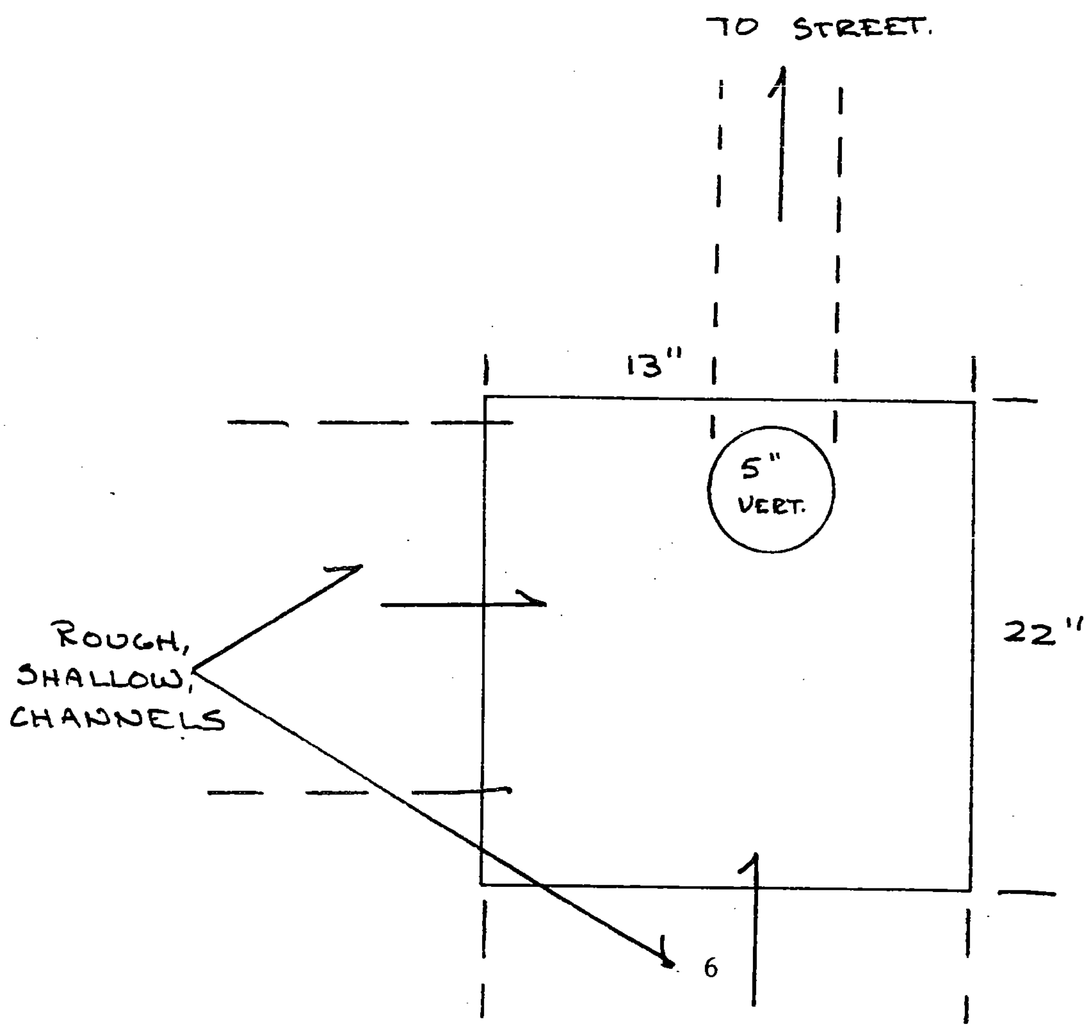
or placed outside MH X

(vandalism problem yes ___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013667

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

____

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

____

____

____

____

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	3,400		
Chromium (mg/l)	.2		
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)	2.4		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 9/1/78   Interviewed by: Standfast & Levitch

PVSC Industry #
N-1490

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name S.B. Penick & Company

2) Address 158 (No.) Mt. Olivet Avenue (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Mr. Robert Richter	Plant Engineer	242-4001

4) Type of Industry Medicinal Chemicals & Botanical Products

5) Primary S.I.C. number, if available 2833
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Botanicals, Steric Acid, Alkalies Acids, Sals, Misc. Solvens, Organic Compounds

7) Principle Product(s) produced Mfg. Fine Chemicals, Pharmaceucals

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 7

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 233

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

56,274,284 Gallons/Quarter

7,523,300 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

32,923,220 Gallons/Quarter

4,401,500 Cubic Feet/Quarter

700 Well Pump(s) Gal/Min.

24 Pump Running time(s) Hrs/Day

6.3 % of Water Used in Actual Process

72 % of Water Discharged From Process

27 % of Water Discharged as Non-Contact Cooling Water

.82 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

TIERRA-B-013671

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Objectionable Odor					
Any detectable gas	-	Any detectable gas	____	Any detectable gas	____
Process	X	Process	____	Process	____
N.C. Cooling	X	N.C. Cooling	____	N.C. Cooling	____
Sanitary	X	Sanitary	____	Sanitary	____
Storm	X	Storm	____	Storm	____

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A Flume

MANHOLE:

(circular) surface Ø ______

inside length ______ (parallel with pipe)

inside width ______

entire depth ______

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø 36" % full 40

out pipe Ø 36" % full 40

water depth in pipe 15"

surcharged yes ____ no X

CHANNEL:

water depth 15" benched yes ____ no X

water depth range 12"-18"

water velocity - turburlence yes ____ no X

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake X

channel configuration straight X curved ______ sloped ______

instantaneous flow - drop ______

SAMPLING:

can be harnessed in MH ______ placed in MH ______

or placed outside MH X

(vandalism problem yes___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER____

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			
S.B. Penick's Flow Measuring Device	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
<u>AUTOMATIC</u>			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
<u>MANUAL</u>			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

S.B. Penick has their own flow measuring device. x100 cu. ft. w/totalizer (Esterline Angus)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	2,000,000		
Chromium (mg/l)	<.1		
Cadmium (mg/l)			
Copper (mg/l)	.12		
Lead (mg/l)	<.2		
Nickel (mg/l)	<.1		
Zinc (mg/l)			
Mercury (mg/l)	<.02		
Arsenic (mg/l)			
Vanadium (mg/l)	<.2		
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013679

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-31-78 Interviewed by: Standfast & Safchinsky

PVSC Industry #

N-1500

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Phillips Mfg. Company

2) Address 190 (No.) Emmet Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Mr. Dante	V.P. - Manager	243-4560

4) Type of Industry Noveltïes - Buttons Manufacturer

5) Primary S.I.C. number, if available 2451
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Steel, Paper and Acetate

7) Principle Product(s) produced Brass Buttons

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 70

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply	Private Well Supply
127,160 Gallons/Quarter	______ Gallons/Quarter
17,000 Cubic Feet/Quarter	______ Cubic Feet/Quarter
Newark Name of City or Public Supply	______ Well Pump(s) Gal/Min.
	______ Pump Running time(s) Hrs/Day

\- % of Water Used in Actual Process

28 % of Water Discharged From Process

\- % of Water Discharged as Non-Contact Cooling Water

72 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Two meter, one in front and one in back.

Back meter supplies plating operation.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas	-	Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

TIERRA-B-013682

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

2-2" Drain Pipes from small plating bath

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range ___________________

water velocity _____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ________________ drop __________

SAMPLING:

can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

(vandalism problem yes___ no___)

TIERRA-B-013684

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	____	____	____
Manual	X	____	____
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method	____	____	____
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)	____	____	____
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method	____	____	____
90^{o} v-notch weir in out-pipe, dipper method	____	____	____
Insert flume in out-pipe, dipper method	____	____	____
Inflatable flume in in-pipe, dipper method (up to 8"Ø)	____	____	____
Weir-box w/inflatable tube, dipper method	____	____	____
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method	____	____	____
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)	X	____	____
Trajectory method (elevated sewers) carpenters square	____	____	____
Depth of flow in in-pipe, weir method	____	____	____
Water meter readings	____	____	____

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers			
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles	X		
Bucket & watch	X		
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013687

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Plate once a week, sampling must be arranged at this time.

Back meter supplies water to the plating operation.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	33,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	86.25		
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)	16.8		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013689

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8/29/78 Interviewed by: Standfast & Levitch

PVSC Industry #

N-1510

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Pitt-Consol Chemical Company

2) Address 191 (No.) Doremus Avenue (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

William F. Revelt	Sr. Proc. Engineer	344-3800
Name	Title	Telephone

4) Type of Industry Organic Chemicals

5) Primary S.I.C. number, if available 2869
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Phenol & Methanol

7) Principle Product(s) produced Cresylic Acid

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 7

Process Discharge Frequency (circle one) Continuous Intermittant (Sump Pump) # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 80

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply	Private Well Supply
19,887,824 Gallons/Quarter	______ Gallons/Quarter
2,658,800 Cubic Feet/Quarter	______ Cubic Feet/Quarter
Newark Name of City or Public Supply	______ Well Pump(s) Gal/Min.
	______ Pump Running time(s) Hrs/Day

20% of Water Used in Actual Process (Cooling Towers)

60% of Water Discharged From Process

16% of Water Discharged as Non-Contact Cooling Water

5% of Water Discharged From Sanitary Conveniences

> 50% shower 30-50 g/individual

Indicate Location of Water Meter:

3 water meters
2 sets on Doremus
1 set on Avenue P

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	-	Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A Sump

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range ___________________

water velocity _____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ________________ drop __________

SAMPLING:

can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

(vandalism problem yes___ no___)

TIERRA-B-013694

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER____

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Depth of water in sump dipper method	X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch	X		
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013697

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Storm water
Split Samples
Pump 540 gal/min w/timer

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	185,000		
Chromium (mg/l)	0.5-1.0		
Cadmium (mg/l)	< .02		
Copper (mg/l)	.05		
Lead (mg/l)	< .2		
Nickel (mg/l)			
Zinc (mg/l)	1.2-3.0		
Mercury (mg/l)			
Arsenic (mg/l)	<.1		
Vanadium (mg/l)			
Selenium (mg/l)	<1.0		
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-6-78   Interviewed by: SCOTT & CHECCHIO

PVSC Industry #
N-1520

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name D.S. PLUMB CO. INC

2) Address 73-77 (No.) NORFOLK STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

FRED SCHNEIDER (Name)   V.P, GEN MGR. (Title)   482-1864 (Telephone)

4) Type of Industry METAL WORKING & MFG.

5) Primary S.I.C. number, if available 3821
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used BRASS, STEEL PLASTICS

7) Principle Product(s) produced ROTARY SWITCHES, ALARM MECHANISMS

8) Hours per day manufacturing operations are conducted 9

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 58

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013700

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
1,725,636	Gallons/Quarter		Gallons/Quarter
230,700	Cubic Feet/Quarter		Cubic Feet/Quarter
NEWARK	Name of City or Public Supply		Well Pump(s) Gal/Min.
			Pump Running time(s) Hrs/Day

< 2 % of Water Used in Actual Process

64 % of Water Discharged From Process

30 % of Water Discharged as Non-Contact Cooling Water

4 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

ONE METER LOCATED IN BASEMENT FRON LEFT OF BLDG.

TIERRA-B-013701

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	---?	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER ___A 2-4" CLEAN OUTS

MANHOLE:

(circular) surface Ø ________

inside length 30" (parallel with pipe)

inside width 24"

entire depth 66"

junction manhole yes___ no X # of in pipes 1

PIPES:

in pipe Ø 4" % full ______

out pipe Ø 4" % full ______

water depth in pipe ______

surcharged yes ___ no___

CHANNEL:

water depth ______ benched yes ___ no___

water depth range______

water velocity ______ turburlence yes ___ no ___

super critical velocity yes___ no ___

roll in front of stake ___ roll behind stake ___

channel configuration straight ______ curved ______ sloped ______

drop ______

instantaneous flow ______

SAMPLING:

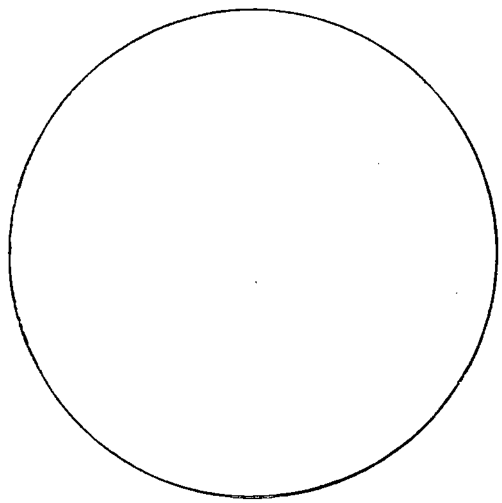
can be harnessed in MH ____ placed in MH X

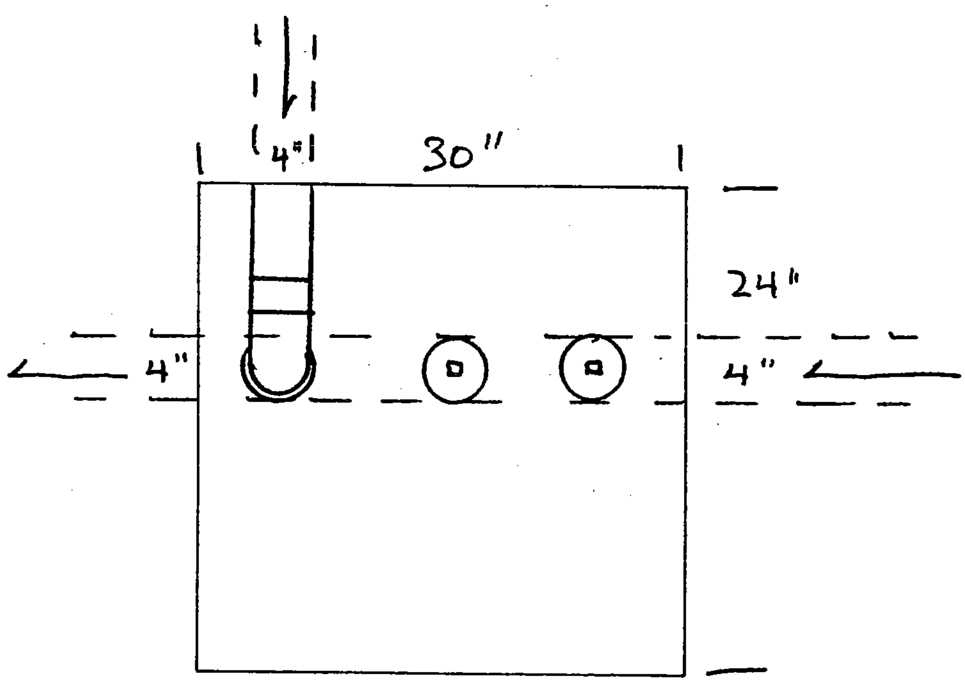
or placed outside MH ____

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013705

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers			
Harness	X		
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013707

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

CO. CLOSED LAST WK. JULY, FIRST WK OF AUGUST.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)			
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013709

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 6-28-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #

N-1530

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name Q-PAK

2) Address 2145 (No.) MCCARTER HIGHWAY (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

MICHAEL FORMICA (Name) PRESIDENT (Title) 483-4404 (Telephone)

4) Type of Industry MFG. PLASTIC BOTTLES, PACKAGING OF BLEACH & AMMONIA

5) Primary S.I.C. number, if available 3079
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used BLEACH, AMMONIA PLASTIC & WATER

7) Principle Product(s) produced

8) Hours per day manufacturing operations are conducted 8 (24 HRS-BOTTLES)

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 60

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013710

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

3,770,668 Gallons/Quarter

504,100 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

50 % of Water Used in Actual Process

48 % of Water Discharged From Process

\- % of Water Discharged as Non-Contact Cooling Water

2 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

2 METERS LOCATED IN BASEMENT HEAR GUARD HOUSE.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A	Line B	Line C
Any detectable gas			
Process	X		
N.C. Cooling			
Sanitary	X		
Storm			

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 21"

inside length 3' Ø (parallel with pipe)

inside width ____

entire depth 43"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 10" % full 60

out pipe Ø 10" % full 40

water depth in pipe 6"

surcharged yes ____ no X

CHANNEL:

water depth 5" benched yes ____ no X

water depth range 4-6"

water velocity EST 1 FPS turburlence yes ____ no X

super critical velocity yes ____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

can be harnessed in MH ____ placed in MH X

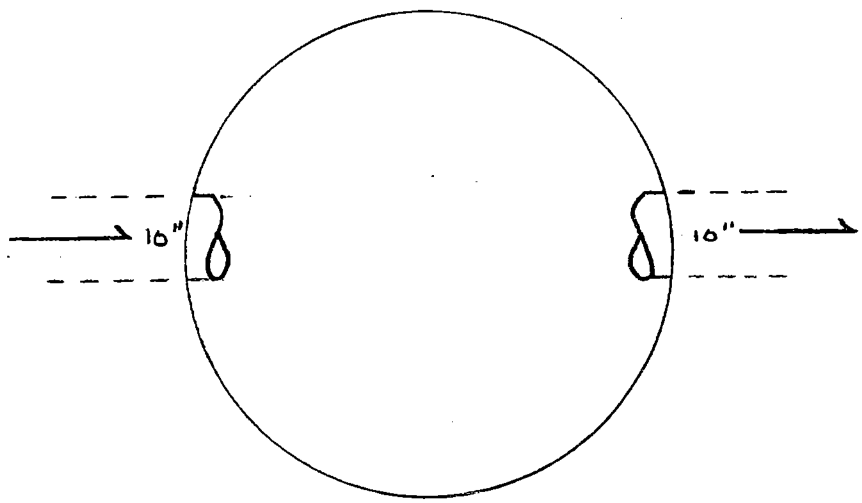
or placed outside MH ____

(vandalism problem yes___ no___)

TIERRA-B-013714

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



NOTE: NO PICTURE DUE TO INACCESSABILITY

TIERRA-B-013715

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X	___	___
Manual	___	___	___
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method	___	___	___
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)	___	___	___
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method	___	___	___
90^{o} v-notch weir in out-pipe, dipper method	___	___	___
Insert flume in out-pipe, dipper method	X	___	___
Inflatable flume in in-pipe, dipper method (up to 8"Ø)	___	___	___
Weir-box w/inflatable tube, dipper method	___	___	___
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method	___	___	___
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)	___	___	___
Trajectory method (elevated sewers) carpenters square	___	___	___
Depth of flow in in-pipe, weir method	___	___	___
Water meter readings	___	___	___

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers			
Harness	X		
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit	X		
Flumes			
Insert	X		
Inflatable	X		
4"			
6"			
8"			
10"			
12"	X		
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			

MANUAL	A	B	C
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

MICHAEL FORMICA IS RATHER DIFFICULT TO DEAL WITH, SUGGEST MINIMUM CONTACT.

SAMPLING POINT M.H. COVER IS JAMMED CROWBAR AND/OR PICK NECESSARY TO OPEN.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

____

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

____

____

____

____

2) The following tests will be performed by PVSC at a later date on a series of <u>24 hour flow proportioned composite</u> samples collected over a period of <u>two (2) consecutive production days</u>. Samples shall be collected from each <u>individual</u> waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

<u>Previous Measurements of Flow and Metals (if available)</u>

Analysis	A	B	C
Daily Flow (Gal/Day)			
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-31-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #
N-1540

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name RONSON METALS CORPORATION

2) Address 55 (No.) MANUFACTURERS PLACE (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

EDWARD KLEIN (Name) PLANT MANAGER (Title) 589-1380 (Telephone)

4) Type of Industry PRIMARY METAL - NON FERROUS

5) Primary S.I.C. number, if available 3356
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used RARE EARTH CHLORIDE, FE, MG

7) Principle Product(s) produced RARE EARTH METAL & ALLOW PRODUCTS

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 7

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 78

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013720

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

2,776,200 Gallons/Quarter

__________ Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

(NOT DISCHARGED TO SEWER)

8% of Water Used in Actual Process

47% of Water Discharged From Process

35% of Water Discharged as Non-Contact Cooling Water

10% of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER LOCATED AT ENTRANCE OF BUILDING 4 (45)
49 BUILDING 5
58 MANFACT PLACE WEST WALL CENTER

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A (NEUTRALIZATION TANK)

MANHOLE:

(circular) surface Ø ____________

inside length 6' (parallel with pipe)

inside width 4'

entire depth 70"

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø 2" % full 75

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range __________________

water velocity ____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ________________ drop __________

SAMPLING:

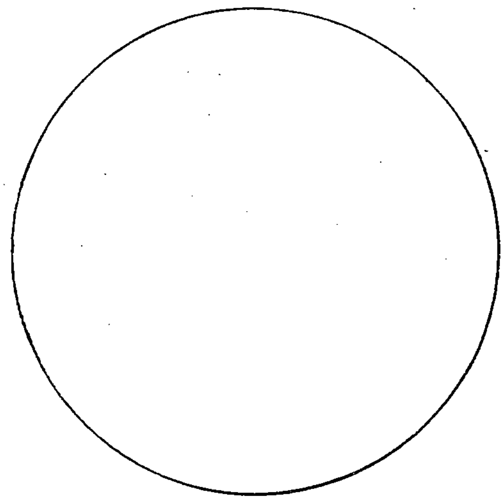
can be harnessed in MH _______ placed in MH __________

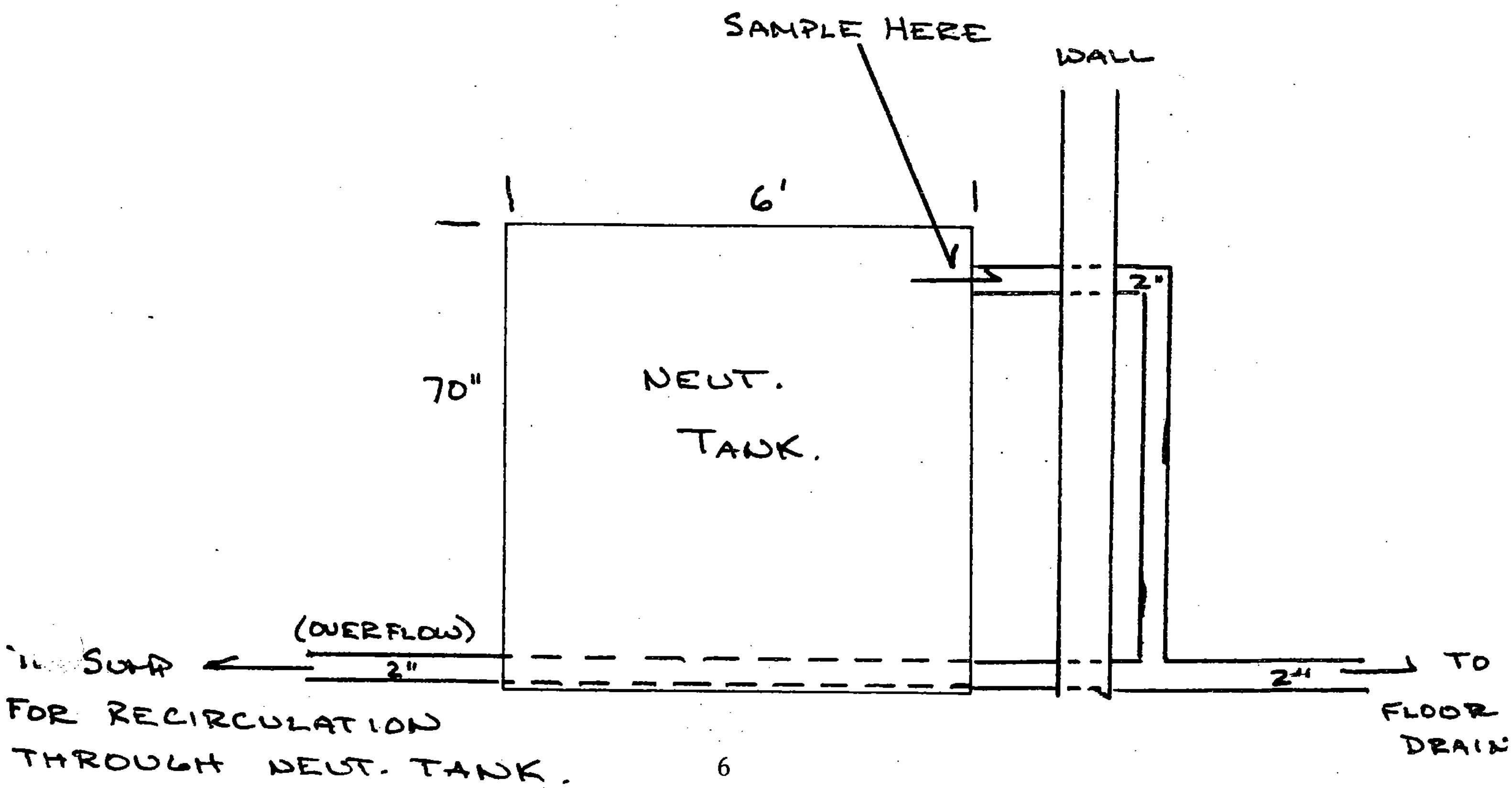
or placed outside MH X

(vandalism problem yes___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013725

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TIERRA-B-013726

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

END OF SAMPLER HOSE SHOULD BE PLACED ADJACENT TO OUTLET OF NEUT TANK AND SECURED.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

YES

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

pH ADJUSTMENT WITH CAUSTIC SODA

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	138,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-6-78 Interviewed by: SCOTT & CHECCHIO

PVSC Industry #

N-1550

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name ROYALE PLATING CO. INC

2) Address 70 (No.) SUSSEX AVENUE (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
ALFRED BOCCHINI	PRES	642-8630
GERARD ROSANIA	V.P.	

4) Type of Industry ELECTROPLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Cu, Ni, Cr

7) Principle Product(s) produced T.V. & AUTOMATIVE PARTS

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees <u>at</u> <u>this</u> <u>location</u> 15

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and <u>do</u> <u>not</u> meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

1,249,160 Gallons/Quarter

167,000 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

2 % of Water Used in Actual Process

95 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

3 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

CHECK WITH BOCCHINI AT TIME OF SAMPLING.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

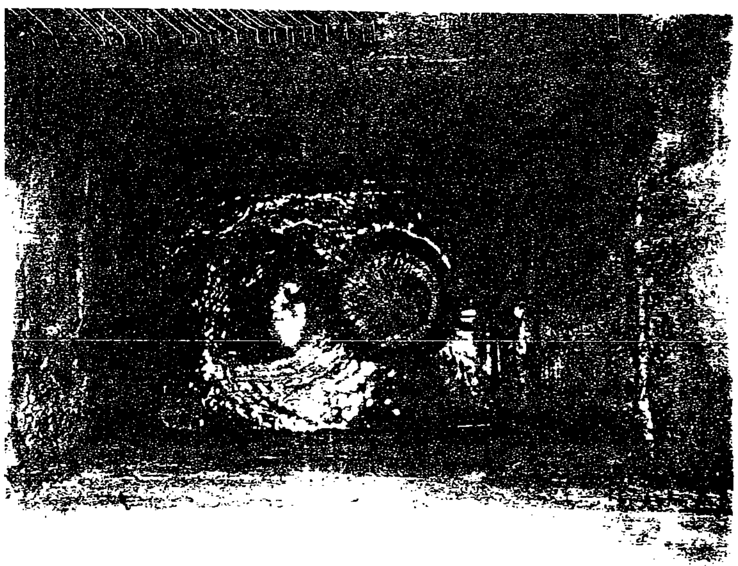
2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	____	Any detectable gas	____	Any detectable gas	____
Process	X	Process	____	Process	____
N.C. Cooling	---	N.C. Cooling	____	N.C. Cooling	____
Sanitary	X	Sanitary	____	Sanitary	____
Storm	X	Storm	____	Storm	____

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

TIERRA-B-013732



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ____

inside length 20" (parallel with pipe)

inside width 13"

entire depth 4.5'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 8 % full VERT

out pipe Ø 8 % full VERT

water depth in pipe ____

surcharged yes X no____

CHANNEL:

water depth N/A benched yes ____ no____

water depth range ____

water velocity ____ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ____ curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

can be harnessed in MH ____ placed in MH ____

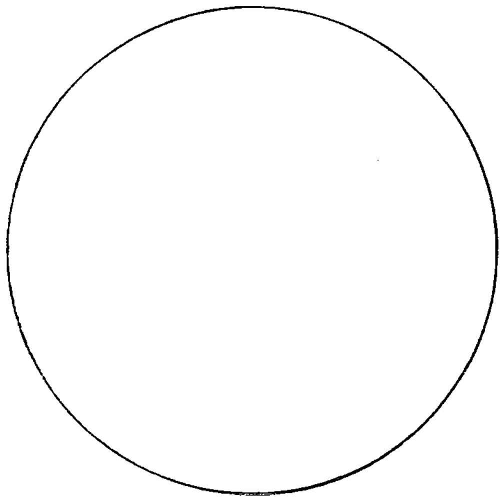
or placed outside MH X

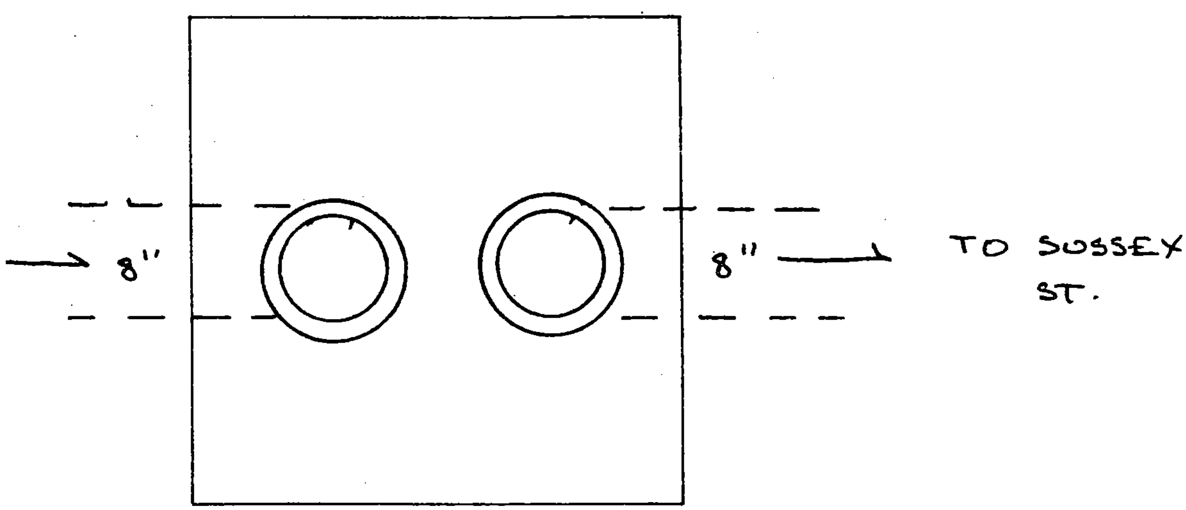
(vandalism problem yes____ no X)

TIERRA-B-013734

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013735

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	25,600		
Chromium (mg/l)	5		
Cadmium (mg/l)			
Copper (mg/l)	7		
Lead (mg/l)			
Nickel (mg/l)	10.1		
Zinc (mg/l)	1.5		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-15-78 Interviewed by: Scott & Van Malden

PVSC Industry #
N-1560

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name Scientific Chemical Processing

2) Address 411 (No.) Wilson Avenue (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Jim Kadash Mr. Barnes Mr. Case	Assistant to President	589-7777

4) Type of Industry Solvent Recovery, Fuel Blending

5) Primary S.I.C. number, if available 7399
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Solvents & Other Hydrocarbon Products as well as other chem.

