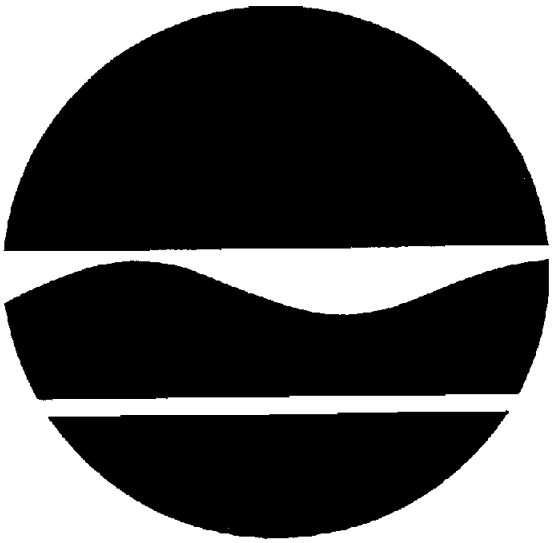
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REMEDIATION SUMMARY REPORT

SOIL EXCAVATION AND SITE RESTORATION PROJECT
VAN DER HORST PLANT NO. 1 SITE
CITY OF OLEAN, CATTARAUGUS COUNTY
CONTRACT NO. D003494
SITE NO. 9-05-008



March 1998

DIVISION OF ENVIRONMENTAL REMEDIATION
New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL *Commissioner*

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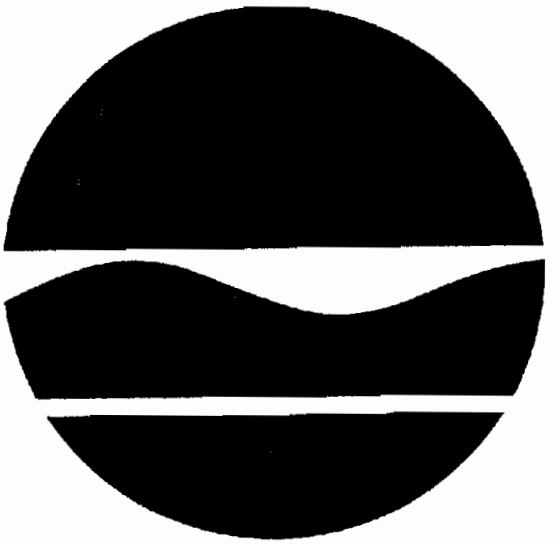

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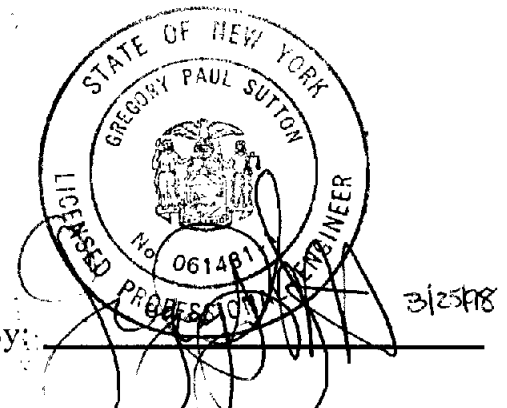
NYSDEC Site No. 905008

CONTRACT NO. D003494

CITY OF OLEAN, CATTARAUGUS COUNTY



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EXECUTIVE SUMMARY

The New York State Department of Environmental Conservation (NYSDEC) , Region 9 Office provided construction inspection and engineering services during the performance of the Soil Excavation and Restoration Project at the Van der Horst Plant #1 site (NYSDEC Site No. 9-05-008), Olean, New York. NYSDEC-R9 construction services included full-time inspection and monitoring of remedial activities and engineering services to ensure conformation with contract documents. Remedial work commenced on August 26, 1996. Substantial Completion of the Plant#1 Project was accomplished by February 28, 1997, Part A - Two-Mile Creek project by October 4, 1996 and Part B - Olean Creek Project by October 1, 1997. Remediation was performed by AllState PowerVac, Inc. (APV) of Linden, New Jersey. APV was selected through competitive bidding on May 24, 1996, to perform the work. APV submitted the lowest of 9 bids at $1,291,256.00 (see Table 2). The engineer's estimate for the work was $1,671,085.00 with $15,000 for Pollution Liability Insurance ($1,686,085.00 total).

The remediation activities completed at the Van der Horst Plant #1 site under this project included the excavation and off-site disposal of non-hazardous and hazardous soil and concrete from the plant site and adjacent industrial property. A clean-up goal for chromium of 50 mg/kg was established for all off-site and on-site surface soils. A clean up goal for chromium of 500 mg/kg was established for all off-site and on-site subsurface soils. A total of 6,010 tons (3,339 cubic yards) of hazardous soil/concrete and 10,906 tons (6,060 cubic yards) of non-hazardous soil/concrete were excavated and disposed from the plant site. Hazardous waste was disposed of at the Max Environmental Technologies Inc. facility in Pittsburgh, Pennsylvania. Non-hazardous wastes were disposed of at the C.I.D. Inc. facility in Chaffee, New York.

During excavation activities a significant quantity of additional hazardous soil and concrete was identified. All material that exceeded clean-up goals, that could be excavated under the terms of this contract, was removed. However a significant mass of contamination (approx. 2,750 cubic yards) remains at the site and will be pursued under another remedial contract. This mass was located below the water table (18 bgs) and could not be excavated using conventional excavation methods due to the unstable nature of the surrounding soils (fine to course sands, gravel and cobbles).

The remediation of contaminated sediment at Two-Mile Creek was conducted from September 9, 1996 to October 3, 1996. The section of Two-Mile creek, remediated during this project, is located approximately 3/4 mile west of the Plant #1 site. Contaminated sediment was removed from a 2,200 foot section of Two-Mile creek in 1995 during the remediation of the Van der Horst Plant #2 Site. During this project an additional 800 foot section was identified at Constitution Avenue. This additional section was included as part of this remedial contract.

Based on the pre-design investigation conducted at Two-Mile Creek, verification sampling was not performed. Instead, all sediment within the width of the stream was removed to the impermeable clay layer.

During sediment removal a 12 inch thick layer of black sediment with a petroleum odor was found beneath the 125 foot railroad bridge area. The Department directed the contractor to remove this additional material, which was performed during the project. A total of 637 tons (354 cubic yards) of sediment was removed from Two-Mile Creek.

Remedial construction in Olean Creek, to remove contaminated sediments, commenced on October 6, 1996 with the installation of the flow diversion system. Failure to properly install the

structures resulted in the postponement of this phase of work until dry weather flows were again prevalent in the August 1997. After resumption of work and the dewatering of the creek it was immediately visually apparent that the quantities of sediment in the creek were not as deep as shown in the contract documents. For example, where 12 inches of sediment had been identified in the creek, only trace amounts were actually there. Remediation continued as designed with the vacuuming of all available sediment for 225 feet immediately downstream of the Brookview Avenue storm sewer outfall. Additional problems were encountered with the excavation of sediment/soil along the west creek bank. Large riprap (6" to 18") was immediately encountered within the entire reach of the project along the toe of the flood control levee. Larger rip-rap (>3 ft.) was encountered from the Route 16 bridge to a point 245 feet upstream. Although the rip-rap was on the surface it was not identified in the contract. Further review of Department records noted that this area was throughly disturbed during the reconstruction of the Route 16 bridge in 1971. Based on this information this area was not remediated. After the initial cut of the remaining 555 feet of creek bank, verification samples showed chromium contamination continued to exceed the clean-up goal of 26 mg/kg at the depth of cut (12 inches). An additional cut (12" inches) was made. Again clean-up goals were exceeded. Further excavation could not be performed because of the flood control berm included a large area of riprap placed along the base of the project to a depth of four feet. The rip-rap area was not identified in the contract documents and extended below the water table. To restore the creek bank the rip rap was replaced. Topsoil was then packed into the void spaces to secure the rocks and prevent suspension of the disturbed soils below. At the conclusion of the work the actual quantities of sediment identified in the Contract documents removed (139 cubic yards) were far below the quantity of sediment (2,100

cubic yards) specified in the contract documents. Substantial completion of this phase of work was on October 1, 1997.

The estimated and actual quantities for the remediation bid items are shown on Table 2. The estimated unit quantities for remedial operations at the Van der Horst Plant #1 site were exceeded for nine bid items due to additional amounts of contaminated soil encountered at the plant site. Sample quantities were also increased in order to verify the complete removal of contaminated soils from the excavation areas. Seven bid items were lower than the contract amount due to design changes implemented during the work. Disposal of Hazardous Waste (00507.B) and Olean Creek Remediation (00506) were the only bid items which varied by more than 15% or $30,000. The unit price for quantities of the Disposal of Hazardous Waste in excess of 115% (254% actual) of the estimated quantity was renegotiated. A lump sum price for removal of sediment and Olean Creek was also negotiated with the contractor based on his actual cost to perform the work ($40,160.49 reduction). Eight new bid items were developed to address additional sample collection and analysis required to verify the removal of contaminated soils found on site and to provide additional Health & Safety air monitoring and provide changes in work that had not been identified in the Contract Documents.

There were three change orders issued. The first dealt with several unforseen conditions that resulted in the increase in the quantities of Hazardous waste disposal, backfill and concrete removal. C.O. #1 also provided for an extension in the Contract Time to account for excavation of the additional hazardous soil and several other additional work items. This change order increased the Contract Amount by $461.276.59.

The second change order was also for several unforeseen site conditions and additions to

the contract (i.e. change in fence location, placement of trees, installation of additional monitoring wells, abandonment of additional monitoring wells, removal of a 8,000 gallon UST, credit for miscellaneous office equipment, additional air monitoring analysis, lead TCLP sampling of waste, soil boring, etc.). C.O. #2 also provided for an extension in the Contract Time for Subpart B - Olean Creek Project to allow for the removal of sediment during low flow conditions in 1997. This change order increased the Contract Amount by $208,940.60.

The third change order provided for several additional payment items (i.e. Olean Creek rip-rap, relief drain installation, waste water disposal). This change order also adjusted the unit price bid item values to their actual quantities resulting in a $64,819.36 decrease in the Contract Amount. The total change to the original Contract Amount of $1,311,256.00 ($1,291,256.00 original contract plus $20,000 pollution insurance) was an increase of $605,399.83 (46%) for a final Contract Amount of $1,916,655.83.

The remediation of the Van der Horst Site was satisfactorily completed by APV (see Table 4). There were several significant problems encountered during the work including: Dewatering of Olean Creek for sediment excavation; Creek bank soil excavation in Olean Creek; Increased hazardous soil and concrete quantity and sampling required on the Plant #1 Site; Increase sediment removal in Two-Mile Creek; Encounter of several underground concrete structures at Plant #1; and the increase in the size and character of the UST that varied from what was represented in the Contract Documents. However, all these issues were satisfactorily addressed and the project completed. NYSDEC believes remediation of the Van der Horst Plant #1 site was conducted in accordance with all applicable state and federal regulations and that analytical laboratories utilized by APV complied with Environmental Laboratory Approval Program (ELAP)

certification.

Construction was completed in accordance with the contract documents entitled *Soil Excavation and Site Restoration for the Van der Horst Plant #1 (ERM* April 1996).

1.0 SITE BACKGROUND

1.1 LOCATION

The Van Der Horst Plant No. 1 site is a 1.5-acre industrial facility located within the northern section of the city of Olean, Cattaraugus County, New York. The property is bounded by a developed residential neighborhood on its north, east and south, by a railroad track on its west and by an industrial area on its west and southwest. The topography of the site is generally flat with the exception of the east side of the site which slopes gently to the east towards the residential area. Surface runoff from the site drains to the city's storm sewer system or percolates through the soil. The nearest surface water is Olean Creek which is approximately 0.25 miles east of the site. The Allegheny River is approximately 1.5 miles south of the site.

1.2 HISTORY

The Van Der Horst Corporation began chromium electroplating operations at Plant No. 1 in the early 1940s. There are two reported instances of subsurface process wastewater disposal at the plant site. One account has described a one-time dumping of iron-contaminated chromic acid into a shallow hole sometime during the early 1940s. Also, reference is made in the files of the County Health Department to an on-site wastewater disposal well, which was in operation until approximately 1952.

Since 1952, the process wastewater from the plant was discharged to the sewer system without any pretreatment. Until 1951, the plant used city water for its processes and other needs. In 1951, a 46-foot deep production well was installed on the Site. The County Health Department reported that this process supply well was found to be heavily contaminated with chromium by 1959. Use of this well was discontinued in 1960. In 1962, a new 91-foot deep process well was installed. Manufacturing operations at Plant No. 1 were ceased in July 1987.

In 1984, Plant No. 1 was listed on the NYSDEC Registry of Suspected Hazardous Waste Sites. In 1986, the Corporation received a proposed Order of Consent from the NYSDEC in reference to the facility's continued stack emissions. In January 1987, the Corporation signed the Consent Order calling for a $5,000 fine and modifications to the emission control equipment.

In 1989, a summary abatement order was issued by NYSDEC to Van Der Horst Corporation stating that the conditions existing at the Plant constituted an imminent and substantial danger to public health and the environment. At the hearing, substantial evidence was presented by the Van Der Horst Corporation to prove that the company lacked financial resources to undertake remedial activities, thus making it necessary for the State to do so. Funds from the 1986 Environmental Quality Bond Act were used to investigate the site.

In 1989, another summary abatement order was issued requiring the immediate removal and disposal of large volumes of corrosive plating solutions and other hazardous substances which remained at Plant 1. The company responded with a proposed closure plan which fell short of requirements for closure, but did include financial statements which demonstrated that the company lacked financial resources to undertake the necessary activities for adequate closure. The NYSDEC requested USEPA to take action immediately because of the imminent threat posed by

improperly stored chemicals inside the plant building. The chemicals inside the building were properly characterized, packaged, and removed. The removal action completed by USEPA eliminated the threat posed by the various chemicals and spent solutions which were improperly stored inside Plant No. 1.

In 1989, the NYSDEC contracted with ERM-Northeast to conduct a Remedial Investigation/Feasibility Study (RI/FS) at the Site. The RI for the Site was done in three phases. Phase 1 involved sampling and analyzing the surface and subsurface soil, ground water, and Olean Creek sediments. Soil samples from the backyards of the residences adjacent to the Site were also taken during the Phase I RI. The samples were analyzed for volatile, semi-volatile and metals. The major contaminants detected were:

- chromium, lead and arsenic in soil/sediment; and
- chromium, lead, and tetrachloroethylene in ground water.

These contaminants were determined to be associated with the past Plant activities.

The Phase III RI focused mainly on the investigation of the building interior at the Plant. Several monitoring wells and borings were drilled inside the building to collect and analyze ground water and subsurface soil samples. At several places inside the building, wipe and dust samples were collected for chemical analyses. The results of these analyses showed that the soil and ground water beneath the building are contaminated with chromium, lead, arsenic and a few volatile organic compounds. Some of the pipelines inside the building were found to have asbestos insulation.

The highest chromium concentration detected in Plant No. 1 surface soil was 585,000 parts per million (ppm).

In March 1992, a Record of Decision (ROD) was executed for Van Der Horst Corporation Plant No.1.

The selected remedy for the for Plant No. 1 site consists of:

1. Plant building decontamination.
2. Asbestos removal from the building and off-site disposal.
3. Plant building demolition and off-site disposal.
4. Olean Creek sediment removal.
5. Storm sewer cleaning and sediment removal.
6. Surface and subsurface soil removal, on-site solidification and placement.
7. Site restoration.
8. Possible ground water recovery, treatment, and discharge to the local POTW pending the results of groundwater monitoring following the removal of contaminated soil from the property.
9. Long-term ground water monitoring for 30 years.

The Work described in this report covers the remedial task nos. 4 through 7 described above for Plant 1, although solidification will not take place and all soil will be disposed off-site. Remedial task nos. 1 through 3 were recently completed in September 1995.

The Scope of Work for this Contract addressed the following remedial items for Plant No.1:

- Excavation and disposal of the concrete building slab and portions of the remaining concrete vats.
- Excavation and disposal of off-site and on-site soils.

- Cleaning and off-site disposal of sediment, followed by television inspection, of portions of the city storm sewer system.
- Excavation, dewatering and disposal of contaminated sediments from Olean Creek.
- Excavation, dewatering and disposal of contaminated sediments from Two Mile Creek, located approximately 3/4 miles west of the Plant 1 Site. Work in Two Mile Creek is required as the result of alleged past discharges of chromium from another Van Der Horst Plant (Plant 2), also located in Olean, New York.
- Final restoration of off-site and on-site areas, Olean Creek, and Two Mile Creek.

2.0 SUMMARY OF REMEDIAL WORK

2.1 GENERAL OVERVIEW

On Wednesday, August 14, 1996, a preconstruction conference was held at the NYSDEC Region 9 Sub-Office in Olean, New York, for the remediation of the Van der Horst Plant #1 site, Soil Excavation and Restoration project. In attendance at the meeting were staff from NYSDEC and AllState PowerVac (APV). NYSDEC issued a Notice to Proceed to AllState PowerVac dated August 26, 1996. It was agreed that site mobilization would begin on August 20, 1996, and that working hours would be between 7:00 a.m. and 4:00 p.m., Monday through Friday. The Two-Mile Creek remediation (Part A) was required to be completed within 30 days of the notice to proceed on September 25, 1996. The Olean Creek remediation (Part B) was required to be completed within 60 days of the notice to proceed on October 25, 1996.

Staff for NYSDEC consisted of: Michael Cruden, P.E., Project Manager, Gregory Sutton, P.E., Project Engineer, and Kevin Glaser, Construction Inspector.

APV initially mobilized equipment and secured the individual sites by placing temporary construction fencing around the perimeter of the plant site. This also included the work zones at Two-Mile Creek (TMC), and Olean Creek.

Remedial activities were initiated at the Two-Mile Creek site on September 9, 1996. Diversion dams were established and procedures later modified to deal with wet weather flows in the creek. An extension of the Substantial Completion date was granted based on additional quantities of sediment that was required to be removed, by NYSDEC, under the 125 foot bridge area. Substantial Completion was achieved on October 3, 1996.

Remedial activities were initiated in Olean Creek on October 9, 1996. APV's delay in the initiation of the remedial activities at Olean Creek and due to delays that occurred during the installation of diversion water structures during wet weather conditions that ensued in the fall of 1996, substantial completion could not be attained by October 25, 1996. Feeling that further work would jeopardize the adjacent flood control project and that Creek flows were exceeding maximum flow rate established in the contract documents (80,000 gpm), the Department required that remedial work in the Creek be postponed until suitable conditions could be maintained. The remedial work in Olean Creek was reinitiated on August 6, 1997. Diversion dams were installed and sediment removal began on August 22, 1997. Immediately upon dewatering the creek, it was noted that there was not a accumulation of sediment as described in the contract documents. Based on this information and additional sampling of creek bed sediments, APV was directed to remove creek sediment immediately down gradient of the City storm sewer discharge and an area of soil and sediment along the bank of the Creek. A significant amount of rip-rap was also encountered during the removal of this sediment layer. The Olean Creek remediation was completed on

October 1, 1997.

Remedial Activities on the Plant #1 site were initiated on November 4, 1996 with the excavation and removal of the USTs on the site. Only one of the three suspected USTs was located. This tank was excavated and removed. APV proceeded with the excavation of all contaminated soils outside the plants property boundary. This included contaminated areas on adjacent McKean Machine and Conrail properties. Verification samples were collected and analyzed and additional areas excavated as required to meet clean-up goals for off-site areas. A clean-up goal for chromium of 50 mg/kg was established for off-site soils. APV removed soil in the areas of the decontamination pad and parking area north of Building 24.

APV progressed with the removal of both non-hazardous and hazardous soils from the site starting in the area of the Vat M area at the end of Vine Street. It was noted during work at the site that there was a significant increase the quantity of both hazardous soil and concrete than was identified in the contract documents. Both sampling and visual observations of yellow and dark brown soils and concrete were used to determine the additional areas of excavations. An increase of hazardous soil was especially evident in the area of the main plating vats. During excavation, a large (an estimated 2,750 cubic yards) area of highly (chromium) contaminated soil was located below the plating vats. This "monolith" of soil was below the groundwater. Because removal of this mass would require special excavation techniques and was beyond the scope of this contract it was decided that removal of this material would not be pursued at that time. Excavation of this material will be performed under another remedial project at a later date. Excavation of site soils and backfill of the excavations was completed on February 28, 1997. Miscellaneous activities, such as monitoring well installation, continued to May 5, 1997.

During the course of the work, 11 field orders and three change orders were issued to APV to address unanticipated site conditions (discussed in Sections 2.13 and 2.14). These unexpected conditions included a significant increase in remediation soil volume for the removal of hazardous soil on the Plant#1 site, decommissioning of additional monitoring wells, removal of an additional UST, installation of additional monitoring wells and increased sampling requirements. These changes resulted in the issuance of Change Orders No. 1, 2 and 3 (final) which increased the total Contract Amount by $605,399.83 to a total of $1,916,655.83. The major of this cost is attributed to the excavation and disposal of an additional 4,315 tons of hazardous waste (soil and concrete) from the Plant #1 site. Change Order Nos. 1 and 2 also extended the time of completion for the excavation of additional soil at the Plant #1 site and the postponement of Olean Creek sediment removal until dry weather in the late summer 1997. All seeding and mulching were conducted after substantial completion of the Olean Creek project in October 1997.

A summary of actual quantities of materials is provided in Table 2. APV utilized a variety of subcontractors and materials suppliers to complete the remediation work (Table 4).

2.2 SITE PREPARATION

2.2.1 Van der Horst Plant #1 Facilities:

Mobilization for the remedial work began on August 21, 1996 with the delivery of the office, security and personnel decontamination trailers. The Office trailers were placed on the adjacent Conrail property north of the site while the security and decon trailers were placed on uncontaminated areas of the site adjacent to the vehicle decontamination pad. APV secured permission from Conrail to place the site offices on their property on August 20, 1996. Kelker

Electric Company, subcontractor to APV, connected electrical services to all the site trailers, the electrical connections were inspected by Commonwealth Electrical Inspection Service Inc.. Telephone service was provided at the Site by NYNEX. NYNEX did not have the requested number of telephone lines available to provide service to both the contractor's the Department's trailers initially. Final hook up of telephone lines was completed on October 3, 1997. Water service to the decontamination trailer and pad was installed by Anderson-Shortell Plumbing and supplied by the City of Olean Water Department by connecting to a City water line under Vine Street. Portable restrooms were used for sanitary facilities for the general workforce. Sanitary facilities were also provided in the contractor's office trailer for administrative and support personnel.

The official project sign was installed on September 24, 1996 at the Van der Horst Plant #1 site next to the entrance and security trailer along with signs indication appropriate officials to contact regarding questions about site activities. The Olean Community has easy access to the site trailers. Individuals requesting information, questions or complaints could access the NYSDEC office, but not the rest of the site. A security trailer with guard was established at the entrance to the Van der Horst Plant #1 site to restrict unauthorized entry and was manned 24-hours a day by RJD Security, a subcontractor to APV. The Plant had a permanent fence that was used for security. As work at the site progressed off the Van der Horst property and the permanent fence removed, APV installed a 4 foot high orange fence to include these work areas in the exclusion zone.

The required three days of preliminary air monitoring was completed on October 7,8,10, 1996.

2.2.2 Two Mile Creek Facilities:

APV established a perimeter for the remedial work and fenced an exclusion zone at Two Mile Creek (TMC) at the start of remedial work. The exclusion zone was established with an orange, 4' high, temporary construction fence that was placed around the entire perimeter of the work area. The fencing at TMC was in place on September 17, 1997. Three days of preliminary air monitoring were completed on September 11, 12,14, 1996, before beginning intrusive work. Clearing and grubbing was done with gas powered hand tools and heavy equipment. Access roads were constructed to reach the limits of the excavation. The roads were cut through the existing vegetation and covered with 3" stone where necessary. Sediment staging areas were constructed by leveling an area within the 125' Railroad right of way (figure 10) and using the excess soils to create a perimeter berm, all of which was covered with 40 mil HDPE. After completing the work, the cleared brush was chipped and placed on site on restored access roads.

2.2.3 Olean Creek Facilities:

APV established the perimeter of the remedial work and fenced an exclusion zone at Olean Creek. The exclusion zone was established with an orange, 4' high , temporary construction fence that was placed around the entire perimeter of the work area. The fencing at Olean Creek was in place on October 10, 1997. Preliminary air monitoring was completed on October 11, 12, & 13, 1996 before beginning any excavation in the vicinity of Olean Creek. Access roads to the creek and the staging area were completed prior to excavation. APV determined that a substantial portion of the north east bank of Olean Creek would have to be removed to allow the diversion of the creek waters. This excavation was completed from October 14 to October 16, 1996. Soil

from this excavation were removed off-site as general uncontaminated fill based on samples of the material collected on January 8, 1997 (Table 7). The creek bank soil was placed at Gile Hollow Road west of Route 17 in the Town of Hinsdale. A staging area was constructed on the east side of the flood control berm in the area referred to as the "ponding area" of the flood control project. Two staging areas, each measuring 200 feet by 80 feet were constructed by using clearing topsoil from the area and using it to create a berm around the staging area. The two areas were then lined with 40 mil HDPE. Seams of the HDPE were sealed using vitrathene®, a roofing material, to create a water tight seal. A drainage sump was also constructed in each staging area.

2.3 HEALTH AND SAFETY

APV's Health and Safety Plan (HASP) was reviewed by NYSDEC and NYSDOH as part of their initial submissions (see Appendix B, Construction Records and Reports). APV's HASP, dated July 23, 1996, was implemented under the direction of Mr. Sukhdev Amarnani, C.I.H., along with the site health and safety officer, Daniel Welsch. All personnel entering the exclusion zones were required to have the proper OSHA health and safety training, heavy metals blood screening and proper personal protection equipment(PPE). The SHSO initiated health and safety activities on September 11, 1997, and held daily health and safety meetings with site personnel to discuss site contamination and PPE, especially how it related to the planned activities for that day. The SHSO also collected real-time particulate and photo ionization readings using the appropriate instruments required by the contract documents. Violations of air monitoring requirements are shown in Table 9.

Real time particulate and documentation samples were collected at four perimeter locations

(one upwind and three downwind) on a daily basis and at the start of a new activity. A high-risk sample was also collected each week by having an operator working in the highest risk area carry a sampling device. When particulate readings were below the specified action limit of 0.15 milligrams per cubic meter (mg/m^3), the level of PPE assigned was modified Level D. This included: Tyvek, gloves, boots, outer boots, hard hat, and safety glasses. Real-time air sampling occurred each work day based on site activities. These readings were typically taken during site activities that had the greatest potential to generate dust or emissions during a particulate day.

Two exceedences of the real time particulate monitoring were recorded during the project. Both exceedences occurred at the Van der Horst Plant #1 site. The reasons for each occurrence were attributed to, first Portland cement dust generated by drillers during well abandonment, and second due to a poorly running diesel truck being parked next to an air monitoring station.

With autumn and winter weather conditions there was limited need for dust control measures required at the site. No other air monitoring samples exceeded the action limits established for the project during the remainder of the work on the site.

During the project, APV provided 104.5 days half days of health and safety equipment and supervision.

2.4 SITE SERVICES

Twenty-four hour a day security was provided at the site by RJD Security, a subcontractor of APV beginning on September 11, 1997. A security trailer was placed at the entrance of the Van der Horst Plant #1 site and all personnel entering the site were required to sing in at the trailer. Security personnel had not completed the 40-hour Occupational Health and Safety Act

(OSHA) health and safety training, and consequently were prohibited from entering the exclusion zones. During work performed at the Two-Mile Creek and Olean Creek Sites, the contractor's personnel provided security at these locations during normal working hours. Security personnel. provided periodic inspection of non-restricted areas of these work areas during off-hours.

The only incident of security problems occurred at Two-Mile Creek where vandals damaged some equipment staged in a wooded area prior to excavation work at the creek and decontamination water was released from a storage tank into the staging area. No incidents of trespass by unauthorized personnel was noted during the duration of the project at the site or Olean Creek.

2.5 PRE-EXCAVATION/VERIFICATION/CHARACTERIZATION SAMPLING

2.5.1 Pre-excavation Characterization Samples

Pre-excavation samples were taken to confirm that soils to be designated as non-hazardous met that criteria and the disposal profile for the disposal facility. Collection and analysis of pre-excavation samples allows the contractor to work in a continuous mode and not have to wait for analytical results to be received. One sample was taken for each calculated 1000 cubic yard stockpile. Each sample was analyzed for TCLP chromium. Additional characterization samples were collected as required by the contract documents as changes in soil characteristics varied and/or on the 1000 cubic yard basis.

2.5.2 Verification Samples

Verification samples were collected and analyzed at the design excavation depth to confirm

that chromium levels were at or below the clean-up guideline of 50 mg/kg. These samples were collected at the one and two foot excavations located off the Van der Horst property and along the Olean Creek west bank. The verification sampling at the Van der Horst Plant was done using a small excavator prior to actual excavation to allow the contractor to progress quicker during excavations and not having to wait for analytical results before continuing work. Some verification samples were used to delineate chromium contamination found while conducting entrance samples around the decontamination pad area. Verification samples at Olean Creek were taken with disposable scoops after excavations were completed and before backfilling. Several rounds of samples were required to be collected in order to achieve the clean-up goals. Based on the results of the verification samples there was additional areas of excavations identified which resulted in the extension of excavations in both depth and area. The actual excavation plan is shown in figure 3.

A total of 71 verification samples were collected and analyzed for chromium during the project. The results of the sampling is provided in Table 5a & 5b. The location of the sampling points is shown in figures 4 & 5.

2.5.3 Characterization Samples

The first characterization samples for each waste stream, hazardous and non-hazardous were analyzed as required by the respective disposal facilities. After this initial waste profile, characterization samples were taken as requested in the contract document for the; dip tank area, monitoring well #5 area, soils over concrete cover, and for each 1000 cubic yards of waste. Characterization samples for non-hazardous soils were taken prior to excavation to minimize

delays for analytical results. Characterization samples for hazardous soils were taken from the excavated stockpiles. It is noted that generally all characterization samples were found to be hazardous or non-hazardous as anticipated in the original specifications.

2.6 VDH PLANT #1 - SOIL AND OTHER MATERIALS HANDLING

2.6.1 Non-hazardous Soil Excavation

As part of this contract, non-hazardous soils were excavated at Two Mile Creek, Olean Creek and the Plant #1 Site. Descriptions of these activities can be found under their specific sections.

At the Plant #1 site the required three days of preliminary or background air sampling were conducted on October, 7, 8 and 10, 1996. Prior to excavation, the verification samples were taken to confirm the excavation would remove contaminated soils to the required 50 mg/kg(surface) and 500 mg/kg (subsurface). Several of the verification samples were above the limit and were resampled at greater depths till appropriate excavation limits were determined. Also prior to excavation samples were taken for a waste profile and waste characterization. These samples were taken at a rate of at least one for each 1000 cubic yards excavated per the contract specifications. The waste stream was approved for disposal at CID Sanitary Landfill in Chaffee, NY. All of the characterizations samples confirmed the non-hazardous nature of the soils.

The excavation of non-hazardous soils at the Van der Horst Plant #1 site began on November, 18, 1996. The first excavations were done from the Penn Avenue gate westerly to the plant foundation slab. This area was then backfilled with common fill and compacted to be used as a haul road. APV then proceeded on to Conrail property, the southern most point to excavated.

These soils were excavated with a Komatsu PC220 excavator, loaded on a 10 wheel dump truck and transported across the site and onto the plant slab for staging. APV used different parts of the original plant slab as staging areas and access roads through out the operation.

Shipment of the non-hazardous waste began on November 26, 1996. It was originally proposed that the trucks would haul the non-hazardous soils to the landfill and then would back haul common fill to the site on the return trip. Each truck would be decontaminated at CID after dumping non-hazardous waste and before loading with comm fill. There were two specific people designated as decontamination inspectors at the CID facility and a decontamination slip was filled out for each truck for each load. This method was not fully implemented because of the increase in hazardous soil removed from the site did not provide the opportunity to backhaul the clean soil. based on the results of verification samples additional areas of non-hazardous soils were required to be removed in the area of the decon pad, north west of Building 24, and between Penn Avenue and the McKean Machine building. Deeper excavations were also required south of the plant site on McKean Machine property. In particular in the area of the suspected UST No. 2, soil was excavated to a depth exceeding eight feet. During excavation a area of "yellow soil adjacent to the VDH Plant building foundation was excavated and disposed of hazardous based on a initial verification sample of 13,500 ppm of chromium. Excavation in the area continued showing a significant initial reduction in concentration to 1, 360 ppm, chromium. At the final excavation depth of eight feet, soil samples still exceeded the 500 ppm goal at 1,150 ppm. Based on the depth of the excavation and the localized area of contamination, further excavation activities were discontinued.

At the completion of the project 11,820 cubic yards of non-hazardous soil from excavated

and disposed of from the site. This value was 3,490 cubic yards less than the quantity provided in the contract document. The decrease in non-hazardous soil excavation was due to the substantial amount of soil that, after testing, required to be disposed of as hazardous waste instead of non-hazardous.

2.6.2 Hazardous Soil Excavation

The contract documents required the contractor to segregate all soils that were believed to contain chromium levels that would fail the Target Compound Leaching Procedure (TCLP) limits and be considered a characteristic hazardous waste. These soil areas were identified in the contract as the Monitoring Well 5 area, the Dip Tank area (Court Yard Area), and topsoil covering the top of the concrete (Figure 2). The contract further required the contractor to remove the soils from inside plating vats (C, D1, D2, D3, Q and M) to within two feet of the bottom of the vats. This assumed that the lower two feet of soil would be in contact with site groundwater and residual waste in the vats and may be hazardous, but the upper soils would be non-hazardous since they were clean soil placed in the vats during the demolition of the plant buildings.

2.6.2.1 Dip Tank Area

The contractor began the excavations of the dip tank area on December 19, 1996. During this excavation an unidentified concrete vault and a seventh 20" diameter, 35' deep dip tank were encountered (Figure 3).

Inside the vault were two, plastic lined, steel tanks containing chromium contaminated gravel, debris and water. The tanks were disassembled and decontaminated and the debris put into

the hazardous soils stockpile. The contaminated water required the use of six bags of speedy dry absorbent and 12 bags of Portland cement to absorb the liquid. Once stabilized, the resulting material was then place in the hazardous soil stockpile. A separate sample of the absorbed water/Portland was taken and analyzed for TCLP chromium (Table 7). The concrete vat was highly contaminated with chromium and stained yellow. Based on previous TCLP samples of yellow concrete which exceeded regulatory limits, this concrete vault was removed and disposed of as a hazardous waste.

Soil in this area was excavated to the design depth of 5 feet and the dip tubes were cut-off 5 feet below the original ground surface and removed. Contaminated water in six of the seven tubes had been previously removed during site work by the USEPA and the tubes filled with low density concrete. The water in the seventh dip tube was pumped out of the tube to a poly tank and analyzed for a list of parameters (Table 7) as required by the City of Olean Sewage Treatment Facility. After determining that the water met the discharge limits, the water was discharged to the sanitary sewer. The tube was filled with low density concrete and cut-off 5 feet below grade with the other tubes.

The excavation of the Dip Tank area generated approximately 153 cubic yards or 306 tons of hazardous waste.

2.6.2.2 Monitoring Well "5" Area

The Monitoring Well 5 area excavation also began on December 19, 1997. The contract documents required that an area measuring 15 feet by 25 feet (440 sf) be excavated to a depth of seven feet. The initial soil sampled collected for characterization of the area was collected from

visually stained, yellow and green, soils in this area. The results found the soils to be hazardous only for lead. Based on this sampling it was visually determined that the surface soils (1 foot deep) within approximately 10 feet of this area were also hazardous and were placed in the hazardous stockpile. Additionally, the remaining portion of a two and four foot excavation between the Monitoring Well 5 area and the Vat area was also visually contaminated (yellow and green staining) and were excavated to four feet and placed in the hazardous waste staging area for disposal. The design cut of seven foot was then completed in this area and the excavation backfilled with common fill (Figure 3).

2.6.2.3 Plating Vat Area (Vats C, D1, D2, D3, Q)

The contract documents required that the contractor remove soils from inside the plating vats (Figure 2). It was estimated that approximately 1500 tons of non-hazardous soils and concrete could be removed from this area. This 1500 tons included all soils and concrete from the surface down to 18' below ground level. The size of the vats varied in this area were from 4.5' to 18' deep. During actual excavation it was found that the concrete walls in each vat was highly contaminated with chromium and required disposal as a hazardous waste. The soil around the vats were also found to be highly contaminated with chromium which also resulted in this materials being disposed of as hazardous. It proved to be very difficult to remove any soil within the vats due to the depths of the various vats and the restricted opening size which prevented an excavator bucket from entering the vat. Due to the extremely high chromium levels in the concrete and the contamination of soil within the vats only 40 tons of non-hazardous waste was removed from the Plating Vat area.

The excavation of the Plating Vat area began on January 13, 1997, progressing in a east to west direction. Upon removing the first two vats and excavating down to the required 18' below ground surface a layer of yellow stained soils, approximately 10' below ground level , was visible in the east end of the excavation (photo no.1). Continuing the excavation to the west the yellow layer appeared to be almost continuous around the excavation and included a number of locations where the yellow stained soil continued into areas of dark brown crystalline soils. Samples of the yellow and dark brown soils were sent for total chromium and TCLP analysis. The yellow soil had a total chromium of 1600 mg/kg and a TCLP of 4.8 mg/L (5.0 mg/l regulatory limit) and two dark brown soil samples had total chromium of 12,000 and 5,100 mg/kg with respective TCLP's of 47.0 mg/l and 15.0 mg/l respectively. During the excavation of the Vat Area there were several areas of brown crystalline soil mass that exhibited a cohesive nature allowing removal in pieces as large as the excavator could pick up (photo no. 3). Also noted was the deep yellow color of the groundwater in the bottom of the excavation. On January 23, 1997 a test trench was dug extending south from the center of the Vat area to determine the extent of visually contaminated soils. In this trench the brown crystalline soils were determined to extend an additional 15 feet south from the edge of the original excavation. Yellow stained soils extended another 3 feet past that point. Other test trenches dug on the north west and east sides indicated that there was minimal extension of the contamination from the original contract area on these sides. Using this information a plan was drafted to continue the hazardous soil excavation.

2.6.2.4. Additional Excavations

At the completion of the Plating Vat area excavation the Department determined that it was

necessary to excavate additional hazardous wastes beyond the extent of the original Plating Vat Area. This plan required the removal of soil from zero to two foot in depth around the Vat Area as required by the original specifications and then the removal of 6 feet of soils (2 feet to 8 feet bgs) determined to be non-hazardous. This soil was stockpiled, to be returned to the excavation after removal of hazardous soil. This 6 foot removal was a continuous ring around the Vat Excavation of approximately 20 to 25 feet wide. This platform, 8 feet below ground level, would allow the excavation of hazardous soils found from 10-18 feet below the original ground surface (photo no. 5).

The excavation of the additional hazardous materials began in the north east corner of the excavation and proceeded to the south and around the original excavation. This additional excavation averaged approximately 15 feet horizontally beyond the original excavation and to a depth of 18 feet below original ground surface (Figure 3).

During the additional excavation along the south wall several areas of dark brown crystalline material were observed to go beneath the groundwater table. The contractor was instructed to remove these areas, however it was determined that these areas were not small anomalies, but rather a continuous large mass of chromium contaminated soils. An investigation to determine the scope of this soil "monolith" was conducted using an excavator (photo no. 6). Based on this work the monolith are was determined to be approximately 60' long, 45' wide and up to 15' thick. At this point it was determined that removal of these materials was beyond the scope of this contract and would require more thorough investigation and consideration as to how to remediate this contaminant source.

The original area of excavation to 18 feet depth in the contract measured approximately

84 feet by 30 feet. This area was expanded to approximately 114 feet by 60 feet in order to remove all hazardous waste (soil that exceeded TCLP limits for chromium) located with in the area of the plating tanks. The delineation of the contaminated soil was based both on analytical results and visual observations of the yellow and brown staining of soil. These results lead to the excavation of 1900 additional tons of hazardous waste from this area of the plant site.

Prior to backfilling the excavation, a layer of 20 mil HDPE was placed in the excavation on top of the monolith mass. The purpose of the liner was to both inhibit upward movement of groundwater and to later identify this zone during additional remedial activities at the site. After placement of the liner the excavation was backfilled with both clean common fill and surface soil removed from the upper zone.

2.6.2.5 Plating Vat Area M

Work in Area "M" began on November 22, 1996 with the removal of the concrete slab placed around the plating vat area and removal of the 2' excavation required over the entire site (Figure 2). This area was directly adjacent to the Say residence at 1004 Vine Street where the plant building had allegedly encroached on the Say property. While making the 2' excavation it was noted that the concrete of the west wall (Vine Street Side) of the plating vat and an adjacent floor slab and subsurface soil found west of the vat were both stained yellow. The stained concrete and soils were segregated for disposal analysis purposes. A sample of this concrete was sent for TCLP analysis and found to be hazardous with a TCLP chromium level of 26 mg/l (5.0 mg/l limit). Based on this analysis all yellow concrete and soil in this area was presumed to be hazardous and handled as such.

The contract required that only a small triangular area (570 sq. ft.) be excavated to a depth of 7 feet. As excavations of this area continued, half of the north wall was shown to be stained yellow as was the entire bottom of the vat. After removing the bottom slab, an additional foot of soils stained yellow was removed to a total depth of 8 feet. At the conclusion, the entire plating vat plus adjacent soils were removed.

The soil and concrete removed from area "M" increased from 156 cubic yards with approximately 45 cubic yards hazardous to 260 cubic yards with approximately 120 cubic yards hazardous (Figure 3).

Two verification samples were taken on December 19, 1996 to determine if the contamination continued beyond the Van der Horst property. The first (VD-252) was from the west corner of the excavation (in an area of discolored soil) where Van der Horst property and the end of Vine Street meet, found to be 7,220 mg/kg. The second (VD-253) was from the bottom of the excavation at eight feet (bgs) was found to be 39.7 mg/kg. Additional soil was removed in the area of sample VD-252 until all discolored soil was removed. No additional verification samples were taken in this area.

2.6.3 Concrete Structure Removal

Concrete removal began on November 19, 1997 with the removal of the concrete slab structures on the Plant Site. On November 22, 1997 while breaking up concrete adjacent to the Say residence on Vine Street, concrete impregnated with yellow crystalline materials was encountered. TCLP analysis of the concrete found this stained material to be a characteristic hazardous waste for Chromium. All concrete had been designated as non-hazardous waste in the

design specifications. Stained concrete was also found in the Dip Tank area, and through out the Area "G" excavation and adjacent slab concrete. Most all the concrete in the plating vat areas exhibited a visual characteristic yellow staining (photos 2 & 4) that allowed visual determination for disposal purposes. The staining was shown to penetrate the concrete as much as 3 inches from both sides of the structure. This "yellow" stained concrete typically exhibited a TCLP concentration greater than the regulatory limit of 5.0 mg/l, and as such, determined the stained concrete a hazardous waste.

A total of 987 cubic yards of concrete were excavated, 98 cubic yards less than the design quantity of 1,085 cubic yards. However, the concrete was sent off site as hazardous waste due to the extensive yellow staining and hazardous characteristic of sampling results. It was assumed in the contract documents that the bulk of the concrete would be non-hazardous.

2.6.4 Underground Storage Tank (UST) Removal

APV initiated this phase of the work by attempting to located the suspected USTs by excavating several test trenches in the general area of the tanks. Only one of the three suspected areas yielded a tank. This tank was found to be a 10, 000 gallon tank and not 1,000 gallons as specified in the contract. This tank also was found to be partially full of a petroleum material and not empty as shown in the contract documents.

BUG Environmental was retained by the contractor to remove the UST and its contents. They began their work on November 11, 1997. 3,500 gallons of waste petroleum and water were pumped from the UST and disposed of at RecOil of York PA. The results of analysis of the contents is provided in Table 8. The tank was emptied of sludge and debris by BUG

Environmental. Two samples of the UST excavation were taken on November 14, 1997 for volatile organics and semi-volatile organics (SW-846 Methods 8270 &8021 respectively). The first sample was a composite of the four walls of the excavation and the second a composite of the excavation bottom. While the analytical results (Table 7) were found to slightly above the STARS Guidance Values criteria for six of the thirty parameters, no single parameter exceeded the 10,000 ppb criteria and there was no visual signs of soil staining and no petroleum odor noted. Residual petroleum products have also been detected in many of the off-site and on site wells that have been contributed to the extensive petroleum refining history of the region. Therefore no further excavation was performed.

2.6.5 Sewer and Water Line Removal

2.6.5.1 Sanitary Sewer Removal

The sanitary sewer line entering the Van der Horst property from Penn Avenue could not be permanently disconnected in accordance with the Contract documents. During excavation of the shallow (0-2' bgs) non-hazardous soils on the site and the subsequent removal of the site sewer line, an active lateral sewer line from the McKean Machine property was found to enter the Plant sewer line inside the Van der Horst property. The lateral was broken during the two foot excavation in this area because the lateral was only 12" below grade. The City of Olean was informed of this lateral. Although the sewer line was within the plant site it was also located along a "paper" street which was an extension of Penn Avenue. The City of Olean required that the plant line being only removed up to the McKean Machine tap, and a clean-out installed to allow maintenance of the line (Figure 6). APV was directed as per Proposed Change Order # 4 to install

a clean out immediately upgradiant of the lateral and to abandon all line upgradiant as per the specifications. The abandonment and subsequent installation of a clean out were spaced over several months as the concrete pad around the clean out could not be constructed till topsoil was placed.

2.6.5.2 Storm Sewer

A City storm sewer line served the Van der Horst Plant from Vine Street. The last City manhole on this line was located on the plant site and was left in place. All lines discharging to the manhole were removed during excavation activities and the resulting stubs cement plugged on February 24, 1997.

2.6.5.3 Water Line

The water supply line to Van der Horst plant entered from Vine Street. APV contracted with Anderson Shortell, a licenced Plumber, to disconnect this line in accordance with City requirements. The disconnection was completed on December 12 & 13, 1996. The water lines and meter box on the site were removed on February 19, 1997.

2.7 STORM SEWER CLEANING

The cleaning of storm sewers was subcontracted to Superior Sewer Cleaning who began work on September 30, 1997. The subcontractor attempted to perform the initial pre-cleaning video taping of the storm sewer, but were unable to because of sediment build up and/or standing water in the lines. Superior was directed to attempt a "pre"cleaning of the sewer using less than

full pressure and then video taping sewer. This "pre"cleaning resulted in the complete cleaning of the sewer and only a final, clean video tape was produced.

Superior had difficulty cleaning a section of storm sewer due to an "unknown" manhole approximately 25' upstream from the control valve at the levee of Olean Creek. After investigating if a manhole was possibly buried in this location, none could be documented. Superior was directed to approach this anomaly from the downstream direction and no manhole was found.

Storm sewer cleaning was satisfactorily performed by Superior Sewer Cleaning and was completed on October 23, 1997. A report of the cleaning of the 2,350 feet of storm sewer is provided in the project files. A copy of the report and the video of the Cleaning operation has been provided to the City of Olean for their use.

2.8 STORM SEWER INSTALLATION

The storm sewer and french drain system specified in the contract could not be installed as designed. After beginning excavation an active sanitary sewer from the McKean Machine firm south of the plant site was encountered discharging into the existing sanitary sewer. Although the City was not aware of this tap in, City records did show that the line to be removed was within the City right of way on Penn Avenue "paper street" that was within the plant site. After discussion with City personnel form the Department of Public Works it was agreed that the sewer was to be left in place and a clean-out structure installed for future maintenance (PCO No.5). Because the sanitary sewer was within the path of the proposed storm sewer an alternative method to address the storm water runoff at the site was required.

An alternative design called for the installation of 2 "dry well" structures to receive the collected storm waters was provided by the Department to APV as per Proposed Change Order No. 4.

The dry wells are 8' diameter , 10' deep, precast concrete structures with opening for water transport around the entire perimeter top to bottom and having an open bottom. The first dry well is located approximately 15' west of the surface catch basin on site, and the second basin is located 30' north of the first and receives water from the french drain built in the back yards of residences at 945 and 949 N. 4th Street. The two dry wells have a 6" PVC pipe, installed 4' below ground, between them (Figure 6). The pipe was installed so that should one dry well malfunction and begin to fill with water it would flow to the other dry well.

The french drain advances 80' into the property at 945 N. 4th Street and 10' into the property at 949 N. 4th Street. Additionally the french drain previously installed around the swimming pool at 949 N. 4th Street is connected to the drainage system.

2.9 TWO MILE CREEK SEDIMENT REMOVAL

Work began at Two Mile Creek on September 9, 1996 with a preliminary survey of the creek, and the clearing of brush in the area to be used as a staging area. This staging area was located on an old railroad right of way that crosses Two Mile Creek within the work zone adjacent to the 125' bridge. On September 10, 1996 APV, with assistance of a representative from Northeast Water Structures, placed a 4' high water structure 35 feet downstream of the Indeck facility service road to serve as the primary dam to allow the excavation of creek sediments. A secondary, 2' high water structure, was placed approximately 500' downstream to

prevent backflow into the work area. Creek flow was diverted by APV using a 6" gravity pipe under the water structure and a 3" gas powered pump around the water structure. The 3" pump was later changed to a 4" gas powered pump for increased flow. On September 17, 1996 a heavy rain resulted in the water structure dam being washed out by high water in the creek. To prevent further wash outs, APV used an 8" diesel pump with 500' of hard hose to divert the creek flow. APV also had a second 8" diesel pump onsite to assist or as backup to the first. This system was used until the completion of the project.

The three days of background air monitoring for the Two Mile Creek site was conducted on September 11, 12, 14, 1996. Real time and documentation air monitoring were conducted on days that excavation or moving of soils and sediments occurred, except during days with significant rain which would have damaged the instruments and also negated any possible dust problems.

The work zone was dewatered with 2" and 3" gas powered pumps with the discharge going thru a Dirt Bag® provided by Northeast Water Structures. The Dirt Bag® had a pore size of 0.15 mm , but could not reduce the turbidity of the discharge to the required 50 NTU. Another thicker Dirt Bag® was tried with the same pore size, but again it did not reduce the turbidity to the required level. This method of dewatering was rejected by the Department. In lieu of treatment APV contained the dewatering waters into a 1000 gallon poly tank staged near the staging area and the decon pad. The dewatering water and generated decon waters were returned to the Van der Horst Plant #1 using the Vac truck form Gieben, an APV subcontractor, and placed in poly tanks there. This water was analyzed and disposed of in the City of Olean sewage treatment system. Waters generated after October 4, 1996, from decontamination procedures and the removal of

water from the staging area were place in the 1000 gallon poly tank at the staging area. On November 15, 1996 APV notified the Department that at sometime between, October 22, 1996, and November 15, 1996, the plug in the 1000 gallon poly tank was removed and the waters drained onto the ground. The DEC inspector investigated the situation and was unable to discern a spill location or impacted area. It was decided that the waters had minimal contamination and any further remediation of the "spill" area would have accomplish little. This decision was based on the low levels of chromium detected in previous samples of wastewater and that the release occurred with in the former railroad yard consisting of slag and ballast fill materials.

APV's initial staging area was constructed in the flood plain along the creek bed between the railroad bridges on September 16, 1996 and was washed out by 1.28" of rain September 17, 1996. Another staging area was constructed on the old railroad yard area September 18, 1996. Excavation of the creek was started on September 19, 1996 using a Komatsu PC 120 excavator to remove sediments and a Komatsu 250 front loader to transport them to the staging area. Work progressed from the upstream extent going downstream, to minimize the potential of recontaminating clean areas when high waters breach the 4' water structure. Excavation of creek sediments was generally performed in 200 foot sections of creek.

Excavation under the railroad bridges was accomplished with a Takeuchi TC 26 loader, a rubber track loader with a high track configuration. Two other pieces of equipment were tried before this machine, a skid steer with tracks and a tiny excavator with rubber tracks. These two machines sank in the sediments and could not get enough traction to move the sediments from beneath the bridge structure. Even with the Takeuchi TC 26 track loader, APV was unable to excavate only the one foot required in the contract, but took an additional foot of sediments under

the smaller 65 foot railroad bridge (at no additional cost to the Department) due to the soft nature of the underlying soils. During the excavation it was shown that there was a dark gray layer of clay beneath the creek bed. While this soil made it easy to confirm sediment removal, the consistency of the clay could not sufficiently support the weight of any piece of equipment.

Under the longer 125' railroad bridge APV found a layer of petroleum contaminated sand and gravel beneath the one foot of chromium contaminated sediments. A proposed change order, PCO #2, was issued requiring APV to remove these petroleum contaminated sediments. The petroleum contaminated sediments had a very high water content. When trying to move the sediments together they created a very loose sediment/water mixture that ultimately would need and dewatering before being shipped to a landfill for disposal. An additional staging area, 3' deep, was constructed to contain these loose sediments. APV hired a subcontractor, Gieben Environmental, with a "supersucker" vacuum truck to pull the sediments up out of the creek bed after it was decided that the excavator could not effectively remove this mixture.

Excavation of Two Mile Creek was completed on October 3, 1996. An inspection was done on October 4, 1996 and the Two Mile Creek project was determined as Substantially Complete.

On October 14 and 16, 1996 APV mixed approximately 125 - 94 pound bags of Portland cement with the loose sediments removed from beneath the 125' railroad bridge to achieve a consistency with no free liquids. The sediments were shipped for disposal on October 21 and 22, 1996 to the CID Landfill in Chaffee, NY. A total of 637 tons of waste were generated from this project.

2.10 OLEAN CREEK SEDIMENT REMOVAL

2.10.1 Initial Attempt

Work at Olean Creek began on October 9, 1996 with the installation of a four foot high perimeter fence around the entire work zone. AllState PowerVac proceeded to construct the necessary access roads and staging areas. The contractor requested permission to excavate accumulated soils on the east bank to widen the channel. Additional channel width was required to provide sufficient flow capacity when the stream flow was diverted around the work area. After consultation with the Regional Flood Control Engineer, Mr. Theodore Myers, P.E., the Department granted permission for the excavation of the east bank soil at the contractor's own cost. Prior to excavation, these soils were analyzed, confirmed to be uncontaminated (Table 7). This soil was excavated and temporarily stored on site and then later transported to be used as fill at Gile Hollow Road in the Town of Hinsdale. Installation of the water diversion structures began on October 17, 1996. During the next two weeks, typical seasonal rain falls resulted in a increase of stream flows above the maximum flow (80,000 gallons per minute) provided in the contract documents. Due the increase in creek flows (125,000 gpm), APV could not successfully install the water diversion structures and proceed with the excavation of sediment as required. On November 1, 1996 work at Olean Creek was suspended because water levels in the creek prevented the installation of the structures to divert water flow around the work zone. The safety of workers and the possible damage to the Olean Creek Flood control project were also major considerations. At the Department's approval the work at Olean Creek was rescheduled to August 1997.

2.10.2 Resumption of Work

On August 5, 1997 the contractor resumed efforts to remediate Olean Creek. Access roads and staging areas were still in place from October 1996 so the contractor proceeded directly to water structure installation. After the installation of the silt curtain the contractor began placing concrete blocks in the creek to be used as support walls for the ends of sections of Water structures at the recommendation of the Northeast Water Structures manufactures representative. Installation of the diversion structures was reinitiated on August 11, 1997. The diversion structures consist of two plastic tubes inside a geotextile tube. The plastic tubes must be placed inside the geotextile in a precise manner to assure proper alignment and equal filling of the plastic tubes. The both plastic tubes were filled using a 3" trash pumps at the same time, keeping them equal in size. Problems encountered during water structure placement included holes in plastic tubes, twisted plastic tubes, failure to keep the path of the inflating structure parallel to the work zone boundary, and improper sized structures for the depth of water in that area. Any of these situations required that the structure be removed from the creek, repaired, rebuilt, and rerolled before installation could be attempted. Installation of the water structures was completed on August 20, 1997. Dewatering of the work zone began on August 20, 1997 using two 3" pumps and one 4" pump. There was no significant drop in the water level in the work zone until August 27, 1997 using a 6" and a 4" hydraulic pump with two 6", one 4" and a 3" trash pumps. The evening of August 27, 1997, while drawing down the water level in the work zone, one section of the dam structures suffered a major failure. It appeared that the increase in differential pressure caused by dropping water level in the work zone, increased the infiltration of water around and under the concrete block walls that were used to dead end the water structures to. The concrete block wall in the

deepest portion of the creek experienced sever erosion of the creek bed beneath the wall leading to the collapse of the wall and the loss of water from one of the abutting water structures. After repositioning the dam structures, the difference in water levels on each side of the dam structures was eventually maintained at a level that minimized infiltration around the concrete block structures. Even though this method of control was tried, the dam structures failed and were required to be reinstalled on several occasions.

2.10.3 Creek Bed Remediation

While attempting to dewater the work zone the contractor was able to remediate the upper 225' of creek bed as it was above the ponded water in the rest of the work zone. The cleaning of the creek bed was accomplished using a 3" pump and hose with an inch and a half nozzle. The addition of a water source created enough energy to mobilize sediments into the water so it could be vacuumed with the "supersucker" vacuum truck. After 225' of creek bed remediation the contractor had generated approximately 4 cubic yards of sediments. A visual inspection of the remaining creek bed determined that there was not a significant quantity of sediment in the remainder of the creek bed except directly along the toe of the flood control levee where vegetation had accumulated. Samples of sediment in the Creek bed (Table 5b) also showed that the sediment contained low levels of chromium near or below the clean-up goals. Based on these observation further sediment removal in the creek bed was discontinued.

2.10.4 Creek Bank Excavation

Excavation of the west bank of the creek began on August 27, 1997. The first day approximately 220' of excavation was completed per the original specifications and five verification samples taken. During this first day of excavation, it was noted that most of the material being excavated was rock and contractor requested clarification as to what the Department would like to remove. It was determined by the Department after review of flood control project construction records that a significant zone of rip-rap was in place at the toe of flood control levee the entire distance of the remediation area. The layer of rip-rap was located only approximately 6 to 12 inches below the ground surface. It was agreed with the contractor that rock on the surface, with dimensions in excess of 18", would be cleaned of soil and left onsite. It was further agreed, after visual inspection of the Creek bank that a portion of creek bank was covered by large sections of rip-rap (>4 foot) from the Route 16 bridge to a point approximately 245 feet upstream. This area had been previously distributed during the reconstruction of the Route 18 in 1971. Due to this area, the length of remediation necessary to be conducted was reduced from 800 feet to 555 feet.

Once the creek was dewatered and sediment removal initiated it was realized that the volume of sediment had been grossly over estimated in the contract documents by the design engineer. Where 6 inches of sediment was to be removed from the creek bed, the cobble layer was visible and contained only thin layers of sediment between the stones. Sediment/soil along the shore line was also minimized due to the soil being interlaced with a massive rip-rap zone (est. 8,000 cubic yards) in the toe of the flood control levee structure. Clean soil, free of rip-rap consisted of only a 6 inch layer of topsoil and not the 18 inches identified in the specifications.

All soil below the topsoil layer was located within the rip-rap zone and could not be easily excavated to the design depth. At the direction of the Department the contractor was instructed to remove the top 12 inches of soil and rock. Verification samples were collected which showed that the area directly down from the storm sewer structure exceeded clean-up goals. An additional 12 inches of material was removed and the area resampled. Verification samples collected within the rip-rap showed that the concentration of chromium in the soil did not decrease with depth. Since the excavation was below the level of the creek bed and was well with in the rip-rap area, excavation was terminated. At the conclusion of excavation activities and at the final cut depth of 18 inches (bgs), clean-goals were exceeded. While clean-up goals were exceeded, contact with this material was eliminated by reconstructing the levee as designed. This was done by placing rip-rap along the toe of the levee that completely covered the excavation area and then filling the void spaces with in the rip-rap with topsoil. Verification samples in the creek bed showed that clean-up goals had been achieved. Approximately 250 tons of soils were removed from the creek bank during this phase of the project.

2.11 TRANSPORTATION AND DISPOSAL

2.11.1 Non-Hazardous

Non-hazardous wastes included sediments from Two Mile Creek, the storm sewer sediments from Van der Horst Plant #1, non-hazardous concrete from the Van der Horst Plant #1, the non-hazardous soils from the Van der Horst Plant #1, and the sediments and bank soils from Olean Creek. All transportation and disposal of non-hazardous waste was completed by CID Inc.

The transportation was principally done by CID, however, during the removal of non-hazardous materials from the Van der Horst Plant #1 site, CID subcontracted with Gernatt Gravel to help transport wastes to the CID Landfill in Chaffee. This subcontracting allowed both the CID and Gernatt trucks to deliver backfill materials and backhaul the non-hazardous wastes.

All non-hazardous waste were disposed of at the CID Landfill at Chaffee, NY.

2.11.2 Hazardous Waste

Hazardous wastes consisted of soils and concrete from the Van der Horst Plant #1. These materials were determined to be hazardous by TCLP analysis for either chromium or lead. The transportation and disposal of hazardous waste was completed by MAX Environmental of Pittsburgh, PA.

The transportation of the hazardous waste was subcontracted to Dart Trucking who further subcontracted Price and Page trucking companies to meet their obligation. The waste were transported to Mill Service, Inc in Yukon, PA., a subsidiary of MAX Environmental for treatment and disposal.

On January 16, 1997, during the transportation of wastes to Mill Service, a Price Trucking Company vehicle jack knifed and spilled its load of hazardous waste in the median of Route 17 in the Town of Allegany, approximately five miles from the site. Price Trucking contracted with APV to clean the spilled material. A NYSDEC representative was present during the cleanup operation to insure that the clean-up of the material was in conformance with all State regulations. No problems were noted during the clean-up of this spill. All spilled soil material was removed along with 6 inches of native soil from the spill area to insure all contamination was removed. No

verification samples were collected.

2.12 CLEAN BACK FILL MATERIAL

The fill material approved for use at the Van der Horst Plant #1 site was a screened 2" bankrun gravel referred to as Common fill. The original source for this material was CID Landfill where the common fill was to be back hauled with the same trucks taking non-hazardous waste to their landfill facility. CID was provided with the material specifications and submitted a sample and data for their material which met these specifications. However the first truck arriving onsite contained numerous rocks in the 6" size range and a single rock approximately two foot square. This load of fill was rejected by NYSDEC and discussions with CID started to determine why the material did not meet the specification. CID stock pile was not screened and they had no means to do so. It was determined that CID would have to find another source of common fill to deliver to the Van der Horst Plant #1 Site to meet their contract requirements. CID made arrangements with Woodward Gravel Pit in Chaffee to supply the common fill. Woodward is a DEC permitted mining facility. Samples and grain size analysis of the material were submitted to the Department, as required by the contract, and were acceptable to the DEC for common fill. As the scope of excavation at the Van der Horst Plant #1 Site increased it become apparent that additional common fill would be required. CID declined to provide the extra common fill. APV located another source of fill, Lippert Gravel in the Town of Allegany, which was field inspected by the DEC inspector and a representative of APV. A particle size analysis of this source was submitted to the DEC and found to be acceptable. The remaining common fill came from this Lippert Gravel Pit.

2.13 TOPSOIL, SEED AND MULCH

Top soil for both the Van der Horst Plant #1 site and the west bank of Olean Creek was received from the Lippert Gravel Company gravel pit in the Town of Allegany. The analysis of soil was found soil to be slightly acidic and required supplemental lime to achieve the minimum pH of 6.0. The quantity of lime required to raise the pH was determined by the Cornell Cooperative Extension. The subgrade surface at the Van der Horst Plant #1 site was scarified to a depth of 3" with a farm tractor and appropriate equipment prior to placing of topsoil. Topsoil was placed from September 9 to 16, 1997. The topsoil was york raked to a smooth surface and large rocks removed prior to hydroseeding. Ransomwood landscaping of Hamburg, New York was retained by the contractor to hydroseed, fertilize and mulch the Van der Horst Plant #1 site. The hydroseeding was completed on September 18, 1997. The initial seed mix prepared by Ransomwood did not meet the specified seed mixture. Ransomwood delivered the proper seed to the site later in the afternoon and completed the seeding. The results of the soil testing were not received until after seeding, so the contractor purchased and placed the appropriate quantity of lime themselves on October 9, 1997.

Olean Creek's west bank was top soiled on September 22 and 23, 1997. Seeding fertilizing and mulching were completed by the contractor on October 10, 1997. The quantity of topsoil utilized on the project was 1,596 cubic yards.

2.14 MONITORING WELL ABANDONMENT AND RESTORATION

Nine (9) monitoring wells (MW-2, 3S, 3D, 5S, 5D, 5B, 15, 16, 17 and a 10" inch dia. 85 ft. deep former production well) were scheduled to be abandoned in accordance with the

requirements of the Contract Documents. In addition to the monitoring wells on the site, APV was directed per PCO#1 to abandon seven (7) monitoring wells and one (1) piezometer for total depth of 302.5 feet, at the Van der Horst Plant #2 site. This work was also completed as part of the work at the Plant #1 site. APV contracted with Marcor Environmental to perform the decommissioning and installation of all monitoring wells on the site.

All monitoring wells were over drilled using a 4.25 inch hollow stem auger to the design depth of the boring and backfilled with a bentonite/Portland cement grout mixture. The 10 inch production well, located east of main building foundation, was not abandoned in accordance with the Contract documents. APV requested that the method for abandonment be altered. APV proposed that the total depth of the casing be measured, any pipes, pumps or other debris removed from the well, tremie grout the casing with cement-bentonite grout to surface, cut off casing 5 feet below ground surface, and backfill with common fill. A credit of $1,694.54 was provided to DEC for the change in the work. Abandonment of the wells was completed on November 21, 1996. During excavation of soil an additional 10 inch suspected production well was found 15 feet southeast of the original production well shown in the contract documents. This well was also decommissioned, using the procedure described above, as directed by PCO#3.

Prior to the installation of the site monitoring wells a review of the Remedial Investigation Report for the site raised a question concerning the risk posed to down gradient public water supplies from Van der Horst Plant #1. Two issues were identified.

1. There was some ambiguity concerning axis of the plume as plotted in the Report figures. If the direction of the plume were in fact slightly different from the illustrated, there could be significantly higher levels of contamination on a vector directed toward the public water

supply wells located approximately three miles down gradient.

2. The clay layer that is present under the site is discontinuous off site. There was a question whether the concentrated Cr+6 plume present under the site has a component that sinks below the clay layer and propagates at depth within the aquifer.

To answer these questions a series of eight (8) ground water monitoring wells were installed off site, on the property of Dresser Rand Corporation. This non-PRP neighbor was most accommodating in facilitating installation of the wells on their property. However, some adjustment in proposed well locations was necessitated by the fact that this is a working manufacturing facility. The final well locations were deemed suitable to produce data satisfactory to answer the questions outlined above.

Reinstallation of the monitoring wells commenced on March 10, 1997 and was completed on May 5, 1997 by Marcor. As per PCO# 7, PW-17D and PW-5D were deleted from installation at the VDH#1 site. In lieu of these wells, three very deep (~115') monitoring wells were installed at the Dresser Rand property. In addition, five additional shallow (MW-19S, MW-20S, MW-21S) and deep (MW-20D, MW-21D) monitoring wells were also installed on the Dresser Rand property as per PCO#7. With the exception of the very deep wells, the driller installed the wells using a 4.25 inch hollow stem auger and following the procedures outlined in the Contract documents.

Three very deep wells were installed (MW-11VD, MW-20VD, MW-21VD). They were constructed by grouting a 6" casing into a confining layer encountered from 75' to 85' below ground surface. This casing prevents the possible migration of contaminates between aquifers.

All wells on site were installed at the locations noted on the contract drawings with the exception of PW-5s and PW-5d , which were installed 30 feet south of their original locations.

The wells were moved to better place them in line with the groundwater flow from the site. The Plant #1 wells were developed by Marcor staff from June 3 to 11, 1997. The location of all the monitoring wells for the site is shown in figure 9. Copies of the well construction diagram are included in Appendix F.

2.15 FIELD ORDERS

Field Orders are provided for clarification of work requested beyond the original scope. Costs were included under existing line items or in subsequent Proposed Change Orders.

Copies of all Field Orders and related documentation are included in the project records maintained by NYSDEC, Division of Environmental Remediation. The specifics of each item is detailed in Appendix E.

2.16 PROPOSED CHANGE ORDERS/CHANGE ORDERS

Eight proposed change orders were issued by NYSDEC to address unforseen site conditions during the course of the work. These proposed change orders were incorporated into three formal change orders. Change Order No. 1 encompassed work specified by Proposed Change Order (PCO) No. 3 and the increase in disposal quantity of concrete and hazardous soil to do the discovery of additional contamination on the site. Change Order No. 2 encompassed all work specified by PCOs Nos. 1 through 7. Change Order No. 3 (final) encompassed all work specified by PCOs Nos. 8, 9 and 10. These PCOs dealt with various contract issues as shown below in detail.

A description of the individual Proposed Change Orders (PCOs) and Change Orders (COs)

is provided in Appendix E - Description of Change Orders and Field Orders. Copies of all proposed change orders and formal change orders are included in the project records maintained by NYSDEC Division of Environmental Remediation.

A summary of the Change Orders issued for the project are as follows:

2.16.1 Change Order No. 1

Change Order No. 1 was issued on February 24, 1997. This change was necessary to correct several design miscalculations concerning the quantity of concrete and hazardous soil to be excavated and disposed of.. The contract time was also extended to allow the additional work to be accomplished.

The change order increased the amount of the Contract by $461,278.59 to a total amount of $1,772,534.59. The specifics of each item is detailed in Appendix E.

2.16.2 Change Order No. 2

Change Order No. 2 was issued on June 2, 1997. This change was necessary to correct several design omissions and unknown conditions that were encountered during the remedial activities at the site. This change order increased the amount of the Contract by $208,940.60 to a total of $1,981,475.19. The specifics of each item is detailed in Appendix E.

2.16.3 Change Order No. 3 (final)

Change Order No. 3 was issued November 17, 1997. This change order was necessary to adjust final unit price quantities to their actual values and extend the time to substantial

completion. Changes in the unit prices quantities were necessary based on unforseen site conditions that resulted in changes in the design. The major changes in design resulted in the removal of additional quantities of hazardous contaminated soil which increased the quantity of excavation and disposal costs for the project. Credit was provided for a lesser quantity of non-hazardous soil removed from the site and a reduced cost for sediment/soil removal from Olean Creek. The time for substantial completion for Sub Part B - Olean Creek was also extended to allow the contractor to complete the sediment removal in Olean Creek during design dry flows during the summer of 1997.

This change order decreased the amount of the Contract by $64, 819.36 to a total of $1,916,655.83. The specifics of each item is detailed in Appendix E.

3.0 CONCLUSIONS AND RECOMMENDATION

3.1 CONCLUSIONS

In general, the remediation of the Van der Horst Plant #1 project was satisfactorily completed by APV. However, the Department was not satisfied with several aspects of the work including the delays that were encountered during the Olean Creek sediment removal project.

During the Olean Creek project, APV failed to begin sediment removal as specified by their initial schedule. This work was further delayed due to their failure to properly install the required stream diversion system in a timely manner. These delays resulted in APV exceeding the substantial completion date established in the contract. Work was prohibited from continuing in 1996 due to the on set of wet weather and the resulting increase in stream flow to unmanageable levels. Stream work recommenced in dry weather in late 1997. Again work was delayed due to

the installation of the stream diversion devices. Once the actual excavation work was started, it was completed in a timely manner. Once the creek was dewatered and sediment removal initiated it was realized that the volume of sediment had been grossly over estimated in the contract documents by the design engineer. Where 6 inches of sediment was to be removed from the creek bed the cobble layer was visible and contained only thin layers of sediment between the stones. Sediment/soil along the shore line was also minimized due to the soil being interlaced with a massive rip-rap zone (est. 8,000 cubic yards) in the toe of the flood control levee structure. Clean soil, free of rip-rap consisted of only a 6 inch layer of topsoil and not the 18 inches identified in the specifications. All soil below the topsoil layer was located within the rip-rap zone and could not be easily excavated to the design depth. At the direction of the Department the contractor was instructed to remove the top 12 inches of soil and rock. Verification samples were collected which showed that the area directly down from the storm sewer structure exceeded clean-up goals. An additional 6 inches of material was removed and the area resampled. Verification samples collected within the rip-rap showed that the concentration of chromium in the soil did not decrease with depth. In fact samples showed that the concentration of chromium increased with depth through the rip-rap material. It is theorized that after installation of this riprap in 1952, wastewater discharged from the Van der Horst facility, via the City storm Sewer, infiltrated the void spaces between the riprap, contaminating the entire structure (6,000 cubic yards). Since the excavation was below the level of the creek bed and was well with in the rip-rap area, excavation was terminated. At the conclusion of excavation activities and at the final cut depth of 18 inches (bgs), clean-goals were exceeded. While clean-up goals were exceeded, contact with this material was eliminated by reconstructing the levee as designed. This was done by placing

rip-rap along the toe of the levee that completely covered the excavation area and then filling the void spaces with in the rip-rap with topsoil. Verification samples in the creek bed showed that clean-up goals had been achieved.

The total amount of sediment removed from the creek decreased from 2,100 cubic yards to 139 cubic yards, a 93% decrease in sediment quantity.

The remedial work perform at the Two-Mile Creek project was conducted in a satisfactory manner. The quantity of sediment removed during the work was comparable with the quantity estimated in the contract documents. A area of additional contamination (125 cubic yards) was identified under the 125 foot bridge section and was expeditiously addressed by the contractor.

The only issue at Two-mile creek of concern was the vandalism of a storage tank containing approximately 1000 gallon of decontamination waters. The content of the tank were discharge to the ground surface with in the staging at the end of the project by unknown persons. Since previous samples of other water showed only trace levels of contamination and the discharge occurred with in the railroad yard, the release was of minimal concern. After termination of the Olean Creek project, APV proceeded with the excavation and disposal of the non hazardous and hazardous soil at the plant #1 site. Several additional areas of highly contaminated concrete and soil significantly increased the quantity of hazardous waste that required to be excavated and disposed which APV conducted in a satisfactory manner. Several other miscellaneous tasks were also required to be performed that had not been identified in the contract documents in order to complete the project as designed. Several of the items, not included in the specifications, were removal of a 8,000 gallon UST full with petroleum material, removal of an additional 35 foot plating tube, decommissioning of a additional 10 inch production well, and excavation of several

additional areas of non-hazardous soil. At the design limits of the excavation a large (est. 2,750 cubic yards) "monolith" of highly contaminated soil was located in the area of the plating tanks. Because this material was located below the groundwater table, conventional excavations could not be completed due to the unstable subsurface soil conditions that exist (flowing sands).