7) Principle Product(s) produced Recovered solvents, chem., byproducts and blended fuels.

8) Hours per day manufacturing operations are conducted 10

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____ (with slugs)

9) Number of employees at this location 16

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply	Will be installed in near future. Private Well Supply
3,260,000 Gallons/Quarter	______ Gallons/Quarter
434,600 Cubic Feet/Quarter	______ Cubic Feet/Quarter
Newark Name of City or Public Supply	______ Well Pump(s) Gal/Min.
Note: Includes two other companies	______ Pump Running time(s) Hrs/Day

10 % of Water Used in Actual Process

___% of Water Discharged From Process (See Note on Page 9)

90% (___% of Water Discharged as Non-Contact Cooling Water
(___% of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

TIERRA-B-013741

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

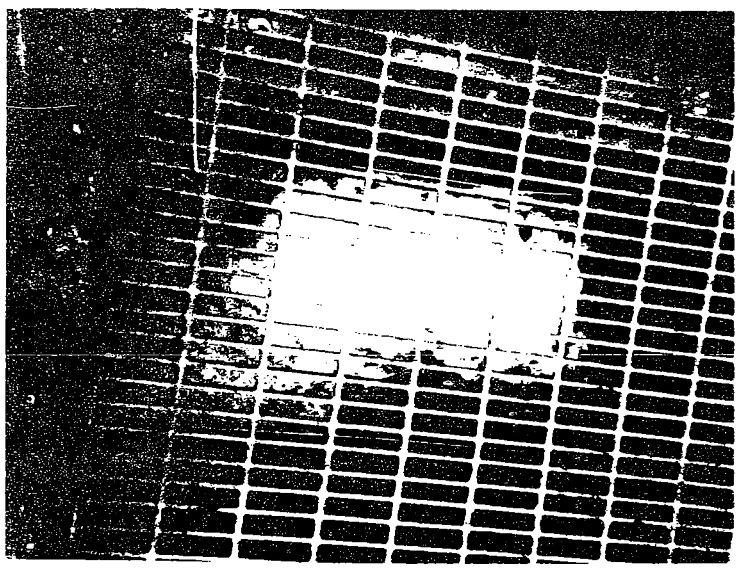
2) Check off which of the below is in each metal discharge point:

	Line A	Line B	Line C
Any detectable gas			
Process	X		
N.C. Cooling	X		
Sanitary	-		
Storm	X		

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematic

TIERRA-B-013742



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ________

inside length 58" (parallel with pipe)

inside width 27"

entire depth 49"

junction manhole yes X no ____ # of in pipes 2

PIPES:

in pipe Ø 5" % full 20

out pipe Ø 4" % full 50

water depth in pipe 2" (Outpipe)

surcharged yes ____ no x

CHANNEL:

water depth 13" benched yes X no ____ (Pit)

water depth range Constant, but will flood in storm.

water velocity < 5 FPS turburlence yes ____ no X

super critical velocity yes ____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ________ drop X

SAMPLING:

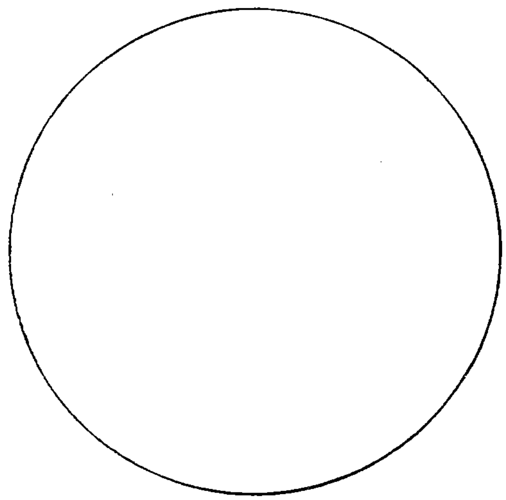
can be harnessed in MH ____ placed in MH ____

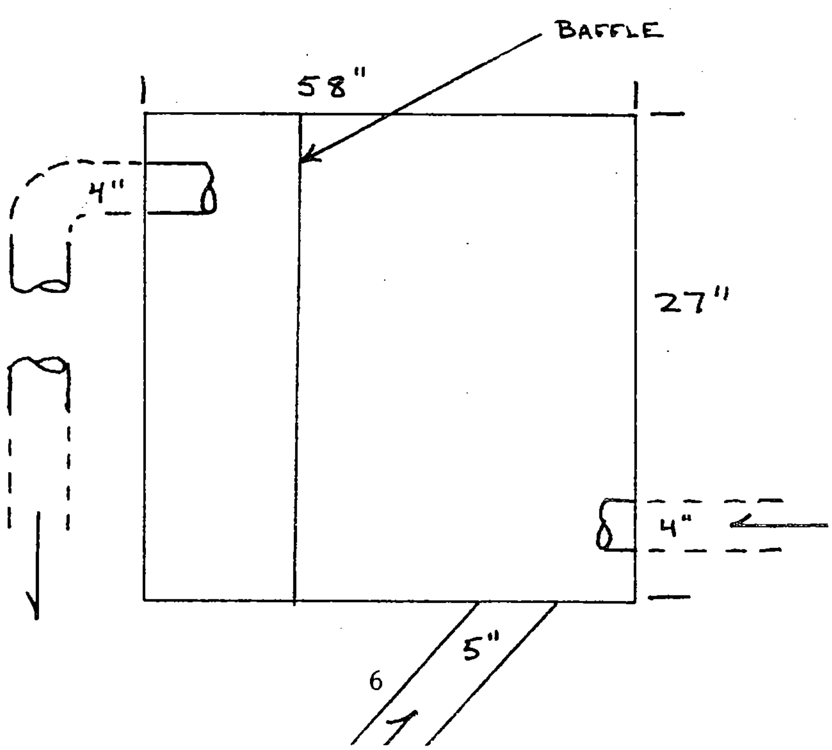
or placed outside MH X

(vandalism problem yes ____ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method	1 X		
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Custon Weir	2 X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)	X		
	X		
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Contact company prior to sampling to determine production schedule.

Some water discharged into sewer is contained in raw materials.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

Yes

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

pH Adjustment

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	20,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 9-12-78 Interviewed by: Scott & Standfast

PVSC Industry #

N-1565

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Seton Leather Company

2) Address 349 (No.) Oration Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Al Jameson	Envir. Qual. Mgr.	485-4800 X 553

4) Type of Industry Leather Tanning & Finishing

5) Primary S.I.C. number, if available 3111
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Hides, salt hydr. lime Sulph acid chrom. sulf. caustic soda

7) Principle Product(s) produced Finished leather

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 5-6

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day Low at 12-4 A.M.
Times of Day

9) Number of employees at this location 400

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013750

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
11,347,900	Gallons/Quarter (Incl. Wells)		Gallons/Quarter
	Cubic Feet/Quarter		Cubic Feet/Quarter
Newark	Name of City or Public Supply		Well Pump(s) Gal/Min.
			Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

82 % of Water Discharged From Process

≤1 % of Water Discharged as Non-Contact Cooling Water

12 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter: 8 meters

Check with Jameson at time of sampling.

TIERRA-B-013751

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 2

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process	X	Process	
N.C. Cooling	-	N.C. Cooling	X	N.C. Cooling	
Sanitary	X(25%)	Sanitary	X(75%)	Sanitary	
Storm	X	Storm	X	Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 20"

inside length ______ (parallel with pipe)

inside width ______

entire depth 11"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 18" % full 60%

out pipe Ø 24" % full 50%

water depth in pipe -

surcharged yes ____ no____

CHANNEL:

water depth ______ benched yes ____ no -

water depth range -

water velocity ______ turburlence yes ____ no -

super critical velocity yes____ no -

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved ______ sloped ______

instantaneous flow - drop ______

SAMPLING:

can be harnessed in MH X placed in MH ______ Use concrete nails to hang sampler.

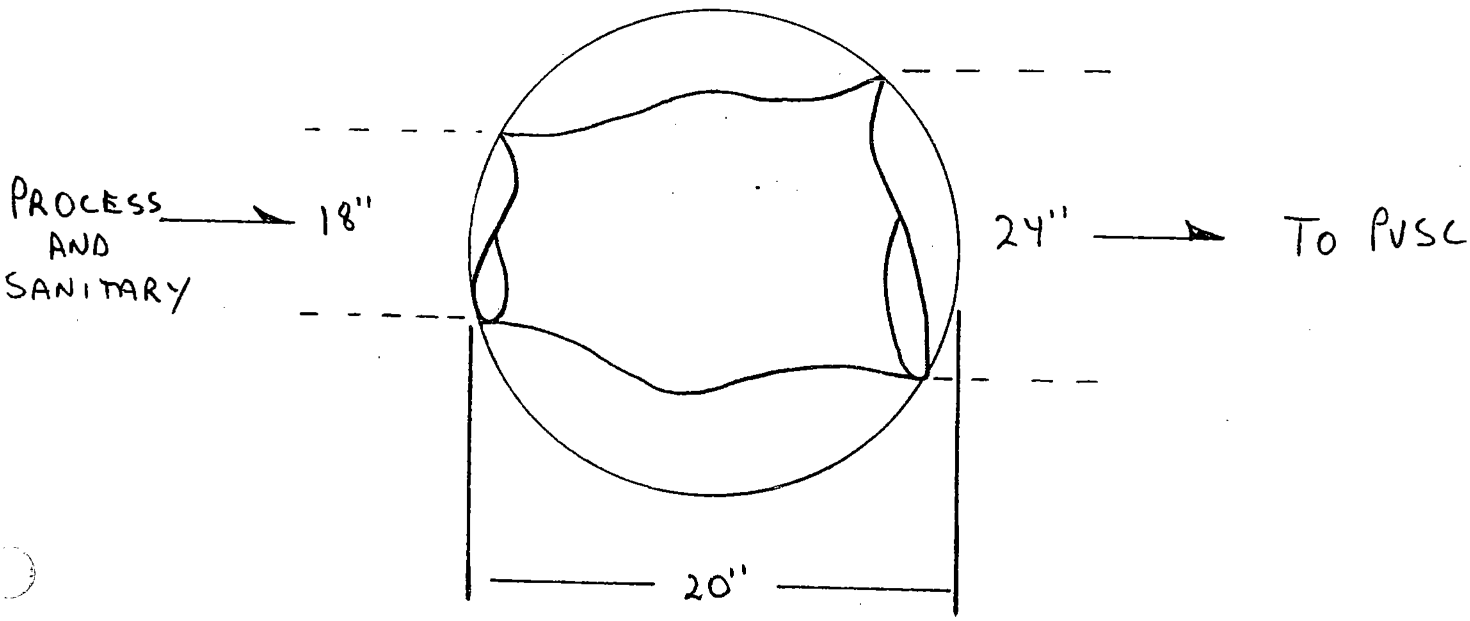
or placed outside MH ______

(vandalism problem yes___ no X)

TIERRA-B-013754

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø 20"

inside length ______ (parallel with pipe)

inside width ______

entire depth 9'

junction manhole yes X no ____ # of in pipes 3

PIPES:

in pipe Ø 18" % full 50%

out pipe Ø 24" % full 75%

water depth in pipe ______

surcharged yes ____ no ____

CHANNEL:

water depth ______ benched yes X no ____

water depth range ______

water velocity - turburlence yes ____ no X

super critical velocity yes ____ no X

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved X sloped ______

instantaneous flow - drop ______

SAMPLING:

can be harnessed in MH X placed in MH ______

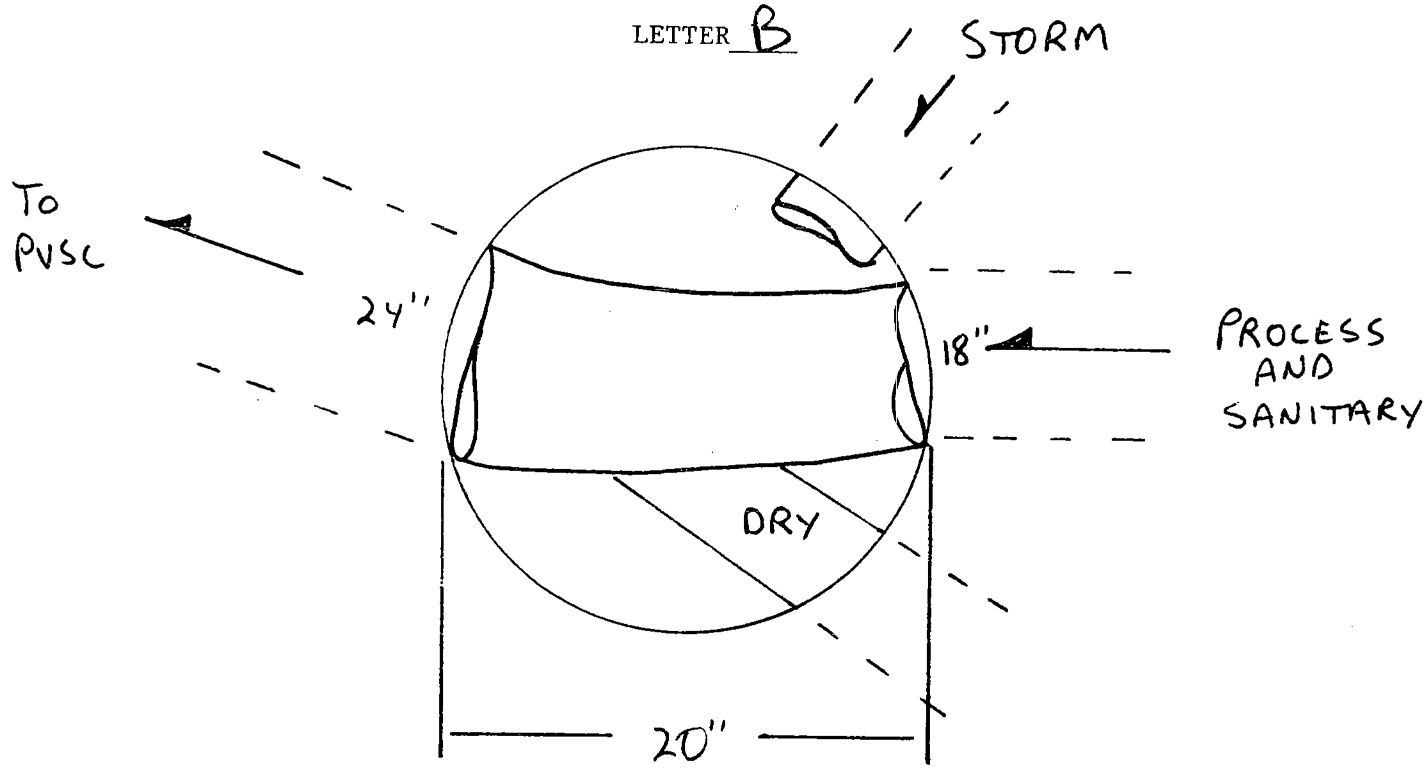
or placed outside MH ______

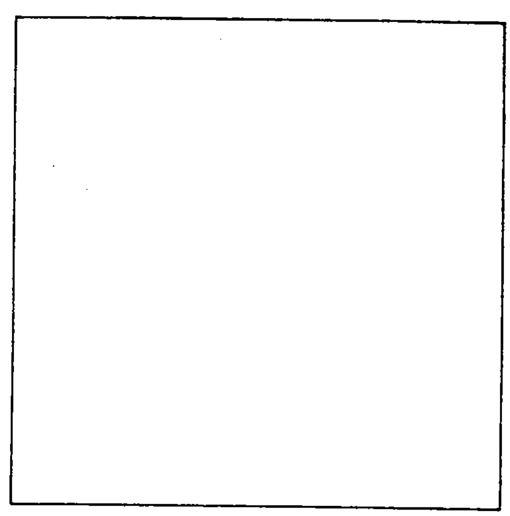
(vandalism problem yes ___ no ___)

TIERRA-B-013756

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B





TIERRA-B-013757

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X	X	
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X	X	

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X	X	
Harness		X	
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Must be sampled in dry weather.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	661,568		
Chromium (mg/l)	946-4,730		
Cadmium (mg/l)			
Copper (mg/l)	<0.946		
Lead (mg/l)	.95-4.75		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-2-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #
N-1570

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name SHIMAN INDUSTRIES, INC.

2) Address 109 (No.) MONROE STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
ALFRED DELUCA	V.P. PRODUCTION	589-9090

4) Type of Industry JEWELRY MANUFACTURER

5) Primary S.I.C. number, if available 3911
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used AU,AG,CU,NI,ZN

7) Principle Product(s) produced GOLD RINGS & JEWELRY

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5½

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 100

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013762

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

862,444 Gallons/Quarter

115,300 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

____________ Gallons/Quarter

____________ Cubic Feet/Quarter

____________ Well Pump(s) Gal/Min.

____________ Pump Running time(s) Hrs/Day

<2 % of Water Used in Actual Process

74 % of Water Discharged From Process

10 % of Water Discharged as Non-Contact Cooling Water

14 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

METER LOCATED IN BASEMENT NEAR SAMPLING SITE.

Industrial Wastewater

Questionnaire

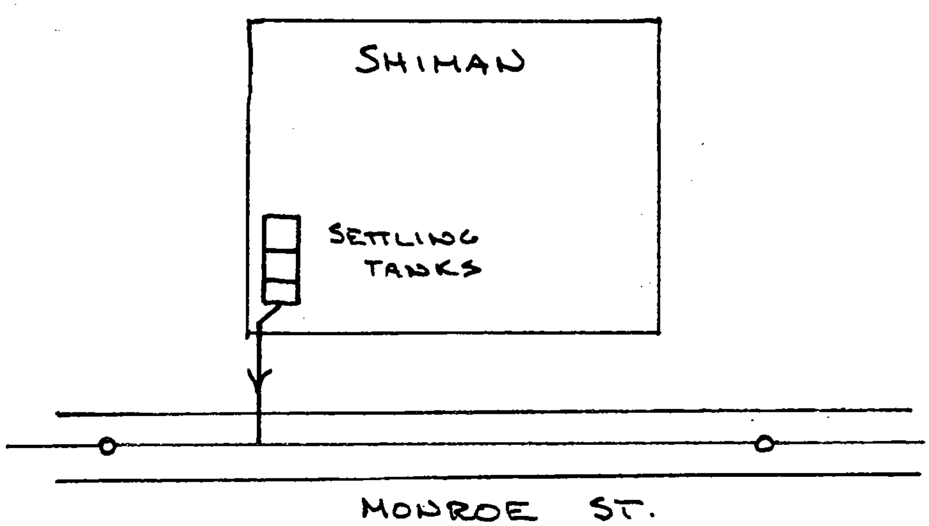
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013764

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 38" (parallel with pipe)

inside width 30"

entire depth 20"

junction manhole yes ___ no X # of in pipes 1

PIPES:

in pipe Ø 2" % full Surch.

out pipe Ø 2" % full 25

water depth in pipe 5" (OUTPIPE)

surcharged yes ___ no X

CHANNEL:

water depth 14" benched yes X no ___ (TANK)

water depth range CONSTANT.

water velocity < .25 FPS turburlence yes ___ no X

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ___ drop ___

SAMPLING:

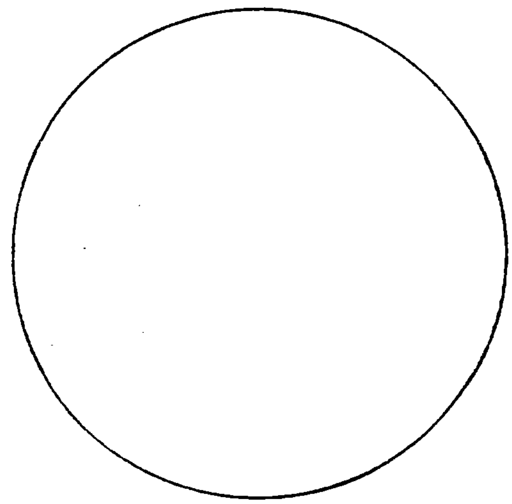
can be harnessed in MH ___ placed in MH ___

or placed outside MH X

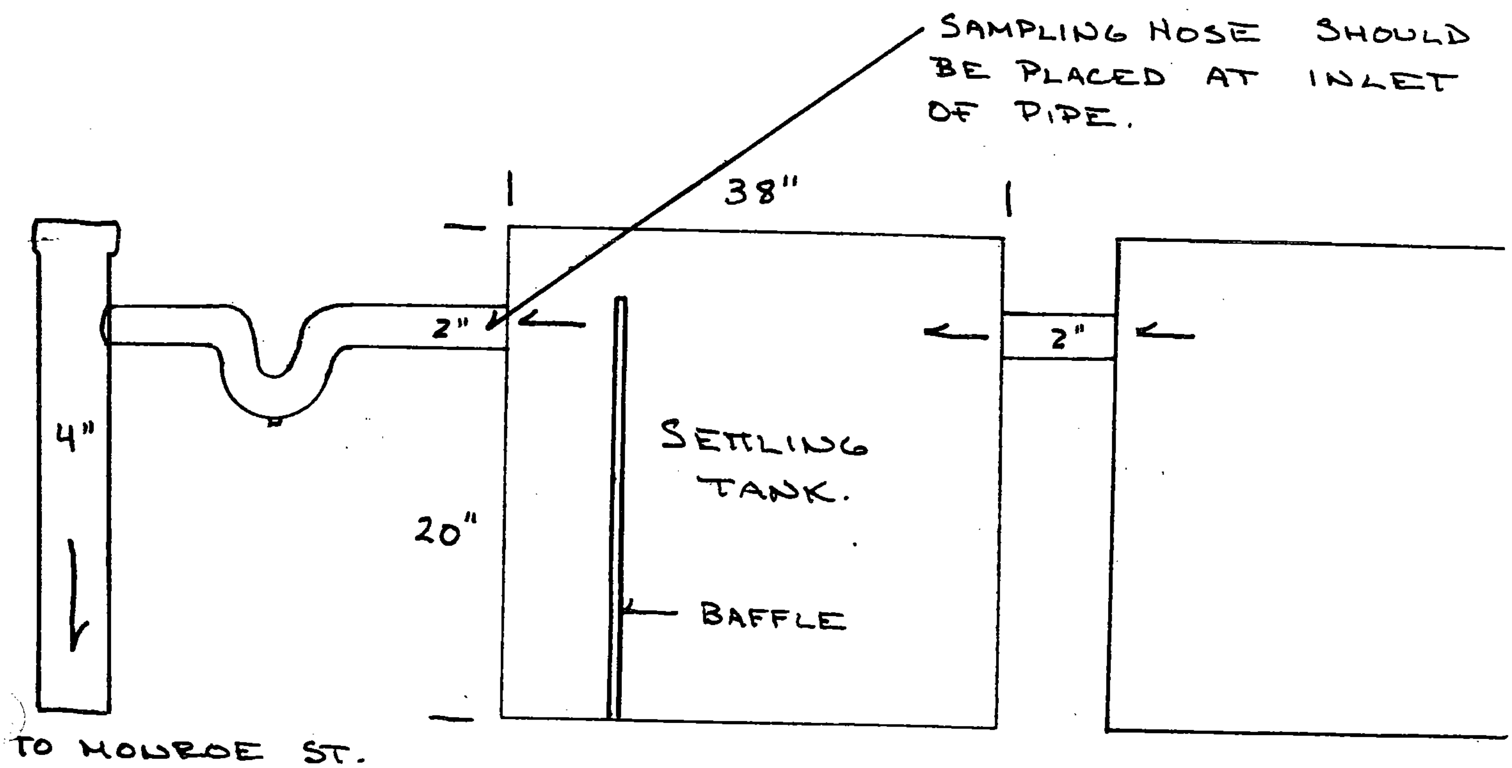
(vandalism problem yes ___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



CROSS SECTION



TIERRA-B-013767

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° V-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013769

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

CONTACT ALFRED DELUCA PRIOR TO SAMPLING TO DETERMINE PRODUCTION SCHEDULE FOR PLATING.

AUTOMATIC SAMPLER MUST BE ACTIVATED IN MORNING AND SWITCHED OFF AT NIGHT SO AS NOT TO INTERFERE WITH SHIMAN'S SECURITY SYSTEM.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	17,100		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	0.67		
Lead (mg/l)	0.27		
Nickel (mg/l)	0.2		
Zinc (mg/l)	1.28		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-22-78 Interviewed by: Scott & Van Malden

PVSC Industry #

N-1580

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Standard Tallow Corporation

2) Address 61 (No.) Blanchard Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Robert Schonwalter	Vice President	589-7595

4) Type of Industry Rendering

5) Primary S.I.C. number, if available 2077
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Inedible animal fats and bone

7) Principle Product(s) produced Tallow, meat meal

8) Hours per day manufacturing operations are conducted 12 (4 P.M.-6 A.M.)

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 70

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
26,105,200	Gallons/Quarter		Gallons/Quarter
3,490,000	Cubic Feet/Quarter		Cubic Feet/Quarter
Newark	Name of City or Public Supply		Well Pump(s) Gal/Min.
			Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

49 % of Water Discharged From Process

34 % of Water Discharged as Non-Contact Cooling Water

12 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter: 1 meter located in pit at S.E. corner of property.