APV's bid price of $1,311,256.00 was exceeded by approximately 46%, primarily due to a $445,696.85 increase in cost attributed to the disposal of hazardous soil and concrete from the Van der Horst Plant #1 Site. Other cost increases can be attributed to the unknown items noted above and the increase in analytical requirements, abandonment and reinstallation of additional monitoring wells and several other exceedences in contract quantities. The final Contract Price for this project is $1,916,655.83.

3.2 RECOMMENDATIONS

1. It is recommended that the Department continue with the remediation of the Van der Horst Plant#1 Site by addresses the additional area of contaminated soil identified during this project. Remediation of this area will require preparation of contract documents for the excavation and off-site disposal of the remaining subsurface hazardous soil on the site.
2. Groundwater extraction, with treatment, will be evaluated once the additional area of contamination has been removed.
3. Long term groundwater monitoring should not be implemented until additional remedial activities are completed on the site.
4. The Department and NYSDOH shall evaluate the residual contamination that remains

at the Olean Creek project and determine if any significant health or environmental concerns warrant further remedial activities. If it is determined that the remaining contamination poses no threat to either public health or the environment, a deed restriction should be placed on the property. Appropriate notification should also be made to the US Army Corp of Engineers and NYSDEC Division of Water - Bureau of Flood Protection, regarding the contamination so that appropriate precautions can be taken if work on the flood control structure is preformed in this area.

5. No reclassification of the site is recommended at this time until the additional contamination on the Van der Horst Plant #1 Site has been addressed.

SITE PHOTOS

1. PLATING VAT AREA EXCAVATION
2. CONTAMINATED CONCRETE
3. TYPICAL "MONOLITH" MATERIAL
4. CONTAMINATED CONCRETE
5. PLATING VAT AREA EXCAVATION
6. MONOLITH TEST TRENCHES
7. MONOLITH TEST PIT
8. FINAL SUBGRADE ON SITE

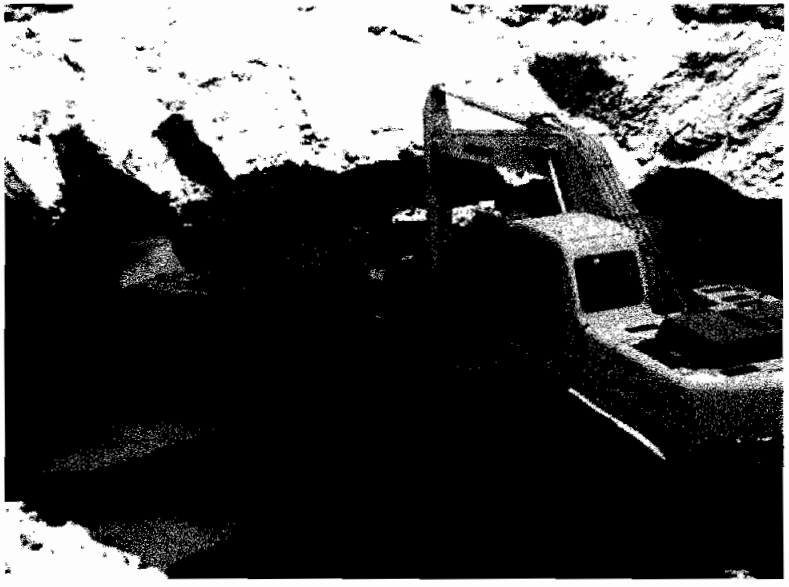
Plating Vat area excavation showing layers of high chromium contaminated soil along east side of excavation.
PHOTO No. 1

Contaminated "hazardous" concrete removed from Vat Area M
Note yellow staining into concrete.
PHOTO No. 2

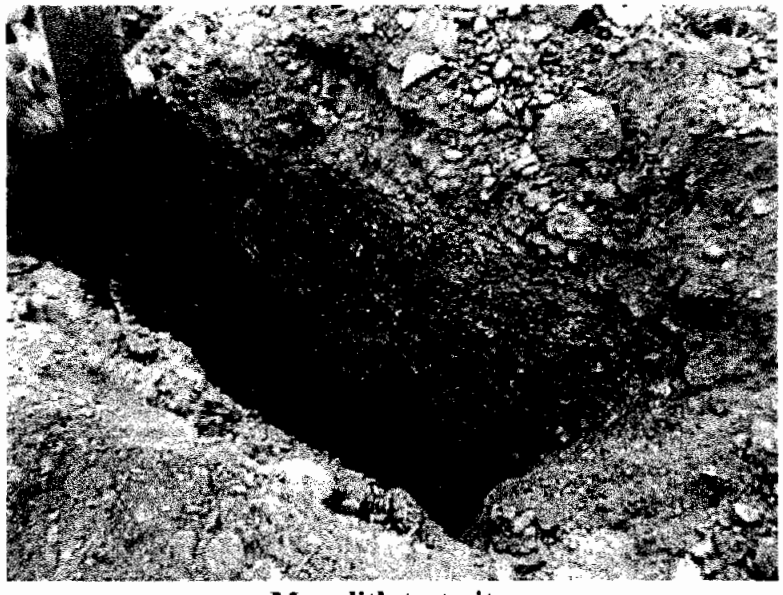
Typical conglomerate of contaminated soil from monolith material.
PHOTO No. 3

Contaminated concrete from Plating vat area.
PHOTO 4

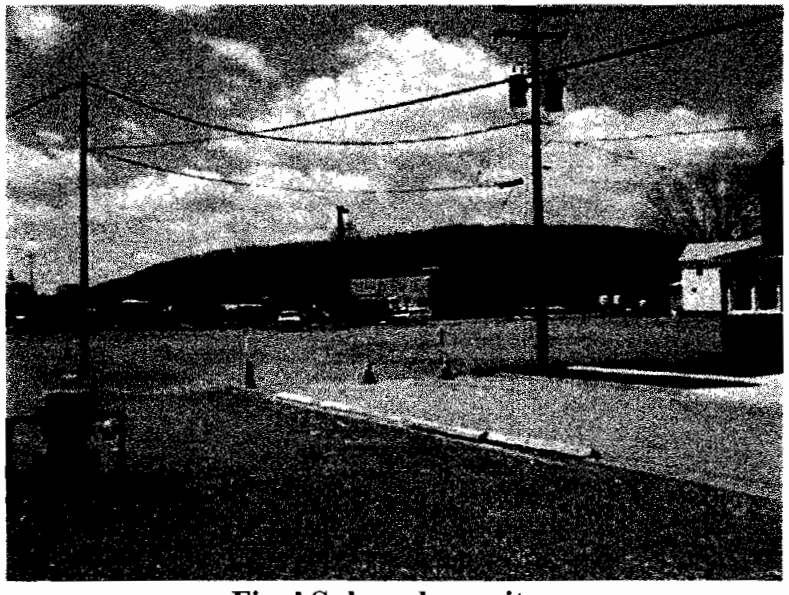
Excavation in Plating vat Area at 18 foot bgs depth.
PHOTO 5



Digging test pits to determine extent of monolith.
PHOTO 6



Monolith test pit.
Note: Although the excavation is below the groundwater table, there is very little infiltration through the mass.
PHOTO 7

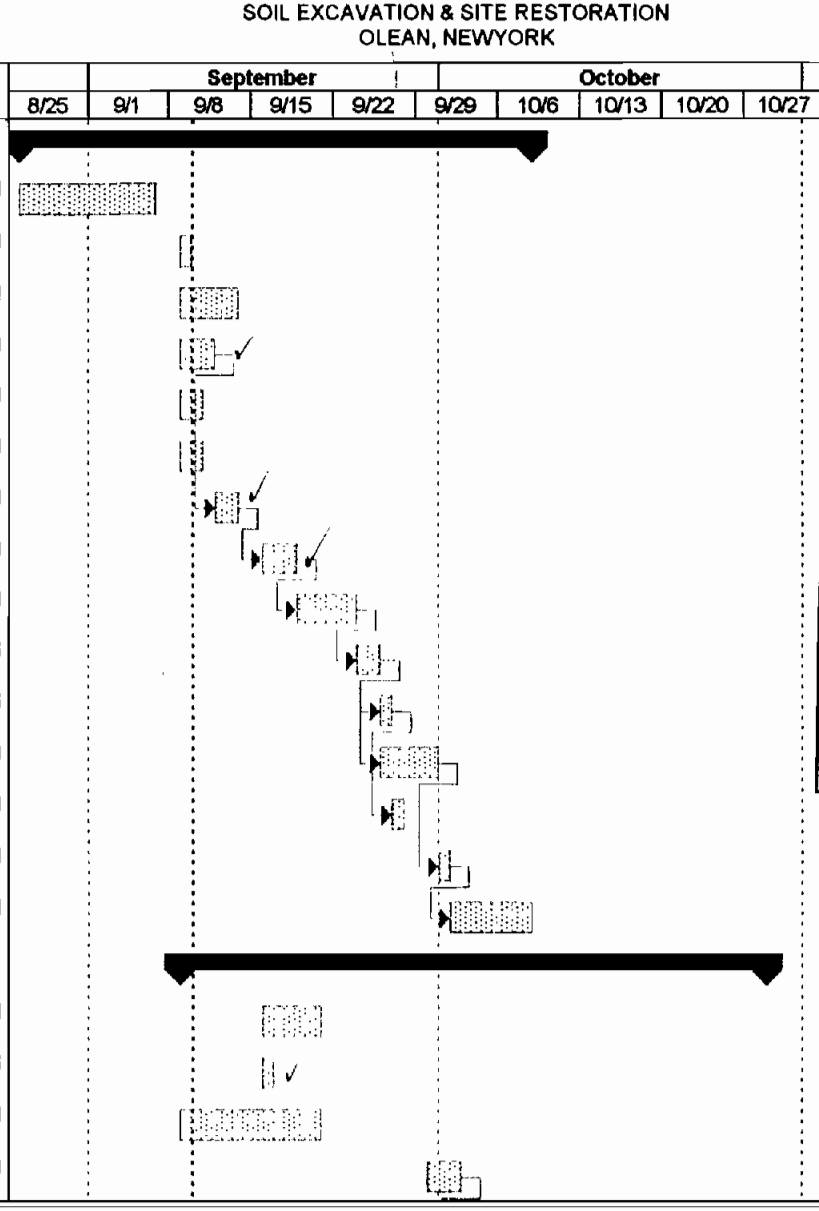


Final Subgrade on site,
Monitoring wells Nos. 17s & 17d being installed.
PHOTO 8

LIST OF TABLES

VAN DER HORST PLANT NO. 1
SOIL EXCAVATION & SITE RESTORATION
OLEAN, NEWYORK

ID	Task Name	Duration
	TWO MILE CREEK	**32d**
1	PROJECT MOBILIZATION	10d
2	PRE-EXCAVATION SURVEY	1d
3	SUBMITTALS	5d
4	SET-UP AIR MONITOR. EQUIP.	3d
5	SETUP STAGING & DECON AR	2d
6	CLEAR CREEK BANKS	2d
7	SETUP DAM - 1ST STAGE	2d
8	EXC. CREEK - 1ST STAGE	3d
9	MOVE PORTABLE DAM	3d
10	EXC CREEK - 2ND STAGE	2d
11	REMOVE & DECON DAM	1d
12	SAMPLE SOILS AND TEST	3d
13	POST-EXCAVATION SURVEY	1d
14	REMOVE SOILS FROM SITE	1d
15	RESTORE SITE	5d
	OLEAN CREEK	**36d**
1	CLEAN & VIDEO STORM SEWE	5d
2	PRE-EXCAVATION SURVEY	1d
3	SUBMITTALS	10d
4	SETUP STAGING & DECON AR	3d



APPROVED (X)
APPROVED AS NOTED ( )
RESUBMIT WITH REVISIONS ( )
DISAPPROVED ( )

Checking is only for conformance with the design concept of the project and compliance with the information given in the Contract Documents. Contractor is responsible for the dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to techniques of construction; and for coordination of the work of all trades.

New York State Department of Environmental Conservation, Region 9 - Buffalo

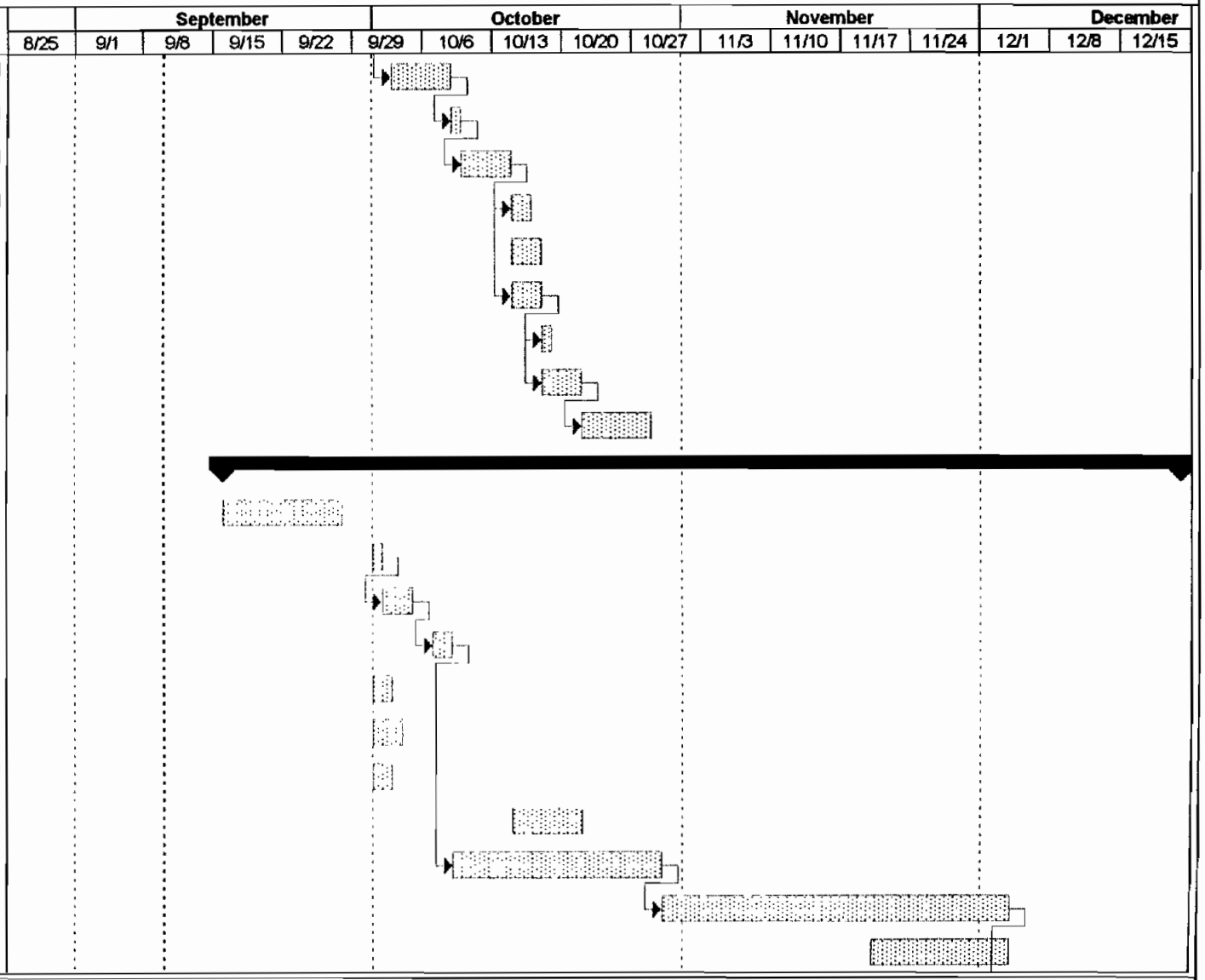
Date 9/25/96 By

Project: TWO MILE CREEK
Date: Tue 9/10/96

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

VAN DER HORST PLANT NO. 1
SOIL EXCAVATION & SITE RESTORATION
OLEAN, NEWYORK

ID	Task Name	Duration
5	INSTALL TEMP. DAM	4d
6	INSTALL CONVEYOR	1d
7	EXCAVATE BANK	3d
8	VACUUM COBBLES	2d
9	BACKFILL	3d
10	VERIFICATION SAMPLES	3d
11	REMOVE DAM	1d
12	REMOVE SOIL FROM SITE	2d
13	RESTORE SITE	5d
	VAN DER HORST SITE	**70d**
1	SUBMITTALS	10d
2	SET UP AIR MONITORING	1d
3	CLEAR SITE	3d
4	SET UP STAGING AREAS	2d
5	SET UP DECON AREA	2d
6	SET UP SCALES	3d
7	PRE-EXCAVATION SURVEY	2d
8	INSTALL STORM SEWER	5d
9	CONCRETE REMOVAL	15d
10	SOIL EXCAVATION	25d
11	WELL WORK	10d



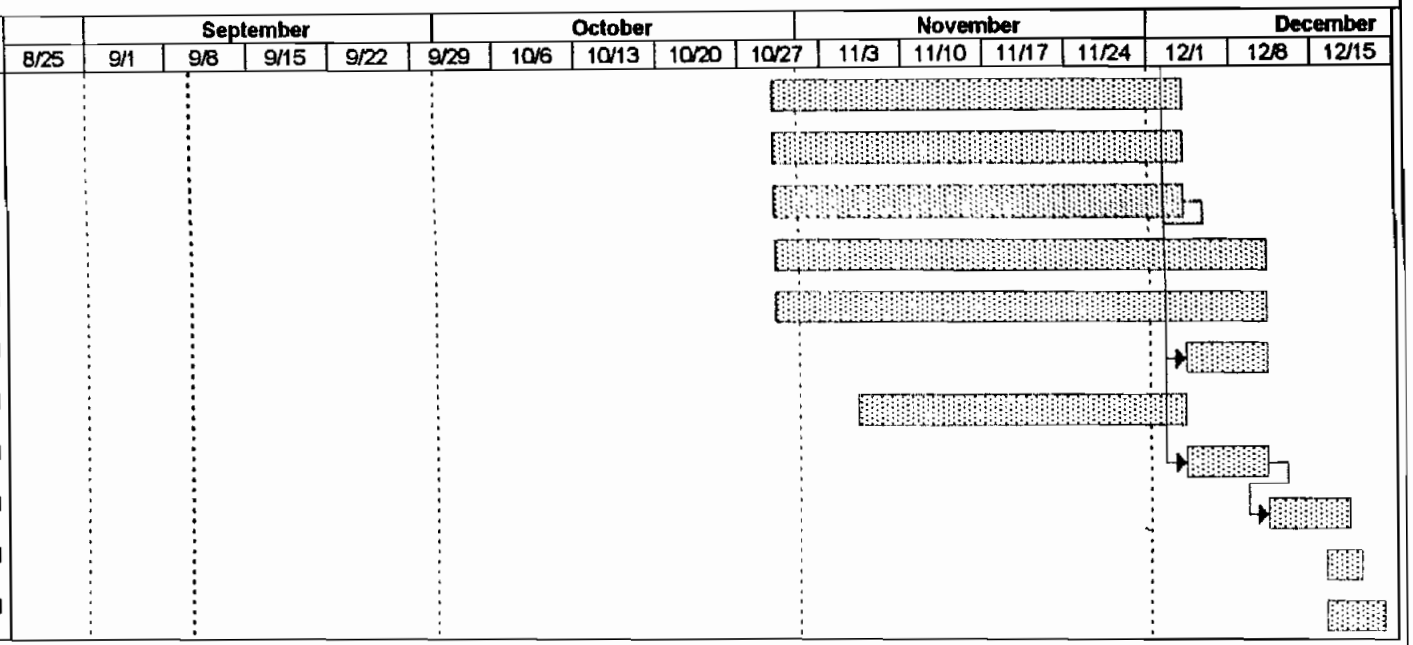
Project: TWO MILE CREEK
Date: Tue 9/10/96

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

5612

VAN DER HORST PLANT NO. 1
SOIL EXCAVATION & SITE RESTORATION
OLEAN, NEWYORK

ID	Task Name	Duration
12	SOIL SAMPLING & TESTING	25d
13	VERIFICATION SAMPLING	25d
14	BACKFILLING	25d
15	REMOVAL OF HAZ WASTE	30d
16	REMOVE NON-HAZ WASTE	30d
17	REMOVE UNDERDROUND UTI	5d
18	POST EXCAVATION SURVEY	20d
19	FINAL GRADING	5d
20	SITE RESTORATION	5d
21	AS-BUILT SURVEY	3d
22	DEMOBILIZATION	5d



Project: TWO MILE CREEK
Date: Tue 9/10/96

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

Table2
Project Quantity & Cost Summary
Van der Horst Plant #1
Soil Excavation and Restoration Project
Project No. D0003494 / Site No. 905008

Payment Item No.	Item Description	Unit	Original Contract Quantity	Original Contract Unit Cost	Original Contract Cost Total	CO#1 Quantity	CO#1 Unit Cost	CO #1 Contract Cost Total	CO#2 Quantity	CO#2 Unit Cost	CO #2 Cost Total	CO#3 Quantity	CO#3 Unit Cost	CO #3 Cost Total	Total Item Cost
00500.A	Verification Sample - Chrominm	Sample	44	83.00	3,652.00	-	-	-	36	83.00	2,988.00	(9)	83.00	(747.00)	5,893.00
00501	Site Preparation	Lump Sum	1	158,000.00	158,000.00	-	-	-	-	-	-	-	-	-	158,000.00
	Performance Bond	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
	General Liability Insurance	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.A	Mobilization/Demobilization	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.B	Clearing and Grubbing	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.C	Temporary Utilities	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.D	Temporary Facilities	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.E	Meteorological Station	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.F	Staging Areas	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.G	Project Sign and Temporary Fencing	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.H	Access Roads	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.I	Decontamination Pads	Lump Sum	1	-	-	-	-	-	-	-	-	-	-	-	-
00501.K	Truck Scale	Lump Sum	1	-	-	-	-	-	1	(3,368.24)	(3,368.24)	-	-	-	(3,368.24)
	Pollution Liability Insurance	Lump Sum	1	20,000.00	20,000.00	-	-	-	-	-	-	1	(3,406.00)	(3,406.00)	16,594.00
00502	Site Facilities & Services	Workday	90	300.00	-	-	-	-	20	300.00		-	-	-	-
00502.A	Security Services	Workday	90	125.00	11,250.00	-	-	-	20	125.00	2,500.00	49.5	125.00	6,187.50	19,937.50
00502.B	Access Roads	Workday	90	15.00	1,350.00	-	-	-	20	15.00	300.00	48.5	15.00	727.50	2,377.50
00502.C	Temporary Facilities and Utilities	Workday	90	100.00	9,000.00	-	-	-	20	100.00	2000.00	98.5	100.00	9,850.00	20,850.00
00502.D	Meteorological Station	Workday	90	10.00	900.00	-	-	-	20	10.00	200.00	9	10.00	90.00	1,190.00
00502.E	Project Signs and Fencing	Workday	90	15.00	1,350.00	-	-	-	20	15.00	300.00	49.5	15.00	742.50	2,392.50

Table2
Project Quantity & Cost Summary
Van der Horst Plant #1
Soil Excavation and Restoration Project
Project No. D0003494 / Site No. 905008

Payment Item No.	Item Description	Unit	Original Contract Quantity	Original Contract Unit Cost	Original Contract Cost Total	CO#1 Quantity	CO#1 Unit Cost	CO #1 Contract Cost Total	CO#2 Quantity	CO#2 Unit Cost	CO #2 Cost Total	CO#3 Quantity	CO#3 Unit Cost	CO #3 Cost Total	Total Item Cost
00502.F	Traffic Control	Workday	90	10.00	900.00	-	-	-	20	10.00	200.00	(85)	10.00	(850.00)	250.00
00502.G	Staging Areas	Workday	90	15.00	1,350.00	-	-	-	20	15.00	300.00	43.5	15.00	652.50	2,302.50
00502.H	Truck Scale	Workday	90	10.00	900.00	-	-	-	20	10.00	200.00	(110)	10.00	(1,100.00)	0.00
00503.A	Concrete Slab Removal	CY	1,085	23.00	24,955.00	315	23	7,245.00	(413)	23.00	(9,499.00)				22,701.00
00503.B	UST Removal	Each	3	1,300.00	3,900.00	-	-	-	(3)	1,300.00	(3,900.00)	-	-	-	0.00
00503.B	UST Removal	Each	-	-	-	-	-	-	1	12,881.50	12,881.50	-	-	-	12,881.50
00504.A	Soil Excavation & Loading	CY	7,461	7.00	52,227.00	-	-	-	3,391	7.00	23,737.00	-	-	-	75,964.00
00504.B	Abandonment of Steel Wells	LF	80	30.00	2,400.00	-	-	-	-	-	-	-	-	-	2,400.00
00504.C	Abandonment of PVC Wells	LF	440	18.00	7,920.00	-	-	-	302.5	18.00	6,309.00*	1	LS	(864.00)	13,365.00
00504.D	Monitoring Well Installation	LF	420	35.00	14,700.00	-	-	-	30	35.00	1,050.00	-	-	-	15,750.00
00505	Storm Sewer Cleaning	LF	2,350	9.50	22,325.00	-	-	-	-	-	-	-	-	-	22,325.00
00506	Olean Creek Sediment Removal/Restor.	CY	2,100	70.00	147,000.00	-	-	-	-	-	-	(2,100)	70.00	(147,000.00)	0.00
00506	Revised Cost for Olean Creek Sediment Removal/Restoration	LS	-	-	-	-	-	-	-	-	-	1	106,839.51	106,839.51	106,839.51
00507.A	Disposal of Non-haz waste	Ton	15,310	29.50	451,645.00	-	-	-	-	-	-	(3,490.00)	29.50	(102,955.00)	348,690.00
00507.B	Disposal of Haz waste	Ton	1,695	114.00	193,230.00	254.25	114.00	28,984.50	-	-	-	-	-	-	222,214.50
	Disposal of Haz waste	Ton	-	-	-	1,550.75	111.90	173,528.93	-	-	-	-	-	-	173,528.93
	Disposal of Haz waste	Ton	-	-	-	691	109.80	75,871.80	-	-	-	-	-	-	75,871.80
	Disposal of Haz waste	Ton	-	-	-	1,472	91.98	135,394.56	-	-	-	347	91.98	31,917.06	167,311.62
00508	Health & Safety	Workday	80	1100.00	88,000.00	-	-	-	23.5	1,100.00	25,850.00	1.0	1,100.00	1,100.00	114,950.00
00508	Olean Creek Health & Safety	Workday	-	-	-	-	-	-	-	-	-	26.5	598.00	15,847.00	15,847.00
00509.A	Common Fill	CY	4,080	6.00	24,480.00	612	6.00	3,672.00	-	-	-	-	-	-	28,152.00
	Common Fill	CY	-	-	-	2,308	15.85	36,581.80	-	-	-	-	-	-	36,581.80
00509.B	Topsoil, Seeding & Mulch	CY	1,550	14.00	21,700.00	-	-	-	-	-	-	46	14.00	644.00	22,344.00
00510	Installation of Storm Sewer	LF	312	16.00	4,992.00	-	-	-	(312)	16.00	(4,992.00)	-	-	-	0.00
00510	Revised Storm System Installation	TM	-	-	-	-	-	-	1	10,139.99	10,139.99	-	-	-	10,139.99

Table2
Project Quantity & Cost Summary
Van der Horst Plant #1
Soil Excavation and Restoration Project
Project No. D0003494 / Site No. 905008

Payment Item No.	Item Description	Unit	Original Contract Quantity	Original Contract Unit Cost	Original Contract Cost Total	CO#1 Quantity	CO#1 Unit Cost	CO #1 Contract Cost Total	CO#2 Quantity	CO#2 Unit Cost	CO #2 Cost Total	CO#3 Quantity	CO#3 Unit Cost	CO #3 Cost Total	Total Item Cost
00511	Two Mile Creek Sediment, Excavation & Restoration	LS	1	41,000.00	41,000.00	-	-	-	-	-	-	-	-	-	41,000.00
00512.A	TCLP - Chromium	Each	20	71.00	1,420.00	-	-	-	-	-	-	(3)	71.00	(213.00)	1,207.00
00512.B	TCLP - Metals	Each	5	142.00	710.00	-	-	-	-	-	-	(2)	142.00	(284.00)	426.00
CHANGE ORDER#2	Items Added per Proposed Change Orders														
	Fence Installation	LS	-	-	-	-	-	-	1	5,933.74	5,933.74	-	-	-	5,933.74
	37 Norway Spruce Trees	LS	-	-	-	-	-	-	1	7,282.80	7,282.80	-	-	-	7,282.80
	Credit for Engineer's Equip.	LS	-	-	-	-	-	-	1	(527.00)	(527.00)	-	-	-	(527.00)
	Add. 125 cy Sed. removal @ TMC	TM	-	-	-	-	-	-	1	15,399.09	15,399.09	-	-	-	15,399.09
	100' steel casing removal @MW-5B	TM	-	-	-	-	-	-	1	992.25	992.25	-	-	-	992..25
	Olean Crk. Payment	LS	-	-	-	-	-	-	1	55,156.80	55,156.80	-	-	-	55,156.80
	Remove Add. 10" Production Well	TM	-	-	-	-	-	-	1	1,051.96	1,051.96	-	-	-	1,051.96
	Credit for 10" Well Abandonment	LS	-	-	-	-	-	-	1	(1,694.54)	(1,694.54)	-	-	-	(1,694.54)
	Hex Cr Air Monitoring	Sample	-	-	-	-	-	-	207	34.56	7,511.62*	1	LS	(357.70)	7,153.92
	TCLP Lead Sampling	Sample	-	-	-	-	-	-	17	139.05	2,482.00*	1	LS	(118.15)	2,363.85
	Abandon of 10" casing @ mw-14d	TM	-	-	-	-	-	-	1	1,984.50	1,984.50	-	-	-	1,984.50
	Credit Field Comp. Testing	LS	-	-	-	-	-	-	1	(1,144.50)	(1,144.50)	-	-	-	(1,144.50)
	Additional Very Deep Mon. Wells	LS	-	-	-	-	-	-	1	37,855.13	37,855.13	-	-	-	37,855.13
	Soil Boring Installation	LS	-	-	-	-	-	-	1	9,460.50	9,460.50	-	-	-	9,460.50
CHANGE ORDER#3 (final)	Items Added per Proposed Change Orders														
	Off-site MW bollards	Each	-	-	-	-	-	-	-	-	-	11	262.50	2,887.50	2,887.50
	Olean Crk. Rip Rap Replacement	TM	-	-	-	-	-	-	-	-	-	1	6,932.83	6,932.83	6,932.83
	Relief Drain Installation	TM	-	-	-	-	-	-	-	-	-	1	8,357.59	8,357.59	8,357.59
	Waste Water Disposal	Gal.	-	-	-	-	-	-	-	-	-	300	1.00	300.00	300.00
	TOTALS				$1,311,256.00			$461,278.59			$208,940.60			($64,819.36)	$1,916,655.83

* - This value is incorrect but was included in Change Order #2. The actual value of this Item has been adjusted to represent the correct value in Change Order #3.

Table 3
List of Subcontractors and Suppliers
Van der Horst Plant #2
Consolidation and Capping Project
Project No.0003494
Olean(C), Cattaraugus County, Site No.905008

NAME	SERVICE/MATERIAL
SUBCONTRACTORS	
Modi Engineering Services & Surveying, P.C.	Land Surveying
B.U.G. Remediation, LLC	UST Removal
MACOR Environmental, Inc.	Mon.Well Abandonment/Install.
Upstate Laboratories, Inc.	Sample Analysis
Max Environmental Technologies, Inc.	Hazardous Waste Disposal
C.I.D. Refuse Services, Inc.	Non-Hazardous Waste Disposal
Superior Pipecleaning, Inc.	Storm Sewer Cleaning
Genesis Environmental Management	Health and Safety Personnel
On-site Environmental Staffers	Health & Safety Personnel
SUPPLIERS/SERVICES	
North East Water Structures	Diversion Dams
Rupp Rental	Office and Security Trailers
Maxium Technologies	Soil Compaction Testing
Rupp Rental & Sales	Equipment Rental and Repairs
Cornell Contracting	Equipment Rental and Repairs
Syracuse Supply	Equipment Rental and Repairs
Rondor Construction Products	Rip Rap
Agway	Mulch
Ransomwood Landscapes, Inc.	Hydroseeding
E.F. Lippert & Co.	Washed Stone
Woodward Gravel & E.F. Lippert & Co.	Common Fill
E.F. Lippert & Co.	Topsoil
Northeast Water Structures	Geotextile
Wayne Paving	Off-Road Trucking Rental
Olean Office Supply	Electrical Equipment, Fax, Copiers, Etc.
Kistner Concrete Products	Precast Seepage Basins
Kelkur Electric	Electric Service
Godwin Pumps, Inc.	Dewatering Pumps
Griffith Oil Co.	Fuels
Anderson-Schortell, Inc.	Plumbing
Olean General Hospital	Medical Services
Onsite Instruments	Meteorological Station
Rupp Rental	Decon Trailer
RJD Security	Security Service
Lesco	Grass Seed, Fertilizer, Lime
Clean Air Engineering, Onsite Health & Safety Supply	Air Monitoring Equipment

Table 4
Overall Evaluation of AllState PowerVac, Inc.
Van der Horst Plant #1
Soil Excavation and Restoration Project
Project No. D0003494
Olean(C), Cattaraugus County, Site No. 905008

Work Item	Rating (1-5)	Comments
Project Management	3	Coordination and cooperation with engineer was adequate.
Project Submittals	3	Used good system for tracking submittals but even so, several submittals (ie: biweekly schedule update) were consistently late. Most other submittals complete and adequate.
Site Preparation/mobilization	4	Satisfactory
Health & Safety	4	Real-time & documentation monitoring was performed as required. Cooperative with engineer on suggested changes and responses to concerns regarding dust generation.
Access Road Construction	4	Constructed all routes necessary in order to complete job in efficient manner.
Plant #1 Project Excavation	4	Responded well to removal of below grade structures and additional contaminated soil.
Water/Sewer Line Excavation	4	Work conducted expeditiously. Responded to change in work.
Misc. Site Excavations	5	Completed in a timely manner
Olean Creek By-Pass System	2	Did not achieve desired results.
Olean Creek Dewatering	2	Limited successfulness attained. Minimal effort to complete required work
Olean Creek Sediment Excavation	4	Once initiated was performed expeditiously.
Two-Mile Creek By-Pass System	4	Sufficient system installed and operated to perform required work.
Two-Mile Creek Dewatering	3	Had trouble identifying issues, tried several methods before successful.
Two-Mile Creek Sediment Excavation	3	Proceeded satisfactorily
Disposal of Decon. Liquids	2	Off-site disposal delayed @ TMC resulted in release.
Backfill	3	Adequate sources located, good quality
Topsoil/seed/mulch	3	Did not pursue timely application on Olean Creek Project.
Verification Samples	4	Adjusted for Departments comments
Proposed Change Order #1	4	Additional work performed in timely manner
Proposed Change Order #2	4	Additional work performed in timely manner
Proposed Change Order #3	4	Additional work performed in timely manner
Total	3.5	Average

Table 5a.
VAN DER HORST PLANT #1
VERIFICATION SAMPLE RESULTS

Van der Horst Plant #1 Site, Olean(C), New York
NYSDEC SITE NO. 9-05-008
All results in ppm(mg/kg)
(See Figure 4 for sample locations)

Sample #	Date Collected	Depth	Chromium (Cr)	Sample #	Date Collected	Depth	Chromium (Cr)	Sample #	Date Collected	Depth	Chromium (Cr)
VD-200	9/30/96	0-6"	**60.7**	VD-230	11/7/96	12"	**8.97**	VD-238	11/20/96	36"	61.2
VD-201	9/30/96	0-6"	**93.5**	VD-231	11/7/96	12"	**16.6**	VD-239	11/20/96	24"	**80.8**
VD-202	9/30/96	0-6"	**210**	VD-232	11/7/96	12"	**64.6**	VD-240	11/20/96	36"	169
VD-203	10/11/96	0-6"	**7.4**	VD-209	11/12/96	0-6"	5,220	VD-241	11/20/96	24"	**130**
VD-204	10/11/96	0-6"	**230**	VD-211	11/12/96	0-6"	**35.9**	VD-242	11/20/96	36"	82.4
VD-205	10/11/96	0-6"	**40.4**	VD-213	11/12/96	0-6"	**34.6**	VD-243	11/20/96	24"	**281**
VD-206	10/24/96	0-6"	**382**	VD-216	11/12/96	12"	**30.4**	VD-244	11/20/96	24"	**16.8**
VD-207	10/24/96	0-6"	**167**	VD-217	11/12/96	12"	**35.7**	VD-245	11/20/96	24"	**501**
VD-208	11/7/96	12"	**30.1**	VD-220	11/12/96	12"	156	VD-246	11/20/96	24"	**24.4**
VD-210	11/7/96	12"	**5.26**	VD-221	11/12/96	12"	72.1	VD-247	11/20/96	6'	1,360
VD-212	11/7/96	12"	**32.3**	VD-222	11/12/96	12"	**34.6**	VD-248	11/20/96	12"	**51.8**
VD-214	11/7/96	12"	**30.3**	VD-223	11/12/96	12"	555	VD-249	11/20/96	0-6"	**31.1**
VD-215	11/7/96	12"	**10.7**	VD-224	11/12/96	12"	72.8	VD-250	11/20/96	0-6"	**31.9**
VD-218	11/7/96	12"	**15.6**	VD-225	11/12/96	12"	13,500	VD-251	12/2/96	8'	**1,150**
VD-219	11/7/96	12"	**40.2**	VD-233	11/12/96	12"	**85.0**	VD-252	12/18/96	48"	7,220
VD-226	11/7/96	12"	293	VD-234	11/12/96	12"	**132**	VD-253	12/18/96	7'	**39.7**
VD-227	11/7/96	12"	3,600	VD-235	11/14/96	1'-2'	**16.9**	VD-254	1/14/97	10'	1,600
VD-228	11/7/96	12"	405	VD-236	11/14/96	1'-2'	**16.3**				
VD-229	11/7/96	12"	**12.2**	VD-237	11/20/96	24"	**173**				

Shaded values indicate clean-up goals exceeded: Chromium-50 ppm - surface soils/ 500 ppm - subsurface soils
Bold Values indicate bottom of excavation
NOTE: Samples Nos. VD-252 & VD-254 were not verification samples but were used only for information purposes during excavation activities

Table 5b.
OLEAN CREEK
VERIFICATION SAMPLE RESULTS

Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-022
All results in ppm(mg/kg)
(See Figure 5 for sample locations)

Sample #	Date Collected	Depth	Location	Chromium Conc. (Cr)
VD-255	8/27/97	12"	Sta 0+25	14.1
VD-256	8/27/97	12"	Sta 0+75	25.4
VD-257	8/27/97	12"	Sta 1+25	1,270
VD-258	8/27/97	12"	Sta 1+75	1,310
VD-259	8/27/97	12"	Sta 2+25	782
VD-260	9/3/97	24"	Sta 5+55	930
VD-261	9/3/97	24"	Sta 5+25	292
VD-262	9/3/97	24"	Sta 4+75	50
VD-263	9/3/97	24"	Sta 4+25	1,190
VD-264	9/3/97	24"	Sta 3+75	615
VD-265	9/3/97	24"	Sta 3+25	2,030
VD-266	9/3/97	24"	Sta 2+75	1,700
VD-267	9/4/97	24"	Sta 1+25	2,600
VD-268	9/4/97	24"	Sta 1+75	2,550
VD-269	9/4/97	24"	Sta 2+25	2,230
VD-270	9/4/97	0-3"	Creek Bed	16.6
VD-271	9/4/97	0-3"	Creek Bed	43.5

DFW Clean-up goals: Chromium-26 ppm - Severe Level / 100 ppm - Toxic Level

Note: All samples with the exception of VD-270 & VD-271 were collected from the creek bank above the low water level of Olean Creek.