TIERRA-B-013773

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X(60%)	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematic

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 49" (parallel with pipe)

inside width 28"

entire depth 72"

junction manhole yes X no ____ # of in pipes 2

PIPES:

in pipe Ø 4", 6" % full 0, 0

out pipe Ø 6" % full .5

water depth in pipe 0

surcharged yes ____ no ____

CHANNEL:

water depth 10" benched yes X no ____ (Pit)

water depth range Constant

water velocity <.25 FPS turburlence yes ____ no X

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____ drop X

SAMPLING:

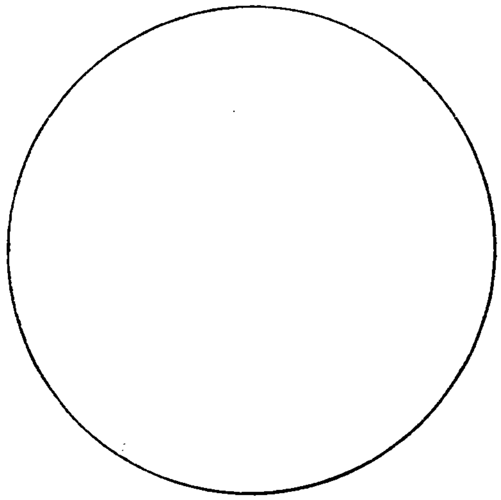
can be harnessed in MH ____ placed in MH ____

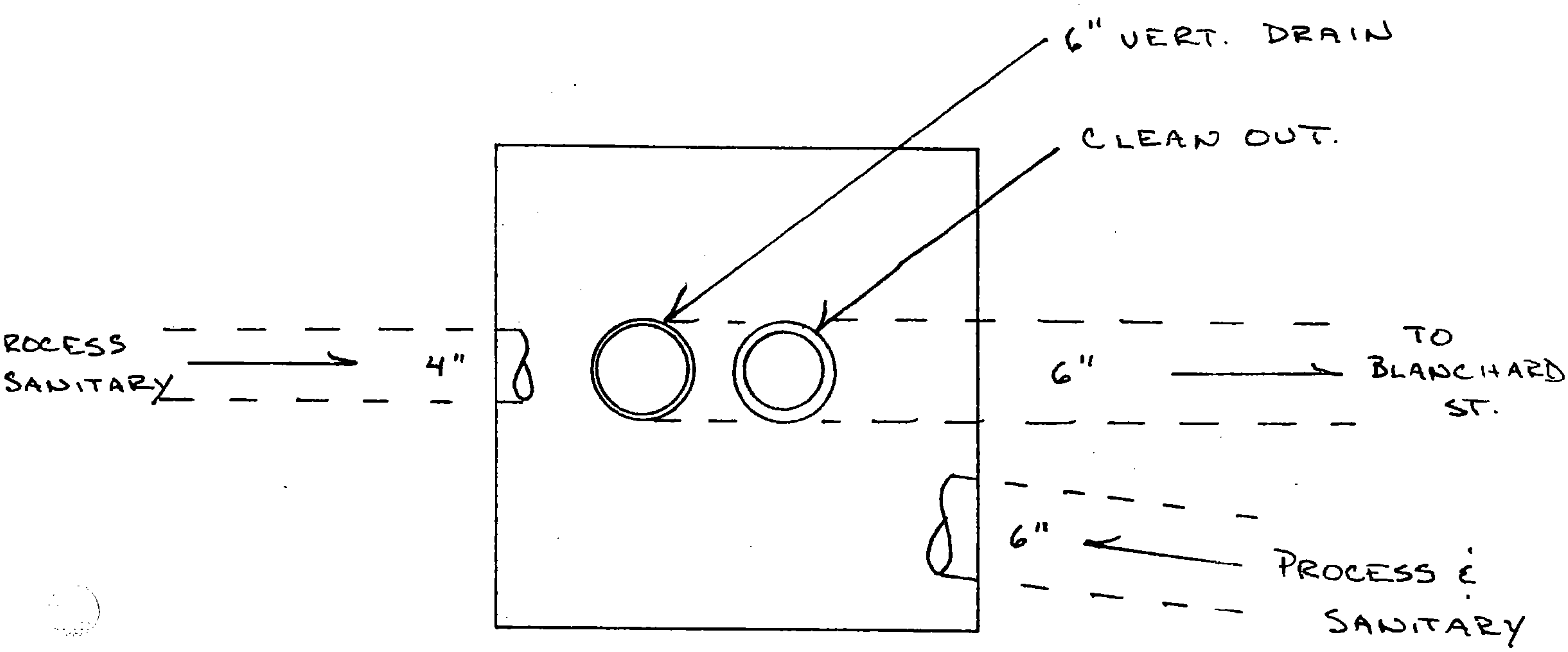
or placed outside MH X

(vandalism problem yes ____ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A





TIERRA-B-013777

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	15,600		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	0.12		
Lead (mg/l)	0.12		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013781

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-18-78 Interviewed by: SCOTT AND VAN MALDEN

PVSC Industry #

N-1590

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name STIRRUP METAL PRODUCTS CORP.

2) Address 215 (No.) EMMET STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

GOERGE STIRRUP (Name) PRES (Title) 243-5076 (Telephone)

4) Type of Industry METAL STAMPING & FINISHING

5) Primary S.I.C. number, if available 3479
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used STEEL, BRASS, COPPER, ALUMINUM

7) Principle Product(s) produced STEAM AND AIR VALVES

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 35

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

388,960 Gallons/Quarter

52,000 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

<10 % of Water Used in Actual Process

79 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

11 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER - LOCATED BEHIND WASHROOMS AT LEFT OF BLDG.

Industrial Wastewater

Questionnaire

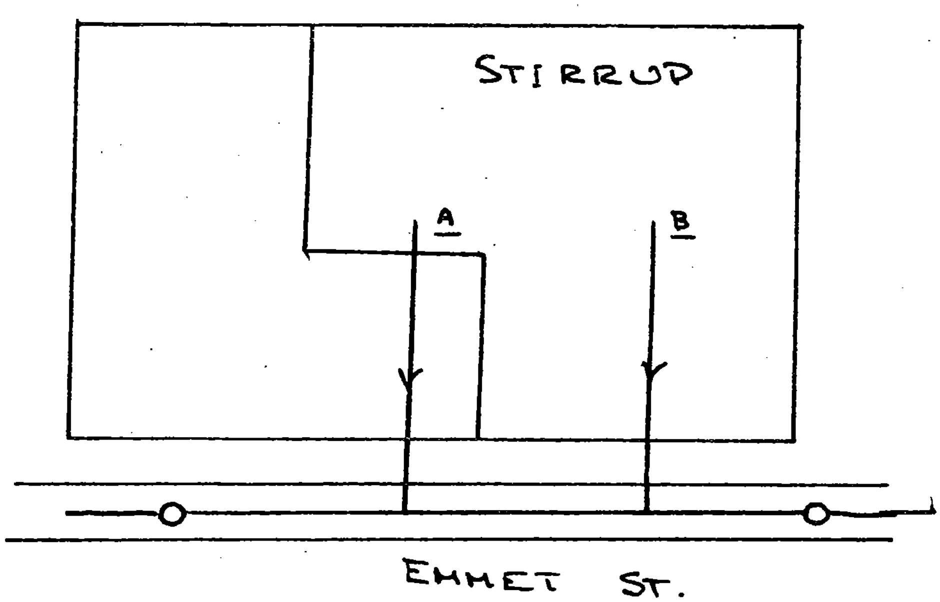
Part B

1) Number of metal contributing discharge points to municipal sewer: 2.

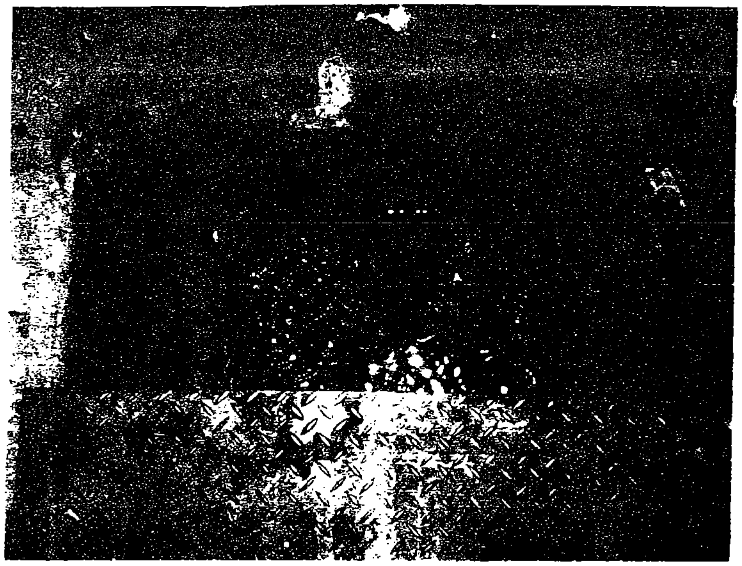
2) Check off which of the below is in each metal discharge point:

Line A (WASH MACH.)		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	✓	Process	✓	Process	
N.C. Cooling	—	N.C. Cooling	—	N.C. Cooling	
Sanitary	—	Sanitary	—	Sanitary	
Storm	—	Storm	—	Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013784



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ________

inside length ________ (parallel with pipe)

inside width 12"

entire depth 8"

junction manhole yes____ no X # of in pipes 1 CHANNEL

PIPES:

in pipe Ø ________ % full ________

out pipe Ø 5" % full ________

water depth in pipe ________

surcharged yes X no____

CHANNEL:

water depth 1/2" benched yes ____ no____ X

water depth range CONSTANT

water velocity ____________ turburlence yes ____ no X

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ________ sloped ________

instantaneous flow ____________ drop ________

SAMPLING:

can be harnessed in MH ______ placed in MH ________

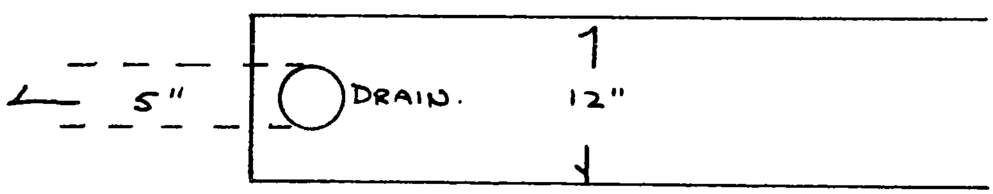
or placed outside MH X

(vandalism problem yes___ no___)

TIERRA-B-013786

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

3" CLEAN OUT

(circular) surface Ø ______

inside length ______ (parallel with pipe)

inside width ______

entire depth ______

junction manhole yes X no ____ # of in pipes 2

PIPES:

in pipe Ø 3" 3" % full NOT ACCESSABLE

out pipe Ø 3" % full NOT ACCESSABLE

water depth in pipe ______

surcharged yes ____ no ____

CHANNEL:

water depth ______ benched yes ____ no ____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING: MANUAL

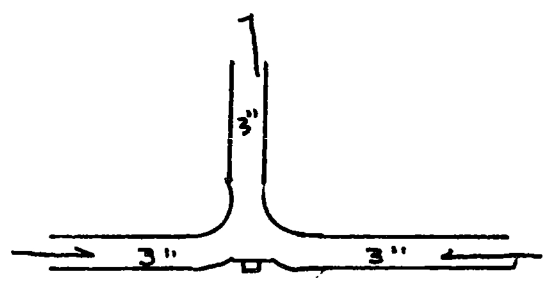
can be harnessed in MH ______ placed in MH ______

or placed outside MH ______

(vandalism problem yes ____ no ____)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	B	C
SAMPLING:			
Automatic	X		
Manual		X	
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
CUSTOM 90° V-NOTCH WEIR	X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings		X	

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
CUSTOM 90° V-NOTCH WEIR	X		
Packing			
Blocks			
Sand Bags			
Caulking			

MANUAL	A	B	C
Bottles		X	
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013791

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	5,700		
Chromium (mg/l)	15		
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-21-78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1600

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name SUN CHEMICAL CORP.

2) Address 185 (No.) FOUNDRY STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
RALPH JAFFE	PLANT SUPER.	344-4879

4) Type of Industry ORGANIC PIGMENT MFR.

5) Primary S.I.C. number, if available 2865
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used SAME

7) Principle Product(s) produced ORGANIC PIGMENTS

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______ (VARIES)

9) Number of employees at this location 16

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

14,960,000 Gallons/Quarter

2,000,000 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

22 % of Water Used in Actual Process

57.5% of Water Discharged From Process

20 % of Water Discharged as Non-Contact Cooling Water

.5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter: 1 METER LOCATED IN METER HOUSE ON WEST SIDE OF PROPERTY.

TIERRA-B-013795

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 4

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	x	Process	x	Process	x
N.C. Cooling		N.C. Cooling	x	N.C. Cooling	
Sanitary		Sanitary		Sanitary	
Storm		Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

VALVE ON 6" PIPE

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full _____ _____

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range ________________

water velocity ________________ turburlence yes ____ no _____

super critical velocity yes____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped ________

instantaneous flow ________________ drop ________

SAMPLING:

can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

(vandalism problem yes___ no___)

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø ____

inside length CHANNEL (parallel with pipe)

inside width 8"

entire depth 6"

junction manhole yes____ no x # of in pipes 1

PIPES:

in pipe Ø 1.5" % full ____

out pipe Ø 6" % full DRAIN

water depth in pipe 0

surcharged yes ____ no x

CHANNEL:

water depth 0 benched yes ____ no x

water depth range 0-3"

water velocity ____ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight x curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

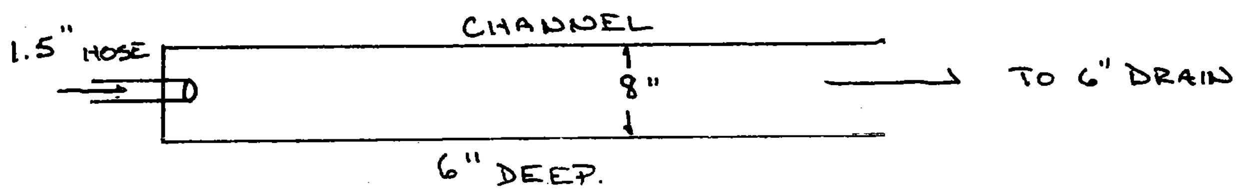
can be harnessed in MH ____ placed in MH ____

or placed outside MH x

(vandalism problem yes___ no x)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B.



TIERRA-B-013800

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	x	x	
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
CUSTOM WEIR, DIPPER METHOD		(1) x	
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	x	(2) x	

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	1 x	x	
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers		x	
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
CUSTOM WEIR		x	
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles	2 x		
Bucket & watch			
Weirs (v-notch 90^o)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013802

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

SAMPLING VALUE ON LINE A WAS NOT WORKING AT TIME OF INSPECTION. JAFFE SHOULD BE CONTACTED PRIOR TO SAMPLING AND REQUESTED TO INSTALL APPROPRIATE FITTING FOR 1/2" HOSE. (FOR AUTO SAMPLER)

SAMPLERS SHOULD BE SET FOR 1/2 HR. INTERVALS.

SAMPLER ON LINE B SHOULD BE USED IN FLOW MODE IN CONJUNCTION WITH DIPPER.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	46,100		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	0.16		
Lead (mg/l)	0.1		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)	0.06		
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-7-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #

N-1610

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name THOMASSET COLORS DIVISION

2) Address 120 (No.) LISTER AVENUE (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

G. GRUDINOFF (Name) GENERAL MANAGER (Title) 344-7308 (Telephone)

4) Type of Industry PIGMENT MFG.

5) Primary S.I.C. number, if available 2816, 2865
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used ACIDS, INTERMEDIATES, AROMATIC AMINES INORGANIC GASEOUS BASES.

7) Principle Product(s) produced PIGMENTS

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 55

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

23,217,172 Gallons/Quarter

3,103,900 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

4 % of Water Used in Actual Process

87 % of Water Discharged From Process

\- % of Water Discharged as Non-Contact Cooling Water

9 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

2 METERS LOCATED IN PIT BY GUARD.

Industrial Wastewater

Questionnaire

Part B

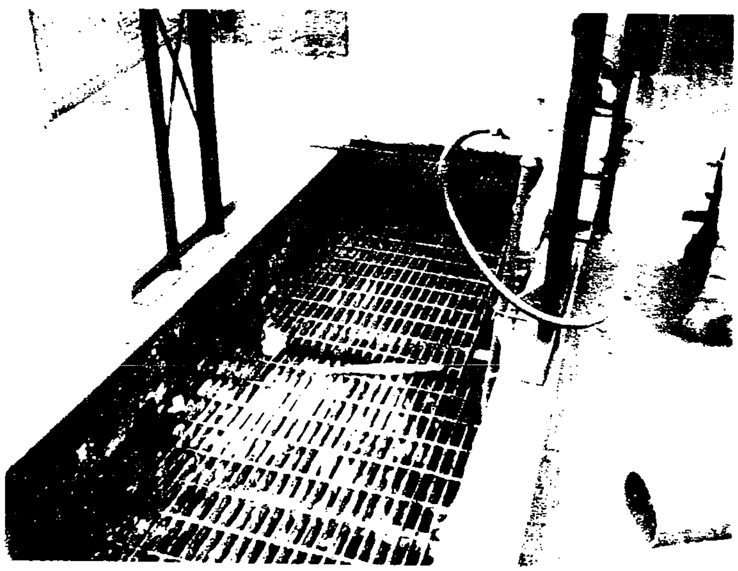
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER ____

MANHOLE:

(circular) surface Ø ____________

inside length ____8'____ (parallel with pipe)

inside width ____4'____

entire depth ____6'____

junction manhole yes____ no__X__ # of in pipes __1__

PIPES:

in pipe Ø __SURCHARGE__ % full ________

out pipe Ø __10"__ % full __50__

water depth in pipe __5"__

surcharged yes ____ no X____

CHANNEL:

water depth __2'__ benched yes __X__ no____ (PIT)

water depth range __CONSTANT.__

water velocity ____1.5 FPS____ turburlence yes __X__ no ____

super critical velocity yes____ no __X__

roll in front of stake __X__ roll behind stake ____

channel configuration straight __X__ curved ________ sloped ________

instantaneous flow ____________ drop ________

SAMPLING:

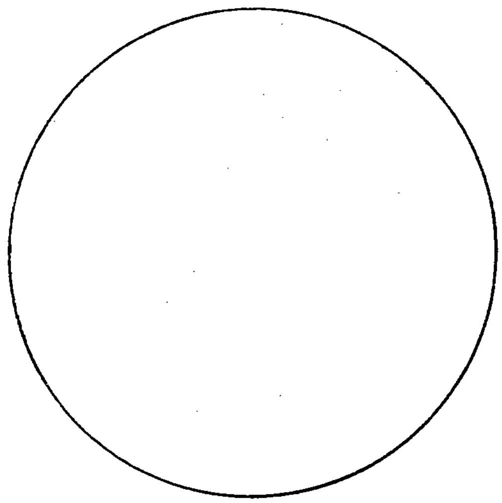
can be harnessed in MH ______ placed in MH ________

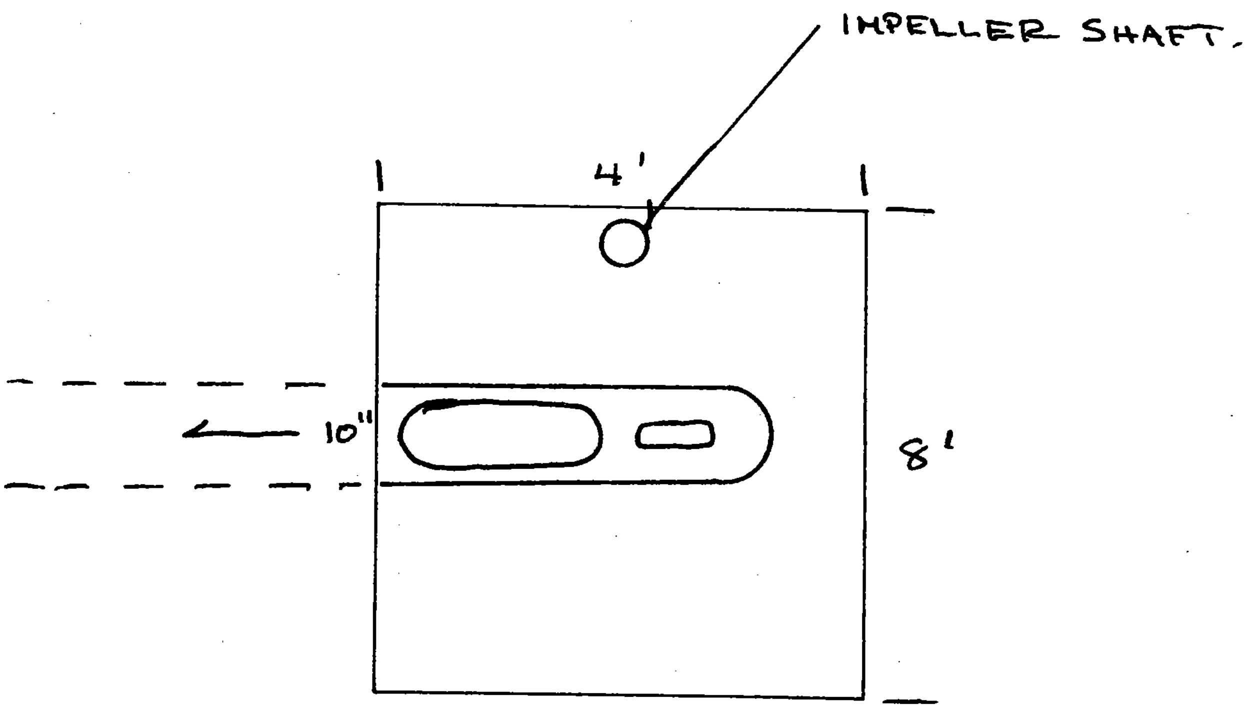
or placed outside MH __X__

(vandalism problem yes___ no_X_)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013810

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013812

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

YES

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

pH ADJUSTMENT WITH AMMONIA.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	423,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)	.0018		
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-10-78

Interviewed by: SCOTT & VANMALDEN

PVSC Industry # N-1620

Industrial Wastewater

Questionnaire

"attach business card"

Part A

1) Industry Name TIMCO INC.

2) Address 666 (No.) SO. 16th STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

TOM PANELLA	SUPERVISOR	374-3729
Name	Title	Telephone

4) Type of Industry HOT, DIP PLATING

5) Primary S.I.C. number, if available 3471
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used SN

7) Principle Product(s) produced TIN PLATED METALS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 6 FULL TIME, 2 PART TIME

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
140,674	Gallons/Quarter		Gallons/Quarter
18,800	Cubic Feet/Quarter		Cubic Feet/Quarter
NEWARK	Name of City or Public Supply		Well Pump(s) Gal/Min.
			Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

82.5% of Water Discharged From Process

6.5% of Water Discharged as Non-Contact Cooling Water

6 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

IN BASEMENT FRONT RIGHT CORNER OF BUILDING.

TIERRA-B-013816

Industrial Wastewater

Questionnaire

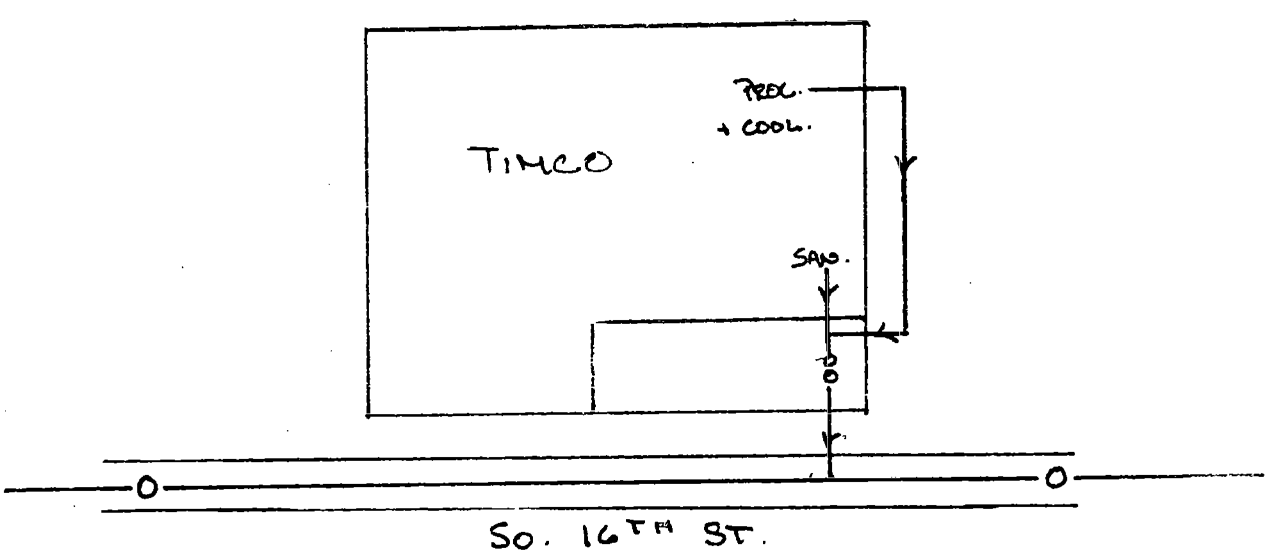
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

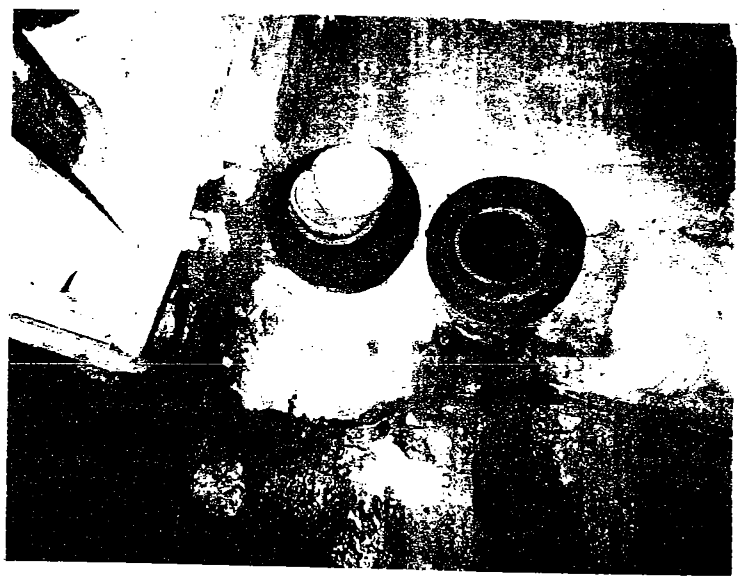
2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



TIERRA-B-013817



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 4"

inside length ______ (parallel with pipe)

inside width ______

entire depth ______

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø 6" % full ~ 50

out pipe Ø 6" % full ~ 50

water depth in pipe ~ 3"

surcharged yes ____ no X

CHANNEL: N/A

water depth ______ benched yes ____ no____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

can be harnessed in MH ______ placed in MH ______

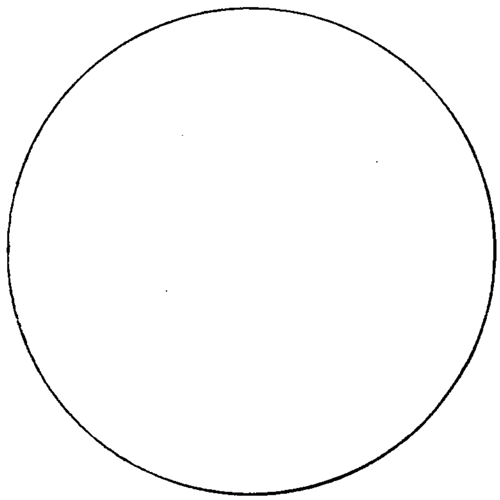
or placed outside MH X

(vandalism problem yes___ no X)

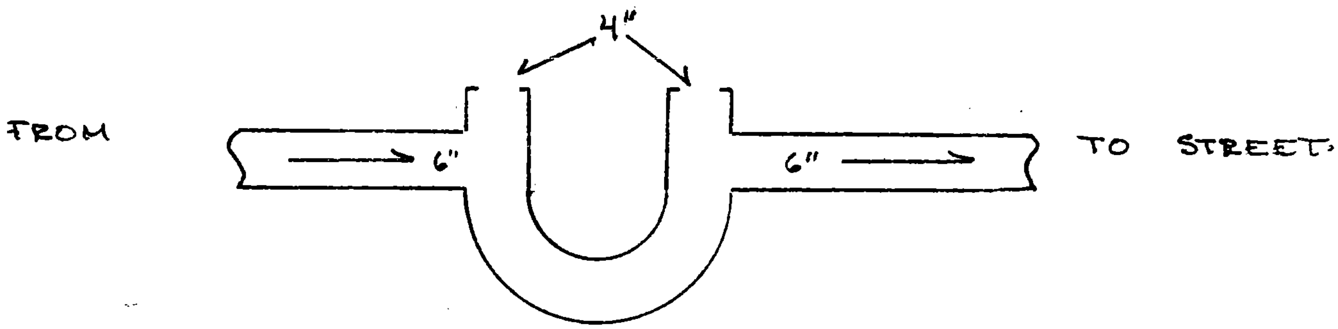
TIERRA-B-013819

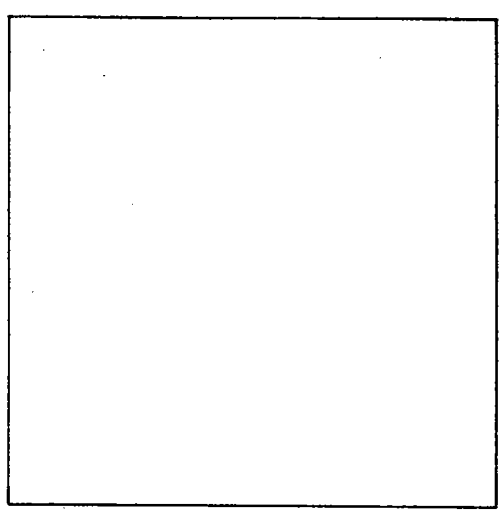
5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



CROSS SECTION.