Table 6.
ENTRANCE/EXIT SAMPLE RESULTS
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-008
All results in ppm(mg/kg)
(See Figures 4 and 5 for sample locations)

Sample #	Date Collected	Location	Chromium (Cr)	Lead (Pb)	Arsenic (As)
Entrance Sample Results					
EE-001	9/16/97	Plant #1 Site	16.3	228	17.3
EE-002	9/16/97	Plant #1 Site	97.0	549	58.0
EE-003	9/16/97	Plant #1 Site	12.0	73.8	9.75
EE-004	9/16/97	Plant #1 Site	15.3	22.8	7.91
EE-005	9/16/97	Plant #1 Site	12.4	76.3	9.73
EE-006	9/16/97	Plant #1 Site	211	328	10.6
EE-007	9/17/97	Olean Creek Site	8.32	23.4	4.60
EE-008	9/17/97	Olean Creek Site	5.91	25.0	4.34
EE-009	9/17/97	Olean Creek Site	14.5	39.3	6.97
EE-010	9/17/97	Olean Creek Site	16.5	59.8	8.84
EE-011	9/17/97	Olean Creek Site	12.4	41.4	8.15
EE-012	9/17/97	Olean Creek Site	14.4	42.0	9.67
Exit Sample Results					
EE-019	10/1/97	Plant#1 Site	36	190	16
EE-020	10/1/97	Plant#1 Site	28	85	8.4
EE-021	10/1/97	Plant#1 Site	23	23	7.7
EE-013	10/1/97	Olean Creek Site	17	39	8.1
EE-014	10/1/97	Olean Creek Site	19	15	6.9
EE-015	10/1/97	Olean Creek Site	16	<12	5.5
EE-016	10/1/97	Olean Creek Site	21	19	5.0
EE-017	10/1/97	Olean Creek Site	16	<12	7.4
EE-018	10/1/97	Olean Creek Site	24	<12	5.7

Shaded values indicate clean-up goals exceeded: Chromium-50 ppm(mg/kg)
Note: No exit samples collected at locations EE-002, EE-003 & EE-006 because area was remediated. See verification results in Table 5a.

Table 7
MISCELLANEOUS SAMPLE RESULTS
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-008

Sample #	Date	Parameter	Results	Location/Comments
Under Ground Storage Tank Excavation Sampling Results				
SS-404	11/13/96	Pyrene	880 ug/kg STARS Guidance Value 1000 ug/kg	UST excavation Sidewall composite sample Dctected compounds from EPA method 8021 & 8270 analysis. All other parameters <DL
		Acenaphthene	570 ug/kg STARS Guidance Value 400 ug/kg	
		Fluoranthene	620 ug/kg STARS Guidance Value 1000 ug/kg	
SS-405	11/13/96	1,2,4-Trimethylbenzene	620 ug/kg STARS Guidance Value 100 ug/kg	UST excavation Bottom composite sample Detected compounds from EPA method 8021 & 8270 analysis. All other parameters <DL
		1,3,5-Trimethylbenzene	740 ug/kg STARS Guidance Value 1000 ug/kg	
		n - Butylbenzene	1100 ug/kg STARS Guidance Value 100 ug/kg	
		t - Butylbenzene	150 ug/kg STARS Guidance Value 100 ug/kg	
		Pyrene	530 ug/kg STARS Guidance Value 1000 ug/kg	
		Fluoranthene	540 ug/kg STARS Guidance Value 1000 ug/kg	
		Benzo (b) fluorathene	460 ug/kg STARS Guidance Value 330 ug/kg	
Wastewater Sample Results				
AM-100	10/10/96	Hexavalent Chromium	<0.01 mg/l	Sanitary Sewer Discharge: Additional misc. organic & metal parameters required by City DPW were analyzed. Specific results can be found in project files.
AM-101	12/15/96	Hexavalent Chromium	<0.01mg/l	
AM-102	12/13/96	Hexavalent Chromium	<0.01mg/l	
AM-103	1/07/97	Hexavalent Chromium	5.0 mg/l	
AM-104	9/02/97	Chromium	19,700 ug/l	Monitoring Well Development & Plt.1 Decontamination Water
AM-105	9/09/97	Chromium	<0.05 mg/l	Olean Crk. Sediment dewatering area.
Olean Creek East Bank Sediment Sample Result				
SS-415	1/8/97	Chromium	12 mg/kg	Olean Creek Sand Bar Sample

Table 7
MISCELLANEOUS SAMPLE RESULTS
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-008

Sample #	Date	Parameter	Results	Location/Comments
Soil, Sediment and Concrete Waste Characterization Samples for Disposal				
SED-600	9/25/96	pH	6.9 su	TMC Sediment Composite Detected compounds from TCLP analysis. All other parameters <DL
		Percent Solids	52 %	
		Barium	1.8 mg/l	
		Cadmium	0.012 mg/l	
		Chromium	0.28 mg/l	
SED-601	9/25/96	None		
SED-602	9/25/96	Benzene	0.13 mg/l	
SED-603	9/25/96	pH	7.2 su	TMC Sediment Composite Detected compounds from Dry weight analysis. All other parameters <DL
		Percent Solids	57 %	
		Arsenic	40 mg/kg	
		Barium	150 mg/kg	
		Cadmium	1.7 mg/kg	
		Lead	140 mg/kg	
		Selenium	0.70 mg/kg	
		Barium	2.2 mg/l	TMC Sediment Composite Detected compounds from TCLP analysis. All other parameters <DL
		Cadmium	0.012 mg/l	
		Chromium	0.11 mg/l	
		Lead	0.3 mg/l	
SED-604	10/15/96	Chromium-Total	42 mg/kg	Storm Sewer Sediments
		Chromium -TCLP	<0.1	
SS-400	11/01/96	Chromium-Total	15,000 mg/kg	Excavated Soil for Disposal from MW-5 area
		Chromium -TCLP	0.6	
		Lead - Total	10,000 mg/kg	
		Lead - TCLP	5.0 mg/l	
SS-401	11/07/96	Chromium-Total	26 mg/kg	Excavated Soil for Disposal
		Chromium -TCLP	<0.1	

Table 7
MISCELLANEOUS SAMPLE RESULTS
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-008

Sample #	Date	Parameter	Results	Location/Comments
SS-402	11/07/96	Chromium-Total	2,800 mg/kg	Excavated Soil for Disposal
		Chromium -TCLP	<0.1	
SS-403	11/07/96	Chromium-Total	2,200 mg/kg	Excavated Soil for Disposal
		Chromium -TCLP	0.42	
SS-406	11/19/96	Chromium -TCLP	<0.05	Surface Soil over Concrete Slab
SS-407	11/21/96	Chromium-Total	160 mg/kg	Excavated Soil for Disposal
		Chromium -TCLP	0.07	
SS-408	11/21/96	Chromium -TCLP	1.1	Excavated Soil for Disposal
SS-409	11/22/96	Chromium-Total	41 mg/kg	Excavated Soil from a 6" tube found under slab
		Chromium -TCLP	<0.05	
SS-410	11/22/96	Chromium-Total	340 mg/kg	Excavated Soil for Disposal
		Chromium -TCLP	0.06	
SS-411	11/22/96	Chromium-Total	1,800 mg/kg	Excavated Soil for Disposal
		Chromium -TCLP	0.08	
SS-412	12/20/96	Chromium -TCLP	<0.1	Excavated Soil from dip tank vault sludge for Disposal
		Lead - TCLP	<0.1	
SS-413	12/23/96	Chromium -TCLP	0.27	Excavated Soil from Monitoring Well 5 area
		Lead - TCLP	11	
SS-414	12/31/96	Chromium -TCLP	13	Excavated Soil from Dip Tank area
		Lead - TCLP	<0.1	
SS-416	1/14/97	Chromium -Total	1,400 mg/kg	Excavated Soil from Plating Tank area - yellow soil from 10' bgs
		Chromium -TCLP	4.3 mg/l	
		Lead - TCLP	<0.1 mg/l	
SS-417	1/14/97	Chromium -Total	5,100 mg/kg	Excavated Soil from Plating Tank area - brown soil from 10' bgs
		Chromium -TCLP	15 mg/l	
		Lead - TCLP	<0.1 mg/l	

Table 7
MISCELLANEOUS SAMPLE RESULTS
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-008

Sample #	Date	Parameter	Results	Location/Comments
SS-418	1/14/97	Chromium -Total	12,000 mg/kg	Excavated Soil from Plating Tank area - brown soil from 10' bgs
		Chromium -TCLP	47 mg/l	
		Lead - TCLP	<0.1 mg/l	
SS-419	1/24/97	Chromium -TCLP	17 mg/l	Excavated Soil from Plating Tank area
		Lead - TCLP	<0.1 mg/l	
SS-420	1/24/97	Chromium -TCLP	7.5 mg/l	Excavated Soil from Plating Tank area
		Lead - TCLP	<0.1 mg/l	
SS-421	2/07/97	Chromium -TCLP	66 mg/l	Excavated Soil from Plating Tank area
		Lead - TCLP	<0.1 mg/l	
CC-800	11/19/96	Chromium - TCLP	<0.05	Concrete for Disposal - grey
CC-801	11/22/96	Chromium - TCLP	29	Concrete for Disposal - yellow
CC-800	11/14/97	Chromium - TCLP	190	Concrete for Disposal - yellow
CC-800	11/17/97	Chromium - TCLP	<0.05	Concrete for Disposal - Blue

Table 8
UNDERGROUND STORAGE TANK CONTENTS SAMPLE RESULTS

Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-008

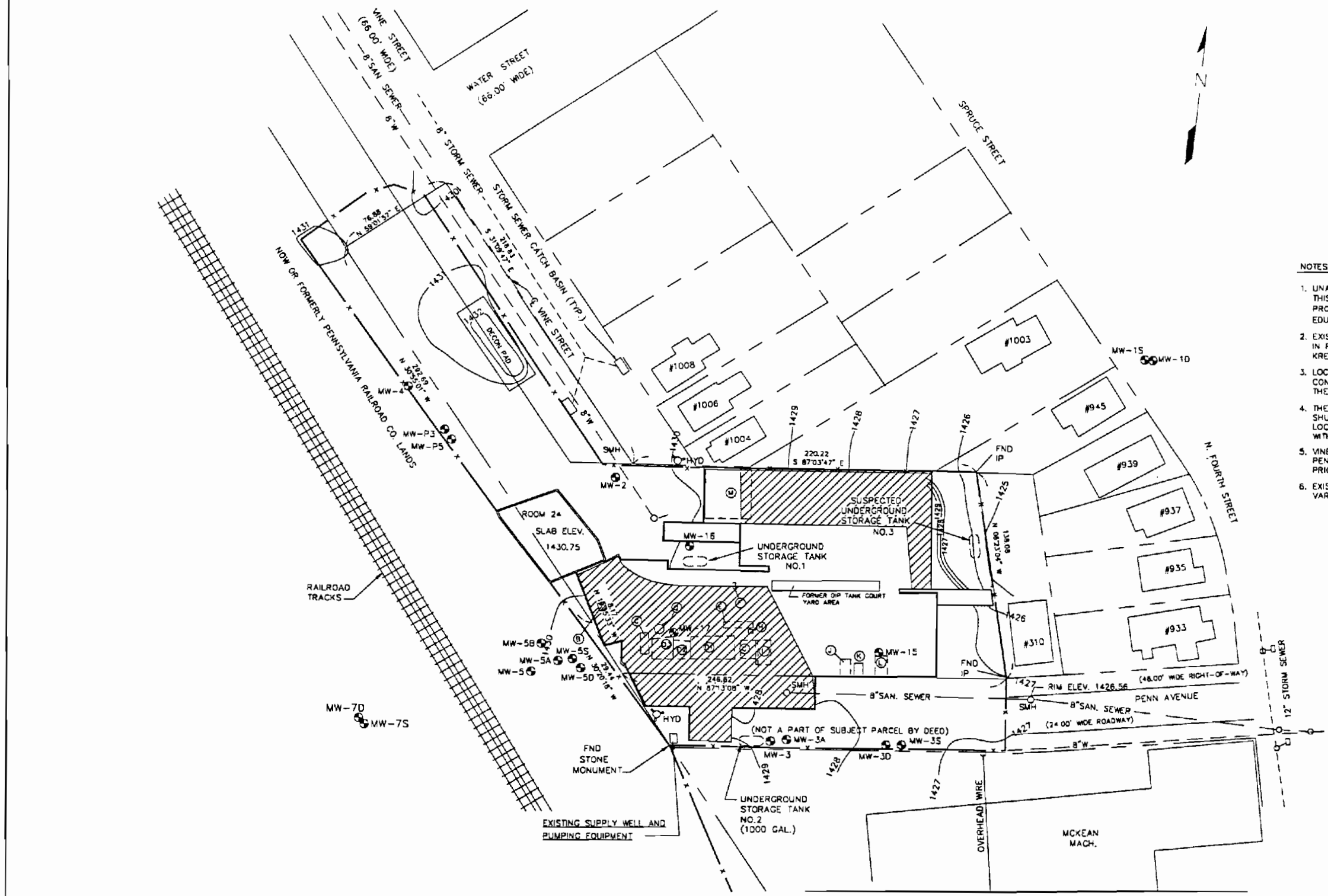
Parameter	Result	Guidance Value[1]
Flash Point	>200 deg	140 deg. F min.
Weight per gallon @ 70 deg F	7.42 lbs	-
Sulfur	0.45%	< 0.5%
BS&W	2%	<2.0%
BIU Value	140,000	-
Total Halides	585	<1000 ppm
Chromium	5.4	0.5 mg/kg
Lead	67	0.5 mg/kg
Arsenic	ND	1.0 mg/kg
Cadmium	ND	0.50 mg/kg
PCB	ND	1.0 mg/kg

(1) - Guidance Values developed by the Pennsylvania Department of Environmental Protect for disposal in that commonwealth.

TABLE 9
AIR MONITORING VIOLATION SUMMARY
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE NO. 9-05-008

Date	Time	Location	Background ug/M^3	Measured Concentration ug/M^3	Explanation
11/5/96	1325 hrs	Upwind Station @ Plant #1	21 ug/M^3	931.0 ug/M^3	Well drilling crew mixing portland cement grout within ten (10) feet of air monitoring sampling station.
11/5/96	1340 hrs	Upwind Station @ Plant #1	21 ug/M^3	423.8 ug/M^3	Well drilling crew mixing portland cement grout within ten (10) feet of air monitoring sampling station.
11/5/96	1355 hrs	Upwind Station @ Plant #1	21 ug/M^3	1406.4 ug/M^3	Well drilling crew mixing portland cement grout within ten (10) feet of air monitoring sampling station.
12/6/96	0910 hrs	Downwind Station @ Plant #1	35.9 ug/M^3	416.0 ug/M^3	Site dump truck parked and idling with in two (2) feet of the air monitoring sampling station
12/6/96	0925 hrs	Downwind Station @ Plant #1	35.9 ug/M^3	628.1 ug/M^3	Site dump truck parked and idling with in two (2) feet of the air monitoring sampling station

LIST OF FIGURES



VAULT/PIT CHART		
AREA ID	PERIMETER OPENING	DEPTH
B	5' X 8'	6'
C	16' X 10'	6.5
D1	16' X 29'	4.5'
D2	14' X 12'	18'
D3	15' X 13'	4.5'
E	8' X 21'	4'
F	2' X 5'	3'
G	11' X 14'	9'
H	6' X 6'	3'
I	8' X 16'	9.5'
J	14' X 10'	3'
K	6' X 12'	3'
L	11' X 16'	3'
M	27' X 35'	5'
Q	6' DIAMETER	20'

NOTES:

1. UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF SECTION 7209, PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.
2. EXISTING INFORMATION SHOWN ON THIS DRAWING WAS ADAPTED IN PART FROM A SITE SURVEY PERFORMED BY KREHBIEL ASSOCIATES DATED 8/2/93.
3. LOCATION OF UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES PRIOR TO THE START OF ANY WORK.
4. THE CONTRACTOR SHALL COORDINATE THE SHUTOFF OF ANY NECESSARY UTILITY WITH LOCAL UTILITY COMPANY IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. VINE STREET SHALL BE USED FOR SITE ACCESS. PENN AVENUE SHALL BE USED ONLY WITH PRIOR APPROVAL OF DEPARTMENT.
6. EXISTING CONCRETE SLAB ELEVATION VARIES ±3 INCHES IN SOME AREAS.

LEGEND

- 1428 — EXISTING CONTOURS
- MW-15 — EXISTING MONITORING WELL
- x — x — x FACILITY FENCE
- EXISTING FOUNDATION WALL/ EDGE OF SLAB
- AREAS OF TOPSOIL ON THE BUILDING SLAB
- VAT LOCATION AND DESIGNATION

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SOIL EXCAVATION and SITE RESTORATION

ERM-Northeast
Environmental Resources Management

CHECKED		DATE
DESIGN ENGINEER	DL	3/7/96
PROJECT ENGINEER	RJR	3/7/96
PROJECT MANAGER		
APPROVED		
APPROVED		

VAN DER HORST PLANT #1
EXISTING SITE PLAN

DRAWN	S.P./E.M.F.	DATE	MAR. 7, 1996
SCALE	AS SHOWN	JOB NO.	164.013.12
REVISION DATE		FILE NAME	VDH2SITE

DRAWING NO. 1

REV. NO. -

SHEET 1 OF 5

NO.	DATE	APPR.	REVISION
1	4/30/96	AHL	CONRAIL TRACK LOCATION/EXCAVATION AREA REDUCTION

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SOIL EXCAVATION and SITE RESTORATION

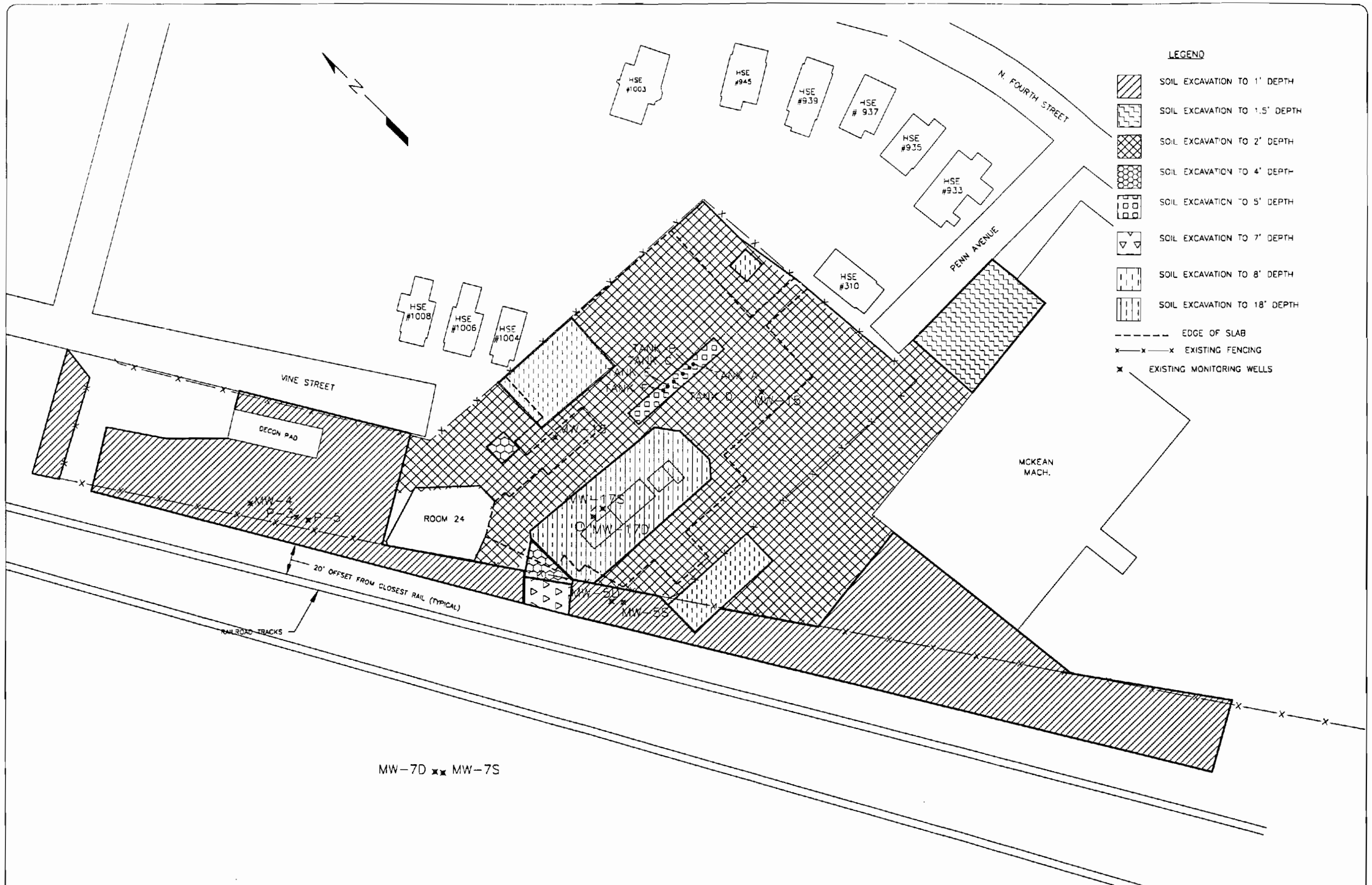
ERM-Northeast
Environmental Resources Management

DESIGN ENGINEER		
PROJECT ENGINEER	DL	4/30/96
PROJECT MANAGER	RJR	4/30/96
APPROVED		
APPROVED		

VAN DER HORST PLANT #1
SOIL EXCAVATION PLAN

DRAWN	E.M.F.	DATE	4/30/96
SCALE	GRAPHIC	JOB NO.	164.013.12
		FILE NAME	REM01

DRAWING NO. 2
REV. NO. 2
SHEET 2 OF 5



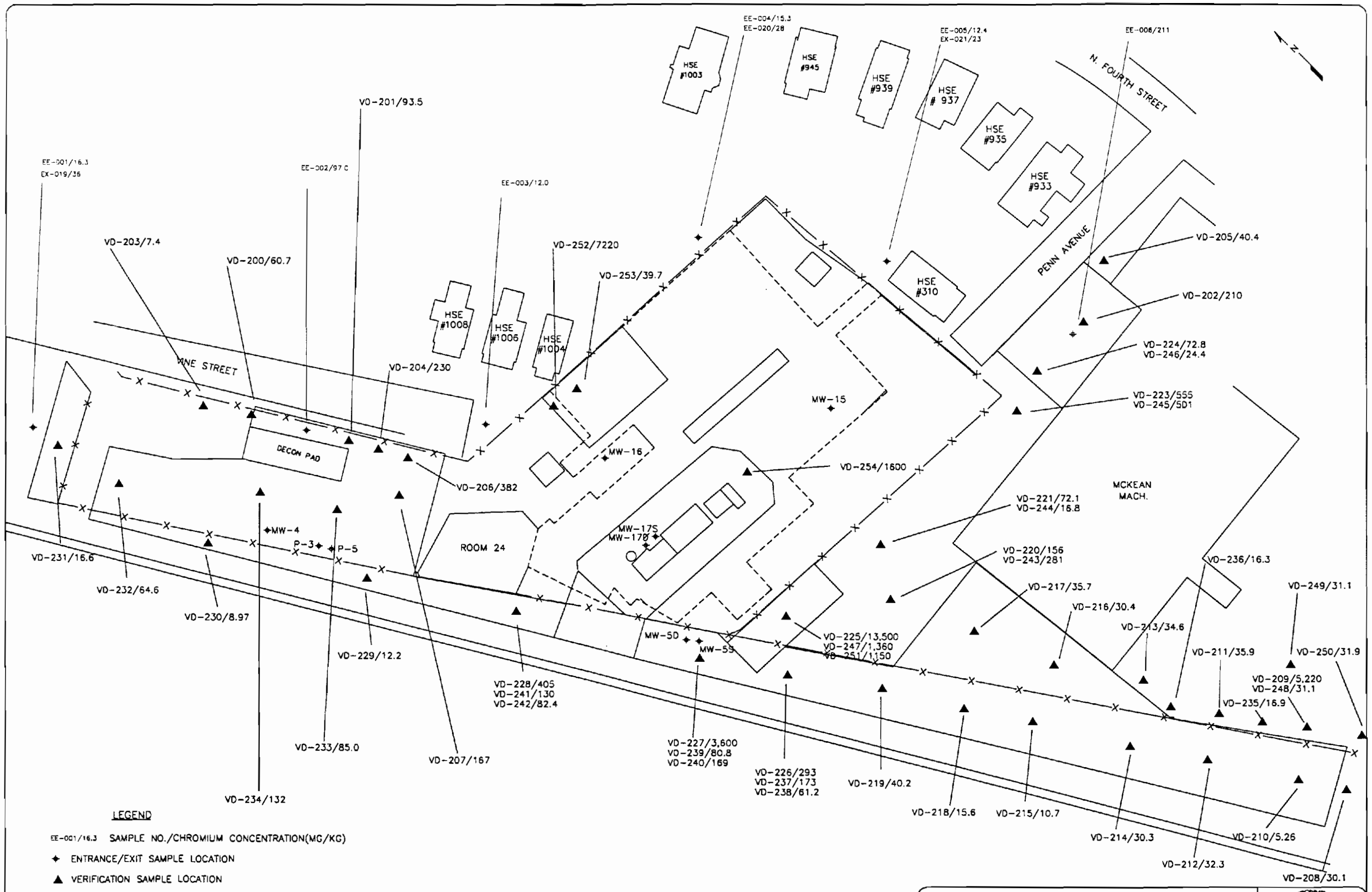
ACTUAL REMEDIATION EXCAVATION LOCATIONS

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE:	12/17/97	DRAWING:	actexpln

SITE: Van der Horst Plant #1
Olean(C), Catt. Co.

Figure 3



LEGEND

EE-001/16.3 SAMPLE NO./CHROMIUM CONCENTRATION(MG/KG)

✦ ENTRANCE/EXIT SAMPLE LOCATION

▲ VERIFICATION SAMPLE LOCATION

------- EDGE OF SLAB

x——x——x EXISTING FENCING

✦ EXISTING MONITORING WELLS

Note: Samples VD-252 & VD-254 were not used as verification samples, but were used only for informationol purposes during excavation activities.

PLANT #1 VERIFICATION SAMPLE LOCATIONS

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/17/97 DRAWING: versamp

SITE: Van der Horst Plant #1
Olean(C), Catt. Co.

Figure 4

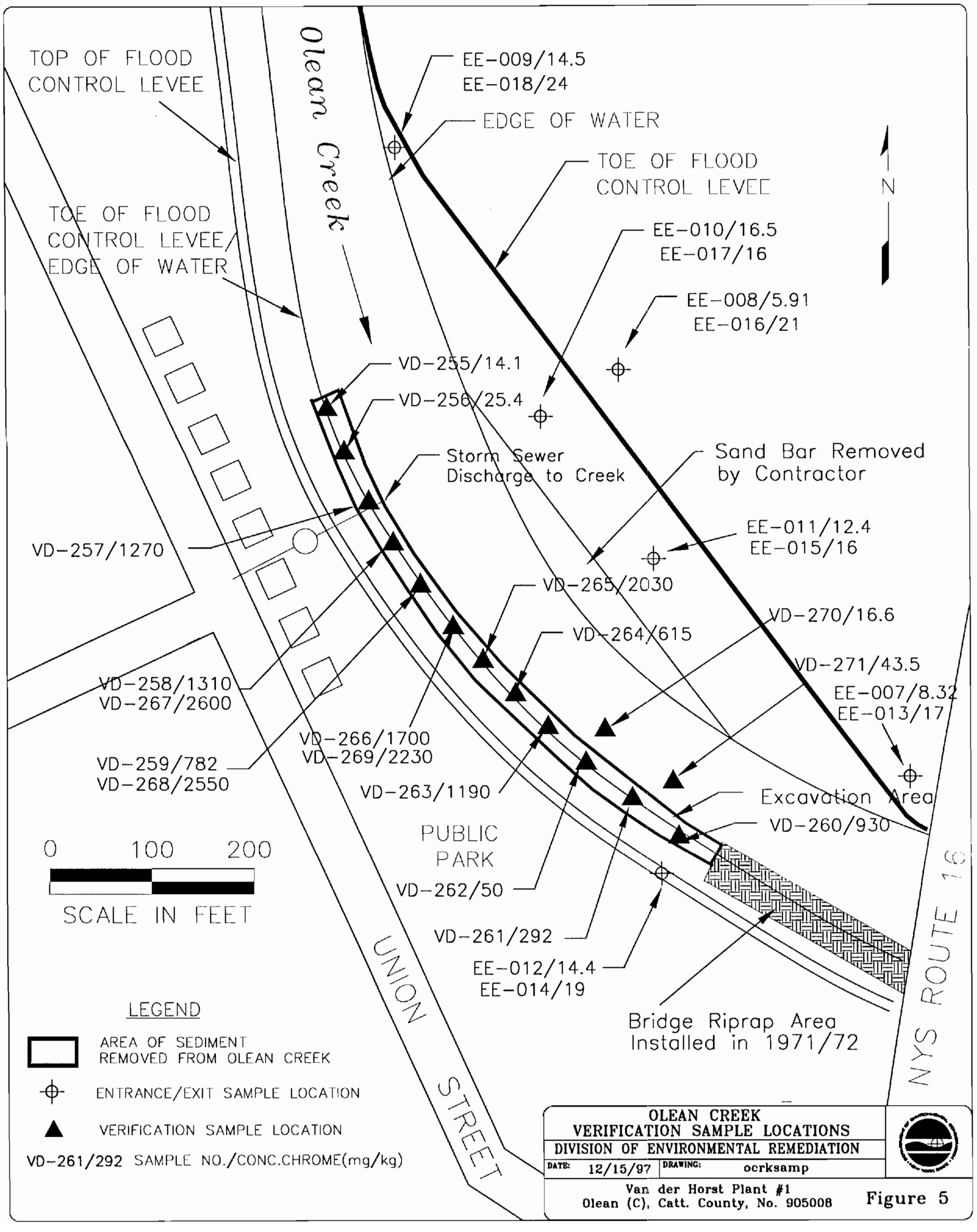
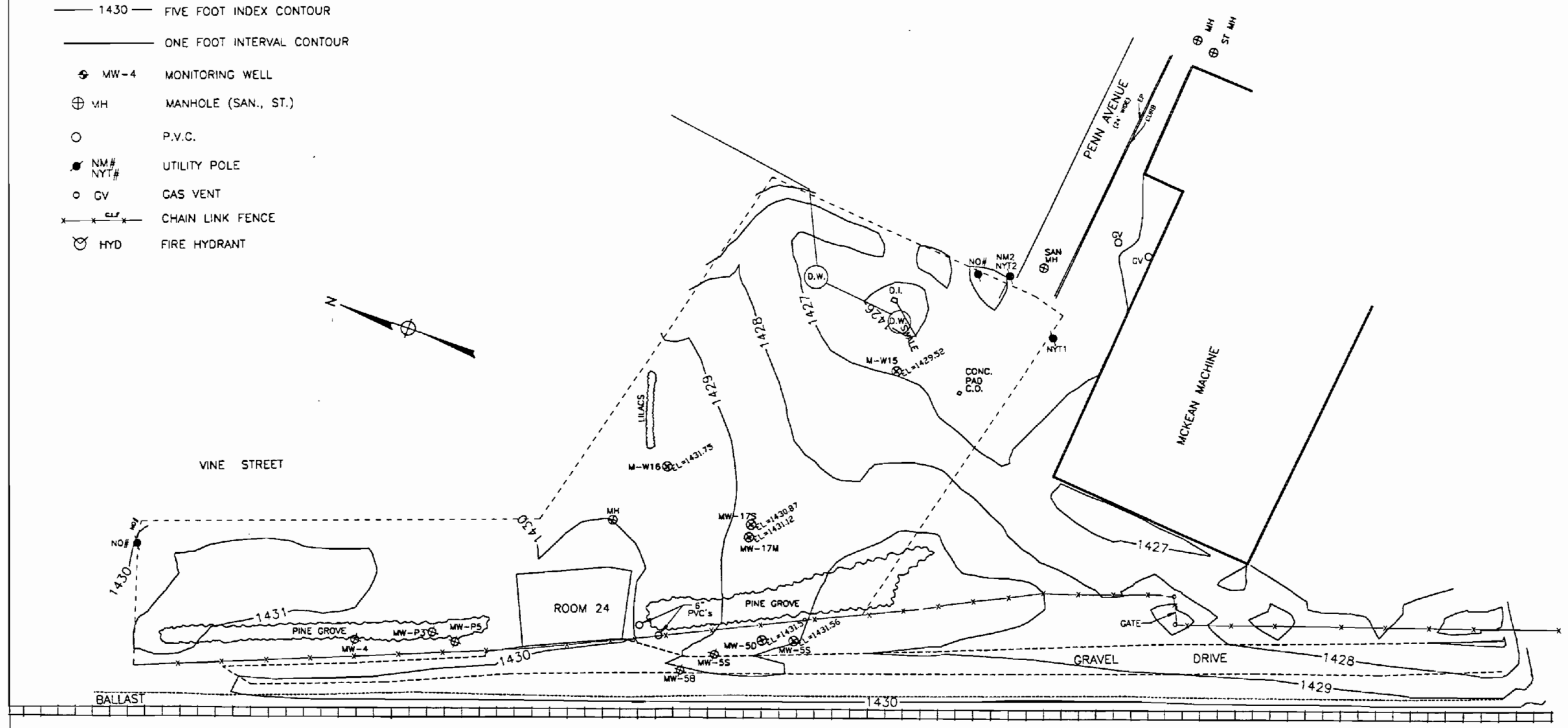

TOP OF FLOOD CONTROL LEVEE
TOE OF FLOOD CONTROL LEVEE/ EDGE OF WATER
Olean Creek
EE-009/14.5
EE-018/24
EDGE OF WATER
TOE OF FLOOD CONTROL LEVEE
N
EE-010/16.5
EE-017/16
EE-008/5.91
EE-016/21
VD-255/14.1
VD-256/25.4
Storm Sewer Discharge to Creek
Sand Bar Removed by Contractor
EE-011/12.4
EE-015/16
VD-257/1270
VD-265/2030
VD-270/16.6
VD-264/615
VD-271/43.5
VD-258/1310
VD-267/2600
EE-007/8.32
EE-013/17
VD-266/1700
VD-269/2230
VD-259/782
VD-268/2550
VD-263/1190
Excavation Area
VD-260/930
PUBLIC PARK
VD-262/50
VD-261/292
EE-012/14.4
EE-014/19
Bridge Riprap Area Installed in 1971/72
UNION STREET
NYS ROUTE 16
0 100 200
SCALE IN FEET
LEGEND
AREA OF SEDIMENT REMOVED FROM OLEAN CREEK
ENTRANCE/EXIT SAMPLE LOCATION
VERIFICATION SAMPLE LOCATION
VD-261/292 SAMPLE NO./CONC.CHROME(mg/kg)
OLEAN CREEK
VERIFICATION SAMPLE LOCATIONS
DIVISION OF ENVIRONMENTAL REMEDIATION
DATE: 12/15/97
DRAWING: ocrksamp
Van der Horst Plant #1
Olean (C), Catt. County, No. 905008