TIERRA-B-013820

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			
NOTES:			

TIERRA-B-013822

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

____

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

____

____

____

____

2) The following tests will be performed by PVSC at a later date on a series of <u>24 hour flow proportioned composite</u> samples collected over a period of <u>two (2) consecutive production days</u>. Samples shall be collected from each <u>individual</u> waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

<u>Previous Measurements of Flow and Metals (if available)</u>

Analysis	A	B	C
Daily Flow (Gal/Day)			
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-2-78 Interviewed by: SCOTT & VANMALDEN

PVSC Industry #

N-1630

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name VICTORY OPTICAL MFG. COMPANY

2) Address 9 MULBERRY PLACE NEWARK
No. Street Municipality

3) Responsible Person to whom further inquiries should be directed:

NORMAN BAUMANN	COLOR SUPERVISOR	643-7844
Name	Title	Telephone

4) Type of Industry ________

5) Primary S.I.C. number, if available 3851
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used NI, RD, AU, AG, CU, BRASS,BLACK NI

7) Principle Product(s) produced OPTHALMIC FRAMES

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____ Times of Day ____

9) Number of employees at this location 130

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013825

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

813,824 Gallons/Quarter

108,800 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

________ Gallons/Quarter

________ Cubic Feet/Quarter

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

2 % of Water Used in Actual Process

76 % of Water Discharged From Process

2 % of Water Discharged as Non-Contact Cooling Water

20 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

METER IS LOCATED ADJACENT TO EXIT POINT FOR 6" SEWER LINE IN BASEMENT (PROCESS ONLY).

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A	Line B	Line C
Any detectable gas			
Process	X		
N.C. Cooling	X		
Sanitary	X		
Storm	-		

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 22"

inside length 5' (parallel with pipe)

inside width 4'

entire depth 8'

junction manhole yes X no ___ # of in pipes 2

PIPES:

in pipe Ø 6" % full 25

out pipe Ø 16" % full 25

water depth in pipe 1.5"

surcharged yes ___ no X

CHANNEL:

water depth 4" benched yes ___ no X

water depth range CONSTANT

water velocity 1.7 FPS turburlence yes X no ___ (MILD)

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ___ drop ___

SAMPLING:

can be harnessed in MH ___ placed in MH ___

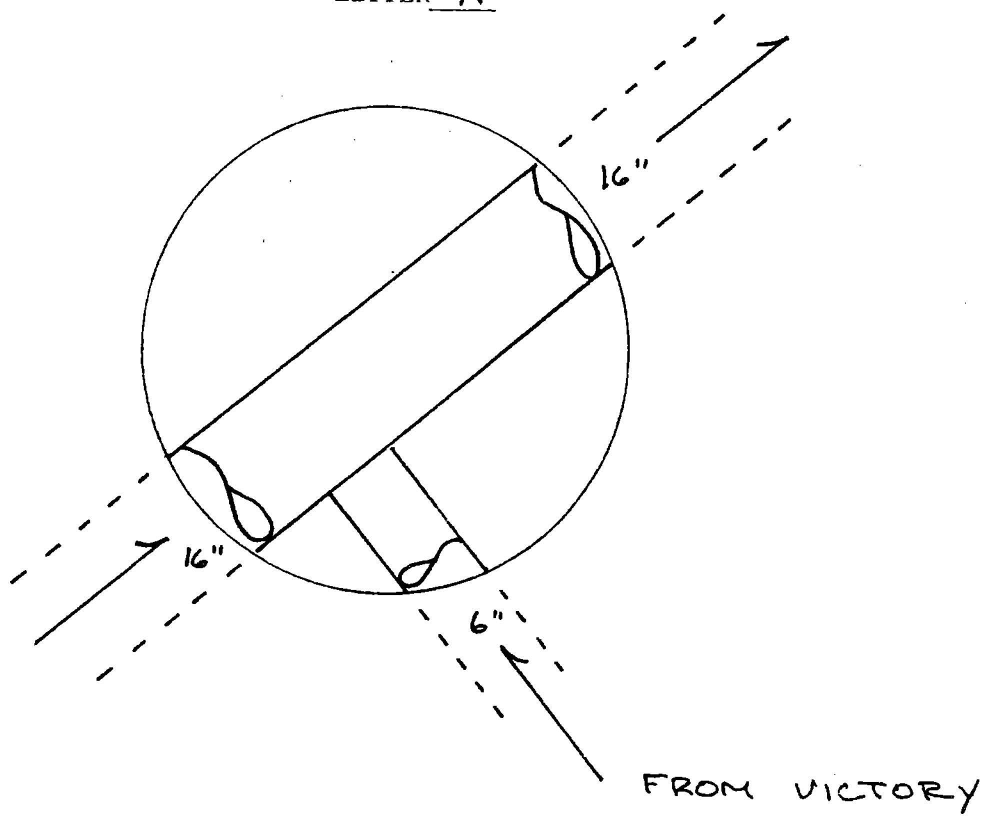
or placed outside MH ___

(vandalism problem yes___ no___)

NOTE: SAMPLER SHOULD BE PLACED INSIDE BUILDING AT EXIT POINT OF 6" LINE. HOSE CAN BE INSERTED IN 4" CLEAN OUT AT THAT POINT.

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



TIERRA-B-013830

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)	X		
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes	X		
Insert			
Inflatable	X		
4"	X		
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013832

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	38,600		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	0.05		
Lead (mg/l)	0.05		
Nickel (mg/l)	0.1		
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-15-78

Interviewed by: Scott & Van Malden

PVSC Industry #

N-1650

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name Westinghouse Electric Corporation ~~Relay & Instrument Division~~

2) Address 90 (No.) Orange Street (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Ed Hennel (Name) Mgr. Purchasing (Title) 465-2546 (Telephone)

4) Type of Industry Electrical Equipment Mfr.

5) Primary S.I.C. number, if available 3641
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Cu, Wire, S. Steel, Finished Plated Parts.

7) Principle Product(s) produced Nz, Ni, Cu, Sn

8) Hours per day manufacturing operations are conducted 8 (16 Plating)

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 1000

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

10,341,800 Gallons/Quarter

__________ Cubic Feet/Quarter

Newark __________ Name of City or Public Supply

Private Well Supply (Cooling Only)

28.75×10^6 Gallons/Quarter 79% Returned to ground

__________ Cubic Feet/Quarter

220 Well Pump(s) Gal/Min.

24 Pump Running time(s) Hrs/Day

City		Well
<1	% of Water Used in Actual Process	0
68	% of Water Discharged From Process	0
25	% of Water Discharged as Non-Contact Cooling Water	8
7	% of Water Discharged From Sanitary Conveniences	13

Indicate Location of Water Meter: 2 meters

6" compound meter in building C Basement

1" meter in building J basement

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 6

2) Check off which of the below is in each metal discharge point:

	Line ~~A~~ 1	2	Line ~~B~~ 3	4	Line ~~C~~ 5	6
Any detectable gas						
Process	X	X	X	X	X	X
N.C. Cooling	X	X	X	X	X	X
Sanitary	X	X	X	X	-	-
Storm	X					

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematic

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A (1)

MANHOLE:

(circular) surface Ø 24"

inside length 42" Ø (parallel with pipe)

inside width ______

entire depth 10'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 14" % full 100

out pipe Ø 14" % full 100

water depth in pipe 14"

surcharged yes X no____

CHANNEL:

water depth 14" benched yes ____ no X

water depth range Constant

water velocity 1 FPS turburlence yes ____ no X

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

can be harnessed in MH X placed in MH ______

or placed outside MH ______

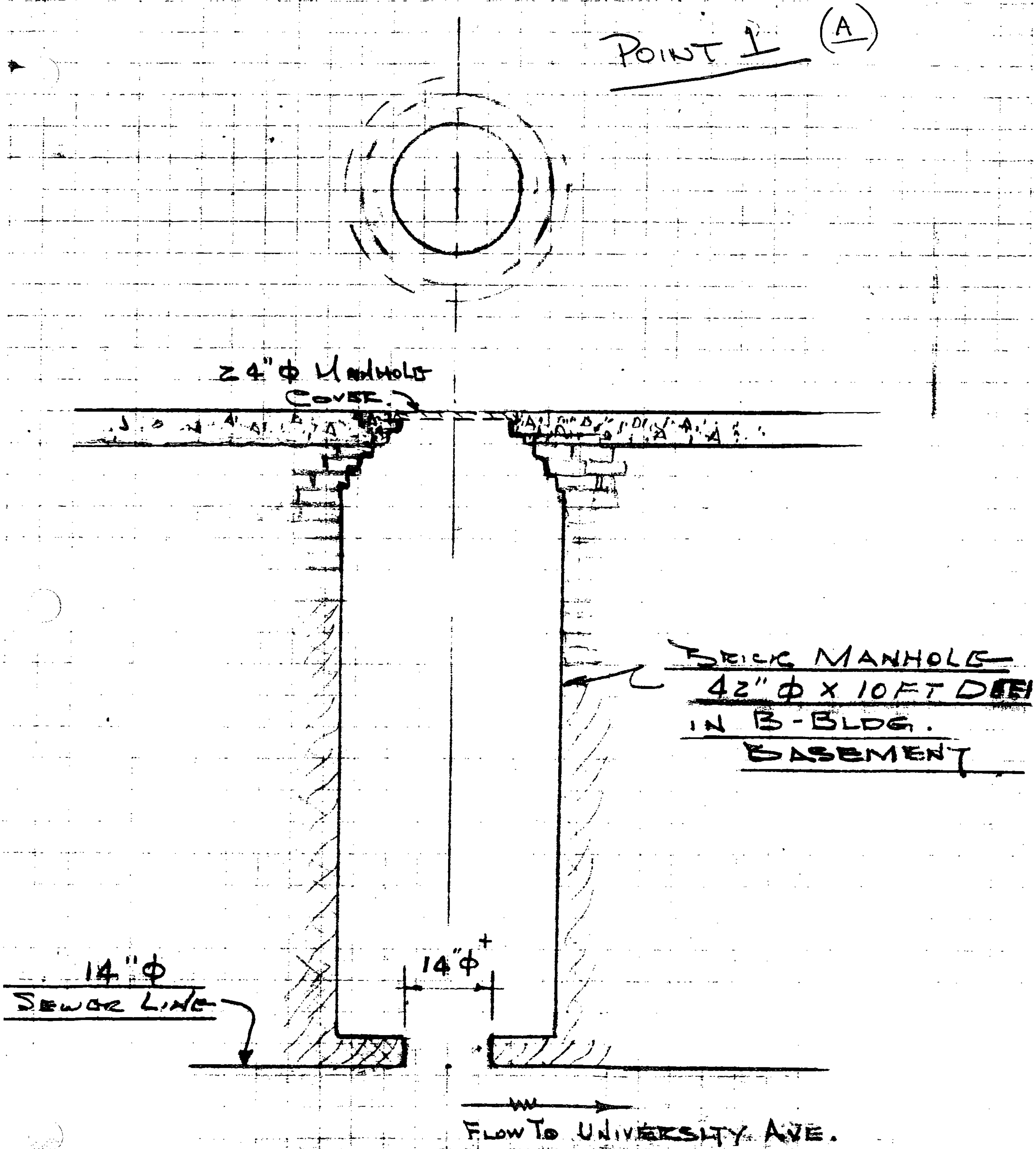
(vandalism problem yes___ no___)

Note: No Rungs

TIERRA-B-013839

BLDG. B - BASEMENT

POINT 1 (A)



D'AMATO

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B (2)

6" Clean Out

MANHOLE:

(circular) surface Ø ______

inside length 27" (parallel with pipe)

inside width 30"

entire depth 32"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 6" % full ______

out pipe Ø 6" % full ______

water depth in pipe ______

surcharged yes ____ no____

CHANNEL:

water depth ______ benched yes ____ no____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

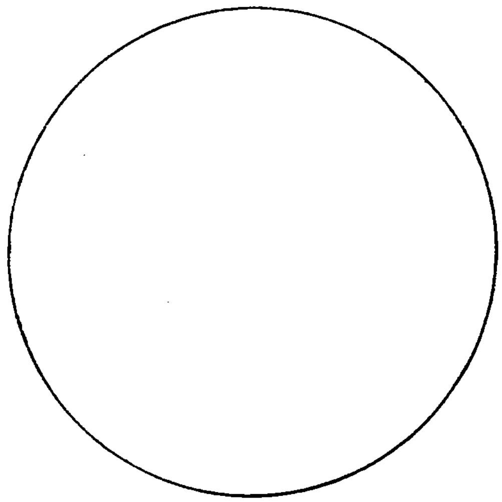
can be harnessed in MH ______ placed in MH ______

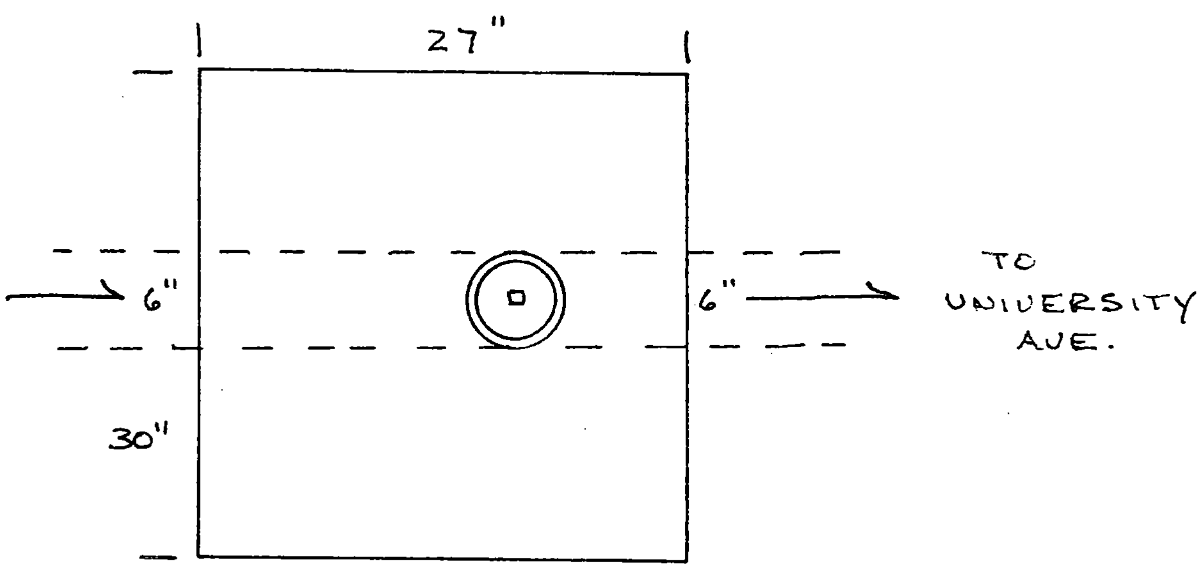
or placed outside MH ______

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B (2)





TIERRA-B-013842

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER C (3)

8" Trap

MANHOLE:

(circular) surface Ø ______

inside length 50" (parallel with pipe)

inside width 34"

entire depth 8.5'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 8" % full ______

out pipe Ø 8" % full ______

water depth in pipe ______

surcharged yes ____ no____

CHANNEL:

water depth ______ benched yes ____ no____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved ______ sloped ______

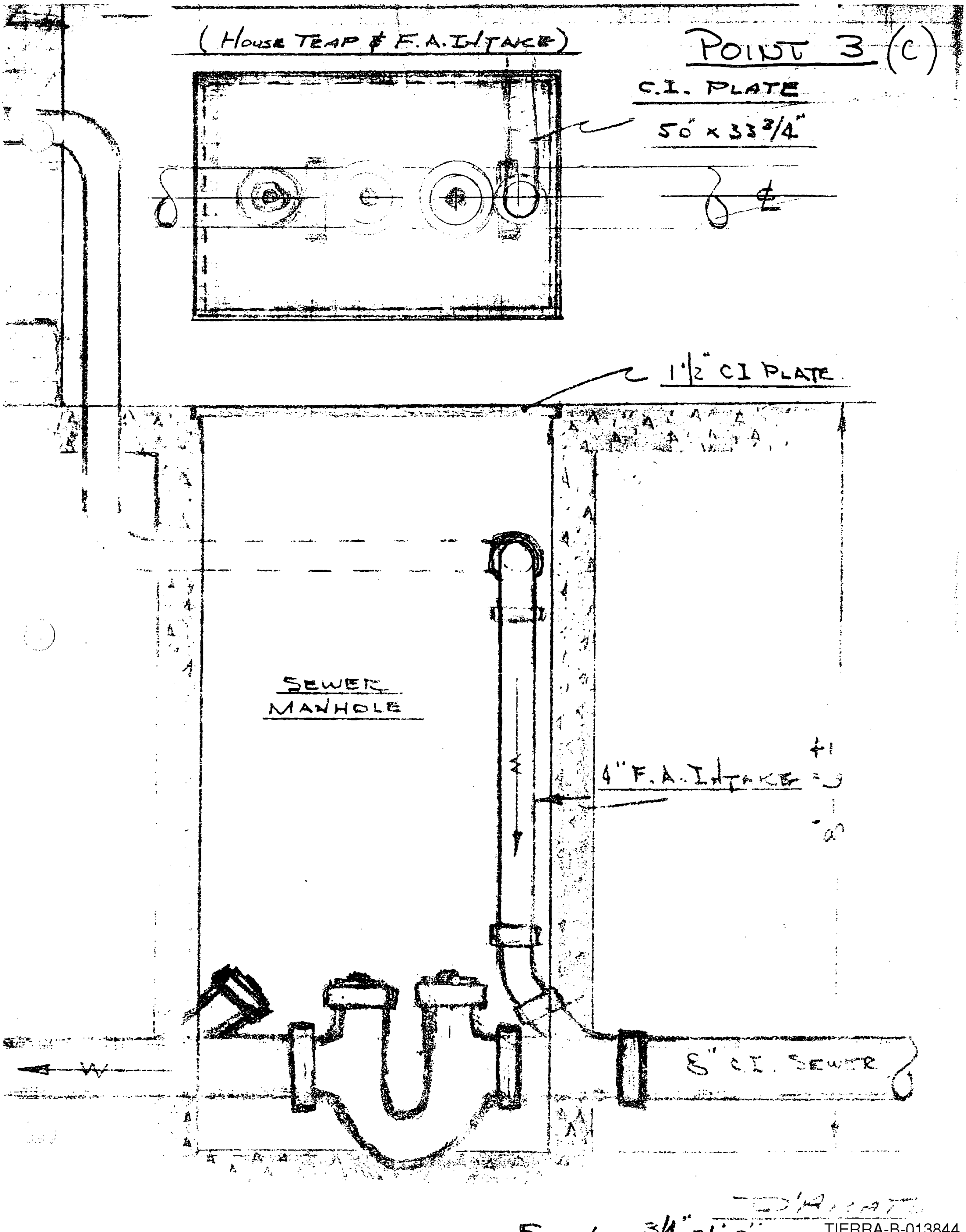
instantaneous flow ______ drop ______

SAMPLING:

can be harnessed in MH X placed in MH ______

or placed outside MH ______

(vandalism problem yes___ no___)



TIERRA-B-013844

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER D (4)

MANHOLE:

(circular) surface Ø ______ (5"

inside length 5' (parallel with pipe)

inside width 3'

entire depth 4'

junction manhole yes____ no ✓ # of in pipes 1

PIPES:

in pipe Ø 5" % full ______

out pipe Ø 5" % full ______

water depth in pipe ______

surcharged yes ____ no____

CHANNEL:

water depth ______ benched yes ____ no____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

can be harnessed in MH ______ placed in MH ______

or placed outside MH ✓

(vandalism problem yes___ no ✓)

SAMPLING POINT NOT ACCESSABLE AT TIME OF INTERVIEW. ABOVE INFORMATION OBTAINED FROM WESTINGHOUSE DRAWINGS.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER E (5)

MANHOLE:

4" TRAP.

(circular) surface Ø 24"

inside length 4' (parallel with pipe)

inside width 4'

entire depth 7.5'

junction manhole yes____ no ✓ # of in pipes 1

PIPES:

in pipe Ø 4" % full ______

out pipe Ø 4" % full ______

water depth in pipe ______

surcharged yes ____ no ____

CHANNEL:

water depth ______ benched yes ____ no ____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

can be harnessed in MH ✓ placed in MH ______

or placed outside MH ______

(vandalism problem yes___ no___)

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER F (6)

MANHOLE:

4" TRAP.

(circular) surface Ø 24"

inside length 4' (parallel with pipe)

inside width 4'

entire depth 7.5'

junction manhole yes____ no ✓ # of in pipes 1

PIPES:

in pipe Ø 4" % full ______

out pipe Ø 4" % full ______

water depth in pipe ______

surcharged yes ____ no____

CHANNEL:

water depth ______ benched yes ____ no____

water depth range ______

water velocity ______ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

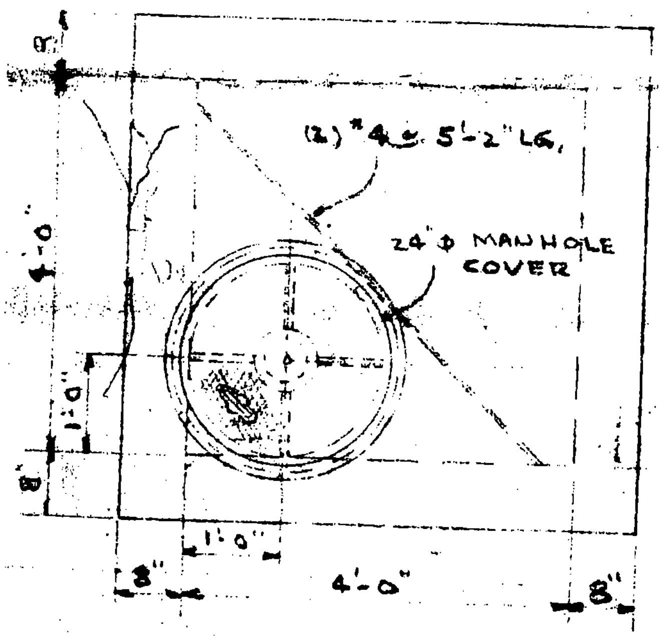
can be harnessed in MH ✓ placed in MH ______

or placed outside MH ______

(vandalism problem yes____ no____)

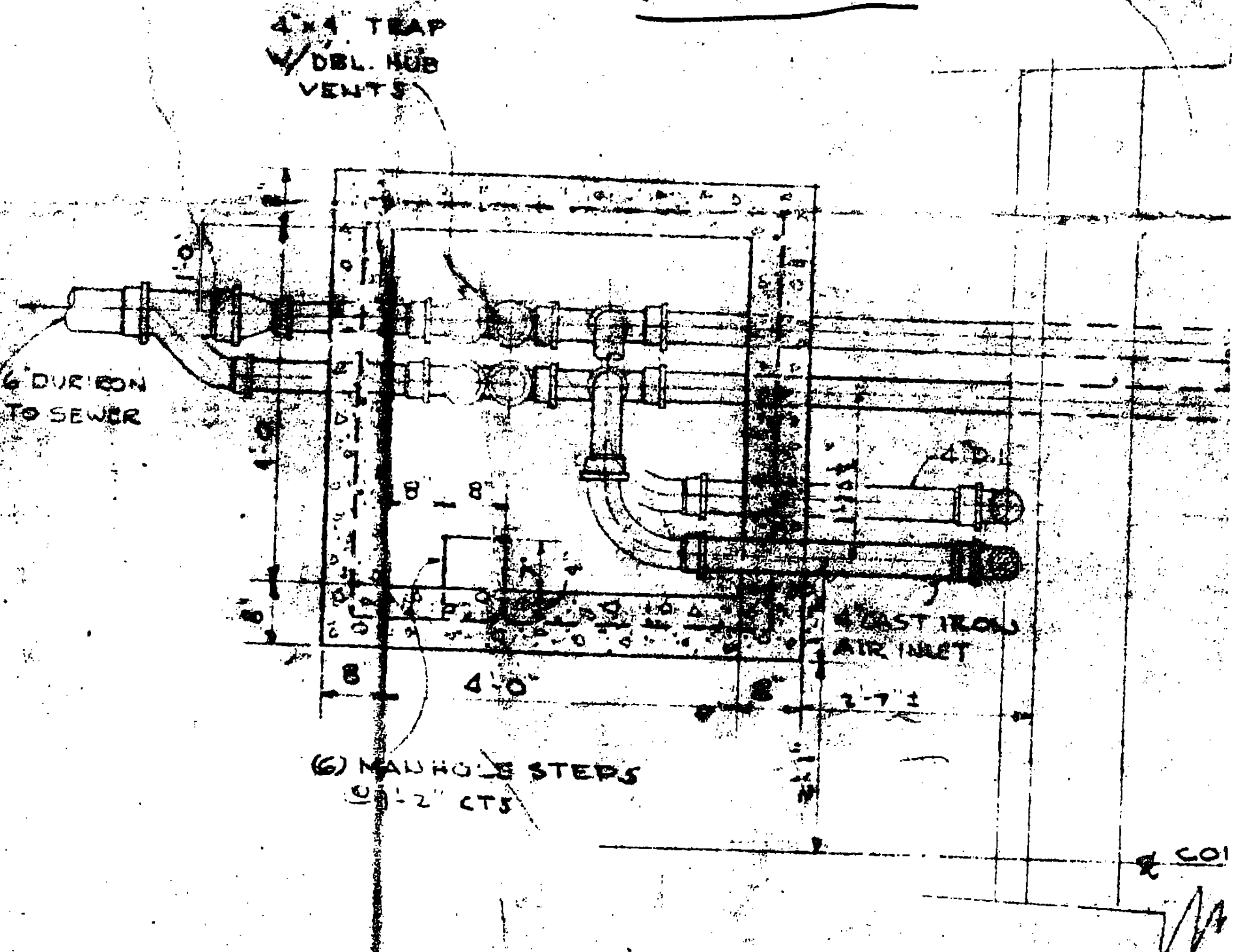
~~ PLATING ROOM ~

POINT 5.+6. (E+F)



MANHOLE COVER DETAIL

SCALE ½" - 1'-0"



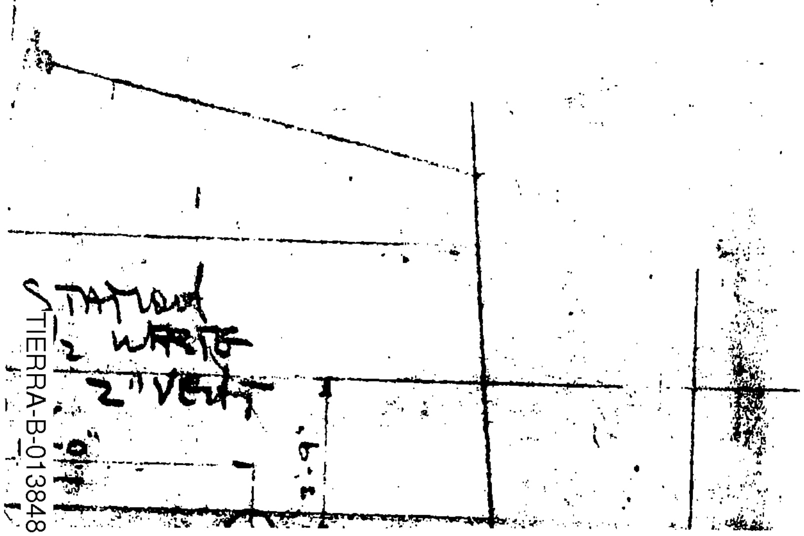
DRAIN PIPING & MANHOLE DETAIL

SCALE ½" = 1'-0"

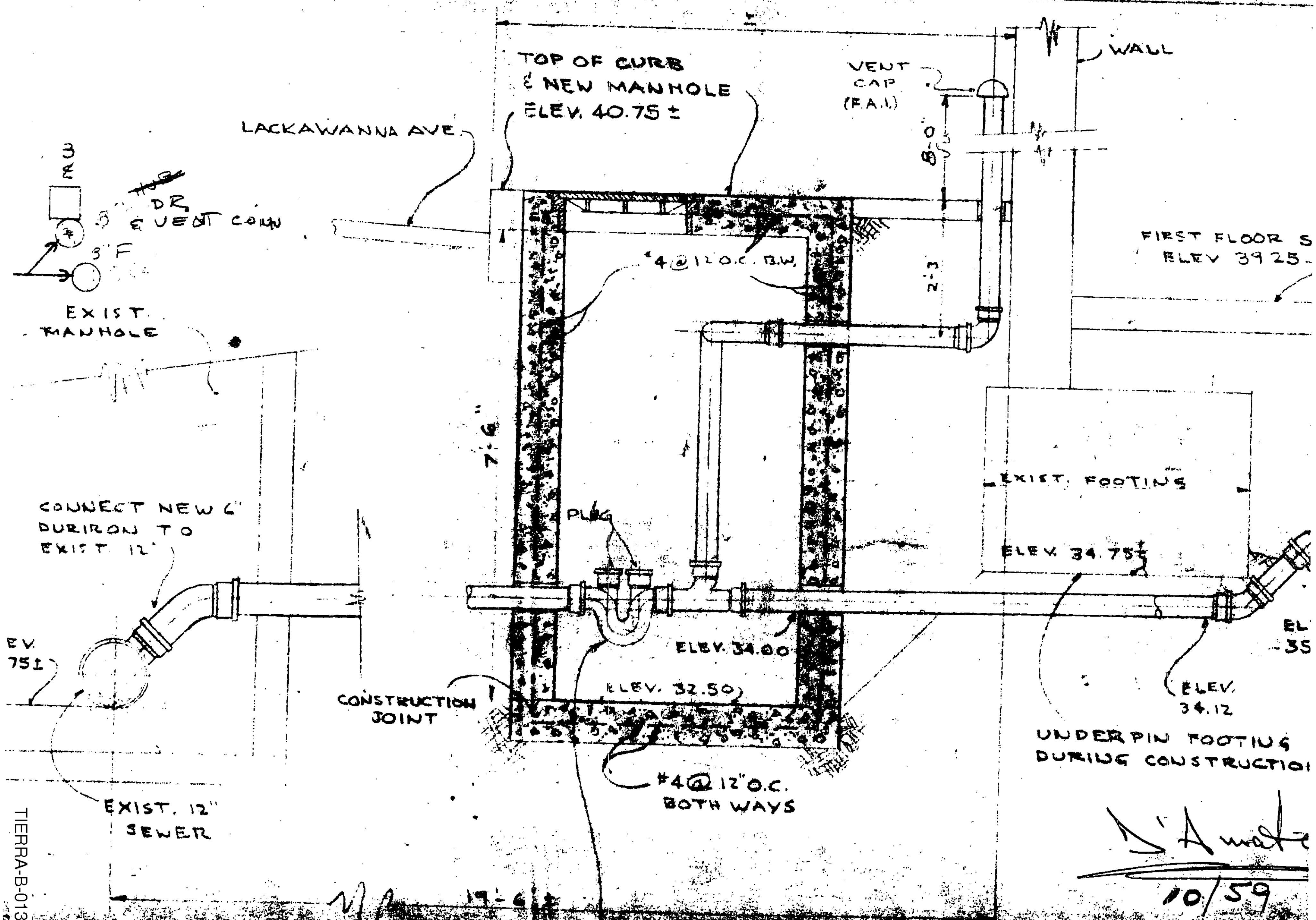
NOTE: - SK. A COLS. 3, 4 & 5 ADDED & PRINT TO SUIT EXISTING CONDITIONS.

NOTE: D.I. INDICATES DURIRON, CORROSIRON IS AND ACCEPTABLE.

ALL WORK SHALL CONFORM TO LOCAL PLU



I-1 PLAT G ROOM — "POINT 5" (E



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line					
	A	B	C	D	E	F
SAMPLING:						
Automatic	X	X	X	X	X	X
Manual						
FLOW MEASUREMENT:						
Automatic						
Depth of flow in in-pipe,veloc/cur. meter, dipper method						
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)						
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method						
90° v-notch weir in out-pipe, dipper method						
Insert flume in out-pipe, dipper method						
Inflatable flume in in-pipe, dipper method (up to 8"Ø)						
Weir-box w/inflatable tube, dipper method						
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method						
Manual						
Bucket & stop-watch (elevated sewers w/smaller flows)						
Trajectory method (elevated sewers) carpenters square						
Depth of flow in in-pipe, weir method						
Water meter readings	X	X	X	X	X	X

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C	D	E	F
AUTOMATIC						
Samplers	X	X	X	X	X	X
Harness						
Current Meter (velocity)						
Dye & Watch						
Dippers						
Rod & Transit						
Flumes						
Insert						
Inflatable						
4"						
6"						
8"						
10"						
12"						
15"						
Weirs v-notch (90^{o})						
4"						
6"						
8"						
10"						
12"						
15"						
Weir Box (inflatable)						
Packing						
Blocks						
Sand Bags						
Caulking						
MANUAL						
Bottles						
Bucket & watch						
Weirs (v-notch 90^{o})						
4"						
6"						
8"						
10"						
12"						
15"						
Carpenter's square with level						

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	374,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	< 0.1		
Lead (mg/l)	< 0.3		
Nickel (mg/l)	< 0.1		
Zinc (mg/l)	< 0.59		
Mercury (mg/l)	< .0007		
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7-31-78

Interviewed by: Scott & Van Malden

PVSC Industry #
N-1660

Industrial Wastewater

Questionnaire

"attach business card"

Part A

1) Industry Name Weston Instruments Divsion

2) Address 614 (No.) Freylinghuysen Avenue (Street) Newark (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Hank Gogerty (Name) Maint. Superv. (Title) 242-2600 (Telephone)

4) Type of Industry Mfr. electric test & Measuring equipmetn

5) Primary S.I.C. number, if available 3678
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Steel Brass Cu, Alum & Plastics

7) Principle Product(s) produced Electrical Test equip and Bimetal Therm.

8) Hours per day manufacturing operations are conducted ______

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 650

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013854

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

2,848,384 Gallons/Quarter

380,800 Cubic Feet/Quarter

Newark Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

25 % of Water Used in Actual Process

43 % of Water Discharged From Process

5 % of Water Discharged as Non-Contact Cooling Water

27 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

2 Meters -- 1 Located on Lawn at South End of Building 17. Other Located on Lawn at North End of Building 17. Both Meters in M.H.S.

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematic

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 42"

inside length 3' Ø (parallel with pipe)

inside width ______

entire depth 8'

junction manhole yes X no ___ # of in pipes 5

PIPES:

in pipe Ø 16",15",6",5",4" % full ______

out pipe Ø 16" % full 31

water depth in pipe 5" (outpipe)

surcharged yes ___ no X

CHANNEL:

water depth 6" benched yes ___ no X

water depth range Constant, but will flood in storm

water velocity 1.3 F.P.S. turburlence yes ___ no X

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ______ drop X

SAMPLING:

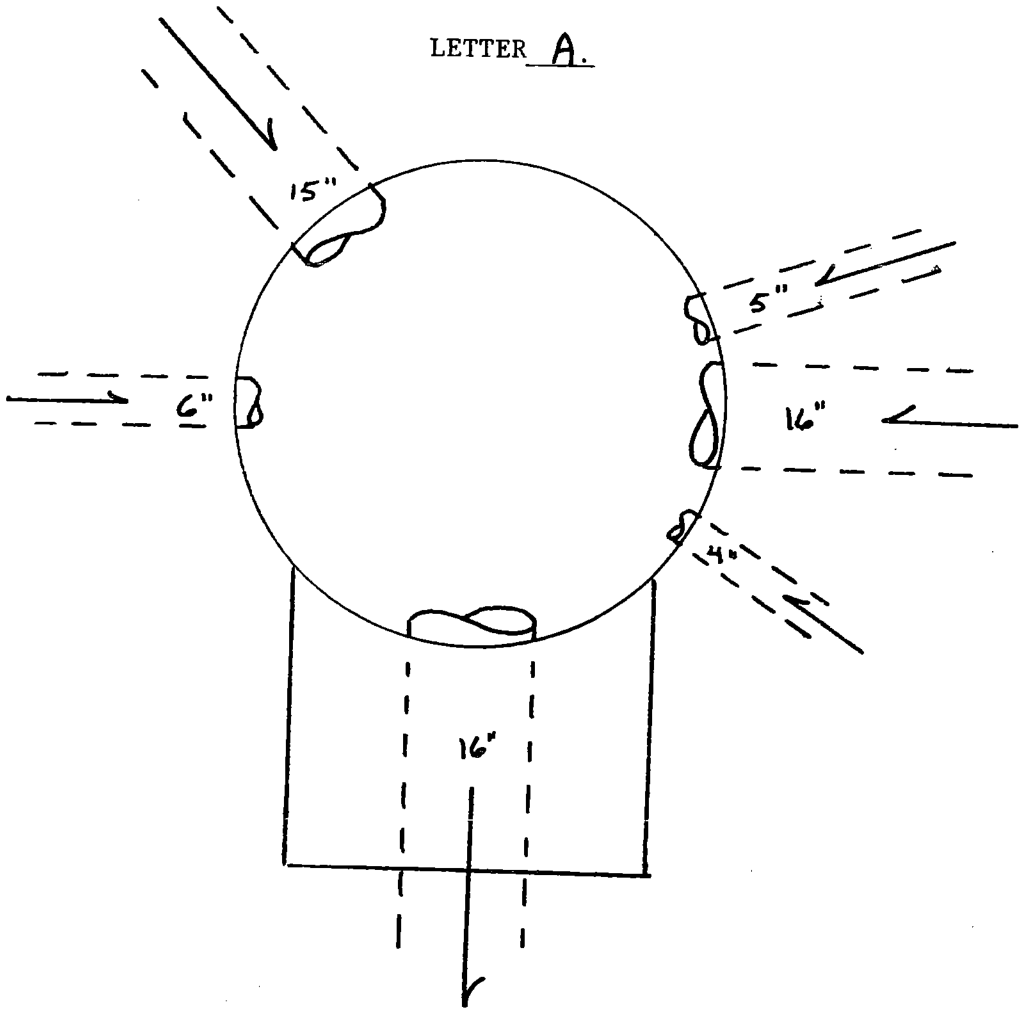
can be harnessed in MH ___ placed in MH X

or placed outside MH ___

(vandalism problem yes ___ no ___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TO FREYLINGHUYSEN AVE.

TIERRA-B-013859

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method	X		
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X		
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)	X		
4"			
6"			
8"			
10"			
12"			
~~XXX~~' 16"	X		
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			

MANUAL	A	B	C
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			
NOTES:			

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Should be sampled during dry weather.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	77,000		
Chromium (mg/l)			
Cadmium (mg/l)	0.095		
Copper (mg/l)	2.17		
Lead (mg/l)			
Nickel (mg/l)	2.7		
Zinc (mg/l)	1.1		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 7/10/78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

N-1670

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name J. WISS & SONS INC.

2) Address 400 (No.) W. MARKET STREET (Street) NEWARK (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
DICK HEGARTY	MGR. PLANT ENG.	622-4670

4) Type of Industry CUTLERY, MFG

5) Primary S.I.C. number, if available 3421
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used STEEL, N1,

7) Principle Product(s) produced SCISSORS, SHEARS & CUTLERY FORGINGS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency} (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 500

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

4,899,400 Gallons/Quarter

655,000 Cubic Feet/Quarter

NEWARK Name of City or Public Supply

Private Well Supply

3,627,800 Gallons/Quarter

485,000 Cubic Feet/Quarter (NON-CONTACT)

________ Well Pump(s) Gal/Min.

________ Pump Running time(s) Hrs/Day

∠5 % of Water Used in Actual Process

45.5 % of Water Discharged From Process

42.5 % of Water Discharged as Non-Contact Cooling Water

7 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

CHECK W/HEGARTY.

Industrial Wastewater

Questionnaire

Part B

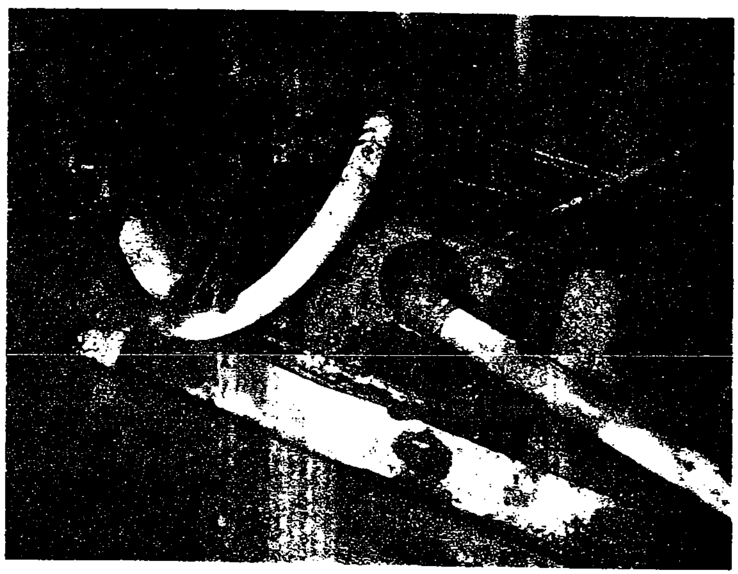
1) Number of metal contributing discharge points to municipal sewer: 3

2) Check off which of the below is in each metal discharge point:

	Line A (1)	Line B (2)	Line C (3)
Any detectable gas Process	X	X	X
N.C. Cooling	X	X	X
Sanitary	?	?	?
Storm	?	?	?

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 24" (parallel with pipe)

inside width 24"

entire depth 18"

junction manhole yes X no ____ # of in pipes 1 + CHANNEL

PIPES:

in pipe Ø 1 1/2" % full ______

out pipe Ø 1 1/2" % full ______

water depth in pipe ______

surcharged yes ____ no X

CHANNEL:

water depth 12" benched yes X no ____ (PIT)

water depth range 6 - 12"

water velocity ______ turburlence yes ____ no ____

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved ______ sloped ______

instantaneous flow ______ drop ______

SAMPLING:

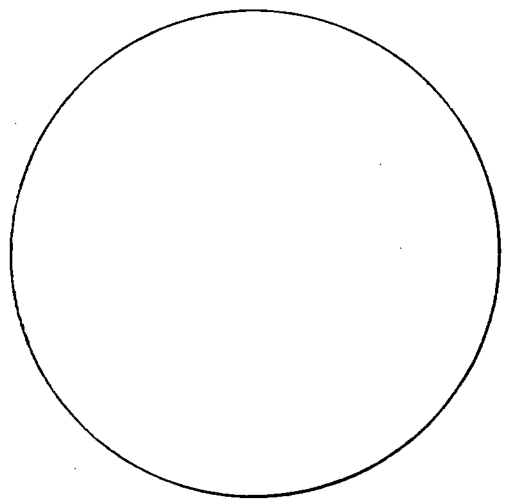
can be harnessed in MH ______ placed in MH ______

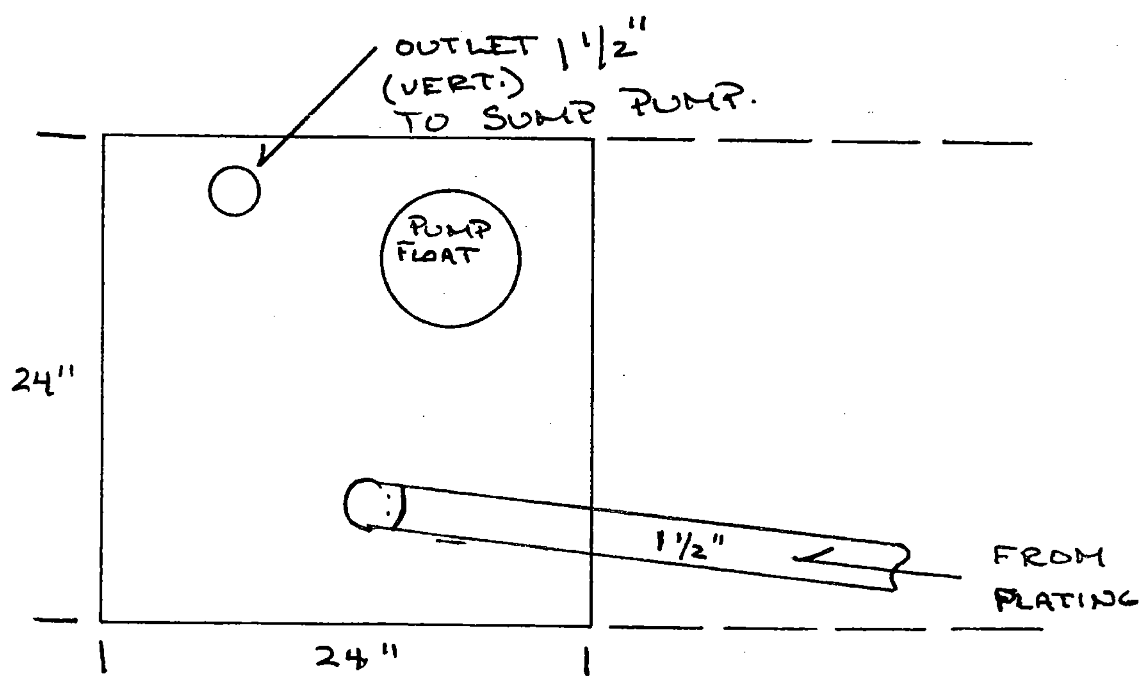
or placed outside MH X

(vandalism problem yes ____ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø ______

inside length 30" (parallel with pipe)

inside width 30"

entire depth ______

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 8" % full 0

out pipe Ø 8" % full 0

water depth in pipe 0

surcharged yes ____ no X

CHANNEL:

water depth 0 benched yes ____ no X

water depth range MAY FLOOD IN STORM

water velocity 0 turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ______ curved X sloped ______

instantaneous flow ______ drop ______

SAMPLING:

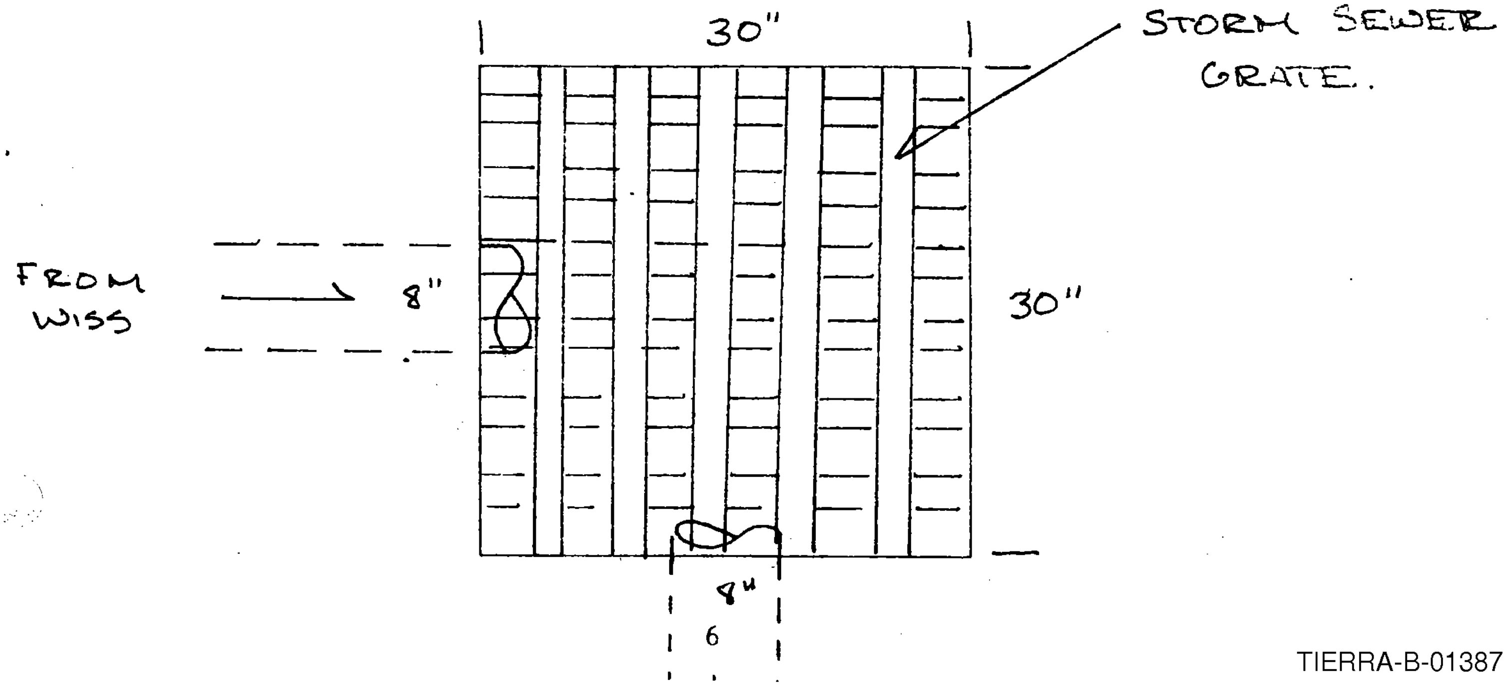
can be harnessed in MH ______ placed in MH ______

or placed outside MH X

(vandalism problem yes ? no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B.



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X	X	
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method		X	
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
DIPPER IN SUMP	X		
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	+ X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X	X	
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers	X	X	
Rod & Transit			
Flumes		X	
Insert		X	
Inflatable			
4"			
6"			
8"		X	
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013873

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

USE FLOW ACTIVATED MODE ON SAMPLER FOR LINE B.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	132,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)	3.75		
Nickel (mg/l)	2.4		
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 6-21-78

Interviewed by: SCOTT & VANMALDEN

PVSC Industry #

NT-1680

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name ATLANTIC CHEMICAL CORPORATION

2) Address 10 (No.) KINGSLAND AVENUE (Street) NUTLEY (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
CHARLES DANZIGER	VICE PRESIDENT	235-1800

4) Type of Industry DYESTUFFS MFG.

5) Primary S.I.C. number, if available 2869
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used SALT, ACIDS, ORGANIC AMINES

7) Principle Product(s) produced DYESTUFFS

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5½

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 175

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

46,376,000 Gallons/Quarter

6,200,000 Cubic Feet/Quarter

JERSEY CITY. Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

<1 % of Water Used in Actual Process

93.5% of Water Discharged From Process

5 % of Water Discharged as Non-Contact Cooling Water

.5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

METER LOCATED IN PIT COVERED BY WOOD SHED BEHIND CO. IN SHOPPING CENTER PARKING LOT.

Industrial Wastewater

Questionnaire

Part B

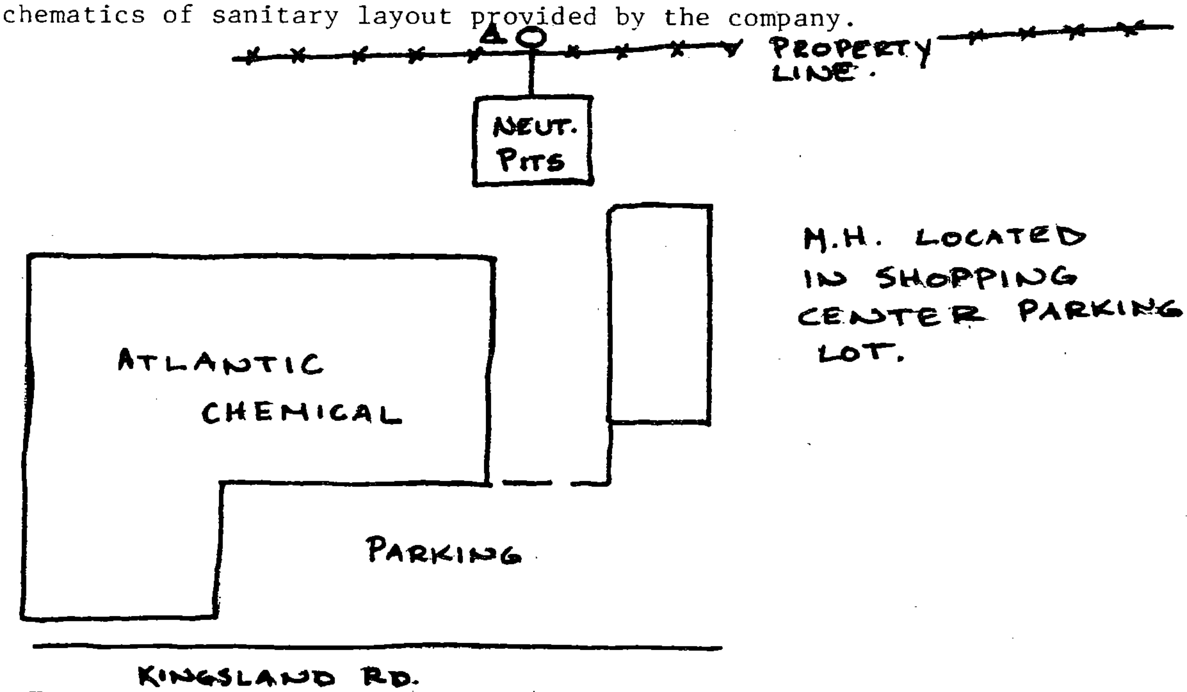
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

□ W.M.



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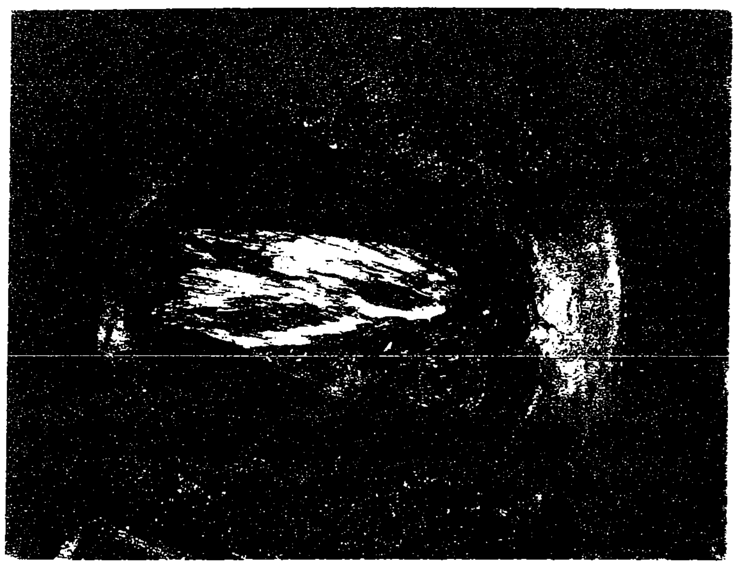


4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 22"

inside length 5'Ø (parallel with pipe)

inside width ____

entire depth 6'

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 10" % full 40

out pipe Ø 10" % full 50

water depth in pipe 4"

surcharged yes ____ no X

CHANNEL:

water depth 3" benched yes ____ no X

water depth range COULD FLOOD IN STORM

water velocity ____ turburlence yes X no ____ (MODERATE)

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

can be harnessed in MH X* placed in MH ____

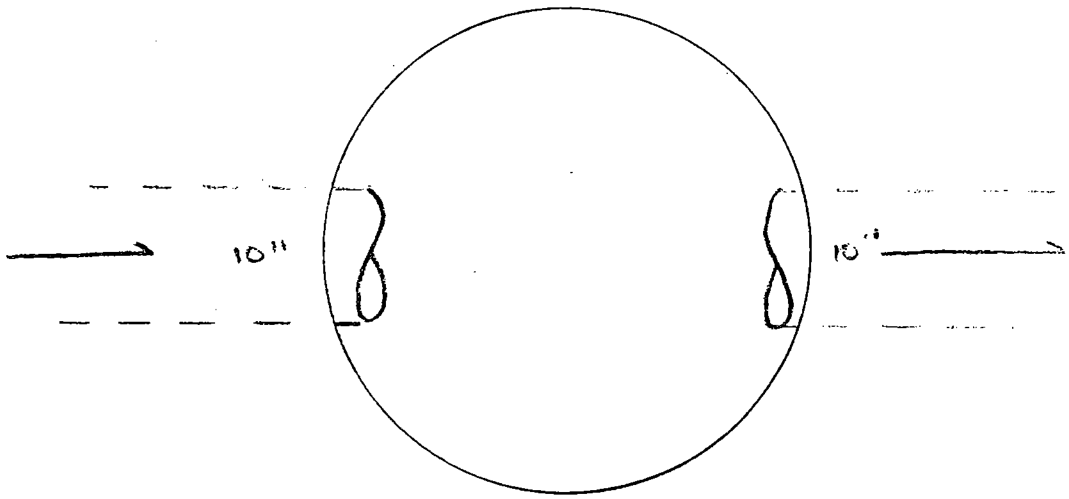
or placed outside MH ____

(vandalism problem yes___ no X)

*NOTE: SAMPLER CAN BE PLACED BY NEUT. PIT.