Figure 5

LEGEND

- 1430 — FIVE FOOT INDEX CONTOUR
- ONE FOOT INTERVAL CONTOUR
- MW-4 MONITORING WELL
- MH MANHOLE (SAN., ST.)
- P.V.C.
- NM# NYT# UTILITY POLE
- GV GAS VENT
- CLF CHAIN LINK FENCE
- HYD FIRE HYDRANT



30 0 30 60 90

Scale 1" = 30 ft

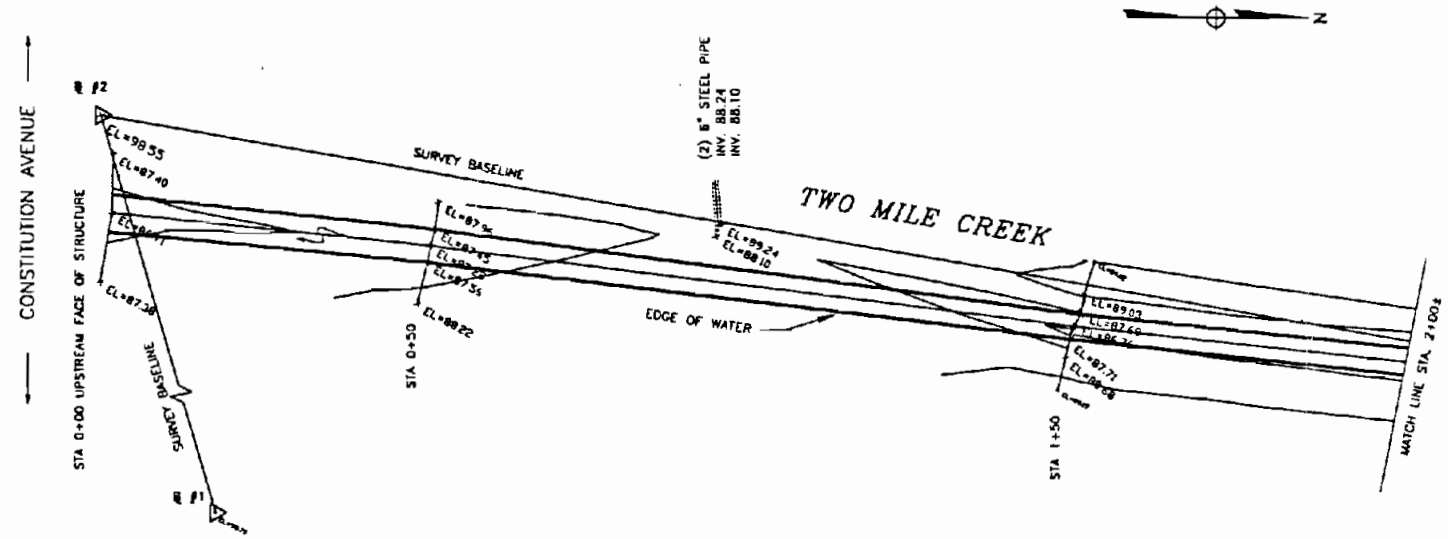
POST-REMEDIATION SITE PLAN

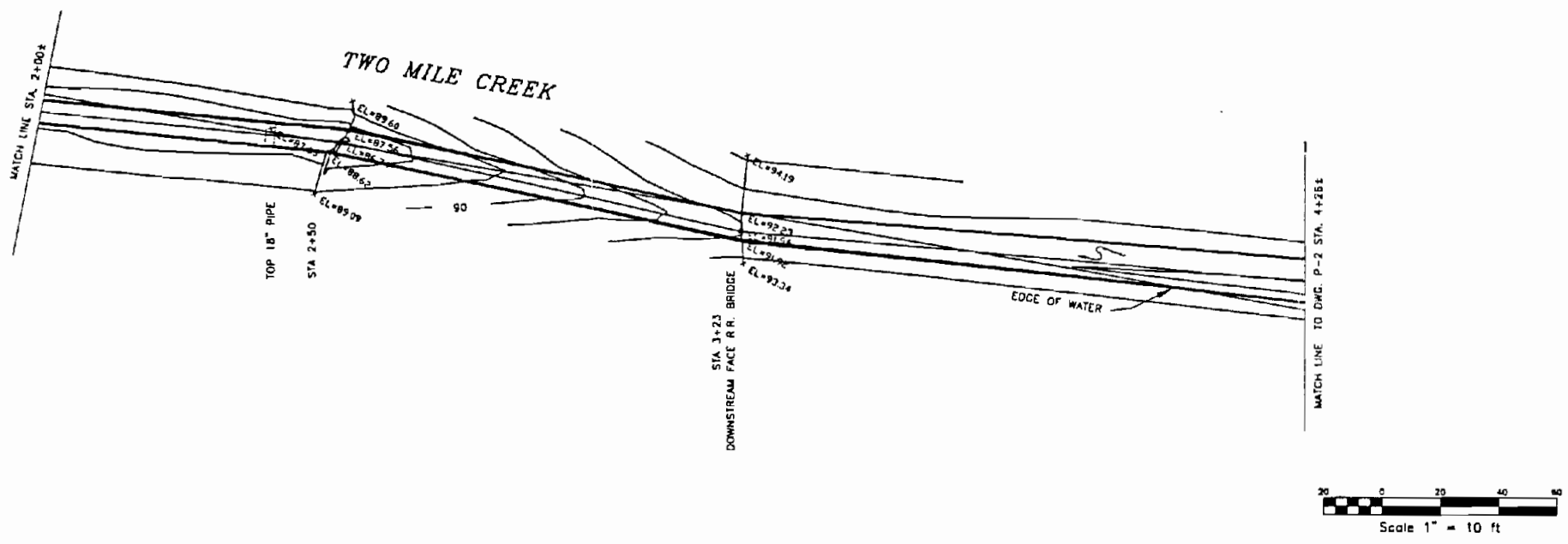
DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/01/97 DRAWING: p1siteab.dwg

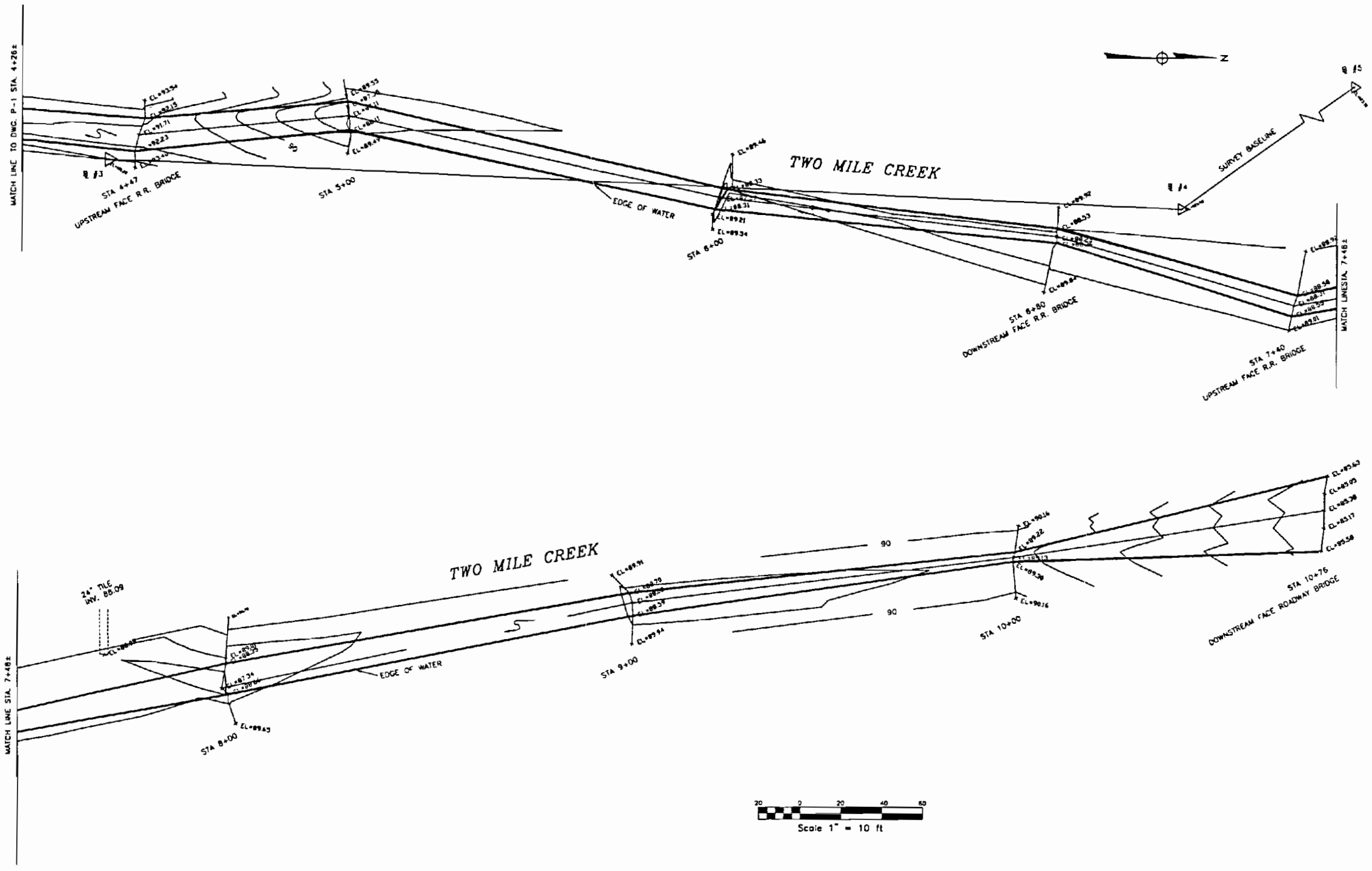
SITE: Van der Horst Plant #1
Olean(C), Catt. Co.

Figure 6





Two-Mile Creek Post Remediation Site Plan		
DIVISION OF ENVIRONMENTAL REMEDIATION		
DATE: 12/01/97	DRAWING: tmcab.dwg	
SITE: Van der Horst Plant #1 Olean(C), Catt. Co.		Figure 7a



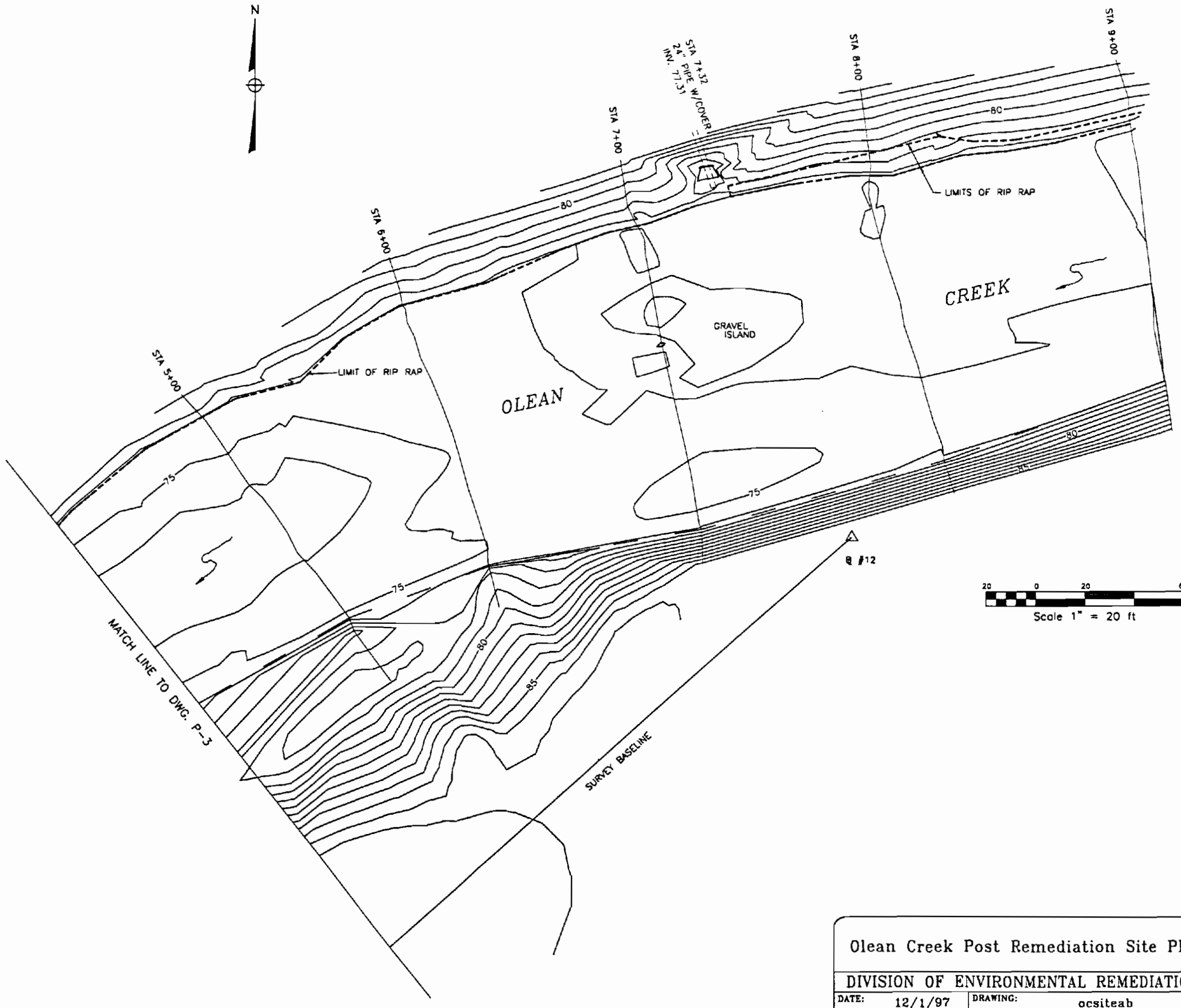
Two-Mile Creek Post Remediation Site Plan

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/01/97 DRAWING: tmcab.dwg

SITE: Van der Horst Plant #1
Olean(C), Catt. Co.

Figure 7b



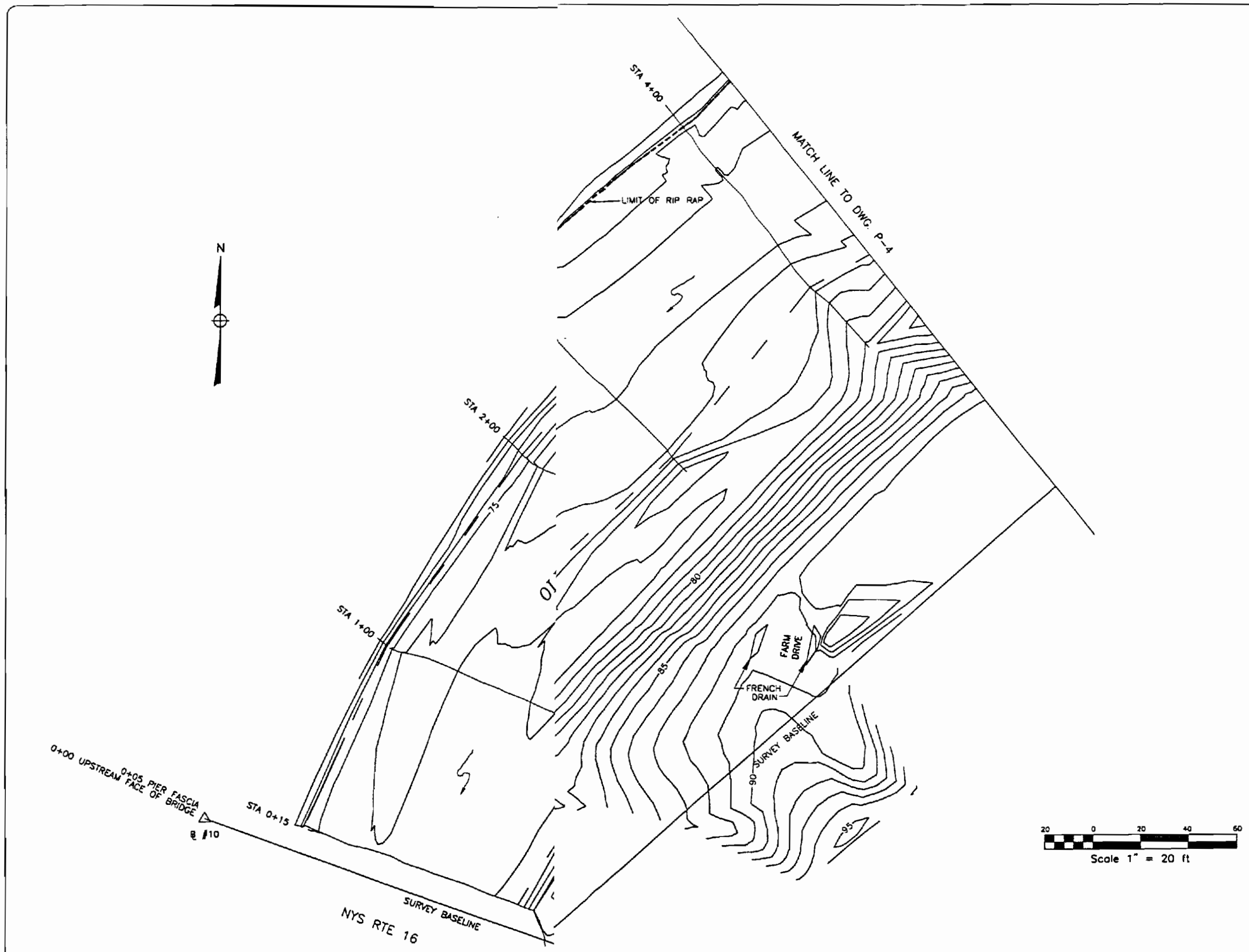
Olean Creek Post Remediation Site Plan

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/1/97 DRAWING: ocsiteab

SITE: Van der Horst Plant #1
Olean(C), Catt. Co.

Figure 8a



Olean Creek Post Remediation Site Plan

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/1/97 DRAWING: ocsiteab

SITE: Van der Horst Plant #1
Olean(C), Catt. Co.

Figure 8b

N

AGWAY/FELMONT OIL PROPERTY

MW-9D
MW-9S

TEST LOOP DRIVE

PLANT 2

MW-20S
MW-20VD
MW-20D

MW-14

MW-7S
MW-7D

VdH Site

MW-13

ELM STREET

MAPLE STREET

SPRUCE STREET

WATER STREET

VINE STREET

FOREST STREET

MW-12

MW-4
MW-P3
MW-P5

MW-1S
MW-10

MW-16

MW-5D
MW-17S
MW-17D
MW-15
MW-5S

McKean Machine

N.FORTH STREET

MW-11VD
MW-11S
MW-11D

MW-19D
MW-19S

FLARE DRIVE

MW-21D
MW-21VD
MW-21S

DRESSER RAND CORP. PROPERTY

CENTER ROAD

GARDINER AVENUE

MW-8

BROOKVIEW STREET

MW-10

IMPELLER DRIVE

ROAD
ROAD
ROAD
POLE
ROAD

MW-30

DRESSER RAND FACILITY

PLANT 1

Monitoring Well Locations

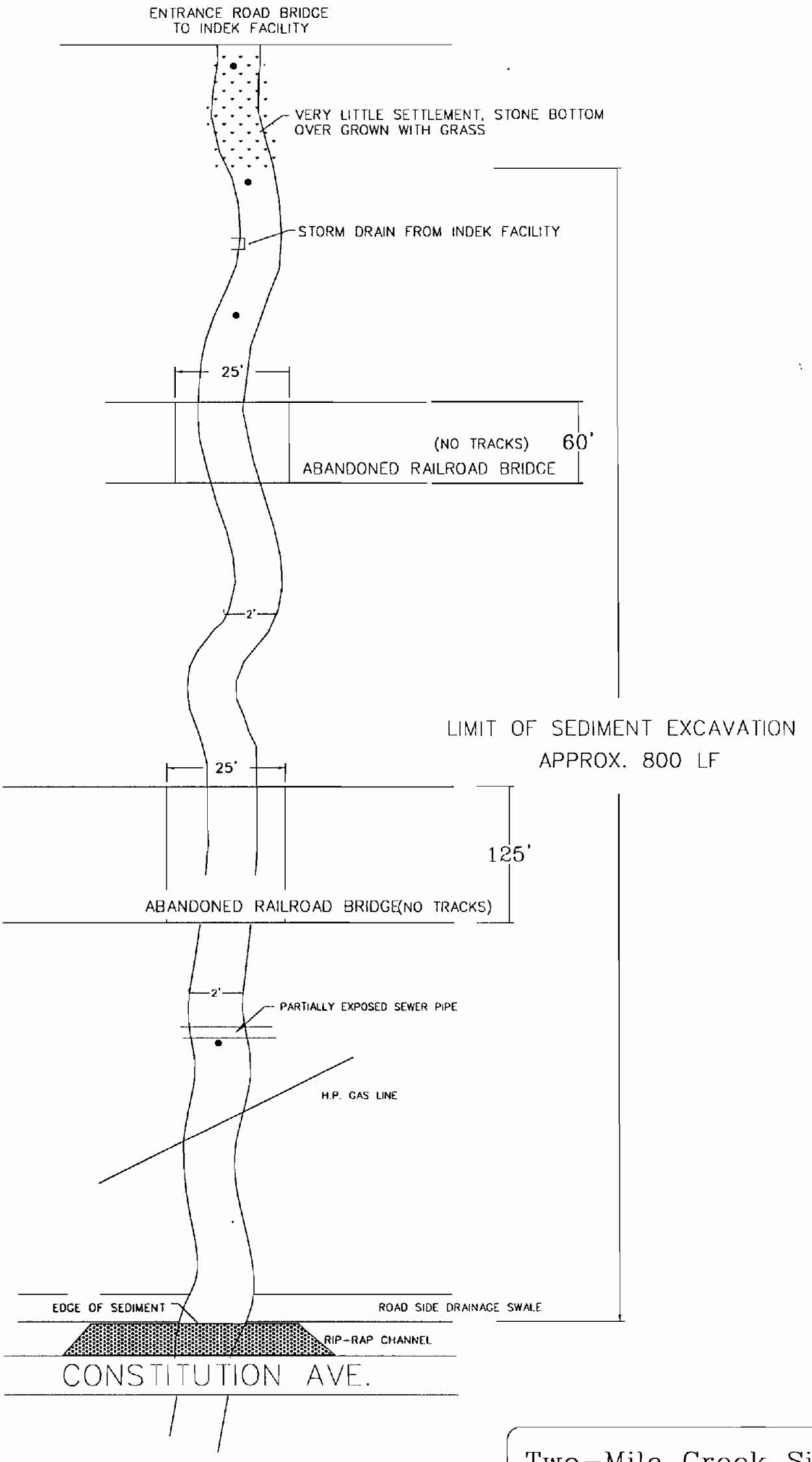
DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 11/26/97

DRAWING: vdhmw.dwg

SITE: Van der Horst Plant No.1 Site
Olean(C), Cattaraugus Co.
Site No. 905008

Figure 9

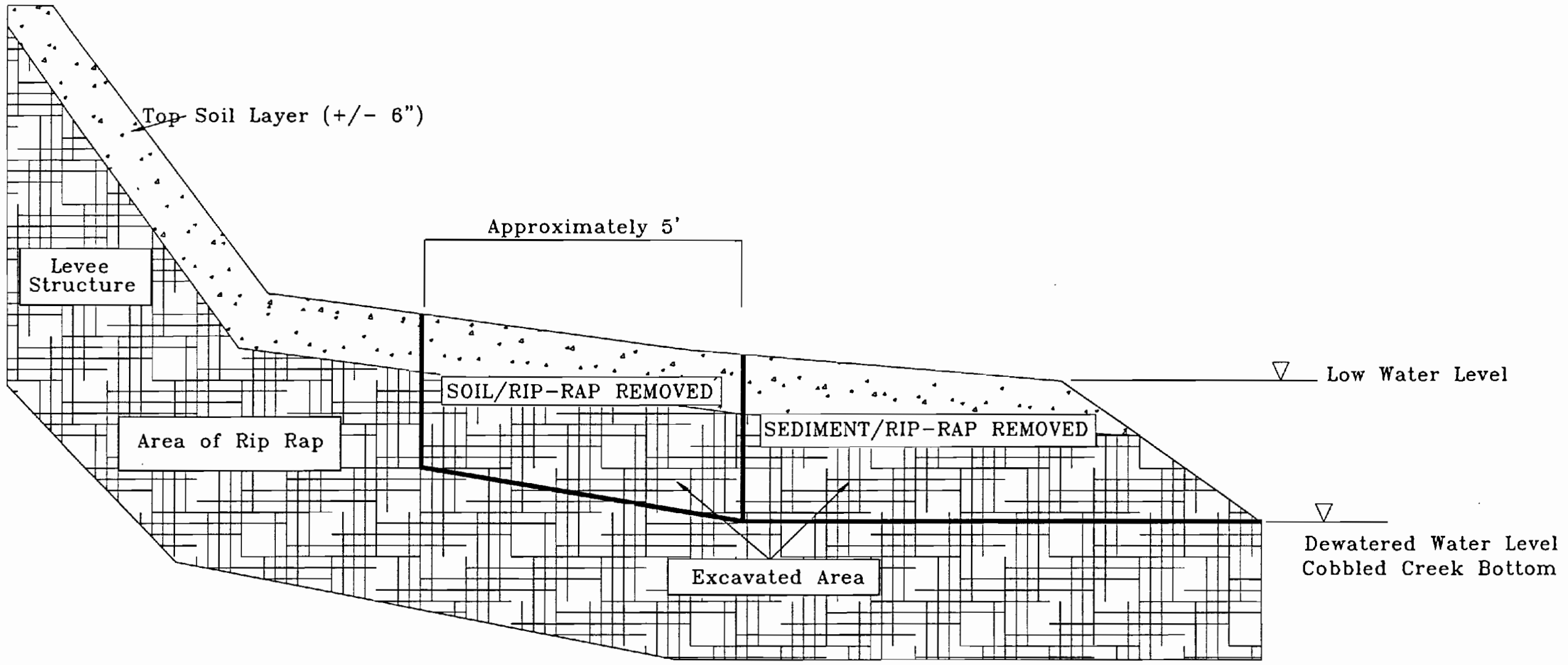


Two–Mile Creek Site Plan

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE:	DRAWING:	DRAWN BY:
12/11/97	tmcsite	GPS

Figure 10



Not to Scale

Olean Creek Excavation
Cross Section

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 2/17/98 | DRAWING: Ocrksect.dwg

SITE: Van der Horst Plant #1
Olean(C), Catt. Co.

Figure 11

APPENDIX A
DRAWING INDEX

Description of Drawing:	Originator	Date	Drawing No.
Existing Site Plan	ERM	3/7/96	1
Soil Excavation Plan	ERM	3/13/96	2
Soil Excavation Plan	ERM	rev.4/30/96	2
Storm Sewer Cleaning and Olean Creek Sediment Removal	ERM	3/13/96	3
Proposed Grading Plan	ERM	3/27/96	4
Miscellaneous Civil Details	ERM	3/27/96	5
Tree Planting and Fence Replacement	NYSDEC	8/15/96	unnumbered
Revised Storm Drainage System	NYSDEC	12/9/96	1
Clean-Out Structure	NYSDEC	12/30/96	1
Retention Basin Relief Structure	NYSDEC	12/22/96	1
Detail Sheet Relief Drain	NYSDEC	12/22/96	2
Subsurface Soil Investigation	NYSDEC	3/20/97	1
Actual Remedial Excavation Locations	NYSDEC	12/07/97	3
Plant #1 Sample Locations	NYSDEC	12/07/97	4
Olean Creek Verification Sample Locations	NYSDEC	12/15/97	5
Post Remediation Site Plan	NYSDEC	12/1/97	6
Two-Mile Creek Post Remediation Plan	NYSDEC	12/1/97	7a
Two-Mile Creek Post Remediation Plan	NYSDEC	12/1/97	7b
Olean Creek Post Remediation Site Plan	NYSDEC	12/1/97	8a
Olean Creek Post Remediation Site Plan	NYSDEC	12/1/97	8b
Monitoring Well Locations	NYSDEC	11/26/97	9
Two-Mile Creek Site Plan	NYSDEC	12/11/97	10
Olean Creek Excavation Cross Section	NYSDEC	12/15/97	11
Two-Mile Creek Initial Site Survey	Modi Eng.	10/96	P-1,2,& 3
Two-Mile Creek Post Excavation Survey	Modi Eng.	4/97	1,2,& 3
Olean Creek Initial Site Survey	Modi Eng.	9/96	P-3 & P-4
Olean Creek Final grading Plan	Modi Eng.	11/97	P-3 & P-4
VDH Plant#1 Pre-Excavation Site Plan	Modi Eng.	1/97	V-1A
VDH Plant#1 Post-Excavation Survey III	Modi Eng.	3/97	V-2B
VDH Plant#1 Subgrade Plan	Modi Eng.	6/97	V-3A
VDH Plant#1 Final grading Plan	Modi Eng.	11/97	V-4A

APPENDIX B
CONSTRUCTION RECORDS AND REPORTS INDEX

1. Contract Documents and Specifications
2. Supplementary Documents - Limited Site Data
3. Addendum No.1
4. Certifications of Decontamination of Equipment
5. Certificate of Substantial Completion
6. Change Orders No. 1, No. 2 and No. 3(final)
7. Proposed Change Orders Nos. 1 through 10
8. Contact Reports
9. Contractors Health and Safety Plan
10. Real Time Air Monitoring Records
11. Documentation Air Monitoring Records
12. Contractors Work Plan
13. Contractors Schedules
14. Contractor submittals, shop drawings and materials testing
15. Daily Construction Reports
16. Daily Safety Reports
17. Field Orders Nos. 1 through 11
18. Job Meeting Minutes
19. Monitoring Well Logs
20. NYSDEC memorandums and Letters
21. AllState PowerVac memorandums and Letters
22. News releases and articles
23. Notice to Proceed
24. Public Notices
25. Pollution Liability Insurance
26. Payrolls (APV)
27. Payrolls (Subcontractors)
28. Verification Sampling/ analytical results
29. Remediation Summary Report

APPENDIX C
CONSTRUCTION PHOTOGRAPHS INDEX

PHOTOGRAPHIC LOG INDEX
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE # 9-05-008

PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	16	VdH #1	9/17/97	Topsoil prior to seeding.
2	16	VdH #1	9/17/97	Topsoil prior to seeding
3	16	VdH #1	9/17/97	Dead squirrel found beneath the traffic cone.
4	16	VdH #1	9/17/97	Topsoil prior to seeding
5	16	Olean Creek	9/24/97	East bank cut back to a 3:1 slope, h:v
6	16	Olean Creek	10/2.97	Removal of equipment from Olean Creek site.
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

PHOTOGRAPHIC LOG INDEX
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE # 9-05-008

PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	15	Olean Creek	9/3/97	Olean Creek bank prior to excavation, note rip rap.
2	15	Olean Creek	9/3/97	Creek bank after excavation to original design.
3	15	Olean Creek	9/3/97	Continue to dewater.
4	15	Olean Creek	9/3/97	Creek bank excavation to new dimensions.
5	15	Olean Creek	9/3/97	Creek bank excavation, working upstream to downstream.
6	15	Olean Creek	9/3/97	Continue creek bank excavation, note existing rip rap.
7	15	Olean Creek	9/3/97	Further dam failure, shut down dewatering.
8	15	Olean Creek	9/3/97	Dam failure due to further undermining of blocks.
9	15	Olean Creek	9/16/97	Creek bank excavation backfilled with 12"-18"rip rap
10	15	Olean Creek	9/16/97	Placing new rip rap along creek bank.
11	15	Olean Creek	9/16/97	Placing new rip rap along creek bank.
12	15	VdH #1	9/17/97	Topsoil at plant #1.
13	15	VdH #1	9/17/97	Topsoil placed at extreme south end of McKean Machine.
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

PHOTOGRAPHIC LOG INDEX
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE # 9-05-008

PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	14	Olean Creek	8/7/97	Silt curtain installed in Olean Creek.
2	14	Olean Creek	8/7/97	Silt curtain installed in Olean Creek.
3	14	Olean Creek	8/7/97	Placement of Mafia blocks as supports for water structures
4	14	VdH #1	8/7/97	Placement of topsoil along residential yards.
5	14	VdH #1	8/7/97	Placement of topsoil along McKean Machine.
6	14	VdH #1	8/7/97	Placement of topsoil along McKean Machine.
7	14	VdH #1	8/7/97	Placement of topsoil along McKean Machine.
8	14	Olean Creek	8/12/97	First water structure installed, downstream end. (4')
9	14	Olean Creek	8/12/97	Second water structure installed. (6')
10	14	Olean Creek	8/12/97	Installing the third water structure, 4' water structure.
11	14	Olean Creek	8/12/97	Third water structure installed. (4')
12	14	Olean Creek	8/12/97	Third water structure too short for depth of water.
13	14	Olean Creek	8/13/97	Installing a new third structure. (6')
14	14	Olean Creek	8/14/97	Problems installing water structure due to current.
15	14	Olean Creek	8/14/97	Third and forth water structures installed, 6' and 4'
16	14	Olean Creek	8/19/97	Water structures parallel to creek flow installed.
17	14	Olean Creek	8/25/97	Vacuuming sediments from upstream end of work zone.
18	14	Olean Creek	8/25/97	Dumping water and sediments into staging area.
19	14	Olean Creek	8/28/97	Adding additional pumps for dewatering work zone.
20	14	Olean Creek	8/28/97	Lowest water level achieved.
21	14	Olean Creek	9/2/97	Start of creek bank excavation, upstream end.
22	14	Olean Creek	9/2/97	Cleaned creek bed
23	14	Olean Creek	9/2/97	Uncleaned creek bed.
24	14	Olean Creek	9/2/97	Collapsed block wall between water structures.
25	14	Olean Creek	9/2/97	Collapsed block wall between water structures.
26	14	Olean Creek	9/2/97	Clearing and grubbing ahead of creek bank excavation.

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Van der Horst Plant #1 Site
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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	13	VdH #1	2/26/97	Piping used in french drain in residential backyards.
2	13	VdH #1	2/26/97	Piping used in french drain in residential backyards.
3	13	VdH #1	2/26/97	Installation of french drain.
4	13	VdH #2	2/27/97	Ponded water at VdH Plant#2, retention pond.
5	13	VdH #2	2/27/97	Ponded water at VdH Plant#2, retention pond.
6	13	VdH #2	2/27/97	Ponded water at VdH Plant#2, retention pond.
7	13	VdH #1	3/10/97	Removal of fencing between VdH #1 & residential yard.
8	13	VdH #1	3/18/97	Monolith material oxidation since 2/18/97.
9	13	Dresser-Rand	4/7/97	Installation of Very Deep well @ Dresser-Rand
10	13	Dresser-Rand	4/7/97	Installation of Very Deep well @ Dresser-Rand
11	13	Dresser-Rand	4/7/97	Installation of Very Deep well @ Dresser-Rand
12	13	Dresser-Rand	4/23/97	Split spoon showing contact between clay and underlying gravel layer, PW-21VD.
13	13	VdH #1	7/28/97	Preparing water structures for installation in Olean Ck.
14	13	VdH #1	7/28/97	Rolling one of two liners to go inside a water structure.
15	13	VdH #2	7/29/97	Installation of overflow pipe at retention pond VdH#2.
16	13	VdH #2	7/29/97	Installation of overflow pipe at retention pond VdH#2.
17	13	VdH #2	7/29/97	Emptying retention pond through overflow pipe VdH#2.
18	13	VdH #2	7/29/97	Retention pond VdH#2, down about 1'.
19	13	VdH #1	7/30/97	Placing topsoil, VdH#1, behind McKean Machine.
20	13	VdH #1	7/30/97	Placing topsoil, VdH#1, behind McKean Machine.
21	13	VdH #1	7/30/97	Scarified subgrade prior to topsoil placement.
22	13	VdH #1	7/31/97	Placing topsoil
23	13	VdH #1	7/31/97	Placing topsoil
24	13	VdH #2	7/31/97	Final retention pond overflow, VdH#2.
25	13	VdH #2	7/31/97	Retention pond down 3', VdH #2.

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	12	VdH #1	2/17/97	Grading excavation bottom to receive HDPE cover
2	12	VdH #1	2/17/97	Grading excavation bottom to receive HDPE cover
3	12	VdH #1	2/17/97	Placing HDPE in excavation
4	12	VdH #1	2/17/97	Placing HDPE in excavation
5	12	VdH #1	2/17/97	Placing HDPE in excavation
6	12	VdH #1	2/17/97	Placing HDPE in excavation
7	12	VdH #1	2/17/97	HDPE in place
8	12	VdH #1	2/17/97	Covering HDPE in excavation
9	12	VdH #1	2/17/97	Covering HDPE in excavation
10	12	VdH #1	2/17/97	Covering HDPE in excavation, backfilling excavation
11	12	VdH #1	2/17/97	Covering HDPE in excavation
12	12	VdH #1	2/18/97	Excavating thru the HDPE to sample the monolith
13	12	VdH #1	2/18/97	Monolith samples
14	12	VdH #1	2/18/97	Backfilling excavation
15	12	VdH #1	2/18/97	Backfilling excavation
16	12	VdH #1	2/18/97	Decon pad gone and area graded
17	12	VdH #1	2/25/97	Loading the last of the non-hazardous soils
18	12	VdH #1	2/25/97	South dry well and catch basin placed
19	12	VdH #1	2/25/97	Both dry wells and the catch basin
20	12	VdH #1	2/25/97	Backfilling excavation
21	12	VdH #1	2/25/97	1' Excavation along Vine Street fence
22	12	VdH #1	2/25/97	Backfilling excavation, all native soils covered
23	12	VdH #1	2/26/97	constructing french drain
24	12	VdH #1	2/26/97	Pea gravel for french drain

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	11	VdH #1	2/10/97	Excavating 0-8' bgs on north side, 0-2' disposed as nonhaz
2	11	VdH #1	2/10/97	Excavating 0-8' bgs on north side, 0-2' disposed as nonhaz
3	11	VdH #1	2/10/97	Excavating hazardous soils along the north side, 8-18'bgs
4	11	VdH #1	2/10/97	North side of excavation, plateau at 8' bgs
5	11	VdH #1	2/10/97	Wall at north edge of excavation, note yellow mortar
6	11	VdH #1	2/10/97	Olean Creek soils shipped to a Hinsdale property
7	11	VdH #1	2/10/97	Olean Creek soils shipped to a Hinsdale property
8	11	VdH #1	2/10/97	Olean Creek soils shipped to a Hinsdale property
9	11	VdH #1	2/10/97	Olean Creek soils shipped to a Hinsdale property
10	11	VdH #1	2/12/97	Excavating hazardous soils north side of excavation
11	11	VdH #1	2/12/97	Test pit to determine thickness of monolith, 15'+
12	11	VdH #1	2/12/97	Test pit to determine thickness of monolith
13	11	VdH #1	2/12/97	Test pits to determine monolith horizontal extent
14	11	VdH #1	2/12/97	Moving CAT 325 onto decon pad
15	11	VdH #1	2/13/97	Taking 0-2' cut adjacent to building #24
16	11	VdH #1	2/13/97	Test pits in excavation, no further soil removal
17	11	VdH #1	2/13/97	2' Cut from hazardous stockpile area
18	11	VdH #1	2/13/97	Junction - brick wall and building #24, note yellow mortar
19	11	VdH #1	2/13/97	"Typical haz mat worker"
20	11	VdH #1	2/14/97	Water line valve pit, note glass balls, no known reason
21	11	VdH #1	2/14/97	Inside of an unidentified oil/water separator
22	11	VdH #1	2/14/97	Inside of an unidentified oil/water separator
23	11	VdH #1	2/14/97	Manhole to oil/water separator
24	11	VdH #1	2/17/97	oil/water separator after removing top
25	11	VdH #1	2/17/97	Checking oil/water separator with photo ionization inst.

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	10	VdH #1	2/3/97	Hydraulic hammer breaking up frozen soils
2	10	VdH #1	2/3/97	Prefabricated concrete structures for dry wells
3	10	VdH #1	2/4/97	Beginning of removal of the soils from 2-8', stockpiled
4	10	VdH #1	2/4/97	Yellow soils 8' bgs, southwest corner.
5	10	VdH #1	2/4/97	Lawn damage from trucks at Vine & W.Water Street
6	10	VdH #1	2/4/97	Bush damaged by trucks
7	10	VdH #1	2/4/97	Yellow stained soils 8' bgs, SW corner, note yellow water
8	10	VdH #1	2/4/97	3" stone for dry wells
9	10	VdH #1	2/4/97	South side of excavation with the top 2-8"bgs removed
10	10	VdH #1	2/4/97	Excavating extra hazardous soils
11	10	VdH #1	2/4/97	Extra hazardous soils, note yellow and brown
12	10	VdH #1	2/4/97	Extra hazardous soils, from south wall, 8-18' bgs
13	10	VdH #1	2/4/97	Extra hazardous soils, note large brown masses
14	10	VdH #1	2/4/97	Extra hazardous soils, note large brown masses
15	10	VdH #1	2/4/97	Extra hazardous soils, note large brown masses
16	10	VdH #1	2/5/97	Determining how deep the monolith goes beneath GW
17	10	VdH #1	2/5/97	Determining how deep the monolith goes beneath GW
18	10	VdH #1	2/5/97	Determining how deep the monolith goes beneath GW
19	10	VdH #1	2/5/97	Determining how deep the monolith goes beneath GW
20	10	VdH #1	2/6/97	Yellow orange groundwater filling yesterdays excavation
21	10	VdH #1	2/6/97	Yellow orange groundwater filling yesterdays excavation
22	10	VdH #1	2/6/97	Excavation for north dry well
23	10	VdH #1	2/6/97	North dry well in place
24	10	VdH #1	2/6/97	Inside of north dry well
25	10	VdH #1	2/7/97	Yellow, Chromium icicles

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	9	VdH #1	1/20/97	Area "G", excavator on top on steel tank
2	9	VdH #1	1/20/97	Area "G", excavator on top on steel tank
3	9	VdH #1	1/20/97	Area "G", note brown solids in side wall
4	9	VdH #1	1/20/97	Area "G", yellow groundwater
5	9	VdH #1	1/20/97	Area "G", Steel tank leaking yellow water
6	9	VdH #1	1/20/97	Area "G", note brown crystalline soils in side wall
7	9	VdH #1	1/21/97	Area "G", excavation, note yellow/brown in side walls
8	9	VdH #1	1/21/97	Area "G", removing steel tank from excavation
9	9	VdH #1	1/21/97	Area "G", removing steel tank from excavation
10	9	VdH #1	1/21/97	Area "G", removing steel tank from excavation
11	9	VdH #1	1/21/97	Area "G", removing steel tank from excavation
12	9	VdH #1	1/21/97	Area "G", removing steel tank from excavation
13	9	VdH #1	1/21/97	Removing concrete beneath steel tank
14	9	VdH #1	1/21/97	Removing concrete beneath steel tank
15	9	VdH #1	1/21/97	APV personnel after deconning steel tank
16	9	VdH #1	1/23/97	Excavator removing soils from Area "G" to stockpile
17	9	VdH #1	1/23/97	Area "G", note yellow and brown color in sidewall
18	9	VdH #1	1/23/97	Sewer pipe excavated during test trench south of Area"G"
19	9	VdH #1	1/23/97	Test trench south of area"G", note yellow in side wall
20	9	VdH #1	1/23/97	Test trench south of area"G", note yellow in side wall
21	9	VdH #1	1/24/97	Area"G", note yellow icicles on side wall
22	9	VdH #1	1/24/97	Area"G", note yellow icicles on side wall
23	9	VdH #1	1/24/97	Yellow side walls in Area"G"
24	9	VdH #1	1/24/97	Yellow side walls in Area"G"
25	9	VdH #1	1/24/97	Yellow side walls in Area"G"

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	8	VdH #1	1/10/97	Excavation F-2, backfilling has begun
2	8	VdH #1	1/10/97	Corner of Say's house closest to excavation, before removal of old plant foundation
3	8	VdH #1	1/10/97	Beginning removal of old foundation, F-2
4	8	VdH #1	1/10/97	Removal of old foundation, F-2
5	8	VdH #1	1/10/97	Backfilling a gap that opened between the sidewalk & F-2
6	8	VdH #1	1/10/97	Removal of old foundation, F-2
7	8	VdH #1	1/13/97	Removal of Non-haz from first vat in Area G
8	8	VdH #1	1/13/97	Beginning area G
9	8	VdH #1	1/13/97	Beginning area G
10	8	VdH #1	1/13/97	Excavating beneath the first vat in area G
11	8	VdH #1	1/14/97	Breaking up the second vat in area G
12	8	VdH #1	1/14/97	Very thick concrete in area G, this piece is 4' x 4' x 15'
13	8	VdH #1	1/14/97	Area G, note brown, Cr contaminated soils beneath vat
14	8	VdH #1	1/14/97	Area G, note brown, Cr contaminated soils beneath vat
15	8	VdH #1	1/14/97	Area G, from end being excavated toward completed end
16	8	VdH #1	1/14/97	Stockpiled hazardous soils and yellow hazardous concrete
17	8	Route 17	1/16/97	Price Trucking accident on Rt. 17, haz.soils from VdH#1
18	8	Route 17	1/16/97	Price Trucking accident on Rt. 17, haz.soils from VdH#1
19	8	Route 17	1/16/97	Price Trucking accident on Rt. 17, haz.soils from VdH#1
20	8	Route 17	1/16/97	Price Trucking accident on Rt. 17, haz.soils from VdH#1
21	8	Route 17	1/16/97	Price Trucking accident on Rt. 17, haz.soils from VdH#1
22	8	Route 17	1/16/97	Clean up on spill by APV, hired by Price Trucking
23	8	Route 17	1/16/97	Clean up on spill by APV, hired by Price Trucking
24	8	Route 17	1/16/97	Clean up on spill by APV, hired by Price Trucking
25	8	VdH #1	1/20/97	Area G excavation, note yellow groundwater bottom right

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	7	VdH Plant #1	½/97	CID trucking Coordinator, D. Williams
2	7	VdH Plant #1	½/97	Breaking up the concrete vault in Area D.
3	7	VdH Plant #1	½/97	Removing the concrete vault from Area D.
4	7	VdH Plant #1	½/97	Backfill with common fill around perimeter.
5	7	VdH Plant #1	½/97	Water valves found along the water mains.
6	7	VdH Plant #1	1/3/97	Pumping water from the 7th 20" dia. tube, Area D.
7	7	VdH Plant #1	1/3/97	Pumping water from the 7th 20" dia. tube, Area D.
8	7	VdH Plant #1	1/3/97	Pumping water from the 7th 20" dia. tube, Area D.
9	7	VdH Plant #1	1/3/97	Filling the 7th 20" dia. tube with low density concrete.
10	7	VdH Plant #1	1/3/97	Filling the 7th 20" dia. tube with low density concrete.
11	7	VdH Plant #1	1/3/97	Filling the 7th 20" dia. tube with low density concrete.
12	7	VdH Plant #1	1/3/97	Filling the 7th 20" dia. tube with low density concrete.
13	7	VdH Plant #1	1/3/97	Happy enthusiastic APV worker.
14	7	VdH Plant #1	1/3/97	Garbage pilling up due to unpaid bills.
15	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
16	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
17	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
18	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
19	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
20	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
21	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
22	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
23	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
24	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.
25	7	VdH Plant #1	1/8/97	Say residence, photo of basement wall prior to F-2 excav.

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	6	VdH Plant #1	12/17/96	Hazardous contamination found at the surface of Area F-2.
2	6	VdH Plant #1	12/17/96	Hazardous contamination found at the surface of Area F-2.
3	6	VdH Plant #1	12/17/96	Hazardous concrete excavated from Area F-2.
4	6	VdH Plant #1	12/17/96	Hazardous concrete excavated from Area F-2.
5	6	VdH Plant #1	12/17/96	Hazardous concrete excavated from Area F-2.
6	6	VdH Plant #1	12/17/96	UST excavation, note 8" water line not leaking.
7	6	VdH Plant #1	12/18/96	Yellow concrete from the floor concrete of Area F-2.
8	6	VdH Plant #1	12/18/96	More hazardous concrete from Area F-2.
9	6	VdH Plant #1	12/18/96	Yellow soils in the side wall of Area F-2 excavation.
10	6	VdH Plant #1	12/18/96	Yellow concrete being removed from Area F-2.
11	6	VdH Plant #1	12/19/96	Yellow "concrete" from Area F-2.
12	6	VdH Plant #1	12/19/96	#1 of 2 Steel tanks removed from Area D
13	6	VdH Plant #1	12/19/96	Contents of tank #1, pea gravel and soil saturated w/Cr liq.
14	6	VdH Plant #1	12/19/96	Interior of tank #1, other debris w/ soils and gravel.
15	6	VdH Plant #1	12/19/96	Debris from tank #1.
16	6	VdH Plant #1	12/19/96	Debris from tank #1
17	6	VdH Plant #1	12/19/96	Tank #2 approx. half the size of tank #1.
18	6	VdH Plant #1	12/19/96	Cr liquid from tank #1, contained in the concrete vault.
19	6	VdH Plant #1	12/19/96	Cr liquid, Area D.
20	6	VdH Plant #1	12/19/96	Area D, approx. half excavated.
21	6	VdH Plant #1	12/19/96	Cr liquid migrating from stockpile, contained by APV.
22	6	VdH Plant #1	12/19/96	Solidification of Cr liquids in Area D vault.
23	6	VdH Plant #1	12/19/96	Vault after solidification.
24	6	VdH Plant #1	12/24/96	CID driver, after decon.
25	6	VdH Plant #1	1/2/97	Removal of the 20" dia. tube in Area D.

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	5	VdH Plant #1	12/3/96	Excavating Area E-1, now an 8' cut.
2	5	VdH Plant #1	12/3/96	Excavation behind MM, note 1'-2' change.
3	5	VdH Plant #1	12/3/96	Behind MM after excavation, note fence in like condition.
4	5	VdH Plant #1	12/3/96	Electrical box at MM, soils removed by hand.
5	5	VdH Plant #1	12/3/96	Excavation along MM on Penn Ave., note gas line & meter
6	5	VdH Plant #1	12/3/96	Excavating along MM on Penn Ave.
7	5	VdH Plant #1	12/3/96	No parking signs erected at request of APV on Penn Ave.
8	5	VdH Plant #1	12/3/96	Note: condition of street at Penn & 4th pre trucking.
9	5	VdH Plant #1	12/3/96	Note: condition of curb and street on 4th at Penn Ave.
10	5	VdH Plant #1	12/3/96	Note: condition of street and side walk in front of Casa D.
11	5	VdH Plant #1	12/3/96	No parking sign, other side of Penn, note condition of St.
12	5	VdH Plant #1	12/4/96	Deconing trucks leaving site.
13	5	VdH Plant #1	12/4/96	Note: yellow soils encountered adjacent to Area E-1.
14	5	VdH Plant #1	12/4/96	Area E note yellow soils.
15	5	VdH Plant #1	12/5/96	Loading non-hazardous soils.
16	5	VdH Plant #1	12/11/96	Excavate to 10' for sample. leave excavation to 8'.
17	5	VdH Plant #1	12/12/96	Backfilling Area E-1, 2 conduits were cut out before filling
18	5	VdH Plant #1	12/12/96	2' excavation between footers.
19	5	VdH Plant #1	12/16/96	2' excavation along property line, near Penn Ave.
20	5	VdH Plant #1	12/16/96	View form Penn Ave gate looking west.
21	5	VdH Plant #1	12/16/96	Areas around MM, backfilled and rolled.
22	5	VdH Plant #1	12/16/96	CID truck delivering common fill.
23	5	VdH Plant #1	1216/96	Area behind MM backfilled, along RR is not, note fence.
24	5	VdH Plant #1	12/16/96	Loading a CID truck with non-hazardous soils.
25	5	VdH Plant #1	12/3/96	Haul road constructed to create a drop off - pickup loop.

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PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	4	VdH Plant #1	11/14/96	Exclusion zone fencing along RR.
2	4	VdH Plant #1	11/14/96	Inside of cleaned UST.
3	4	VdH Plant #1	11/14/96	Inspecting condition of fencing - MM.
4	4	VdH Plant #1	11/14/96	Inspecting condition of fencing - MM.
5	4	VdH Plant #1	11/14/96	Inspecting condition of fencing - MM.
6	4	VdH Plant #1	11/14/96	Inspecting condition of fencing - MM.
7	4	VdH Plant #1	11/14/96	Note thin vegetation in wet hole behind MM.
8	4	VdH Plant #1	11/14/96	Inspecting condition of fencing - MM.
9	4	VdH Plant #1	11/14/96	Inspecting condition of fencing - MM.
10	4	VdH Plant #1	11/14/96	Inspecting condition of fencing - MM.
11	4	VdH Plant #1	11/20/96	6" diameter tube found in concrete slab.
12	4	VdH Plant #1	11/20/96	Excavation of a sanitary sewer line to VdH #1.
13	4	VdH Plant #1	11/20/96	Repair of a sanitary sewer lateral to MM.
14	4	VdH Plant #1	11/21/96	Excavation of the 6" tube in concrete slab.#11
15	4	VdH Plant #1	11/21/96	6" diameter tube, contained a Cr liquid.
16	4	VdH Plant #1	11/21/96	UST excavation, note 8" water line leaking.
17	4	VdH Plant #1	11/21/96	Breaking up concrete slab near Say residence.
18	4	VdH Plant #1	11/21/96	Beginning excavation along RR.
19	4	VdH Plant #1	11/21/96	Black cinders excavated along RR.
20	4	VdH Plant #1	11/21/96	Beginning of excavation - 1 foot cut.
21	4	VdH Plant #1	11/25/96	Loading soils for disposal at CID.
22	4	VdH Plant #1	11/25/96	Stockpiles of concrete.
23	4	VdH Plant #1	11/26/96	NOTE: ponded water behind MM.
24	4	VdH Plant #1	11/26/96	Damage to lawn of MM on 4th St. - by CID.
25	4	VdH Plant #1	12/3/96	Excavation along RR and behind MM.

PHOTOGRAPHIC LOG INDEX
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE # 9-05-008

PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	3A	Olean Creek	10/29/96	Installation of 6' water structure (WS).
2	3A	Olean Creek	10/29/96	Installation of 6' water structure (WS).
3	3A	Olean Creek	10/29/96	Installation of 6' water structure (WS).
4	3A	Olean Creek	10/30/96	Working into the night to install WS
5	3A	Olean Creek	10/30/96	Working into the night to install WS.
6	3A	Olean Creek	10/30/96	Working into the night to install WS.
7	3A	VdH Plant #1	11/7/96	10" production well to be decommissioned.
8	3A	VdH Plant #1	11/7/96	Marcor decommissioning well in MW - 5 cluster.
9	3A	VdH Plant #1	11/7/96	Marcor pulling the 6" dia. casing on MW-5D to 100' bgs.
10	3A	VdH Plant #1	11/7/96	Preparing to cut off the 10" well prior to grouting.
11	3A	VdH Plant #1	11/7/96	Note the hole in center, this is an additional 10" well.
12	3A	VdH Plant #1	11/11/96	Excavation around the 8000 gal. UST.
13	3A	VdH Plant #1	11/11/96	Digging the "fill tube" of UST #2, actually 8" conduits.
14	3A	VdH Plant #1	11/11/96	Digging around conduits.
15	3A	VdH Plant #1	11/11/96	Digging around conduits.
16	3A	VdH Plant #1	11/11/96	Conduits went vertical 6', then went under RR.
17	3A	VdH Plant #1	11/12/96	Pulling UST.
18	3A	VdH Plant #1	11/12/96	Pulling UST.
19	3A	VdH Plant #1	11/12/96	Pulling UST.
20	3A	VdH Plant #1	11/12/96	Pulling UST.
21	3A	VdH Plant #1	11/12/96	Bottom of UST excavation as the tank was removed.
22	3A	VdH Plant #1	11/12/96	Excavation, slight visual contamination, no product visible.
23	3A	VdH Plant #1	11/12/96	Pulling UST.
24	3A	VdH Plant #1	11/13/96	Inside of UST prior to cleaning.
25	3A	VdH Plant #1	11/13/96	Inside of UST prior to cleaning.

PHOTOGRAPHIC LOG INDEX
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE # 9-05-008

PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	3	Two Mile Ck.	10/14/96	Wet sed. from under 125' bridge, mixed with Portland
2	3	Two Mile Ck.	10/14/96	Mixing wet sediments with Portland
3	3	Olean Creek	10/14/96	Seaming HDPE staging area at OC
4	3	Olean Creek	10/14/96	Begaing to excavate along the east bank
5	3	Olean Creek	10/14/96	Delivery of a Rental storage tank
6	3	Olean Creek	10/16/96	Relocating storage tank
7	3	Olean Creek	10/16/96	Delivery of Water Structure components
8	3	Olean Creek	10/16/96	East bank excavation
9	3	Olean Creek	10/16/96	Silt curtain installed in Olean Creek
10	3	Olean Creek	10/16/96	Staging area at OC from the levee
11	3	Two Mile Ck.	10/16/96	Mixing Portland with wet sediments
12	3	Two Mile Ck.	10/16/96	Mixing Portland with wet sediments
13	3	Olean Creek	10/16/96	East bank excavation from the Rt. 16 bridge
14	3	Olean Creek	10/16/96	Installing geotextile along east bank excavation area
15	3	Olean Creek	10/17/96	East bank excavation opened to river flow
16	3	Olean Creek	10/17/96	Installation of the 6' water structure
17	3	Olean Creek	10/17/96	Night work - installing water structures
18	3	Olean Creek	10/17/96	Night work - installing water structures
19	3	Olean Creek	10/21/96	Olean Creek from Rt. 16 bridge, 3" rain in previous 48hr.
20	3	Olean Creek	10/21/96	East bank soils with silt fence installed
21	3	Two Mile Ck.	10/24/96	Consolidating brush to be chipped
22	3	Olean Creek	10/28/96	Excavator in Olean Creek, preparing to install Water Strct.
23	3	Olean Creek	10/28/96	Excavator in Olean Creek, preparing to install Water Strct.
24	3	Olean Creek	10/28/96	Excavator in Olean Creek, setting concrete blocks for WS.
25	3	Olean Creek	10/28/96	Excavator in Olean Creek, setting concrete blocks for WS.

PHOTOGRAPHIC LOG INDEX
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE # 9-05-008

PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	2	StrmSwrCln	10/4/96	N.Union St. Video taping Storm Sewer
2	2	StrmSwrCln	10/4/96	N.Union & Brookfield Video taping S.S.
3	2	StrmSwrCln	10/4/96	Flood Control Levee looking south at S.S. valve pit
4	2	StrmSwrCln	10/4/96	Power flushing truck at N.Union manhole
5	2	Two Mile Ck.	10/4/96	Creek reflooded- Constitution Ave looking north
6	2	Two Mile Ck.	10/4/96	Creek reflooded- Constitution Ave looking north
7	2	Two Mile Ck.	10/4/96	Creek reflooded- looking north at 125' bridge
8	2	Two Mile Ck.	10/4/96	Creek reflooded- looking north under 125' bridge
9	2	Two Mile Ck.	10/4/96	Creek reflooded- 125' bridge looking south
10	2	Two Mile Ck.	10/4/96	Creek reflooded- 125' bridge looking south, poly tank
11	2	Two Mile Ck.	10/4/96	Creek reflooded- 125' bridge looking south
12	2	Two Mile Ck.	10/4/96	Creek reflooded- 125' bridge looking north
13	2	Two Mile Ck.	10/7/96	Sediment staging area - soft sed. from under 125' bridge
14	2	Two Mile Ck.		Deconing skid steer with tracks - loader
15	2	Two Mile Ck.		East bank between the bridges - regraded
16	2	Two Mile Ck.		Looking under the 125' bridge from the south end
17	2	Two Mile Ck.		East bank just south of 125' bridge - regraded
18	2	Two Mile Ck.		Looking under the Conrail bridge from the south end
19	2	Two Mile Ck.		Looking south from the 125' bridge toward Const.-regrade
20	2	Two Mile Ck.		Looking at the west bank between 125' bridge and Const.
21	2	Two Mile Ck.		From the 125' bridge looking south - regraded
22	2	Plant #1	10/8/96	Installing catch basin for decon trailer sink & decon water
23	2	Plant #1	10/8/96	Installing catch basin for decon trailer sink & decon water
24	2	Olean Creek	10/14/96	Installing silt fence before excavating east bank
25	2	Olean Creek	10/14/96	Installing silt fence before excavating east bank

PHOTOGRAPHIC LOG INDEX
Van der Horst Plant #1 Site
Olean(C), New York
NYSDEC SITE # 9-05-008

PHOTO NO.	FILM ROLL	LOCATION	DATE	DESCRIPTION
1	1	Two-Mile Crk.	9/25/96	documentation and real time air monitoring station - TMC
2	1	Two-Mile Crk.	9/25/96	skid loader used to excavate TMC under bridges
3	1	Two-Mile Crk.	9/25/96	TMC - Conrail bridge looking south
4	1	Two-Mile Crk.	9/25/96	TMC - 2'WS upstream of 125' bridge, looking south
5	1	Two-Mile Crk.	9/25/96	Excavation between bridges, looking north
6	1	Two-Mile Crk.	9/25/96	Excavated creek bed under Conrail bridge, looking north
7	1	Two-Mile Crk.	9/26/96	TMC pre excavation, laying 8" hose, 125' bridge looking S
8	1	Two-Mile Crk.	9/26/96	Skid loader stuck under 125' bridge
9	1	Two-Mile Crk.	9/26/96	TMC pre-excavation, 125 bridge opening, looking south
10	1	Two-Mile Crk.	9/26/96	Skid loader pushing black, oily, sediments from 125' brid.
11	1	DEC- vehicle	9/27/96	DEC vehicle 87-3535, coolant vessel leaking
12	1	Strm Swr Clning	10/1/96	Power wash vehicle and Vactruck
13	1	Strm Swr Clning	10/1/96	Power wash vehicle and Vactruck
14	1	Two-Mile Crk.	10/1/96	Air monitoring stationat TMC sed. staging area
15	1	Two-Mile Crk.	10/1/96	Monitoring turbidity from "dirt bag"
16	1	Two-Mile Crk.	10/1/96	High water in TMC, Constitution Ave looking north
17	1	Two-Mile Crk.	10/1/96	High water in TMC, clearing brush, Conrail brid.looking S.
18	1	Two-Mile Crk.	10/1/96	High water TMC, looking north at Conrail bridge
19	1	Two-Mile Crk.	10/1/96	Access road between bridges to staging area.brkn gas mrkr
20	1	Two-Mile Crk.	10/1/96	Staging area looking west
21	1	Two-Mile Crk.	10/1/96	Staging area looking west
22	1	Two-Mile Crk.	10/3/96	Excavating sediments from beneath 125' bridge
23	1	Two-Mile Crk.	10/3/96	Silt fences near Constitution Ave
24	1	Two-Mile Crk.	10/3/96	Construction secondary dam near Constitution Ave.
25	1	Strm Swr Clning	10/4/96	Storm Sewer video camera going into manhole

APPENDIX D
MONITORING WELL CONSTRUCTION DIAGRAMS

Summary of Monitoring Well Construction Data
Van der Horst Plant #1
Olean(C), Cattaraugus County
Site No. 905008

Monitoring Well No.	Date Completed	Ground Surface Elevation (ft)	Monitoring Point Elevation (TOC)(ft)	Depth Of Boring (ft)	Bottom of Boring Elevation (ft)	Screened Interval Depth (ft)	Screened Interval Elevation (ft)	Sand Pack Depth (ft)	Sand Pack Elevation (ft)
MW-1S	6/1/89	1427.76	1427.35	31	1396.76	15.0-30.0	1412.76-1397.76	12.6-31.0	1415 16-1396.76
MW- 1D	6/2/89	1427.73	1427.38	60	1367.73	50.0-55.0	1377.73-1372.73	51.0-60.0	1377.73-1367.73
MW-4	5/4/89	1430.92	1433.26	32	1398.92	16.0-31.0	1414.92-1399.92	14.9-32.0	1416.02-1396.92
MW-5S	3/18/97	1429.27	1431.59	30	1399.27	15.0-30.0	1414.27-1399.27	12.0-30.0	1417.27-1399.27
MW-5D	3/13/97	1429.39	1431.57	60	1369.39	50.0-60.0	1379.39-1369.39	47.0-60.0	1382.39-1369.39
MW-7S	5/16/89	1429.10	1431.42	36	1393.1	18.0-33.0	1411.10-1396.10	15.0-36.0	1414.10-1393.10
MW-7D	5/16/89	1429.04	1431.40	57	1372.04	48.0-53.0	1381.04-1376.04	45.0-57.0	1384.04-1372.04
MW-8	5/9/89	1429.00	1428.47	32	1397.92	16.0-31.0	1413.00-1398.00	13.4-32.0	1415.60-1397.00
MW-9S	7/7/89	1429.92	1433.50	32	1397.92	15.0-30.0	1414.92-1399.92	12.0-32.0	1417.92-1397.92
MW-9D	7/6/89	1429.84	1433.36	63	1366.84	55.0-60.0	1374.84-1369.84	53.0-63.0	1376.84-1366.84
MW-10	7/7/90	1427.23	1429.70	35	1392.23	14.0-34.0	1413.23-1393.23	12.9-35.0	1414.33-1392.23
MW-11S	7/16/90	1428.92	1431.52	34.6	1394.32	18.6-33.6	1408.32-1393.32	18.5-34.6	1410.42-1394.32
MW-1 1D	7/13/90	1429.09	1431.58	60	1369.09	54.0-59.0	1373.09-1368.09	49.0-60.0	1380.09-1369.09
MW-11VD	5/1/97	1430.01	1432.69	115	1315.1	90 0-115.0	1340.10-1315.1	87.0-115.0	1343.10-1315.1
MW- 12	7/26/90	1431.31	1431.24	34	1397.31	18.0-33.0	1413.31-1396.31	15.2-34.0	1416.11-1397.31
MW- 13	7/18/90	1429.79	1429.81	33	1396.79	15.0-32.0	1412.79-1395.79	15.0-33.0	1414.79-1396.79
MW- 14	7/17/90	1429.62	1431.47	34	1395.62	18.0-33.0	1411.62-1396.62	17.0-34.0	1413.62-1395.62
MW-15	3/14/97	1427.11	1429.53	30	1397.11	15.0-30.0	1412.11-1397.11	12.0-30.0	1415.11-1397.11
MW-16	3/12/97	1429.88	1431.77	30	1399.88	15.0-30.0	1384.88-1399.88	12.0-30.0	1387.88-1399.88
MW-17S	3/17/97	1428.89	1430.89	30	1398.89	15.0-30.0	1413.89-1398.89	12.0-30.0	1416.89-1398.89
MW-17D	3/20/97	1428.91	1431.15	60	1368.91	50.0-60.0	1378.91-1368.91	47.0-60.0	1381.91-1368.91
MW-19S	3/25/97	1426.98	1429.23	30	1396.98	15.0-30.0	1411.98-1396.98	12.0-30.0	1414.98-1396.98
MW-19D	5/21/91	1426.93	1429.52	57	1369.93	46.0-56.0	1380.93-1370.93	42.5-57.0	1384.43-1369.93
MW-20S	3/31/97	1426.66	1429.26	30	1396.66	15.0-30.0	1411.66-1396.66	12.0-30.0	1414.66-1396.66
MW-20D	3/26/97	1426.59	1429.41	60	1366.59	50.0-60.0	1376.59-1366.59	47.0-60.0	1379.59-1366.59
MW-20VD	5/5/97	1426.71	1429.20	115	1311.71	105.0-115.0	131.71-1311.71	102.0-115.0	1334.71-1311.71
MW-21S	3/19/97	1426.77	1429.49	30	1396.77	15.0-30.0	1411.77-1396.77	12.0-30.0	1414.77-1396.77
MW-21D	3/19/97	1426 77	1429.47	60	1366.77	50.0-60.0	1376.77-1366.77	47.0-60.0	1379.77-1366.77
MW-21VD	4/28/97	1427.04	1429.32	115	1312.04	105.0-115.0	1332.04-1312.04	102.0-115.0	1335.04-1312.04
MW-30									
P-3	7/25/90	1430.74	1433.60	56	1374.74	15.0-55.0	1415.74-1375.74	10.0-56.0	1420.74-1374.74
P-5	11/5/90	1431.06	1432.64	60	1371.06	20.0-60.0	1411.06-1371.06	16.0-60.0	1415.06-1371.06

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Olean Drilling	RD 014833 001	PW5s

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.88'

Soil Boring Cross-Reference: PW5s
Town and City: Olean
County and State: Cattaraugus, NY

Installation Date (s): 3-18-97

Drilling Method: Canterra CT 350 with 4.25" HSA
Drilling Contractor: K. Marcellus
Drilling Fluid: NA

Development Technique(s) / Dates
NA

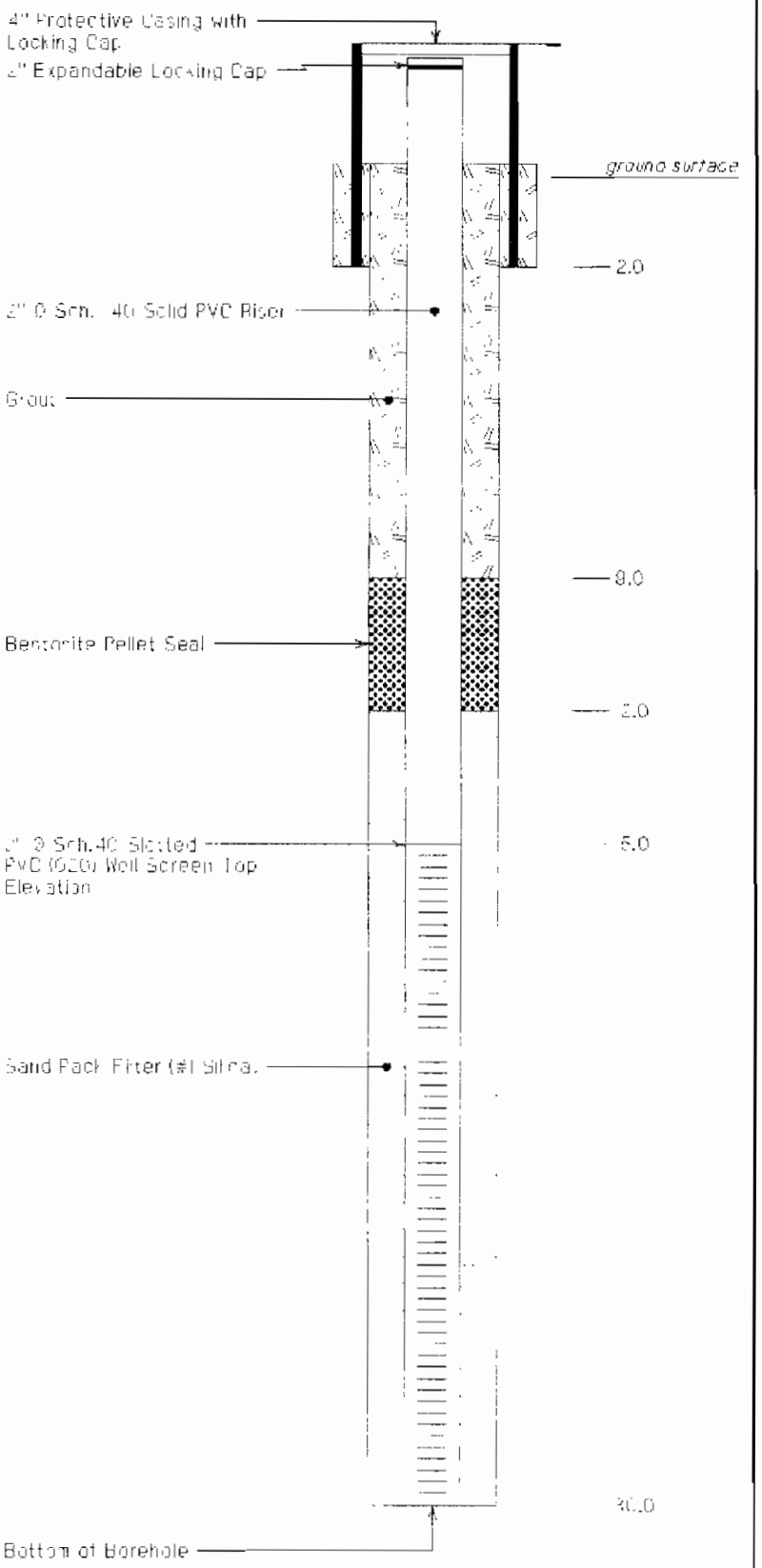
Fluid Loss During Drilling (gals): NA
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date: NA
Static Depth to Water (feet): NA

Well Purpose: Monitoring ground water.

Remarks

Prepared By: D. Stamp
Date Prepared: 2-13-98



MARCOR Remediation Inc.