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method	X		
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes	X		
Insert	X		
Inflatable			
4"			
6"			
8"			
10"	X		
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

SAMPLER SHOULD BE PLACED BY OUTLET OF NEUTRALIZATION PITS.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

____

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

____

____

____

____

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	65,800		
Chromium (mg/l)	0.26		
Cadmium (mg/l)			
Copper (mg/l)	0.54		
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 3-17-78 Interviewed by: Standfast & Bartley

PVSC Industry #

NT 1690

Industrial Wastewater

Questionnaire

"attach business card"

Part A

1) Industry Name Hoffman - LaRoche Inc.

2) Address 340 (No.) Kingsland St. (Street) Nutley (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Mark Lewis (Name) Super. Environmental Control (Title) 235-5000 (Telephone)

4) Type of Industry Pharmaceutical

5) Primary S.I.C. number, if available 2833
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Organic & Inorganic Chemicals

7) Principle Product(s) produced Vitamins, Pharmaceuticals, Fine Chemicals

8) Hours per day manufacturing operations are conducted 24

Days per week manufacturing operations are conducted 7

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 7000

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

392,500,000 Gallons/Quarter

57,473,262 Cubic Feet/Quarter

P.V.W.C., Name of City or Public Supply
Jersey City

Private Well Supply

16,850,000 Gallons/Quarter

(calc.)
2,252,674 Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

4 Wells, 3 Active, 1 Backup

____% of Water Used in Actual Process

____% of Water Discharged From Process

____% of Water Discharged as Non-Contact Cooling Water

____% of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: One

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	X	N.C. Cooling		N.C. Cooling	
Sanitary	X	Sanitary		Sanitary	
Storm	X	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER ____

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range ___________________

water velocity _____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ________________ drop __________

SAMPLING:

can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

(vandalism problem yes___ no___)

TIERRA-B-013890

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER____

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings			

Use Hoffman LaRoche Meter.

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

Use Hoffman LaRoche
Flow Measuring Device

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Sampler can be placed by flume of Pre-treatment Facility.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

Yes

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

Neutralization.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	Updated
Daily Flow (Gal/Day)	6,100,000		4,200,000
Chromium (mg/l)	0.363		0.013
Cadmium (mg/l)	7.001		Not monitored
Copper (mg/l)			0.37
Lead (mg/l)	0.15		0.14
Nickel (mg/l)	0.769		0.15
Zinc (mg/l)	2.58		1.5
Mercury (mg/l)	0.5		0.0027
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 5-15-78 Interviewed by: Scott & Van Malden

PVSC Industry #
NT 1700

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name ITT

2) Address 100 (No.) Kingsland Road (Street) Nutley (Municipality)

3) Responsible Person to whom further inquiries should be directed:

T.W.E. Bowdler, Plant Engineer (Name) _____ (Title) 284-2752 (Telephone)

4) Type of Industry Electronics Mfg.

5) Primary S.I.C. number, if available 3670
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Electronic Components

7) Principle Product(s) produced Electronic Communications System

8) Hours per day manufacturing operations are conducted 16

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 1250

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
37, 6 Mil	Gallons/Quarter		Gallons/Quarter
	Cubic Feet/Quarter		Cubic Feet/Quarter
J.C.W.	Name of City or Public Supply		Well Pump(s) Gal/Min.
			Pump Running time(s) Hrs/Day

2 % of Water Used in Actual Process

40 % of Water Discharged From Process

32 % of Water Discharged as Non-Contact Cooling Water

26 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

See Schematic

Industrial Wastewater

Questionnaire

Part B

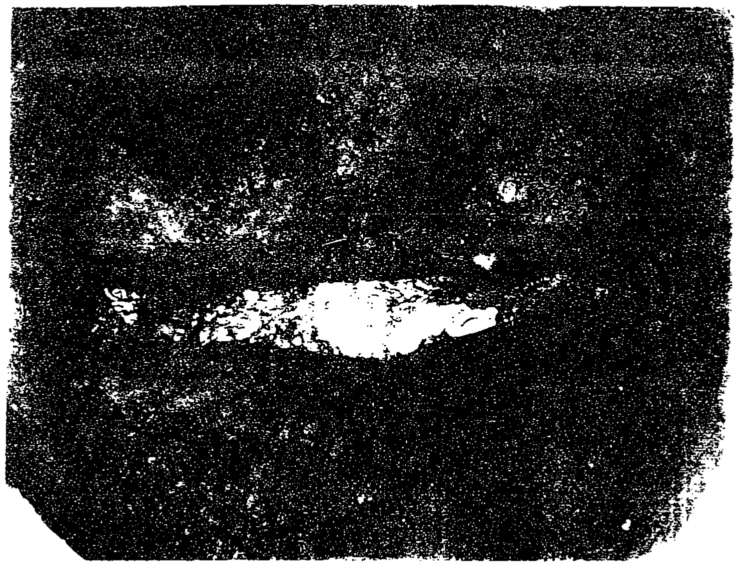
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process	X	Process	X
N.C. Cooling	X	N.C. Cooling	X	N.C. Cooling	X
Sanitary	X	Sanitary	X	Sanitary	X
Storm	-	Storm	-	Storm	-

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematics



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 22

inside length 4'Ø (parallel with pipe)

inside width ____

entire depth 7'

junction manhole yes X no ____ # of in pipes 3

PIPES:

in pipe Ø 8", 8", 6" % full ____

out pipe Ø 12" % full 20

water depth in pipe 2.5"

surcharged yes ____ no X

CHANNEL:

water depth 1" benched yes ____ no X

water depth range 1-6"

water velocity 1 FPS turburlence yes X no ____ (Mild)

super critical velocity yes ____ no X

roll in front of stake X roll behind stake ____

channel configuration straight ____ curved X sloped ____

instantaneous flow ____ drop ____

SAMPLING:

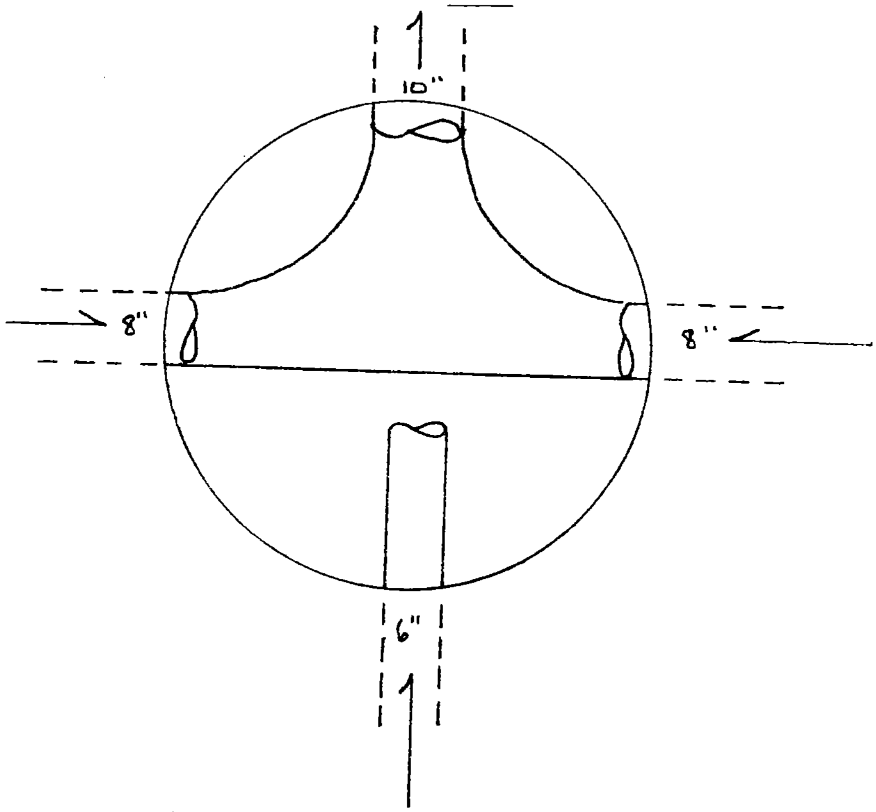
can be harnessed in MH X placed in MH ____

or placed outside MH ____

(vandalism problem yes ____ no ____)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø 22"

inside length 4'Ø (parallel with pipe)

inside width ______

entire depth 9'

junction manhole yes X no ____ # of in pipes 2

PIPES:

in pipe Ø 8", 10" % full ______

out pipe Ø 10" % full 2-

water depth in pipe 2"

surcharged yes ____ no X

CHANNEL:

water depth 5" benched yes X no ____

water depth range 3-6"

water velocity < .5 FPS turburlence yes ____ no X

super critical velocity yes ____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight X curved X sloped ______

instantaneous flow ______ drop ______

SAMPLING:

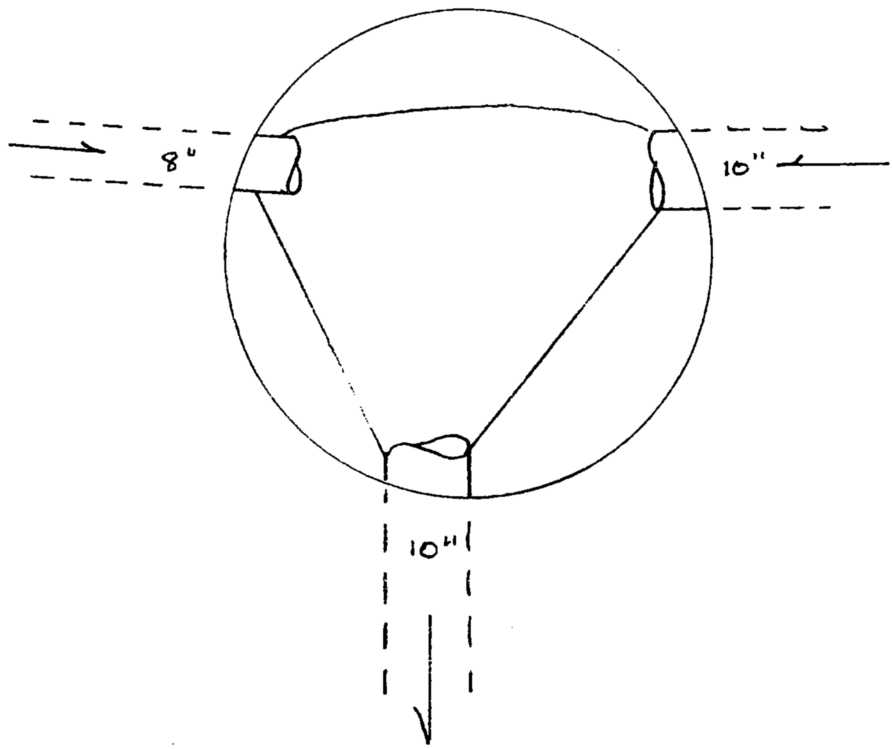
can be harnessed in MH X placed in MH ______

or placed outside MH ______

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B



TIERRA-B-013904

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER C

MANHOLE:

(circular) surface ∅ 22"

inside length 5'∅ (parallel with pipe)

inside width ____

entire depth 77"

junction manhole yes X no ____ # of in pipes 5

PIPES:

in pipe ∅ 8",15",6",4" % full ____

out pipe ∅ 10" % full 20

water depth in pipe 2" (Outpipe)

surcharged yes ____ no X

CHANNEL:

water depth 2" benched yes ____ no X

water depth range Constnat

water velocity 1 FPS turburlence yes X no ____ (Mild)

super critical velocity yes ____ no X

roll in front of stake X roll behind stake ____

channel configuration straight ____ curved X sloped ____ drop X

instantaneous flow ____

SAMPLING:

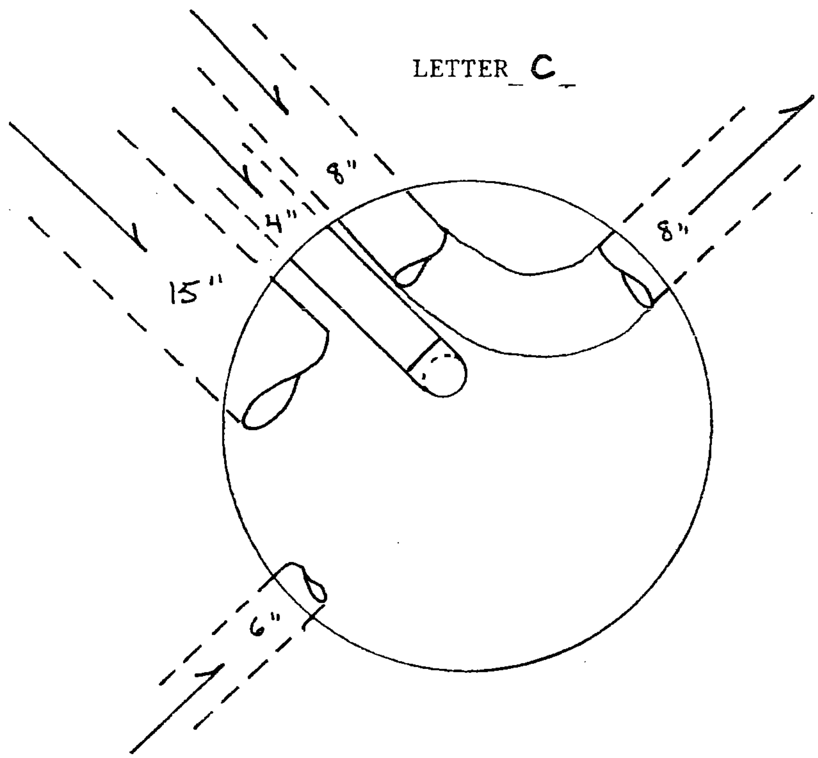
can be harnessed in MH ____ placed in MH ____

or placed outside MH X

(vandalism problem yes ____ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER C



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X	X	X
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X	X	X

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X	X	X
Harness	X	X	X
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013908

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)			
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

TIERRA-B-013910

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 6/14/78 Interviewed by: Scott & Van Malden

PVSC Industry #

NT-1710

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name Oxy- Metal Industries Corp. (Sel-Rex Co.)

2) Address 75 (No.) River Road (Street) Nutley (Municipality)

3) Responsible Person to whom further inquiries should be directed:

George Graham (Name) Plant Manager (Title) 667-5200 (Telephone)

4) Type of Industry Mfg. of Precious Metals Electroplating Salts

5) Primary S.I.C. number, if available 2899
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Precious Metals, Acid, Cyanide

7) Principle Product(s) produced Electroplating Salts

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ____
Times of Day ____

9) Number of employees at this location 160

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013911

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

15,741,660 Gallons/Quarter

2,104,500 Cubic Feet/Quarter

Nutley Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

95 % of Water Used in Actual Process

3.8% of Water Discharged From Process

-- % of Water Discharged as Non-Contact Cooling Water

1.2% of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter: Check w/ George Graham.

Industrial Wastewater

Questionnaire

Part B

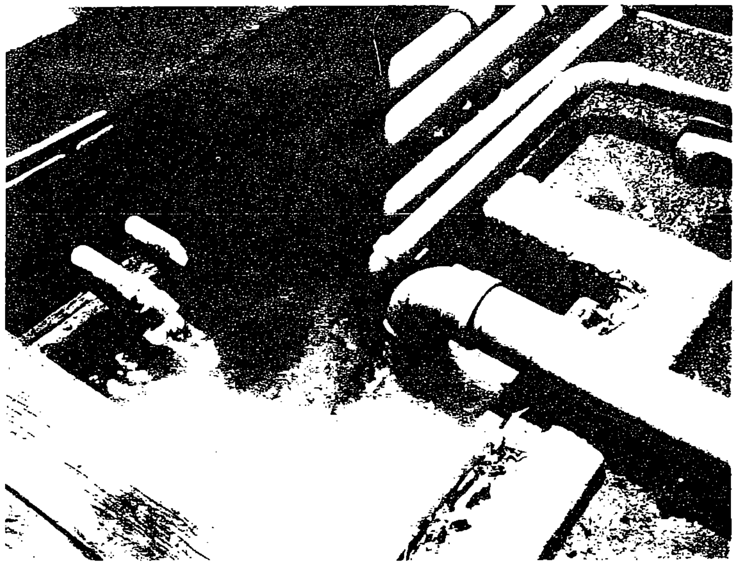
1) Number of metal contributing discharge points to municipal sewer: 2

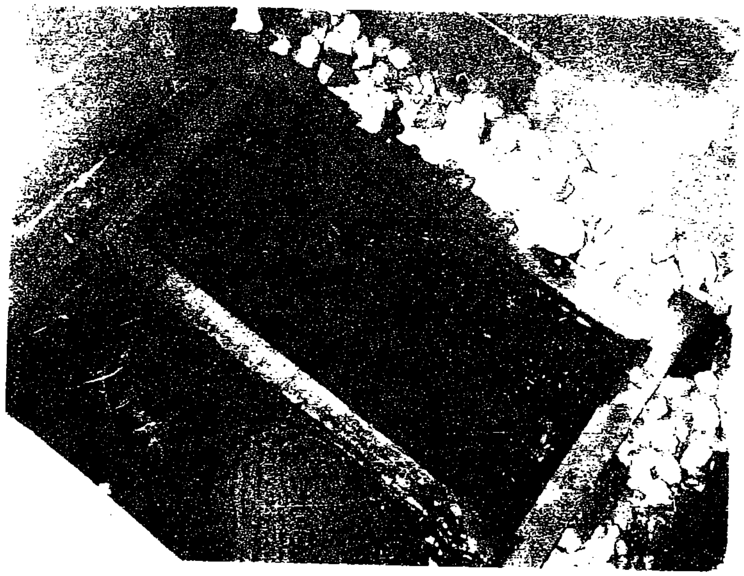
2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process	X	Process	X
N.C. Cooling	-	N.C. Cooling	-	N.C. Cooling	-
Sanitary	-	Sanitary	-	Sanitary	-
Storm	-	Storm	-	Storm	-

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematic





4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 20' (parallel with pipe)

inside width 27"

entire depth 27"

junction manhole yes X no ___ # of in pipes 10

PIPES:

in pipe Ø 3 - 1", 3 - 4", 2 - 3", 2 - 2" % full ______

out pipe Ø 4", 4" % full 90

water depth in pipe 3½" (outpipes)

surcharged yes X no ___

CHANNEL:

water depth 21" benched yes X no ___ (Pit)

water depth range Constant

water velocity ______ turburlence yes ___ no X

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ______ drop ___

SAMPLING:

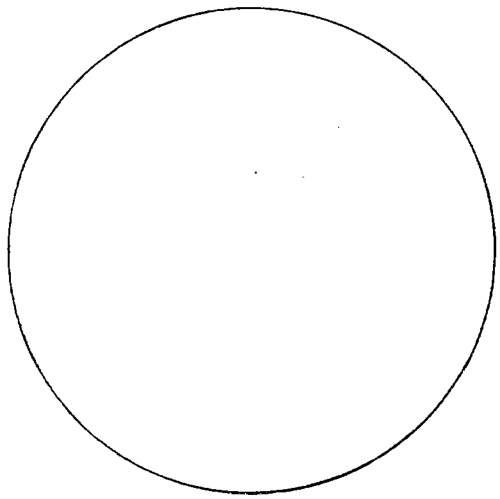
can be harnessed in MH ___ placed in MH ___

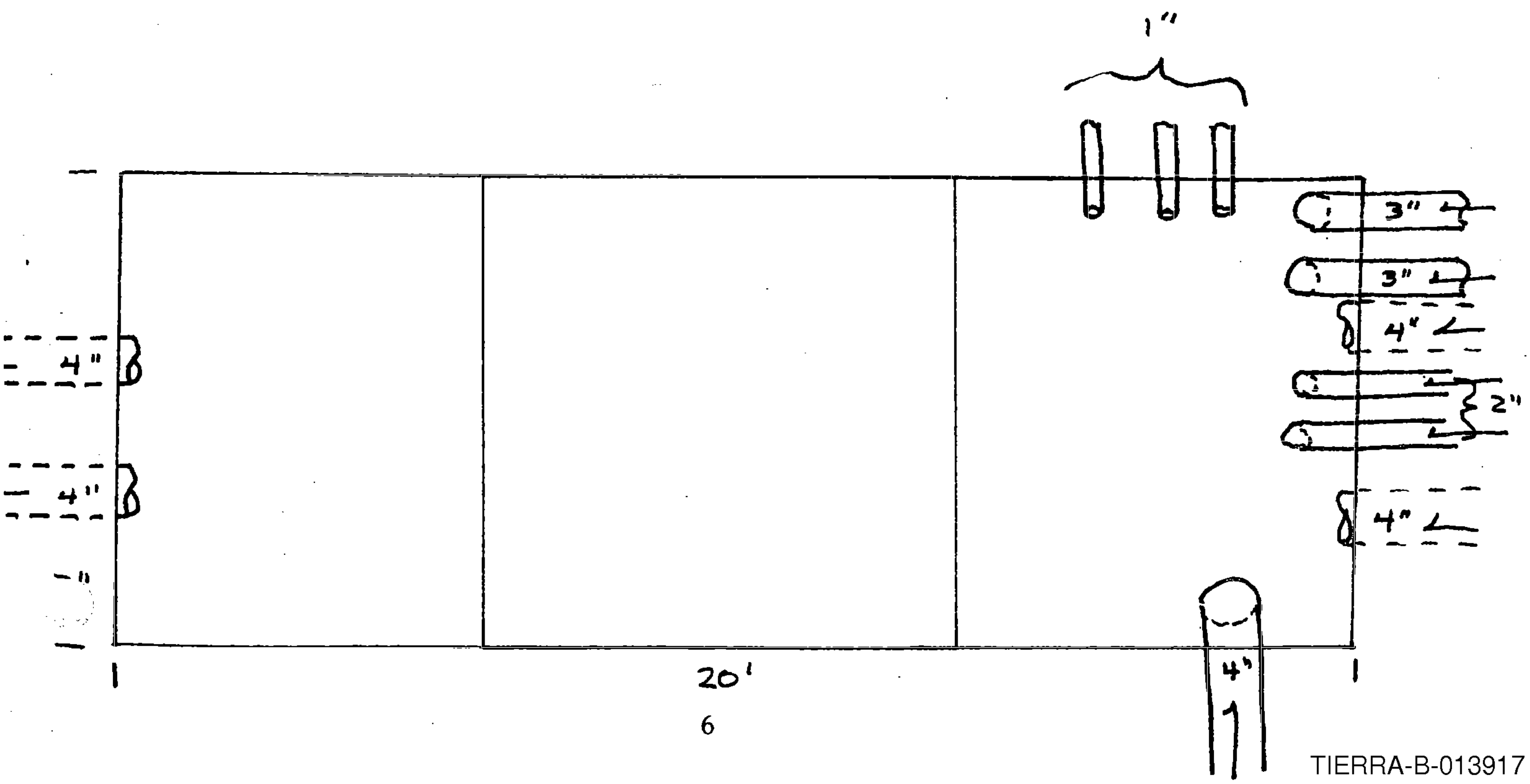
or placed outside MH X

(vandalism problem yes ___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A





4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø ________

inside length 15' (parallel with pipe)

inside width 25"

entire depth 25"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 4" % full 100

out pipe Ø 4" % full 100

water depth in pipe 4"

surcharged yes X no____

CHANNEL:

water depth 18" benched yes X no____(Pit)

water depth range Constant

water velocity 25 FPS turburlence yes____ no X

super critical velocity yes____ no X

roll in front of stake X roll behind stake ____

channel configuration straight X curved ____ sloped ____

instantaneous flow ____ drop ____

SAMPLING:

can be harnessed in MH ____ placed in MH ____

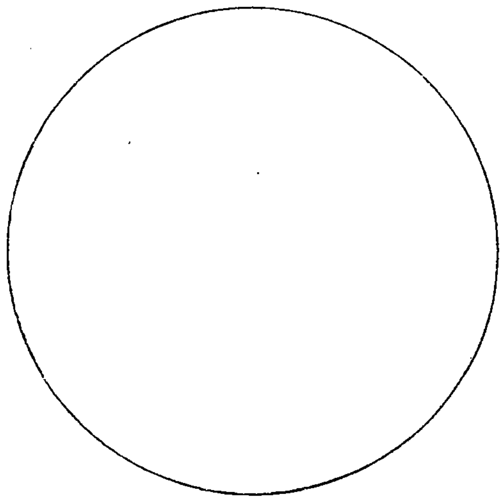
or placed outside MH X

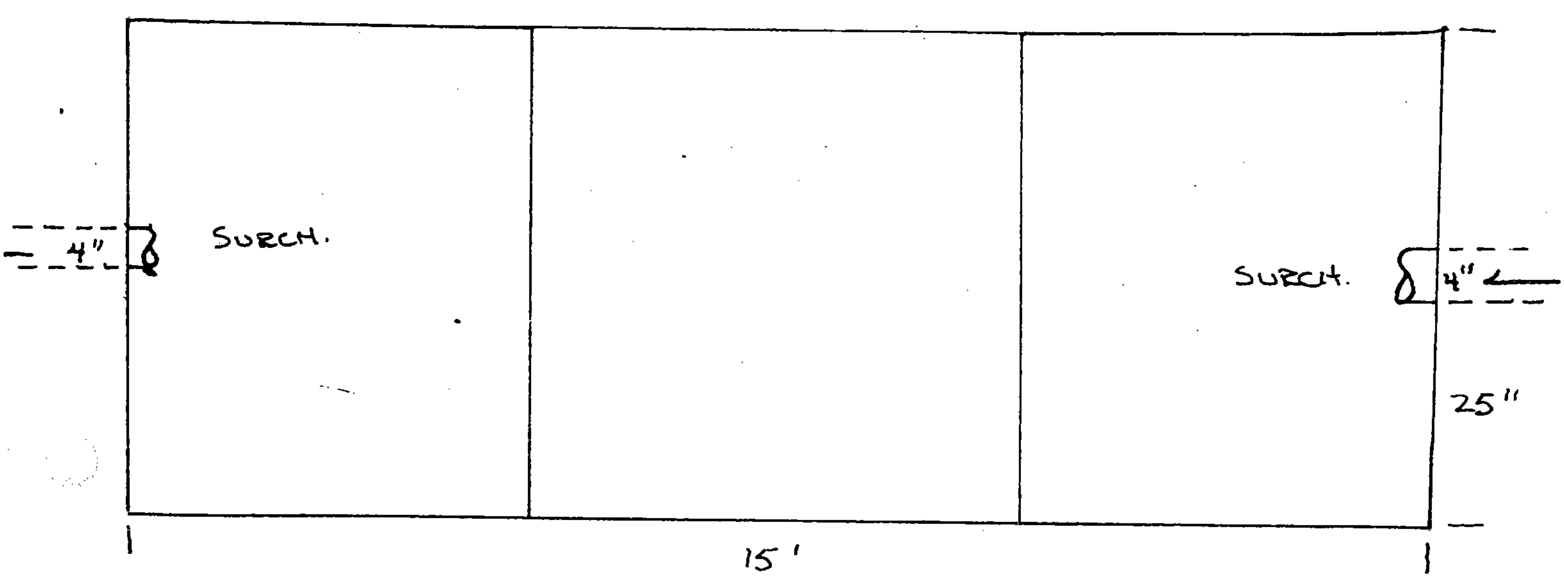
(vandalism problem yes____ no X)

TIERRA-B-013918

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B.