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Clean Drilling	60-01463-001	PW5d

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ___ Surveyed ___ Estimated	2.66'

Soil Boring Cross-Reference PW5d
Town and City Olean
County and State Cattaraugus, NY

Installation Date (s) 3-18-97

Drilling Method Centerra CT-750 with 4.25" HSA
Drilling Contractor K. Marcellus
Drilling Fluid NA

Development Technique (s) / Dates
NA

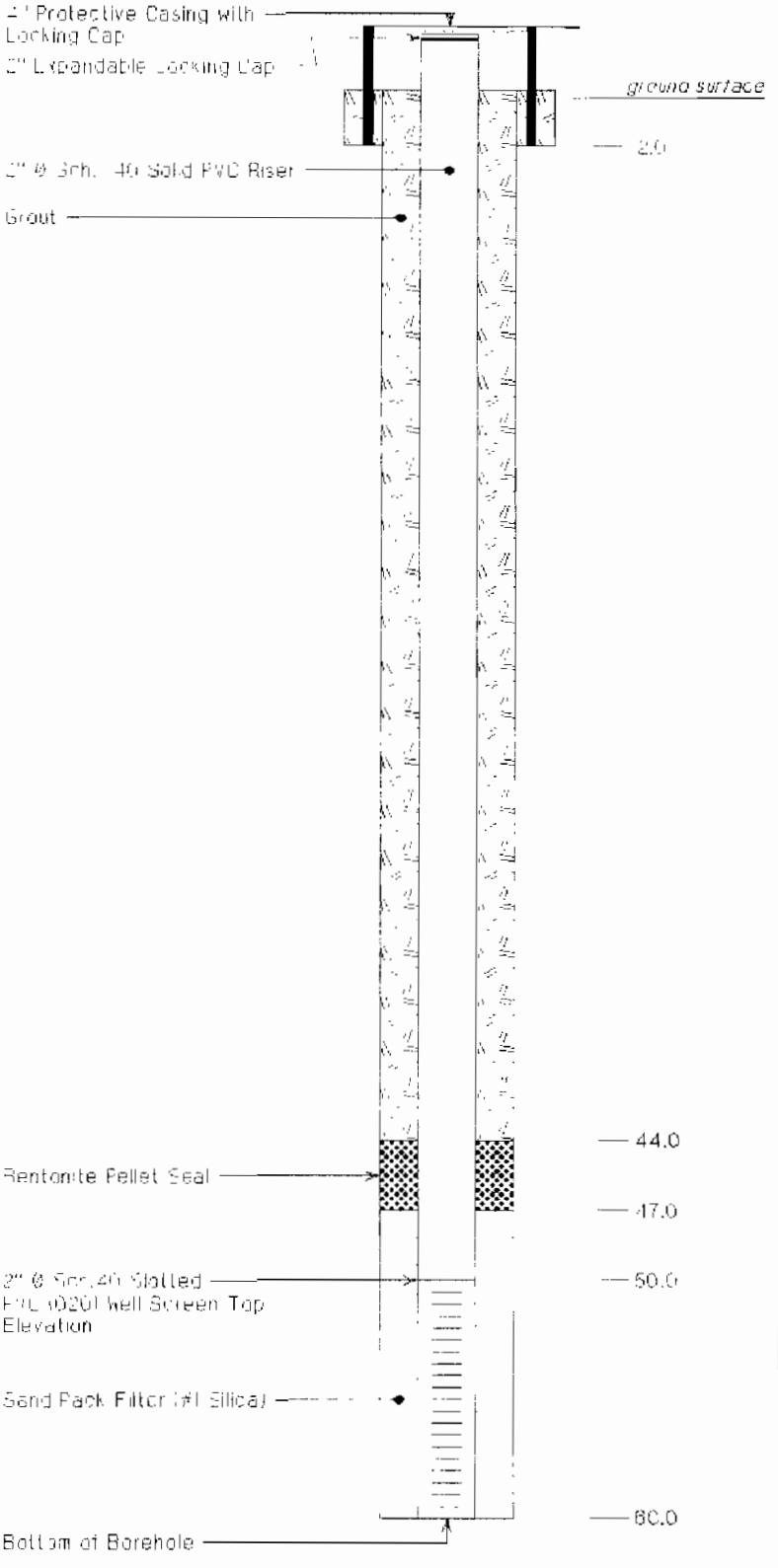
Fluid Loss During Drilling (gals) NA
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date NA
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By D. Stano
Date Prepared 2-11-98



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Olean Drilling	RO-01463-001	PW11vd

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.68'

Soil Boring Cross-Reference *PW11vd*
Town and City *Olean*
County and State *Cattaraugus, NY*

Installation Date (s) *5-1-97*

Drilling Method *Canterra CT 350 with 4.25" HSA*
Drilling Contractor *K. Marcellus*
Drilling Fluid *NA*

Development Technique (s) / Dates
NA

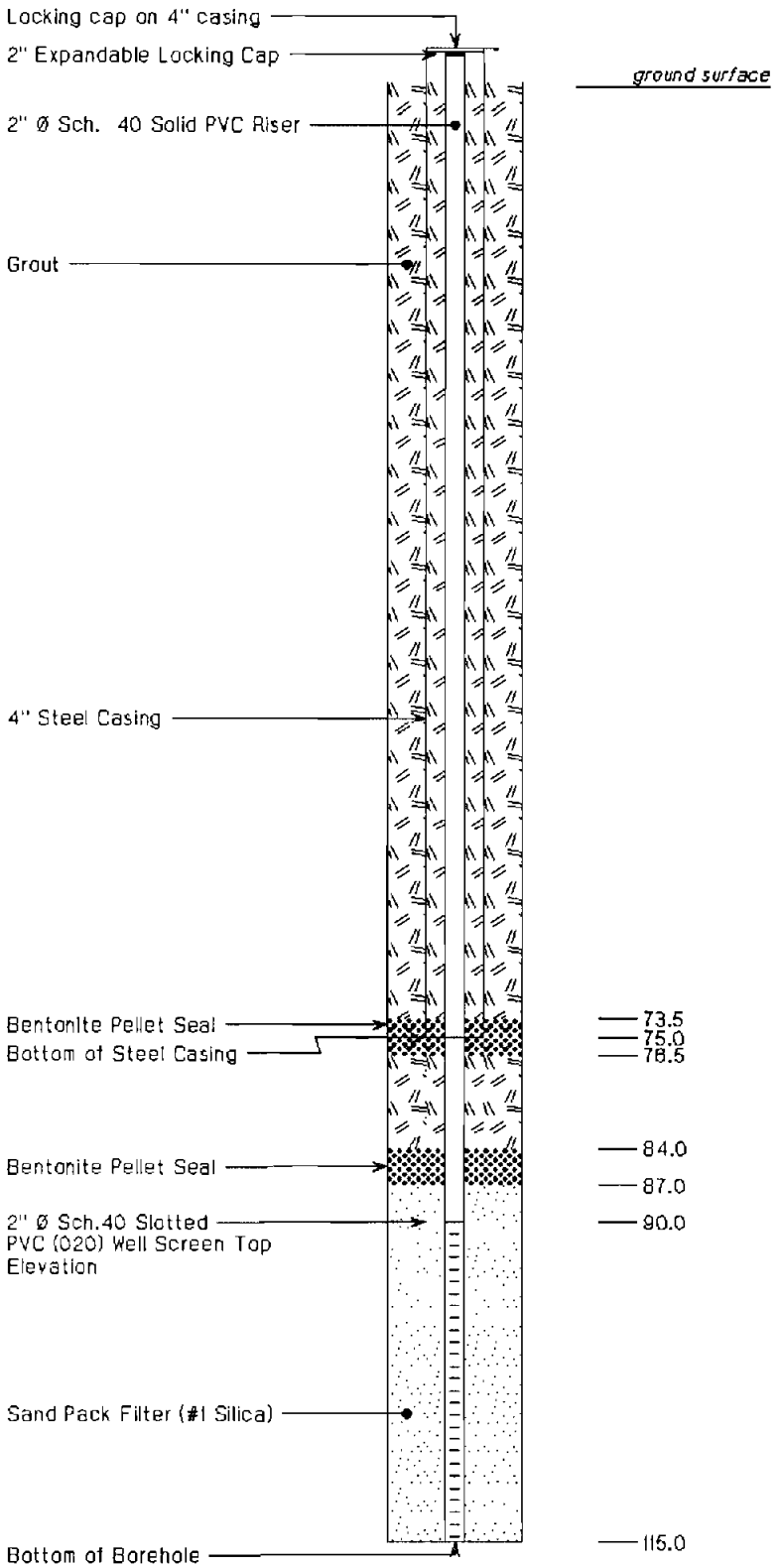
Fluid Loss During Drilling (gals) *NA*
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date *NA*
Static Depth to Water (feet) *NA*

Well Purpose *Monitoring ground water.*

Remarks

Prepared By *D. Stamp*
Date Prepared *2-13-98*



MARCOR Remediation Inc.

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Al State Olean Drilling	RC-01483-001	PW15

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.66'

Soil Boring Cross-Reference PW15

Town and City Olean

County and State Cattaraugus, NY

Installation Date (s) 3-14-97

Drilling Method Canterra CT 350 with 4.25" HSA

Drilling Contractor K. Marcellus

Drilling Fluid NA

Development Technique (s) / Dates

NA

Fluid Loss During Drilling (gals) NA

Water Removed During Development (gals)

NA NA

Static Depth to Water Date NA

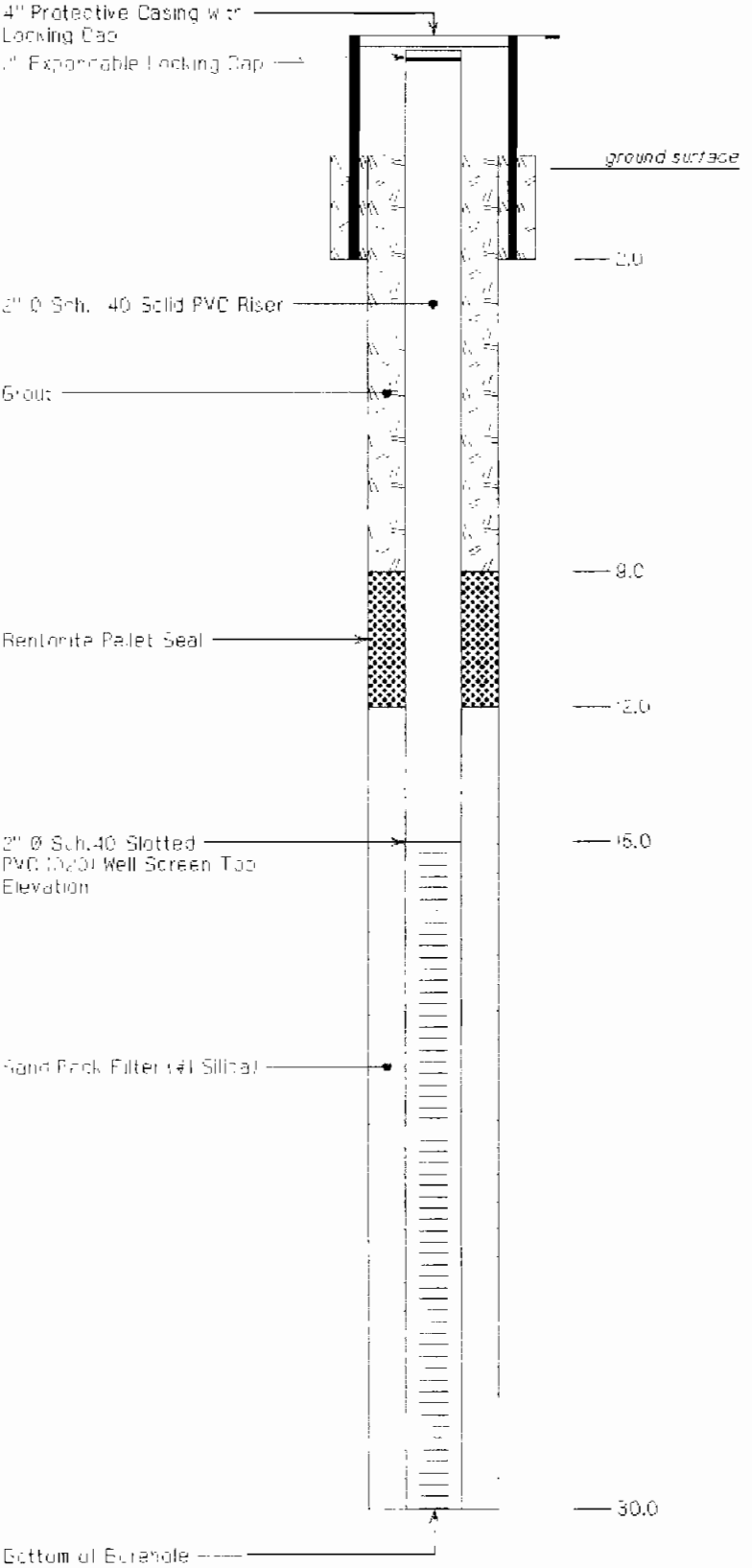
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By D. Stamp

Date Prepared 2-12-98



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Al State Olean Drilling	RD-01463-001	PW16

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICK UP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.66'

Soil Boring Cross-Reference PW18

Town and City Olean

County and State Cattaraugus, NY

Installation Date (s) 3-12-97

Drilling Method Canterra CT 250 with 4.25" HSA

Drilling Contractor K. Marcellus

Drilling Fluid NA

Development Technique (s) / Dates

NA

Fluid Loss During Drilling (gals) NA

Water Removed During Development (gals)

NA - NA

Static Depth to Water Date NA

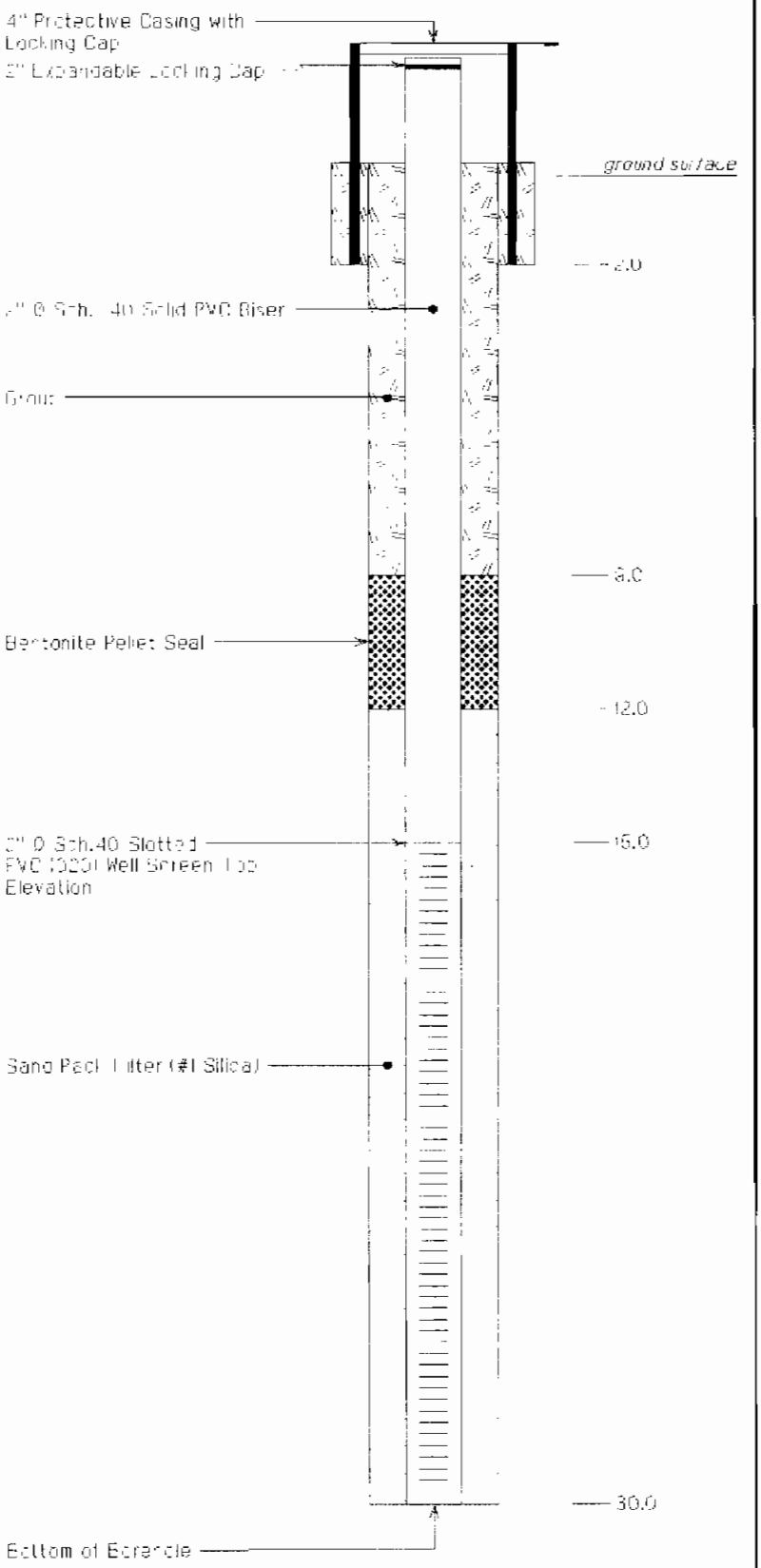
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By D. Stamp

Date Prepared 2-13-98



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Clean Drilling	P0-01483-001	PW17s

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ___ Surveyed ___ Estimated ✓	2.66'

Soil Boring Cross-Reference PW17s
Town and City Olean
County and State Cattaraugus, NY

Installation Date (s) 2-17-09

Drilling Method Canterra CT 350 with 4.25" HSA
Drilling Contractor K. Marcellus
Drilling Fluid NA

Development Technique (s) / Dates
NA

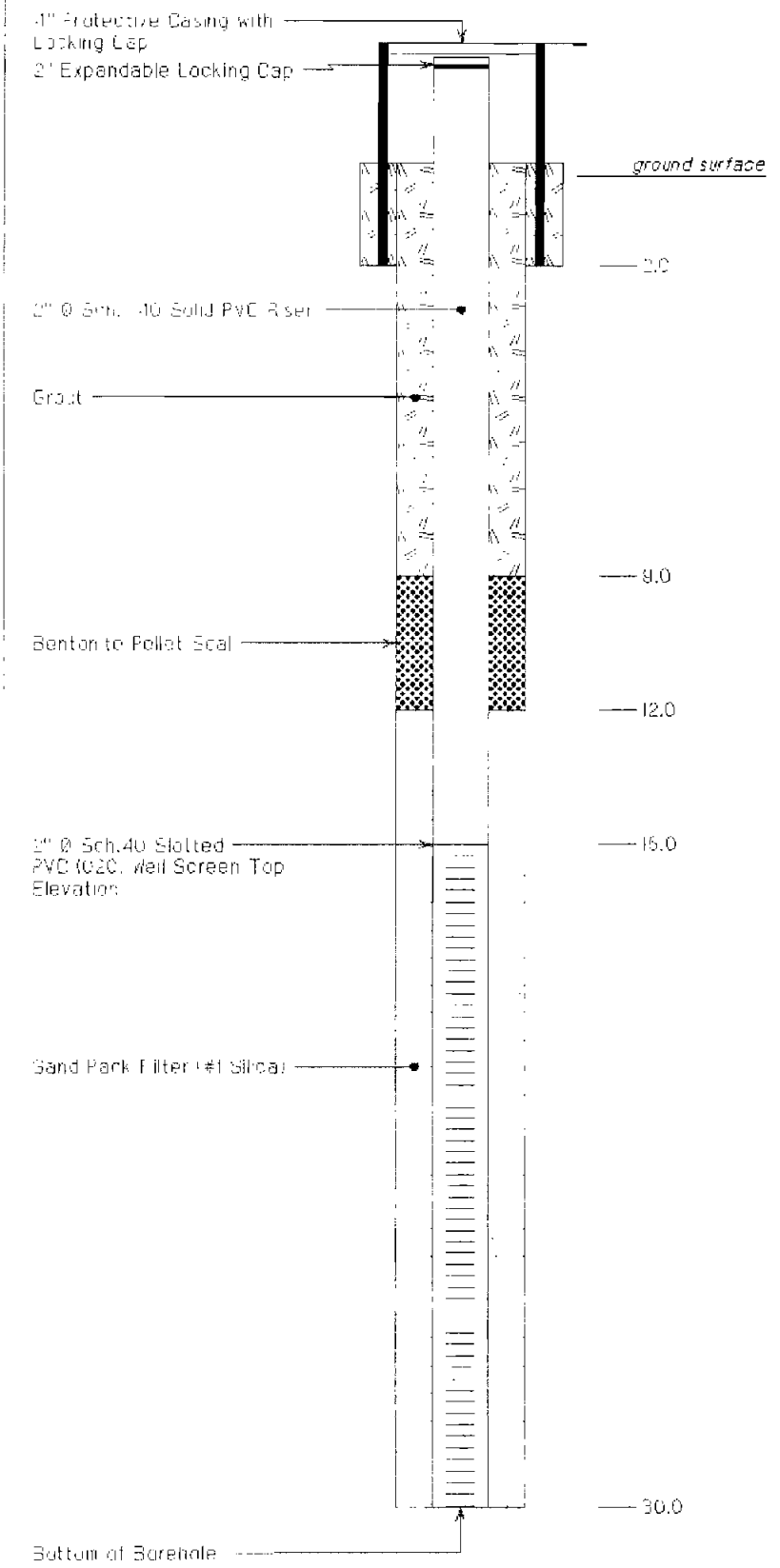
Fluid Loss During Drilling (gals) NA
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date NA
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By D. Stomp
Date Prepared 2-13-09



MARCOR Remediation Inc.

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
Al State Olean Drilling	RC-01463-001	PW17d

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.58'

Soil Boring Cross-Reference PW17d
Town and City Olean
County and State Cattaraugus, NY

Installation Date (s) 3-20-97

Drilling Method Canterra CT 350 with 4.25" HSA
Drilling Contractor K. Marcellus
Drilling Fluid NA

Development Technique (s) / Dates
NA

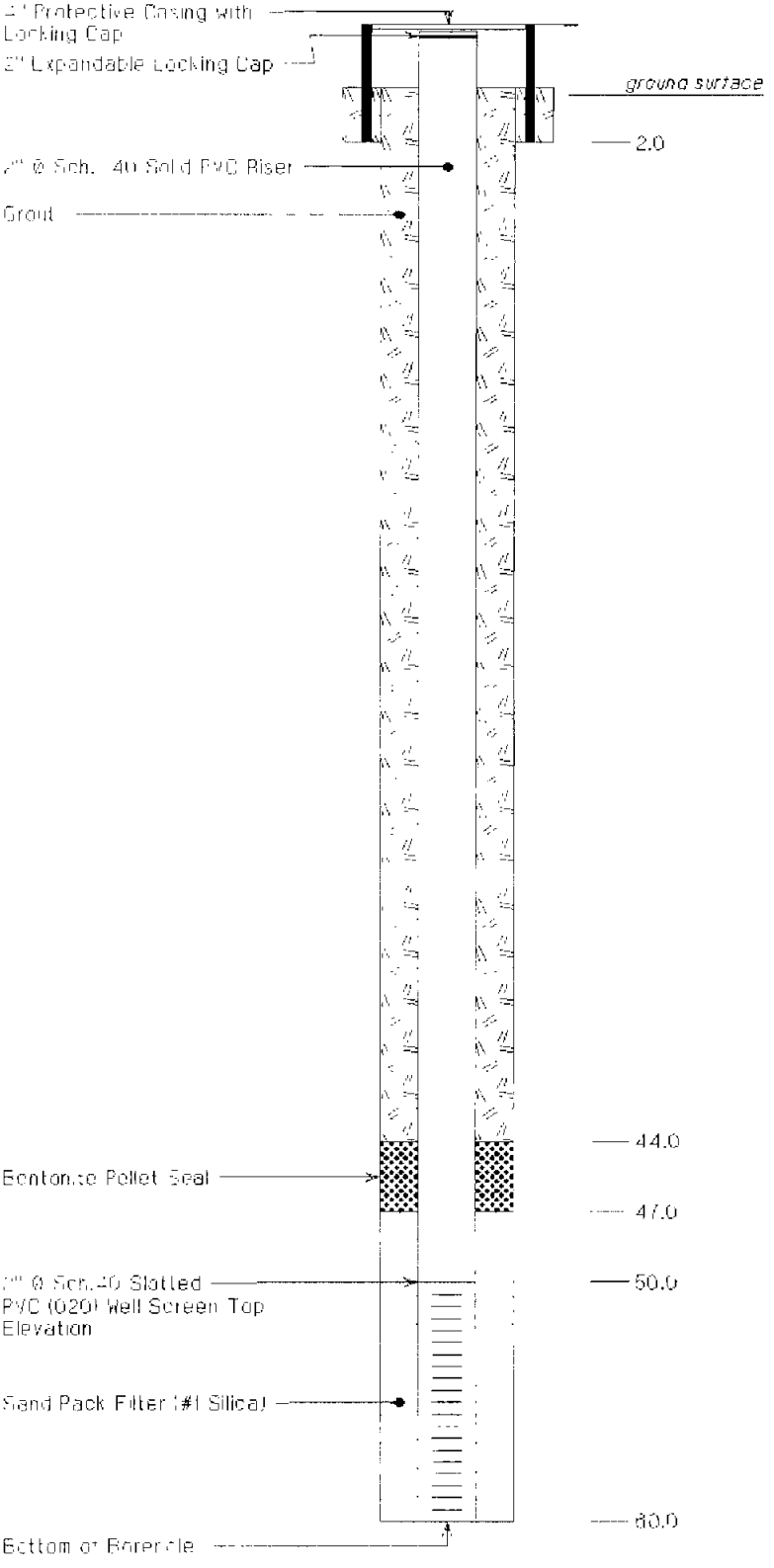
Fluid Loss During Drilling (gals) NA
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date NA
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By D. Stamp
Date Prepared 2-13-98



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Clean Drilling	60-01463-001	PW19s

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Ocean, NY		Not Measured ___ Surveyed X Estimated	2.66'

Soil Boring Cross-Reference PW19s

Town and City Ocean

County and State Cattaraugus, NY

Installation Date (s) 3-25-97

Drilling Method Canterra CT 350 with 4.25" HSA

Drilling Contractor K. Marcellus

Drilling Fluid NA

Development Technique (s) / Dates

NA

Fluid Loss During Drilling (gals) NA

Water Removed During Development (gals)

NA - NA

Static Depth to Water Date NA

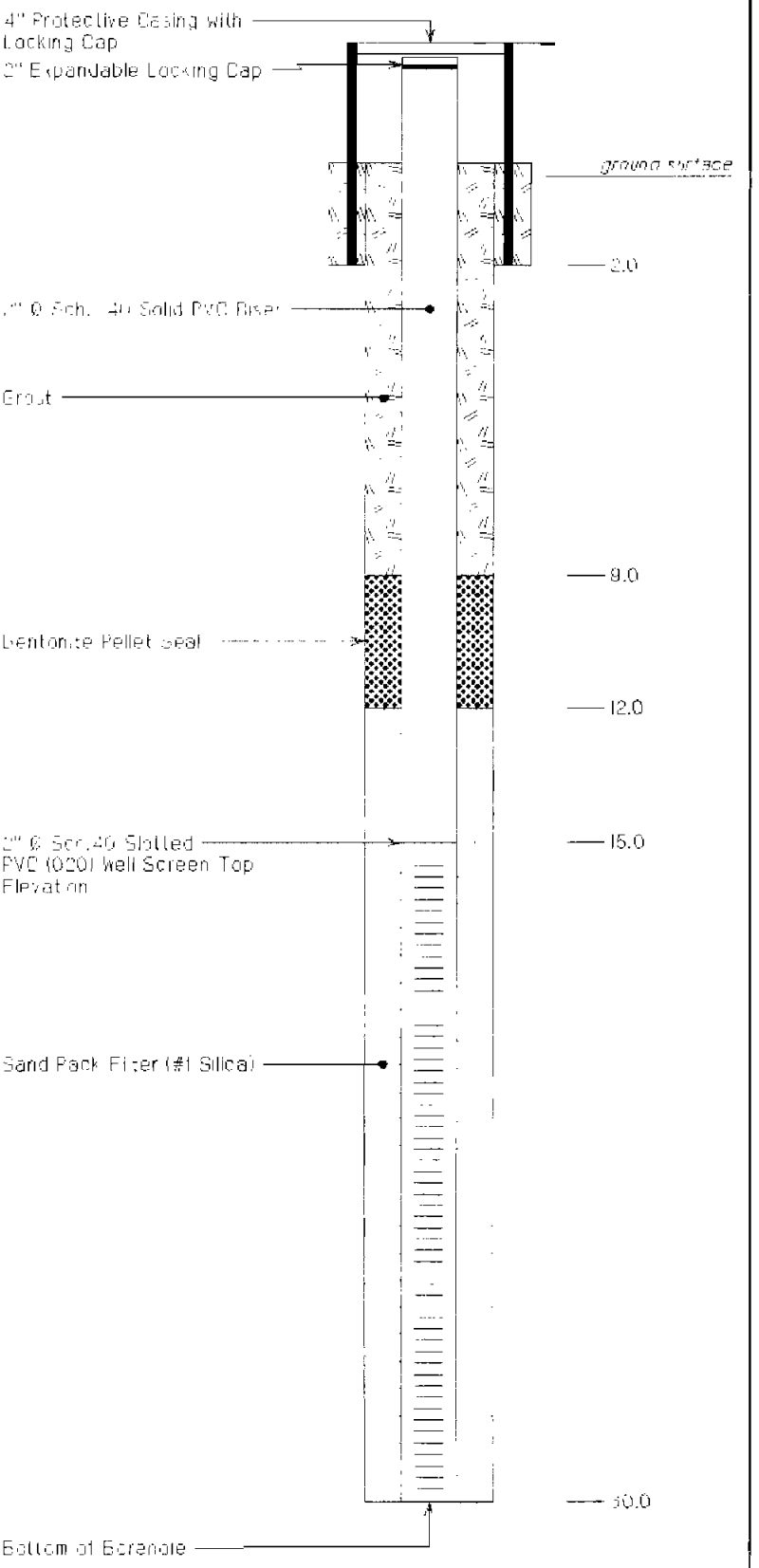
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By C. Stamp

Date Prepared 2-13-98



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Olean Drilling	RD-01482-001	PW20s

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.66'

Soil Boring Cross Reference PW20s
Town and City Olean
County and State Cattaraugus, NY

Installation Date (s) 3-31-97

Drilling Method Canterra CT 350 with 4.25" HSA
Drilling Contractor K. Marcellus
Drilling Fluid NA

Development Technique (s) / Dates
NA

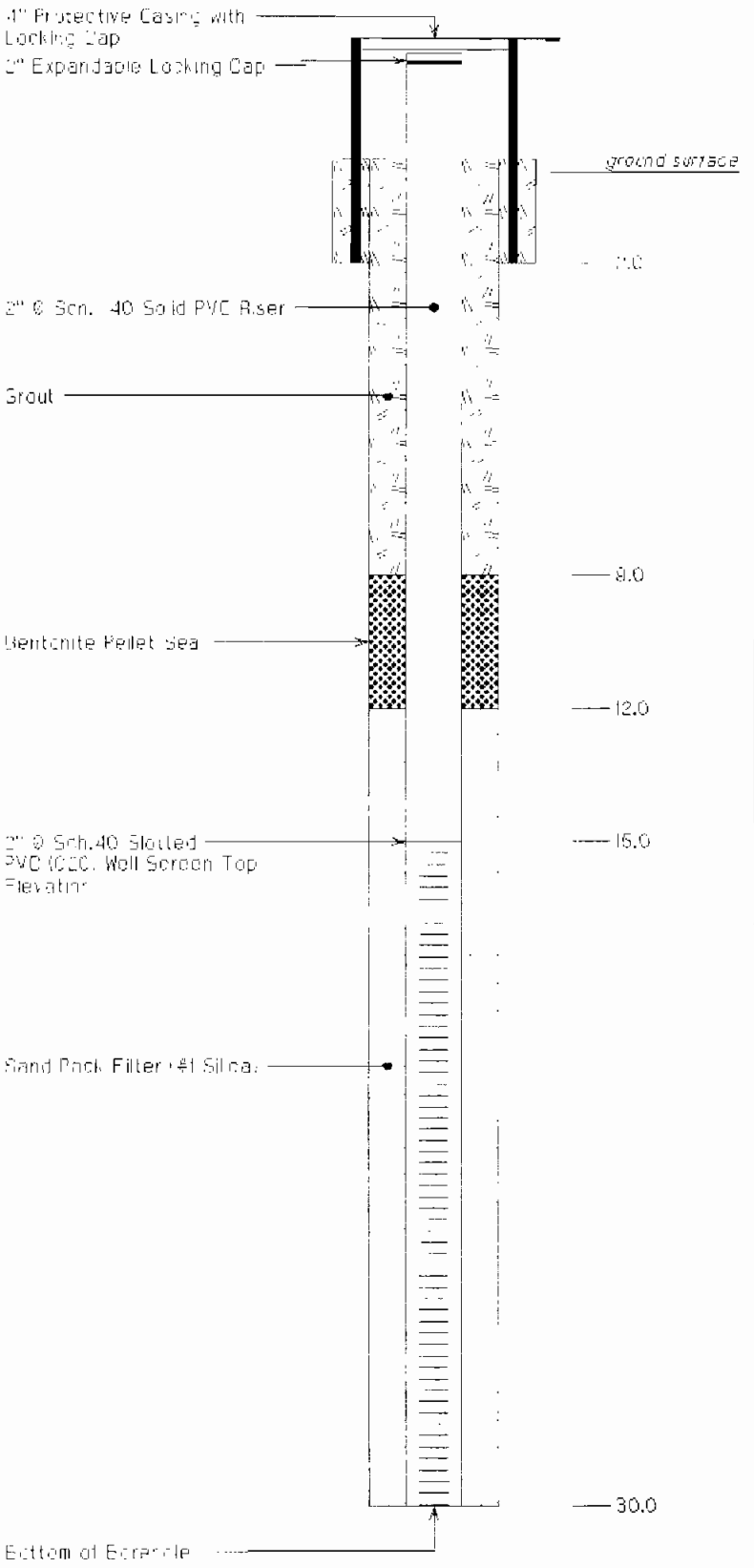
Fluid Loss During Drilling (gals) NA
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date NA
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By E. Stamp
Date Prepared 2-13-98



MARCOR Remediation Inc.

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Olean Drilling	B0-014R3-001	PW20d

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.66'

Soil Boring Cross-Reference PW20d
Town and City Olean
County and State Cattaraugus, NY

Installation Date (s) 3-28-07

Drilling Method Canterra CT 350 with 4.25" HSA
Drilling Contractor K. Marcellus
Drilling Fluid NA

Development Technique (s) / Dates
NA

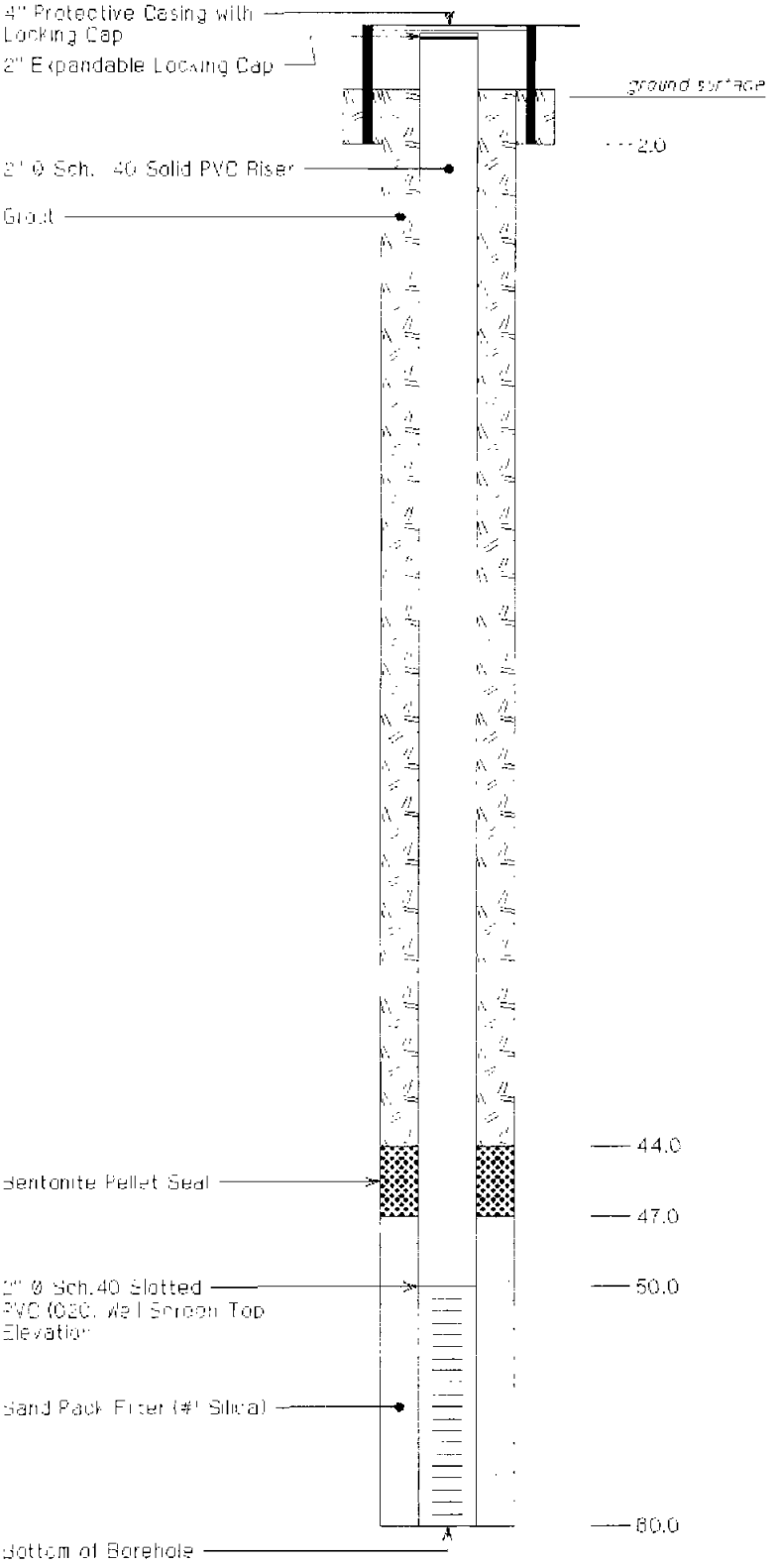
Fluid Loss During Drilling (gals) NA
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date NA
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By D. Stamp
Date Prepared 2-13-08



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Olean Drilling	RO-01463-001	PW20vd

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.66'

Soil Boring Cross-Reference **PW20vd**
Town and City *Olean*
County and State *Cattaraugus, NY*

Installation Date (s) *5-5-97*

Drilling Method *Canterra CT 350 with 4.25" HSA*
Drilling Contractor *K. Marcellus*
Drilling Fluid *NA*

Development Technique (s) / Dates
NA

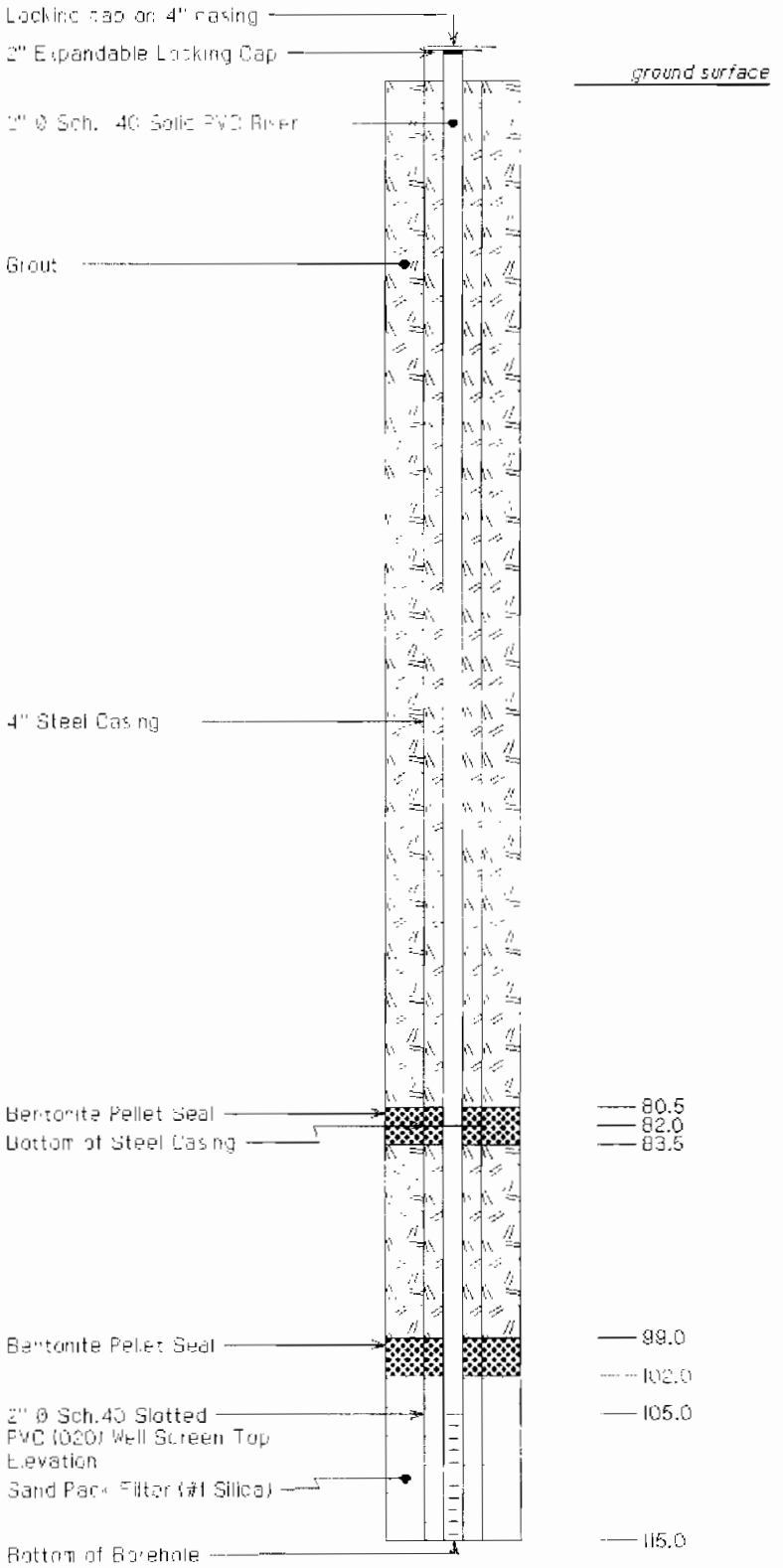
Fluid Loss During Drilling (gals) *NA*
Water Removed During Development (gals)
NA – *NA*

Static Depth to Water Date *NA*
Static Depth to Water (feet) *NA*

Well Purpose *Monitoring ground water.*

Remarks

Prepared By *D. Stamp*
Date Prepared *5-13-98*



MARCOR Remediation Inc.

WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Olean Drilling	30-01463-001	PW21s

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.66'

Soil Boring Cross-Reference: PW21s
Town and City: Olean
County and State: Cattaraugus, NY

Installation Date(s): 3-19-97

Drilling Method: Canterra CT 350 with 4.25" HSA
Drilling Contractor: K. Marcellus
Drilling Fluid: NA

Development Technique(s) / Dates:
NA

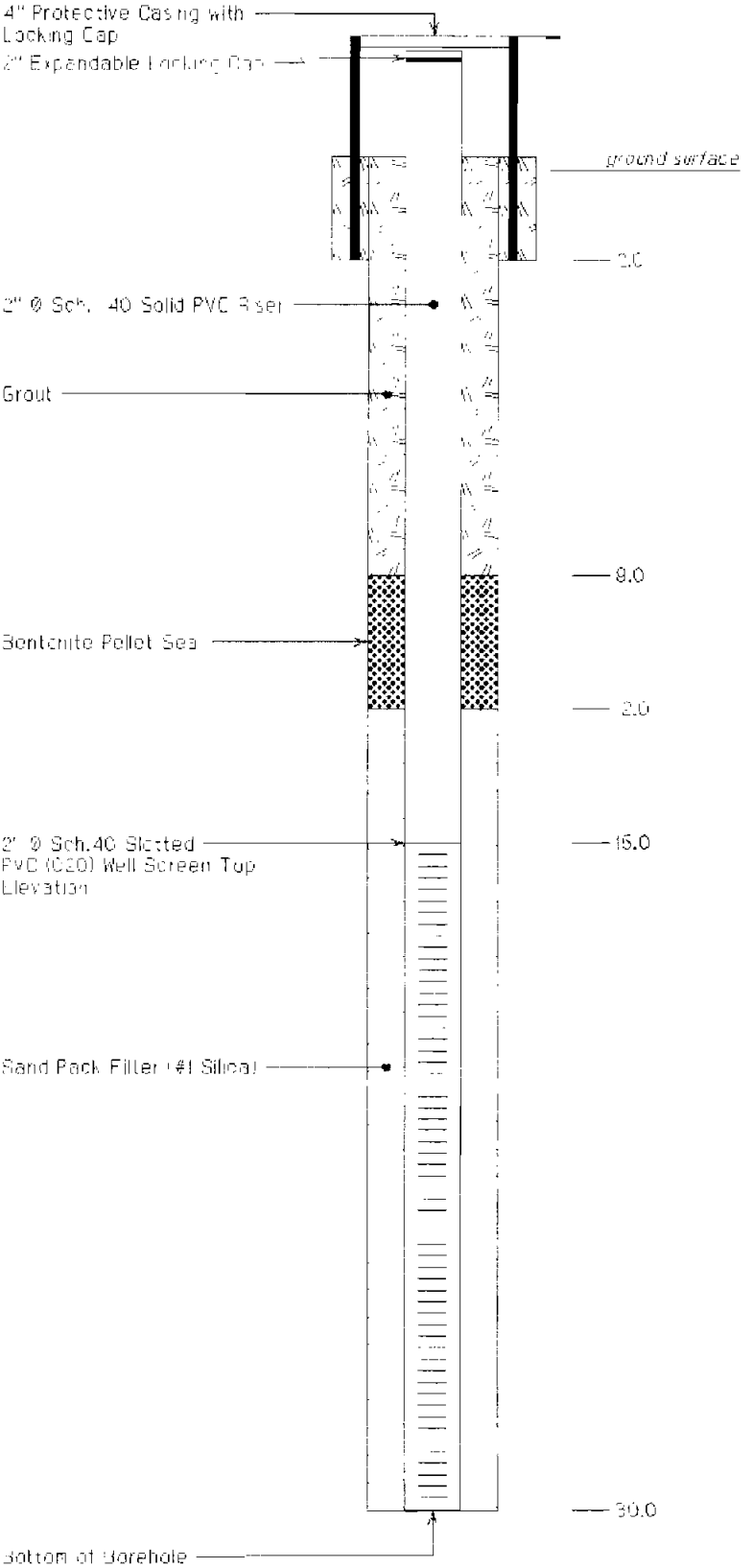
Fluid Loss During Drilling (gals): NA
Water Removed During Development (gals):
NA - NA

Static Depth to Water Date: NA
Static Depth to Water (feet): NA

Well Purpose: Monitoring ground water.

Remarks:

Prepared By: D. Stamp
Date Prepared: 2-10-98



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Clean Drilling	PO: 01483 - 001	PW21d

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☒ Estimated	2.38'

Soil Boring Cross-Reference: PW21d
Town and City: Olean
County and State: Cattaraugus, NY

Installation Date (s): 2-10-98

Drilling Method: Canterra CT 350 with 4.25" HSA
Drilling Contractor: K. Marcellus
Drilling Fluid: NA

Development Technique (s) / Dates:
NA

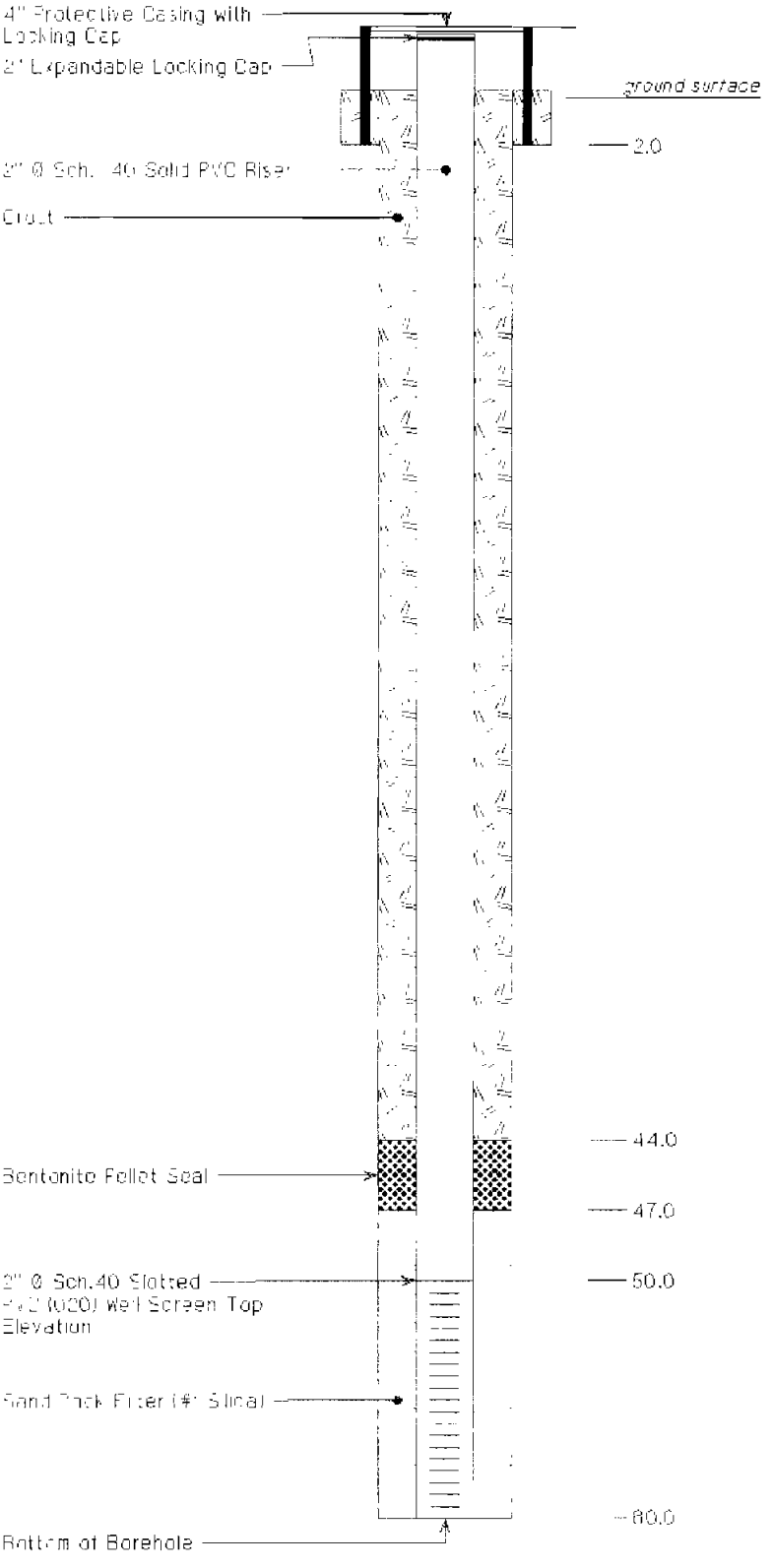
Fluid Loss During Drilling (gals): NA
Water Removed During Development (gals):
NA - NA

Static Depth to Water Date: NA
Static Depth to Water (feet): NA

Well Purpose: Monitoring ground water.

Remarks:

Prepared By: D. Stamp
Date Prepared: 2-13-98



WELL CONSTRUCTION LOG

PROJECT	PROJECT NUMBER	WELL NUMBER
All State Olean Drilling	FD-01483-001	PW21vd

SITE	COORDINATES	GROUND SURFACE ELEVATION	CASING STICKUP
Olean, NY		Not Measured ☐ Surveyed ☐ Estimated ☒	2.66'

Soil Boring Cross-Reference PW21vd
Town and City Olean
County and State Cattaraugus, NY

Installation Date (s) 4-28-97

Drilling Method Canterra CT 350 with 4.25" HSA
Drilling Contractor K. Marcellus
Drilling Fluid NA

Development Technique (s) / Dates
NA

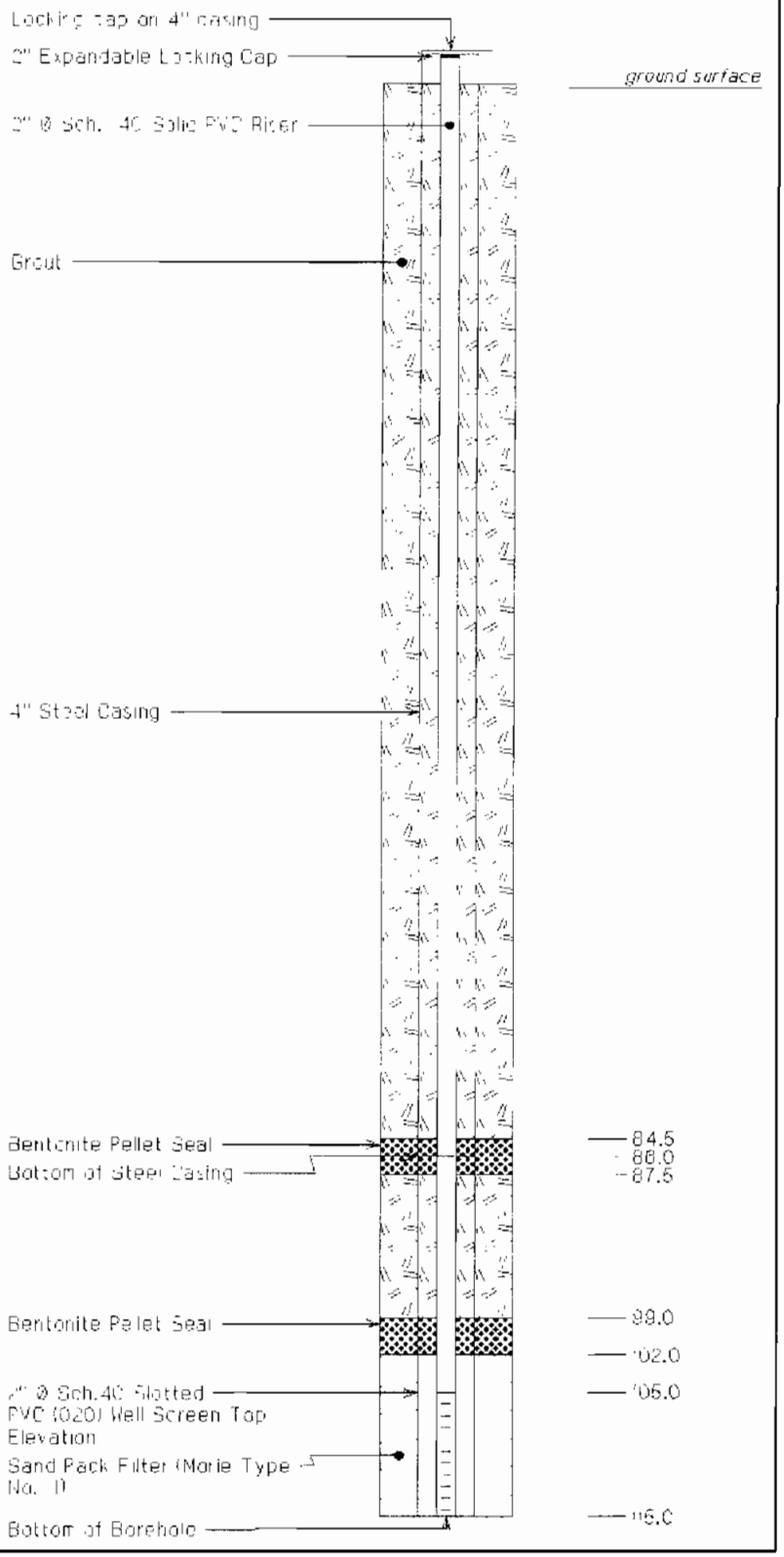
Fluid Loss During Drilling (gals) NA
Water Removed During Development (gals)
NA - NA

Static Depth to Water Date NA
Static Depth to Water (feet) NA

Well Purpose Monitoring ground water.

Remarks

Prepared By D. Stamp
Date Prepared 5-13-98



APPENDIX E
DESCRIPTION OF PROPOSED CHANGE ORDERS AND CHANGE ORDERS

DESCRIPTION OF PROPOSED CHANGE ORDERS (PCOs) AND CHANGE ORDERS (COs)

Field Orders

1. The contract requested APV to excavate 900 feet of creek sediments, however the original survey found the length to be 911 feet. The DEC determined that the difference of 11 feet is insignificant, and that the quantity of concern will be cubic yards of sediment removed.
2. Olean Creek - It has been determine that the term "cobbles" regarding sediment removal will be considered stones of 2" or greater. Therefore APV will remove sediments up to 2" from Olean Creek.
3. It has been determined that addition samples for Cr analysis will be necessary. APV can exceed the contract amount of samples (44) by 7 samples.
4. APV requested permission to initiate mobilization on the Olean Creek Site area prior to the approval of the Olean Creek submittal required by the Contract document. APV was allowed to mobilize, however they could not conduct any activities in the creek till the submittal is approved.
5. The DEC requested APV to excavate an additional one foot of soil on a portion of the McKean Machine property. This would increase the quantity to be excavated by 133 cubic yards.
6. DEC requested that APV also decommission a piezometer used at the Van der Horst Plant #2 site as part of its well decommissioning work.
7. Upon discovery of an active sanitary sewer line entering the Van der Horst Plant #1 site the

DEC requested that APV cut the sanitary line up gradient of the lateral and install a clean out, and cap any line entering the sanitary line from the plant site.

8. After getting results from waste characterization, the DEC requested that samples of waste to be analyzed for total chromium also be analyzed for total lead.
9. The DEC requested that APV remove a previously unknown concrete vault and pump the water from a previously unknown 20" diameter tube and fill the tube with low density concrete. This work will include the cutting up and disposal of the 2 metal tanks found in the vault, and the solidification of chromium liquids in the concrete vault.
10. Additional grading of site required to meet final subgrade. Estimated quantity approximately 600 cubic yards. Payment to be on a time and materials basis to complete work.
11. Redefined area of sediment removal in Olean Creek based on actual observations of accumulated creek sediment. Direct contractor to remove a 10 foot wide area of soil/sediment along the toe of the flood control project to a depth of 18" and restore area with rip-rap.

Proposed Change Orders

PCO No. 1 - A. Removal and replacement of site fencing; and

B. Installation of 37 Norway Spruce trees; and

C. Decommissioning of additional 288 ft. of monitoring well; and

D. Credit for computer printer, cable, answering machine and plan file.

PCO No.2 - A. Removal of additional 125 cubic yards of contaminated sediment from Two-Mile Creek.

PCO No.3 -

A. The removal of approximately 100' of 6" steel casing around Monitoring Well MW-5B prior to abandonment; and

B. Removal of an additional 133 cubic yards of contaminated soil between McKean Machine bldg. and Penn Street and collection of a verification sample; and

C. Removal of an additional 285 cubic yards of contaminated soil adjacent to the decontamination pad and collection of verifications samples; and

D. Abandonment of an additional 10" steel well; and

E. Credit for change in abandonment procedures for the existing 10" well noted in the Contract drawings.

PCO No.4 -

A. Credit for the installation of 312 lf of storm sewer as per Item 00510 - Storm Sewer Installation, of the Contract Documents; and

B. Installation of Dry Wells/ Leaching Structures and related piping along the northeast boundary of the site.

PCO No.5 -

A. Additional analysis of air monitoring samples for Hexavalent Chromium; and

B. Grouting an 8" casing located on MW-14d during abandonment; and

C. Addition of TCLP analysis for Lead required for disposal samples; and

D. Increase in lift thickness of common fill from 8" to 18" and elimination of field compaction testing requirement; and

E. Installation of a clean-out structure in on-site sanitary sewer; and

F. Contractor request to not to install scale on-site as per Section 00501.11.

PCO No.6 -

A. Removal of 8000 gallon underground storage tank and credit for removal of 3-1000 gallon tanks per contract.

PCO No.7 - A. Elimination of the installation of monitoring wells PW-17D and PW-5D that was required by the Contract Documents; and

B. Installation of five additional shallow and deep monitoring wells on the Dresser Rand property; and

C. Installation of three additional very deep monitoring wells on the Dresser Rand property.

PCO No.8 - A. Installation of a relief drain on the storm water Retention basin at the Van der Horst Plant #2 property.

PCO No.9 - A. Installation of approximately twelve soil borings, each 35 feet in depth (420 feet) in the vicinity of the former plating vats.

PCO No. 10 - A. Placement of approximately 110 cubic yards of riprap material along the west flood control levee in Olean Creek.

CHANGE ORDER NO.1

A. Increase in quantity of Bid Item 00503.A - Removal of Concrete Slab per Department direction. Additional areas of contaminated concrete (haz. & non- haz.) was identified during collection of verification samples and was beyond the areas of contamination shown in the contract documents. At Department direction, additional concrete was required to be removed to meet the cleanup goals established for the site and to access areas of contaminated soil.

B. Increase in quantity of Bid Item 00509.A - Common Fill per PCO#3. Additional areas of contaminated soil and concrete that were removed were required to be backfill and restored

as per the Contract documents.

C. Increase in quantity of Bid Item 00507.B - Disposal of Hazardous Solid Wastes per Department direction. Additional areas of contaminated concrete and soil (hazardous) was identified during collection of verification samples and was beyond the areas of contamination shown in the contract documents. At Department direction additional concrete and soil was required to be removed to meet the cleanup goals established for the site.

CHANGE ORDER NO.2

A. The removal and replacement of fencing along the south and southwest property boundaries. The addition of the fence was required to prevent trespass across the site from adjacent Conrail property into the residential areas. The fence was added at the request of the adjacent residence. The original fence on the site was incomplete and unusable.

B. Installation of approximately 37 Norway spruce trees along the southwest property boundary.

This change was necessary to construct a wind, sound and sight barrier on the site for the residential area. Damage has occurred to some homes since the plant building was demolished because there is no structure to block the prevailing wind.

C. Increase in quantity of Bid Item 00504.C - Abandonment of PVC wells to Decommission seven additional groundwater monitoring wells and one piezometer located on the Van der Horst Plant #2 Site per PCO#1. Decommissioning of groundwater monitoring wells was required to be in compliance with Department policy on the removal of unused monitoring

wells at sites. The decommissioning of these wells was not included in the previous remediation contract at the Plant #2 Site since long term monitoring program was not developed at that point.

D. Eliminate the requirement in the Contract Document (Section 00501.4.1) that DEC be provided with the following equipment for the Site Engineers Office: Computer Printer, Vertical Plan File and one telephone answering machine. This equipment is not necessary for the Department to satisfactorily complete it's oversight duties of the remedial work at the site.

E. The removal of approximately 125 cubic yards of additional contaminated sediment encountered during removal of sediment in Two-Mile Creek. per PCO#2. This additional work is necessary to address the removal and consolidation of an additional amount of contaminated sediments discovered during the removal of a surface layer of sediment in Two-Mile Creek. This additional work was not part of the original Contract Document

F. The removal of approximately 100' of 6" steel casing around Monitoring Well MW-5B prior to abandonment. Proper abandonment of monitoring well MW-5B required the removal the steel casing, around the PVC well so that the annulus of the well could be properly sealed. The casing had not been identified in the contract documents per PCO#3.

G. Payment for work by the Contractor while attempting to perform the *Olean Creek Sediment Removal/Restoration* phase of the Contract (00505). Due to the late timing of contract award, the seasonal flow in the Creek exceeded the maximum flow values specified in the Contract documents. This resulted in the contractor being unable to complete this phase of the project. DEC negotiated a settlement with the Contractor for partial reimbursement for the cost of labor, equipment and supplies that were used to date.

H. Abandonment of an additional 10" steel well per PCO#3. An additional 10" steel production well was located on the site while the contractor was excavating around the existing 10" well identified in the specifications. The well interferes with the removal of contaminated soil from this area of the site and offers a preferential pathway for contaminates to enter the lower groundwater zones beneath the site.

I. Credit for change in abandonment procedures for the existing 10" well noted in the Contract drawings per PCO#3. The contractor requested and was granted permission to use an alternate abandonment procedure of leaving the existing process well casing in place and filling the casing with grout to the surface. The casing is then to be cut off below the surface. The change in the procedures resulted in a credit to the Department.

J. Credit for the excavation, removal and disposal of three empty 1000 gallon underground storage tanks (USTs) as required by Contract Item 00503.B - Removal of Underground Storage Tanks and payment for the excavation, removal and disposal of (1) 8,000 gallon UST and contents. Results of excavation UST Nos. 2 & 3 did not locate the suspected UST shown in the Contract document. Excavation of UST #1 located a 8,000 gallon UST, containing 3,800 gallons of waste petroleum material. Due to the substantial change in scope the contractor was requested to properly remove the UST in accordance with the requirements of the Contract Documents (section 00503.B) on a time and materials basis.

K. Increase in quantity of Bid Item 00500 - Verification Sample per Department direction. Additional verification sample collection and analysis were required to delineate the extent of contamination above clean-up goals beyond the areas shown in the Contract documents.

L. Decrease in quantity of Bid Item 00503.A - Concrete Slab Removal from 1400 cy to 743 cy. Decreased in quantity was the result of actual measurement of concrete removed during

the project. The previous increase in quantity in Change Order #1 was based on estimated quantities prior to initiation of actual excavation activities.

M. Installation of Dry Wells/ Leaching Structures and related piping along the northeast boundary of the site as per PCO#4. This includes the credit for the installation of 312 lf of storm sewer as per Item 00510 - Storm Sewer Installation, of the Contract Documents. The deletion of the installation of a storm sewer at the site was necessary because the existing plant sanitary sewer which was scheduled to be removed was found to be active. Since this sewer was active and could not be removed, it interfered with the placement of the new storm sewer pipe. Because of the shallow grades on the storm sewer it was not possible to modify its location so that the sanitary sewer would not interfere with it. The installation of the modified storm drainage system was required to replace the storm sewer that was deleted as noted above. A storm drainage system is required to prevent damage to neighboring residential property from storm water run-off from the site.

N. Additional analysis of air monitoring samples for Hexavalent Chromium during excavation of hazardous soil. Additional Hex. Cr Air Monitoring was required by DEC ltr. of 9/5/96 to comply with NYSDOH community health and safety monitoring requirements per

O. Addition of TCLP analysis for Lead was required to characterize hazardous soil for disposal. Additional analysis of TCLP for Lead was required for disposal samples under Section 00507.3 Item B. per Field Order #8.

P. Grouting an 10" casing located on MW-14d during abandonment. During monitoring well abandonment, a 10" casing was discovered on MW-14d that was required to be grouted to comply with NYSDEC abandonment procedures as per PCO#1 Item C.

Q. Credit for modification of field compaction testing requirements. Contractor was requested

and was granted a change in the filed compaction testing requirement. Testing frequency was reduced because the type of common fill used achieved compaction requirements under optimum conditions.

R. Credit for modification of certified on-site scale requirement (00502.H). The contractor requested and was granted permission to use off-site certified scale in lieu of a contractor provided scale on the site. This was granted due to the limit available space on the site to construct a acceptable weigh station.

S. Increase in the duration of the contract time per Section VI, Article 6 for (1) substantial completion of Separable Part B - Olean Creek Remediation Project and for (2) final payment.

Duration of contract was extended due to wet fall weather that prevented the contractor from completing the Olean Creek Sediment Removal phase of the project. The final completion date was extended an additional 184 days to allow the contractor ample time to complete the Olean Creek sediment removal during periods of dry weather in the summer of 1997.

T. Increase in quantity of Bid Item 00502 - Site Facilities. 20 additional Site Facilities days were necessary to completed the additional work required by the Department at the Site under PCO Nos. 2 through 6.

U. Increase in quantity of Bid Item 00508 - Health and Safety. 20 additional Health and Safety days were necessary to completed the additional work required by the Department at the Site under PCO Nos. 2 through 6.

V. Increase in quantity of Bid Item 00504.A - Soil Excavation and Loading. Additional hazardous and non-hazardous soil was found to be present at the site which required

removal and disposal as directed by the Department.

W. Increase in quantity of Bid Item 00504.D - Monitoring Well Installation of PVC wells as per PCO #7. Additional groundwater monitoring wells were required by the Department to assess the concentration and flow of contamination from the site and the sites potential impact on the environmental and public health. The wells will also be used to conduct long term monitoring of area groundwater to assess the effectiveness of the project and determine the need for additional remedial activities.

X. Addition of three (3) very deep (110 ft.) groundwater monitoring wells off-site. These additional groundwater monitoring wells were required by the Department will be used to conduct long term monitoring of area groundwater to assess the effectiveness of the project and determine the need for additional remedial activities.

Y. Additional Payment Item for installation of 16 soil borings on site. These soil borings were required to by the Department to delineate the extent of additional subsurface contamination (below the groundwater table) that was identified during the remedial activities as per PCO#9. The information collected will be used to determine the need for additional remedial activities at the site.

CHANGE ORDER NO.3

A. Decrease cost for Pollution Liability Insurance based on actual cost of insurance to contractor.

B. Increase in quantity of Bid Item No. 00502 - Site Facilities & Services. An increase in days for Site Facilities & Services days was necessary to complete the work in Olean Creek

that was rescheduled to the 1997 construction season due to high creek flows in the latter part of the 1996 season. This delay prevented the work from being completed as originally scheduled. The final cost figure, for this bid item, was also adjusted based on the actual quantity of all the subitems in this category (ie: site security, access roads, staging areas, etc.) that were not used for the entire duration of the contract period and therefore were not paid for.

C. Adjustment in quantity of Bid Item No. 00506 - Olean Creek Sediment Removal/Restoration based on renegotiated lump sum plus unit cost. Based on a significant under run of sediment and soil removed from the creek bed and shore line (2,100 cy - design vs. 139 cy - actual) the contractor requested to renegotiate the unit cost for this bid item based on Section 11.2.5.1 of the Contract. The resulting negotiation based the cost on performing the work on the eligible cost of set up creek diversion facilities by the contractor and the original $70.00/cy to remove sediment and soil form the Creek.

D. Decrease in quantity of Bid Item No. 00507.A -Off-Site Disposal of Solid Wastes (Non-Hazardous). Decrease in quantity of Non-Hazardous Soil Disposal was the result of the increase of soil that was determined to be hazardous and was disposed of under Bid item 00507.B.

E. Increase in quantity of Bid Item No. 00507.B -Off-Site Disposal of Solid Wastes (Hazardous). Additional areas of contaminated concrete and soil (hazardous) was identified during collection of verification samples and was beyond the areas of contamination shown in the contract documents. At Department direction additional concrete and soil was required to be removed to meet the cleanup goals established for the site.

F. Increase in quantity of Bid Item No. 00508 - Health and Safety. Increase in quantity of Health and Safety workdays reflects the actual number of days that was required to complete the contract work including work covered under Proposed Change Orders 1 through 6. An increase in days for health and safety requirements was necessary to complete the work in Olean Creek that was rescheduled to the 1997 construction season due to high creek flows in the latter part of the 1996 season that prevented the work from being completed as per Bid Item No. 00505. A revised unit cost was negotiated for this phase of work due to a reduction of health and safety monitoring services that was approved by the Department and in compliance with Section 11.2.5.1 of the contract documents.

G. Increase in quantity of Bid Item No. 00509.B - Topsoil, Seeding & Mulch. Additional Topsoil, Seeding & Mulch was necessary to cover the larger areas of excavations that were completed during the remedial work. The additional excavations were based on the results of verification samples conducted at the site and at the direction of the Department.

H. Decrease Bid Item No. 00512.A - TCLP Sampling - Chromium. Quantity based on actual number of samples taken during the project work.

I. Decrease Bid Item No. 00512.B - TCLP Sampling - Metals. Quantity based on actual number of samples taken during the project work.

J. Increase in the duration of the contract time per Section VI, Article 6 for (1) substantial completion of Separable Part B - Olean Creek Remediation Project and for (2) final payment. Duration of contract was extended due to wet fall weather that prevented the contractor from completing the Olean Creek Sediment Removal phase of the project. The final completion date was extended an additional 30 days to allow the contractor ample

time to complete the Olean Creek sediment removal during periods of dry weather in the summer of 1997.

K. Payment Item for the installation of protective bollards at monitoring wells. The contractor was directed by the Department to install protective bollards around monitoring wells at the Dresser Rand property. The bollards were necessary because the wells are located in an area of heavy equipment traffic and if damage would require a significant investment to properly abandon and replace.

L. Payment for the installation of rip-rap in Olean Creek as per PCO#10. The contractor was directed by the Department in PCO# 10 to place rip-rap along the west shore on the Olean Creek at the toe of the flood control project. The rip-rap was to replace rip-rap removed during the excavation of contaminated soil from this area. The rip-rap was not identified in the original contract documents.

M. Payment for the Construction of a relief drain as per PCO#8. The Department directed the contractor to construct a relief drain structure on the drainage pond at the Van der Horst Plant #2 site. The drain was necessary to prevent the possibility of the overflow of the drainage pond to the adjacent residential area during periods of extended wet weather .

N. Decrease in quantity of Bid Item 00500 - Verification Sample. Quantity reflects the actual amount of verification samples collected and analyzed during the project to delineate the extent of contamination in the areas shown in the Contract documents.

O. Adjustment to Items C., N., & O. In Change Order #2. A transcription error in Change Order #2 resulted in the incorrect cost of Items C, N, & O being included in the cost of that Change Order resulting in over payment. These Items have been recalculated based on their original unit cost and quantities.

P. Payment for disposal of waste water generated during the project. Waster water was generated as a result of work conducted under Proposed Change Order #7 beyond the scope of the project. The water was the result of development activities performed by the contractor during the installation of monitoring wells required by PCO#7 and the purging and sampling activities performed by the Department during the base line sampling event.

From: Vivek Nattanmai
To: REG90.BUFFALO(gpsutton)
Date: 1/28/98 1:38pm
Subject: Remediation Summary report -Reply

No comments except for one minor comment. Probably Mike would have addressed this comment. I saw his notes on top my notes because we shared one report to review. On page 2, first paragraph, please provide additional details on the location of the two mile creek. Also add that the remediation of the two mile creek was completed during plant #2 remediation but the additional sediment removal was done to address the contamination identified during construction.

>>> Gregory Sutton 01/28/98 11:42am >>>
Do you have any comments on my report?

Comments

Van der Horst Plant 1
Remediation Summary Report

1. Executive Summary, page 1, last sentence (bottom of page), "surround" should read "surrounding."

2. Executive Summary, page 2, top, the text has switched from plant 1 to Two Mile Creek with no transition (needs a lead in of some sort, otherwise it's a little confusing).

3. Executive Summary, page 4, next to last paragraph, is reference to Appendix B correct?

4. 1.2, History, page 7, third paragraph, first sentence, "these Contract Documents" should read "this report."

5. 2.1, General Overview, page 10, next to last paragraph, note that, in the lingo of contracts, increase in the unit quantity of haz soils would not qualify as an "unforeseen site conditions."

6. 2.4, Site Services, last sentence, the second "during" should read "duration."

7. 2.6.1, Non-hazardous Soil Excavation, fourth paragraph, first sentence needs to be cleaned up.

8. Figures 7a, 7b, 8a and 8b are pushing the limits of readability (perhaps 8.5 by 14s would read better).

9. Table 4, Olean Creek Dewatering, should "effort" be inserted after "minimal"?

10. Section 3.2, Recommendations, page 52, #4, add "and NYSDOH" after "Department."

11. Sections 2.15 and 2.16 in their entirety - from the standpoint of readability I suggest you include paragraphs such as 2.16 (page 39) in the main text with a minor revision that the PCOs are described in detail in an appendix. 2.16.1 would be moved to an appendix. FOs and COs would be handled similarly. Pages 39 through 49 are hard reading as written.

12. Section 2.7, page 25, last sentence, just to clarify, is there still a copy in the files or did the only video tape go to the city?

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