4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER C

MANHOLE:

(circular) surface Ø ______

inside length 15' (parallel with pipe)

inside width 25"

entire depth 25"

junction manhole yes X no ___ # of in pipes 4

PIPES:

in pipe Ø 4",4",4",2" % full 50,50,50,25

out pipe Ø 6" % full 100

water depth in pipe ______

surcharged yes X no ___ (outpipe)

CHANNEL:

water depth 19" benched yes X no ___ (Pit)

water depth range Constant

water velocity ______ turburlence yes X no ___ (Mild)

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight X curved ___ sloped ___

instantaneous flow ______ drop ___

SAMPLING:

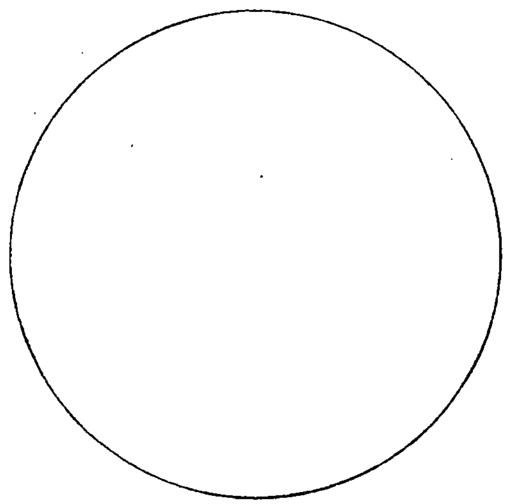
can be harnessed in MH ___ placed in MH ___

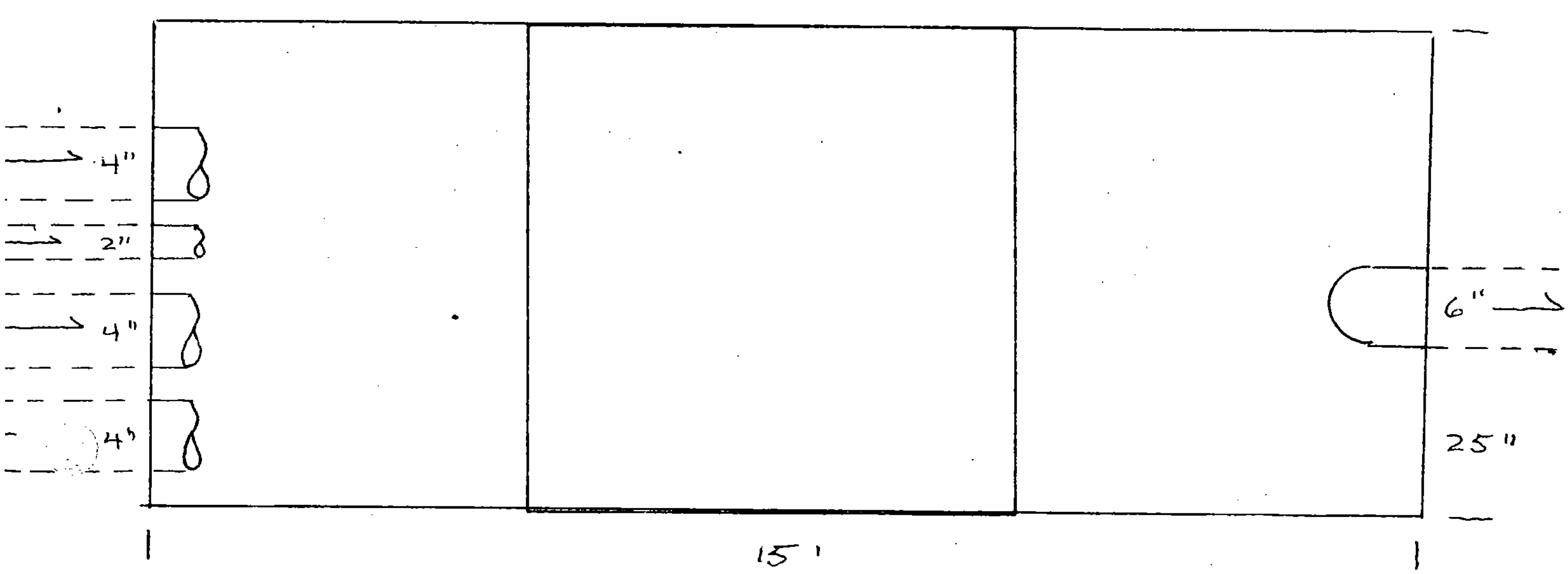
or placed outside MH X

(vandalism problem yes ___ no X)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER C.





TIERRA-B-013921

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line		
	A	B	C
SAMPLING:			
Automatic	X	X	X
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method	[1] X		
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	[2] X	X	X

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers			
Harness	X	X	X
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit	X		
Flumes			
Insert	X		
Inflatable	X		
4"			
6"	X		
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			

MANUAL	A	B	C
Bottles			
Bucket & watch			
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

Yes

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

pH Adjustment

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	172,500		
Chromium (mg/l)	2.4		
Cadmium (mg/l)			
Copper (mg/l)	0.24		
Lead (mg/l)	2.4		
Nickel (mg/l)	0.24		
Zinc (mg/l)	0.24		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 6/28/78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #
0-1720

Industrial Wastewater
Questionnaire
Part A

"attach business card"

1) Industry Name T & E INDUSTRIES, INC.

2) Address 422 (No.) ALDEN STREET (Street) ORANGE (Municipality)

3) Responsible Person to whom further inquiries should be directed:

LEONARD BOX (Name) PRESIDENT (Title) 672-5454 (Telephone)

4) Type of Industry MFG. ELECTRONIC TERMINALS & CONNECTORS

5) Primary S.I.C. number, if available 3229
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used STEEL, GLASS Cu, Sn, Ni.

7) Principle Product(s) produced ELECTRONIC TERM. & CONNECTORS

8) Hours per day manufacturing operations are conducted 9

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 49

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

860,200 Gallons/Quarter

115,000 Cubic Feet/Quarter

ORANGE Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

60 Well Pump(s) Gal/Min.

VARIES Pump Running time(s) Hrs/Day

CHK. WHEN SAMPLING TO SEET IF WELL IS IN USE. (ONLY USED OCCASIONALLY)

$<$ 5 % of Water Used in Actual Process

78 % of Water Discharged From Process

10 % of Water Discharged as Non-Contact Cooling Water

7 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

1 METER LOCATED IN CLOSET BY ENTRANCE TO BLDG.

Industrial Wastewater

Questionnaire

Part B

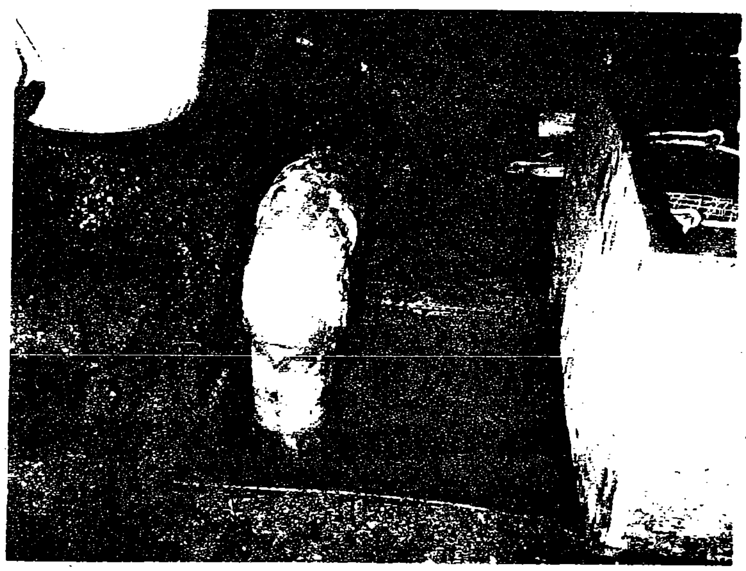
1) Number of metal contributing discharge points to municipal sewer:__________

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	--	N.C. Cooling		N.C. Cooling	
Sanitary	--	Sanitary		Sanitary	
Storm	--	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER ____

MANHOLE:

(circular) surface Ø ____________

inside length 14" x 14" (parallel with pipe)

inside width ____________

entire depth 15"

junction manhole yes____ no X # of in pipes 1

PIPES:

in pipe Ø 3" % full ____________

out pipe Ø NOT VISIBLE % full ____________

water depth in pipe ____________

surcharged yes X no____

CHANNEL:

water depth 14 1/2" benched yes X no____ (PIT)

water depth range CONSTANT

water velocity ____________ turburlence yes ____ no ____

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ____________ curved ____________ sloped ____________

instantaneous flow ____________ drop ____________

SAMPLING:

can be harnessed in MH ________ placed in MH ____________

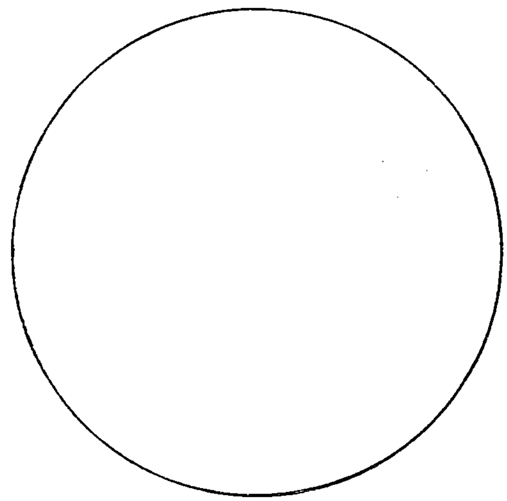
or placed outside MH X

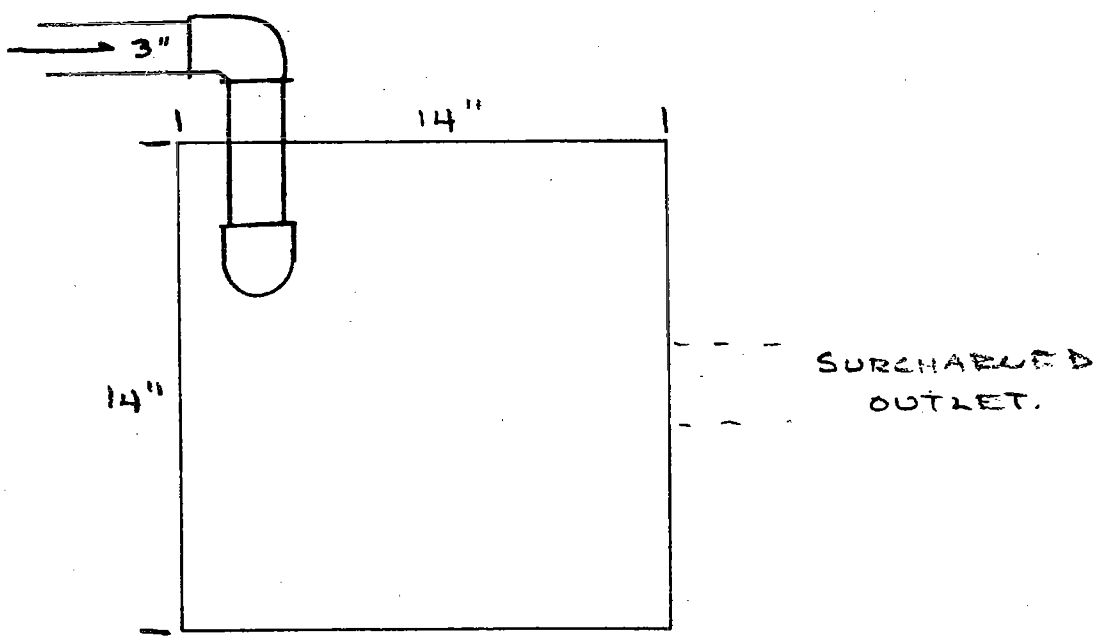
(vandalism problem yes____ no X)

TIERRA-B-013930

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





TIERRA-B-013931

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe, veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows) 1	X		
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings 2	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

AUTOMATIC	A	B	C
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			

MANUAL	A	B	C
Bottles			
Bucket & watch	X		
Weirs (v-notch 90°)			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013933

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

BE CAUTIOUS OF LOW pH.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

YES

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

NEUTRALIZATION WITH LIMESTONE.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	23,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)	.076		
Nickel (mg/l)	.079		
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-28-78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

PS-1730

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name AMERICAN BRAND TEXTILE CORP.

2) Address 35 (No.) 8TH STREET (Street) PASSAIC (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
MRS. WOLF	BOOKEEPER	779-8550

4) Type of Industry DYEING & KNITTING

5) Primary S.I.C. number, if available 2259
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used SALT, SODA ASH, ACETIC ACID FOR MALDEHYDE

7) Principle Product(s) produced DYED AND FINISHED GOODS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 20

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

TIERRA-B-013936

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

3,287,460 Gallons/Quarter

439,500 Cubic Feet/Quarter

P.V.W.C. Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

15 % of Water Used in Actual Process

84 % of Water Discharged From Process

\- % of Water Discharged as Non-Contact Cooling Water

1 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter: CHECK W/MRS. WOLF AT TIME OF SAMPLING

Industrial Wastewater

Questionnaire

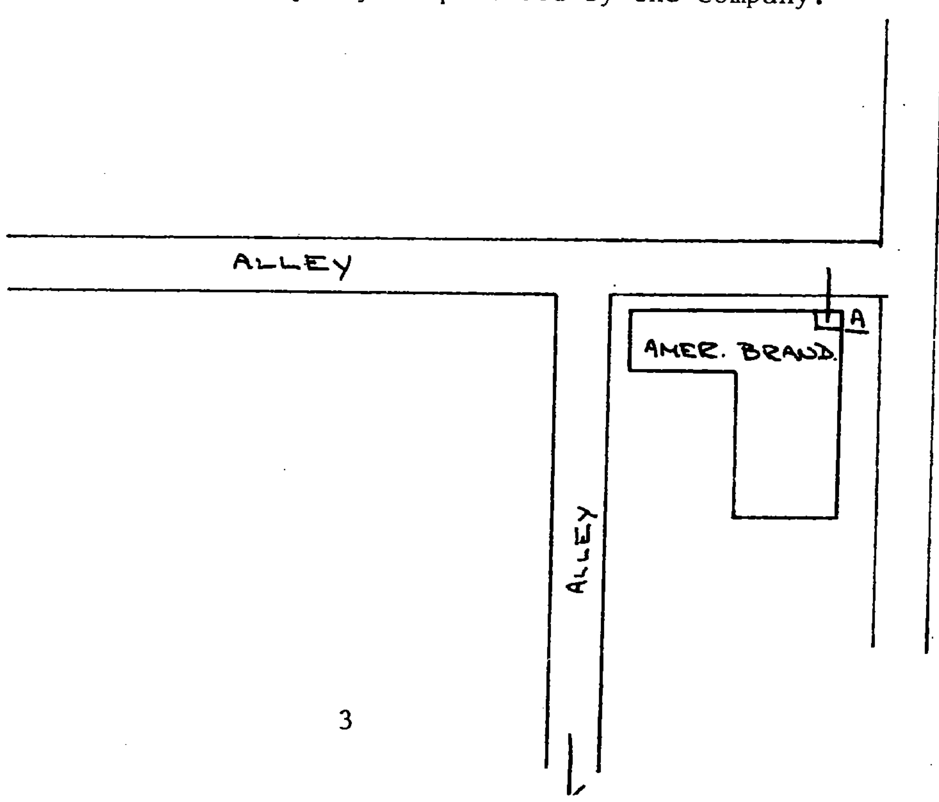
Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	✓	Process		Process	
N.C. Cooling		N.C. Cooling		N.C. Cooling	
Sanitary		Sanitary		Sanitary	
Storm		Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø ______

inside length 18" (parallel with pipe)

inside width 46"

entire depth 13"

junction manhole yes ___ no x # of in pipes 1 CHANNEL

PIPES:

in pipe Ø CHANNEL % full ______

out pipe Ø 6" % full 5

water depth in pipe 5" (OUTPIPE)

surcharged yes ___ no x

CHANNEL:

water depth .5" benched yes x no ___ (PIT)

water depth range CONSTANT

water velocity ______ turburlence yes ___ no x

super critical velocity yes ___ no ___

roll in front of stake x roll behind stake ___

channel configuration straight x curved ___ sloped ___

instantaneous flow ______ drop x

SAMPLING:

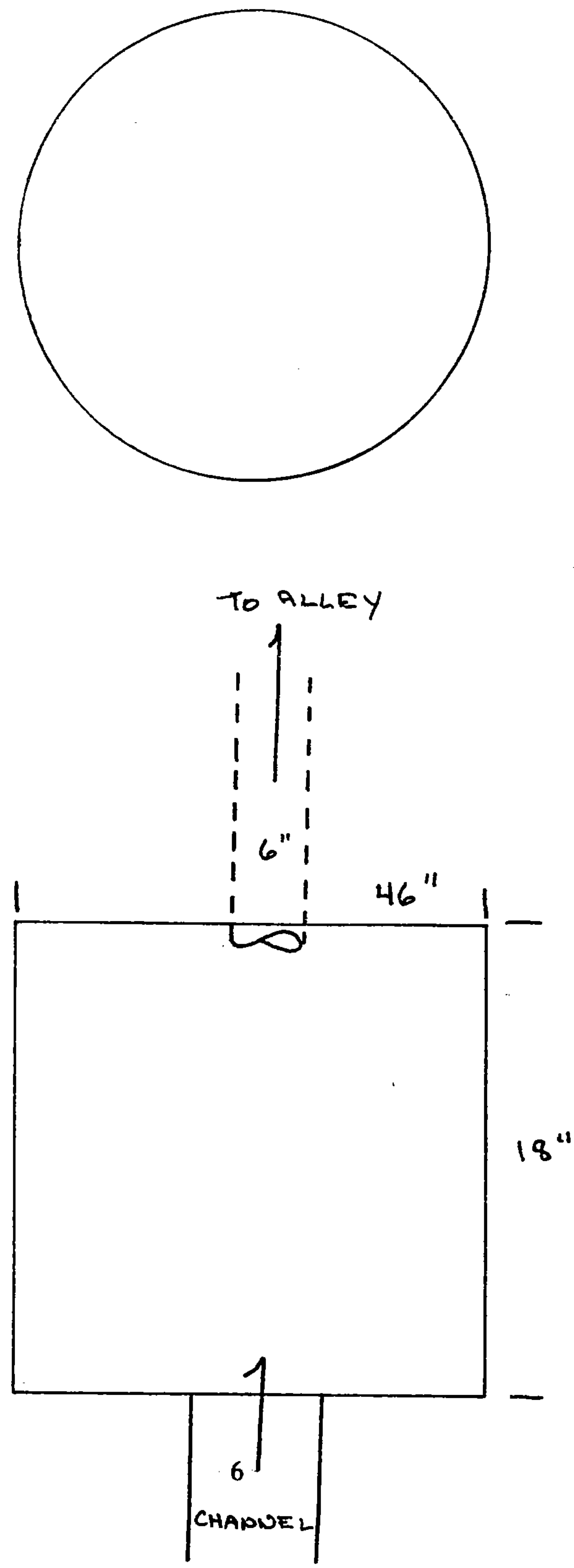
can be harnessed in MH ___ placed in MH ___

or placed outside MH x

(vandalism problem yes ___ no x)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A



TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	x		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	x		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	x		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013943

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

NOT POSSIBLE TO UTILIZE PRIMARY DEVICE TO MEASURE FLOW AS:

1. DROP FROM CHANNEL CREATES TOO MUCH TURBULENCE.

2. NARROW LENGTH WILL NOT ALLOW INSTALLATION OF FLUME.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	10,000		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	1.25		
Lead (mg/l)	0.2		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-28-78 Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

PS-1740

Industrial Wastewater

Questionnaire

Part A

"attach business card"

1) Industry Name APPLIKAY TEXTILE PROCESS CORP.

2) Address 35 (No.) 8TH STREET (Street) PASSAIC (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
MORTON MACK	PRESIDENT	778-8509

4) Type of Industry PRINTING & FINISHING OF TEXTILES

5) Primary S.I.C. number, if available 2261
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used PIGMENTS, MINERAL SPIRITS
RESINS

7) Principle Product(s) produced FINISHED TEXTILES

8) Hours per day manufacturing operations are conducted 18

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 50

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply

1,500,000 Gallons/Quarter(EST.)

__________ Cubic Feet/Quarter

P.V.W.C. Name of City or Public Supply

Private Well Supply

__________ Gallons/Quarter

__________ Cubic Feet/Quarter

__________ Well Pump(s) Gal/Min.

__________ Pump Running time(s) Hrs/Day

15 % of Water Used in Actual Process

74 % of Water Discharged From Process

3 % of Water Discharged as Non-Contact Cooling Water

8 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

CHECK WITH MACK AT TIME OF SAMPLING.

Industrial Wastewater

Questionnaire

Part B

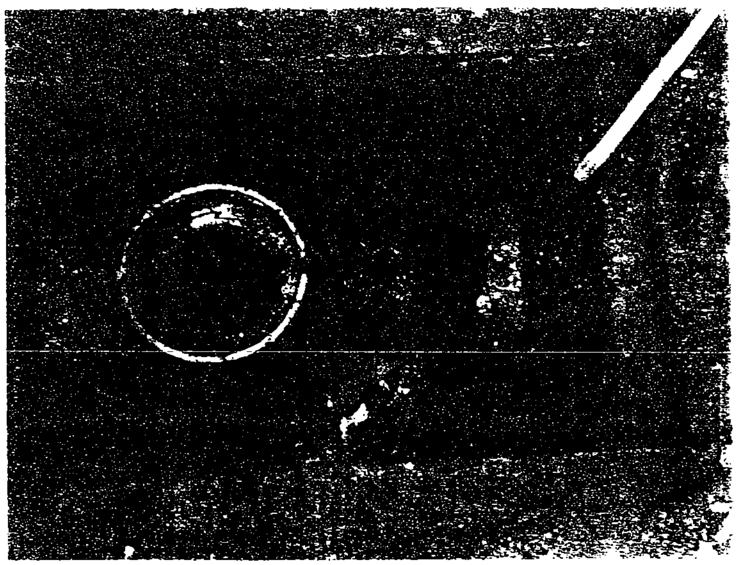
1) Number of metal contributing discharge points to municipal sewer: 2

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas		Any detectable gas		Any detectable gas	
Process	x	Process	x	Process	
N.C. Cooling	x	N.C. Cooling	-	N.C. Cooling	
Sanitary	-	Sanitary	-	Sanitary	
Storm	x	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

SEE SCHEMATIC.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 16" x 32"

inside length 32" (parallel with pipe)

inside width 28"

entire depth 44"

junction manhole yes x no ___ # of in pipes 4

PIPES:

in pipe Ø 6" % full 0

out pipe Ø 8" % full 25

water depth in pipe 0

surcharged yes ___ no x

CHANNEL:

water depth 2" benched yes x no ___

water depth range WILL INCREASE DURING PRODUCTION.

water velocity 0 turburlence yes ___ no x

super critical velocity yes ___ no ___

roll in front of stake ___ roll behind stake ___

channel configuration straight ___ curved ___ sloped ___

instantaneous flow ___ drop x

SAMPLING:

can be harnessed in MH ___ placed in MH ___

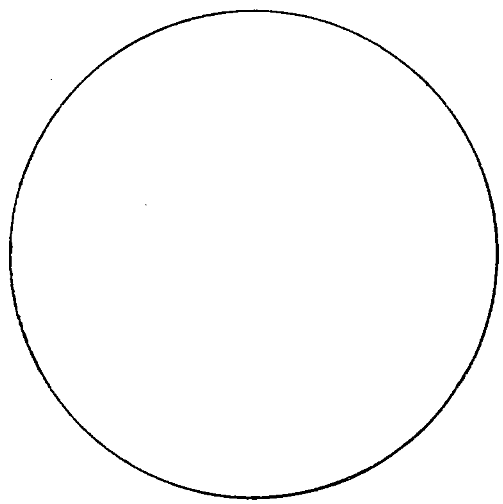
or placed outside MH x

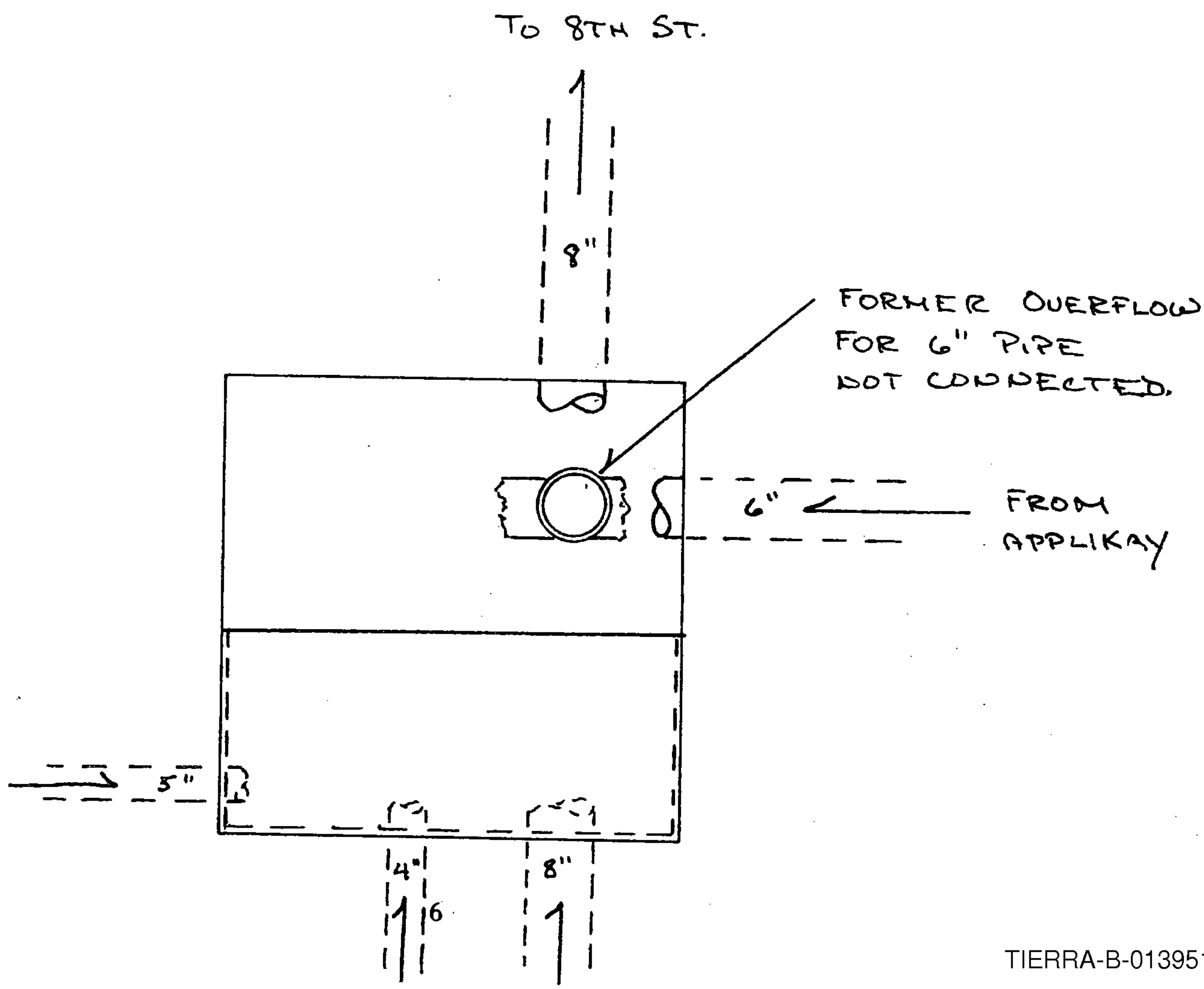
(vandalism problem yes x no ___)

TIERRA-B-013950

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.





4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER B

MANHOLE:

(circular) surface Ø ____________

inside length 31" (parallel with pipe)

inside width 33"

entire depth 30"

junction manhole yes x no____ # of in pipes 3

PIPES:

in pipe Ø 5", 4", 16" % full 0

out pipe Ø 6" % full 0

water depth in pipe 0

surcharged yes ____ no x

CHANNEL:

water depth 18" benched yes x no____ (PIT)

water depth range ____________

water velocity 0 turburlence yes ____ no x

super critical velocity yes____ no ____

roll in front of stake ____ roll behind stake ____

channel configuration straight ________ curved ________ sloped ________

instantaneous flow ____________ drop x

SAMPLING:

can be harnessed in MH ______ placed in MH ________

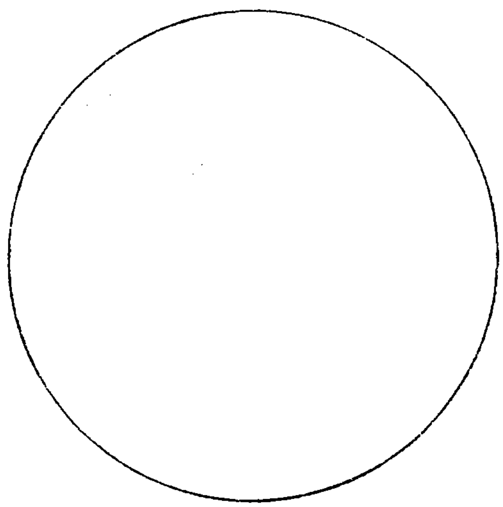
or placed outside MH x

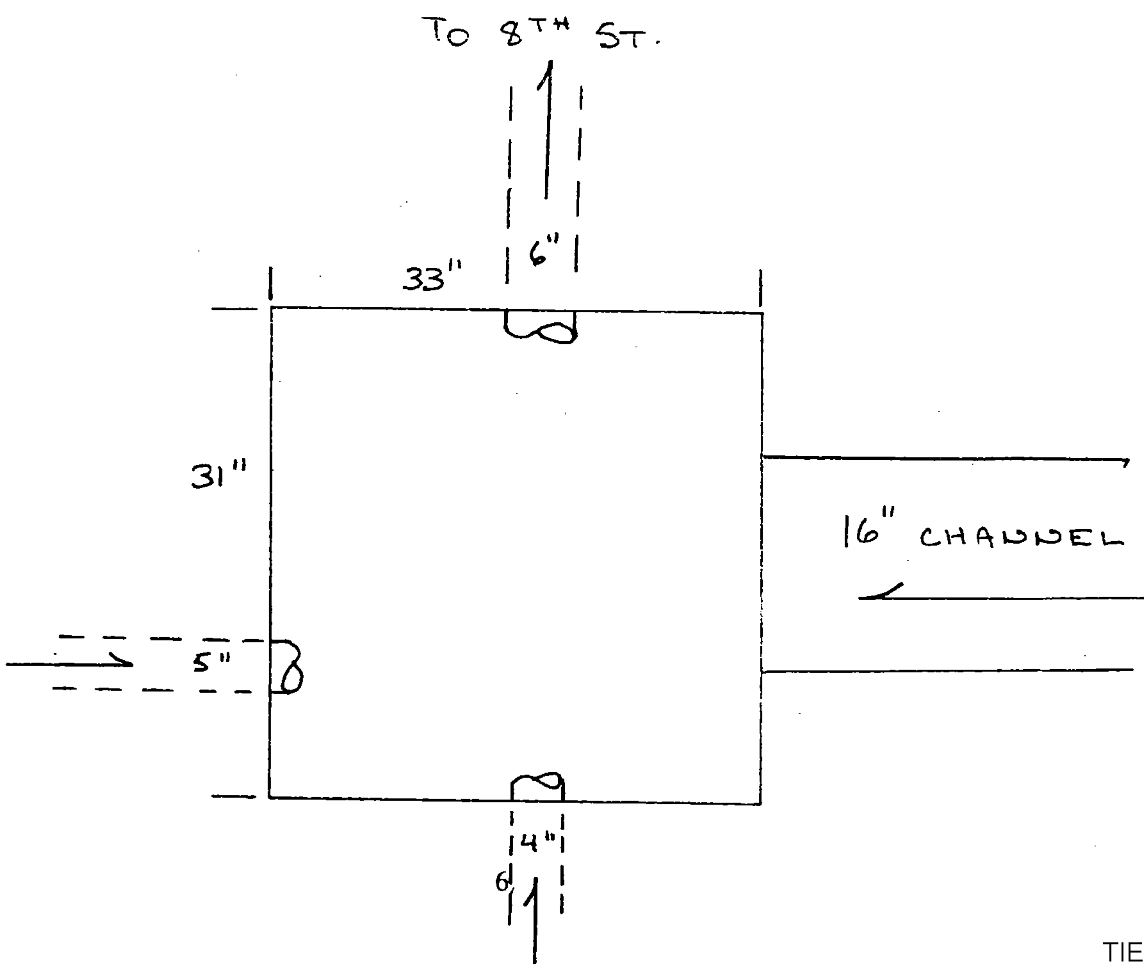
(vandalism problem yes___ no x)

TIERRA-B-013952

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B





TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	x	x	
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	~~x~~	~~x~~	

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	x	x	
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

DIRECT FLOW MEAS. NOT POSSIBLE AS:

1. SITE A HAS OBSTRUCTION IN FRONT OF IN PIPE.

2. SITE B HAS TOO MANY SOLIDS FLOATING IN PIT.

NOTE: CO. WAS NOT IN PRODUCTION AT TIME OF INTERVIEW.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	17,300		
Chromium (mg/l)			
Cadmium (mg/l)			
Copper (mg/l)	6.35		
Lead (mg/l)	0.2		
Nickel (mg/l)			
Zinc (mg/l)			
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)	1.35		
Selenium (mg/l)			
Beryllium (mg/l)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 8-28-78 Interviewed by: Scott & Van Malden

PVSC Industry #

PS-1760

Industrial Wastewater

Questionnaire "attach business card"

Part A

1) Industry Name Baltic Dyeing & Finishing Company, Inc.

2) Address 35 (No.) 8th Street (Street) Passaic (Municipality)

3) Responsible Person to whom further inquiries should be directed:

Name	Title	Telephone
Paul Fallavollita	Maintenance	777-6619

4) Type of Industry Dyeing & Finishing of Textiles

5) Primary S.I.C. number, if available 2269
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used Dyestuffs,

7) Principle Product(s) produced Finished Textiles

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______ Times of Day ______

9) Number of employees at this location 30

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
6,616,800	Gallons/Quarter *		Gallons/Quarter
	Cubic Feet/Quarter		Cubic Feet/Quarter
P.V.W.C.	Name of City or Public Supply		Well Pump(s) Gal/Min.
			Pump Running time(s) Hrs/Day

20 % of Water Used in Actual Process

79.5 % of Water Discharged From Process

- % of Water Discharged as Non-Contact Cooling Water

.5 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter: In boiler room.

*Note: Company was on 16 hr. production schedule during this time.

Industrial Wastewater

Questionnaire

Part B

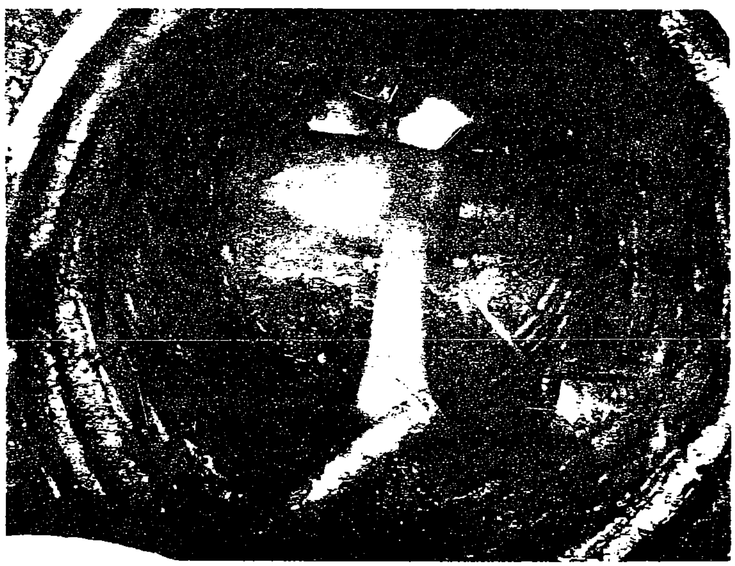
1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

	Line A		Line B		Line C
Any detectable gas		Any detectable gas		Any detectable gas	
Process	X	Process		Process	
N.C. Cooling	-	N.C. Cooling		N.C. Cooling	
Sanitary	-	Sanitary		Sanitary	
Storm	-	Storm		Storm	

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

See Schematic



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER A

MANHOLE:

(circular) surface Ø 27"

inside length 30"Ø (parallel with pipe)

inside width ______

entire depth 48"

junction manhole yes X no ___ # of in pipes 2

PIPES:

in pipe Ø 12" % full 15

out pipe Ø 15" % full 30

water depth in pipe 2"

surcharged yes ___ no X

CHANNEL:

water depth 4" benched yes ___ no X

water depth range 1-4"

water velocity 2 FPS turburlence yes X no ___

super critical velocity yes ___ no X

roll in front of stake X roll behind stake ___

channel configuration straight ______ curved ______ sloped X

drop X

instantaneous flow ______

SAMPLING:

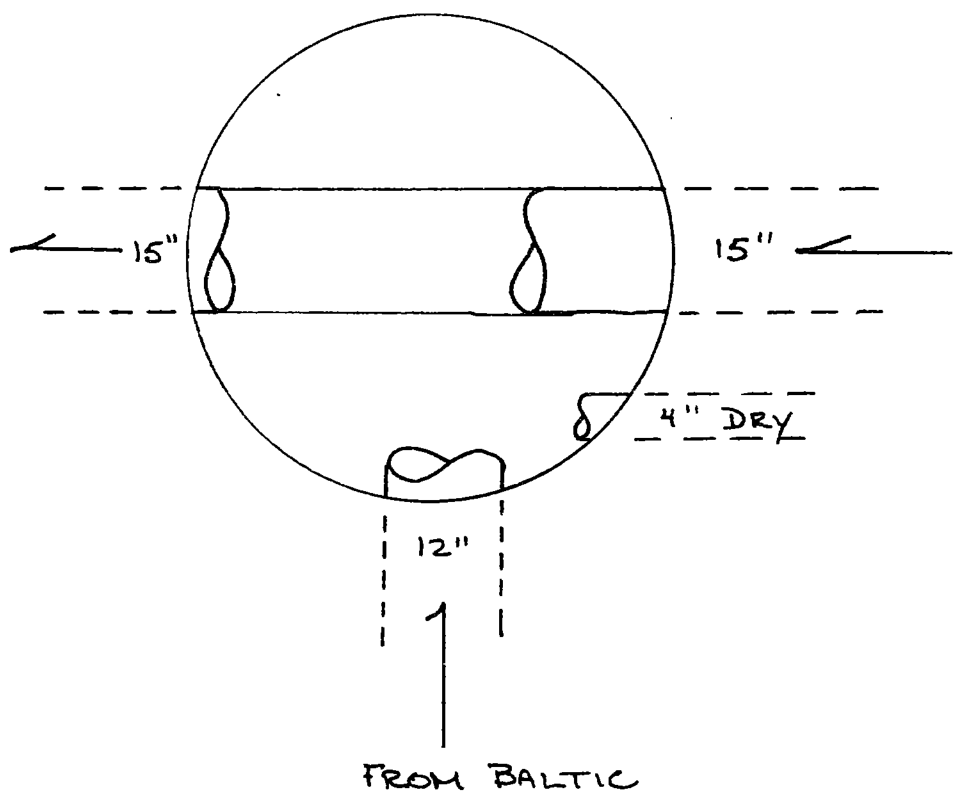
can be harnessed in MH ______ placed in MH ______

or placed outside MH X

(vandalism problem yes X no ___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



TIERRA-B-013963

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic	X		
Manual			
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90° v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X		

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers	X		
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles			
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

No

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	40,300		
Chromium (mg/1)			
Cadmium (mg/1)			
Copper (mg/1)	0.8		
Lead (mg/1)	0.3		
Nickel (mg/1)			
Zinc (mg/1)			
Mercury (mg/1)			
Arsenic (mg/1)			
Vanadium (mg/1)			
Selenium (mg/1)			
Beryllium (mg/1)			

PASSAIC VALLEY SEWERAGE COMMISSIONERS

Date: 6/20/78   Interviewed by: SCOTT & VAN MALDEN

PVSC Industry #

PS-1770

Industrial Wastewater

Questionnaire   "attach business card"

Part A

1) Industry Name FALSTROM CO.

2) Address ______ FALSTROM COURT PASSAIC
No. Street Municipality

3) Responsible Person to whom further inquiries should be directed:

JOSEPH J. OLAH | EXEC V.P. | 777-0013
Name | Title | Telephone

4) Type of Industry METAL FABRICATING

5) Primary S.I.C. number, if available 3444
(4 Digit Code from 1976 standard industrial classification manual)

6) Principle Raw Materials(s) used SHEET STEEL & ALUM; STRUCTURES AND EXTRUSIONS

7) Principle Product(s) produced CABINETS, FRAMES, PANELS AND COVERS

8) Hours per day manufacturing operations are conducted 8

Days per week manufacturing operations are conducted 5 (PARTIAL ON SATURDAY)

Process Discharge Frequency (circle one) Continuous Intermittant # of Batches/Day ______
Times of Day ______

9) Number of employees at this location 175

10) Indicate plant water consumption figures in gallons or cubic feet during the most recent calender quarter. If you obtain water from a privately owned well and do not meter your consumption from this source, indicate the capacity of the well pump(s) in gallons per minute and the approximate daily running time(s) in hours per day.

Industrial Wastewater

Questionnaire

Part A

Continued

City or Public Supply		Private Well Supply	
650,000	(EST) Gallons/Quarter	212,500	Gallons/Quarter
	Cubic Feet/Quarter		Cubic Feet/Quarter
P.V.W.C.	Name of City or Public Supply	145	Well Pump(s) Gal/Min.
		8	Pump Running time(s) Hrs/Day

5 % of Water Used in Actual Process

70 % of Water Discharged From Process

--- % of Water Discharged as Non-Contact Cooling Water

25 % of Water Discharged From Sanitary Conveniences

Indicate Location of Water Meter:

Industrial Wastewater

Questionnaire

Part B

1) Number of metal contributing discharge points to municipal sewer: 1

2) Check off which of the below is in each metal discharge point:

Line A		Line B		Line C	
Any detectable gas	___	Any detectable gas	___	Any detectable gas	___
Process	X	Process	X	Process	X
N.C. Cooling	---	N.C. Cooling	-----	N.C. Cooling	---
Sanitary	---	Sanitary	---	Sanitary	---
Storm	---	Storm	---	Storm	---

3) Illustrate the processing areas, the eminating discharge sanitary line(s) carrying the metals contaminated wastewater, the location of the proposed sampling manhole, any upstream manhole, and the receiving municipal sewer. Label each metal process sanitary line A,B,C,.... Indicate landmarks. If sampling or flow measuring device already exists, indicate so. Attach any existing schematics of sanitary layout provided by the company.

4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER ___A___ 4" CLEAN OUT

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes _____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range___________________

water velocity _____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ______________ drop __________

SAMPLING:

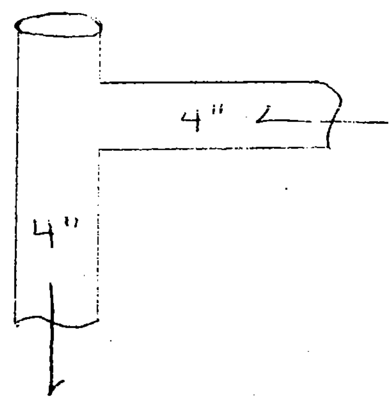
can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER A.



4) Describe each manhole or sampling location in detail. (Label A,B,C,...)

LETTER G ____ 4" CLEAN OUT

MANHOLE:

(circular) surface Ø ____________

inside length ____________ (parallel with pipe)

inside width ____________

entire depth ____________

junction manhole yes____ no____ # of in pipes ______

PIPES:

in pipe Ø __________ % full __________

out pipe Ø__________ % full __________

water depth in pipe __________

surcharged yes ____ no____

CHANNEL:

water depth __________ benched yes ____ no____

water depth range ___________________

water velocity _____________________ turburlence yes _____ no _____

super critical velocity yes_____ no _____

roll in front of stake ____ roll behind stake ____

channel configuration straight __________ curved __________ sloped __________

instantaneous flow ________________ drop __________

SAMPLING:

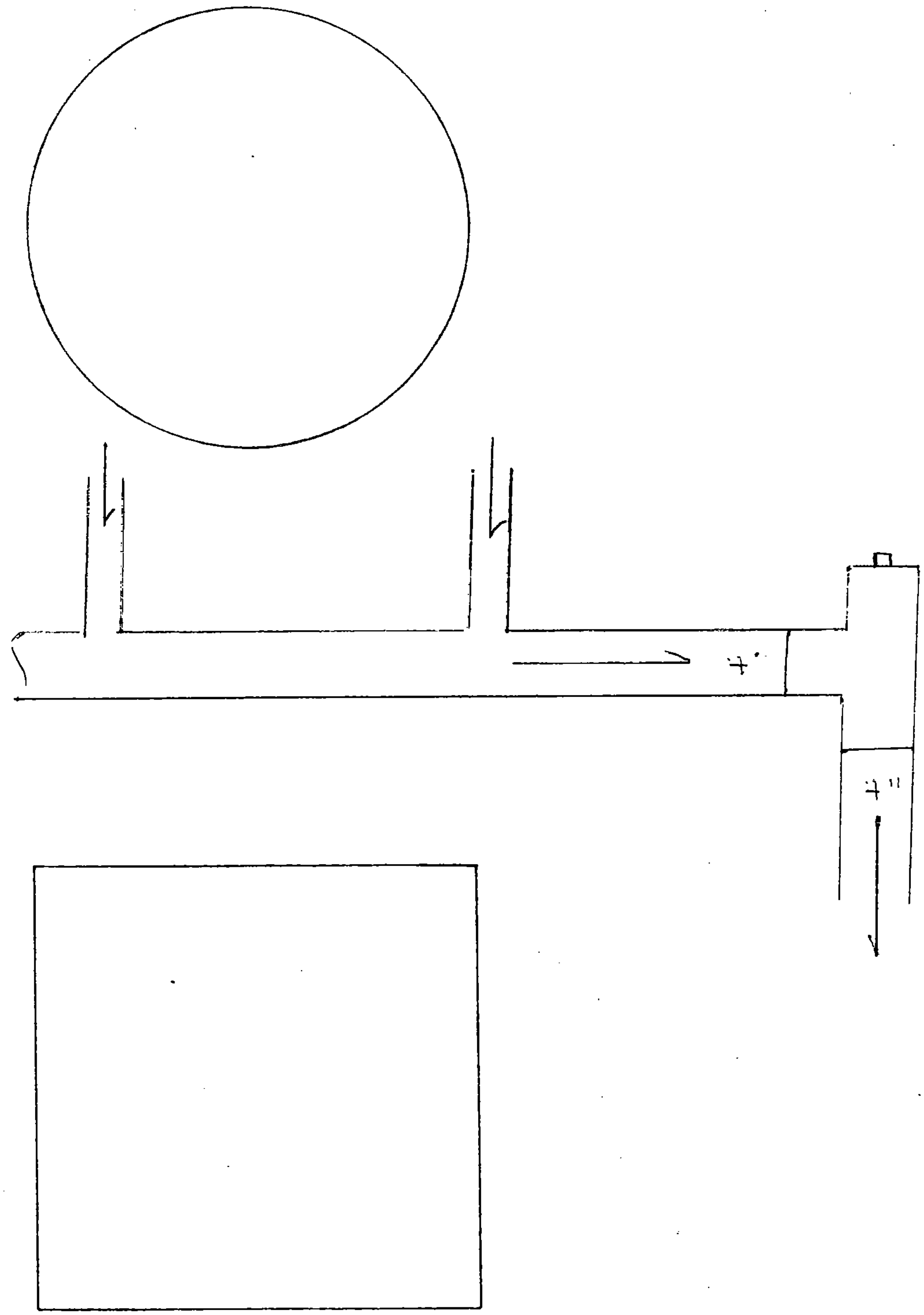
can be harnessed in MH _______ placed in MH __________

or placed outside MH _______

(vandalism problem yes___ no___)

5) Sketch each manhole or sampling location in detail. Attach photograph (Label A,B,C,.....).

LETTER B.



TIERRA-B-013975

TO BE COMPLETED IN OFFICE

6) Final recommendations for flow measurement & sampling.

	Sampling Line A	Sampling Line B	Sampling Line C
SAMPLING:			
Automatic			
Manual	X	X	
FLOW MEASUREMENT:			
Automatic			
Depth of flow in in-pipe,veloc/cur. meter, dipper method			
Depth of flow in in-pipe, veloc/dye, dipper method (shallow flows)			
Depth of flow in in-pipe, slope to upstream MH, rough, dipper method			
90^{o} v-notch weir in out-pipe, dipper method			
Insert flume in out-pipe, dipper method			
Inflatable flume in in-pipe, dipper method (up to 8"Ø)			
Weir-box w/inflatable tube, dipper method			
Up & downstream depths of flow in mun. coll/syst., slope, rough, dipper method			
Manual			
Bucket & stop-watch (elevated sewers w/smaller flows)			
Trajectory method (elevated sewers) carpenters square			
Depth of flow in in-pipe, weir method			
Water meter readings	X	X	

TO BE COMPLETED IN OFFICE

7) Recommendations for sampling and flow measurement, including equipment and special devices required (A,B,C,...). Check if required and size.

	A	B	C
AUTOMATIC			
Samplers			
Harness			
Current Meter (velocity)			
Dye & Watch			
Dippers			
Rod & Transit			
Flumes			
Insert			
Inflatable			
4"			
6"			
8"			
10"			
12"			
15"			
Weirs v-notch (90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Weir Box (inflatable)			
Packing			
Blocks			
Sand Bags			
Caulking			
MANUAL			
Bottles	X	X	
Bucket & watch			
Weirs (v-notch 90^{o})			
4"			
6"			
8"			
10"			
12"			
15"			
Carpenter's square with level			

NOTES:

TIERRA-B-013977

TO BE COMPLETED IN OFFICE

8) Miscellaneous notes and recommendations (i.e., manhole construction recommended, must be monitored during dry weather, equipment suggestions, etc.)

CHECK WITH OLAH BEFORE SAMPLING TO DETERMINE WHAT DAYS CO. WILL BE IN FULL PRODUCTION.

Industrial Wastewater

Questionnaire

Part C

1) Do you pretreat any wastewater before discharging to the sanitary sewer?

NO

If the answer is "yes", briefly describe pretreatment method(s), what specific parameter pretreatment is utilized for, and how is residue generated by pretreatment disposed.

2) The following tests will be performed by PVSC at a later date on a series of 24 hour flow proportioned composite samples collected over a period of two (2) consecutive production days. Samples shall be collected from each individual waste sewer leaving your plant which is connected directly to the municipal PVSC sanitary sewer system.

Previous Measurements of Flow and Metals (if available)

Analysis	A	B	C
Daily Flow (Gal/Day)	13,500		
Chromium (mg/l)	1,075		
Cadmium (mg/l)			
Copper (mg/l)			
Lead (mg/l)			
Nickel (mg/l)			
Zinc (mg/l)	23.5		
Mercury (mg/l)			
Arsenic (mg/l)			
Vanadium (mg/l)			
Selenium (mg/l)			
Beryllium (mg/l)			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUN - 8 2006

GENERAL NOTICE LETTER
URGENT LEGAL MATTER
PROMPT REPLY NECESSARY
CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Kevin Gallagher, President
Croda Inc.
300-A Columbus Circle
Edison, NJ 08837

Re: Diamond Alkali Superfund Site
Notice of Potential Liability for
Response Actions in the Lower Passaic River Study Area, New Jersey

Dear Mr. Gallagher:

The United States Environmental Protection Agency ("EPA") is charged with responding to the release and/or threatened release of hazardous substances, pollutants, and contaminants into the environment and with enforcement responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9601 et seq. EPA is seeking your cooperation in an innovative approach to environmental remediation and restoration activities for the Lower Passaic River.

EPA has documented the release or threatened release of hazardous substances, pollutants and contaminants into the six-mile stretch of the river known as the Passaic River Study Area, which is part of the Diamond Alkali Superfund Site ("Site") located in Newark, New Jersey. Based on the results of previous CERCLA remedial investigation activities and other environmental studies, including a reconnaissance study of the Passaic River conducted by the United States Army Corps of Engineers ("USACE"), EPA has further determined that contaminated sediments and other potential sources of hazardous substances exist along the entire 17-mile tidal reach of the Lower Passaic River. Thus, EPA has decided to expand the area of study to include the entire Lower Passaic River and its tributaries from Dundee Dam to Newark Bay ("Lower Passaic River Study Area").

By this letter, EPA is notifying Croda Inc. of its potential liability relating to the Site pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Under CERCLA, potentially responsible parties ("PRPs") include current and past owners and operators of a facility, as well as persons who arranged for the disposal or treatment of hazardous substances at the Site, or the transport of hazardous substances to the Site.

In recognition of our complementary roles, EPA has formed a partnership with USACE and the New Jersey Department of Transportation-Office of Maritime Resources ("OMR") ["the governmental partnership"] to identify and address water quality improvement, remediation, and restoration opportunities in the 17-mile Lower Passaic River Study Area. This governmental partnership is consistent with a national Memorandum of Understanding ("MOU") executed on July 2, 2002 between EPA and USACE. This MOU calls for the two agencies to cooperate, where appropriate, on environmental remediation and restoration of degraded urban rivers and related resources. In agreeing to implement the MOU, the EPA and USACE will use their existing statutory and regulatory authorities in a coordinated manner. These authorities for EPA include CERCLA, the Clean Water Act, and the Resource Conservation and Recovery Act. The USACE's authority stems from the Water Resources Development Act ("WRDA"). WRDA allows for the use of some federal funds to pay for a portion of the USACE's approved projects related to ecosystem restoration.

For the first phase of the Lower Passaic River Restoration Project, the governmental partners are proceeding with an integrated five-to-seven-year study to determine an appropriate remediation and restoration plan for the river. The study will involve investigation of environmental impacts and pollution sources, as well as evaluation of alternative actions, leading to recommendations of environmental remediation and restoration activities. The study is being conducted pursuant to CERCLA and WRDA.

Based on information that EPA evaluated during the course of its investigation of the Site, EPA believes that hazardous substances were released from the Hummel Lanolin facility located at 185 Foundry Street in Newark, New Jersey, into the Lower Passaic River Study Area. Hazardous substances, pollutants and contaminants released from the facility into the river present a risk to the environment and the humans who may ingest contaminated fish and shellfish. Therefore, Croda Inc. as successor to Hummel Lanolin may be potentially liable for response costs which the government may incur relating to the study of the Lower Passaic River. In addition, responsible parties may be required to pay damages for injury to, destruction of, or loss of natural resources, including the cost of assessing such damages.

EPA is aware that the financial ability of some PRPs to contribute toward the payment of response costs at the Site may be substantially limited. If you believe, and can document, that you fall within that category, please inform Sarah Flanagan and William Hyatt in writing at the addresses identified below in this letter. You will be asked to submit financial records including federal income tax returns as well as audited financial statements to substantiate such a claim.

Please note that, because EPA has a potential claim against you, you must include EPA as a creditor if you file for bankruptcy. You are also requested to preserve and retain any documents now in the possession or control of your Company or its agents that relate in any manner to your facility or the Site or to the liability of any person under CERCLA for response actions or response costs at or in connection with the facility or the Site, regardless of any corporate document retention policy to the contrary.

Enclosed is a list of the other PRPs who have received notices of potential liability. This list represents EPA's findings on the identities of PRPs to date. We are continuing efforts to locate additional PRPs who have released hazardous substances, directly or indirectly, into the Lower Passaic River Study Area. Exclusion from the list does not constitute a final determination by EPA concerning the liability of any party for the release or threat of release of hazardous substances at the Site. Please be advised that notice of your potential liability at the Site may be forwarded to all parties on this list as well as to the Natural Resource Trustees.

We request that you become a "cooperating party" for the Lower Passaic River Restoration Project. As a cooperating party, you, along with many other such parties, will be expected to fund the CERCLA study. Upon completion of the study, it is expected that CERCLA and WRDA processes will be used to identify the required remediation and restoration programs, as well as the assignment of remediation and restoration costs. At this time, the commitments of the cooperating parties will apply only to the study. For those who choose not to cooperate, EPA may apply the CERCLA enforcement process, pursuant to Sections 106(a) and 107(a) of CERCLA, 42 U.S.C. § 9606(a) and § 9607(a) and other laws.

You may become a cooperating party by participating in the Cooperating Parties Group ("Group") that has already formed to fund the CERCLA study portion of the Lower Passaic River Restoration Project.

We strongly encourage you to contact the Group to discuss your participation. You may do so by contacting:

William H. Hyatt, Esq.
Common Counsel for the Lower Passaic River Study Area Cooperating Parties Group
Kirkpatrick & Lockhart LLP
One Newark Center, 10th Floor
Newark, New Jersey 07102
(973) 848-4045
whyatt@kl.com

Written notification should be provided to EPA and Mr. Hyatt documenting your intention to join the Group and settle with EPA no later than 30 calendar days from your receipt of this letter. The result of any agreement between EPA and your Company as part of the Group will need to be memorialized in an Administrative Order on Consent. Your written notification to EPA should be mailed to:

Sarah Flanagan, Assistant Regional Counsel
Office of Regional Counsel
U.S. Environmental Protection Agency
290 Broadway - 17th Floor
New York, New York 10007-1866

Pursuant to CERCLA Section 113(k), EPA must establish an administrative record that contains documents that form the basis of EPA's decision on the selection of a response action for a site. The administrative record file and the Site file are located at EPA's Region 2 Superfund Records Center at 290 Broadway, New York, NY, on the 18th floor. You may call the Records Center at (212) 637-4308 to make an appointment to view the administrative record and/or the Site file for the Diamond Alkali Site, Passaic River.

As you may be aware, the Superfund Small Business Liability Relief and Brownfields Revitalization Act became effective on January 11, 2002. This Act contains several exemptions and defenses to CERCLA liability, which we suggest that all parties evaluate. You may obtain a copy of the law via the Internet at **http://www.epa.gov/swerosps/bf/sblrbra.htm** and review EPA guidances regarding these exemptions at **http://www.epa.gov/compliance/resources/policies/cleanup/superfund.**

Inquiries by counsel or inquiries of a legal nature should be directed to Ms. Flanagan at (212) 637-3136. Questions of a technical nature should be directed to Elizabeth Butler, Remedial Project Manager, at (212) 637-4396.

Sincerely yours,

R. Basso

Ray Basso, Strategic Integration Manager
Emergency and Remedial Response Division

Enclosure 6-06